



ASF control in wild boars - lessons learnt from EU

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Wild boar as epidemiological reservoir of ASF

Wild boar is a long term host of African swine fever virus independently from pigs and ticks

Lethality > **90%** in 5 days;

In infected areas

- almost all found dead wild boars are ASF virus positive (>80%);
- hunted wild boar: the **virus** prevalence is **2%** or less; the **sero prevalence** in endemic area is less than **5%**;

Direct contact (nose to nose) is the primary infection route when the infected wild boar population is at high density

Indirect contacts play a pivotal role in the local maintenance of the virus at low wild boar density; infectious carcasses the main source of the virus;



Epidemic wave

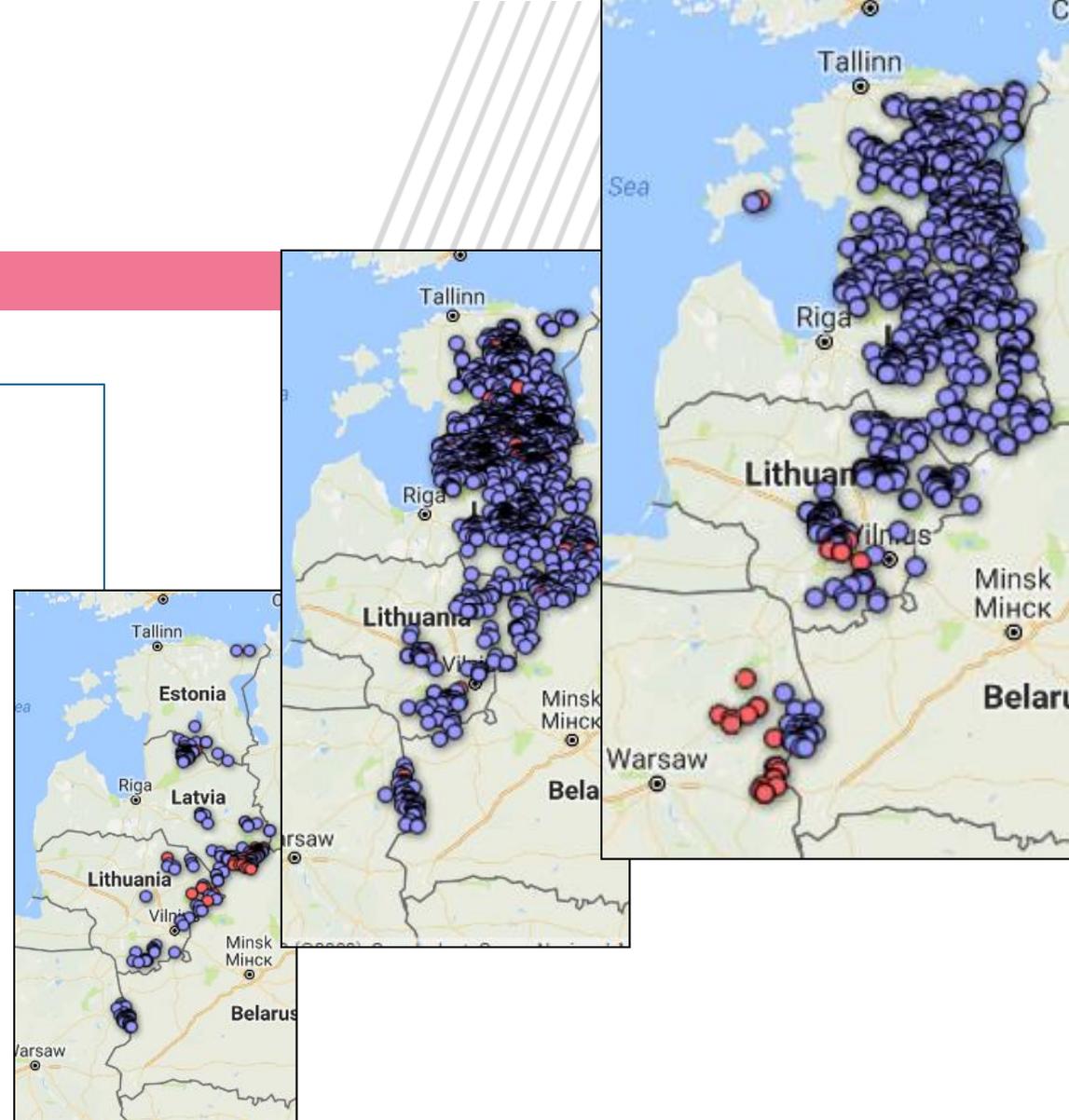
Once ASF virus is introduced in a free area it spreads as epidemic wave

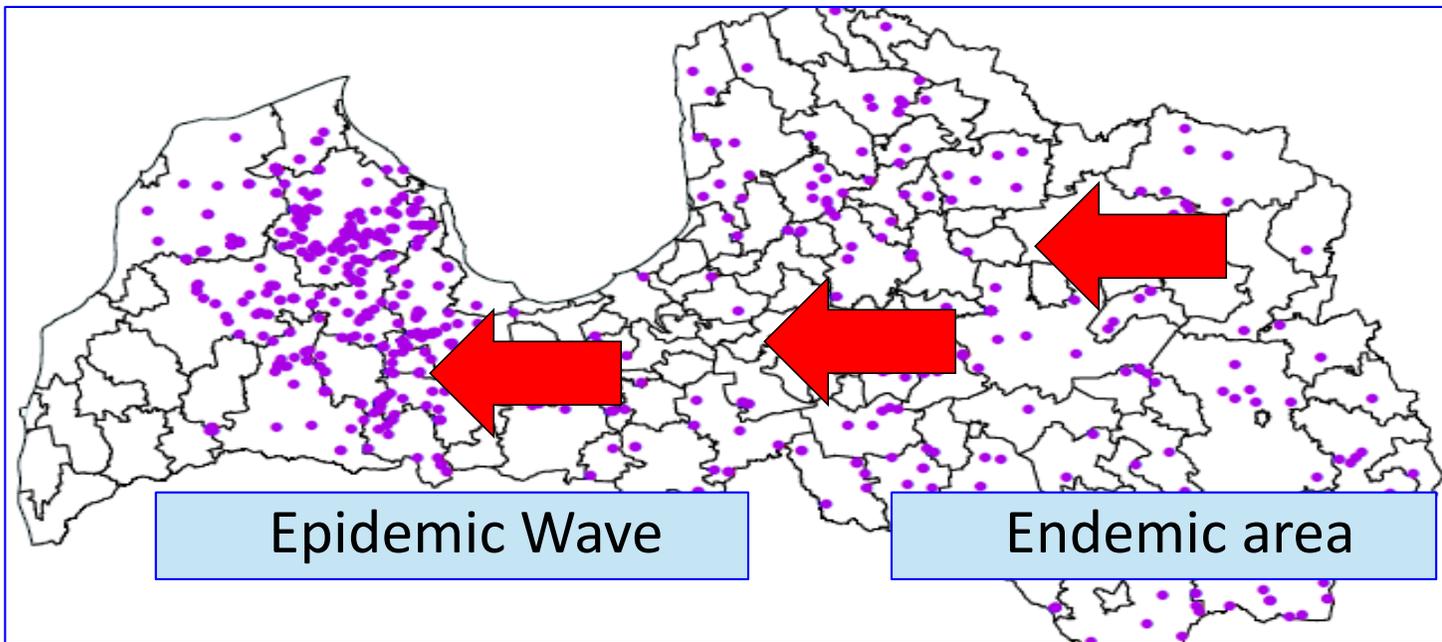
The epidemic wave is invariably observed and its direction is determined by wild boar habitat suitability (i.e. forests, bank rivers, wetlands etc.)

During the epidemic wave most of the wild boar will die

The wild boar density is strongly reduced (>60%)

Despite the low wild boar density the virus can persist locally for years





The epidemic wave

The velocity and the size of the epidemic wave depend from:

- a) Density of the wild boar population;
- b) Continuity of suitable wild boar habitat (no natural or artificial geographical barriers)
- c) Inappropriate infected wild boar management activities (i.e. accelerated by driven hunts; wild boar depopulation etc.)



HIGH WILD BOAR DENSITY

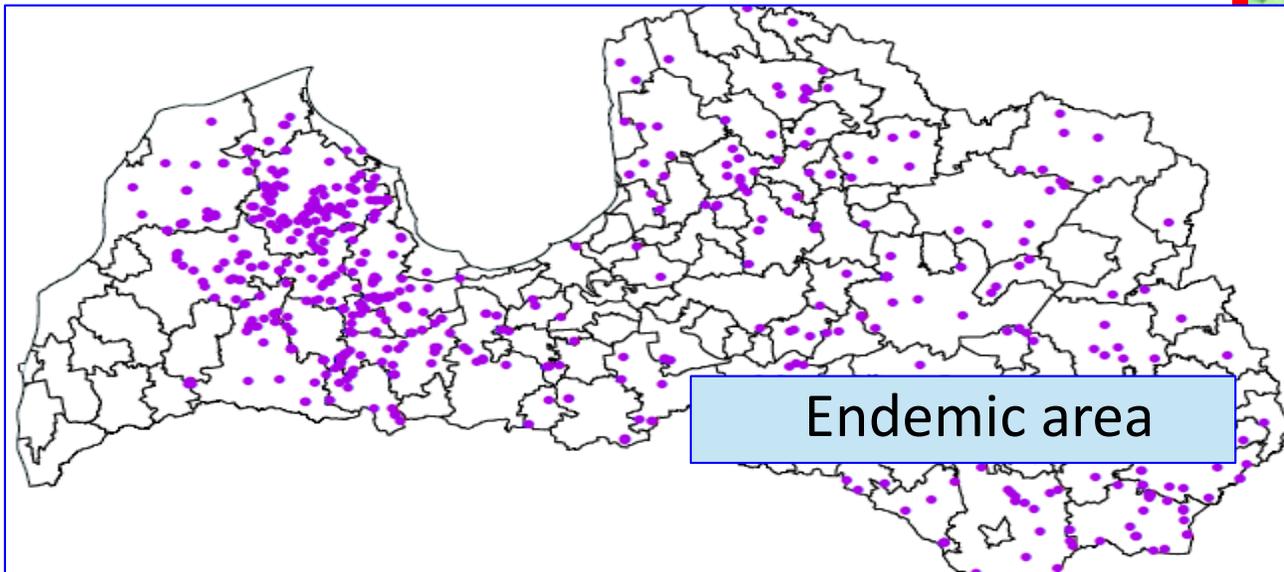
The diagram features a large, thick red circular arrow that loops clockwise. At the top of the arrow is a yellow rectangular box containing the text 'HIGH WILD BOAR DENSITY'. Four small, square photographs of wild boars are arranged around the arrow: one at the top right, one at the bottom right, one at the bottom left, and one at the top left. The background of the slide has a pink horizontal bar at the top and a white area with a grey diagonal line pattern in the upper right corner.

The endemic phase

Infectious carcasses left in the forests

Lack of biosecurity during hunting

Inadequate management of the infected population



Risk of introduction

Anthropogenic introduction

Human activities bring the virus from infected areas to free areas where wild boar are infected

The risk is hard to be predicted and to prevented

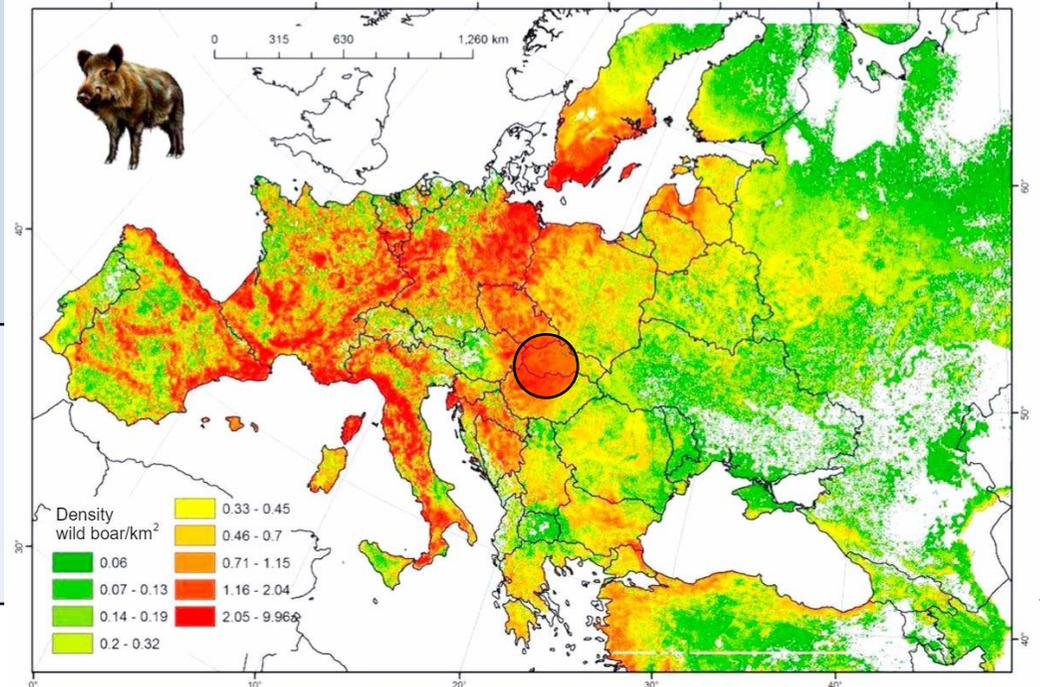
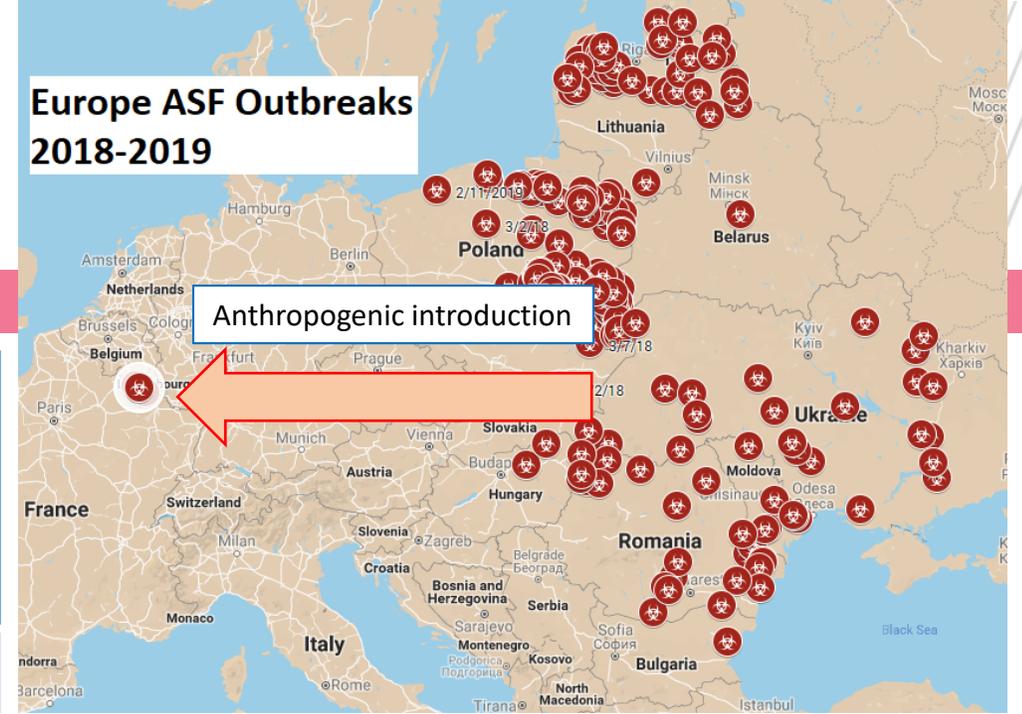
Initially a limited area is involved

Geographical continuity with infected wild boar populations

It is simply the enlargement of the geographical range of the virus; Easy to be predicted but hard to be prevented (fences)

Recurrent re-introductions; Often large areas involved;

Europe ASF Outbreaks 2018-2019



Risk of persistence

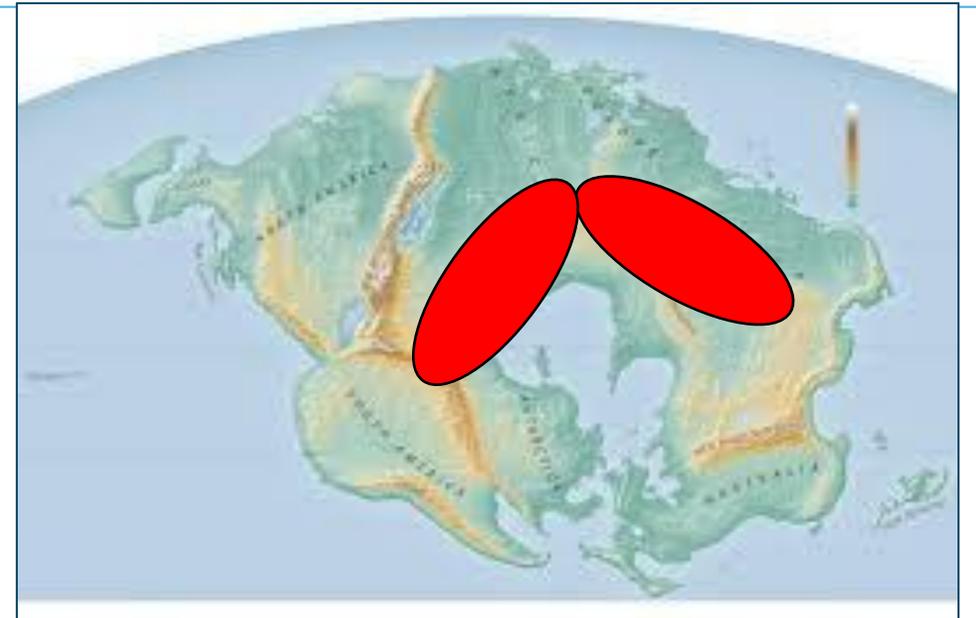
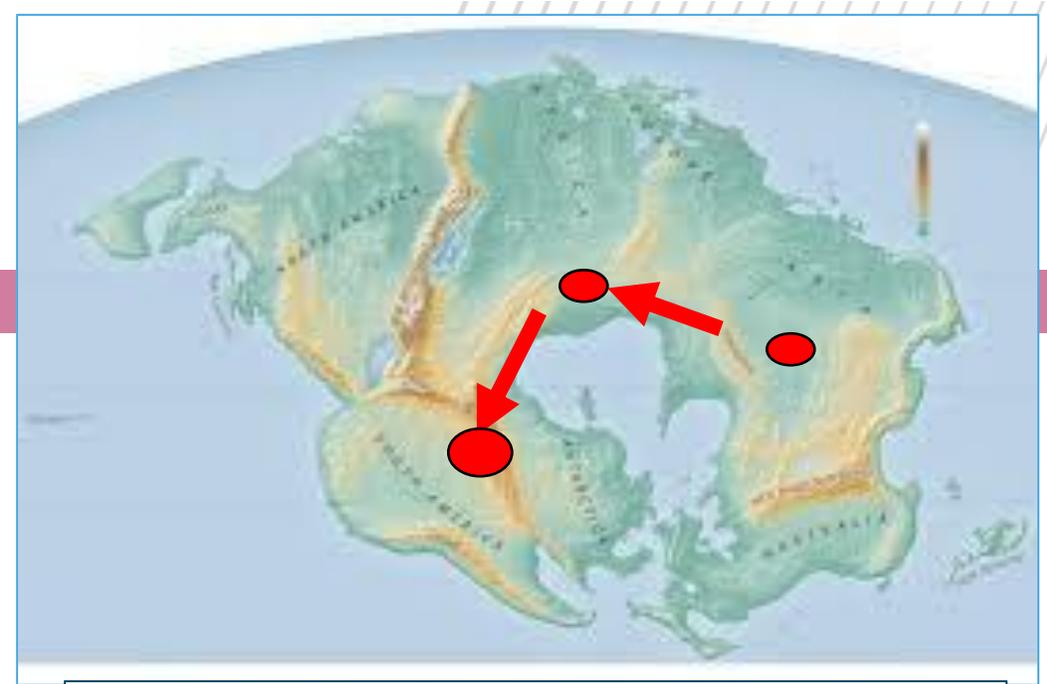
- a. Delayed virus detection (large – unmanageable infected area);
- b. Connected wild boar suitable habitats (forest)
- c. Infectious wild boar carcasses left in forests
- d. Anthropogenic factors
 - Inappropriate hunting techniques (driven hunts, artificial feeding of animals);
 - Lack of biosecurity measures during carcass removal and disposal or during hunting;
 - Poaching;
 - Wild boar habitat exploitation;



ASF in wild boar: the role of humans

1. The **virus** is introduced in a **free area** (any means)
2. **Failure** in eradicating the virus hence the size of the infected area grows
3. Since the **infected area grows and grows** the probability **that Humans will pick up the virus** and bring it into a **free area** increases and increases....
4. The **virus** is again introduced in a **free area**

back to 2.



White fenced area;
almost all the wild boar will be culled

Aim of management

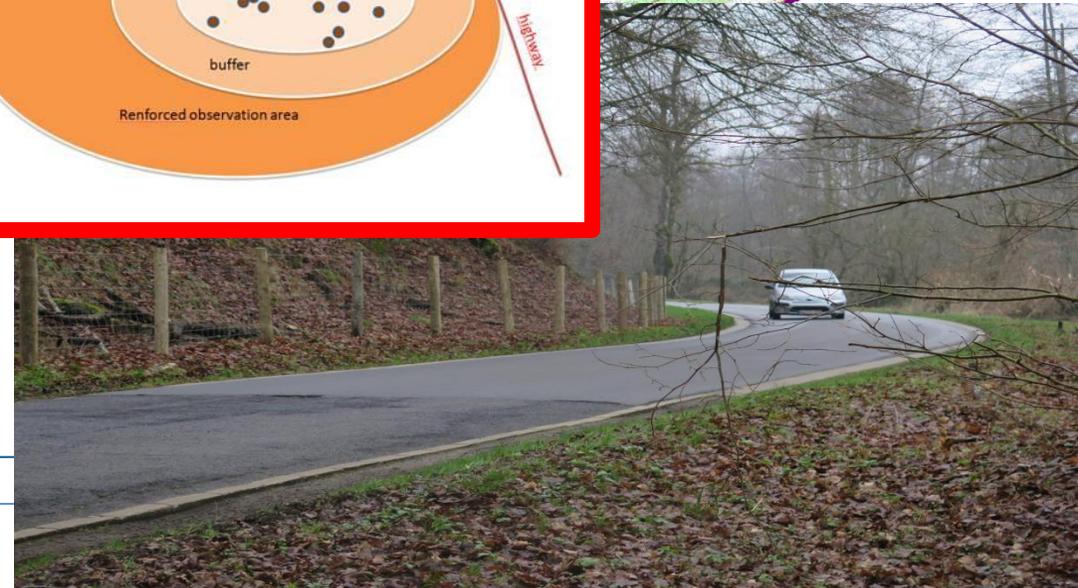
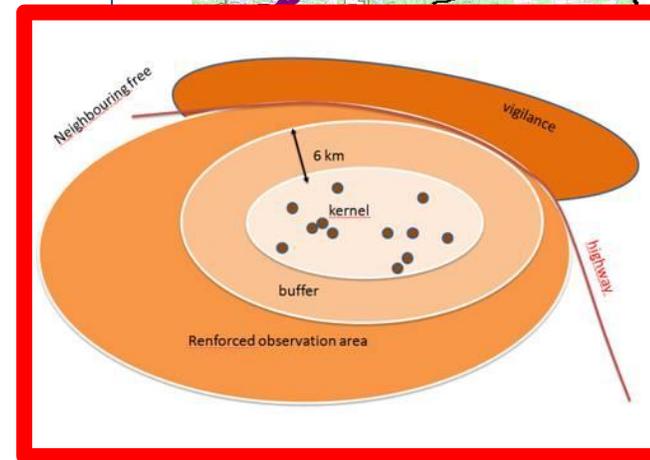
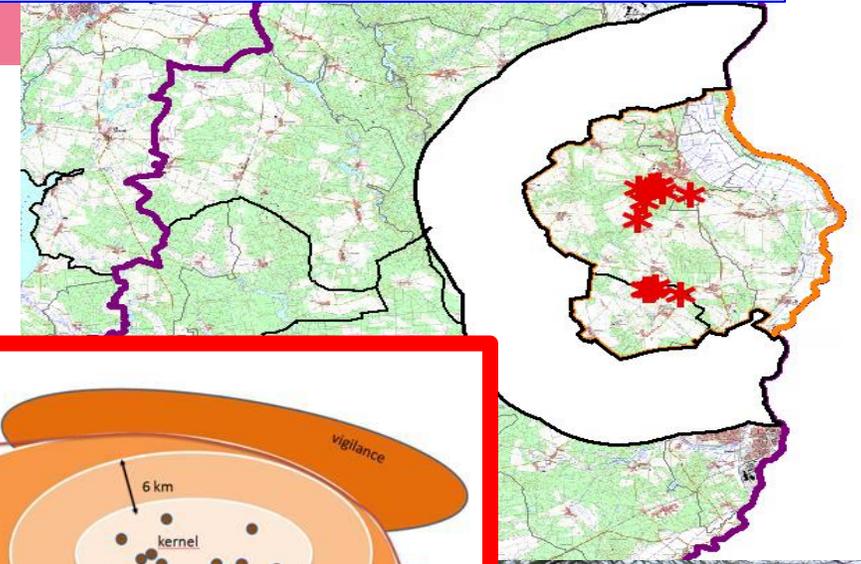
FIRST: block the epidemic wave

- i. early detection (reporting and testing dead wild boar)
- ii. Geographical or artificial barriers (including fences)

THEN: eradicate the virus behind the wave

Reduce habitat contamination (carcasses, contaminated artificial feeding sites etc.)

Reduce as much as possible the wild boar population using appropriate methods (single night shooting, trapping etc.)



Final message ?

1. An **ASF wild boar cycle** is present in Europe
2. The presence of infected wild boar populations increases the probability of virus introduction into the domestic pig sector
3. In the **EU there is not an ASF Commercial farm epidemiological cycle**;
4. In wild boar populations the virus is likely to remain **endemic** for years because of its **environmental resistance** that compensates the very low wild boar density;
5. **Early detection** of the virus and the **correct management of the infected wild boar population** are the two sole options to achieve ASF eradication in the Wild boar;



EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR HEALTH AND FOOD SAFETY
Directorate G - Crisis management in food, animals and plants
Unit G3 – Official controls and eradication of diseases in animals

Brussels
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WORKING DOCUMENT

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



Food and Agriculture
Organization of the
United Nations



WORLD ORGANISATION
FOR ANIMAL HEALTH



African swine fever in wild boar
ecology and biosecurity

FAO ANIMAL PRODUCTION AND HEALTH / MANUAL 22



Thanks for
the
attention

