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EFSA risk assessment on ASF in wild boar in Eastern Europe

Andrey Gogin

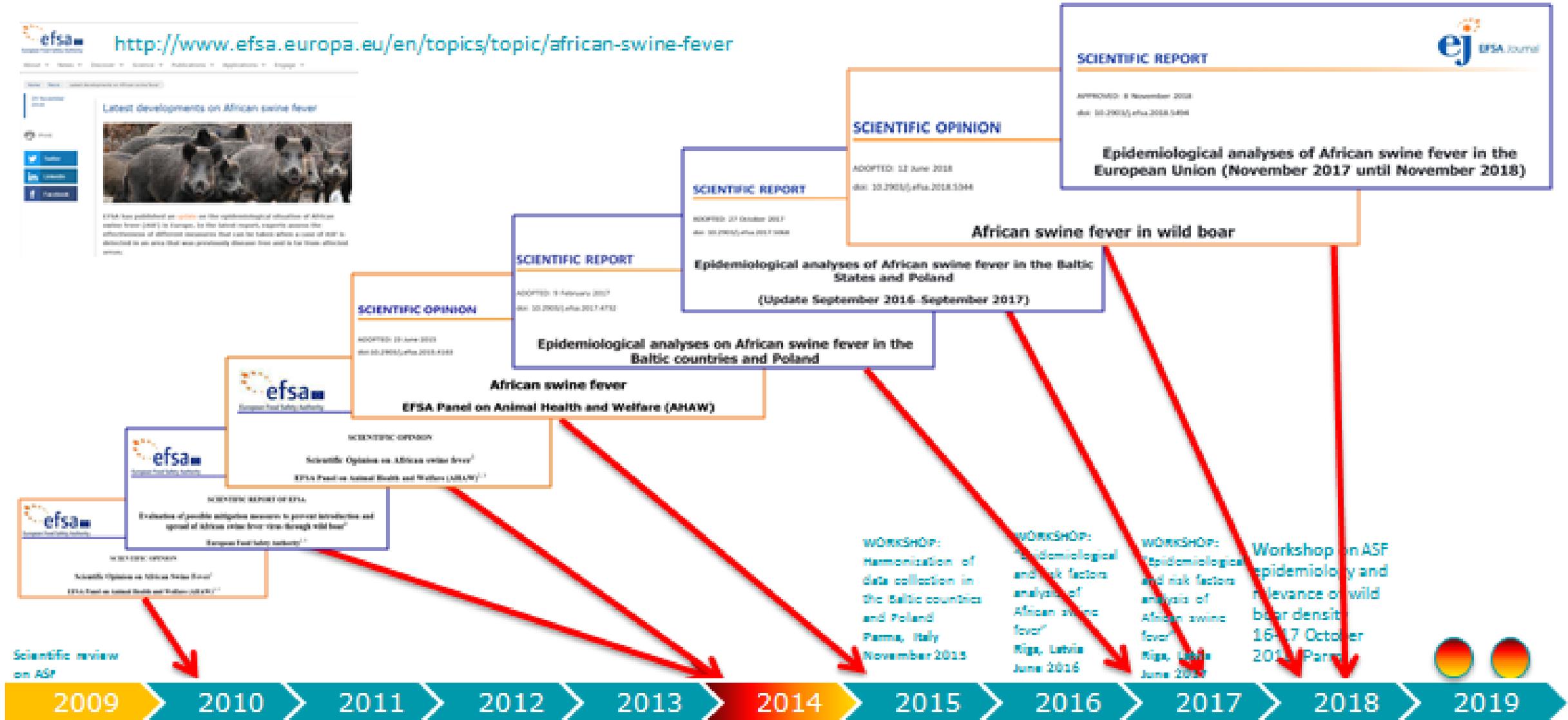
Animal Health and Welfare Team

Trusted science for safe food

- **Role of EFSA**
- **Main conclusions from scientific outputs on ASF in wild boar:**
 - Descriptive epidemiology
 - Risk factors
 - Wild boar measures
 - Population management (methods, density and threshold)
 - Fencing
 - Surveillance
 - and strategies
- **Current requests and needs**

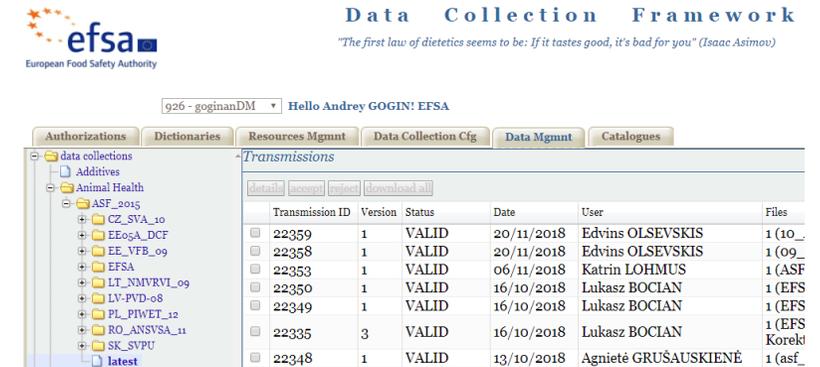
Overview of EFSA's past assessments on ASF

<http://www.efsa.europa.eu/en/topics/topic/african-swine-fever>



Technical assistance (EC and MSs)

- **Harmonised laboratory data collection**
 - **Involvement of MS's representatives**
 - Updated epidemiological analysis of ASF
 - Assessment and review the management options for wild boar
- 
- To assist in the fine-tuning of control measures



926 - goginanDM | Hello Andrey GOGIN! EFSA

Authorizations | Dictionaries | Resources Mgmt | Data Collection Cfg | Data Mgmt | Catalogues

data collections

- Additives
- Animal Health
 - ASF_2015
 - CZ_SVA_10
 - EE05A_DCF
 - EE_VFB_09
 - EFSA
 - LT_NMVRVL_09
 - LV-PVD-08
 - PL_PTWET_12
 - RO_ANSVSA_11
 - SK_SVPU
 - latest

Transmissions

Transmission ID	Version	Status	Date	User	Files
22359	1	VALID	20/11/2018	Edvins OLSEVSKIS	1 (10_)
22358	1	VALID	20/11/2018	Edvins OLSEVSKIS	1 (09_)
22353	1	VALID	06/11/2018	Katrin LOHMUS	1 (ASF)
22350	1	VALID	16/10/2018	Lukasz BOCIAN	1 (EFS)
22349	1	VALID	16/10/2018	Lukasz BOCIAN	1 (EFS)
22335	3	VALID	16/10/2018	Lukasz BOCIAN	1 (EFS) Korekt
22348	1	VALID	13/10/2018	Agnietė GRUŠAUSKIENĖ	1 (asf_)



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African swine fever

Introduction

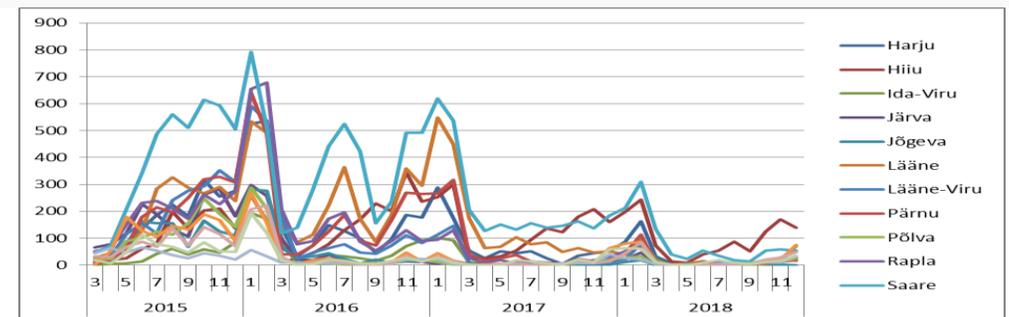
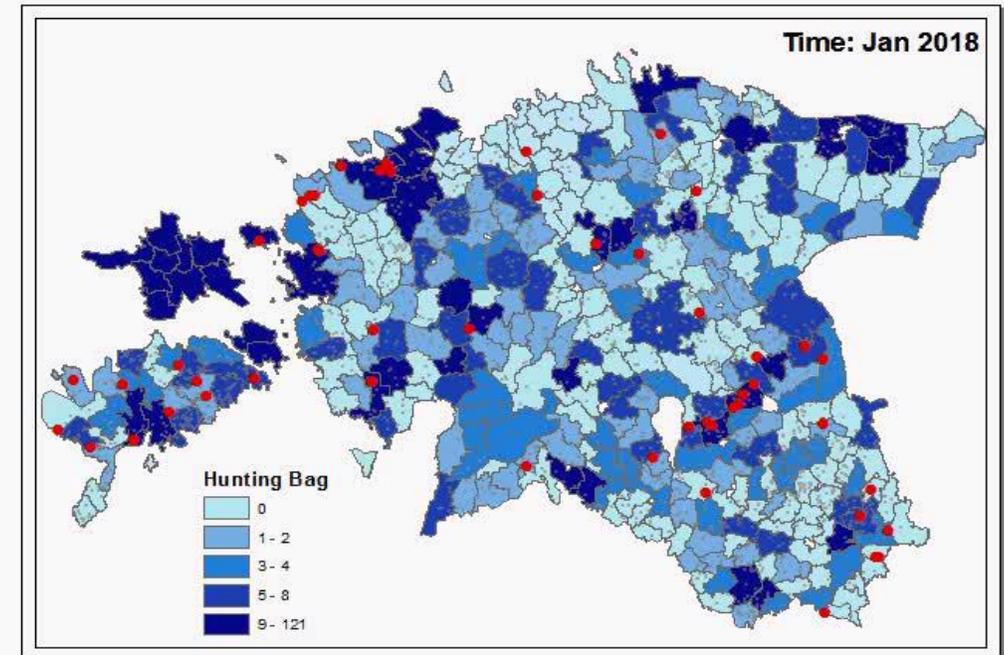


African Swine Fever: how to stay one step ahead

Поделисья

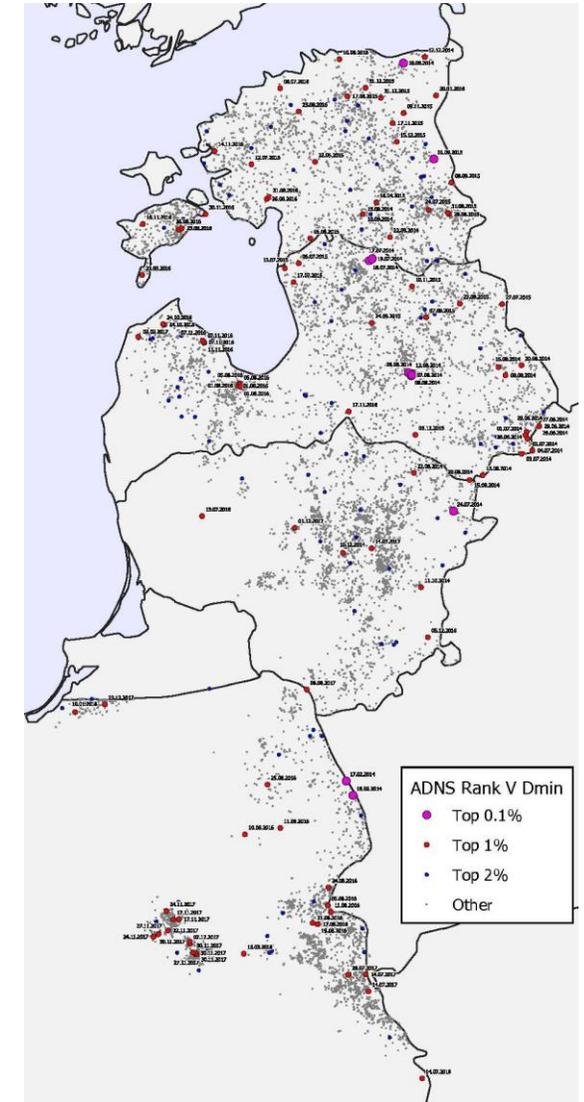
ASF situation in eastern Europe

- **Localised epidemic**
- **Slow spread** from the epidemic front in a west- and southwards directions: median spread between 8 and 17 km per year
- Notably **slower** than some other infectious diseases in wild boar
- Continued sporadic detection of **cases** despite very **low wild boar densities**

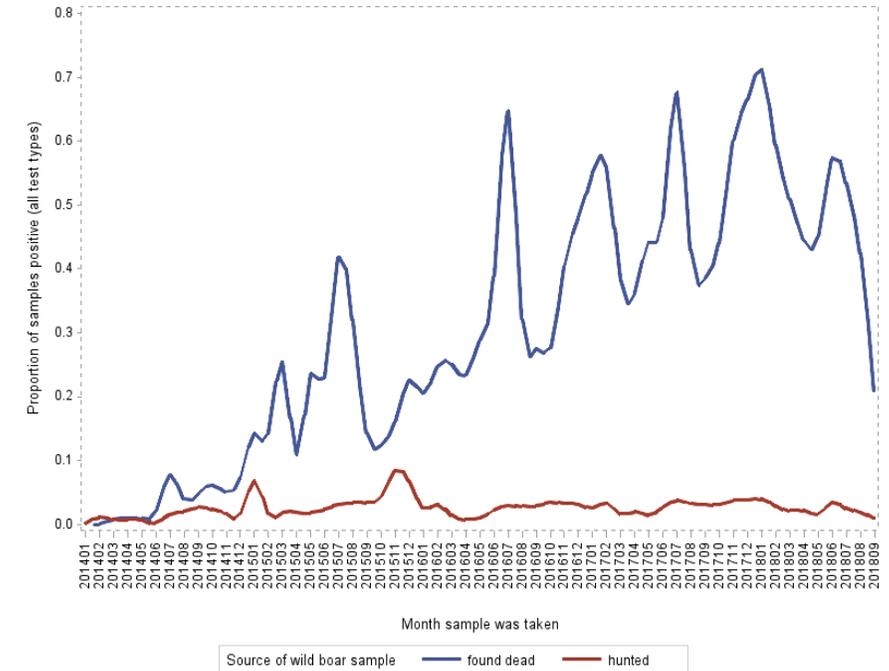


ASF situation in eastern Europe

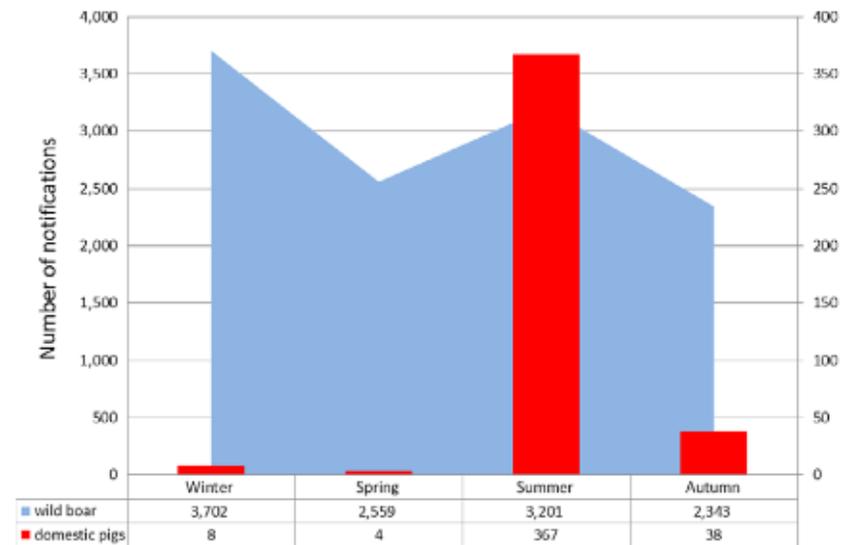
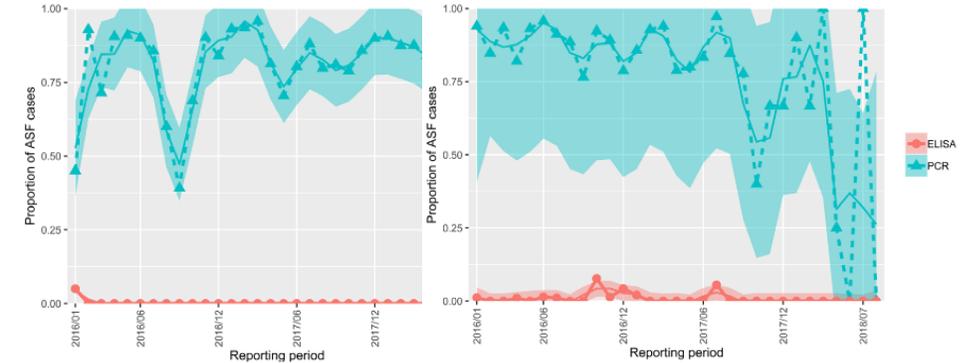
- **Jumps** of the disease have led to focal introductions of ASF - **human-mediated cases**
- **Wild boar-domestic pigs interface:**
 - direct contact mostly excluded
 - inadequate biosecurity
 - exact sources of introduction mostly unknown
- Focal introduction in the Czech Republic was apparently **controlled**



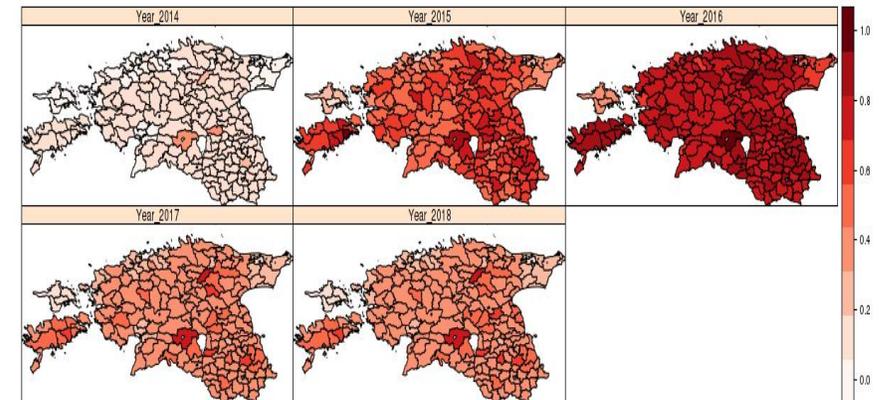
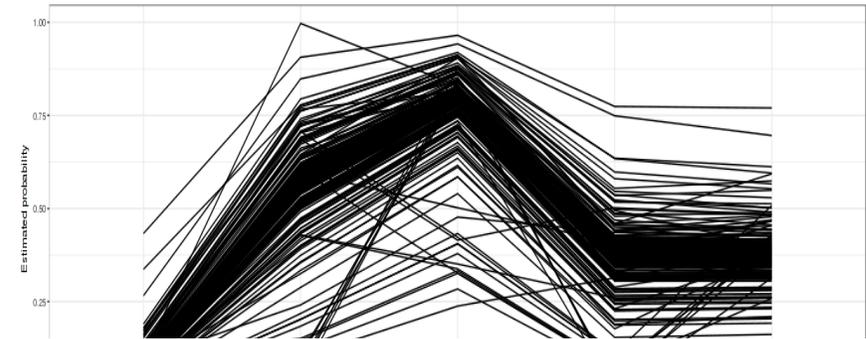
- Surveillance of dead wild boar (passive surveillance) is the most efficient method
- Proportions PCR positive samples are generally much higher than ELISA positive samples
- PCR or ELISA positive proportions in hunted remains low (below 5%)



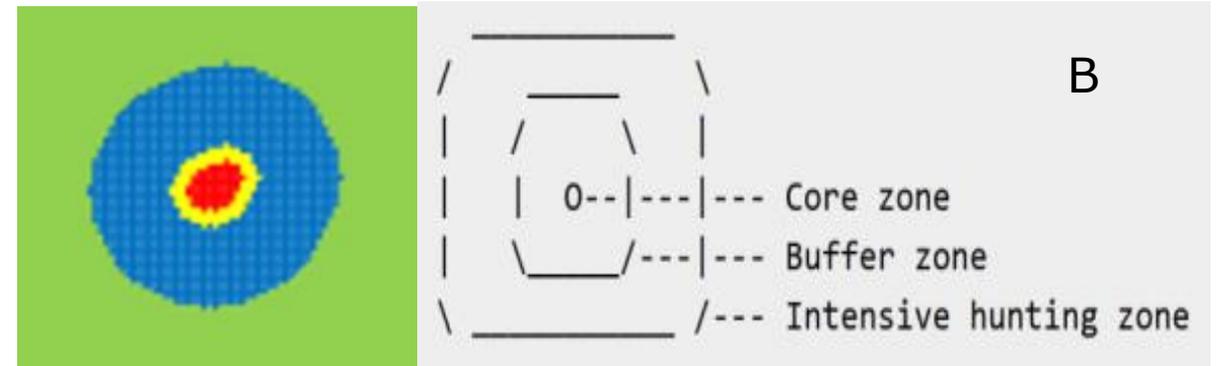
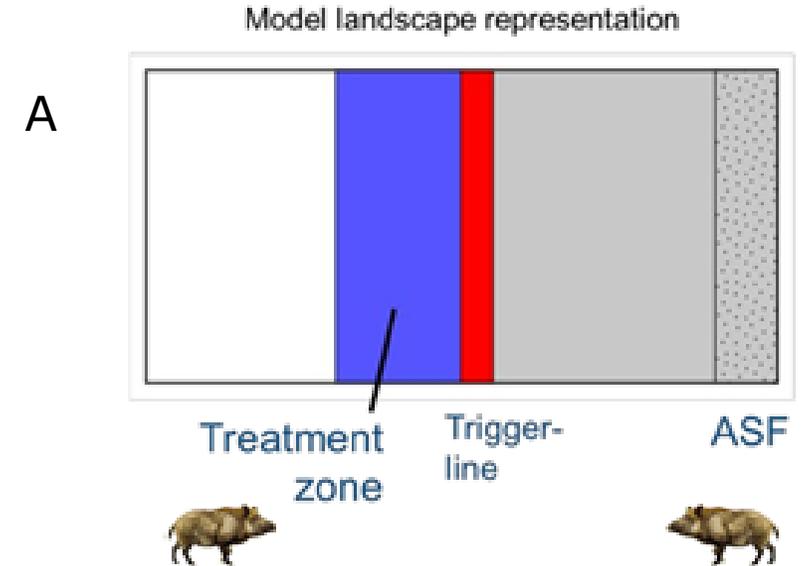
- Temporal patterns of detections are consistent with the epidemiological situations in the countries
- Probability of ASF occurrence: winter and summer peaks are observed **in wild boar found dead**
- Summer peak in domestic pigs
- Several driving forces could explain them



- Bayesian hierarchical and general additive models
- Conducted on data provided by Estonia (incl. number of hunters, dogs, hunting bag...)
- Increased **domestic pigs and wild boar densities** and a **decreased density of roads** were associated with a higher probability of ASF occurrence in wild boar

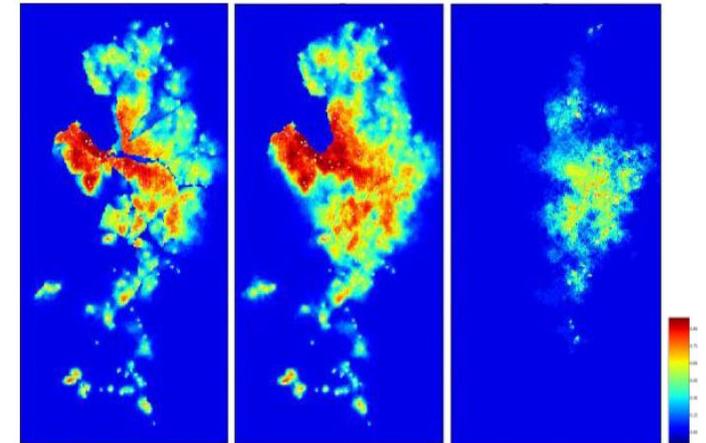


- A spatio-temporally explicit individual-based model approach in structured geographic landscapes
- Combinations of the intensity of measures (**hunting, carcass removal, fences**) and the size of the zones
- Forward spread (A)
- Focal introduction (B)



- Intensive hunting in intensive hunting area applied **as ONLY measure** is both for the focal as the adjacent situation **not effective** unless it is applied $> 80\%$ efficacy
- **Combinations** of different measures together increases the chance of success in both situation (carcass removal, intensive hunting...)
- **Carcass removal as early as possible** (in all zones) increases chance of success in both situations

- Based on a comparison of model outputs and ADNS data, it was not possible to demonstrate an effect of natural barriers (e.g. roads, rivers) on ASF spread.
- It appears that assumed human-mediated translocations are particularly influential in overwhelming any positive effect of such barriers.

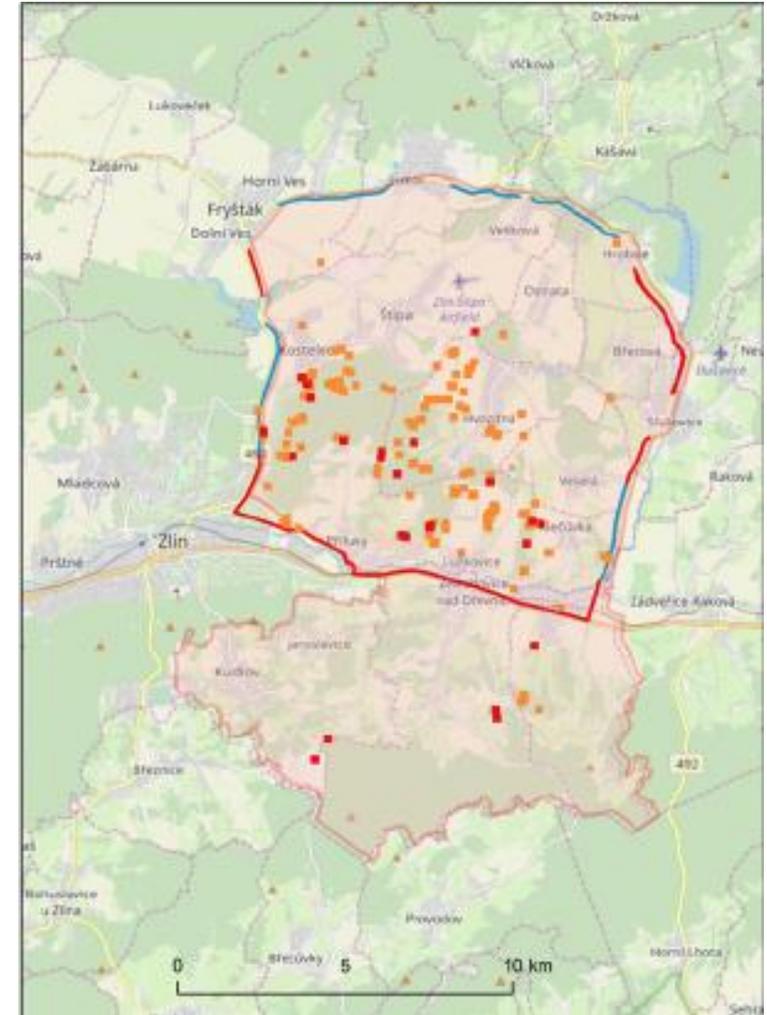


- Control of borders
- Contingency planning
- Key role of passive surveillance for early detection
- Biosecurity (DP and WB) based on ASF epidemiology:
 - virus survival
 - human-assisted movement of virus
- Increase awareness (hunters, travellers)
- Long term options for hunting to stabilize wild boar population over large areas are needed
 - Limit carrying capacity and culling of wild boar

- Stabilize wild boar density
 - hunting
 - highest achievable level
 - urgently
 - including protected areas
- Carcass removal
- Planned, systematic passive surveillance



- Define areas (core, buffer, intensive hunting areas)
- Core and buffer areas:
 - WB population undisturbed
 - Carcass removal with high biosecurity
 - Following the decline in the epidemic – culling
- Intensive hunting area:
 - Drastic reduction in the WB population



- **Surveillance** objectives **according to phases** following ASF introduction
- Passive surveillance and carcass removal
- Ongoing hunting of wild boar populations
- Feeding ban, minimum baiting
- Further research to clarify:
 - the mechanism of persistence
 - to assist the interpretation of seropositivity
 - to define a pathway to ASF freedom following detection of the last known infected animal/carcass.

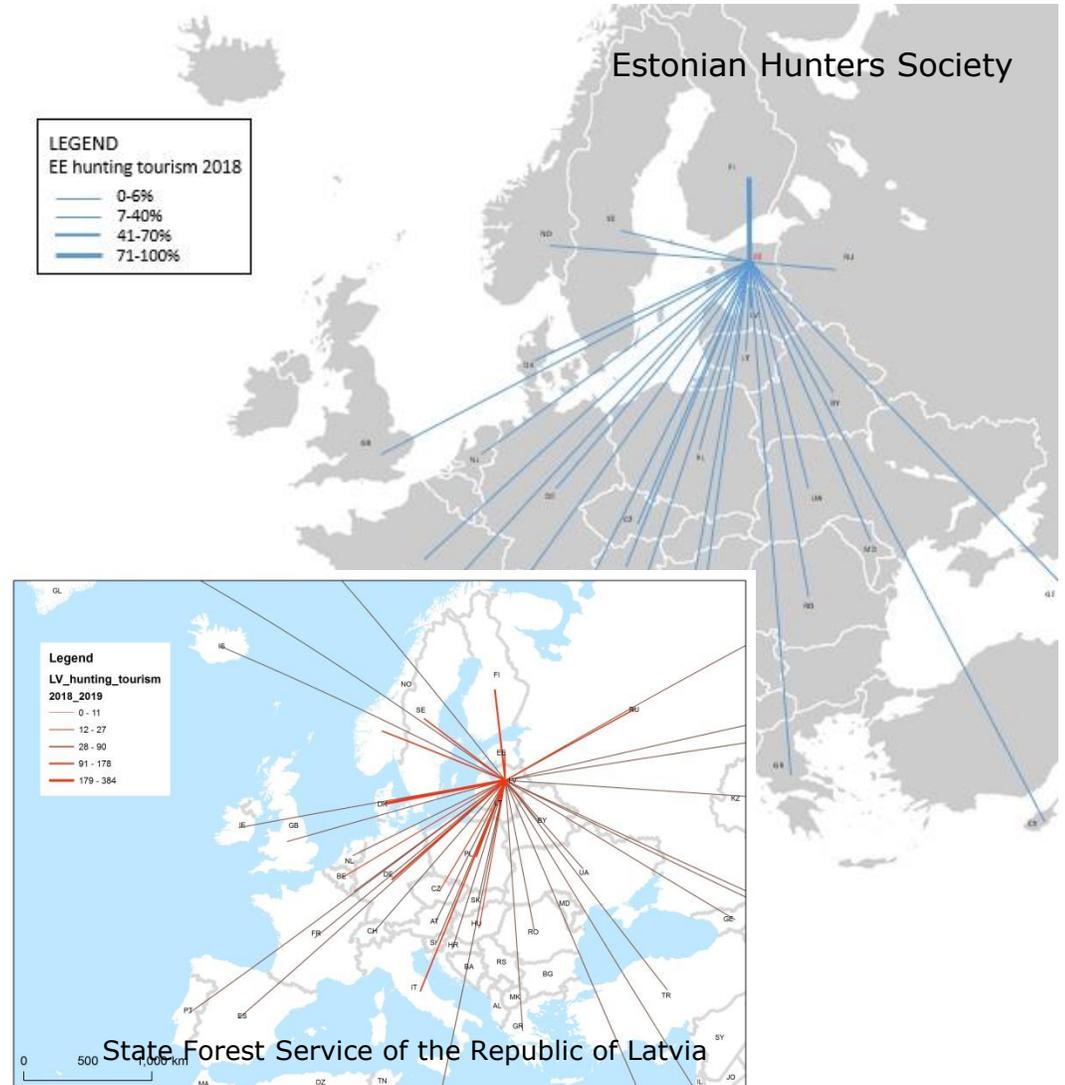
- There are significant gaps in knowledge about the epidemiology of ASF in Europe, including:
 - the carcass contact rate
 - the contact rate between groups
 - potential role of vectors in ASF spread
 - the exact sources of ASFV introduction in domestic pig farms
- Further research in each of these areas is recommended

- Request for Scientific Opinion AHAW Panel - June 2019
 - 1. Assess the **risk of spread** of ASF in the **South Eastern Countries of Europe**
 - 2. Review the evaluation of the **ability of matrices** to present a risk to transmit ASF
- Request for Scientific Report of EFSA - June 2019
 - Review the main **ASF research gaps**, with the aim of facilitate evidence-informed decision making on prevention and spread, in particular from an epidemiological and risk management perspective.

- Request for Scientific Report of EFSA - December 2019
 - Descriptive epidemiology
 - Risk factors for occurrence in wild boar and domestic pigs
 - Wild boar measures and strategies
 - Hunting (methods, density and threshold)
 - Fencing
 - Surveillance

Data needed and possible collaboration

- ENETWILD Project
- SIGMA Project
- Templates and questionnaires
 - Laboratory data
 - Domestic pig population structure and distributions
 - Wild boar population distribution
 - Hunting tourism
 - Trade and movements of pigs and pork products
 - Social factors
 - Preparedness and capacity



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