



# AFRICAN SWINE FEVER

## African swine fever

### Response to limit secondary outbreaks

Michał POPIOŁEK

# BTSEF

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**Warsaw October 2016**

# African swine fever

## Response to limit secondary outbreaks



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**General Veterinary Inspectorate**  
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# African swine fever



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## Epidemiological situation

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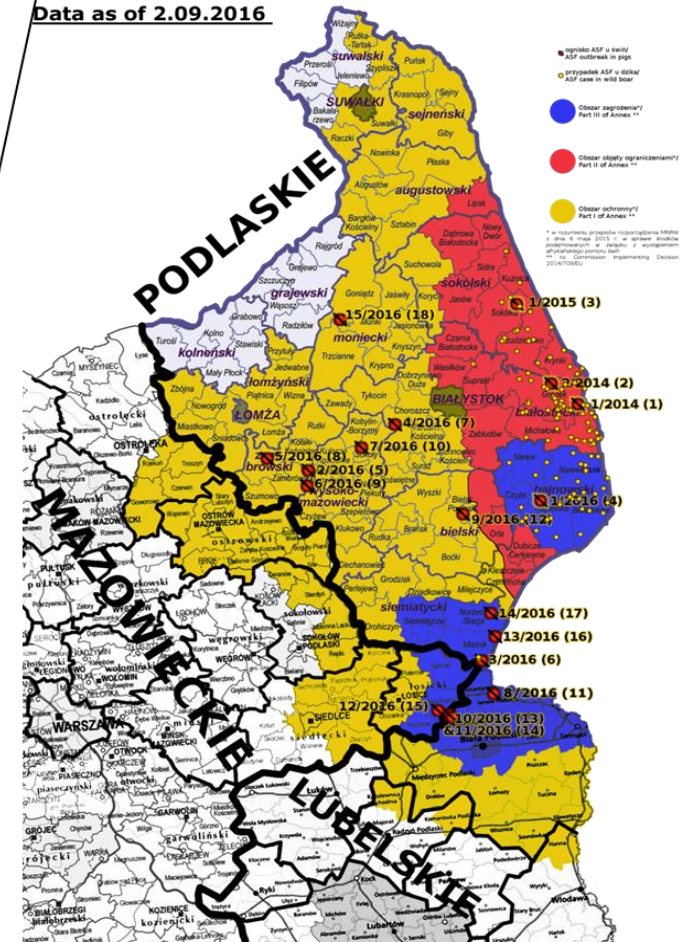
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# Epidemiological situation

Year	Cases in wild boar	Outbreaks in pigs
2014	30	2
2015	53	1
2016	28	15
<b>Total</b>	<b>111</b>	<b>20</b>



Data as of 2.09.2016



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## **Epidemiological situation** **Wild boar**





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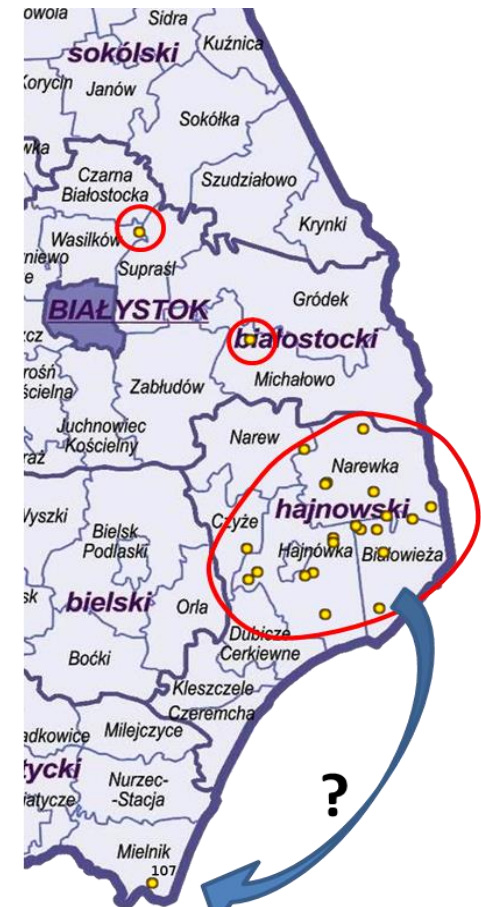
# Epidemiological situation



2014 – 30 cases



2015 – 53 cases

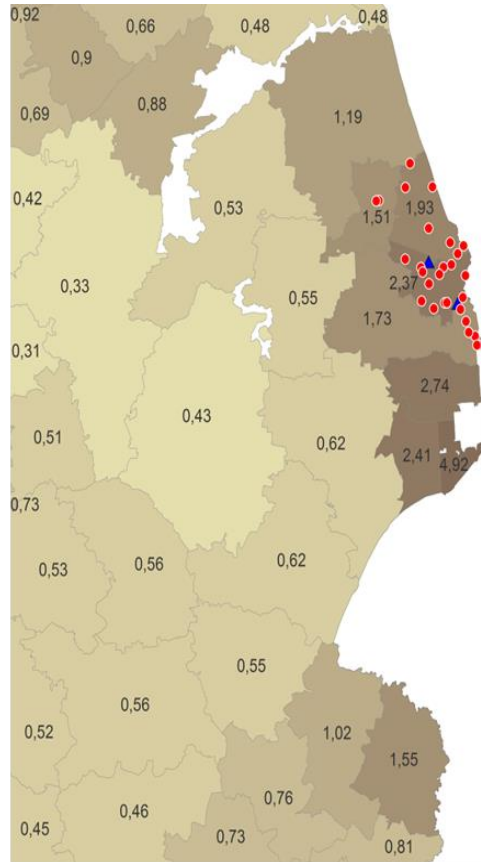


2016 – 28 cases

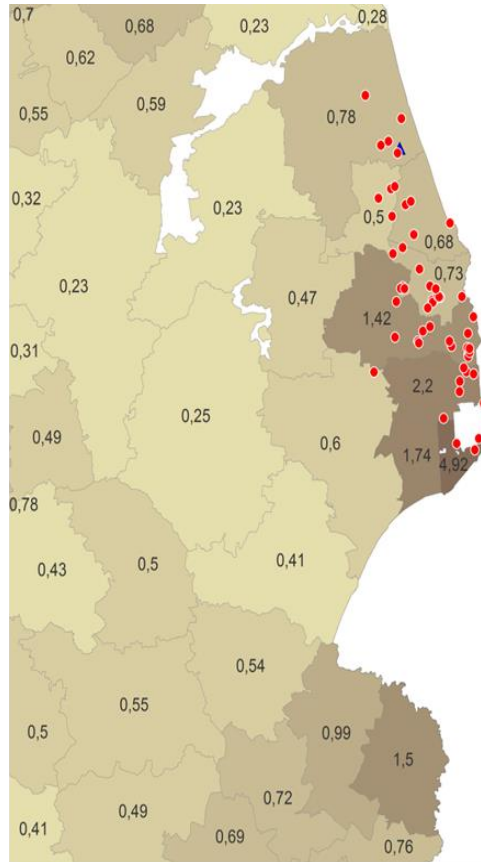


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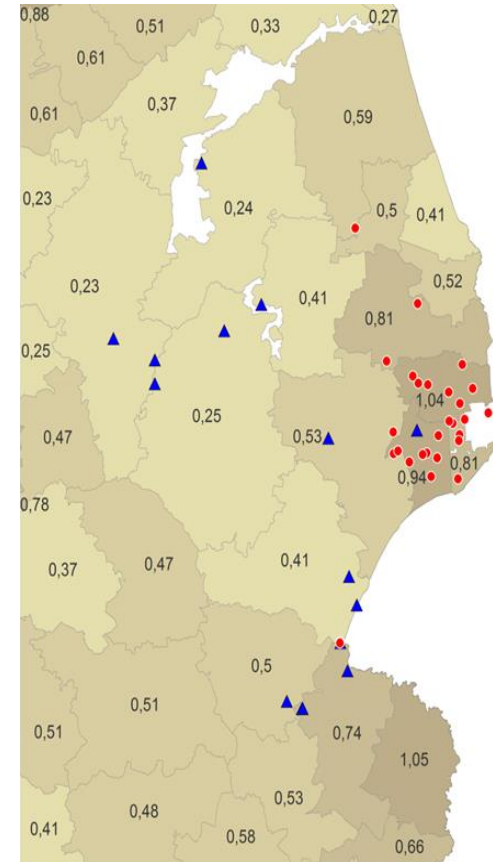
# Epidemiological situation



**2014 – 30 cases**



**2015 – 53 cases**



**2016 – 28 cases**



# Epidemiological situation

## SEASONALITY

**Hypothesis:** eating of maggots multiplying in tissues of dead wild boar and accidental contact of healthy animals with infected blood/body fluids.

Season	Active surveillance					Passive surveillance				
	positive	negative	total	prevalence	95% CI	positive	negative	total	prevalence	95% CI
Spring	0	446	446	0	0-0.9%	4	45	49	8.2%	3.2-19.2%
Summer	0	988	988	0	0-0.4%	26	81	107	24.3%	17.2-33.2%
Autumn	3	3270	3273	0.09%	0-0.3%	13	144	157	8.3%	4.9-13.7%
Winter	7	3453	3460	0.2%	0.1-0.4%	14	75	89	15.7%	9.6-24.7%
Total	10	8157	8167	0.12%	0.1-0.2%	57	345	402	14.2%	11.1-17.9%



Increased surveillance activity (search for dead wild boar) in the summer is recommended to identify potentially new areas of ASF occurrence



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# Epidemiological situation

NO. OF CASES OF ASF IN WILD BOAR IN POLAND (2014-2016)



**Summer peak in incidence  
already occurred in 2016 (data  
as of 19.IX.16)**

# Epidemiological situation

## Conclusions

- ❑ after the emergence of ASF in Poland (February 2014) two hypotheses were formulated:
  - *ASF will spark an epidemic and spread West quickly affecting susceptible populations*
  - *ASF will fade out due to high virulence of the virus*
- ❑ 30 months later neither hypothesis proved to be true: ASF cases occur only in a small area of eastern Poland and the infected area is expanding very slowly and is density-dependent



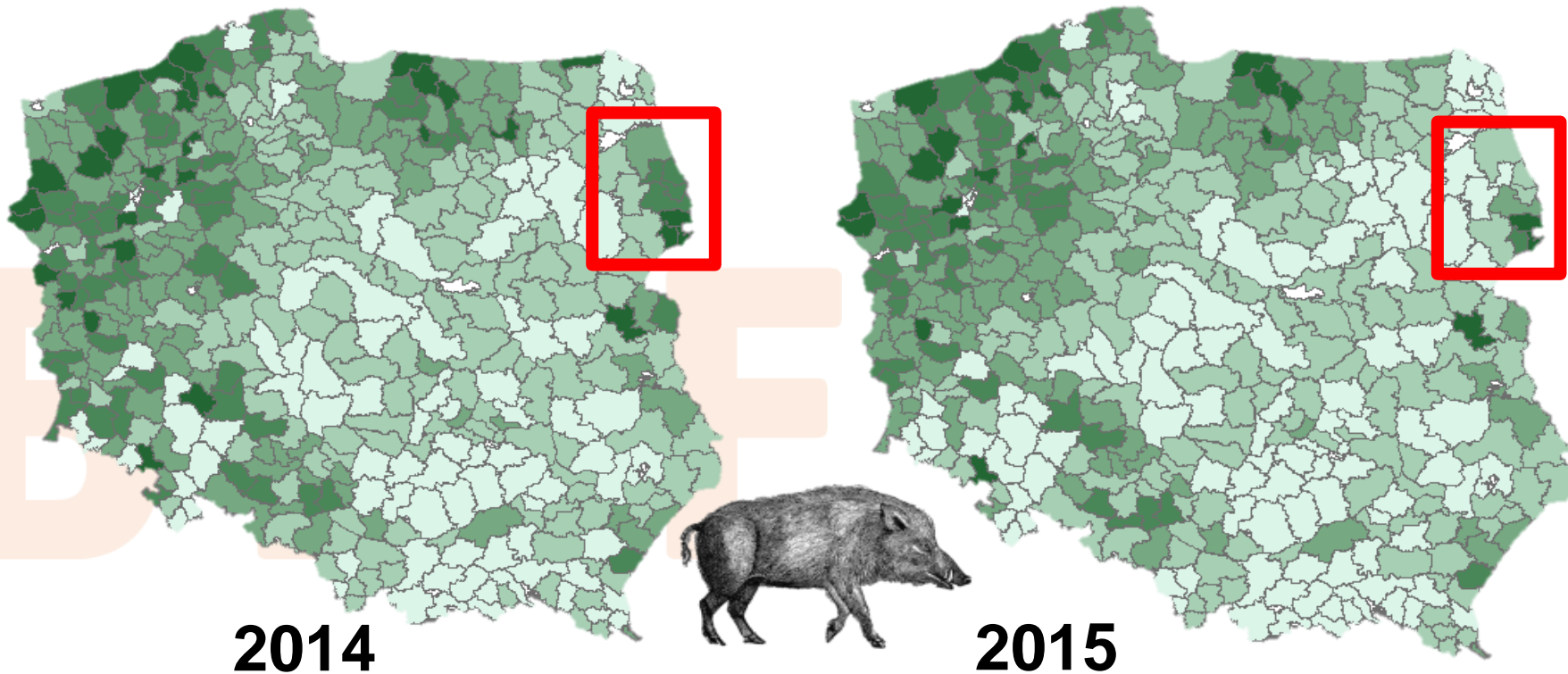
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# Wild boar management

## ASF eradication

- **Reduction of population – through a combination of measures:**
- procedures on handling of ASF cases
- efficient shooting of wild boar (no depopulation!) also including targeting of sows; only hunts that do not result in intensive migrations of wild boar can be preformed in the infected area
- in the infected area - ban on feeding of the wild boar
- reduce (or lift) protection periods for sows
- removal of wild boar carcasses
- good cooperation with the hunters

## ASF eradication in wild boar



**2014** **2015**

The density of wild boar decreased in the affected area by approximately 25% in a year (50% if comparing 2014 to 2016) due to the application of various measures

The number of cases has decreased in 2016 in comparison to 2015

## Conclusions

- ASF spreads „naturally” (with wild boar as vectors) relatively slowly
- Intense effort of key services (good cooperation needed) can minimise the risk of transmission from wild boar to pigs (however such a risk can exist for a long time)
- **ASF is actually a man-made disease:**
  - **Spread from wild boar to pigs possible due to human activities (irresponsible behavior, insufficient biosecurity)**
  - **Transmission of ASF over long distances caused by human activities**

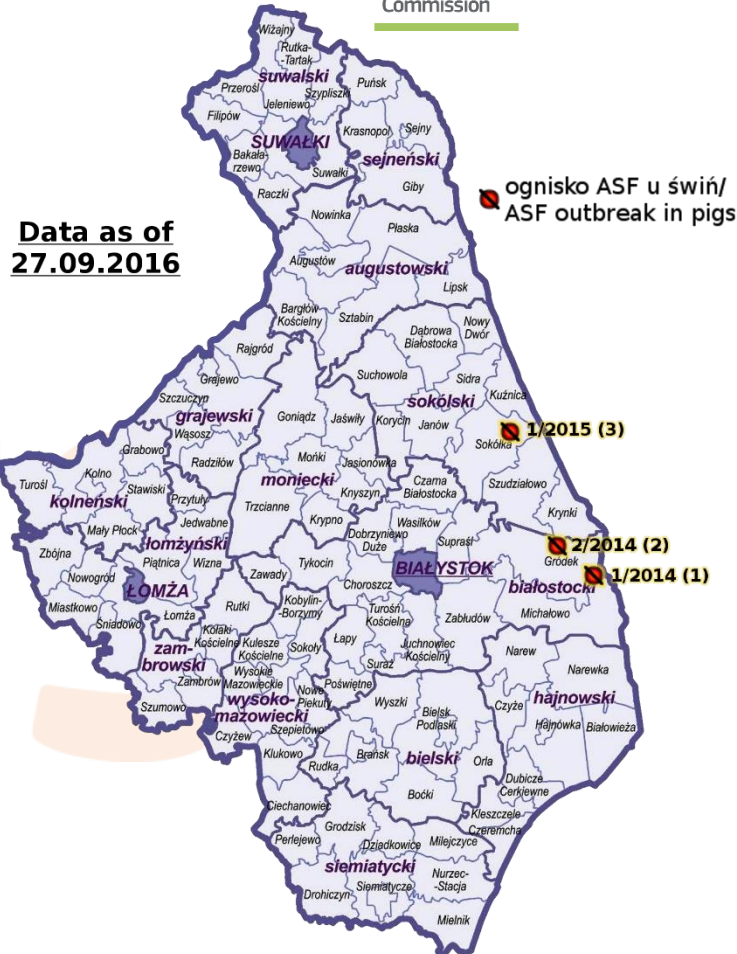
# African Swine Fever

**Epidemiological situation**  
**Domestic pigs**





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**A map showing outbreaks in pigs in 2014-2015**

## **Epidemiological situation Prior to 2016**

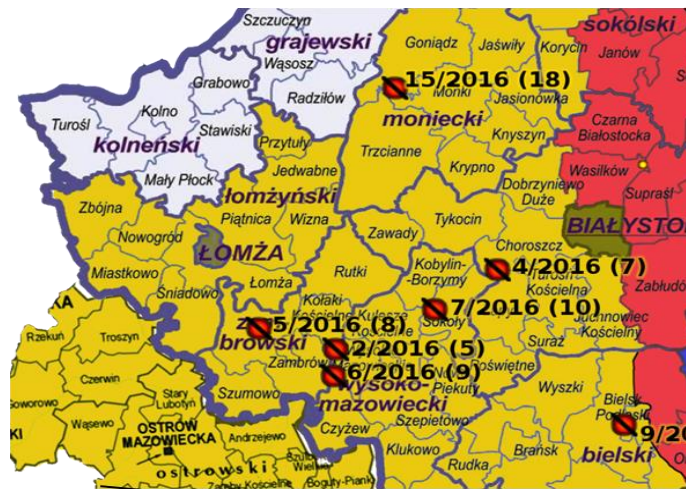
**In 2014-2015:**

- **The ASF problem only concerned the wild boar population**
- **ASF outbreaks in pigs were sporadic, isolated events**
- **Until the second half of 2016 all the outbreaks occurred in the infected area**

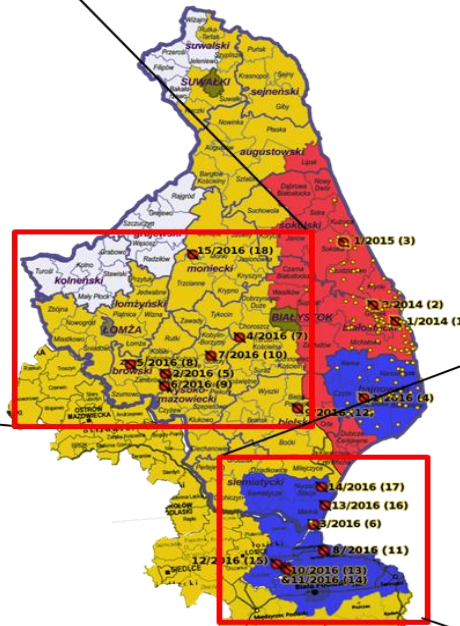


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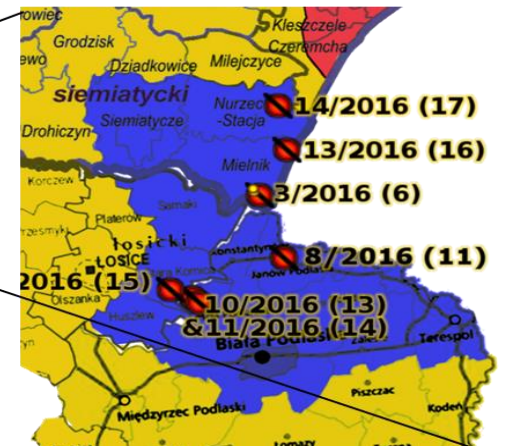
# Epidemiological situation in 2016



„Northern cluster” – spread due to illegal activities



„Southern cluster” – spread connected with ASF in wild boar population and due to illegal activities



## Epidemiological situation In 2016

In 2016:

- For all the outbreaks in the „northern cluster” human activities were identified as the source of the disease
- In 3 outbreaks of the „southern cluster” wild boar involvement is indicated as the primary source (siemiatycki district); other outbreaks are most probably caused by human activities (illegal trade with pigs and pig products)
- Law enforcement agencies identified beyond doubt the source of infection (human factor) in majority of the outbreaks (investigation is still ongoing)



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# African swine fever

## ASF eradication Lessons learned

## African swine fever

- Difficult to eradicate if disease spread primarily in wild boar
- Expensive to eradicate and difficult to immediately contain if disease spread primarily in pigs
- The strategy concerning wild boar is generally successful
- The threat for the domestic pigs can be present for a longer period – constant vigilance is needed

# ASF eradication

## Measures implemented in connection with detection of outbreaks in pigs (Directive 2002/60/EC)

- culling of pigs (full compensation)
- destruction of carcasses (feed, litter)
- disinfection of the premises
- establishment of protection (3 km) and surveillance zone (10 km) – movement restrictions, health surveillance, increased vigilance
- **depending on the risk assessment: killing/slaughtering of healthy pigs in the protection and surveillance zones**
- proper procedures for ending the event (e.g. use of sentinel animals)

## ASF eradication

- Better option than to eradicate the disease is not allow for the disease to be introduced by implementing proper biosecurity
- Backyard farming is a big biosecurity challenge – pigs for own consumption are often kept in holdings with very basic/inadequate biosecurity
- Biosecurity would have to be very well developed for the risk of introduction of ASF to be minimal, but certain measures can **DRASTICALLY** reduce that risk



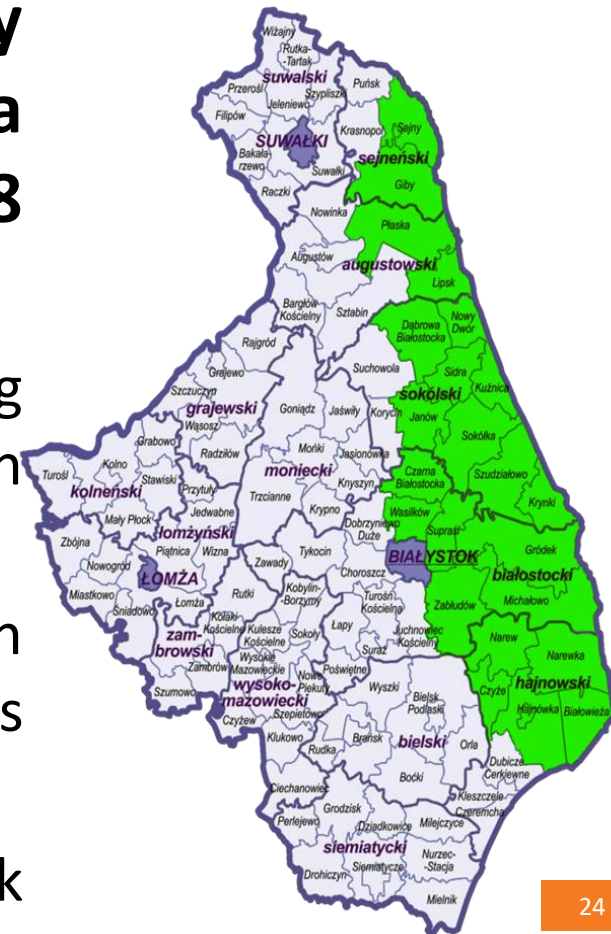


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## ASF eradication

Apart from normal biosecurity requirements in the at-risk areas a Programme for biosecurity for 2015-2018 has been implemented

- Non compliance with the rules = ending production (pigs killed/slaughtered, with compensation) for the next 3 years
- Possibility to voluntarily end production (with additional compensation for not keeping pigs for the next 3 years)
- Veterinary Services perform controls to check compliance with the biosecurity rules



## Awareness building

### Optimal situation:

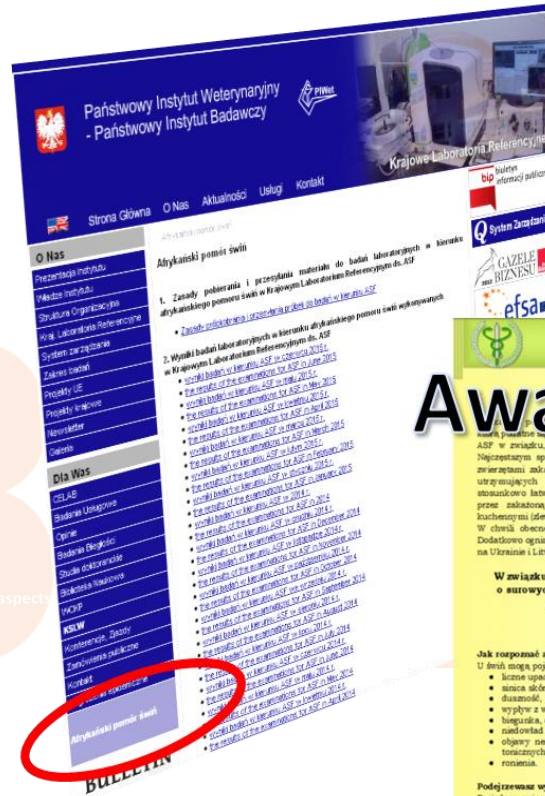
- Herds that exist in the affected area have good biosecurity (obligation of the farmer)
- Farmers, private veterinary practitioners should know the most important clinical signs of ASF
- Hunters, farmers and private veterinarians notify in due time any suspicion of ASF (so in case of occurrence of ASF all procedures for eradication can be implemented immediately)

**All of those aspects concern other groups than Veterinary Services – an awareness campaign is crucial to reach them**



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# Africane swine fever



## Awareness building

**AFRYKAŃSKI POMÓR ŚWIŃ  
REALNE ZAGROŻENIE**

ASF w związku z czym choroba ta nie stanowi zagrożenia dla ich zdrowia i życia. Najczęściej sposobem zakażenia zwierząt jest bezpośredni zwierzęmi zakażonymi. W przypadku terenów o wysokim utrzymywanych zwierząt, rozprzestrzenia się wirusa nie stosunkowo łatwiej za pośrednictwem osób odwiedzających i przez zakażoną paszę, wodę, wyposażenie oraz siarę kuczerkami (dziewkami).  
W obwodzie obecną licznę ogniska ASF występują na terytorii. Dodatkowo ogniska ASF wykryto w 2012r. na Ukrainie, w 2011 na Ukrainie i Litwie.

**W związku z powyższym, Główny Lekarz Weterynarii o surowych procedurach dotyczących wprawa produktów pochodzenia zwierzęcego**  
Więcej szczegółów pod linkiem <http://www.wetgine.gov.pl/asf>

**Jak rozpoznać afrykański pomór świń?**  
U świń mogą pojawić się następujące objawy:

- liczne upadki (obserwuje się również podniecia dachów);
- sinica skóry uszu, brzośnia i boków ciała, drobne, lecz ś ś
- duszność, piętasty wydech z nosa;
- wypłył z worka spojłkowego;
- biegunka, czerpł z domieszka krwi, wymioty;
- nadciśnł mdu;
- objawy nerwowe w postaci podniecenia, drgawek mię tonicznych;
- zomna.

**Podjezwasz wystąpienie afrykańskiego pomoru świń?**  
Posiadacz zwierząt, który zauważył objawy nannujące pod jest zobowiązany do natychmiastowego zgłoszenia podlegi ustawowej obwarowanej sankcją karną). Zgłoszenie należy p lekarza weterynarii bezpośrednio albo za pośrednictwem opatrzującego się gospodarstwa lub właściwego mięsja terytorialnego (wieśla, burmistrz).

**Przywożona żywność zawierająca produkty pochodzenia zwierzęcego może zawierać patogeny powodujące niektóre choroby zakaźne zwierząt, w tym afrykański pomór świń.**

**Nie pozwólmy, aby zakaźne choroby zwierząt przedostały się do UE!**

**Czym jest afrykański pomór świń?**

Atrykański pomór świń (ASF) jest zoonozą, wirusem zakaźnym i śmiertelną chorobą wirusową świń domowych oraz dzikich. Wirus będy rozprzestrzeniany wirusem ASF jest przenoszony zwierzęmi zakażonymi (zwierzęta nie są w stanie przenosić wirusa ASF w stanie nie zakażonym). Choroba jest zoonozą, przenoszona przez zwierzęta zakażone ASF w stanie nie zakażonym. Choroba jest zoonozą, przenoszona przez zwierzęta zakażone ASF w stanie nie zakażonym. Choroba jest zoonozą, przenoszona przez zwierzęta zakażone ASF w stanie nie zakażonym.

## **Africane swine fever**

- **Clinical signs in pigs:**
- **in a closed system sows started getting sick as first in the herd**
- **lack of appetite**
- **fever: 41.5 - 42°C**
- **cyanosis of ears, skin**
- **abortions**
- **mortality: gradually increasing**
- **diarrhea**
- **Clinical signs similar to those observed in erysipelas (differential diagnosis)**

## **Africane swine fever**

- **Gross lesions in pigs:**
- **enlargement of spleen and other parenchymal organs**
- **intestinal hyperemia**
- **hyperemia of mesenteric lymph nodes**
- **pulmonary oedema**
- **petechiae in kidneys and other organs**

# Extraordinary measures

Due to the unexpected pattern of spread of ASF in the recent weeks (human involvement) additional measures had to be implemented

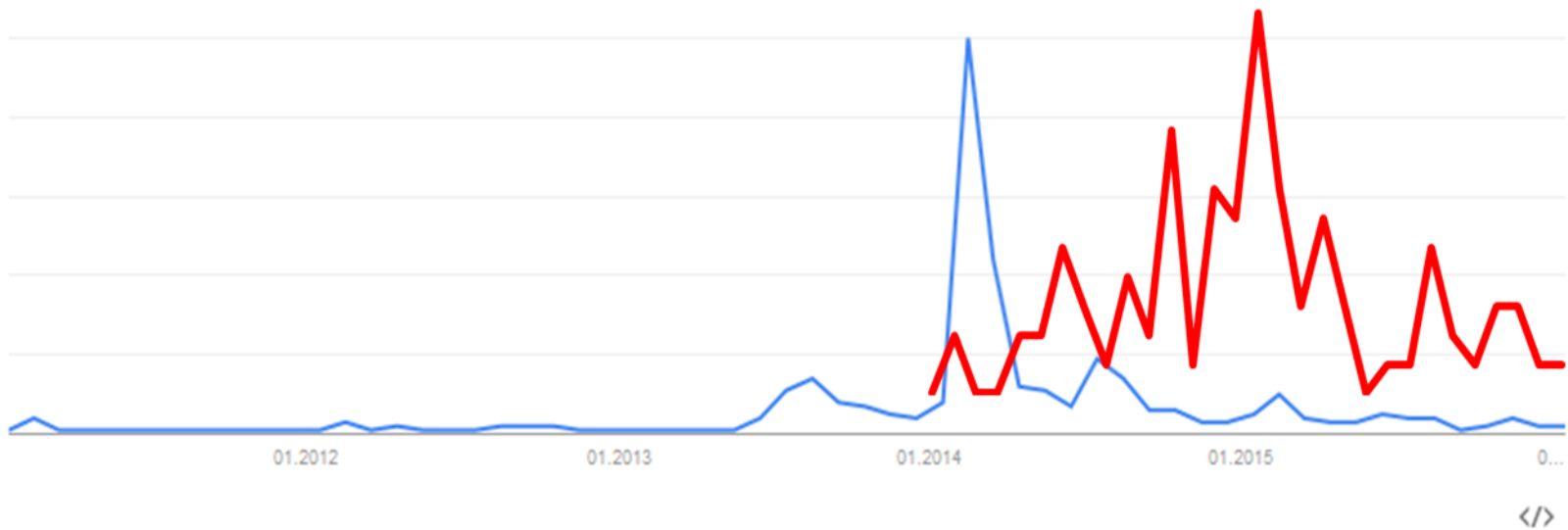
- Introduction of animal health certificates for all movements of pigs in and outside all areas listed in Annex to Decision 2014/709/EU (previously Part II and III zones had this obligation)
- Ban of all pig markets in Part I, II and III zones
- More strict provisions on penalties for noncompliance with animal health regulations
- Involvement of Law Enforcement Agencies
- Increased controls of means of transport in the affected areas and increased controls on illegal markets (joint controls with Police/ Inspection of Road Transport)
- Changes on rules for identification and registration of pigs (planned)
- Additional training and awareness building
- A website has been set up with a special form to allow citizens to notify authorities on observed illegal practices connected with movement/production of pigs and pork

This issue has led to establishing a special Governmental Task Force to coordinate implementation of existing and new ASF eradication strategies.



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# Social impact



Number of Google searches for ASF in Poland vs  
the number of ASF cases in wild boar

## **Dynamic situation**

As the knowledge on ASF is ever increasing, the strategy is constantly evolving.

Routine contact with the European Commission and neighbouring countries is to be expected in case of ASF occurrence in a country.

Good knowledge on ASF legislation and rules of eradication should be acquired before ASF occurrence – the situation will be very dynamic after the first case/outbreak.



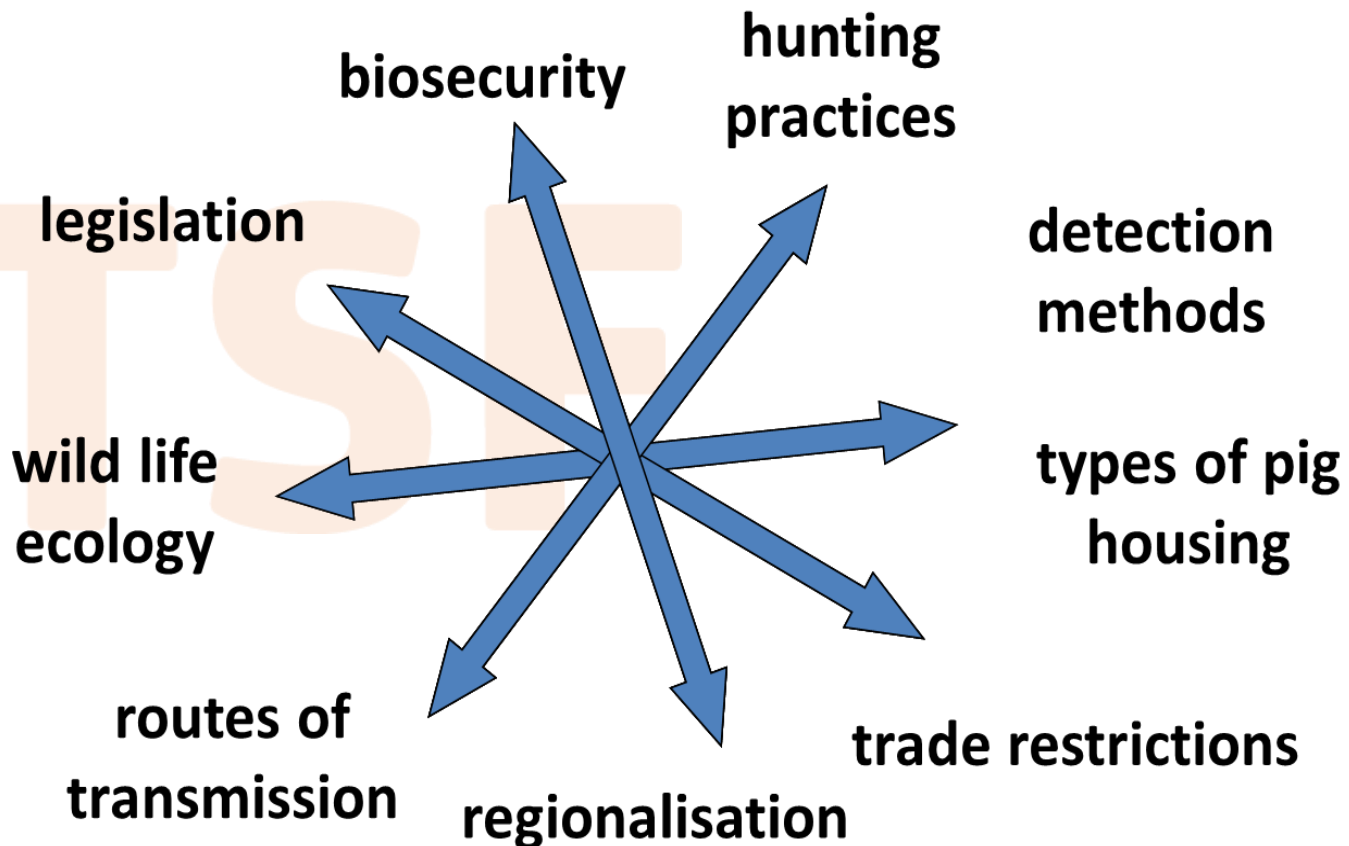


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# African swine fever

# Conclusions

# ASE eradication strategy is very complex There is no single „golden” measure





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