OIE #86 SG

CURRENT ANIMAL HEALTH SITUATION WORLDWIDE: ANALYSIS OF EVENTS AND TRENDS

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Contents

Introduction

Members having submitted their six monthly report on terrestrial animal diseases

As of 6 May 2018:

- **92%** (167/181) the 1st semester of 2017
- **81%** (147/181) for the 2nd semester of 2017

> **350** INs & **2,100** FURs for 2017 and early 2018

Introduction

Members having submitted their six monthly report on aquatic animal diseases

As of 6 May 2018:

- **63%** (115/181) the 1st semester of 2017
- **56%** (102/181) for the 2nd semester of 2017

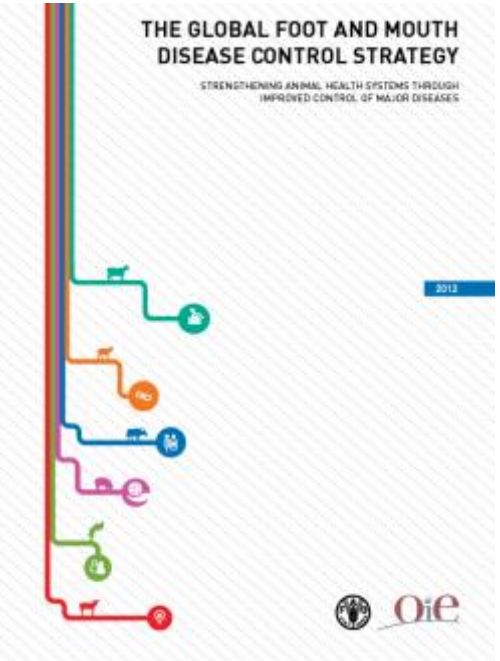
≈ **30** INs & **75** FURs for 2017 and early 2018

Chapter I

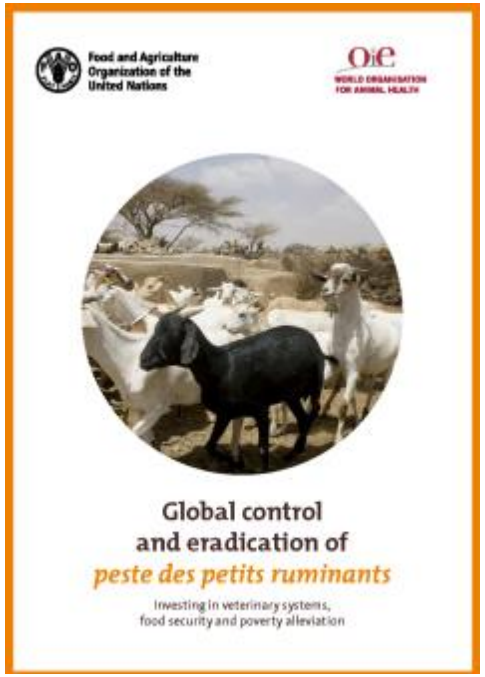
Global situation regarding four terrestrial OIE-listed diseases currently subject to global control or eradication efforts

Global control and eradication programmes are in place for 4 terrestrial OIE-listed diseases.

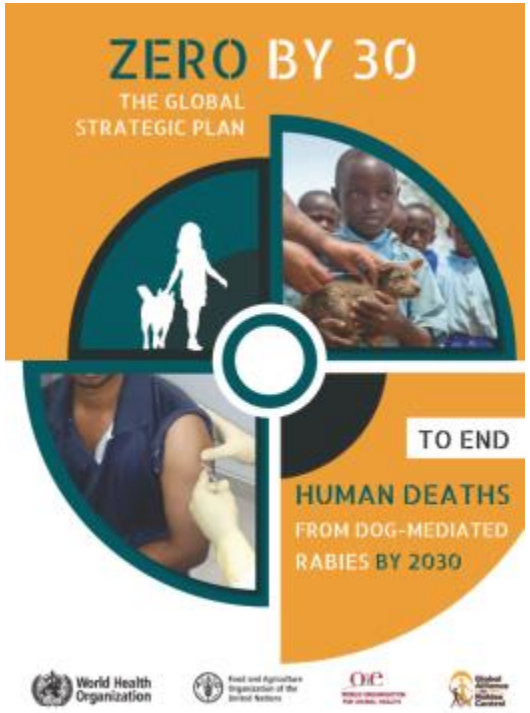
FMD (2012)



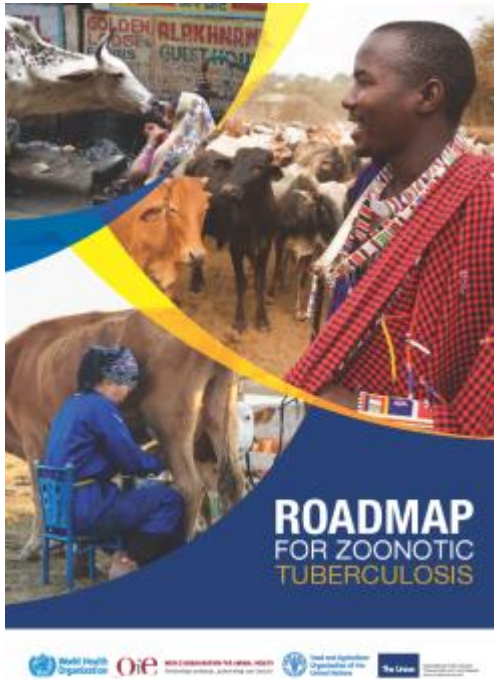
PPR (2015)



Rabies (2017)



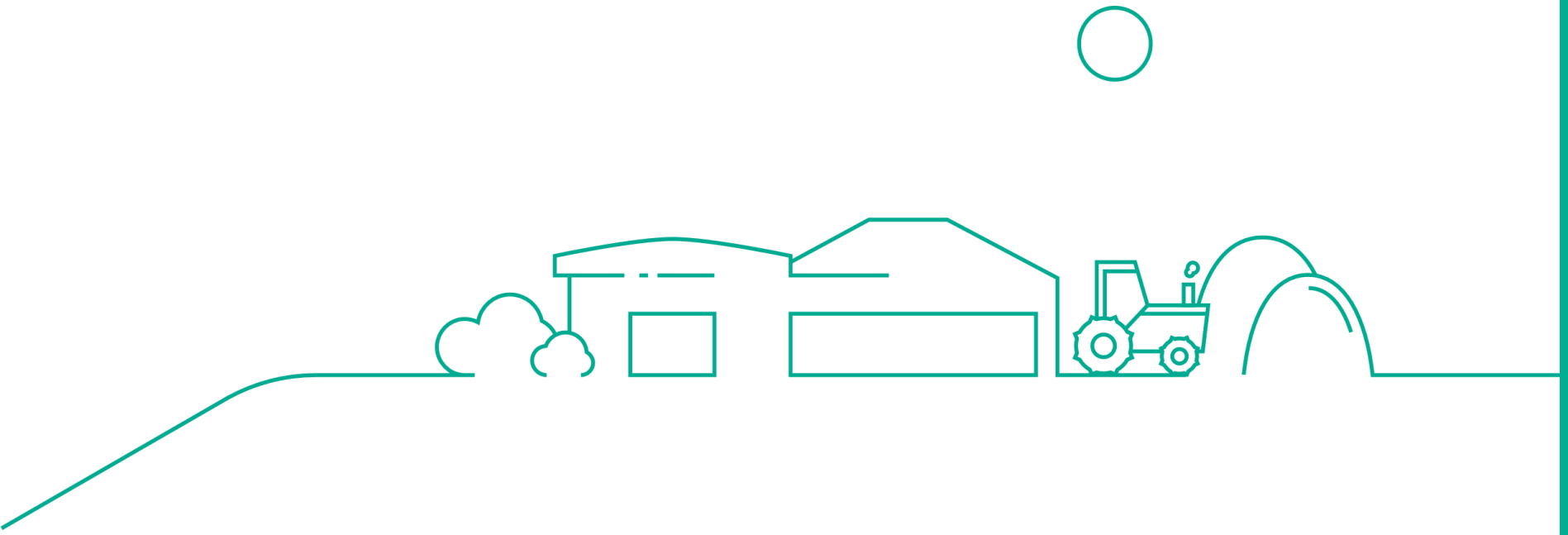
Bovine TB (2017)



Objective of the horizontal chapter

What are the global situations of the four diseases like?

How have countries been implementing the relevant prevention and control measures?



Infection with foot and mouth disease virus (FMD)

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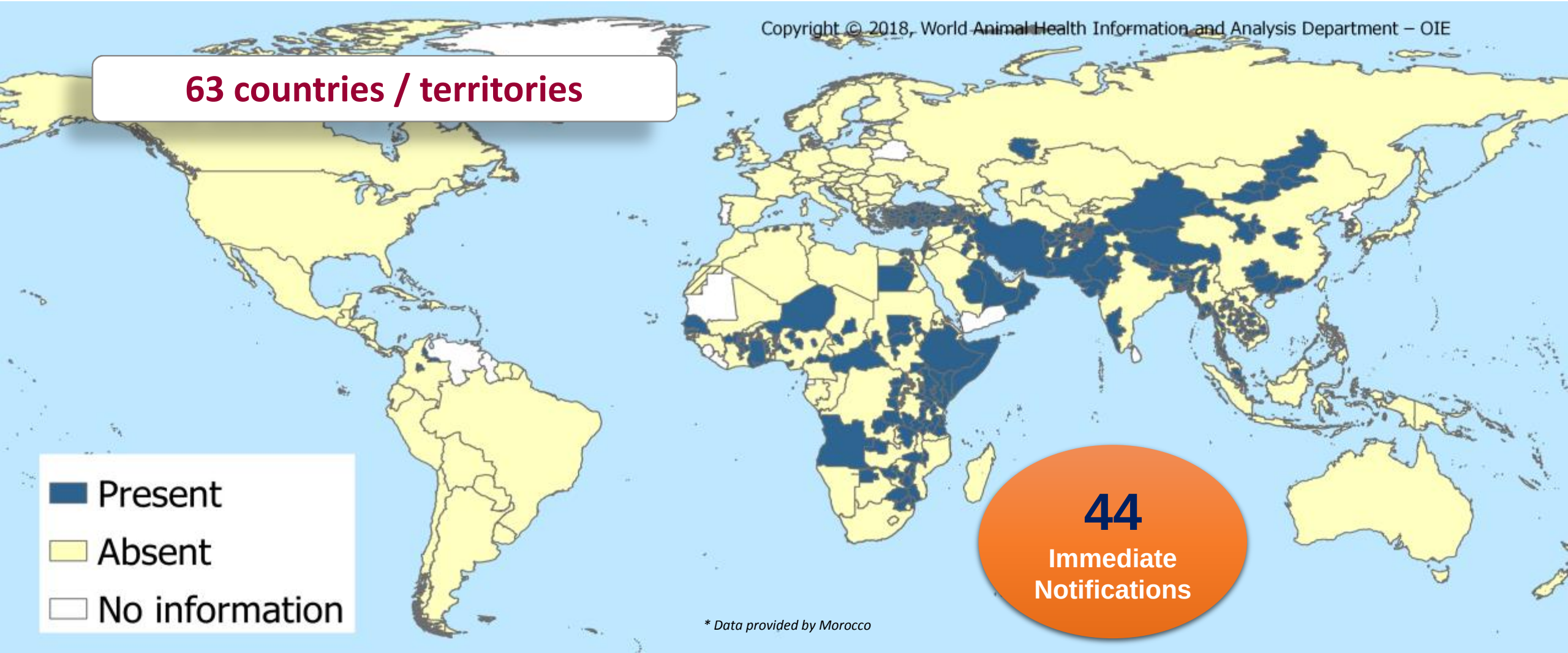
FMD distribution in 2017 and early 2018

Global distribution

(data based on reports received up to 6 May 2018)

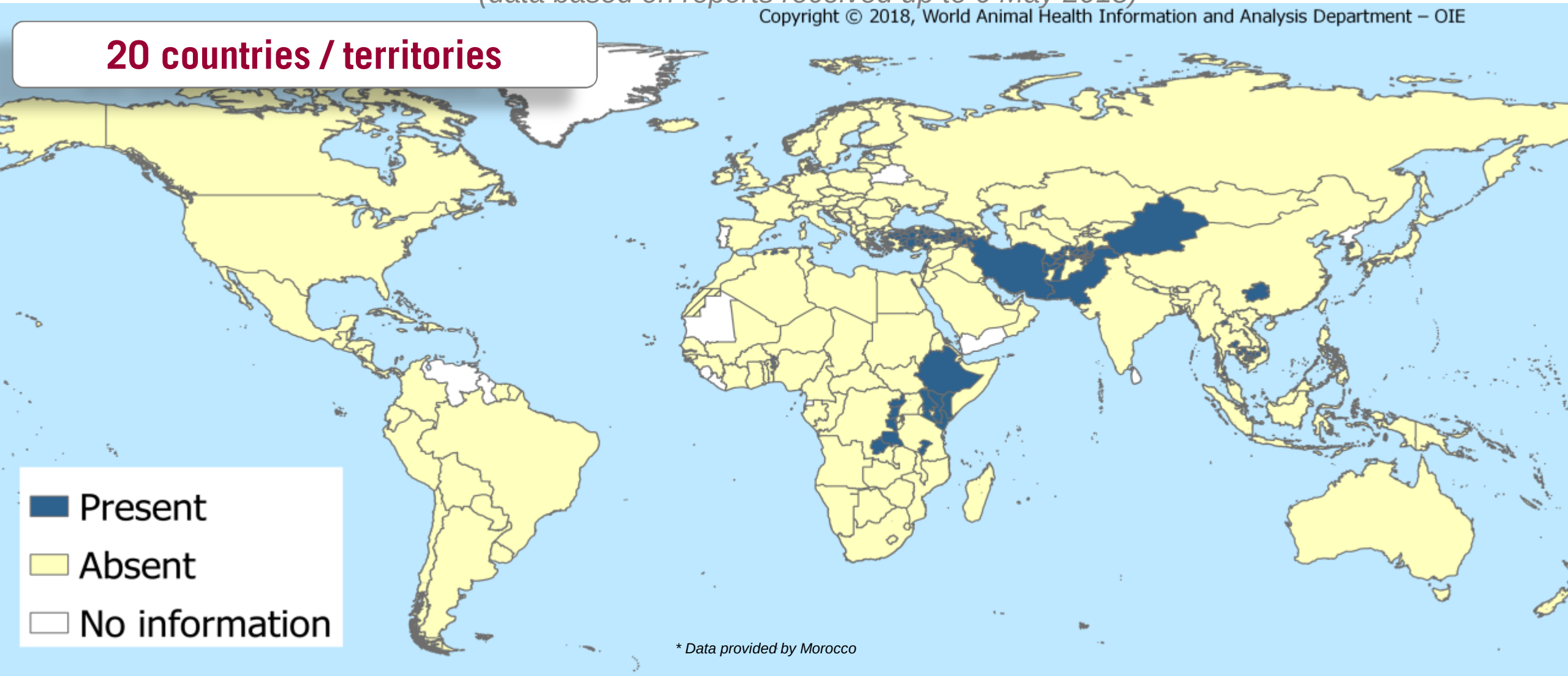


FMD distribution in 2017 and early 2018

Serotype A

(data based on reports received up to 6 May 2018)

20 countries / territories

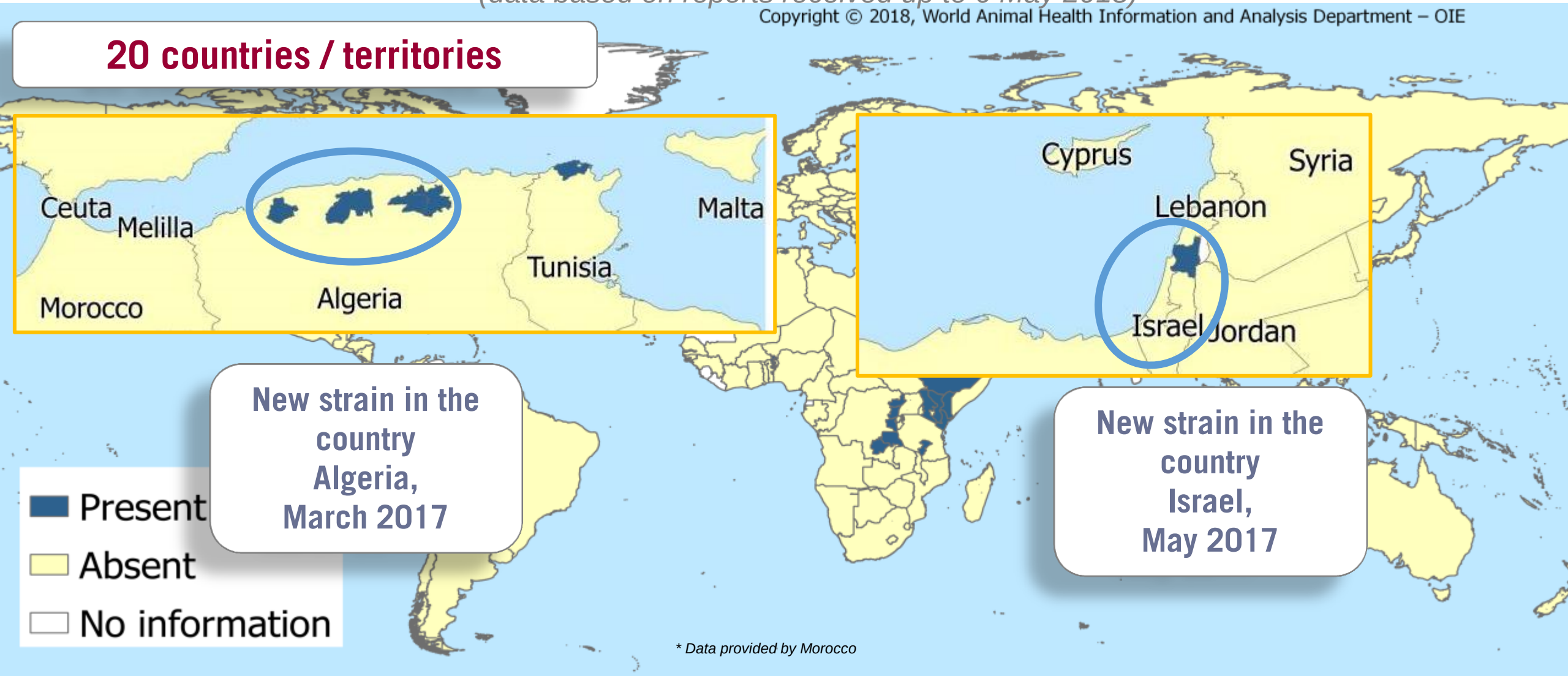


** Data provided by Morocco*

FMD distribution in 2017 and early 2018

Serotype A

(data based on reports received up to 6 May 2018)



FMD distribution in 2017 and early 2018

Serotype A

(data based on reports received up to 6 May 2018)

20 countries / territories

Present
Absent
No information

New strain in the country Nepal, April 2017

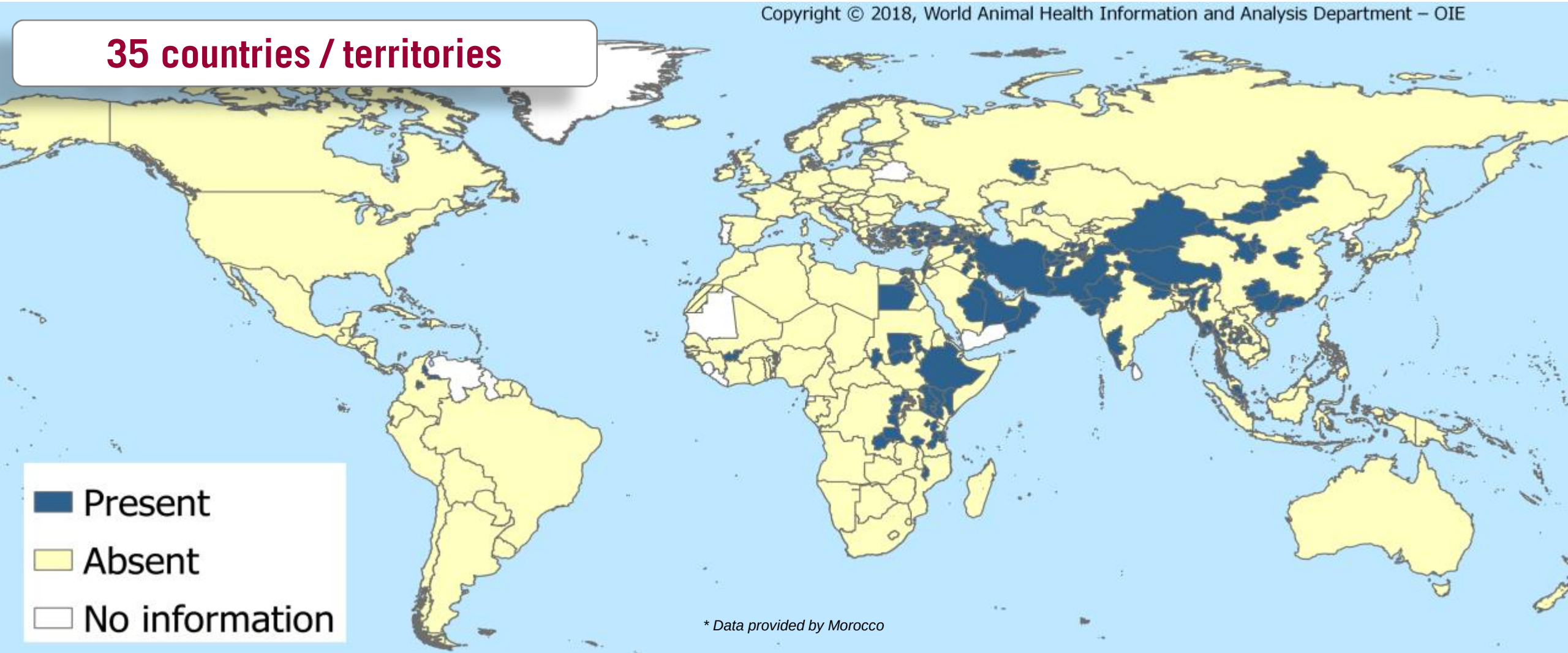
New strain in the country Bhutan, March 2017

** Data provided by Morocco*

FMD distribution in 2017 and early 2018

Serotype O

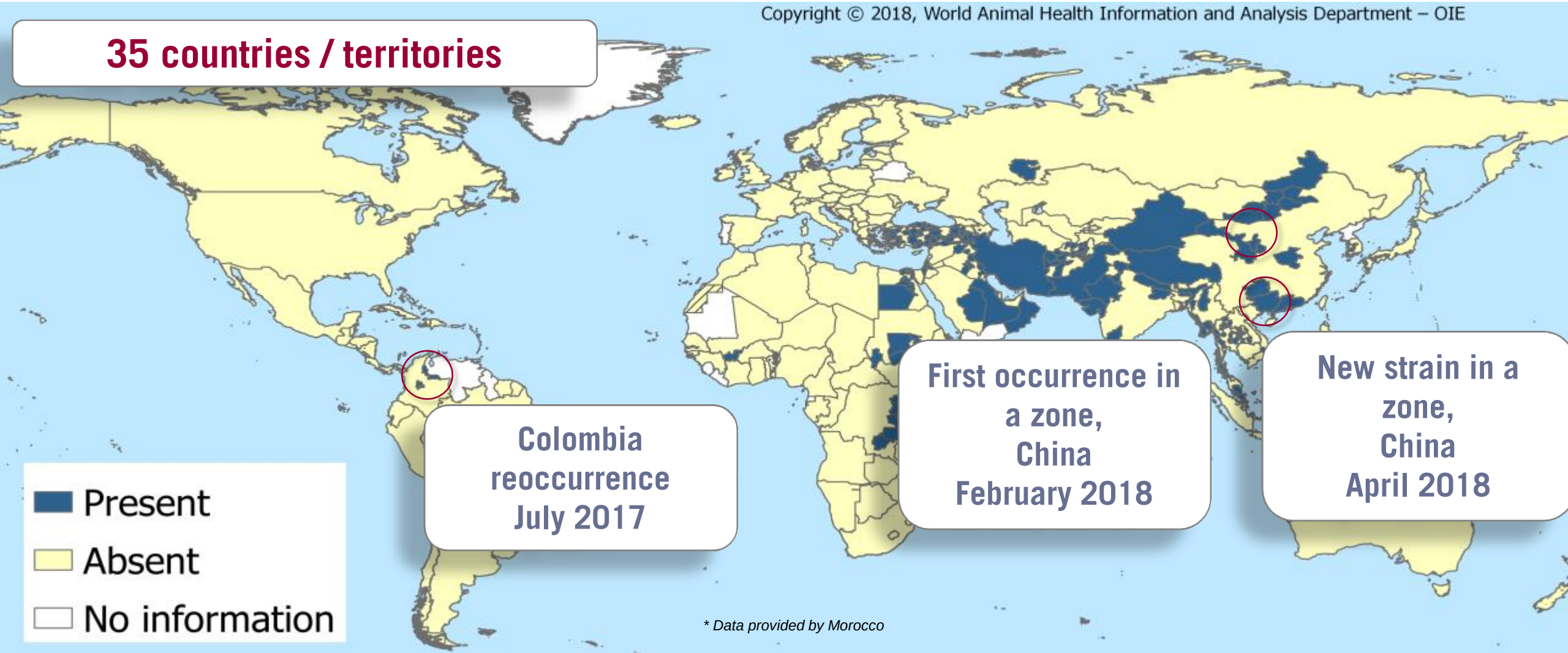
(data based on reports received up to 6 May 2018)



FMD distribution in 2017 and early 2018

Serotype O

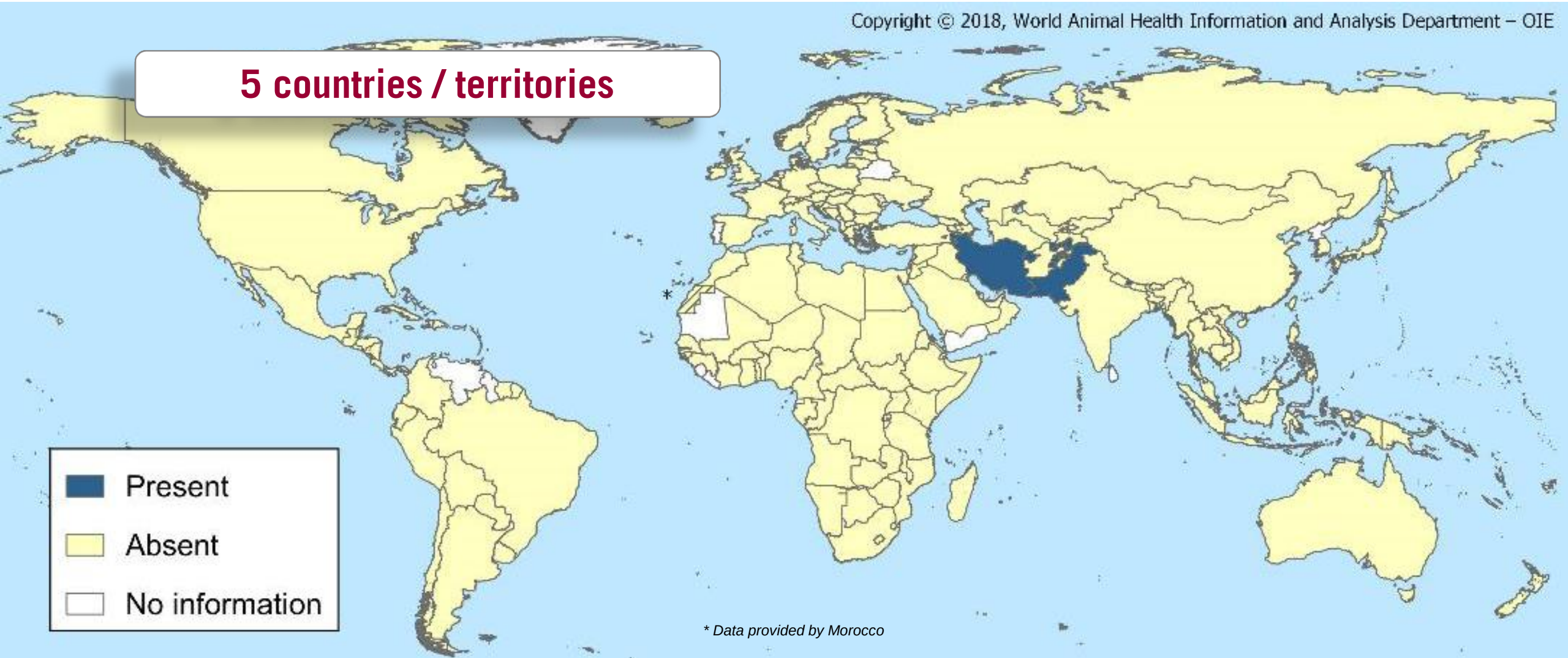
(data based on reports received up to 6 May 2018)



FMD distribution in 2017 and early 2018

Serotype Asia 1

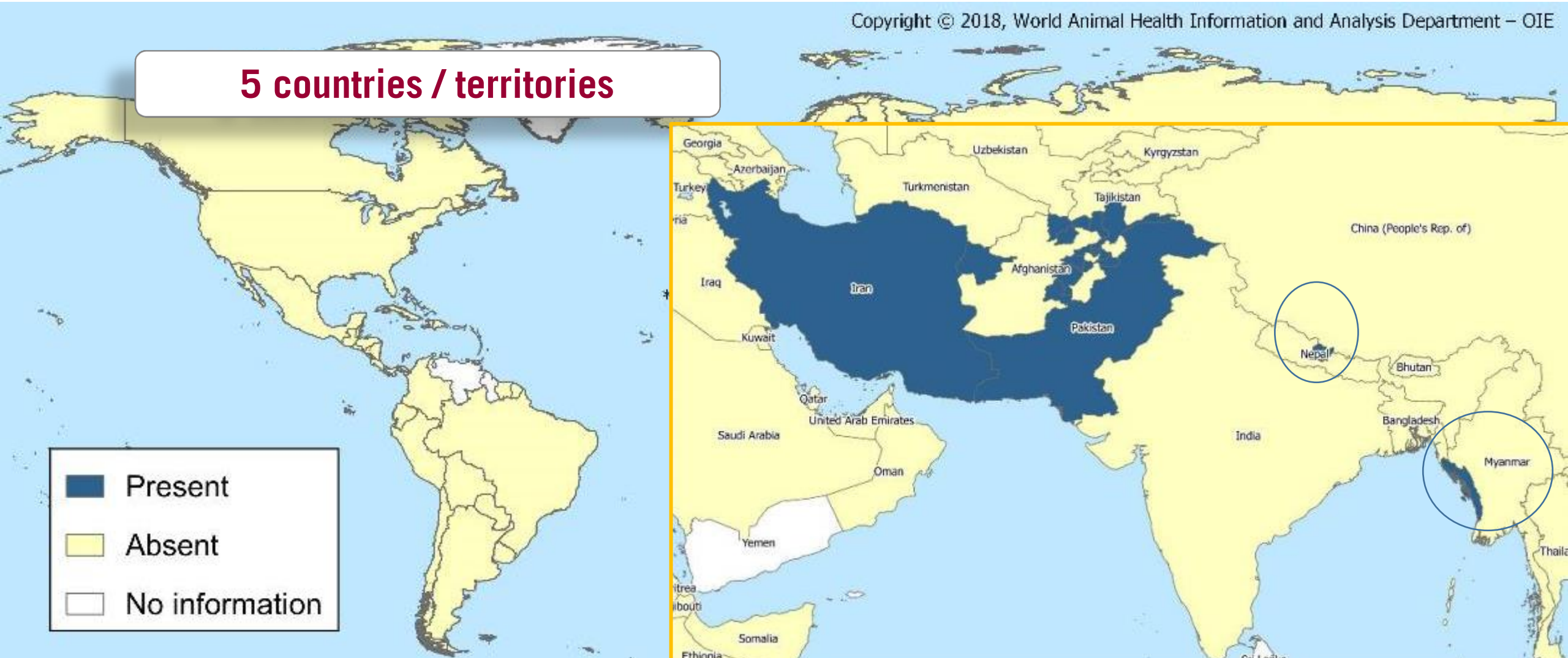
(data based on reports received up to 6 May 2018)



FMD distribution in 2017 and early 2018

Serotype Asia 1

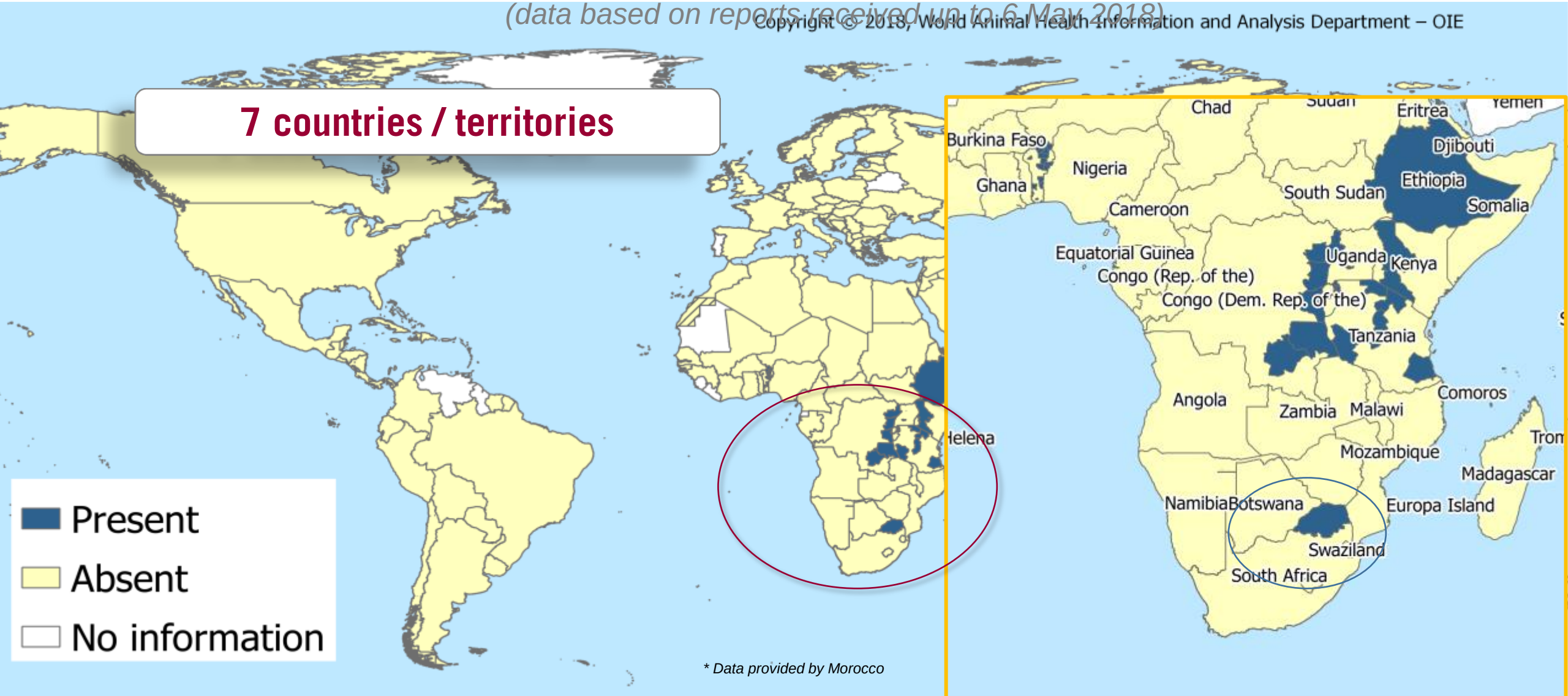
(data based on reports received up to 6 May 2018)



FMD distribution in 2017 and early 2018

Serotype SAT 1

(data based on reports received up to 6 May 2018)

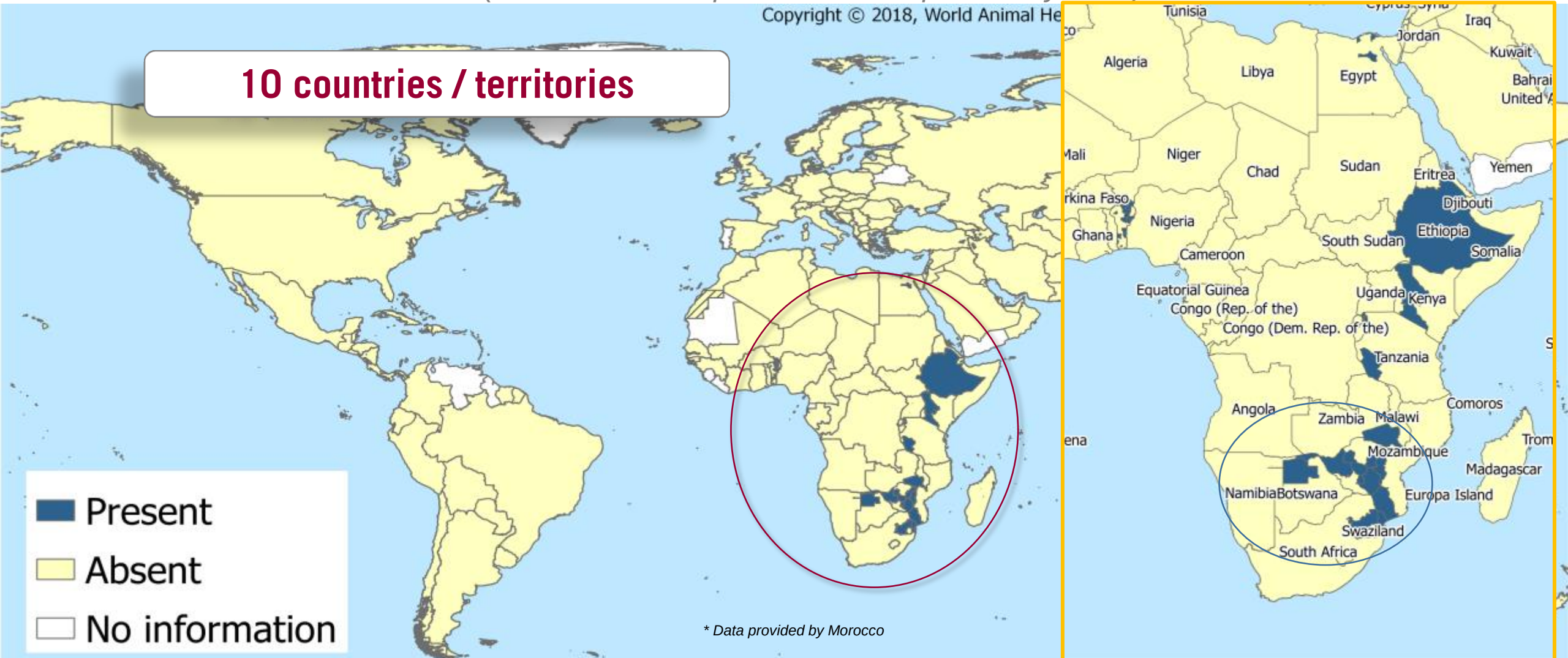


* Data provided by Morocco

FMD distribution in 2017 and early 2018

Serotype SAT 2

(data based on reports received up to 6 May 2018)

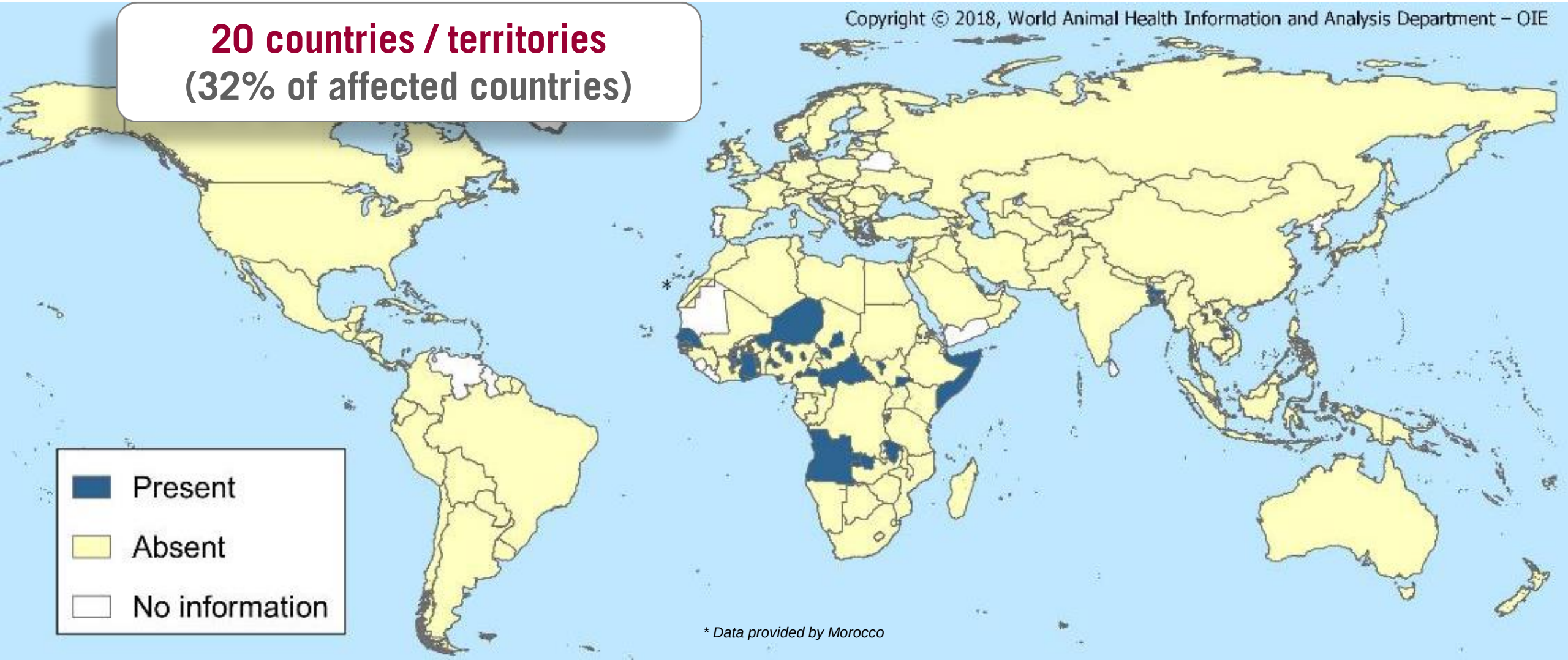


FMD distribution in 2017 and early 2018

Serotype not specified

(data based on reports received up to 6 May 2018)

20 countries / territories
(32% of affected countries)

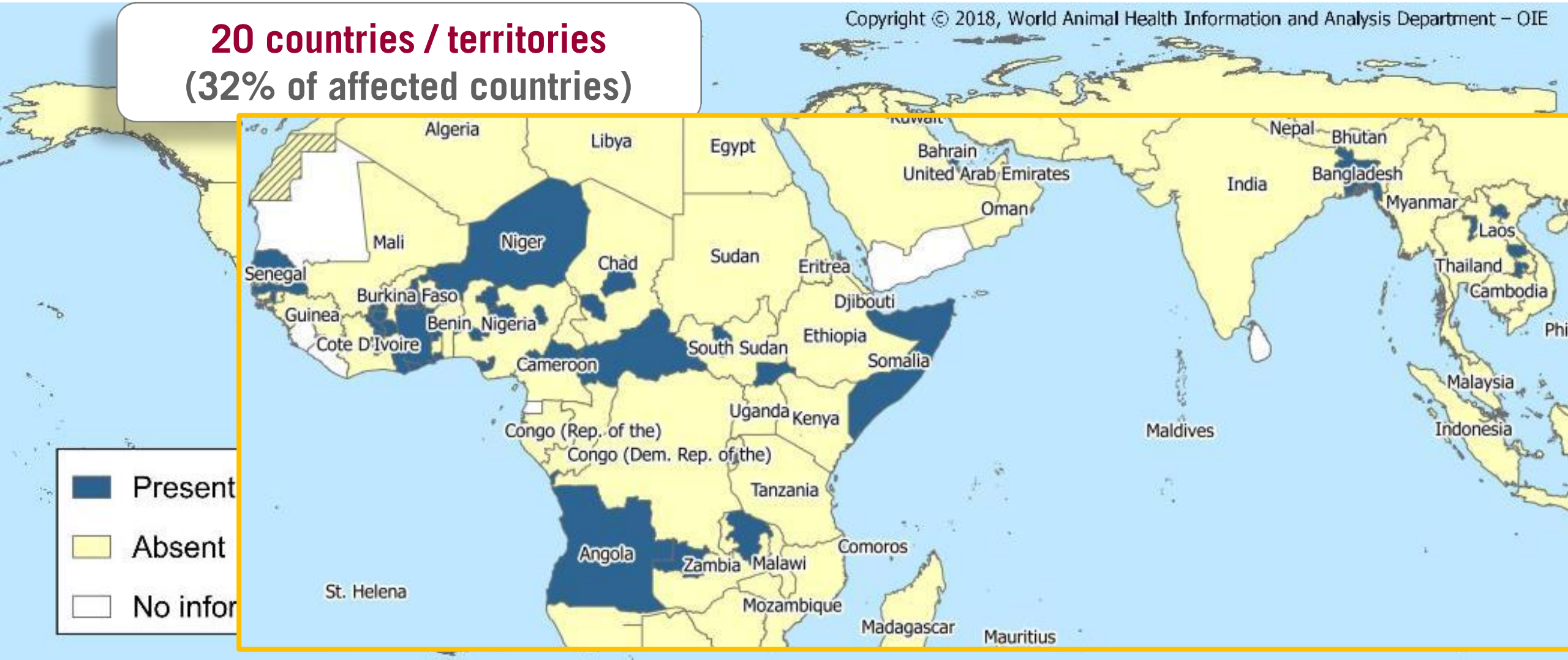


FMD distribution in 2017 and early 2018

Serotype not specified

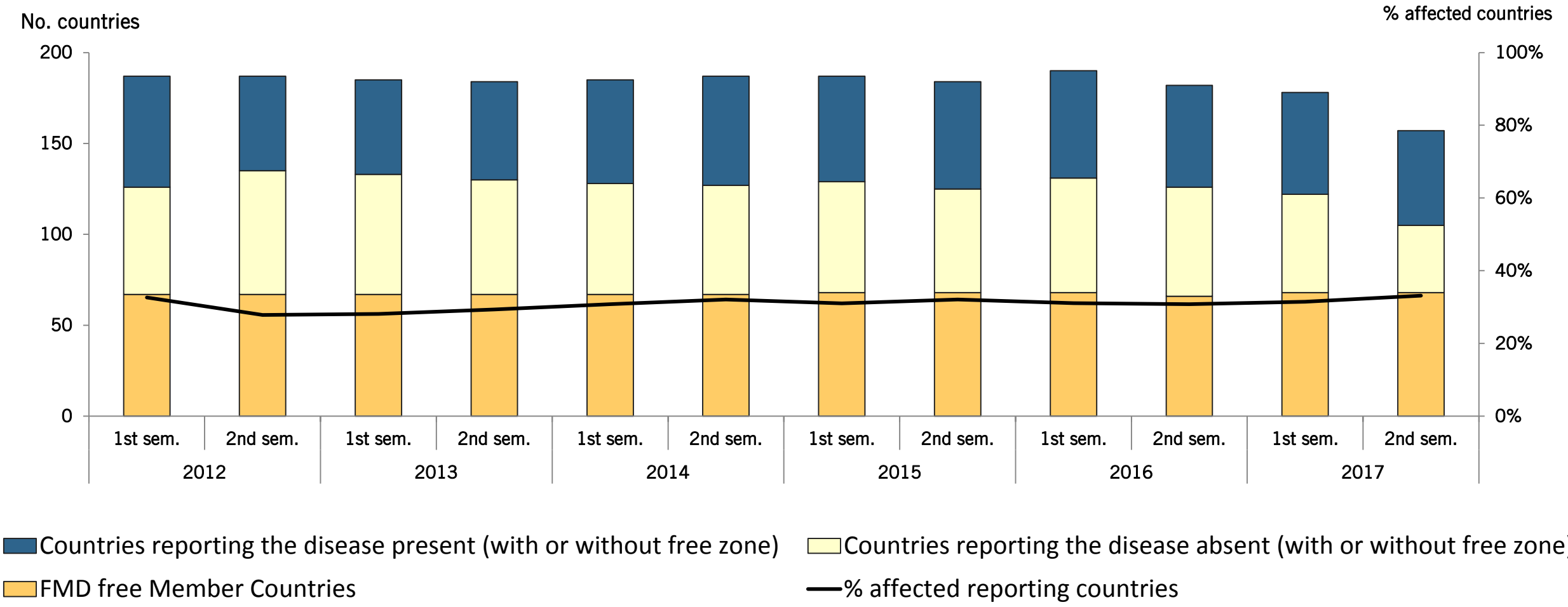
(data based on reports received up to 6 May 2018)

20 countries / territories
(32% of affected countries)



% of the reporting countries that notified FMD (2012-2017)

(data based on reports received up to 6 May 2018)

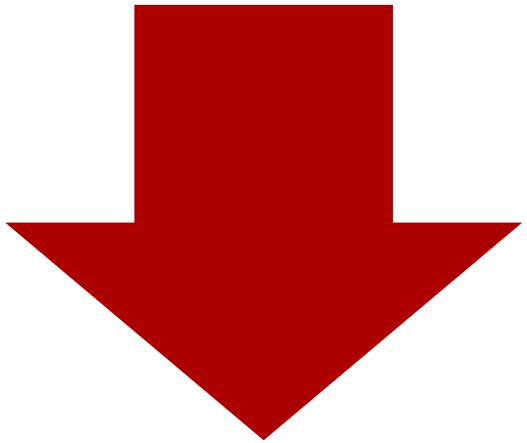


2012-2017

- The area of FMD free zones increased by **133%**
- **7 countries that were infected or had a part of their territory officially recognized as free in 2012 now have an official FMD free status for the entire country in 2018**

% of countries applying all, some or none of the relevant prevention and control measures

What are the relevant measures?

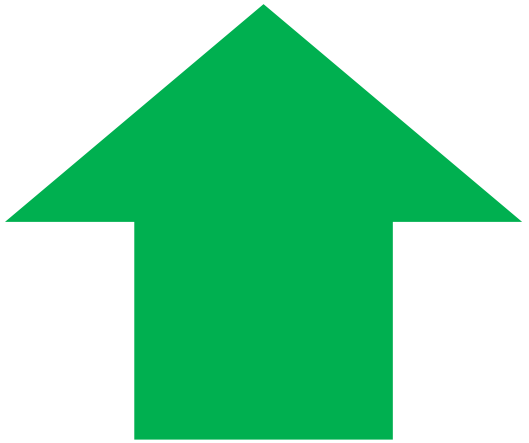


AFFECTED COUNTRIES

- Surveillance
- Movement control
- Stamping out (whole/partial)
- Official vaccination

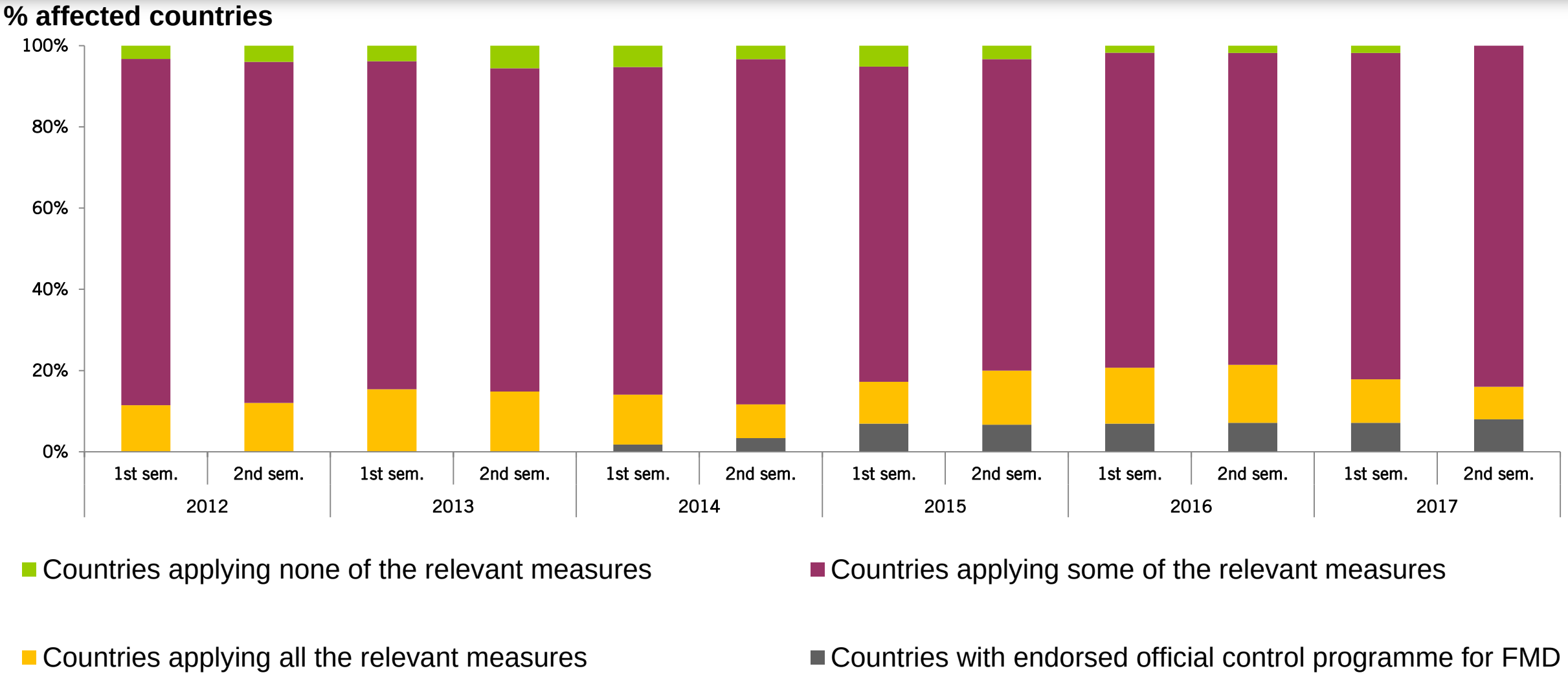
ABSENT COUNTRIES

- Surveillance
- Precautions at borders



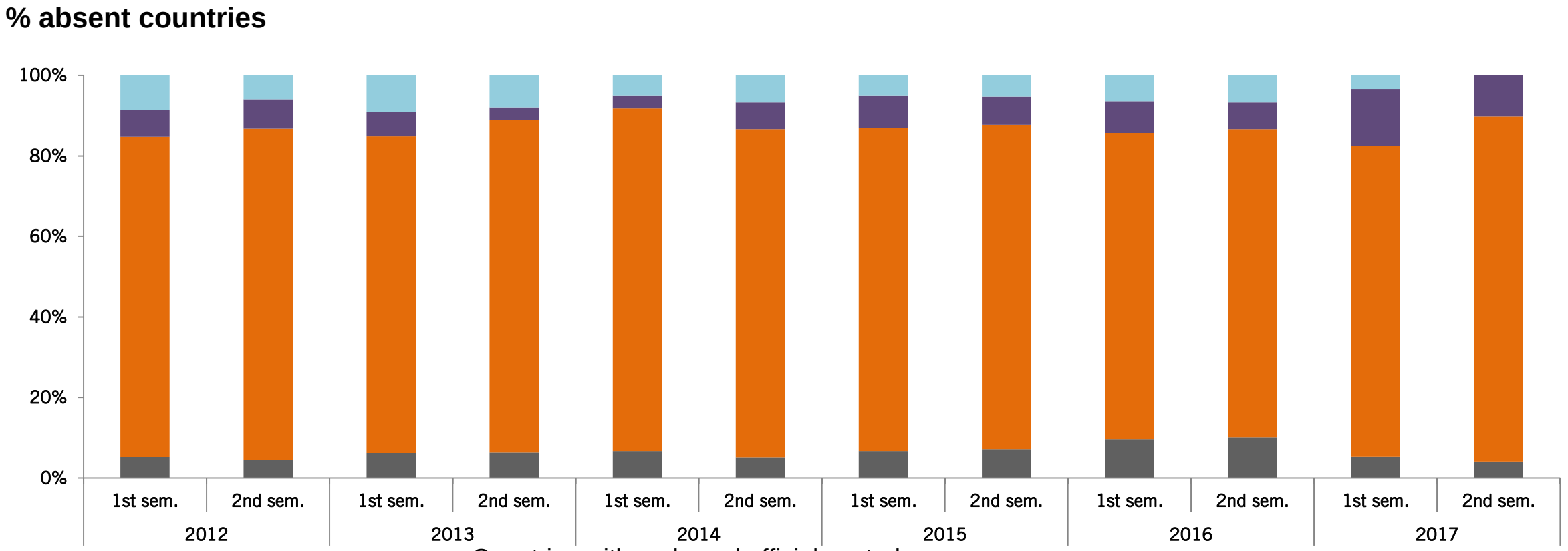
% of countries applying all, some or none of the relevant prevention and control measures: FMD Present

Surveillance - Movement control- Official Vaccination- Stamping out (whole/partial)



% of countries applying all, some or none of the relevant prevention and control measures: FMD Absent

Surveillance – Precaution at borders



High granularity

Members with Free Status are not included in the analysis

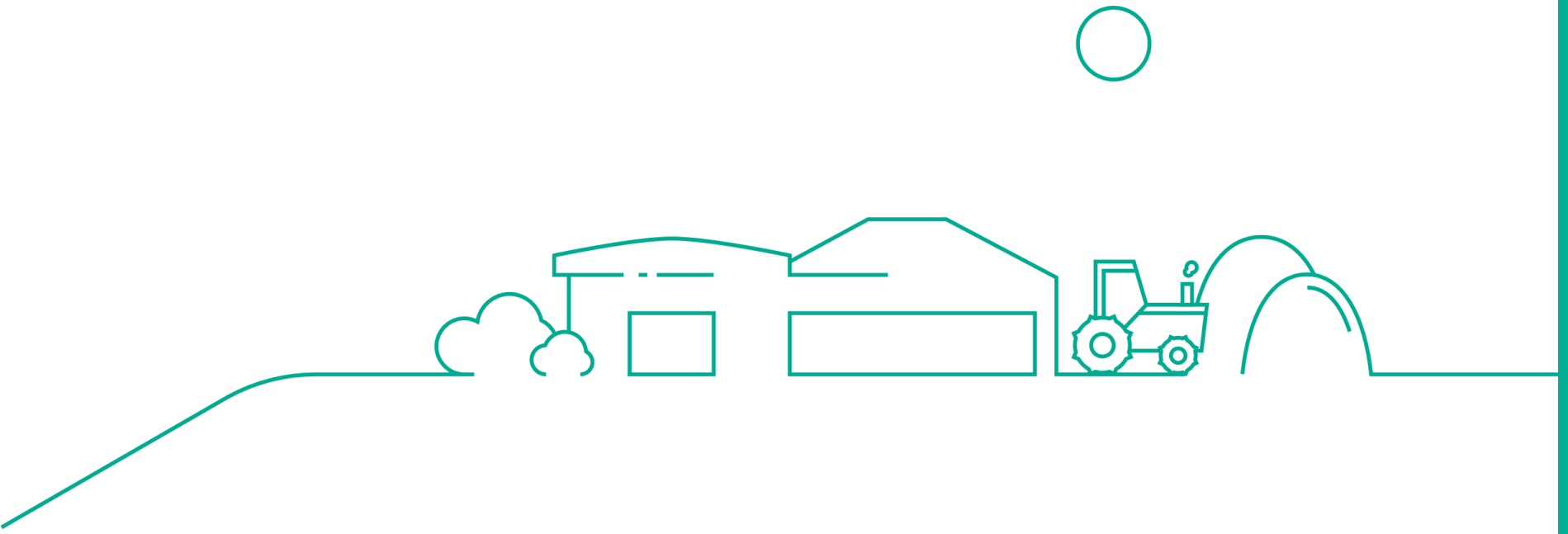
Infection with FMD virus: CONCLUSIONS

- FMD official situation has slightly improved, based on the expansion of FMD-free areas in the world and the progressive cessation of vaccination.

- Need to improve the diagnostic capabilities of countries to identify the serotypes

- Countries are encouraged to make use of the Global FMD control strategy and the network of OIE Reference Laboratories and Collaborating Centres to design and implement well-structured control efforts.

- More accurate disease information through WAHIS for the continued monitoring of global progress of the control efforts.



Infection with peste des petits ruminants virus

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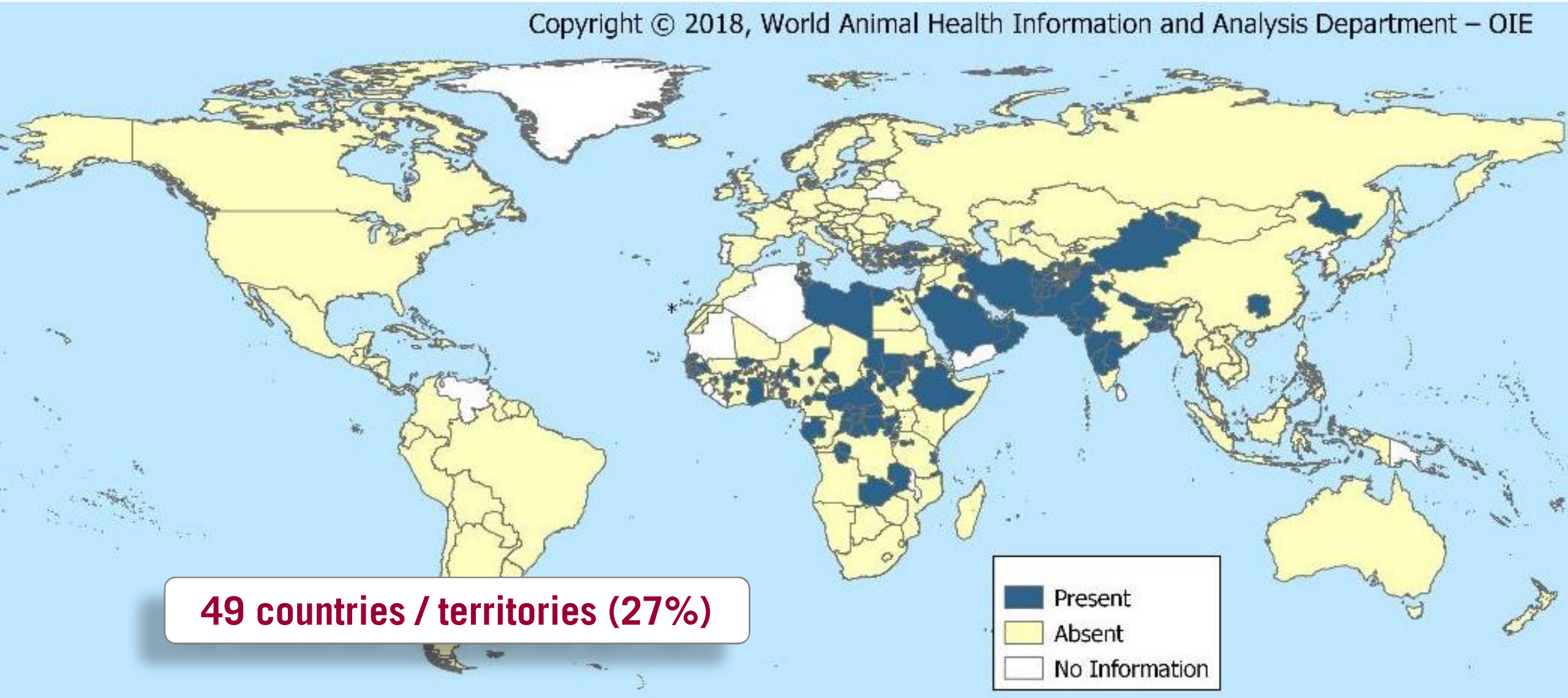
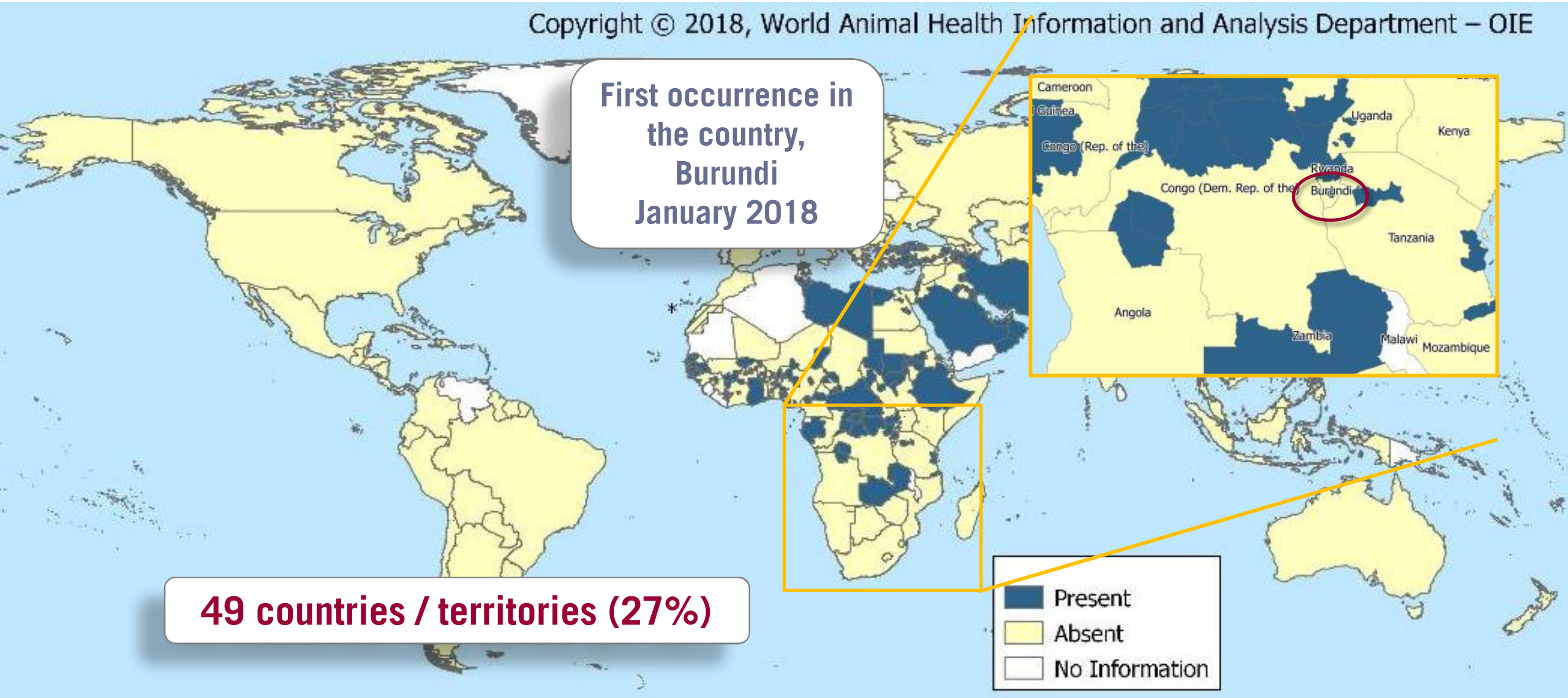
PPR distribution in 2017 and early 2018

(data based on reports received up to 6 May 2018)



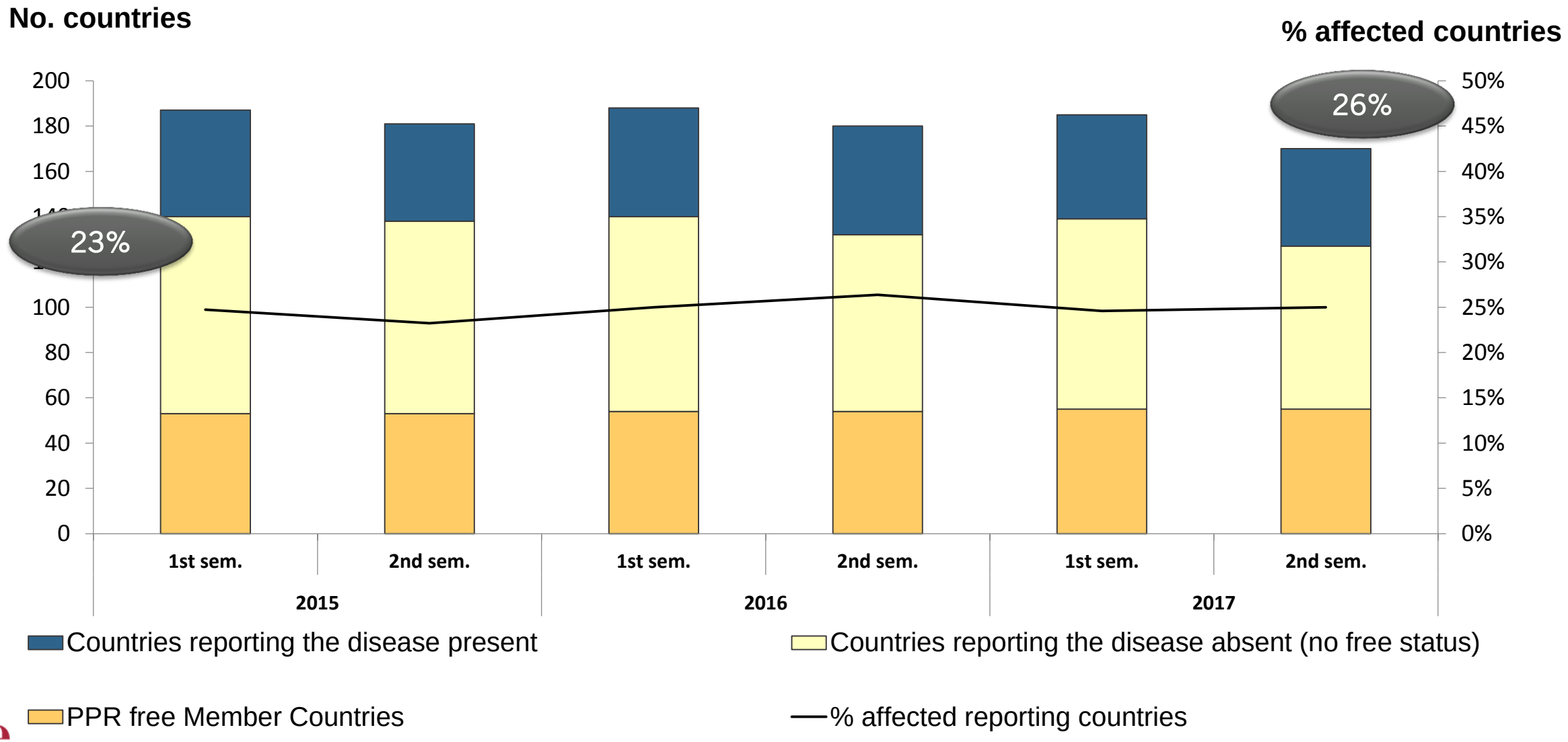
PPR distribution in 2017 and early 2018

(data based on reports received up to 6 May 2018)



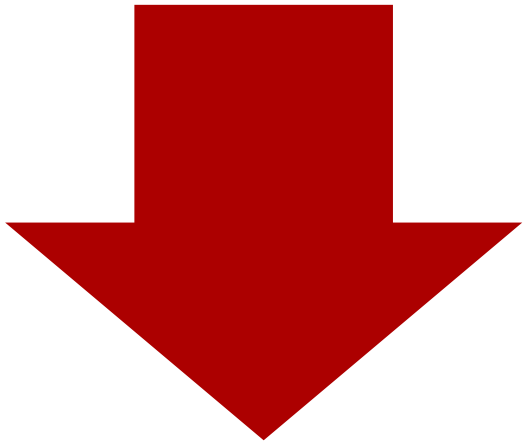
% of the reporting countries that notified PPR (2015-2017)

(data based on reports received up to 6 May 2018)



% of countries applying all, some or none of the relevant prevention and control measures

What are the relevant measures?

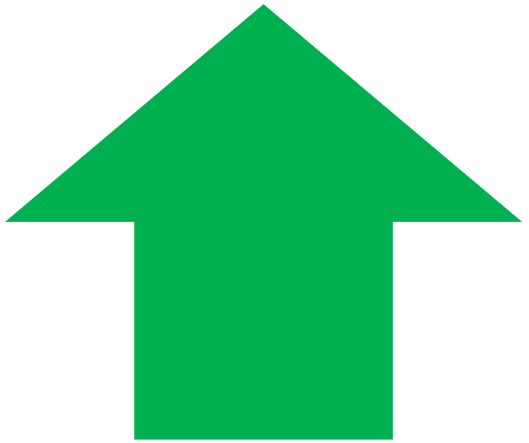


AFFECTED COUNTRIES

- Surveillance
- Movement control
- Stamping out (whole/partial)
- Official vaccination

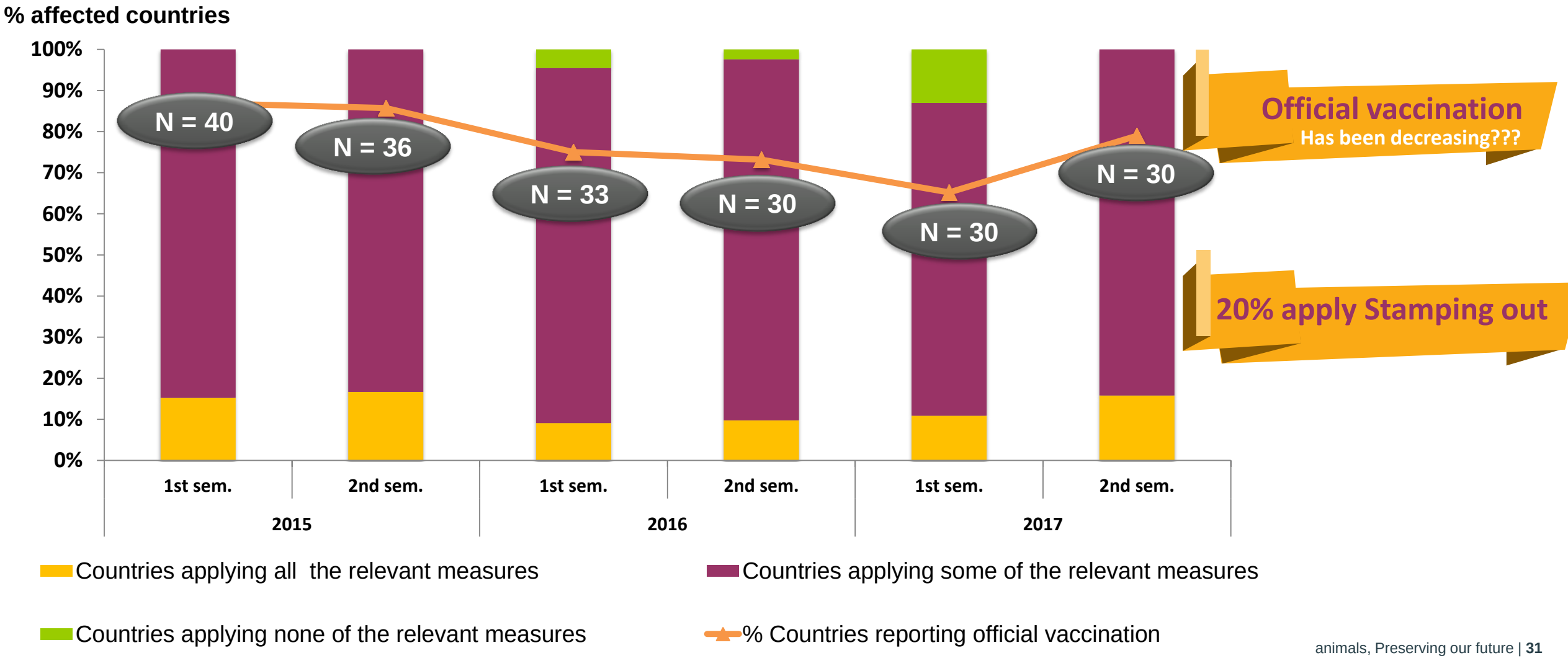
ABSENT COUNTRIES

- Surveillance
- Precautions at borders



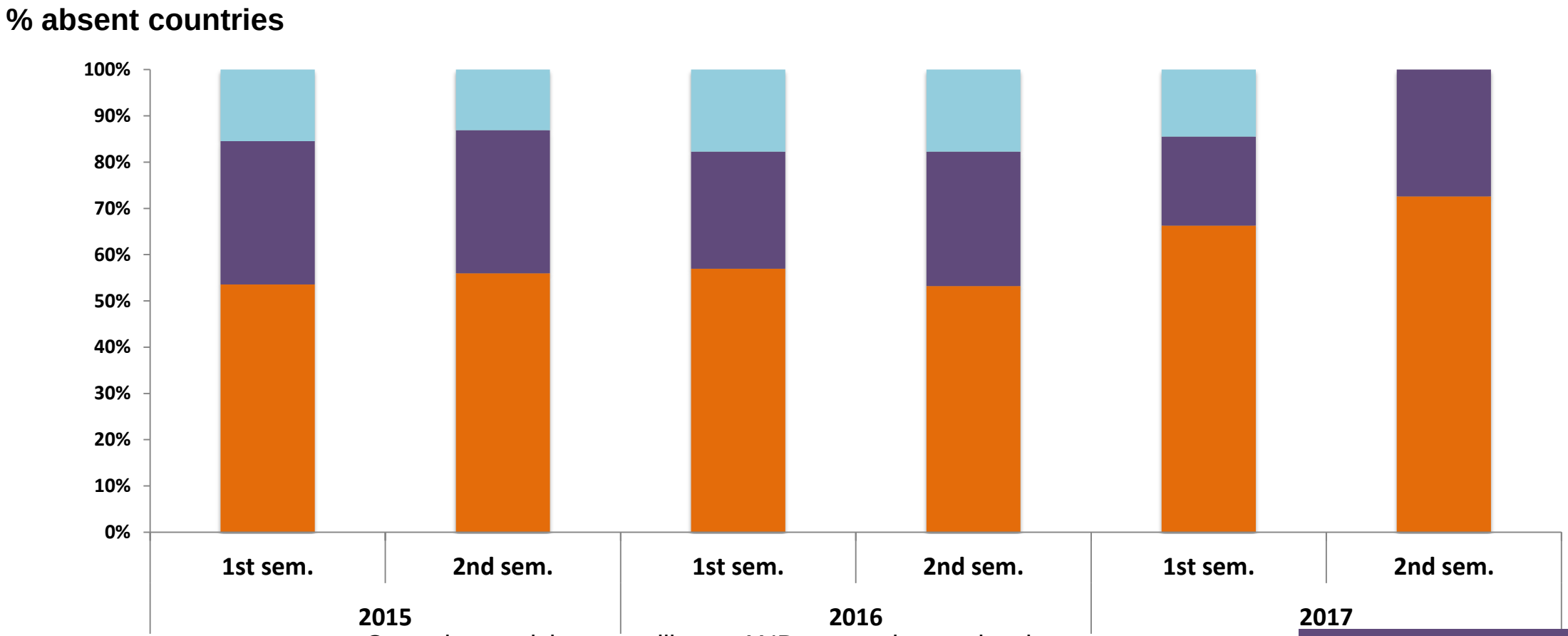
% of countries applying all, some or none of the relevant prevention and control measures: PPR Present

Surveillance - Movement control- Official Vaccination- Stamping out (whole/partial)



% of countries applying all, some or none of the relevant prevention and control measures: PPR Absent

Surveillance – Precaution at borders



Members with Free Status are not included in the analysis

Infection with PPR virus: CONCLUSIONS

- The global situation has not shown a significant improvement since 2015.
- PPR has spread to some areas outside its traditional range over the last few years, including Eastern Europe and Asia.
- Few of the PPR-affected countries report having implemented all of the relevant control measures.
- Room for enhanced prevention and control measures.
- Greater commitment is required to achieve global eradication by 2030.

Infection with rabies virus

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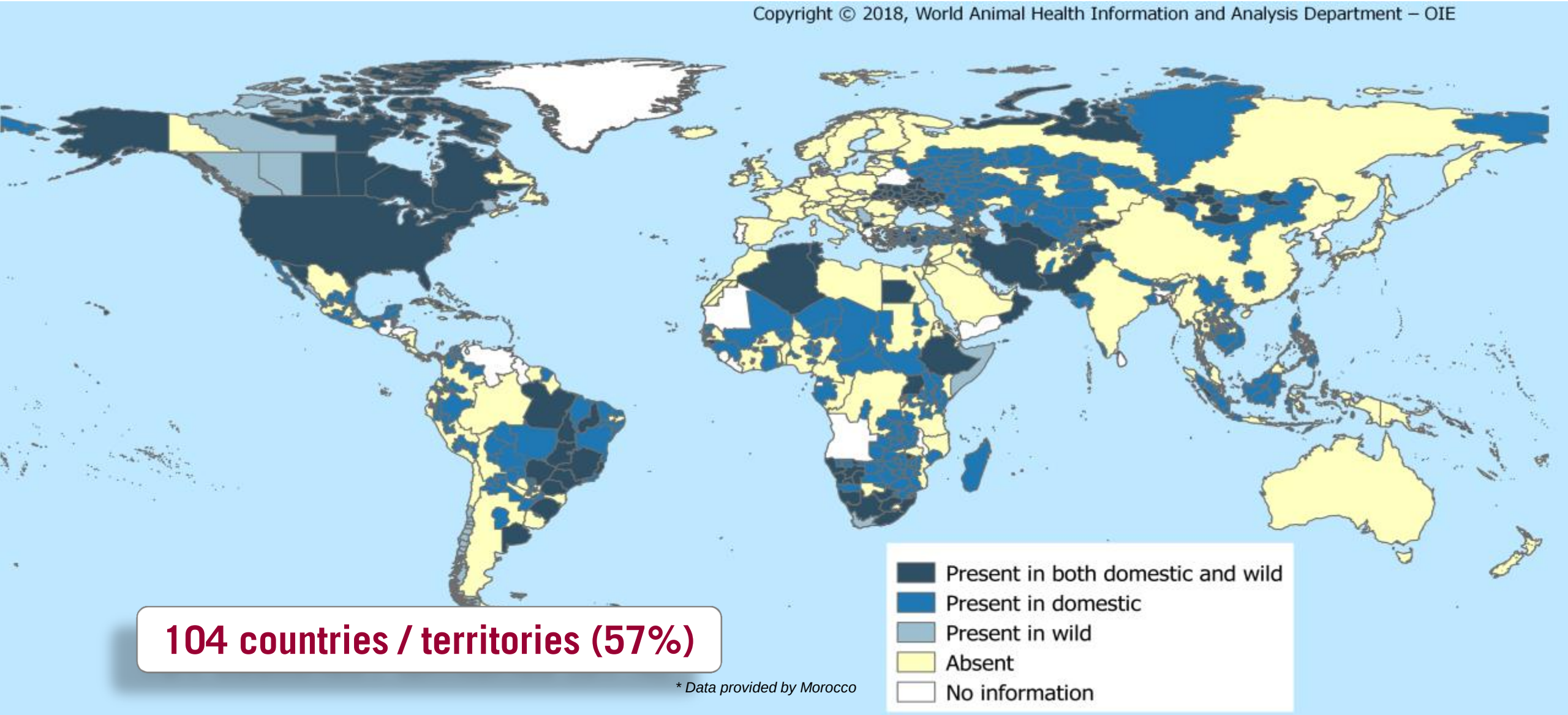
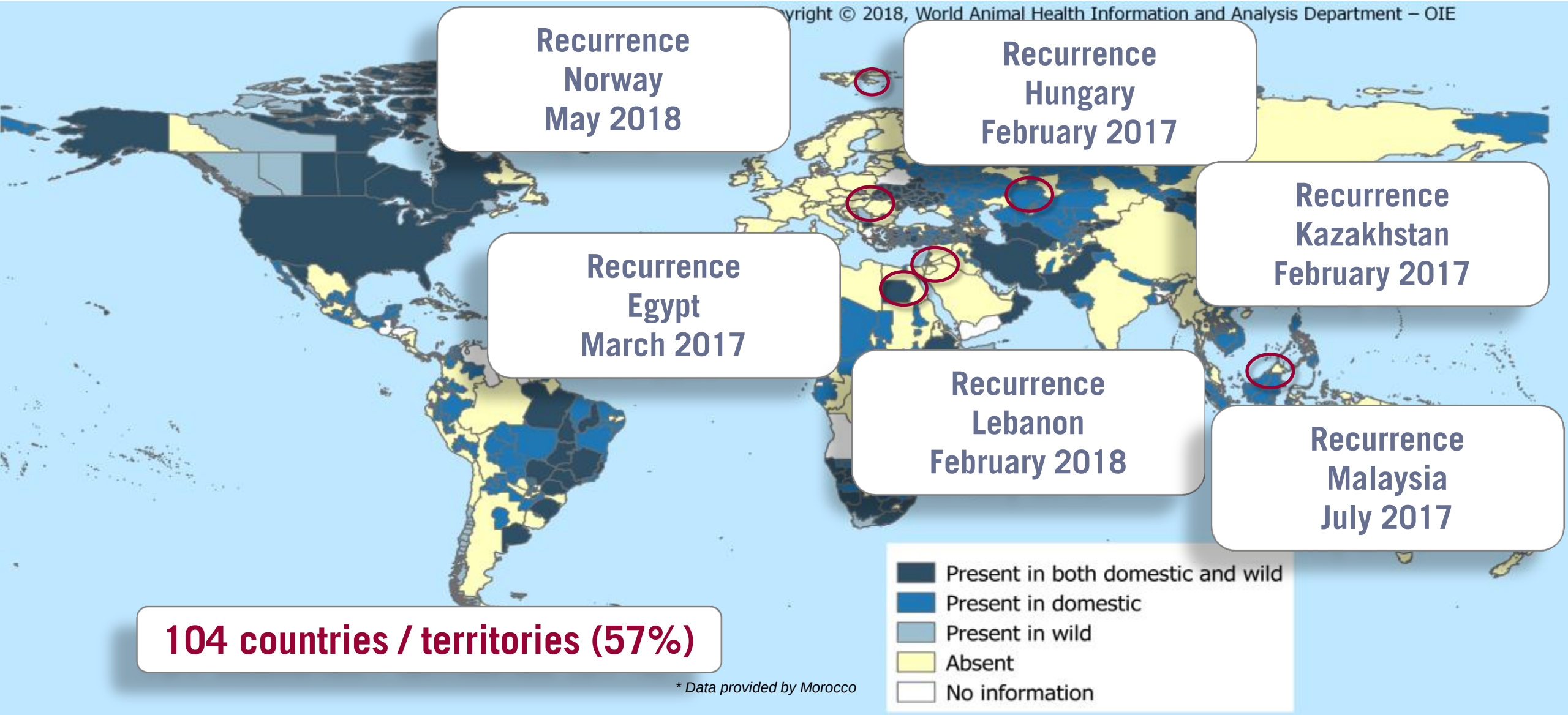
Rabies distribution in 2017 and early 2018

(data based on reports received up to 6 May 2018)



Rabies distribution in 2017 and early 2018

(data based on reports received up to 6 May 2018)



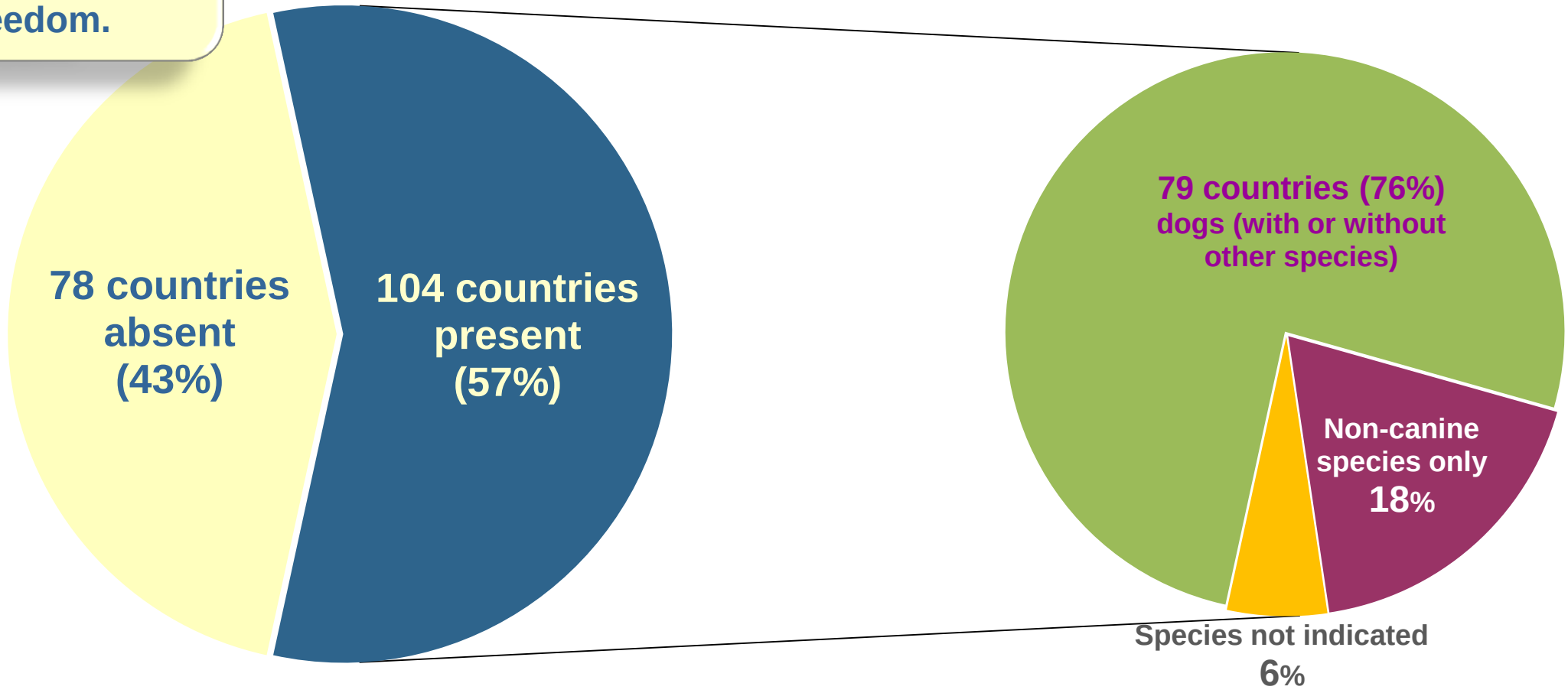
104 countries / territories (57%)

** Data provided by Morocco*

% of the reporting countries that notified rabies present and the breakdown on species affected in 2017

(data based on reports received up to 6 May 2018)

11 countries have made a self-declaration of freedom.



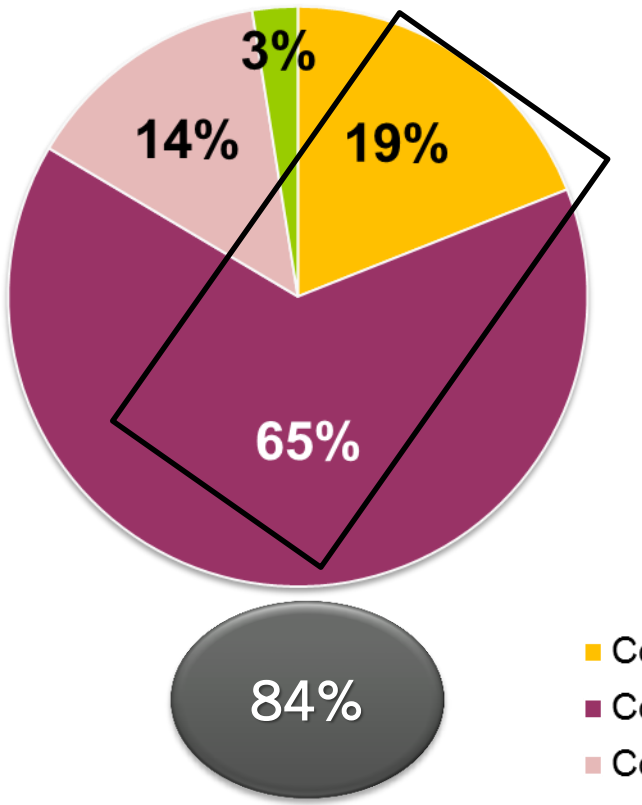
% of countries applying all, some or none of the relevant prevention and control measures

What are the relevant measures of rabies in dogs?

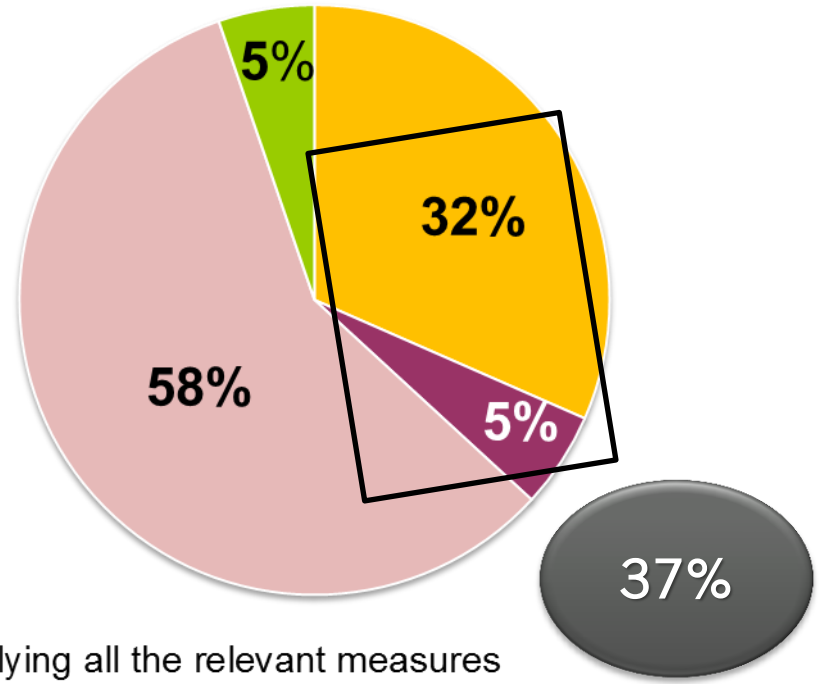
	Surveillance	Official vaccination	Precaution at borders	Selective killing
Countries with disease present in dogs	✓	✓	✓	✓
Countries with disease present in non-canine species only	✓	✓	✓	
Countries with disease absent	✓	✓	✓	

Implementation of the relevant measures in countries / territories

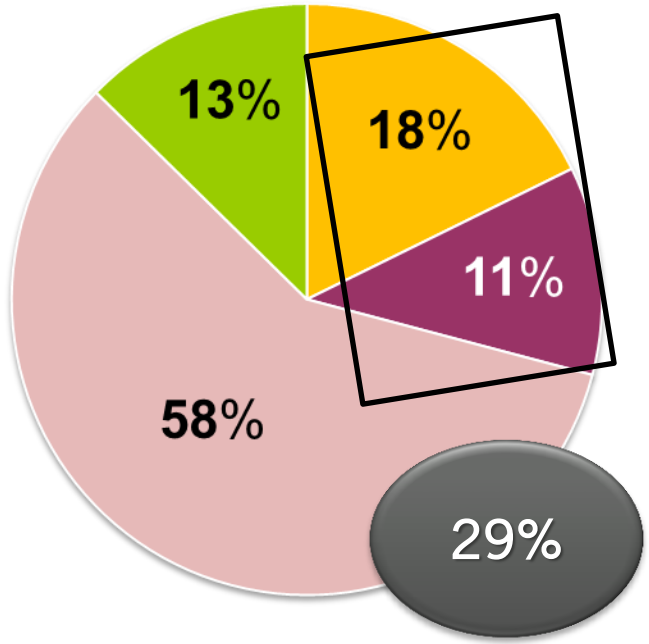
Disease present in dogs



Disease present in non-canine species only



Disease absent



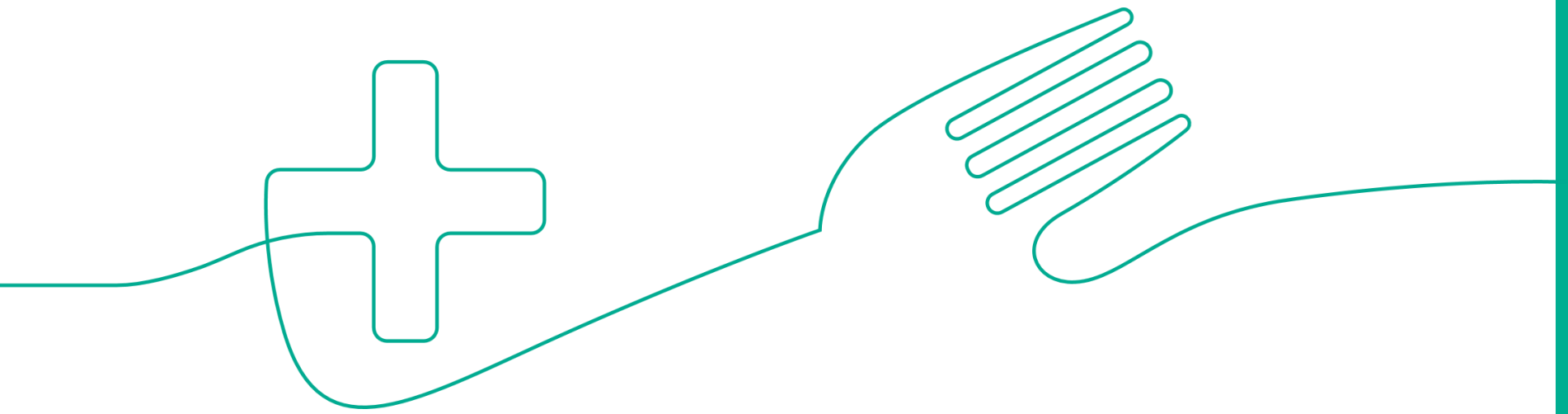
- Countries applying all the relevant measures
- Countries applying some of the relevant measures including vaccination
- Countries applying some of the relevant measures without vaccination
- Countries applying none of the relevant measures

Rabies in dogs: CONCLUSIONS

- Rabies is a disease with significant global spread and impact.

- All countries are encouraged to:
  - *Provide information of the occurrence of the disease and species affected*
  - *Report the official vaccination through WAHIS*
  - *Provide information on the control measures applied*

- A gap in the implementation of official vaccination for rabies, especially, in the countries where the disease was reported in non-canine species only, which may lead to an increase in the risk to public health.



Bovine tuberculosis

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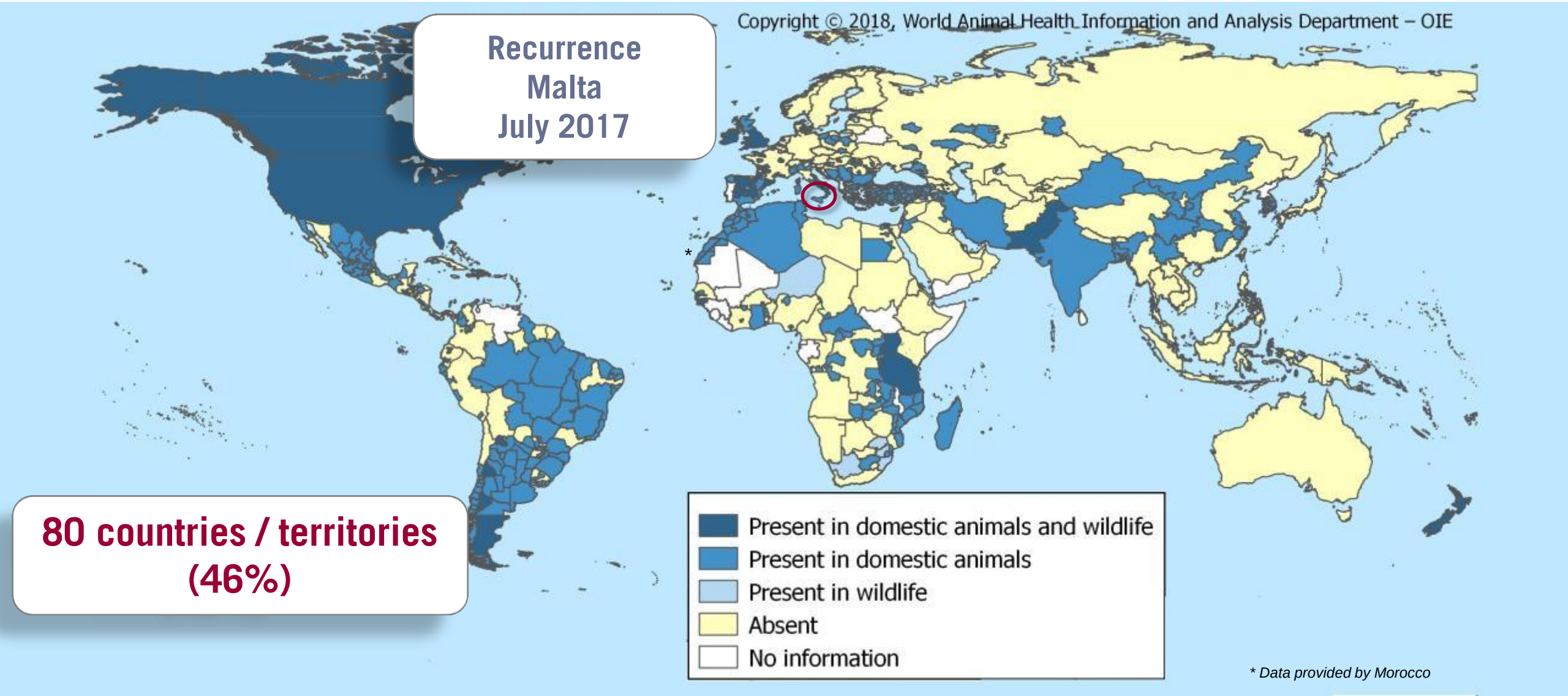
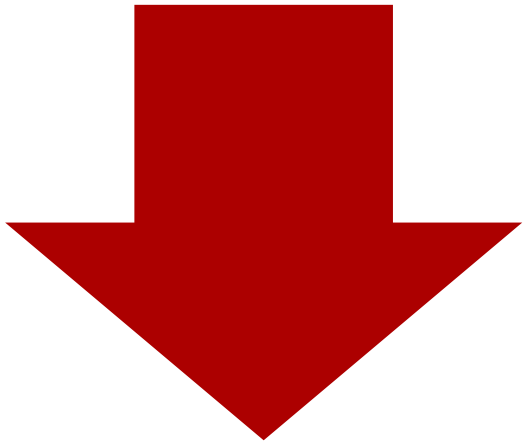
Bovine tuberculosis distribution in 2017 and early 2018

(data based on reports received up to 6 May 2018)



% of countries applying all, some or none of the relevant prevention and control measures

What are the relevant measures?

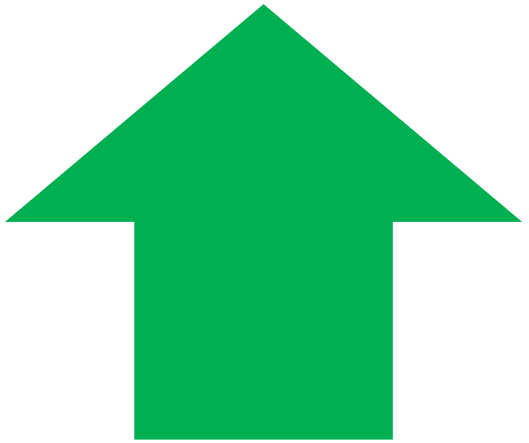


AFFECTED COUNTRIES

- Active surveillance
- Movement control
- Stamping out (whole/partial)

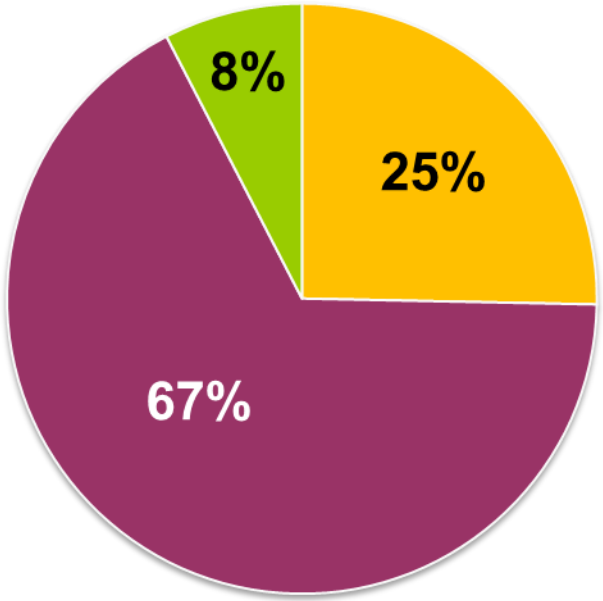
ABSENT COUNTRIES

- Surveillance
- Precautions at borders



Implementation of the relevant control measures

Affected countries

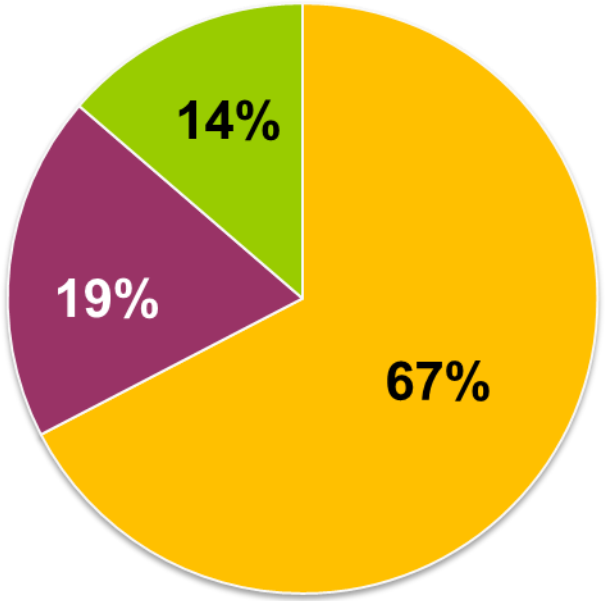


Countries applying all the relevant measures

Countries applying some of the relevant measures

Countries applying none of the relevant measures

Absent countries



Active Surveillance - Movement control- Stamping out (whole/partial)

Surveillance – Precaution at borders

Bovine tuberculosis: CONCLUSIONS

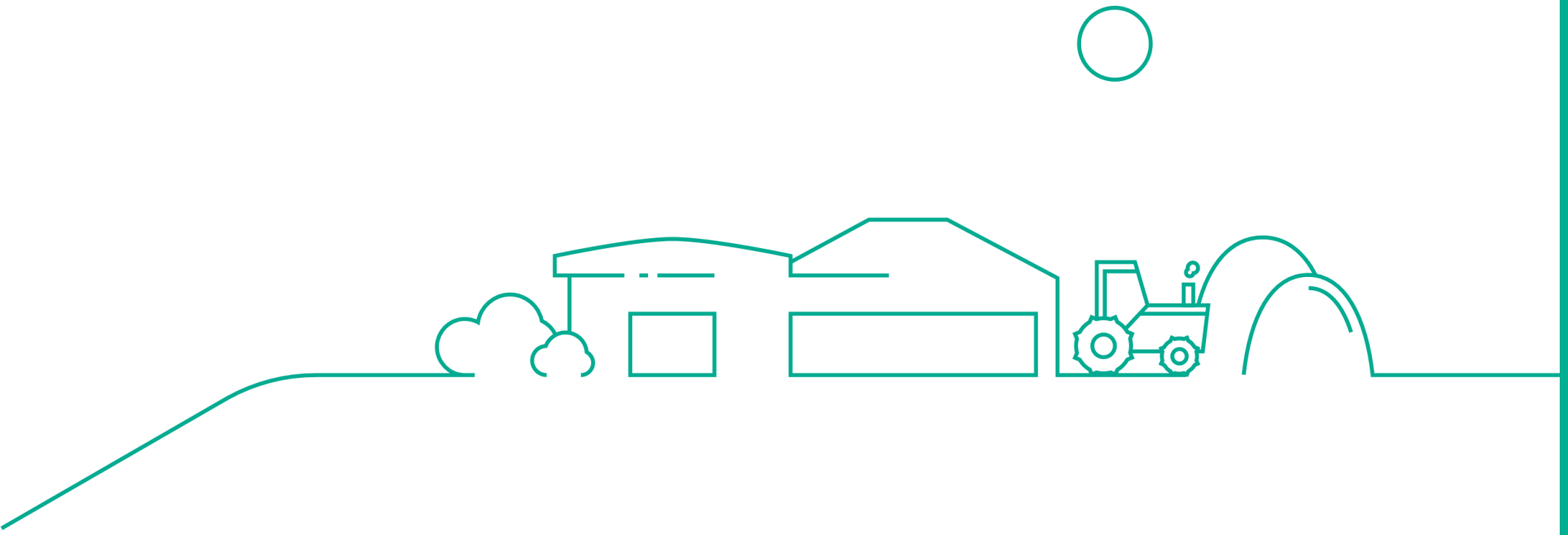
- The disease was reported present by 80 of the reporting countries (46%).
- In affected countries all the relevant control measures are being applied by 20 countries (25%) .
- Members are encouraged to improve their level of surveillance and so be in a position to report more accurate information.
- More rigorous control efforts are warranted in order to achieve the global goal “to end the global tuberculosis epidemic by 2030”

CHAPTER I: CONCLUSIONS

- A smaller than expected percentage of the affected countries reported stamping out or selective killing and disposal as their primary official control measure.
- Quality of information reported through WAHIS can be used to analyse the progress achieved with the ongoing global eradication efforts.
- Make strategic use of OIE standards, the OIE's mechanisms for official disease status recognition, endorsement of official control programmes, self-declarations of disease freedom and OIE PVS tool.

Chapter 2

Global situation regarding four diseases and infections of major interest



Infection with influenza A viruses of high pathogenicity in birds

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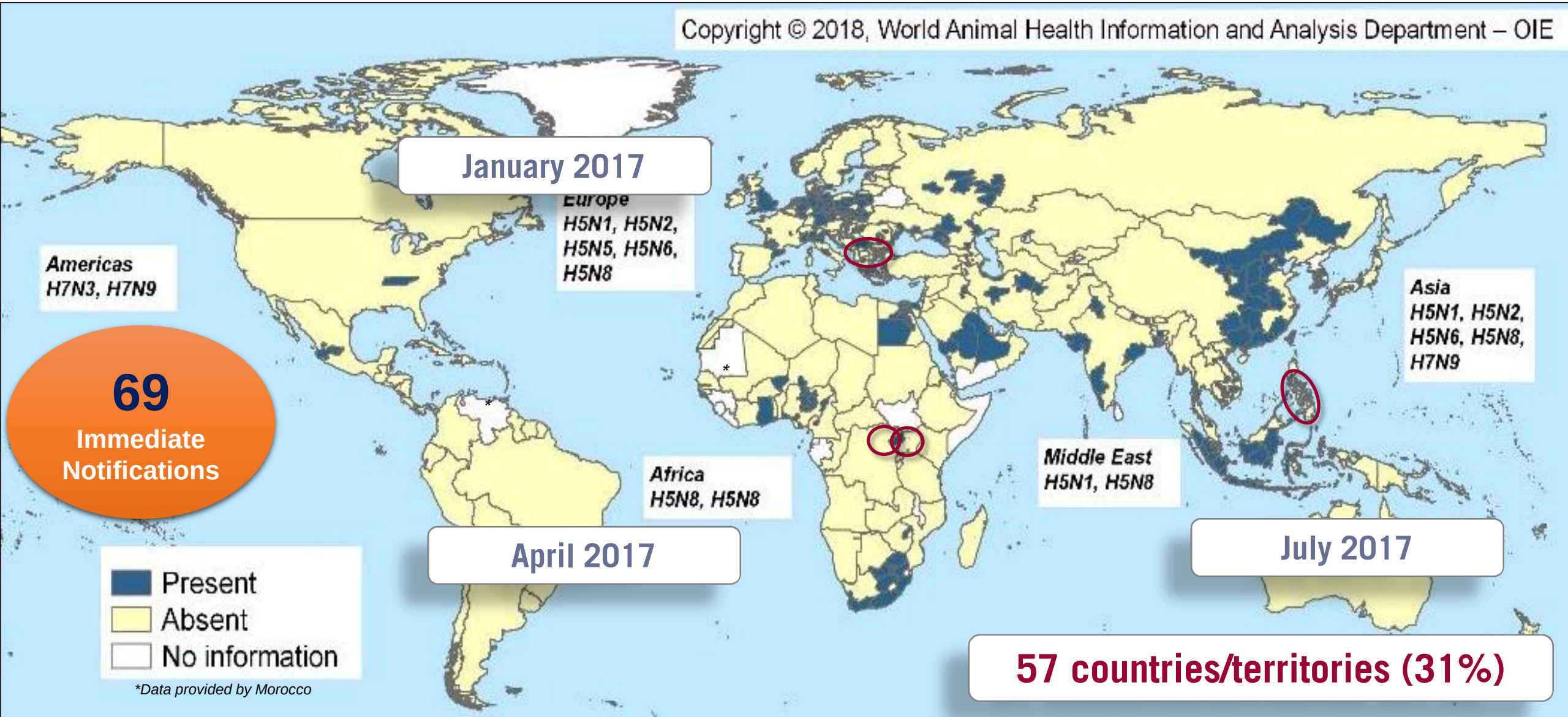
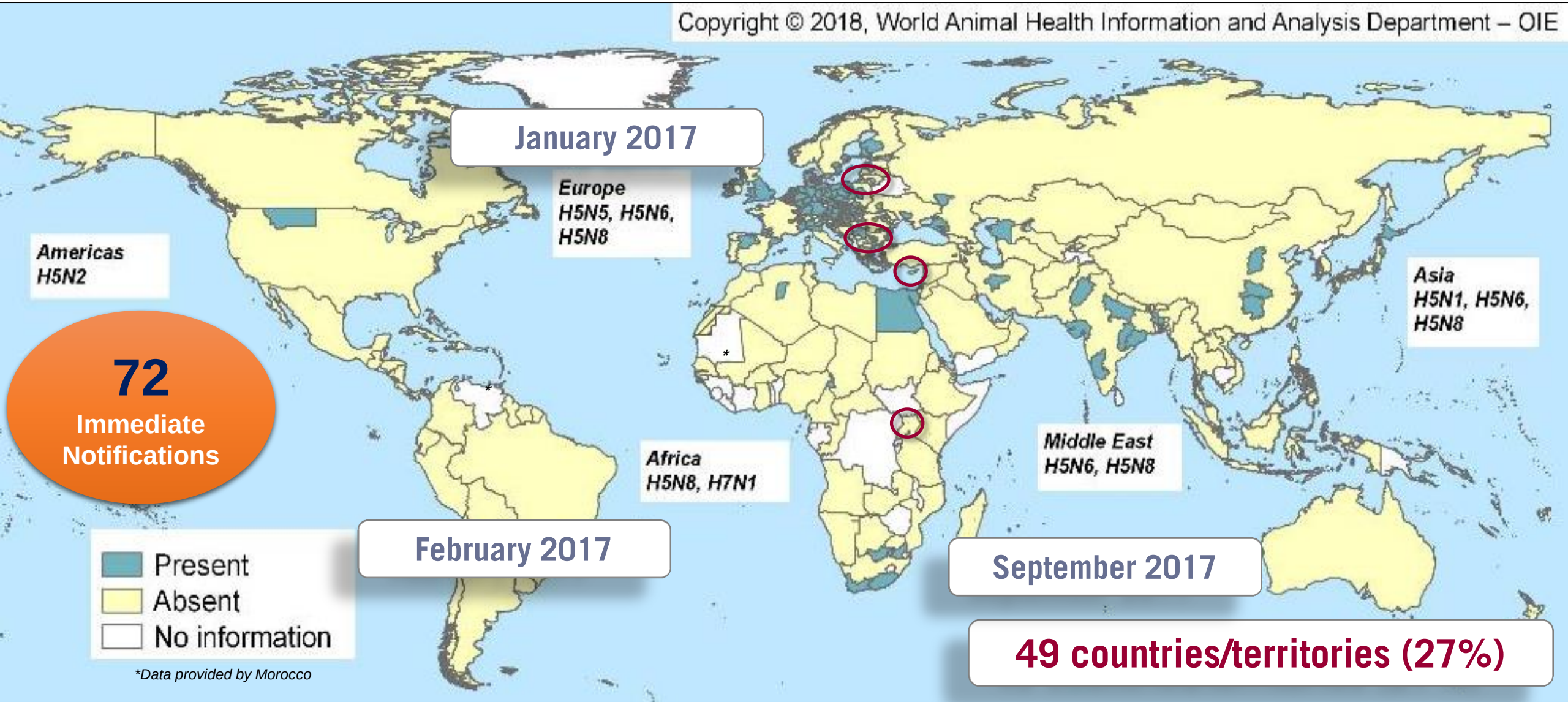
HPAI poultry distribution in 2017 and early 2018

(data based on reports received up to 6 May 2018)



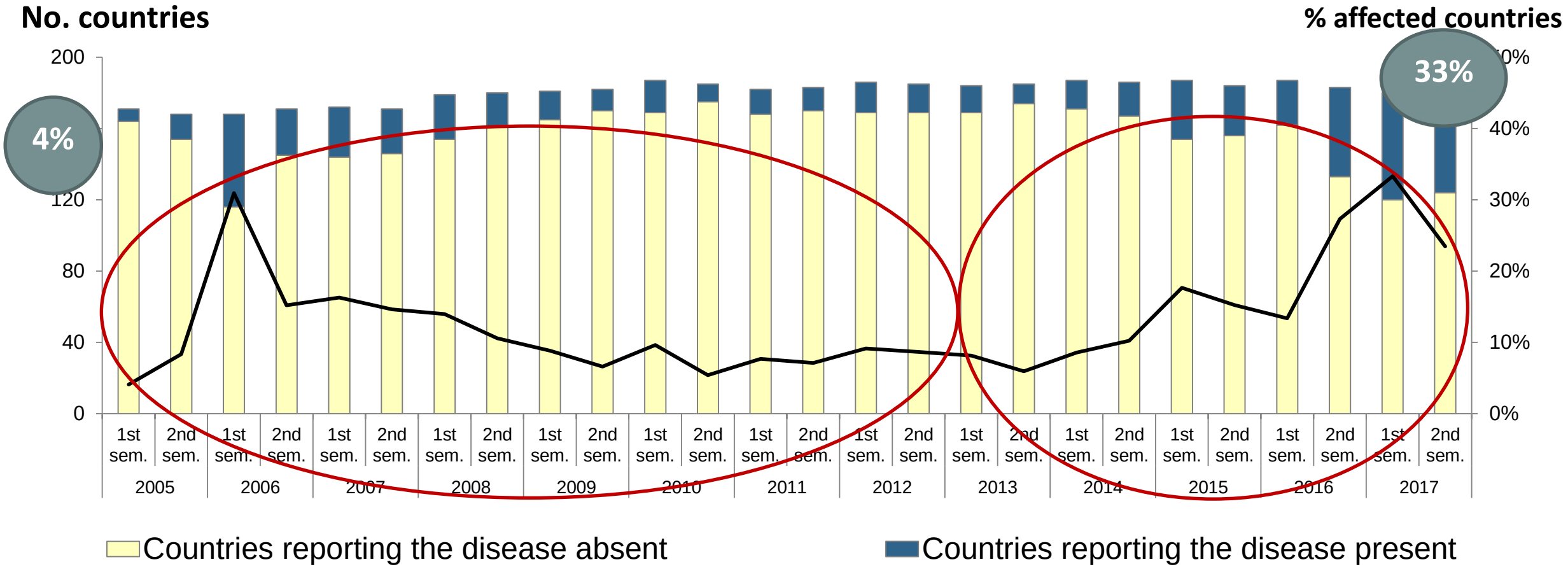
HPAI non-poultry including wild birds distribution in 2017 and early 2018

(data based on reports received up to 6 May 2018)



% of the reporting countries that notified HPAI present in poultry between 2005 and 2017

(data based on reports received up to 6 May 2018)



Two different major global panzootic waves

HPAI in poultry

Have countries been reactive for controlling HPAI events?

What factors impacted on this reactivity?

HPAI in poultry: Methodology (1)

Apparent mortality rate (Ap.MR) in domestic birds

= Dead animals / susceptible animals

at outbreak level before the implementation of stamping out

How to interpret the proxy ApMR?

If low : country considered reactive in applying stamping out

If high : country considered little reactive in applying stamping out

HPAI in poultry: Methodology

Ap.MR calculated from early warning reports

(39% all the outbreaks)

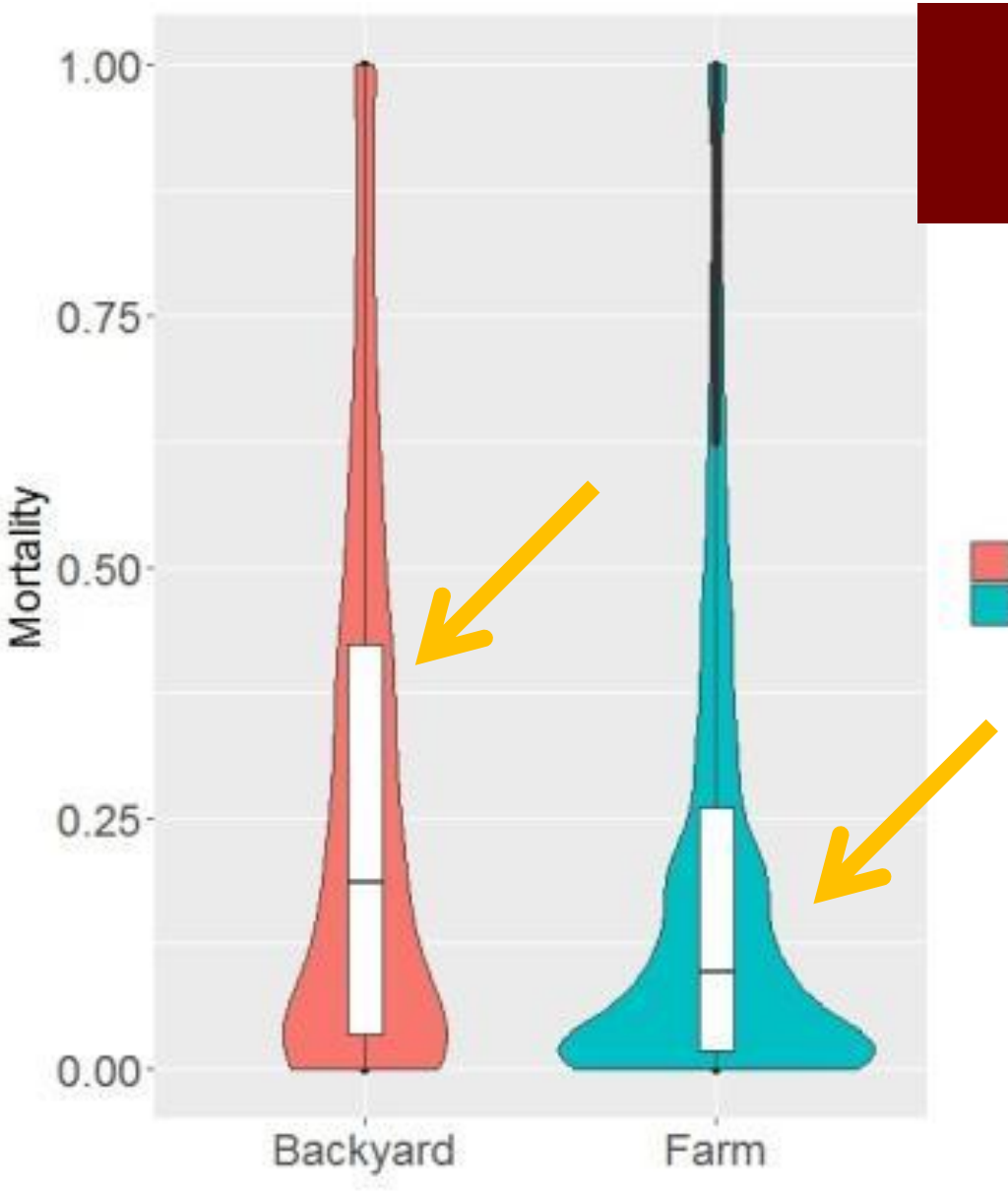
Factors that had played a role in the reactivity of the countries

Epidem. Units
Farms v/s backyards

Size
n° susceptible animals

Panzootic wave

HPAI in poultry: Results

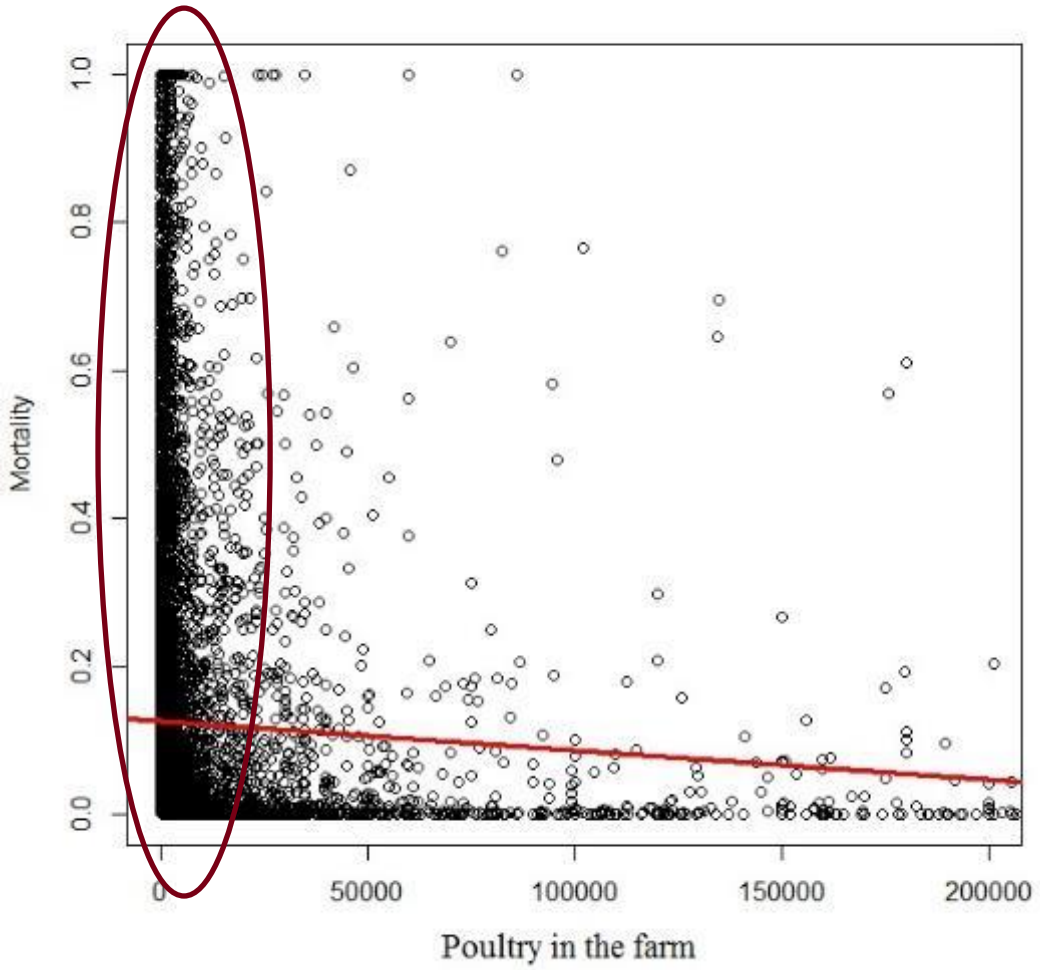


Ap.MR values stratified by epidemiological unit

Ap.MR lower for farms
= better reactivity

Ap.MR higher for backyard
= little reactivity

HPAI in poultry: Results

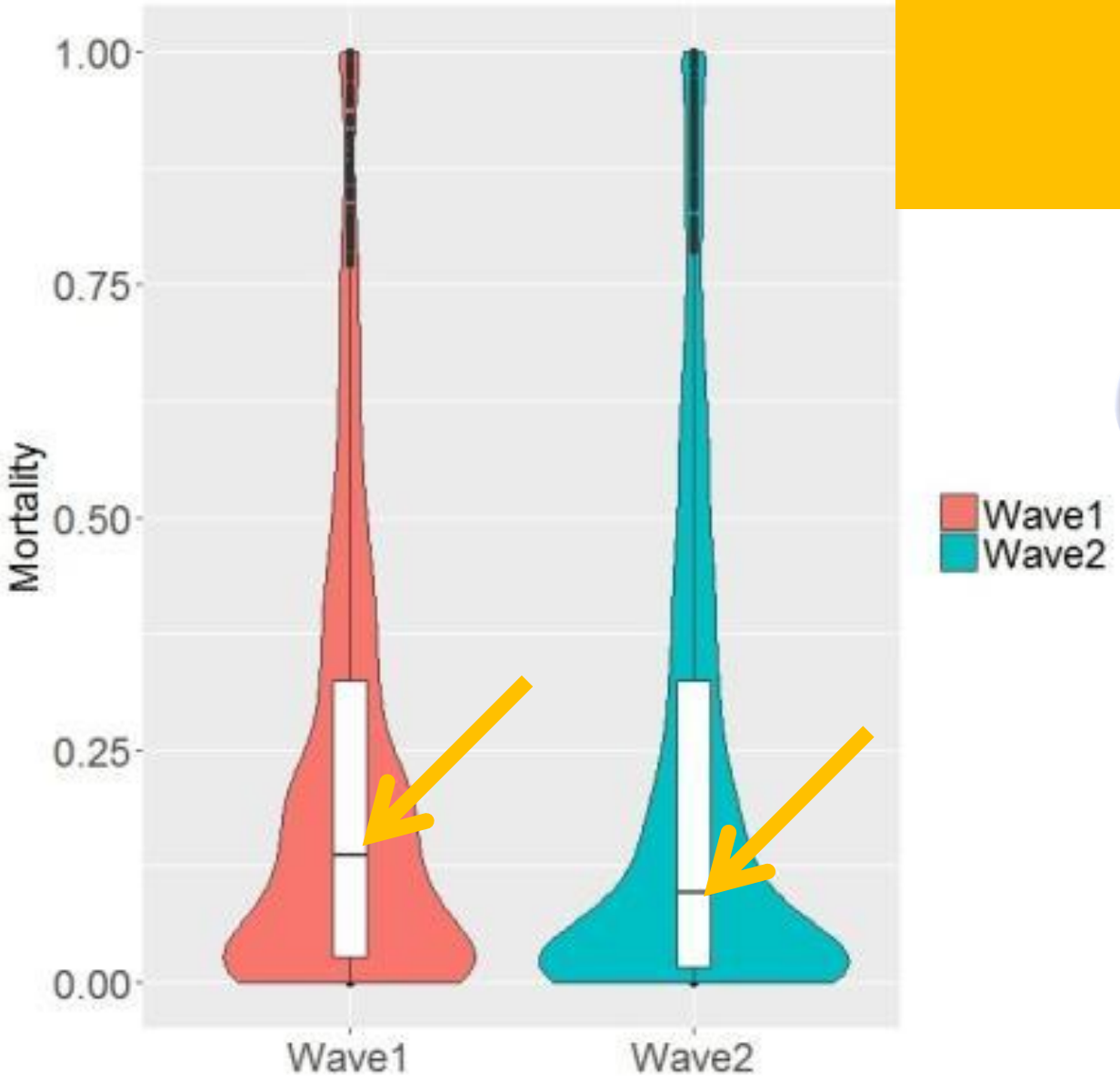


Ap.MR values stratified by size of the affected farm

Ap.MR lower for bigger farms = better reactivity

Ap.MR higher for smaller farms = little reactivity

HPAI in poultry: Results



Ap.MR values stratified by panzootic wave

Ap.MR higher for 2005-2012 = little reactivity — 1st

Ap.MR lower for 2013-2018= better reactivity — 2nd

HPAI in poultry: Methodology (2)

Ap.MR calculated from early warning reports

(39% all the outbreaks)

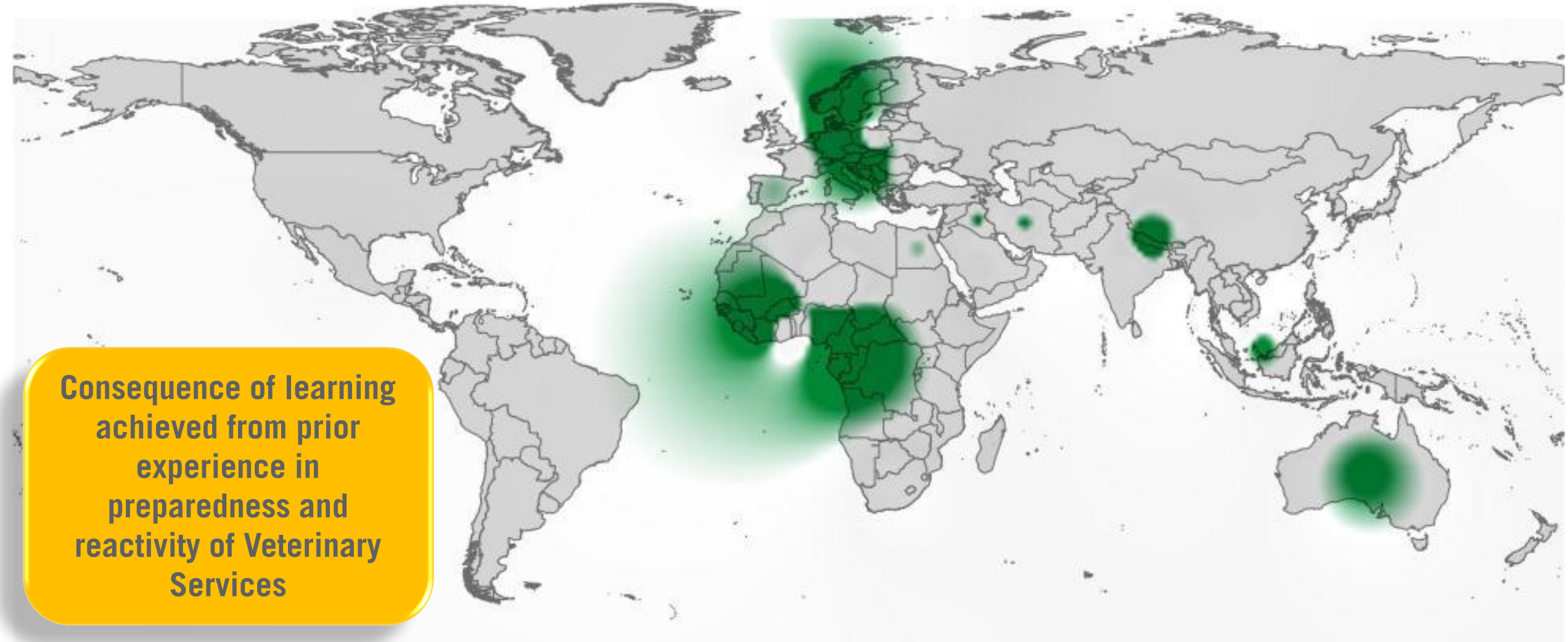
Ap.MR in wave 1 - Ap.MR in wave 2 = improved Ap.MR values

Spatial interpolation (Inverse Distance Weighting)

Areas that had showed **significant improvements** between the two panzootic waves

HPAI in poultry: Results

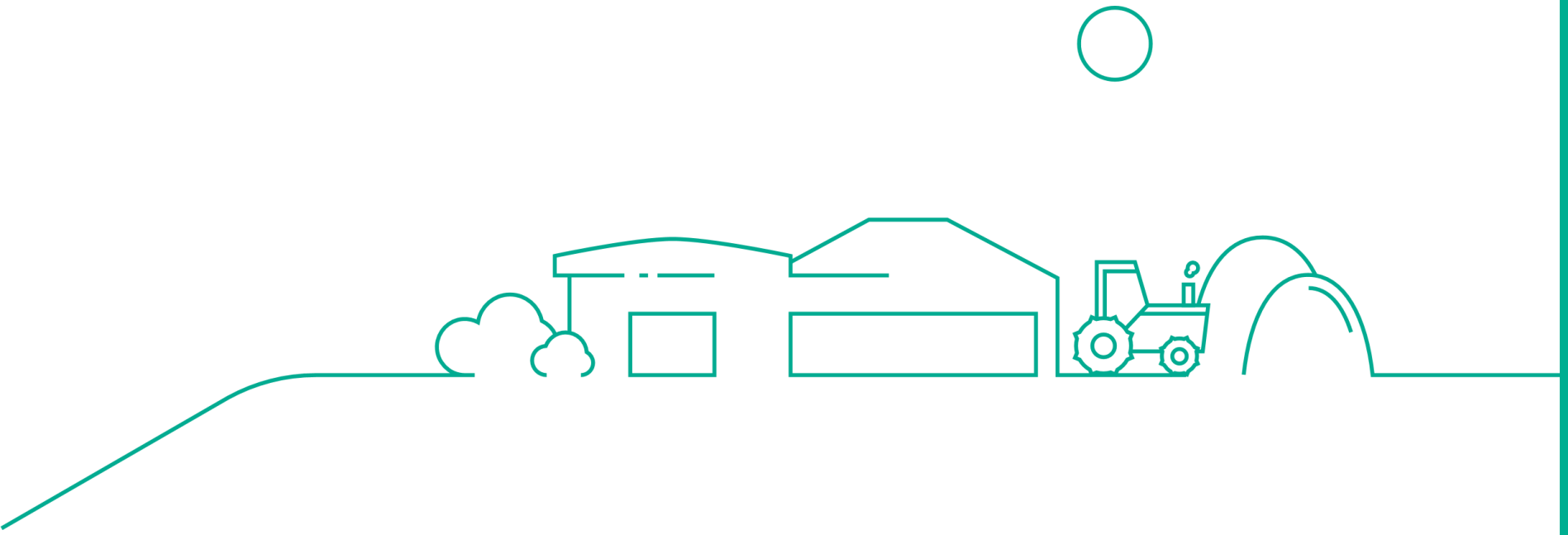
Distribution of Ap.MR improvement areas



Consequence of learning achieved from prior experience in preparedness and reactivity of Veterinary Services

HPAI in poultry: CONCLUSIONS

- **New panzootic** of HPAI with continuously changing virus behaviour
- Importance of collecting as much **accurate, real-time** information as possible
- Early detection and rapid control have improved & **importance of reactivity** to tackle the disease was recognised by Members
- **New WAHIS+ system** for early and timely reporting of information

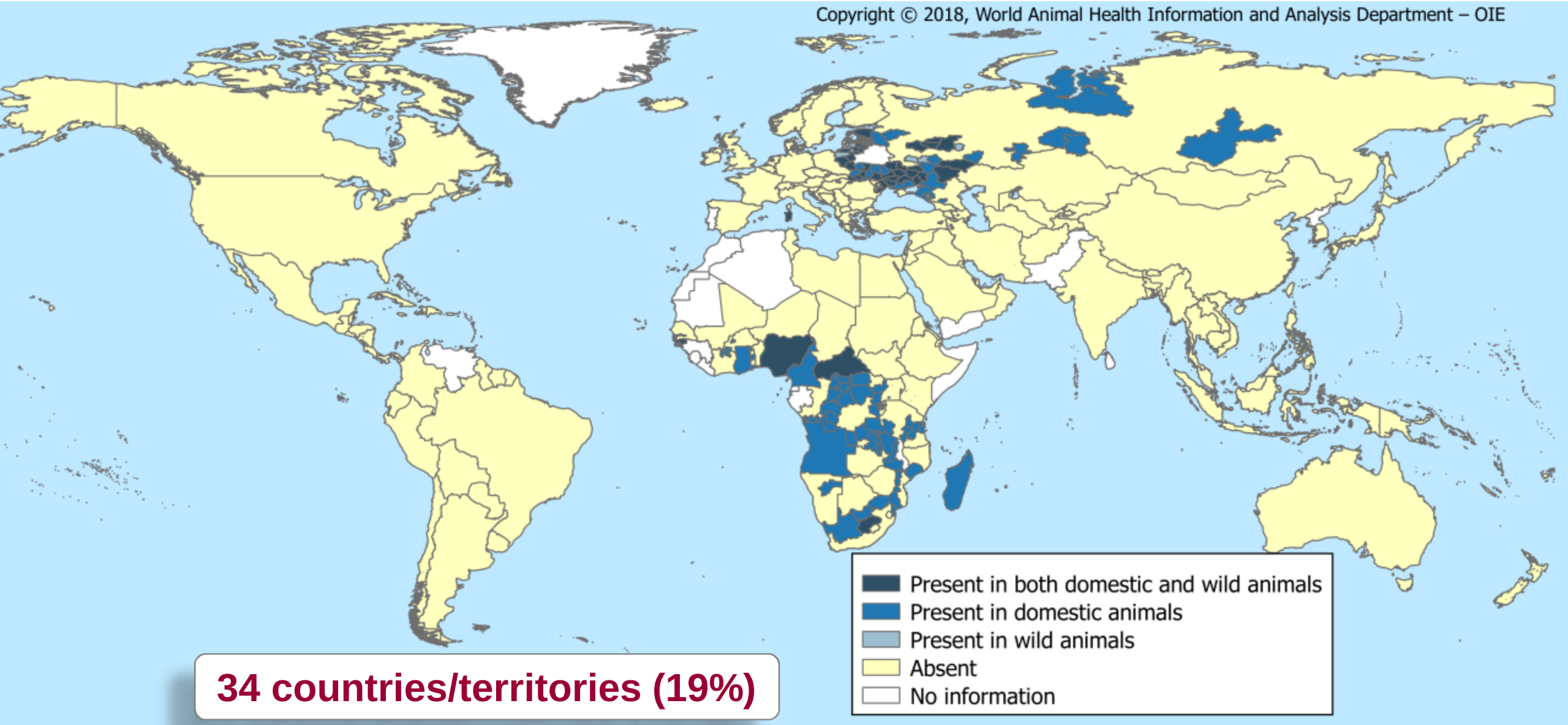


African swine fever (ASF)

OIE #86 SG

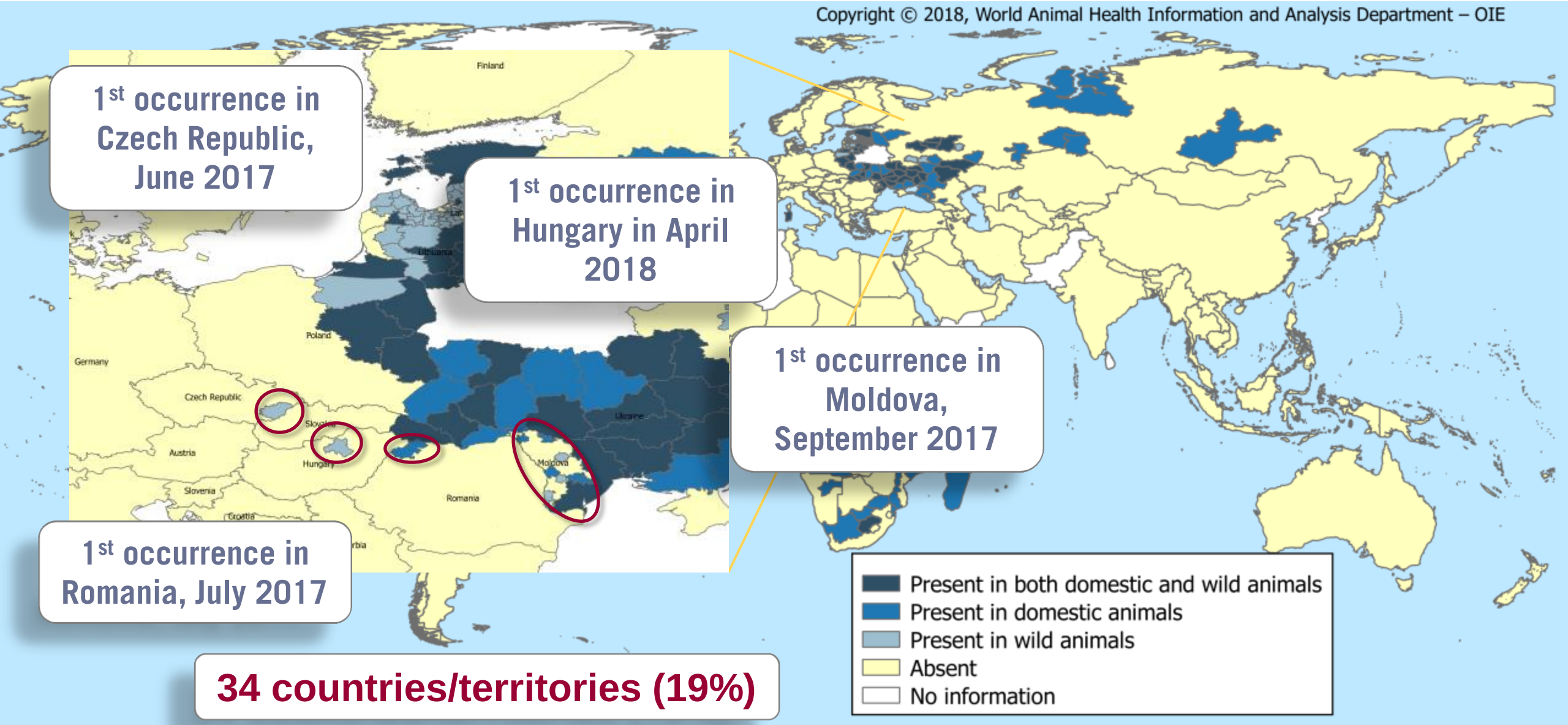
ASF distribution in 2017 and early 2018

(data based on reports received up to 6 May 2018)



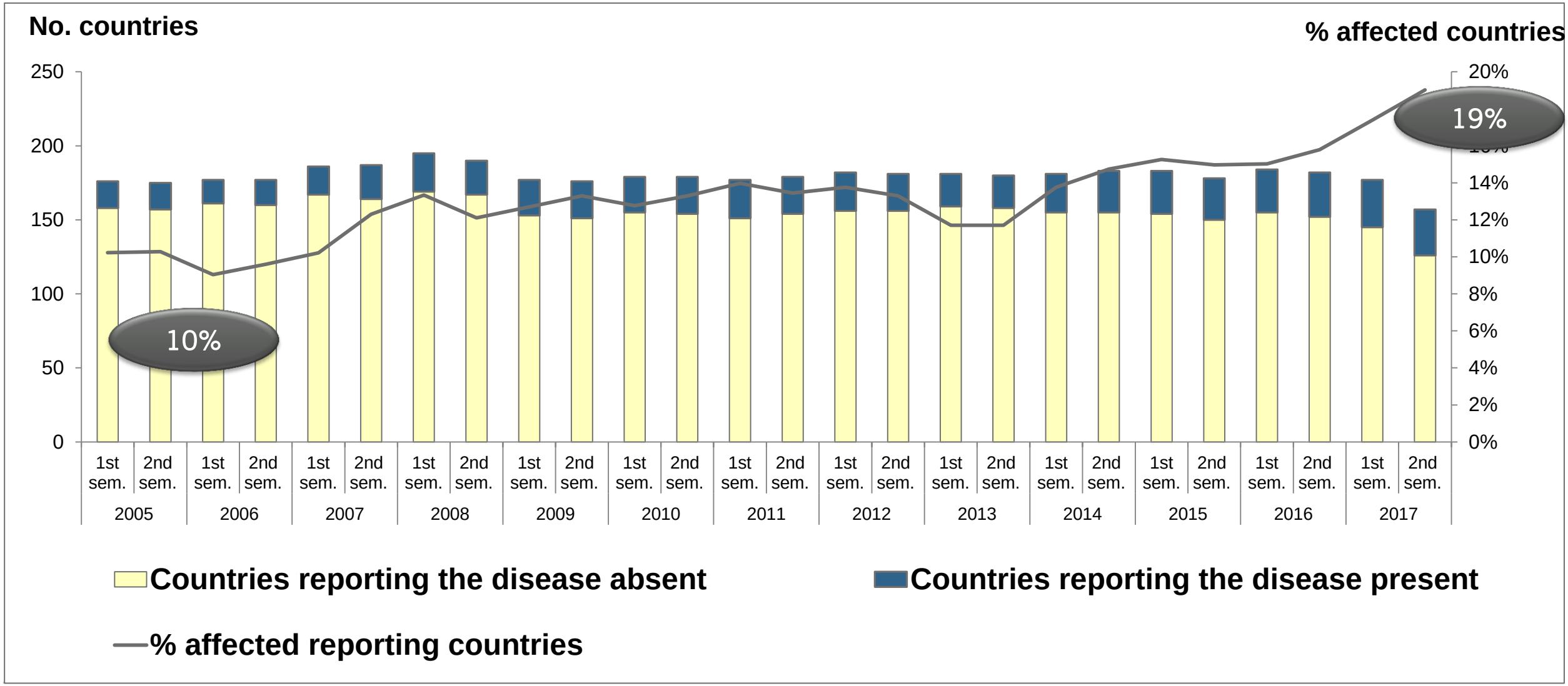
ASF distribution in 2017 and early 2018

(data based on reports received up to 6 May 2018)



% of the reporting countries that notified ASF present between 2005 and 2017

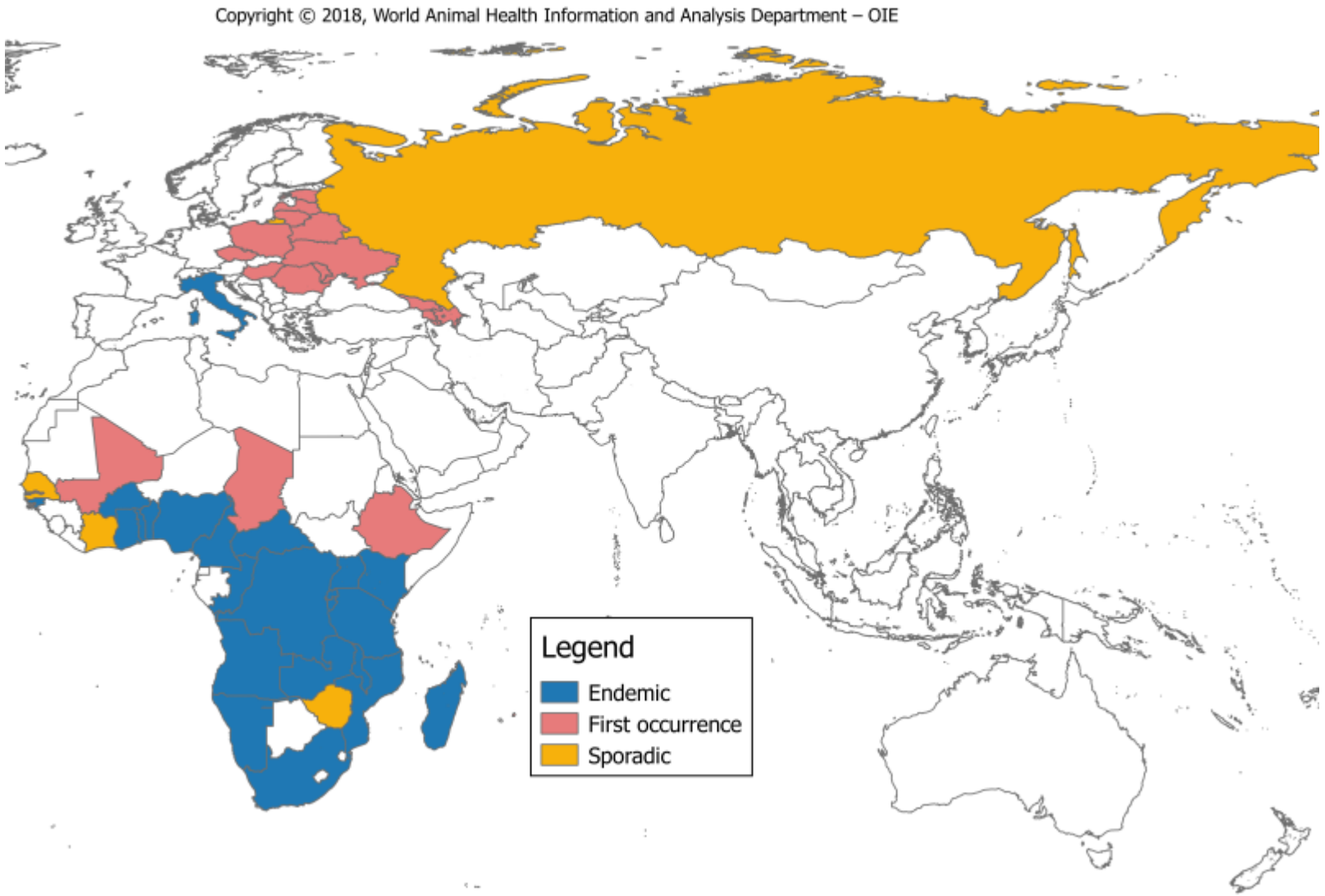
(data based on reports received up to 6 May 2018)



African swine fever

Which are the regions and routes at higher risk for ASF introduction?

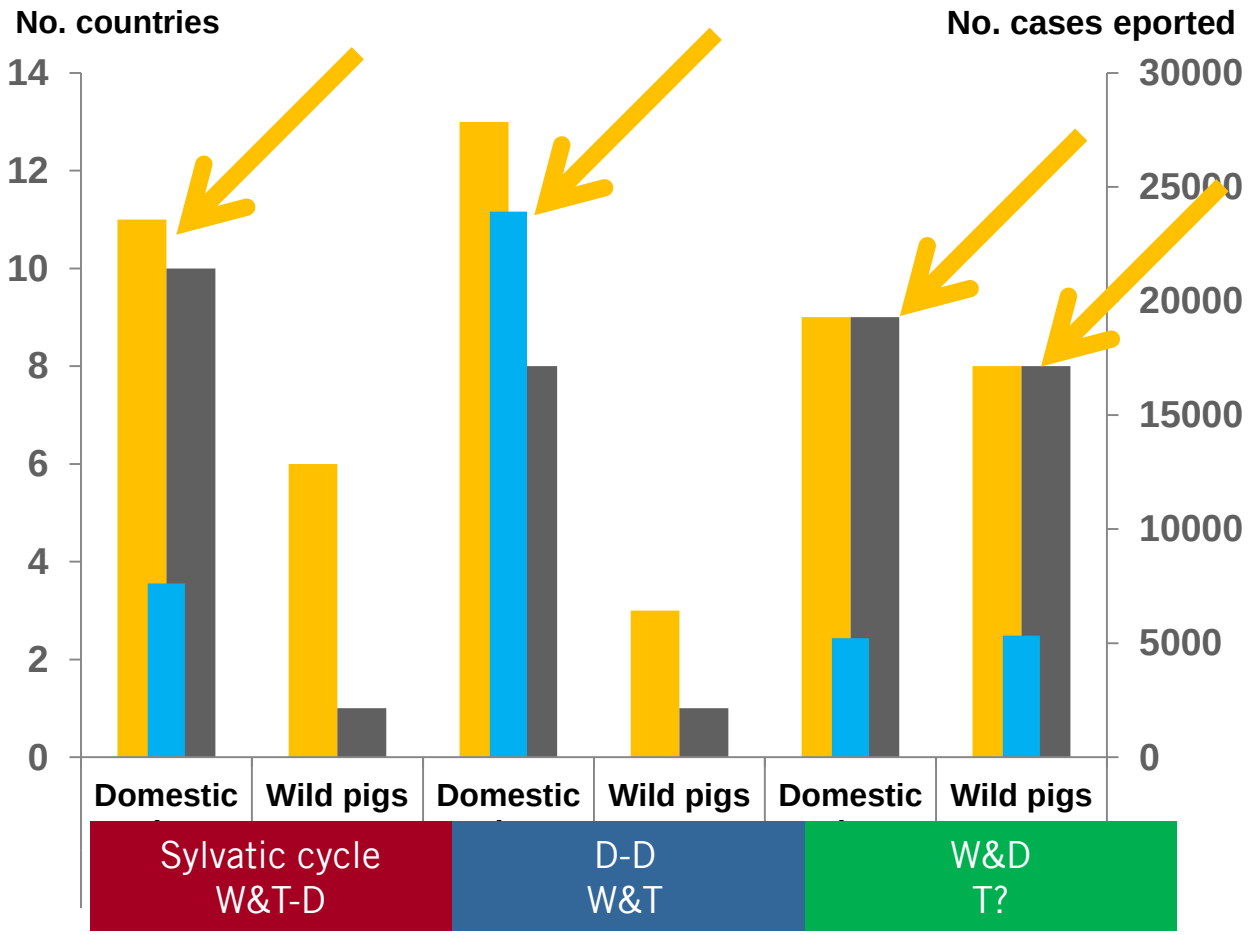
Characterisation of ASF affected countries based on epidemiological scenarios (2005-2018)



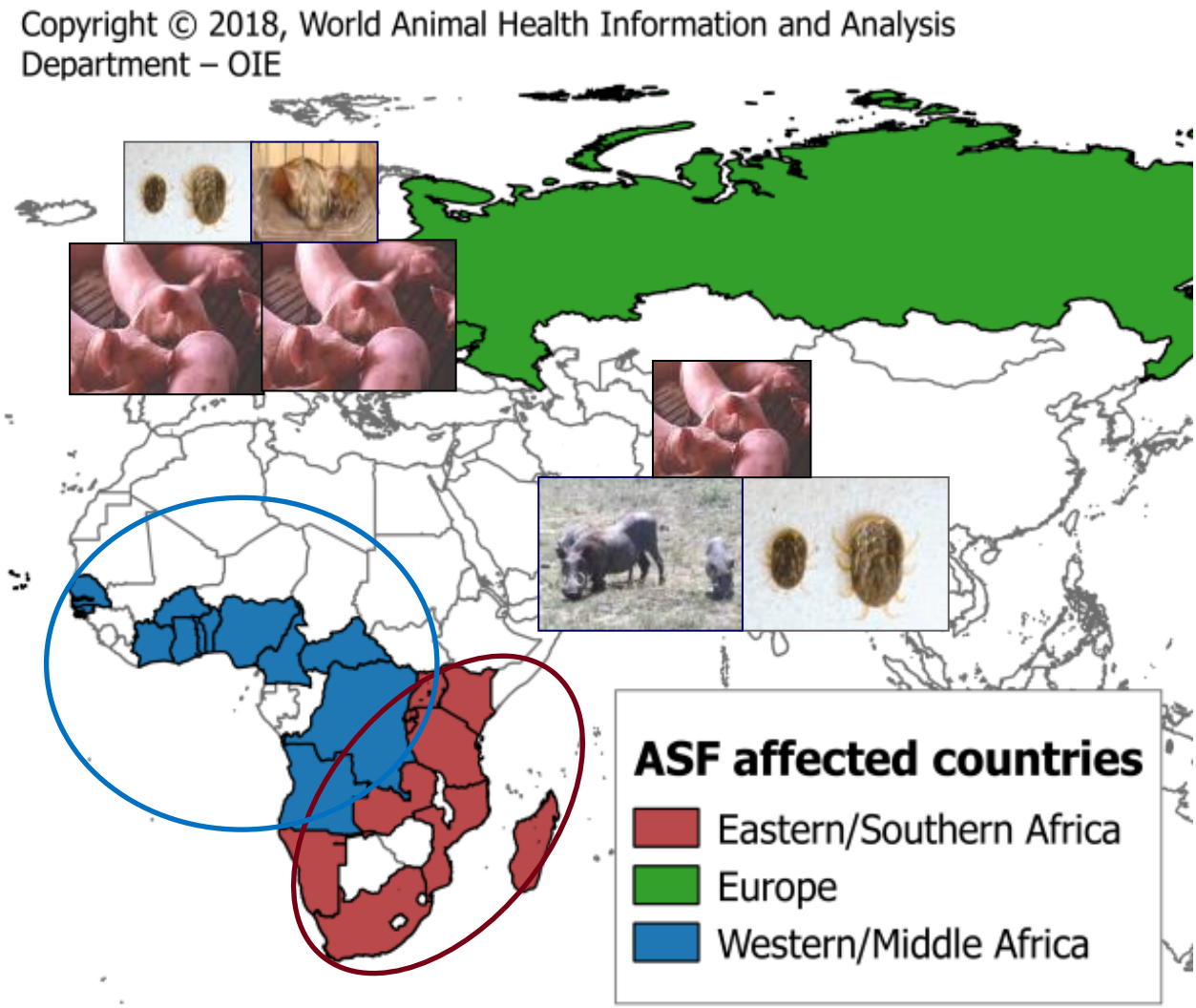
- **In Africa:** 75% countries categorised as endemic
- **In Europe:** the majority first occurrence

ASF Reporting by epidemiological scenario in 2017

Reporting presence
Number of cases
Providing Quantitative info



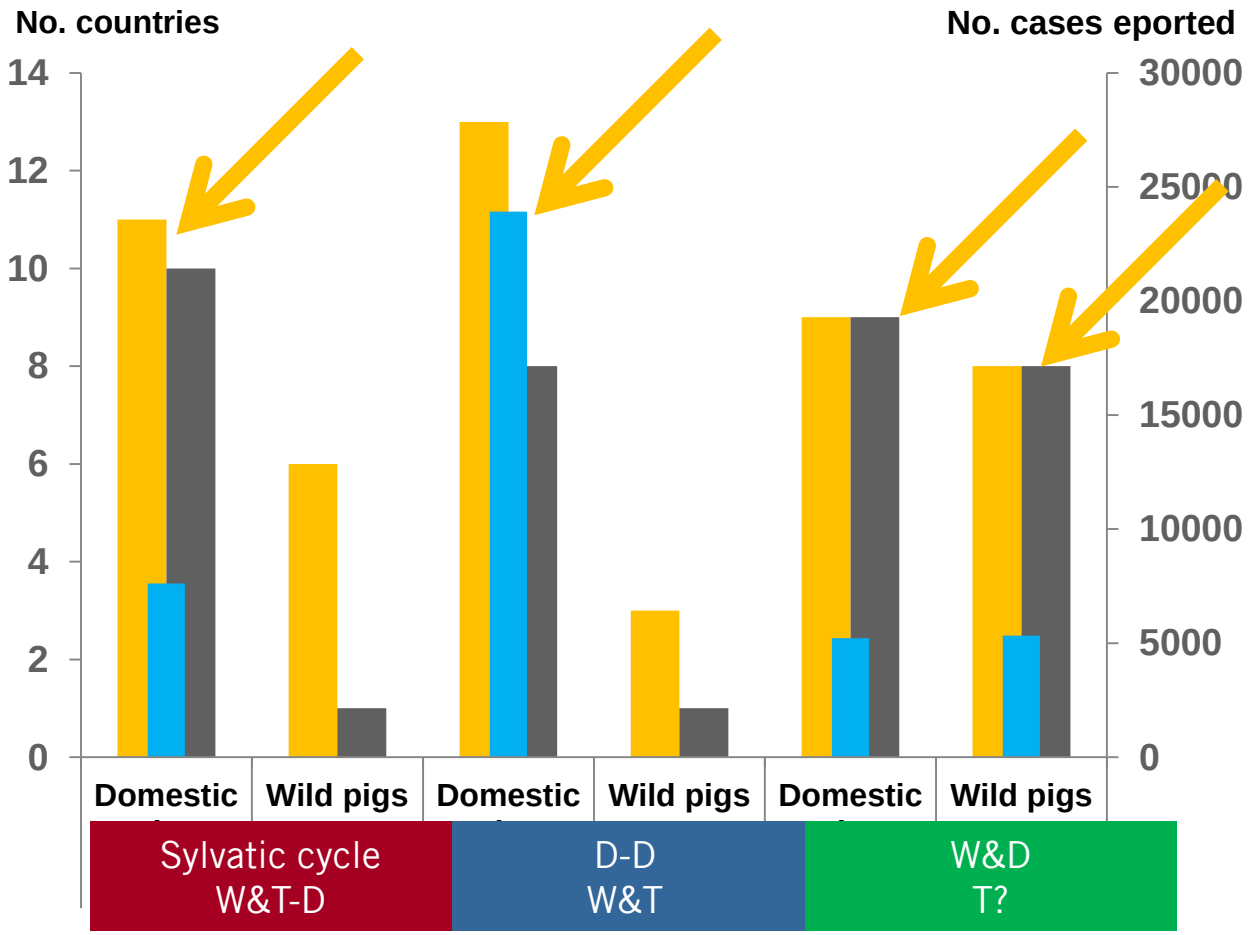
D: domestic pig; W: wild pig; T: ticks



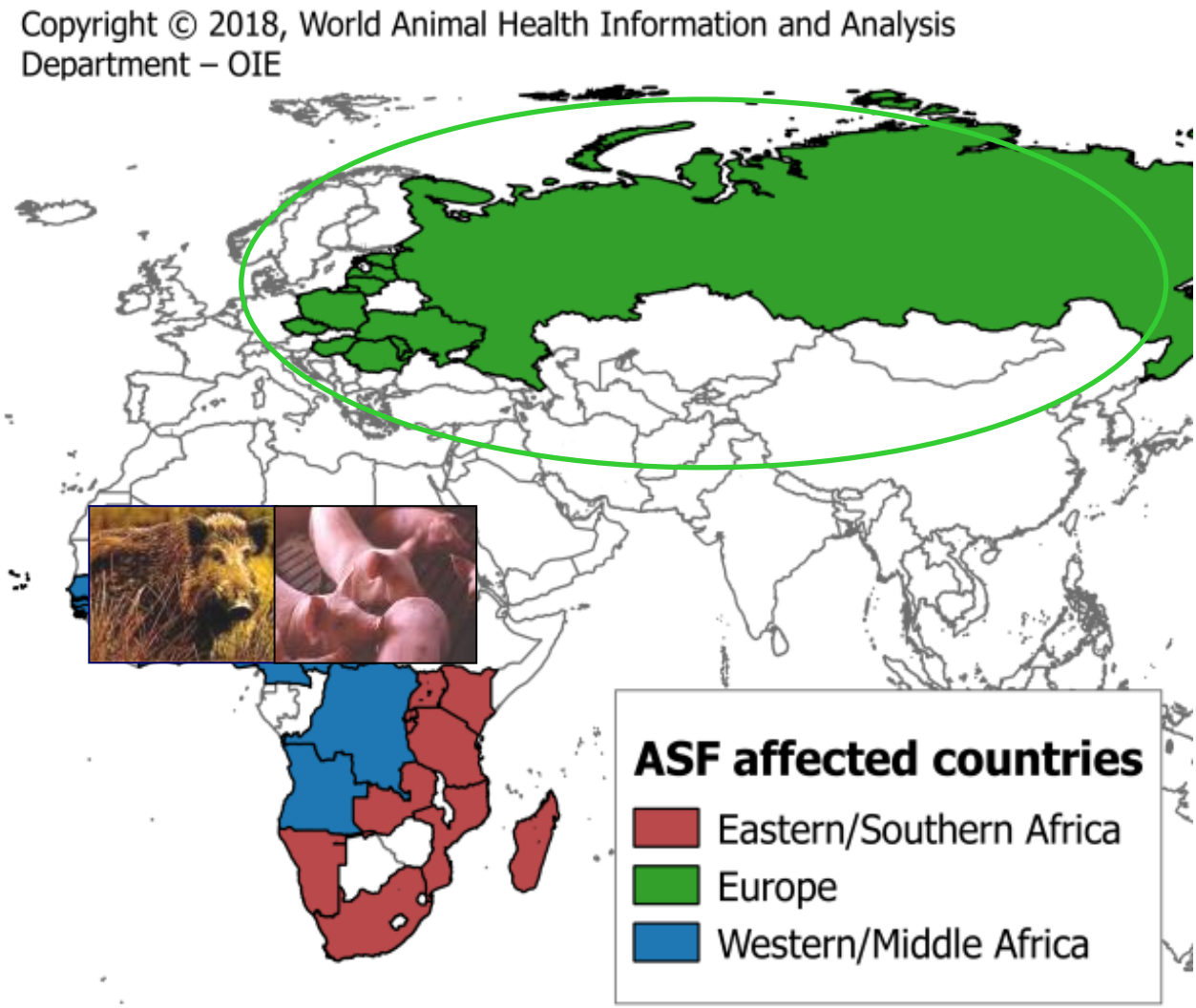
3 scenarios → Origin of the risk in the Risk assessment

ASF Reporting by epidemiological scenario in 2017

Reporting presence
Providing Quantitative info
Number of cases



D: domestic pig; W: wild pig; T: ticks

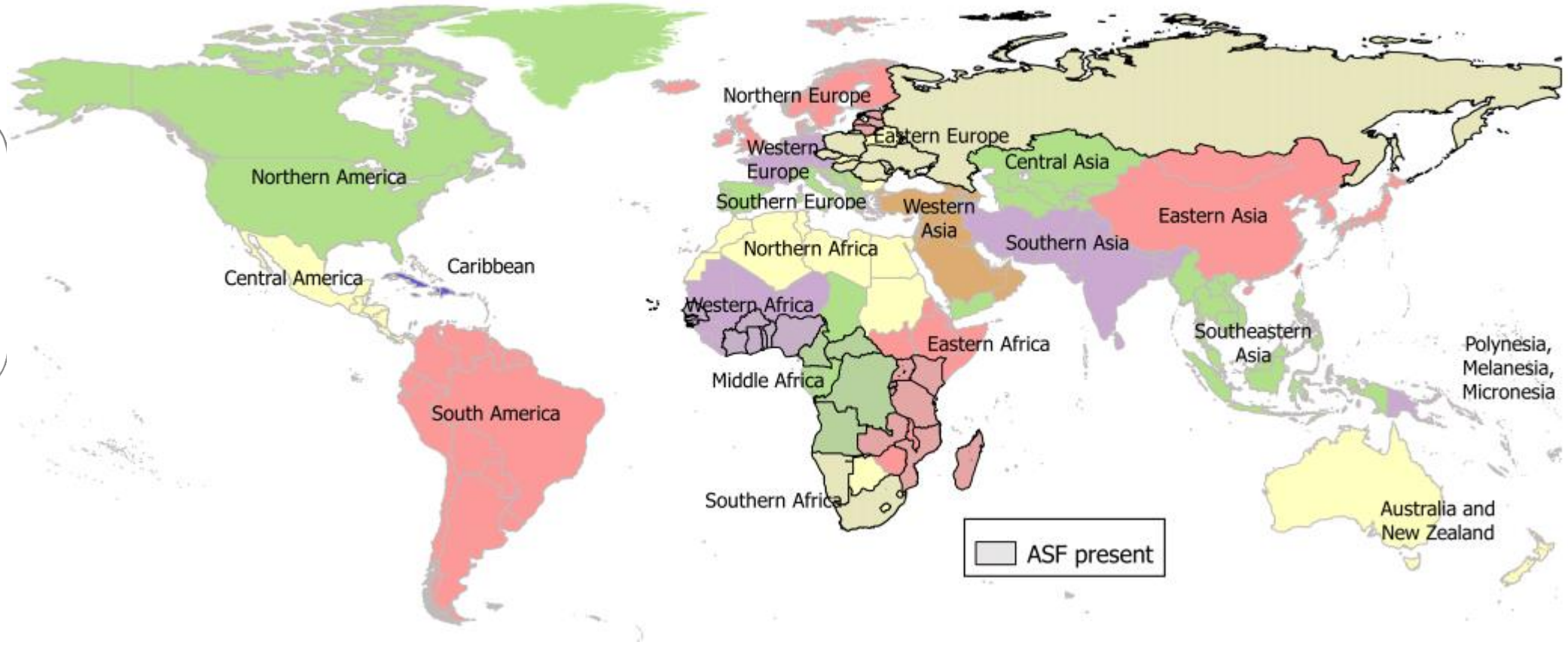


3 scenarios → Origin of the risk in the Risk assessment

ASF: Methodology

Qualitative assessment of the risk of ASF introduction into free regions through **7 pathways/routes of introduction**

Destination of risk = free ASF countries by regions*



* UN geographical regions

ASF: Methodology

Qualitative risk assessment based on the use of **proxies** (factors that are likely to influence the risk for each pathway).

Per each pathway

Data by region

- Proxy 1
- Proxy 2
- Proxy 3

Categorization (H-M-L-N)

- Categories for P1 values
- Categories for P2 values
- Categories for P3 values

Negligible (N)
Low(L)
Moderate (M)
High (H)

Combination of risk categories

	Negligible	Low	Moderate	High
Negligible	Negligible	Negligible	Negligible	Negligible
Low	Negligible	Low	Low	Low
Moderate	Low	Low	Moderate	Moderate
High	Low	Moderate	Moderate	High

	Negligible	Low	Moderate	High
Negligible	Negligible	Low	Low	Moderate
Low	Low	Low	Moderate	Moderate
Moderate	Low	Moderate	Moderate	High
High	Moderate	Moderate	High	High

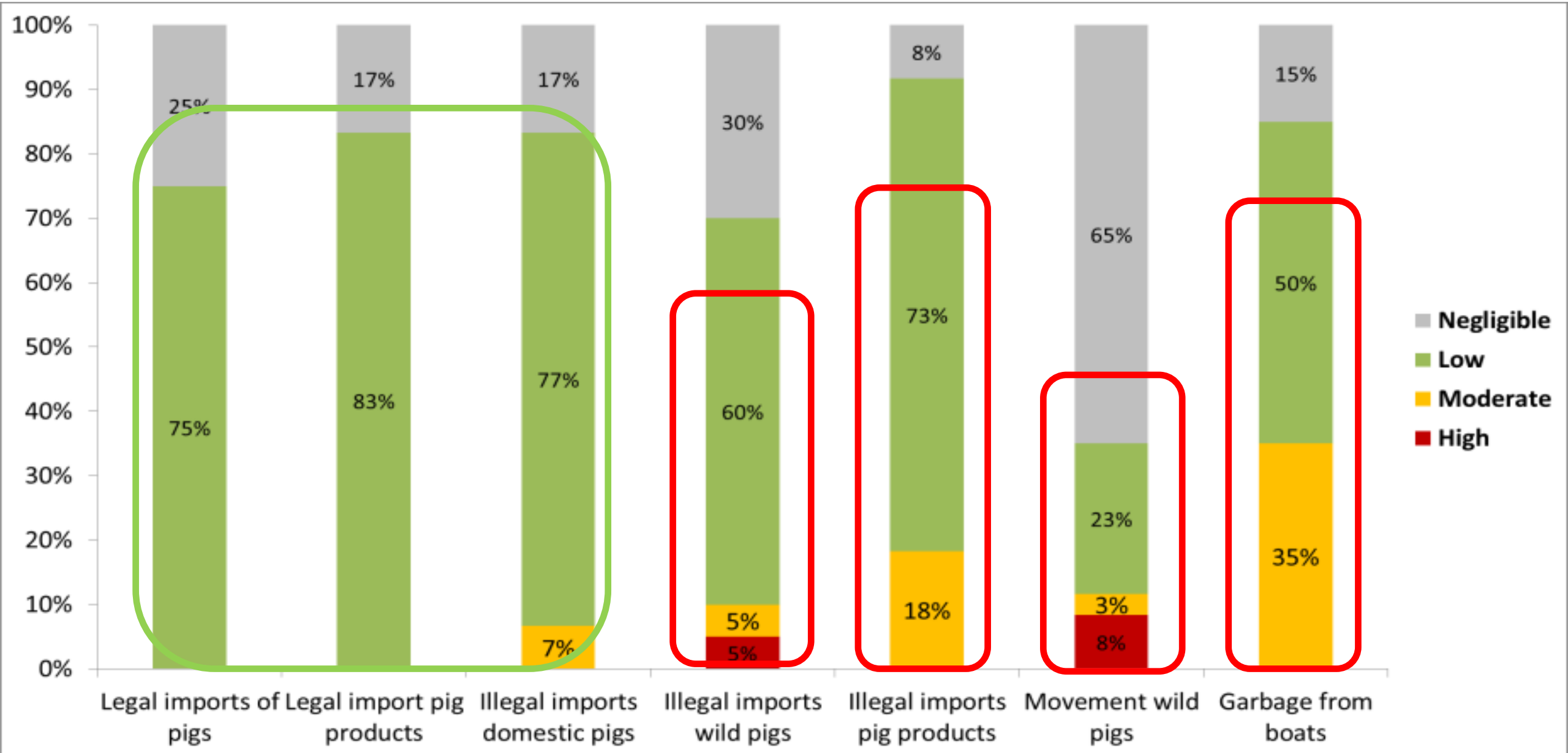
Risk results

	Risk per origin/destination		
	EUROPE	WM AFRICA	ES AFRICA
Northern America	N	L	L
Central America	N	L	L
Caribbean	N	L	L
South America	N	L	L
Northern Europe	L	L	L
Western Europe	L	L	L
Eastern Europe	L	L	L
Southern Europe	L	L	L
Northern Africa	N	L	L
Western Africa	N	L	L
Middle Africa	N	L	L
Eastern Africa	N	M	M
Southern Africa	N	M	M
Western Asia	L	L	L
Central Asia	L	L	L
Eastern Asia	L	L	L
South-eastern Asia	N	L	L
Southern Asia	L	L	L
Australia and New Zealand	L	L	L
Polinesias, Micronesia, Melanesia	L	L	L

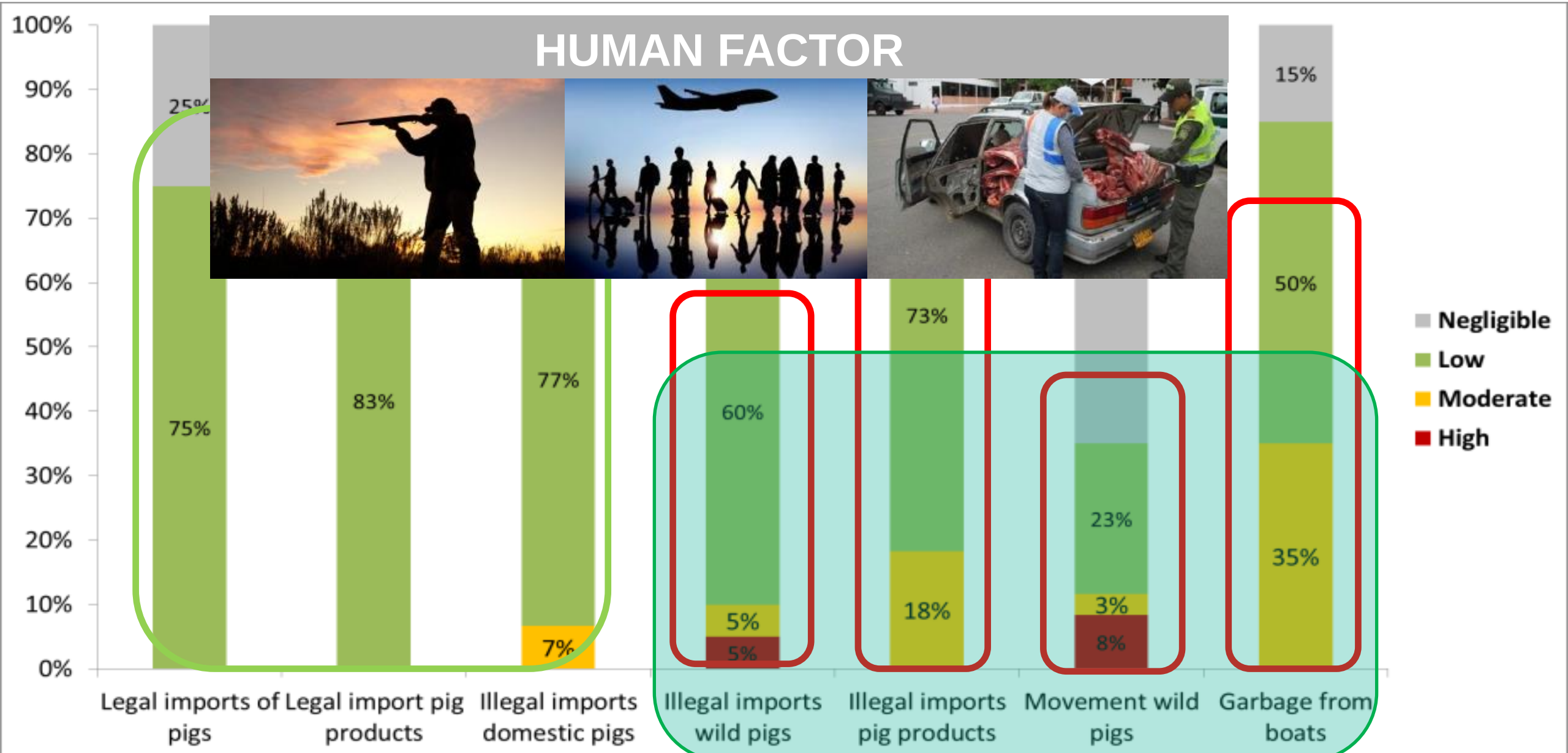
Per pathway
60 results: 20 destination regions* 3 origins

*** 7 analysed pathways = 230 results**

ASF: Results


100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
25%
75%
17%
83%
17%
77%
7%
30%
60%
5%
5%
8%
73%
18%
65%
23%
3%
8%
15%
50%
35%
Legal imports of pigs
Legal import pig products
Illegal imports domestic pigs
Illegal imports wild pigs
Illegal imports pig products
Movement wild pigs
Garbage from boats
Negligible
Low
Moderate
High

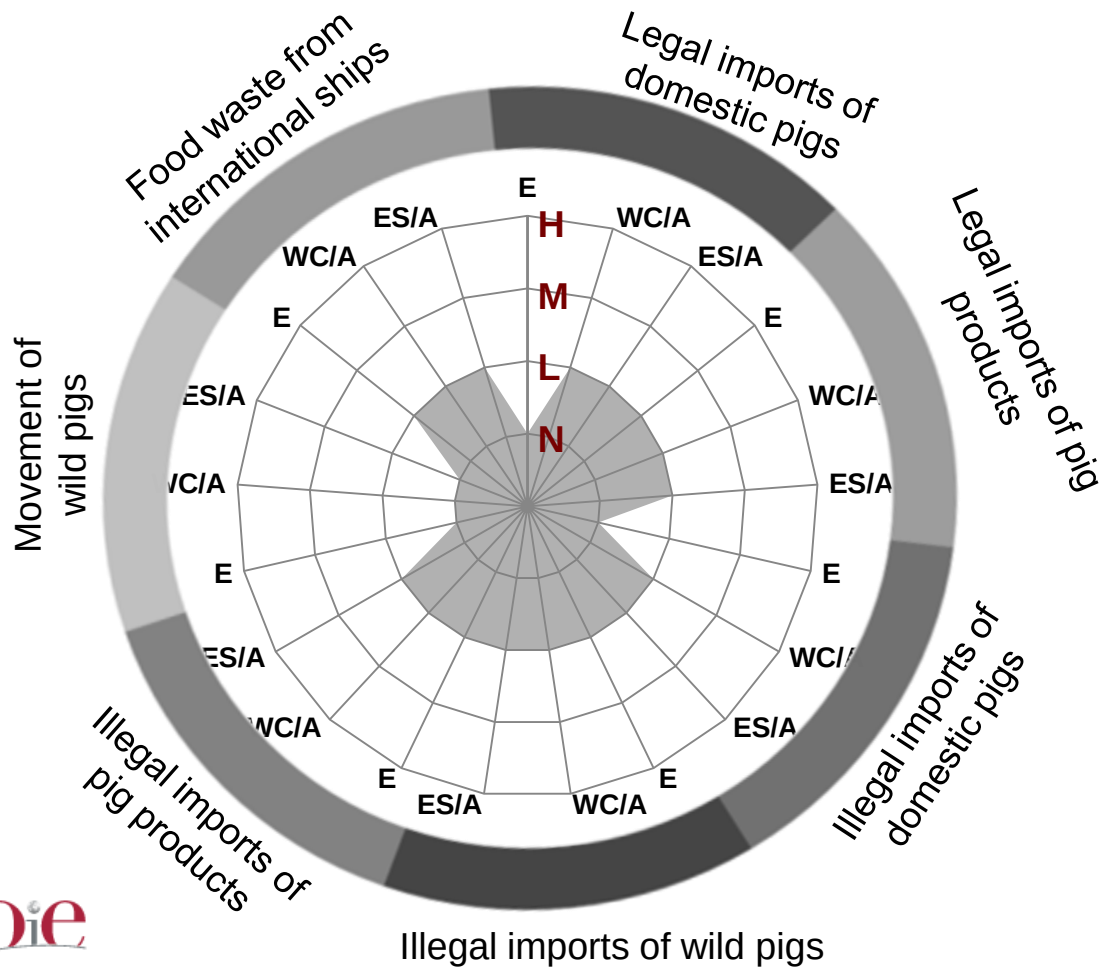
ASF: Results


HUMAN FACTOR
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
75%
83%
77%
7%
60%
5%
5%
73%
18%
23%
3%
8%
15%
50%
35%
Negligible
Low
Moderate
High
Legal imports of pigs
Legal import pig products
Illegal imports domestic pigs
Illegal imports wild pigs
Illegal imports pig products
Movement wild pigs
Garbage from boats

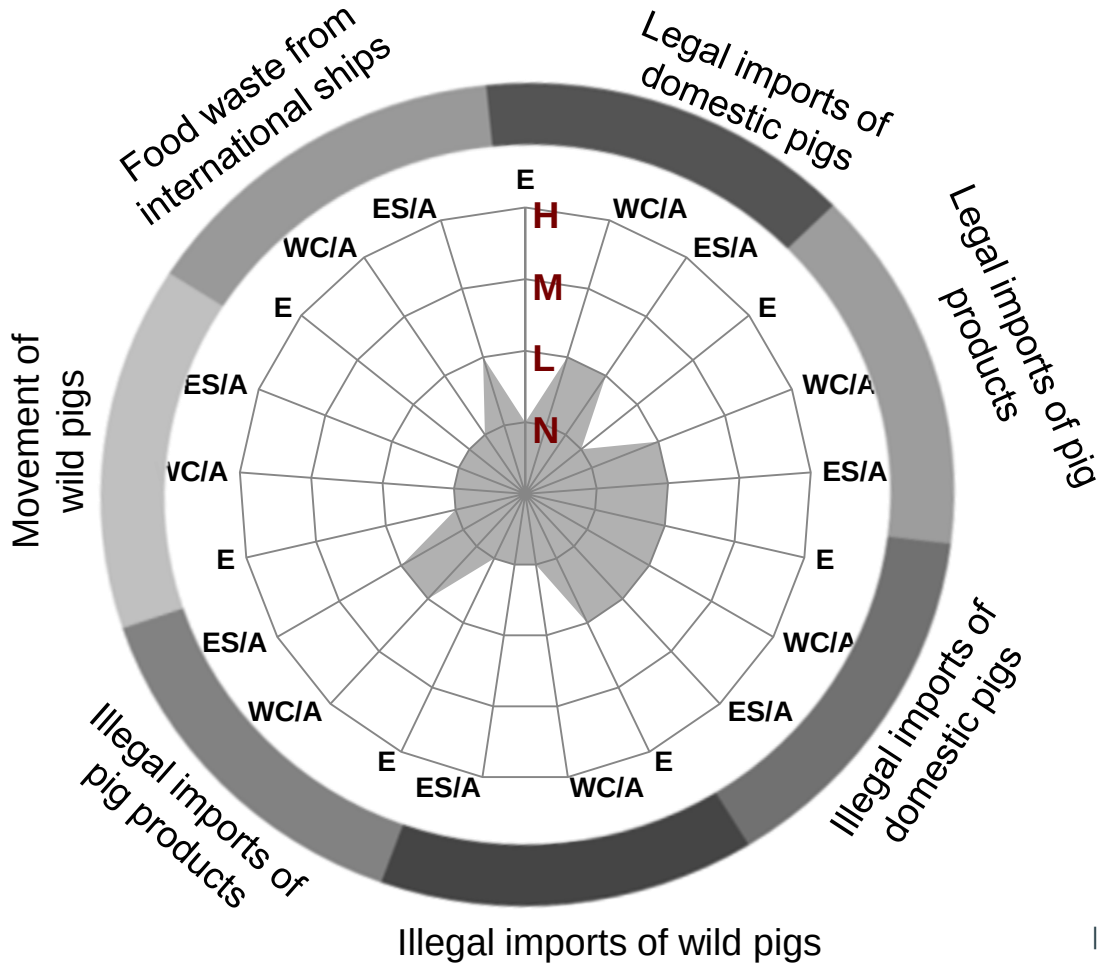
Individual risk profiles were produced for each region

The risk for ASF introduction into America and Oceania regions was generally low /negligible.

Caribbean



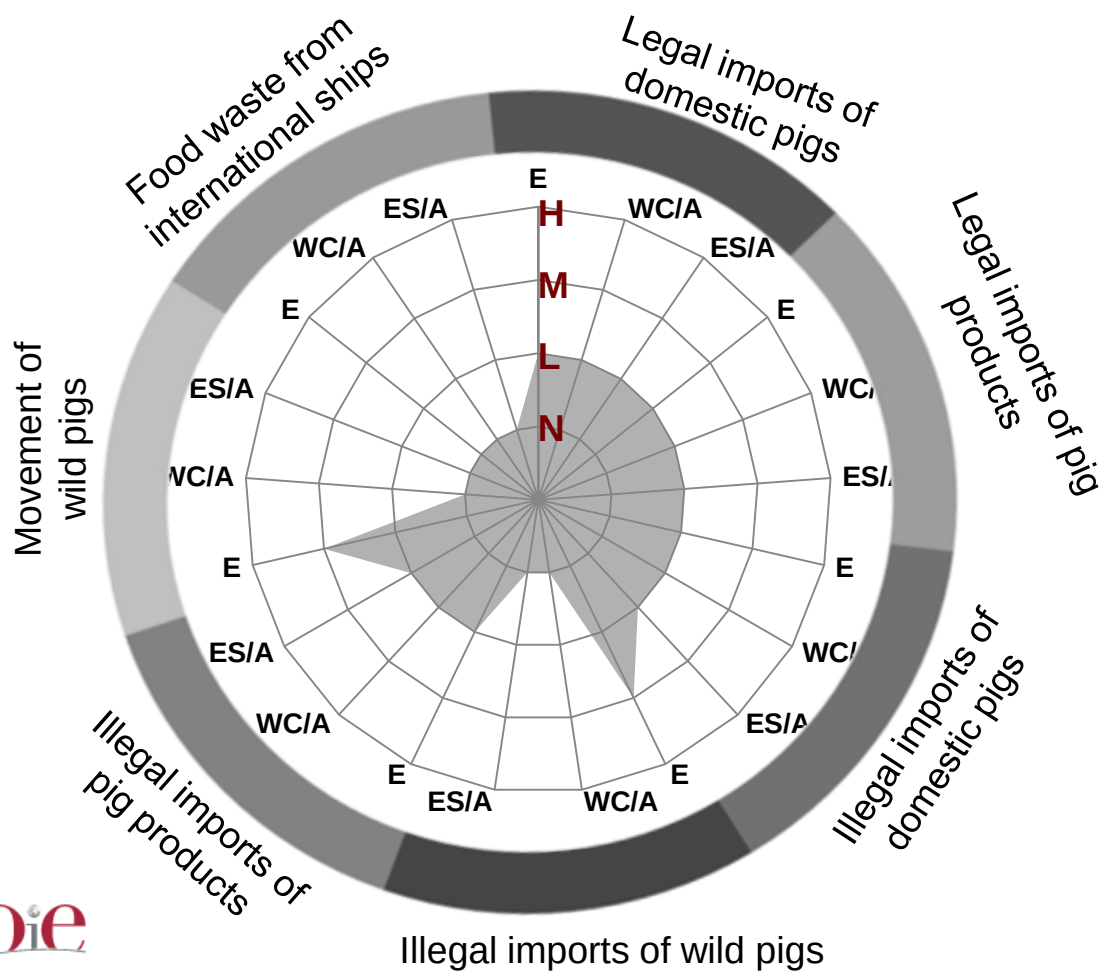
Polynesia, Micronesia and Melanesia



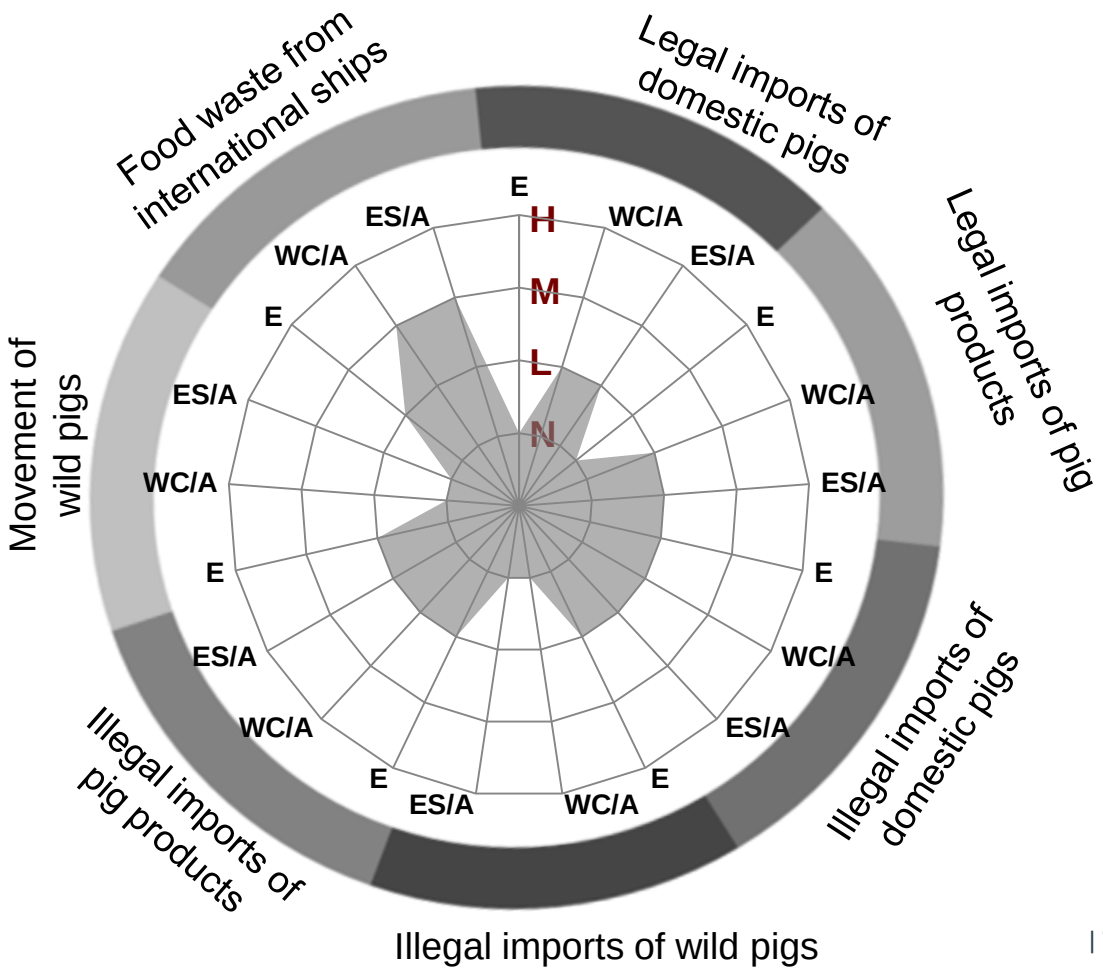
Individual risk profiles were produced for each region

Certain regions in Asia presented moderate risk in specific pathways.

Central Asia



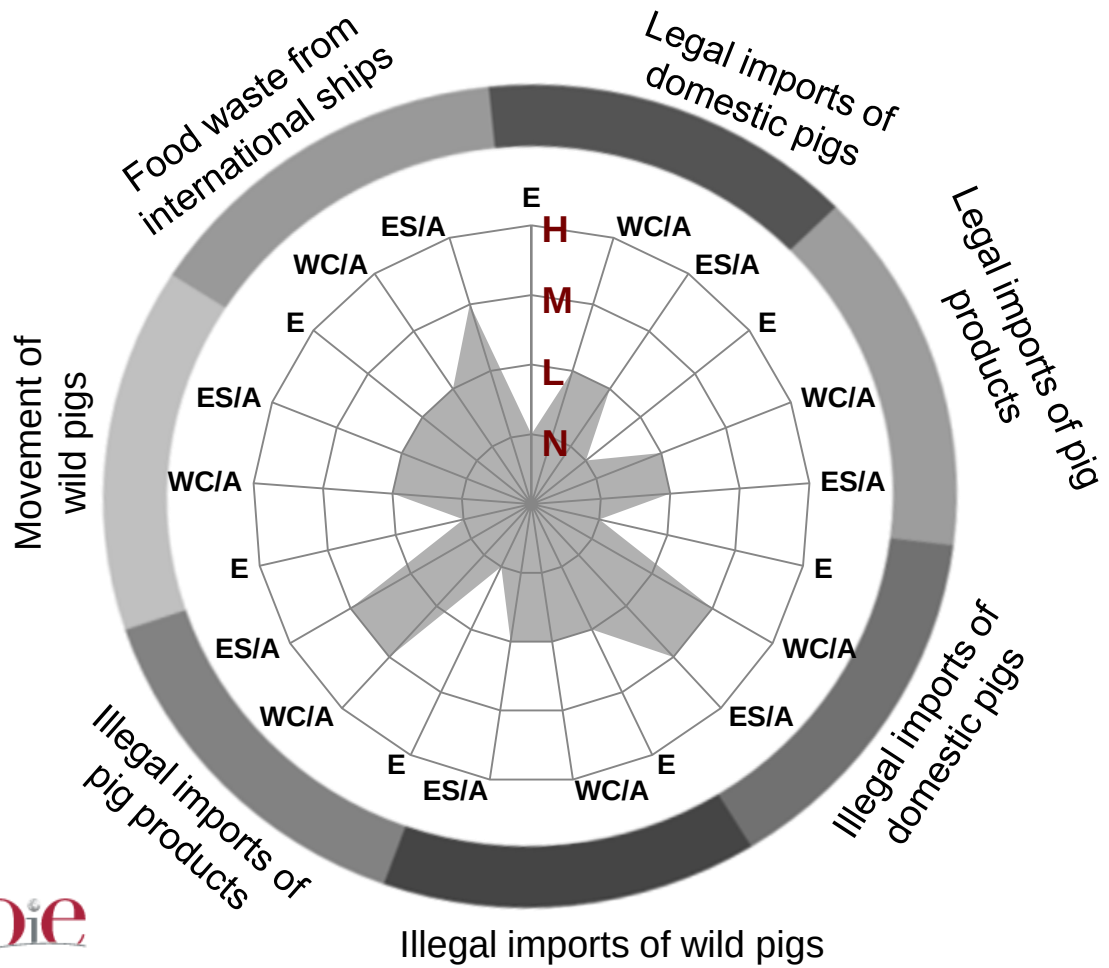
Southern Asia



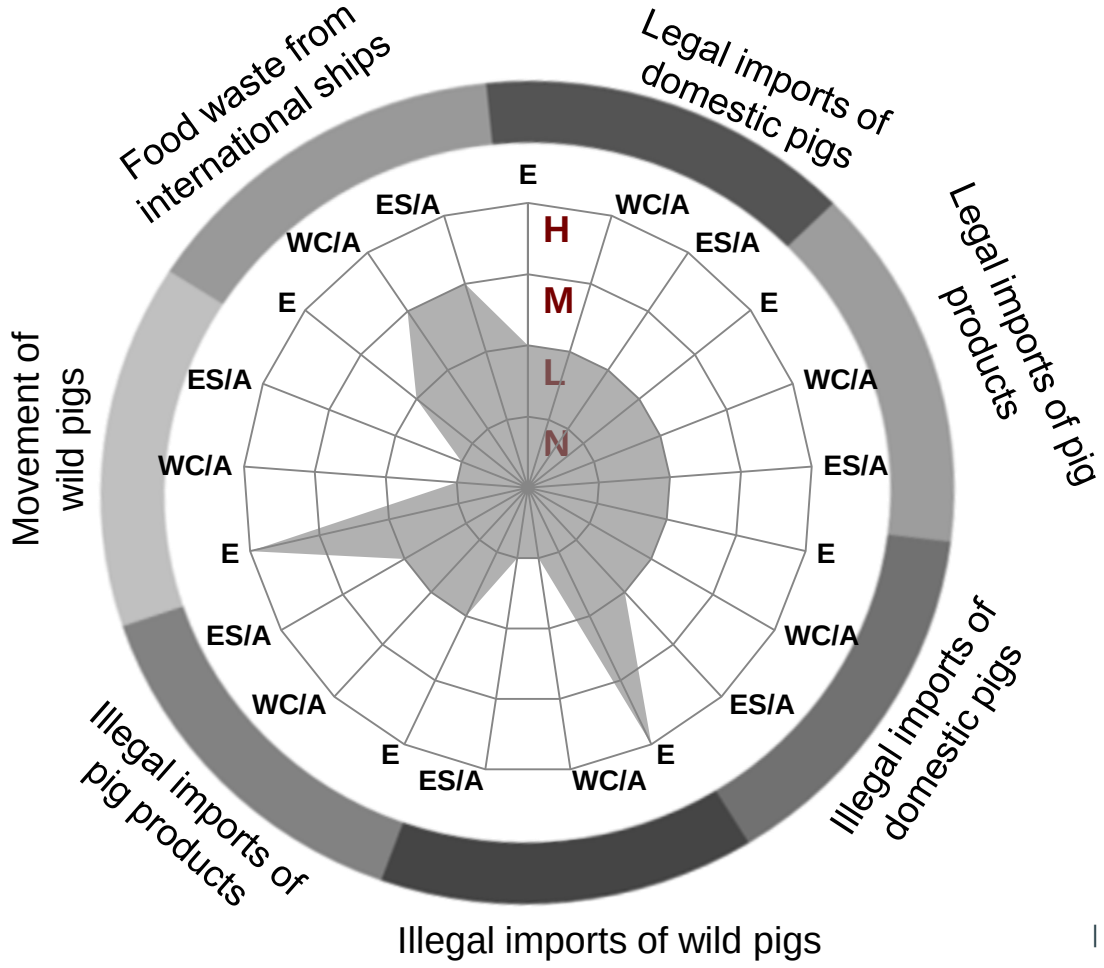
Individual risk profiles were produced for each region

ASF-free European and African countries presented the highest risks for ASF introduction but with different profiles between them.

Eastern Africa

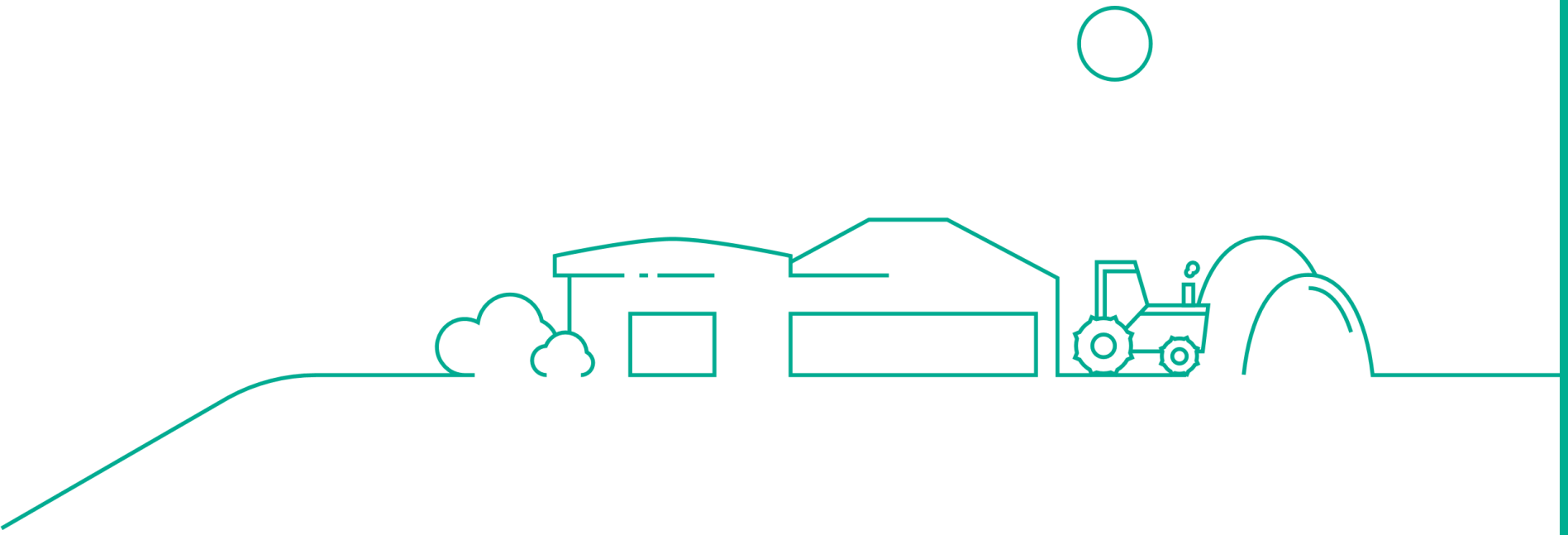


Northern Europe



OIE #86 SG ASF: CONCLUSIONS

- The global situation of ASF has deteriorated in recent years.
- The risk assessment presented here only evaluated the first step of ASF virus release, without considering the exposure of susceptible population nor the consequences.
- The identified risks should be managed by adequate prevention measures including biosecurity and coordination with all stakeholders involved.
- The Standing Group of Experts on ASF in Europe (under GF-TADs) could serve as a model for other diseases.

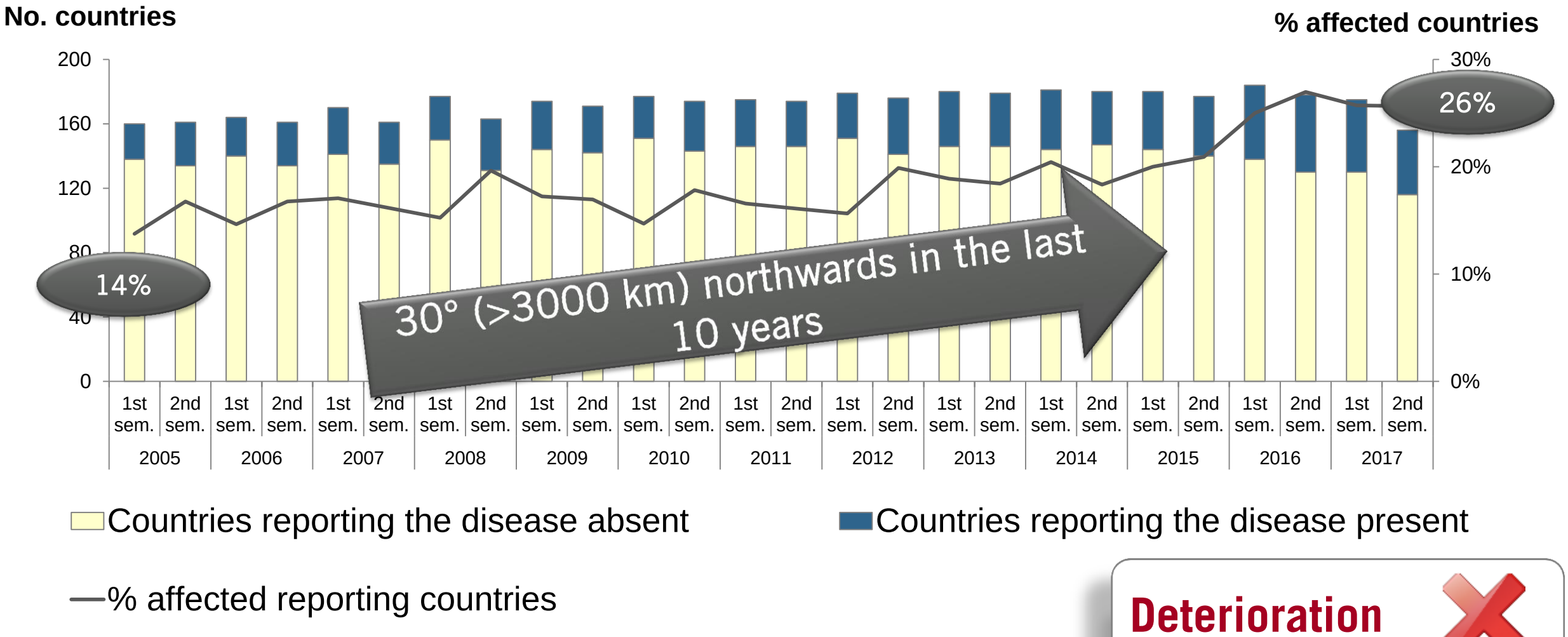


Lumpy skin disease (LSD)

OIE #86 SG

% of the reporting countries that notified LSD present between 2005 and 2017

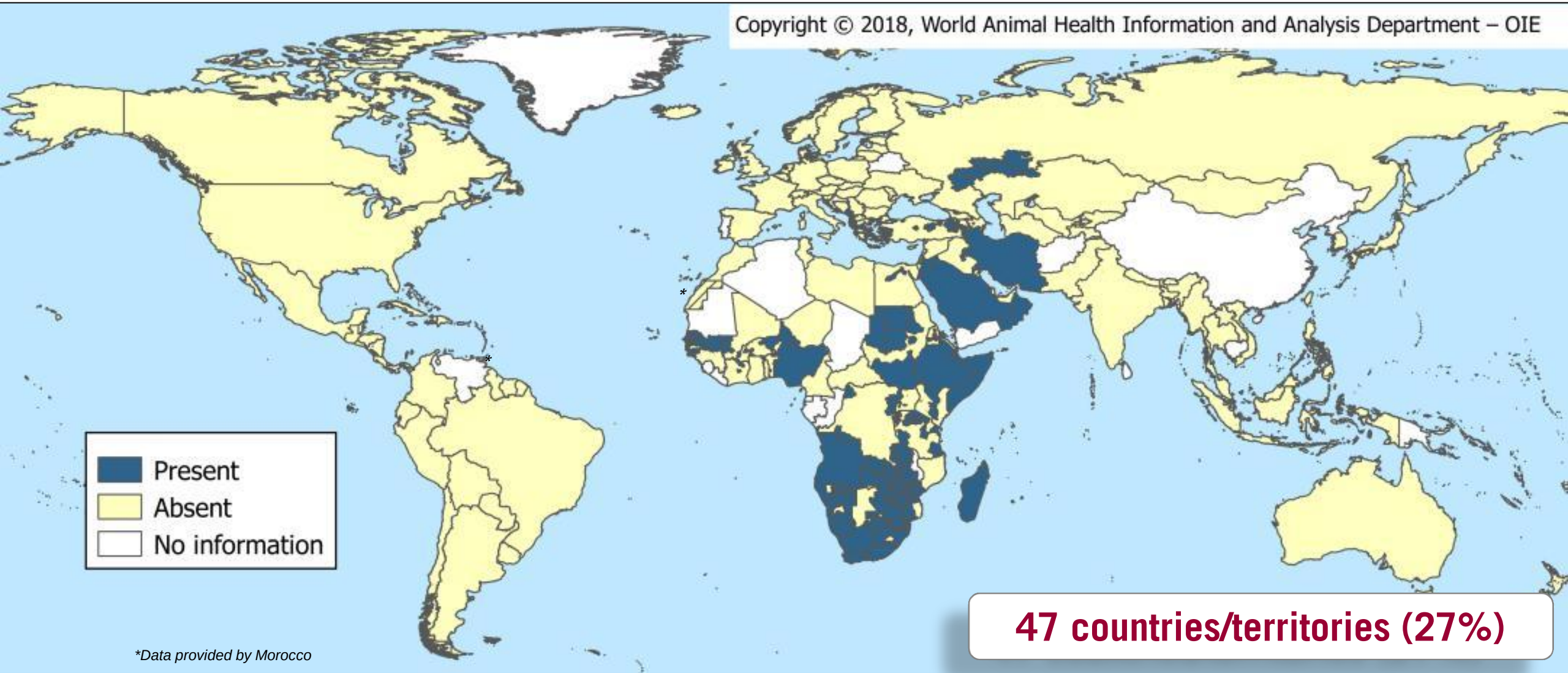
(data based on reports received up to 6 May 2018)



Deterioration

LSD distribution in 2017 and early 2018

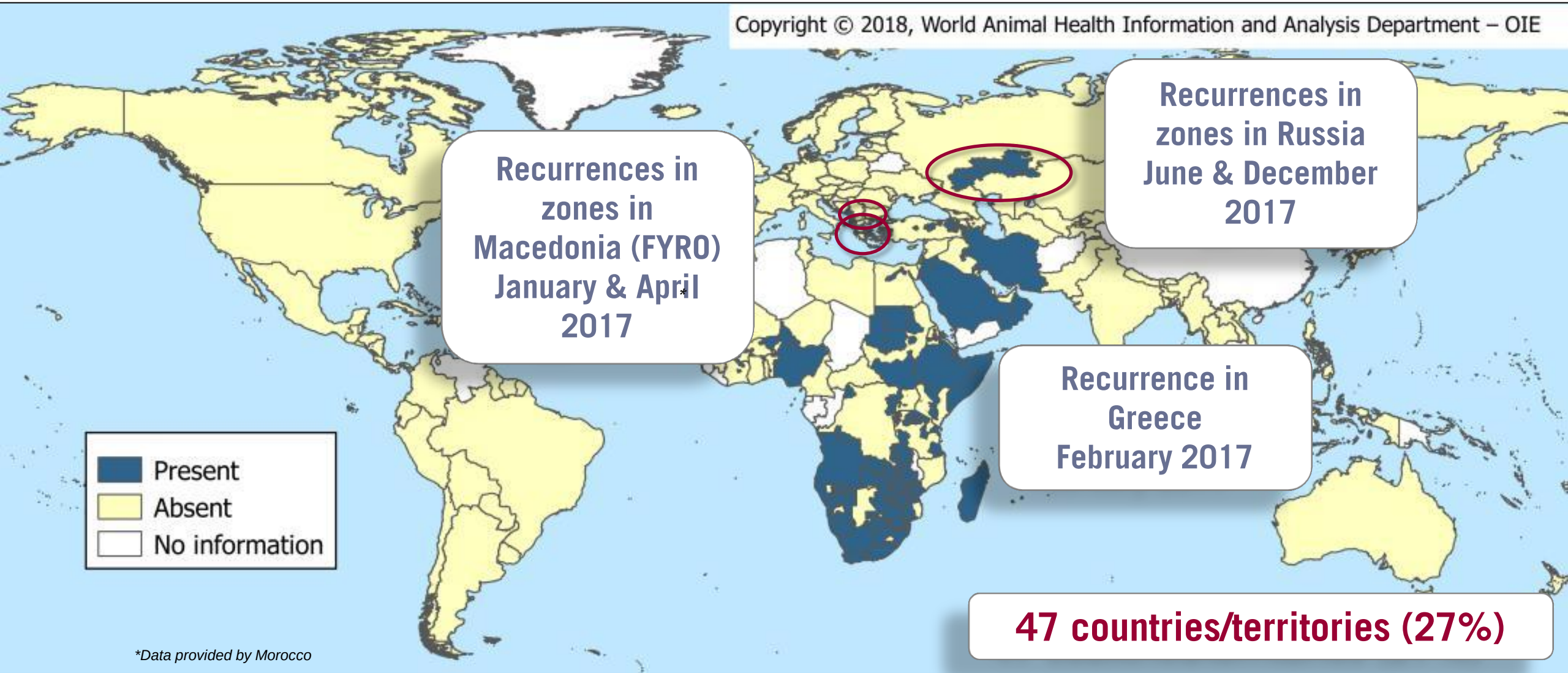
(data based on reports received up to 6 May 2018)



*Data provided by Morocco

LSD distribution in 2017 and early 2018

(data based on reports received up to 6 May 2018)



Lumpy skin disease

Prevention and control strategies implemented over the past 13 years & differences in disease evolution?

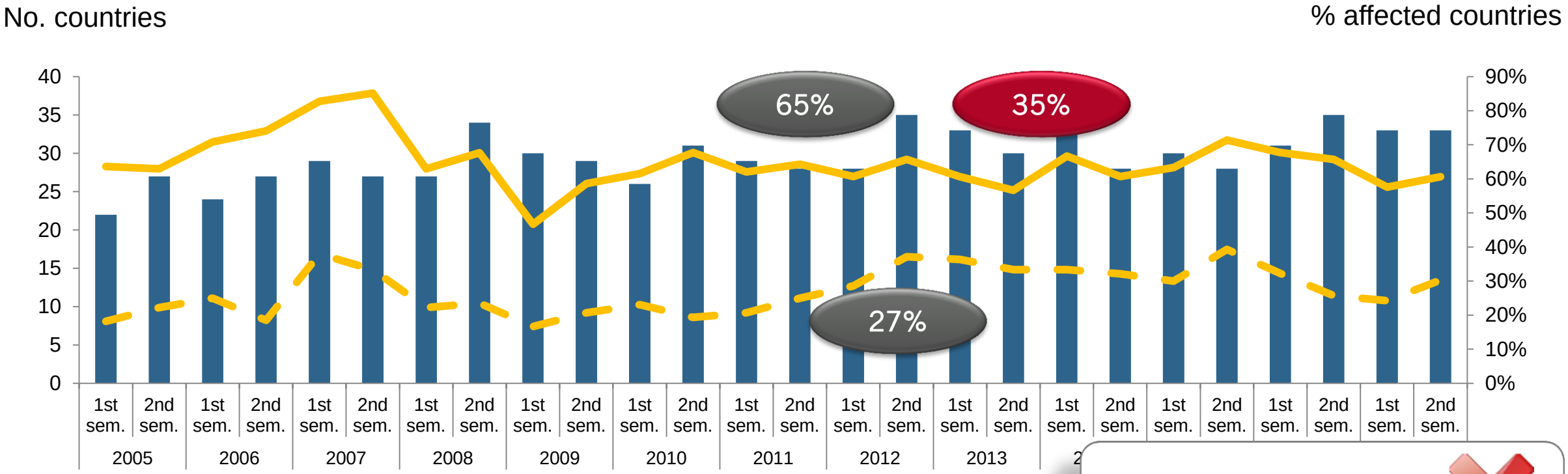
Lumpy skin disease: Methodology

- **Groups 1 and 2**: description ***trend of the disease*** & ***control strategies*** implemented at regional level

- **Group 3**: description ***preventive strategies***

LSD: Results – Group 1

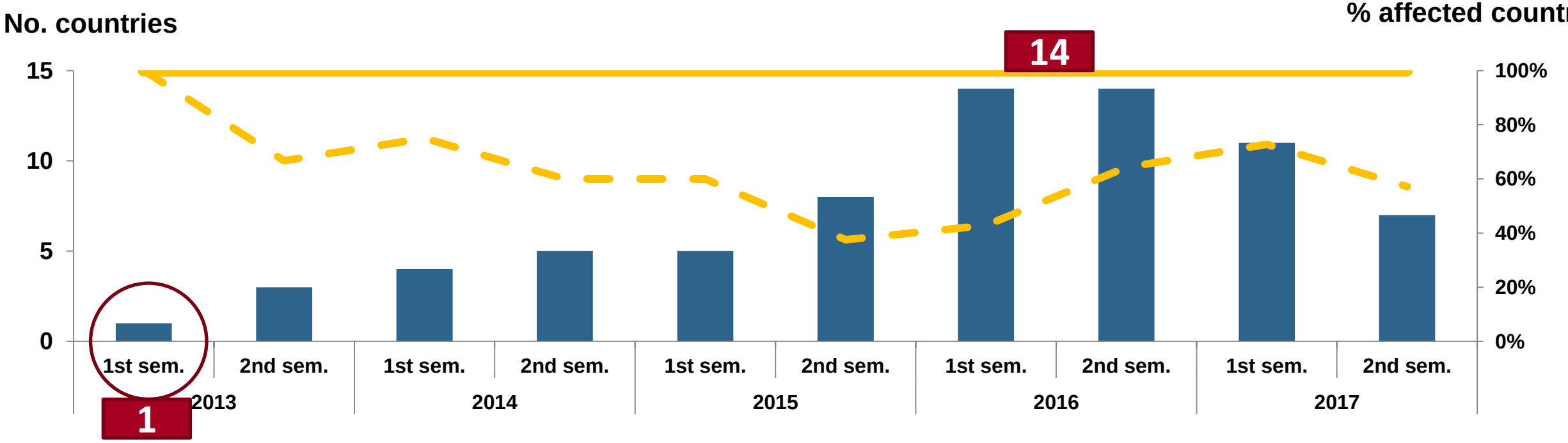
Traditionally affected areas



No improvement

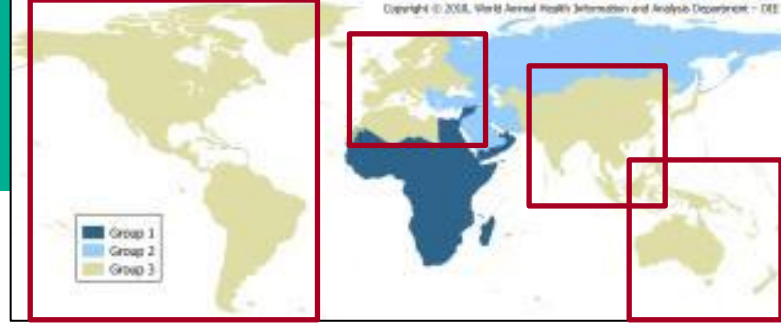
LSD: Results- Group 2

Recently affected areas

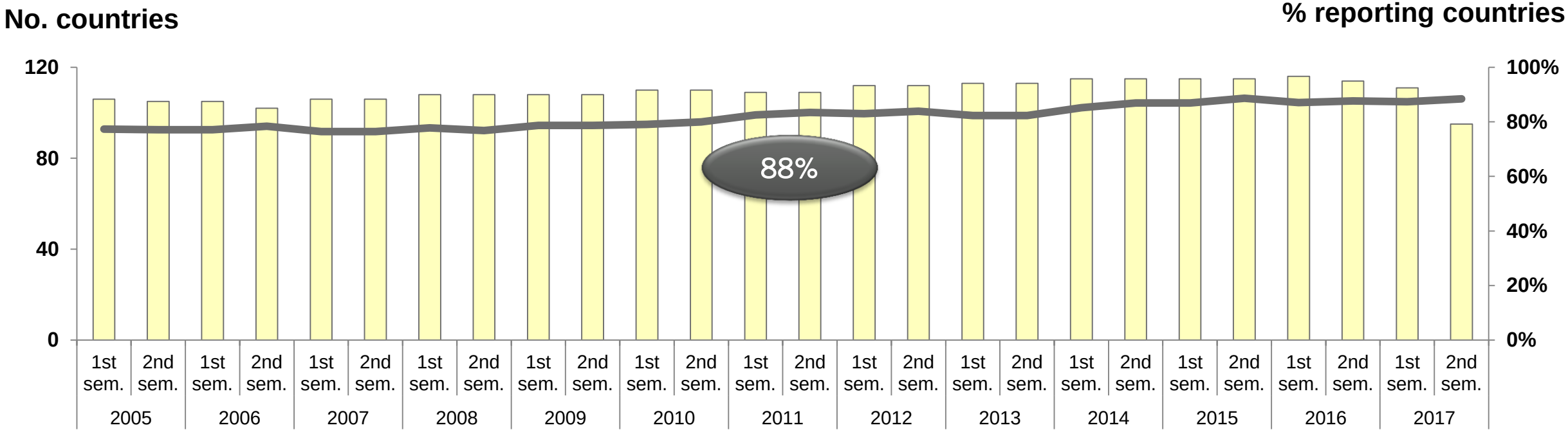


Successful strategy ✓

LSD: Results-Group 3



Free Areas



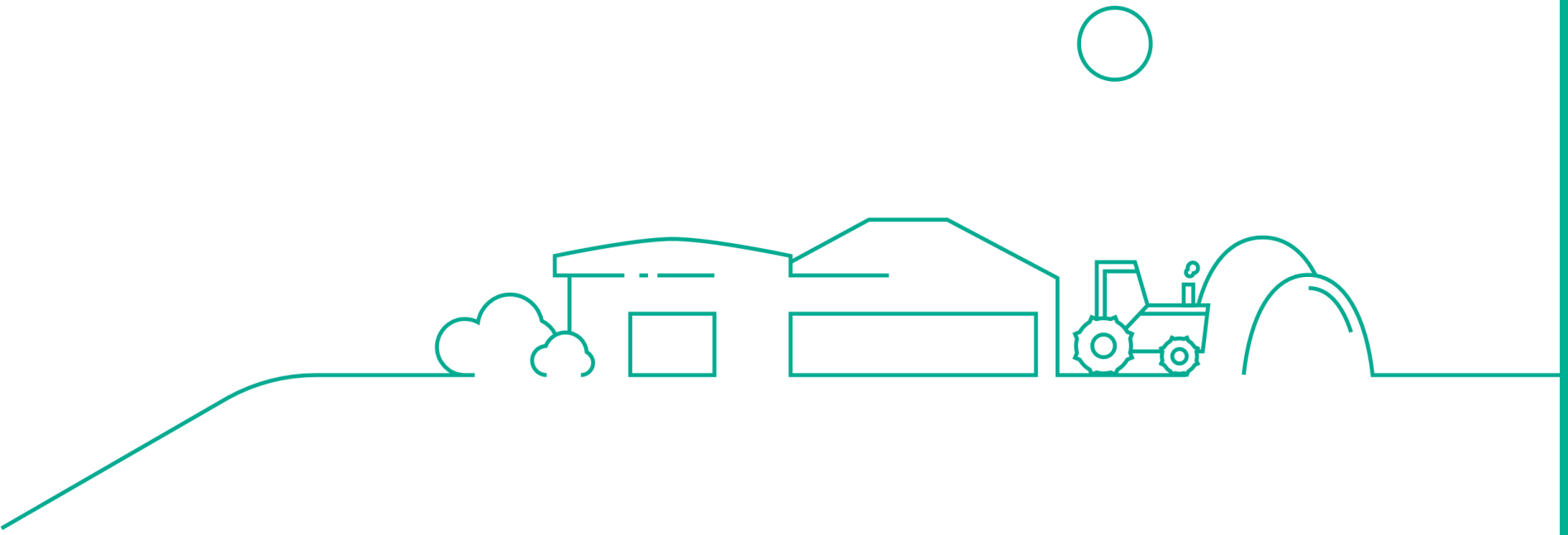
More countries implementing preventive strategies

Countries reporting LSD absent

% reporting countries notifying preventive strategies

LSD: CONCLUSIONS

- Quick spread in 2014-2016 but **no further spread in 2017/2018**
- **Effectiveness of the control strategies** in recently affected areas
- Assistance from OIE Reference Laboratories and Collab. Centres
- Members in at-risk areas are encouraged to initiate **vaccination campaigns ahead of virus entry**
- ***Manual*** and ***Code*** Chapters on LSD were updated in 2016 and 2017



Tilapia lake virus disease:

an emerging disease in aquatic animals

OIE
#86
SG

Aquatic Animal Health Code: **Emerging disease**

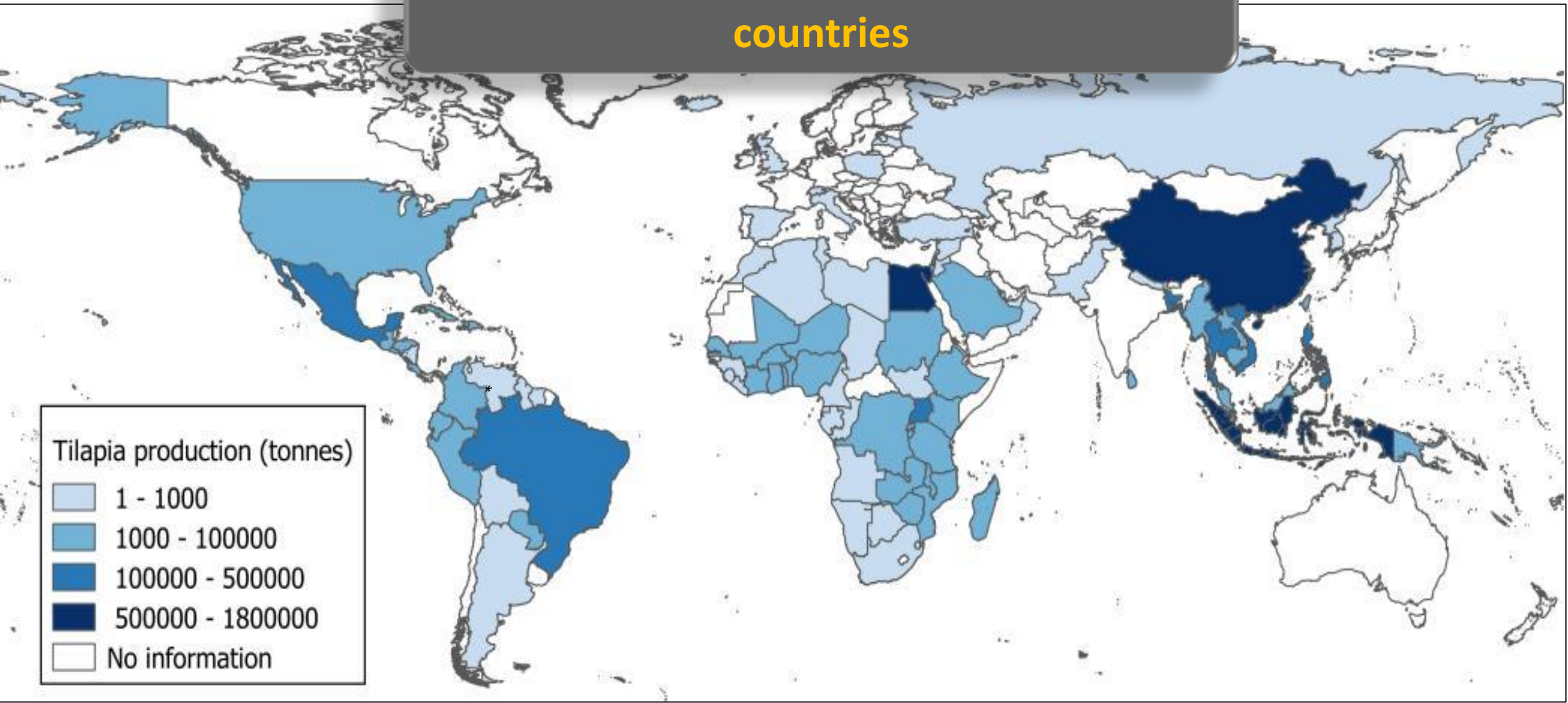
Means a disease, other than listed diseases, which has a significant impact on aquatic animal or public health resulting from:

- a change of known pathogenic agent or its spread to a new geographic area or species; **or**
- a newly recognised or suspected pathogenic agent.

Global distribution of annual tilapia production in 2015

(data based on information provided by FAO)

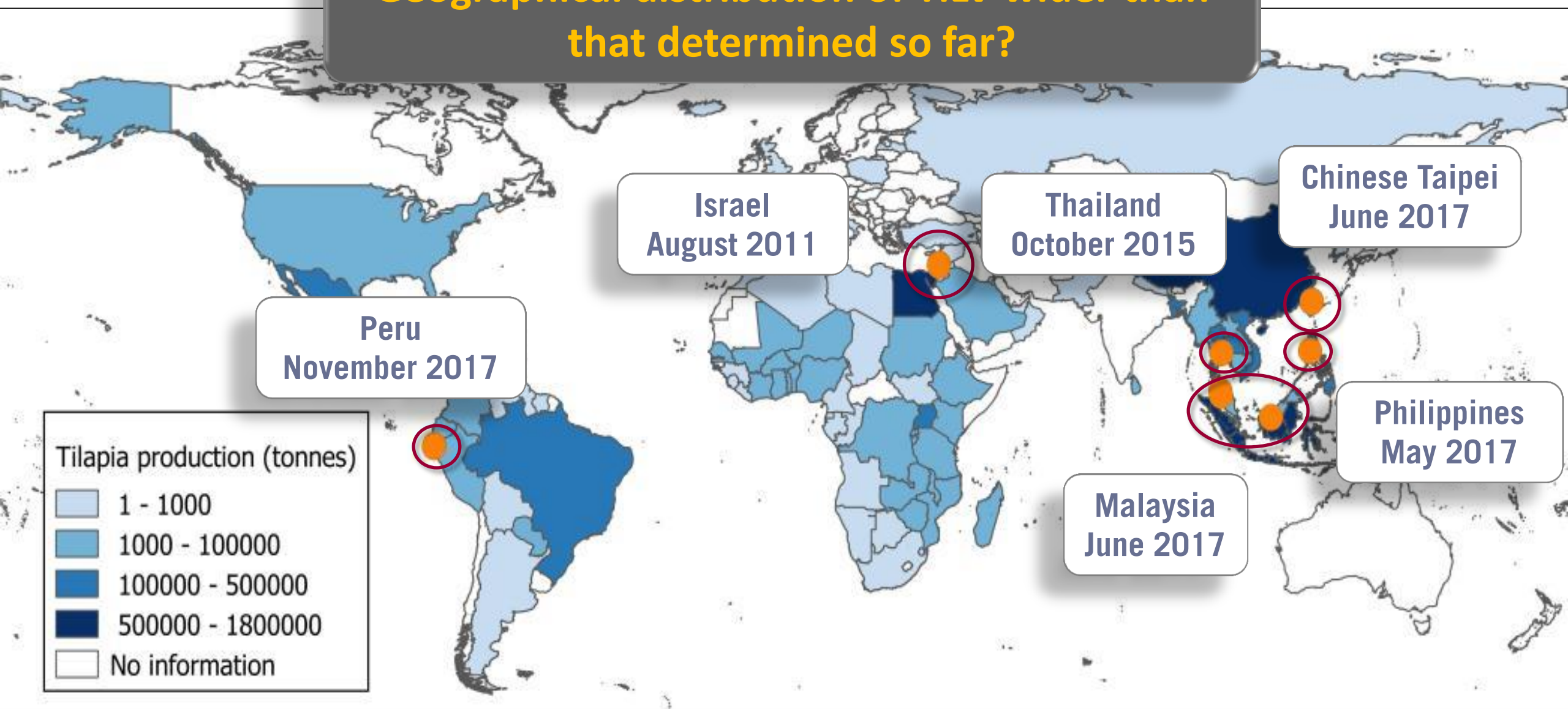
About 6 000 000 tonnes in more than 100 countries



OIE #86 SG

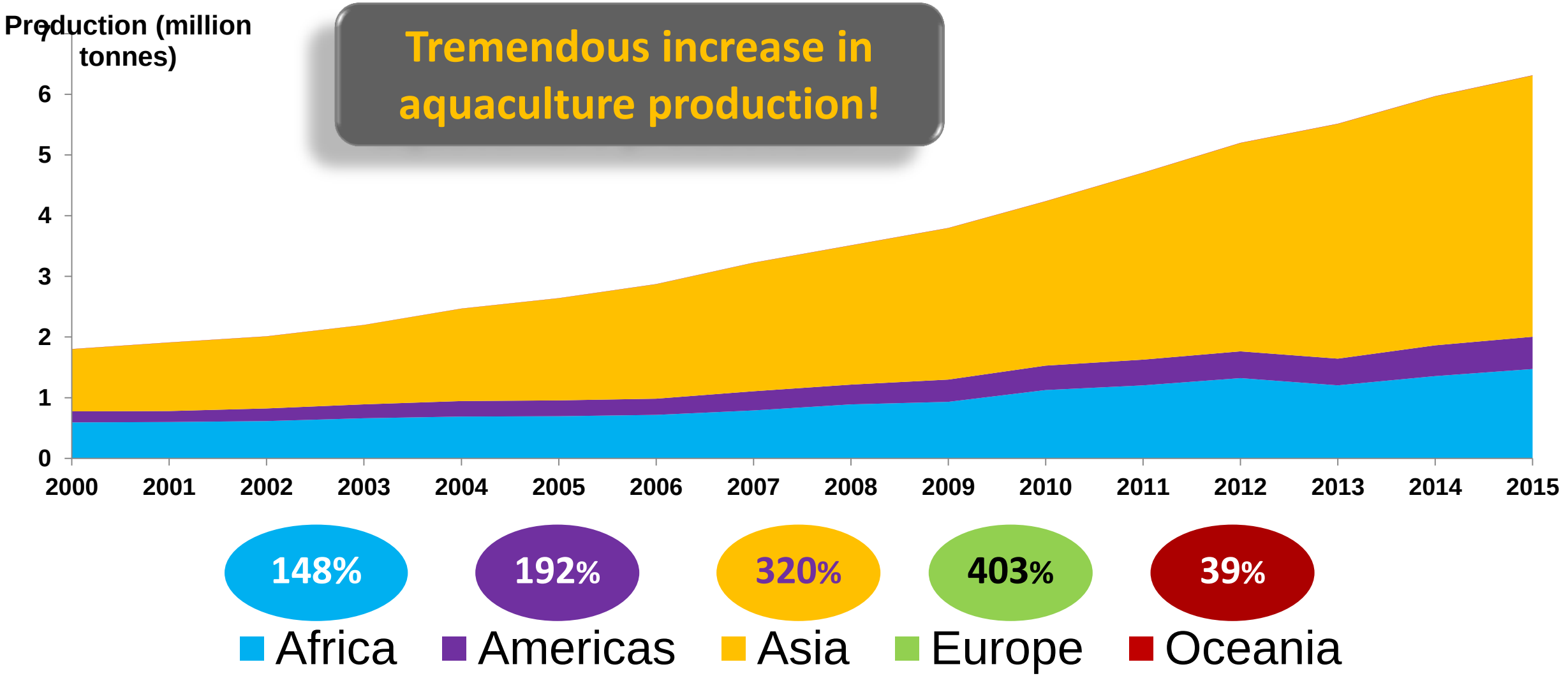
Global distribution of annual tilapia production in 2015 & reported events in 2017 and early 2018

Geographical distribution of TiLV wider than that determined so far?



Evolution from 2000 to 2015 of the global production of tilapia, by world region

(data based on information provided by FAO)



Tilapia lake virus disease: CONCLUSIONS

- Capacity of the virus for long distance spread
- Importance of **understanding the geographical distribution of TiLV** to prevent and control its possible spread
- Members are encouraged to **investigate mortality and morbidity events** in tilapines, to notify the OIE and submit viral isolates to the National Center for Biotechnology Information (NCBI) gene bank.

Increase in the information submitted to the OIE observed in the past five years for aquatic animal diseases. OIE support, Aquatic focal point access to WAHIS and e-learning

Chapter 3

Update on the WAHIS renovation project (WAHIS+)

WAHIS+ launch for GS 2019

- User-friendly
- Respond to evolving standards
- High-resolution dynamic maps
- Facilitates data extraction & analysis
- Supports interoperability with other data & systems

The temporal roll-out strategy for 4 stages




1. Foundation

Rebuilding modernised Core modules and migration of current WAHIS data

2. Evolutive

Interoperability, integration with other systems and data sources

3. Advanced

Integration of historical data sources before 2005 (Handistatus)

4. Optimisation

Integration of new modules and future innovations

Dec. 2019 | May 2020 | March 2021 | 2027 and beyond

Stage 1: Foundation [April 2018-Dec. 2019]: *Improvement and modernization of current modules*

May 2019

- Local report *(new)*
- Immediate notification
- Follow-up report
- Six-monthly report

Objective for end 2019

- Annual report
- Wild annual report,
- Alert App for smartphones
- E-learning

Integration

- Historical data from WAHIS 2005
- ADIS interoperability

Implementation

- Modern data mining system
- GIS terrestrial and aquatic
- Automatic translation tool
- New dashboards for the VS

Partner to ensure 10 year's vision

sopra steria

Tender award
23 February 2018

General Specifications
April – June 2018

International Call for tender
30 October 2017

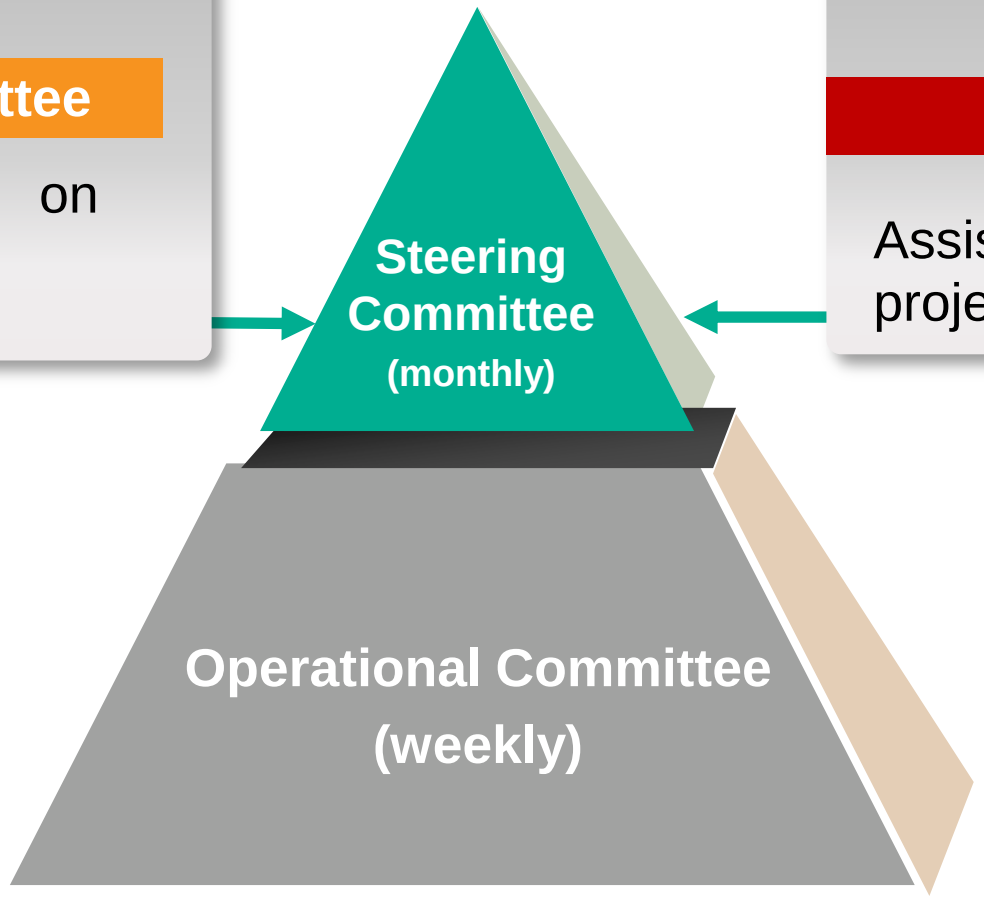
End-to-end partnership

WAHIS+ Project Governance

Strategic Advisory Committee

Provides strategic direction on project oversight

Meeting on 13th December 2017



Key users Committee

Assists WAHIAD and WAHIS+ project team in solution testing

Key users involvement in WAHIS+ project

01 Dedicated panel of key users: Focal points and experts

02 Global representation

03 Virtual meetings

04 Provide functional and design related feedback to the WAHIS+ project team

05 Ensure that developed modules are relevant to end-users expectations

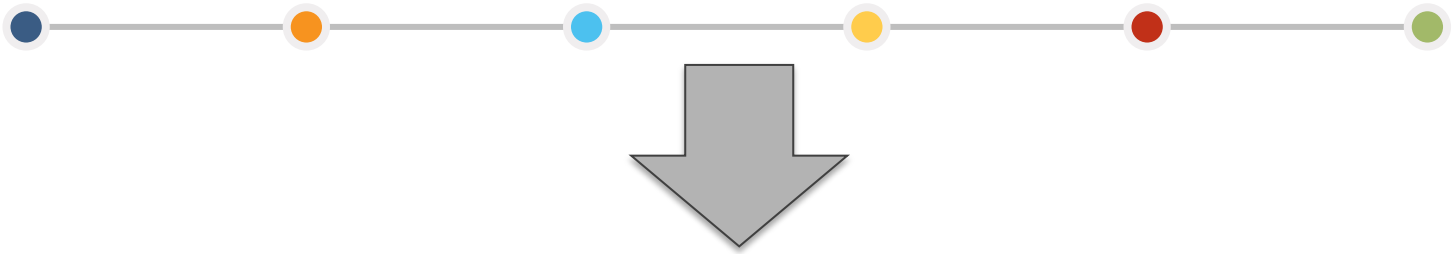
06 Perform final end user testing

Strategic approach for communication and advocacy

GLOBAL ORGANISATIONS AND AGENCIES, SOME MEMBER COUNTRIES AND DONORS, TRADE PARTNERS, ACADEMIA, RESEARCHERS, CIVIL SOCIETY

SPEAK HIGHLY & CALL FOR MORE USE

(External communication workshop on 20th of February)



MEMBER COUNTRIES INCREASE SUPPORT AND COMMITMENT TO WAHIS

Thank you for your attention

CURRENT ANIMAL HEALTH SITUATION WORLDWIDE: ANALYSIS OF EVENTS AND TRENDS

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