



Lumpy Skin Disease (LSD) in South East Europe

A review of disease occurrence and management to date.

**Standing Group of Experts on Lumpy Skin Disease
in South-East Europe (SGE LSD) under the GF-TADs umbrella
Twelfth Meeting (SGE LSD12)**

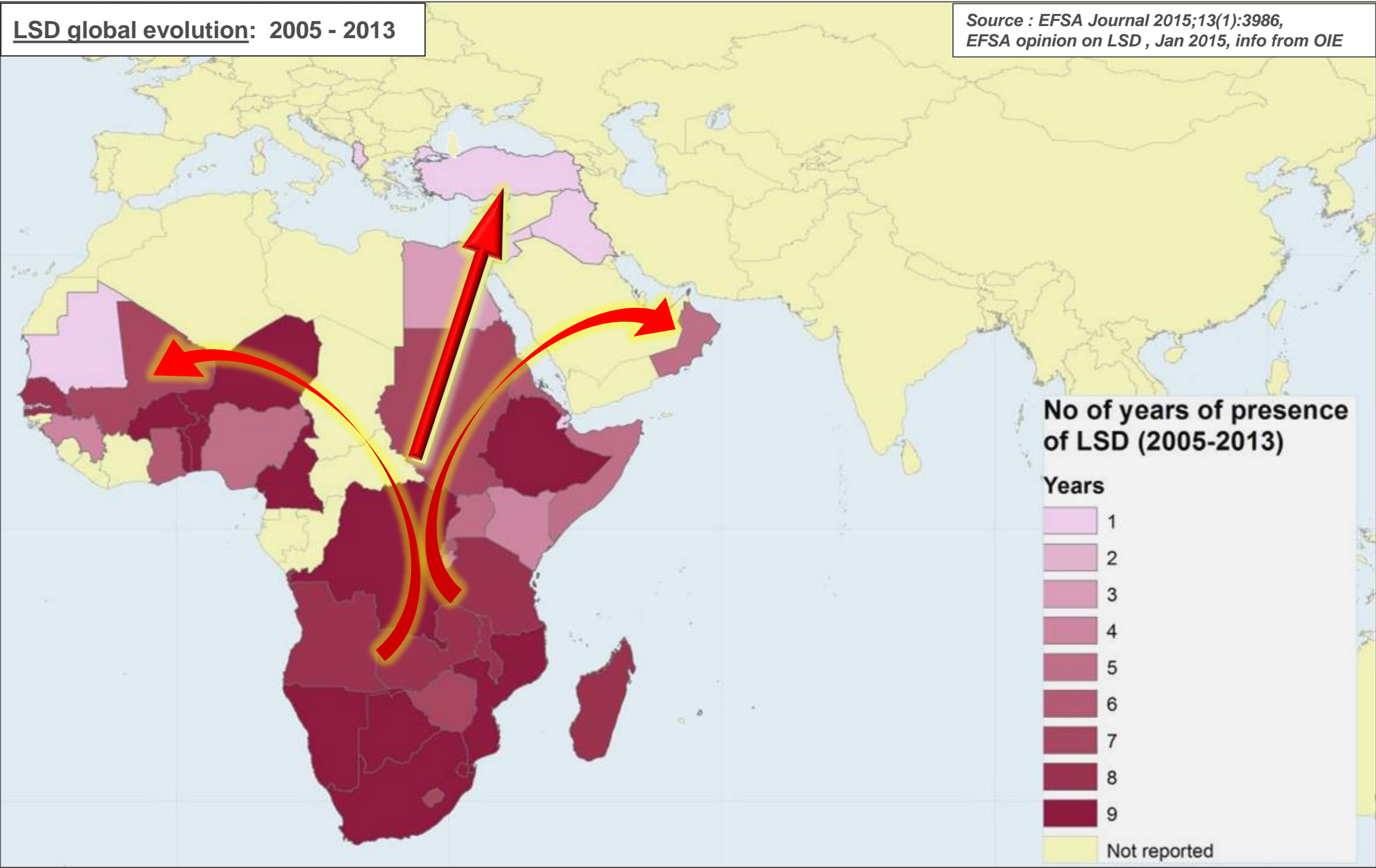
Online Meeting, 02 March 2023

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European Commission
Directorate General for Health and Food Safety
G2 – Animal Health*

- LSD incursion in South East Europe.
- The way towards a coordinated LSD regional control policy
- Overview of LSD management in South-East Europe.
 - LSD vaccination
 - LSD surveillance
- Current LSD epidemiological situation in South East Europe.
- EU support for surveillance/control measures against Lumpy Skin Disease (LSD).
- EU legal framework for LSD
- Lessons learned
- Concluding remarks.

LSD global evolution: 2005 - 2013

Source : EFSA Journal 2015;13(1):3986,
EFSA opinion on LSD , Jan 2015, info from OIE



LSD incursion in South East Europe, 2013- 2015

LSD situation in 2013 – 2015, further disease spread (Turkiye – Greece)

August 2013

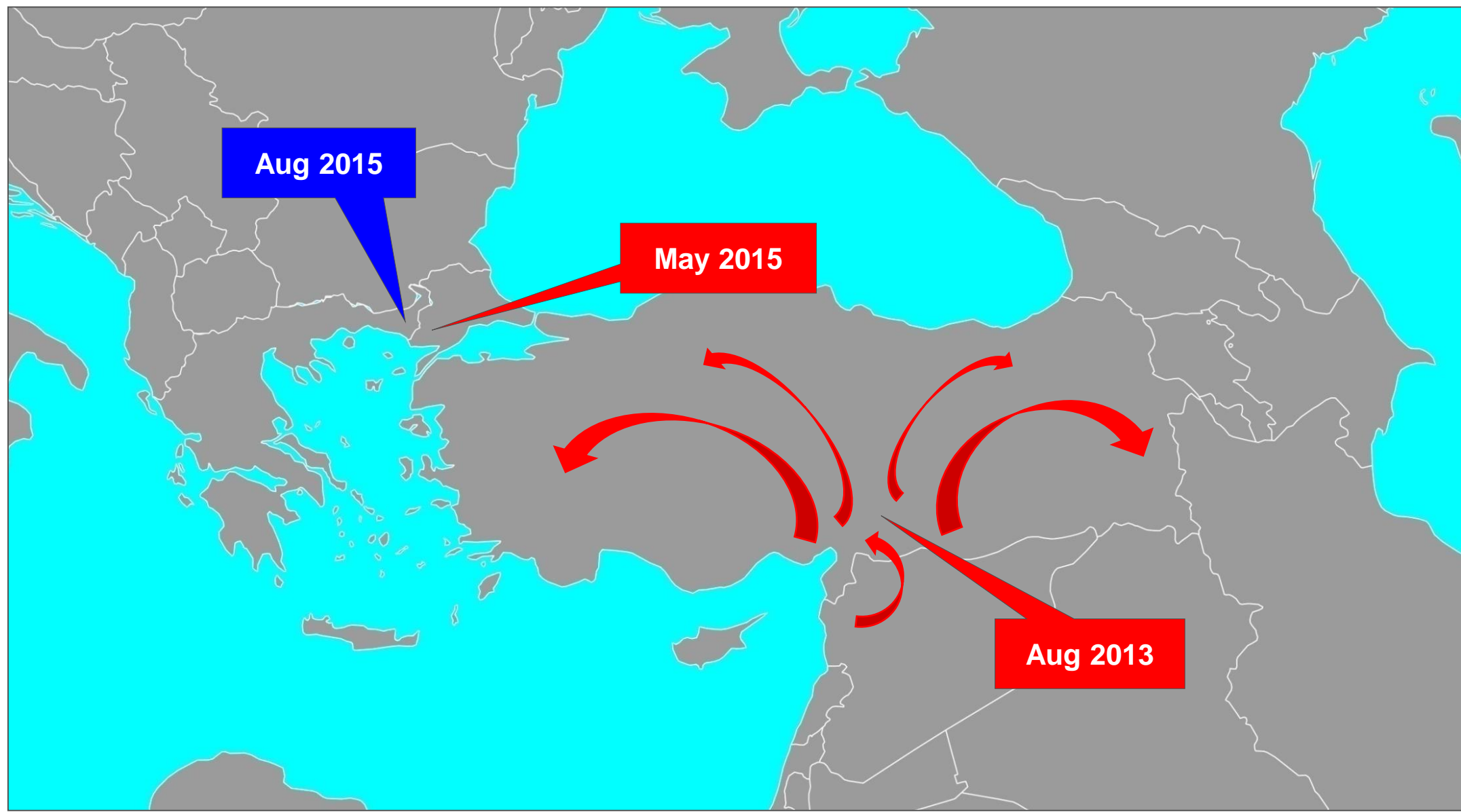
LSD reported for the first time in **Turkiye** (Anatolia).

May 2015

LSD reported for the first time in **Turkish Thrace**.

August 2015

LSD reported for the first time in **Greece**.



LSD incursion in South East Europe - 2015

September – December 2015 (Greece)

Early September 2015 (Greece)

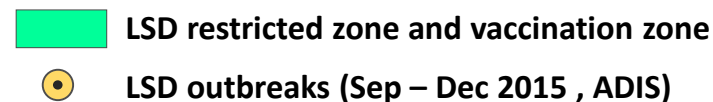
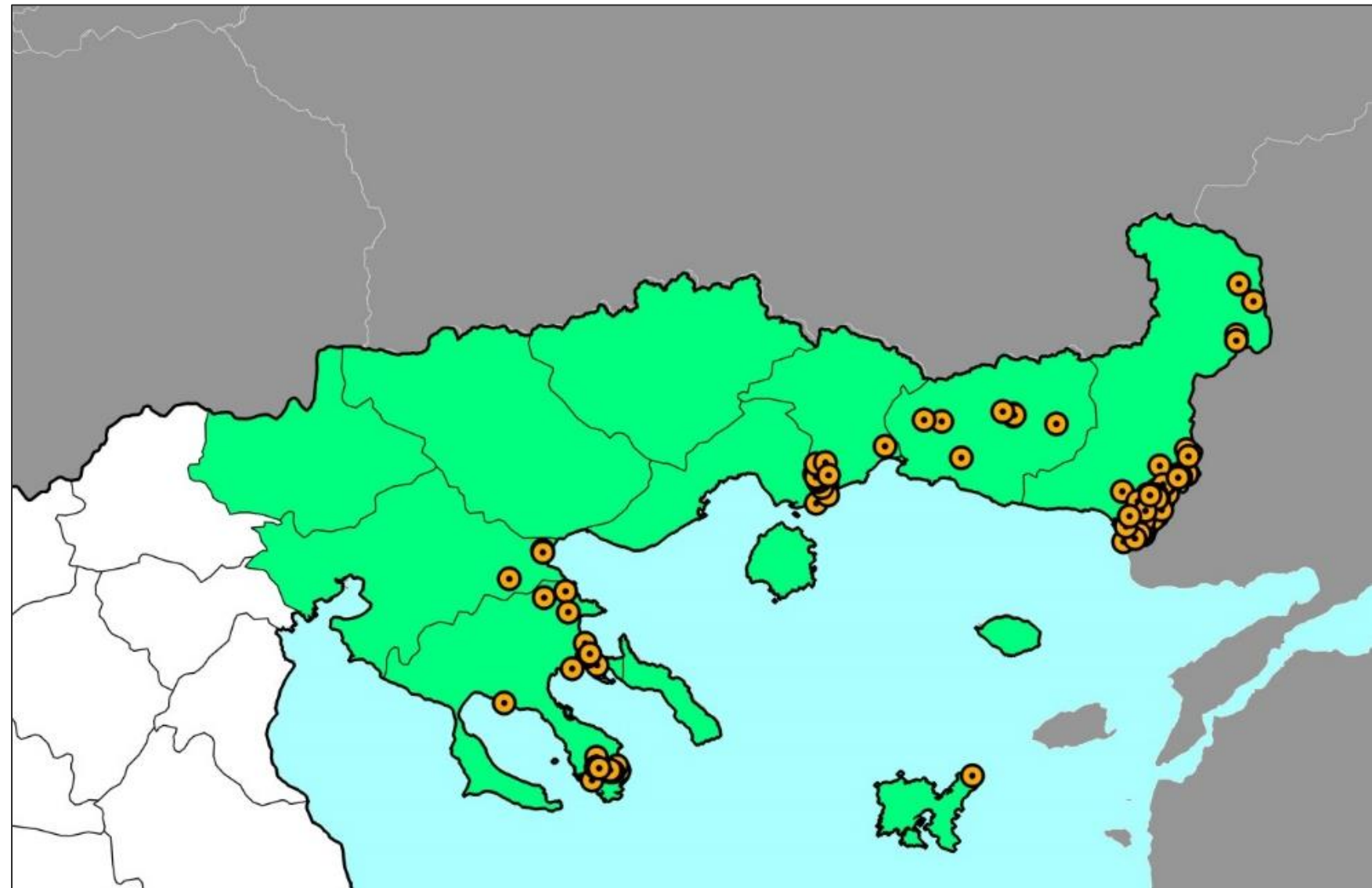
LSD outbreaks increasing fast,
disease continued to spread,
decision to implement
vaccination with live
homologous vaccine.

European Commission granted
relevant permission.

Initiation of LSD vaccination in
Greece.

Outbreaks cease in winter.

**LSD vaccination a priority,
vaccine supply the main
obstacle**



LSD incursion in South East Europe - 2016

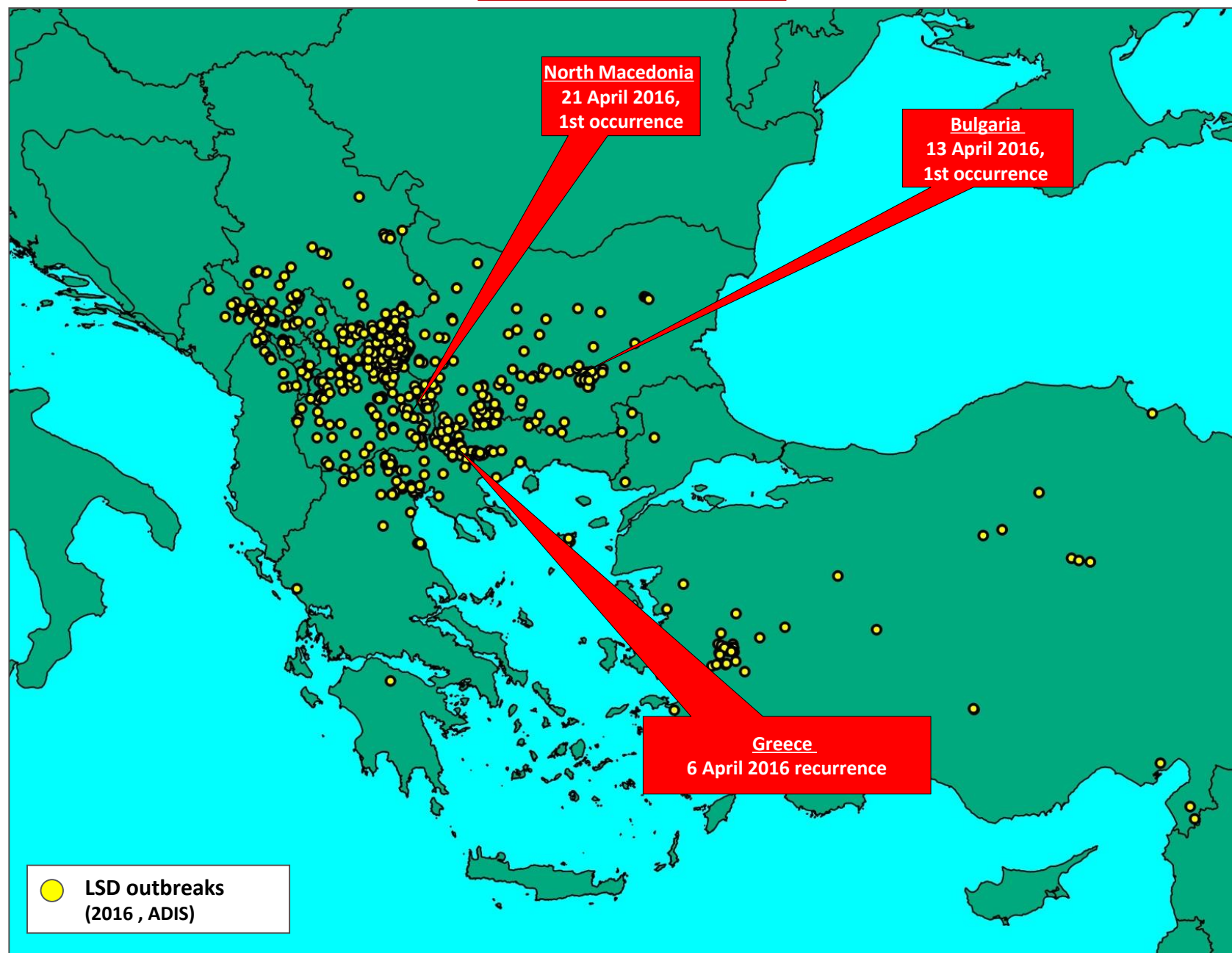
April 2016

- Creation, for the first time of an **EU LSD vaccine bank**
- Recurrence of LSD in **Greece**
- First occurrence of LSD in **Bulgaria** and then **North Macedonia**.
- Emergency shipments of vaccines from the EU LSD vaccine bank

May 2016

11-12 May 2016: Joint EFSA – DG SANTE Workshop in Brussels with all LSD affected and at risk countries.

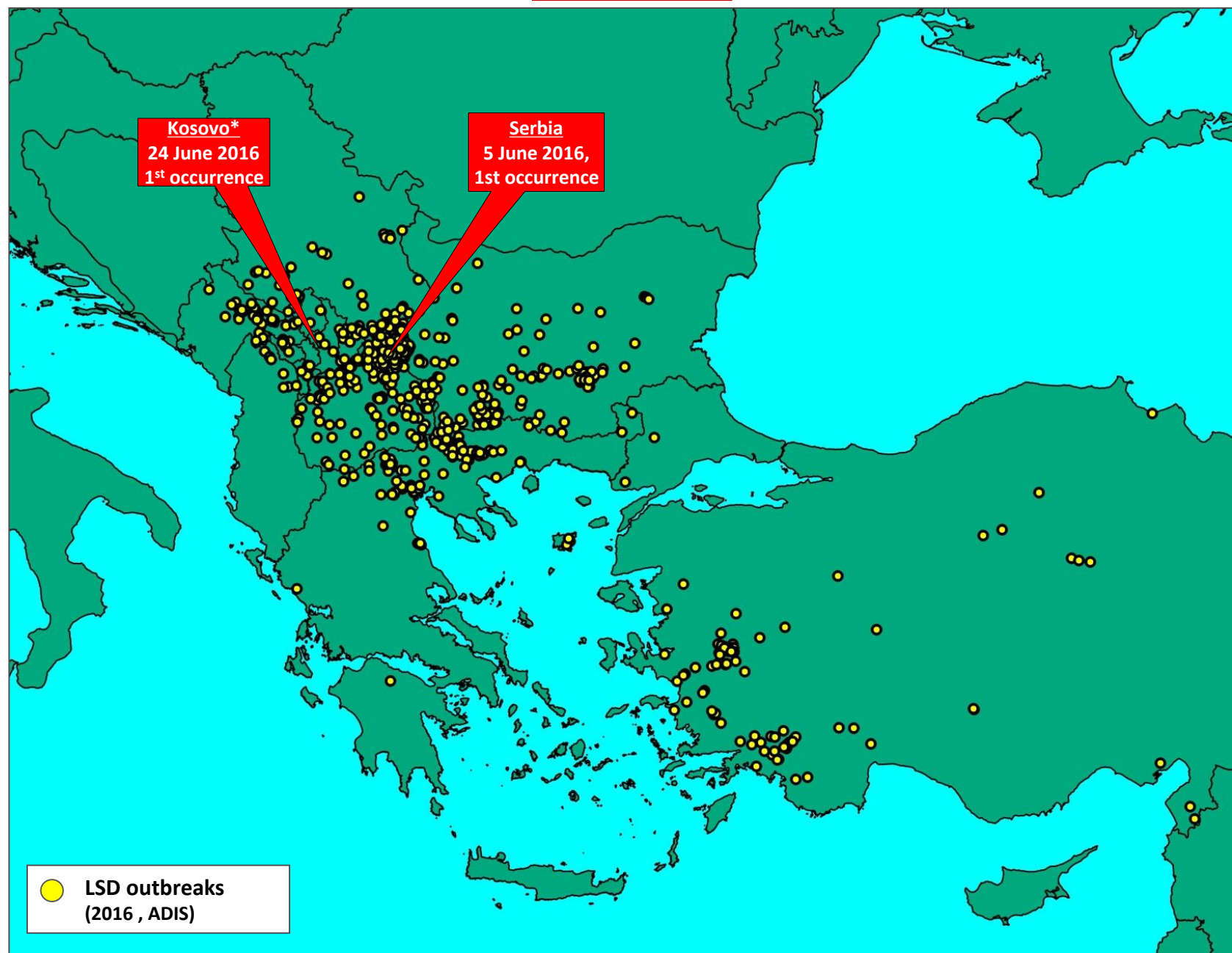
April - May 2016



June 2016

- Kick off meeting of the **GF TADS LSD Expert Group** (*Brussels*), first discussions for a coordinated LSD vaccination strategy.
- First occurrence of LSD in Serbia and Kosovo*, vaccination launched in these countries too.

June 2016



(* This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence).

LSD incursion in South East Europe - 2016

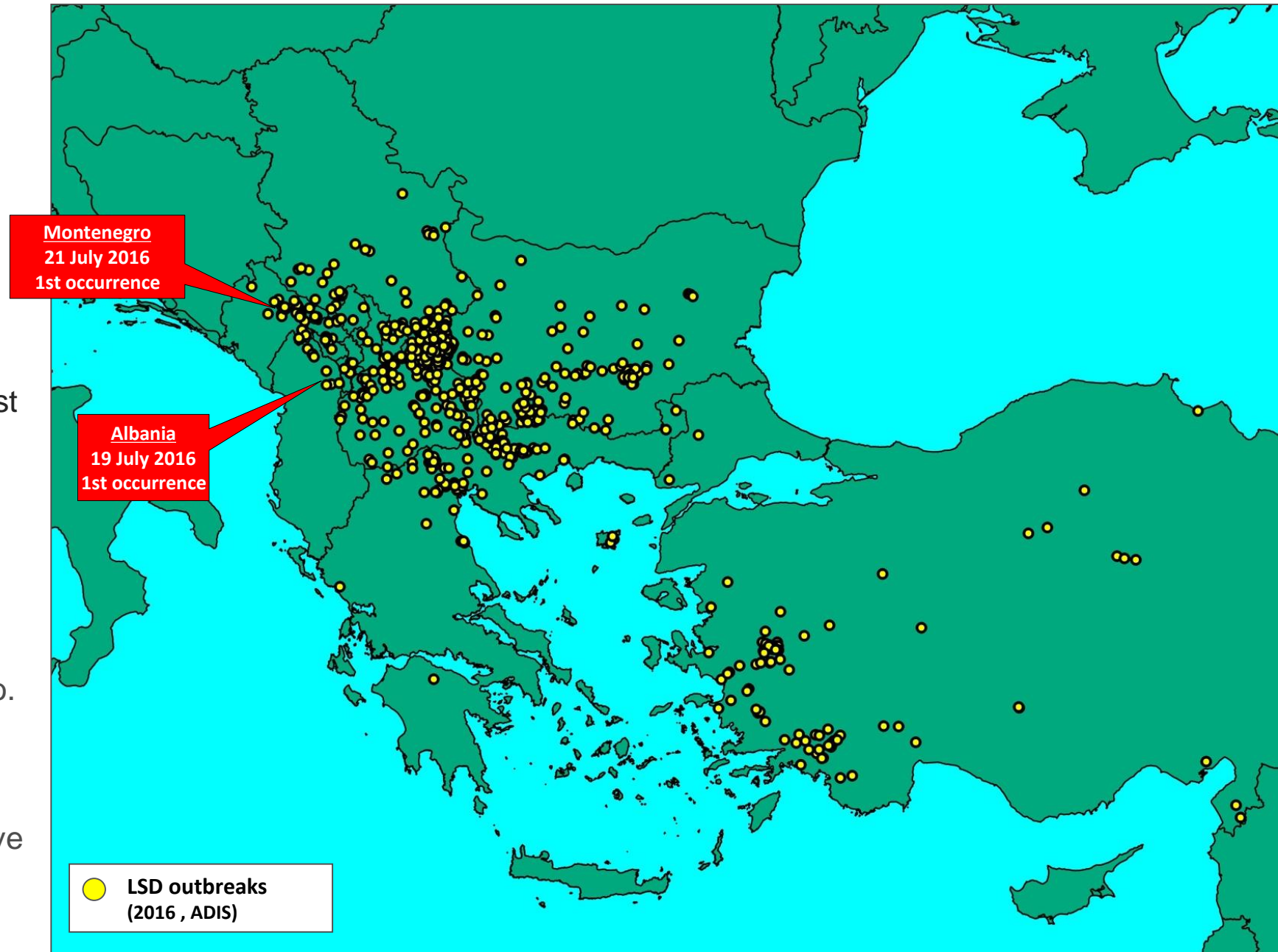
July – August 2016

July 2016

- LSD reported in **Montenegro** and **Albania**, vaccination to be launched in these countries too.
- Additional emergency shipments of vaccines from the EU LSD vaccine bank to affected countries.
- 15 July 2016: **Bulgaria** becomes the first country in the region to complete a full vaccination campaign (100 % coverage of cattle nationwide).

August 2016

- **LSD outbreaks stop in Bulgaria** and begin to slow down in other countries too.
- **Croatia** (not affected by LSD) becomes the first non – affected country in the region to implement emergency protective vaccination against LSD.



8-9 September 2016: LSD Ministerial Conference in Sofia – Bulgaria .

A Major Breakthrough !

Chief Veterinary Officers + Ministers of all countries in the region of South East Europe, along with the European Commission (and the Commissioner himself).

A coordinated regional LSD control policy, with EU support, is agreed by the CVOs and officially approved by their Ministers (political support).

13-14 Sep 2016: Voting of a new Commission Implementing Decisions on LSD providing for proportionate measures and proposing for the first time the concept of zones that are “ free with vaccination” for LSD.

21 September 2016: 2nd GF TADs LSD expert group meeting in Lisbon.

The way towards a coordinated LSD regional control policy

October to December 2016: LSD outbreaks effectively stopped in those countries where LSD vaccination was completed.

12-13 December 2016: **3rd GF TADs meeting in Istanbul** ⇒ Consolidation of a coordinated regional control strategy. Plans for annual revaccination against LSD.

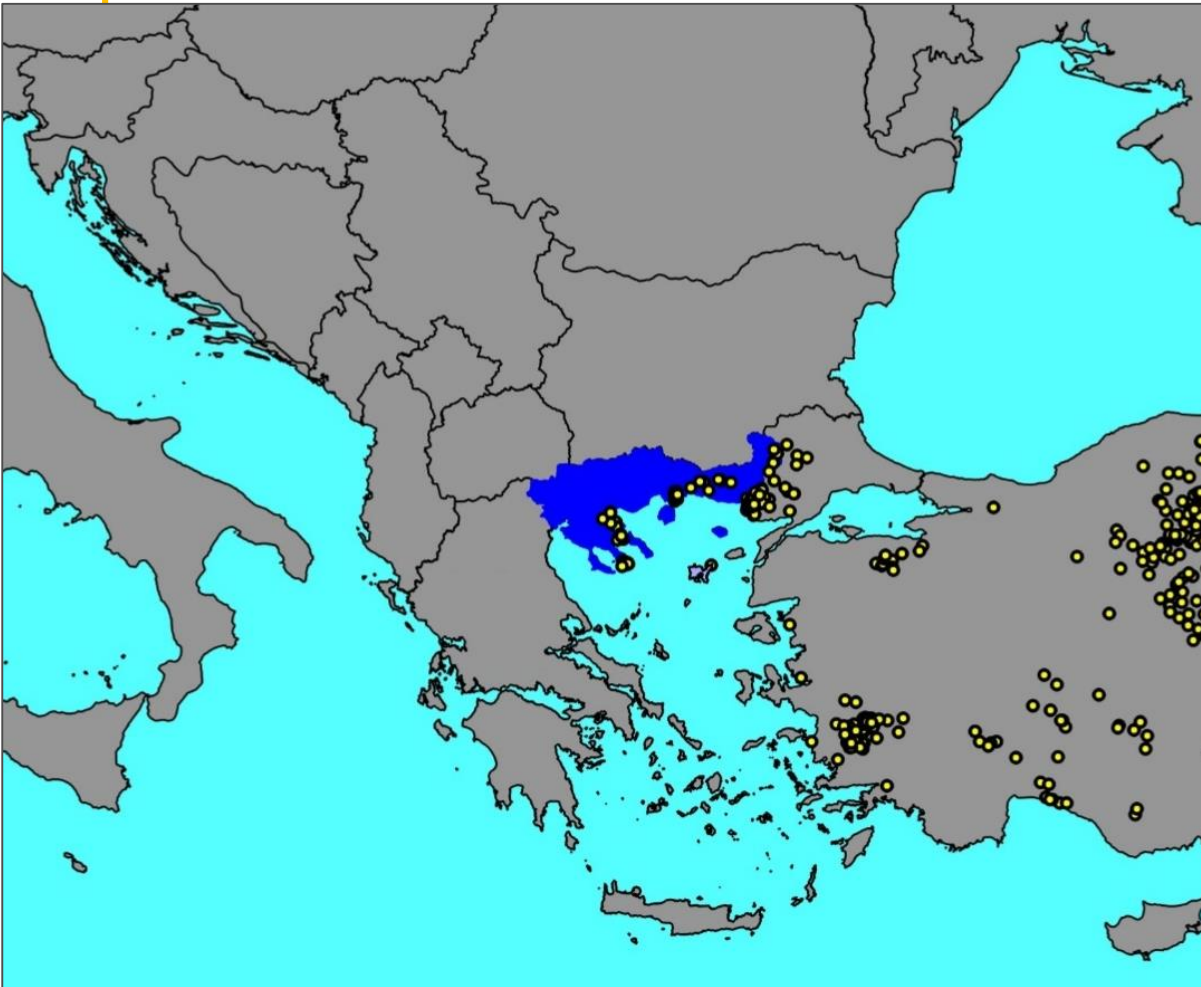
Central concept of regional LSD vaccination policy

Vaccination of all cattle against LSD, using only live –homologous LSD vaccines, with a proper timing to ensure immunity during the LSD high risk period in SE Europe (April to October)

Participants to the coordinated LSD control strategy in SE Europe

- Countries that were affected by LSD (**Bulgaria , Greece, North Macedonia, Serbia, Kosovo***, **Montenegro , Albania**) and implemented mass vaccination using homologous vaccines
- Countries at risk for LSD that were not affected by the disease but implemented vaccination (**Croatia , Bosnia and Herzegovina**) using homologous vaccines
- Countries that were affected by LSD and implemented mass vaccination using heterologous vaccines (**Turkiye**). Since 2020 use of homologous vaccine in **Turkish Thrace** (EU Support – IPA project).

LSD outbreaks-vaccination in 2015

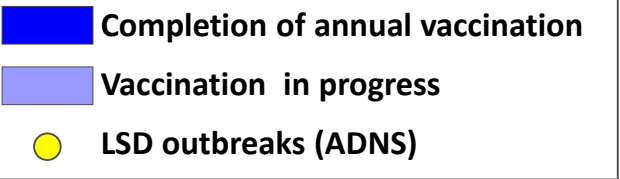


117 outbreaks in 1 country (*excl. Turkiye*)

LSD outbreaks-vaccination in 2016



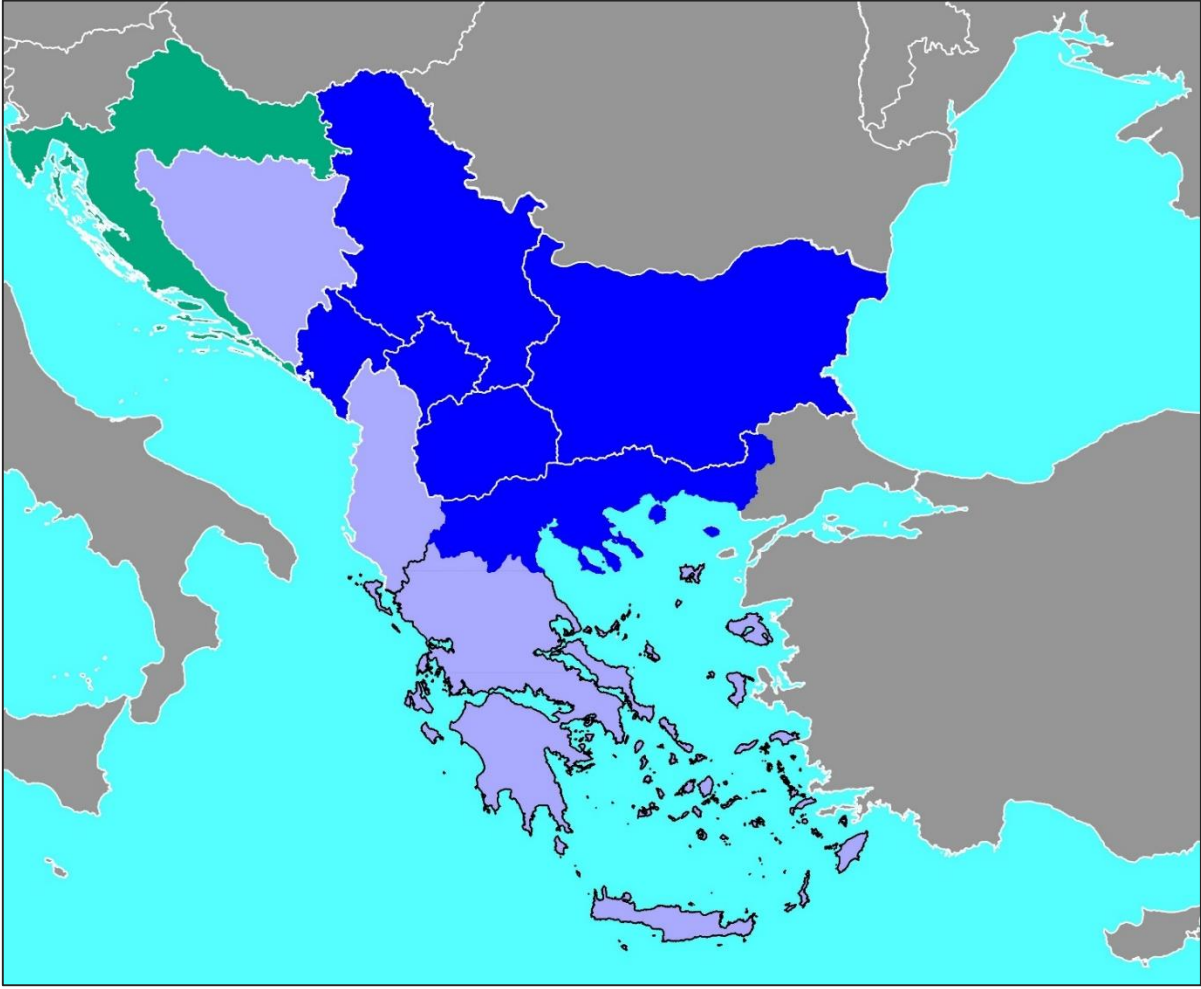
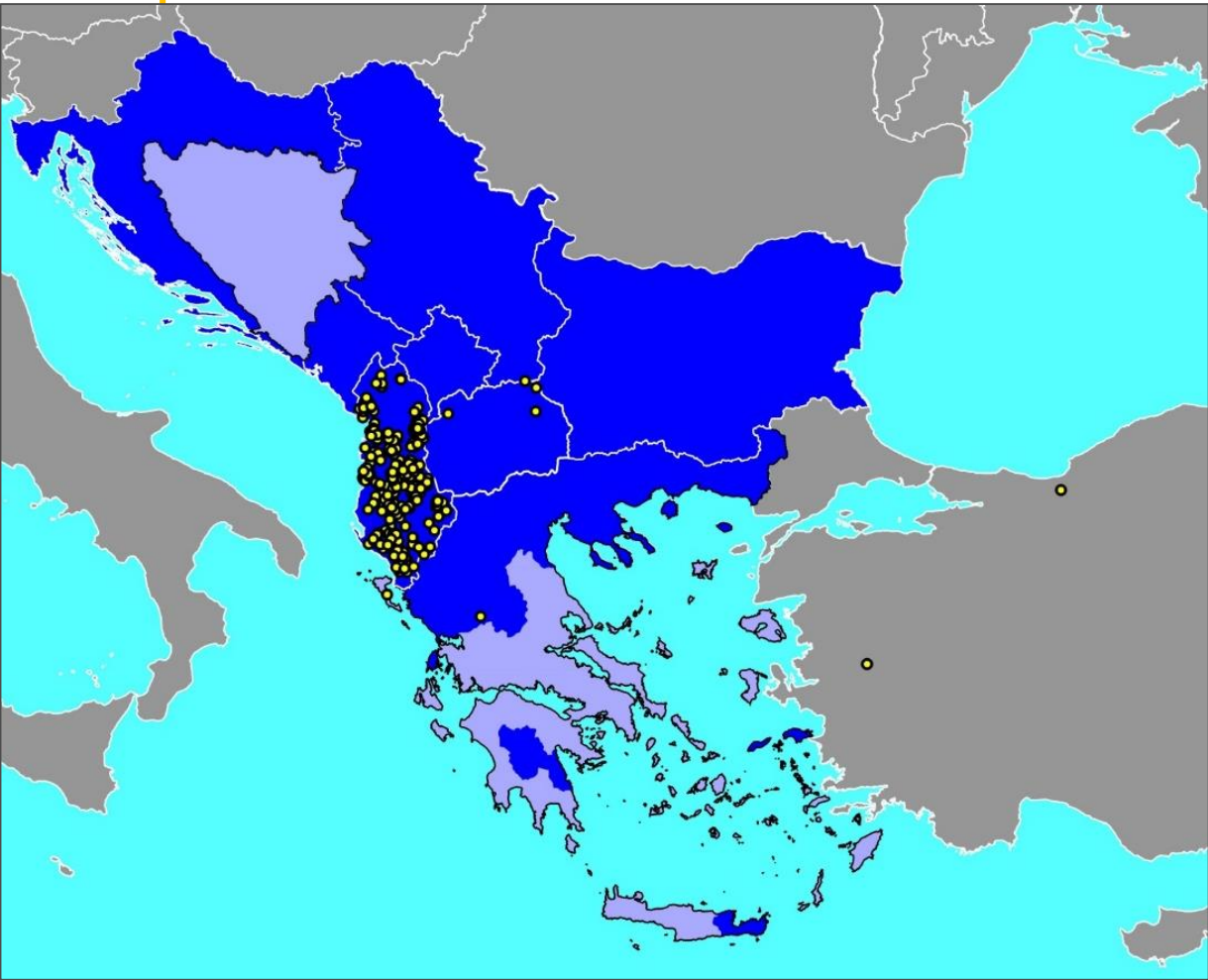
>7.000 outbreaks in 7 countries (*excl. Turkiye*)



Overview of LSD management in South-East Europe- LSD Vaccination (*homologous*)

LSD outbreaks-vaccination in 2017

LSD outbreaks-vaccination in 2018



~500 outbreaks in 3 countries (*excl. Turkiye*)

0 outbreaks in 0 countries (*excl. Turkiye*)

Completion of annual vaccination

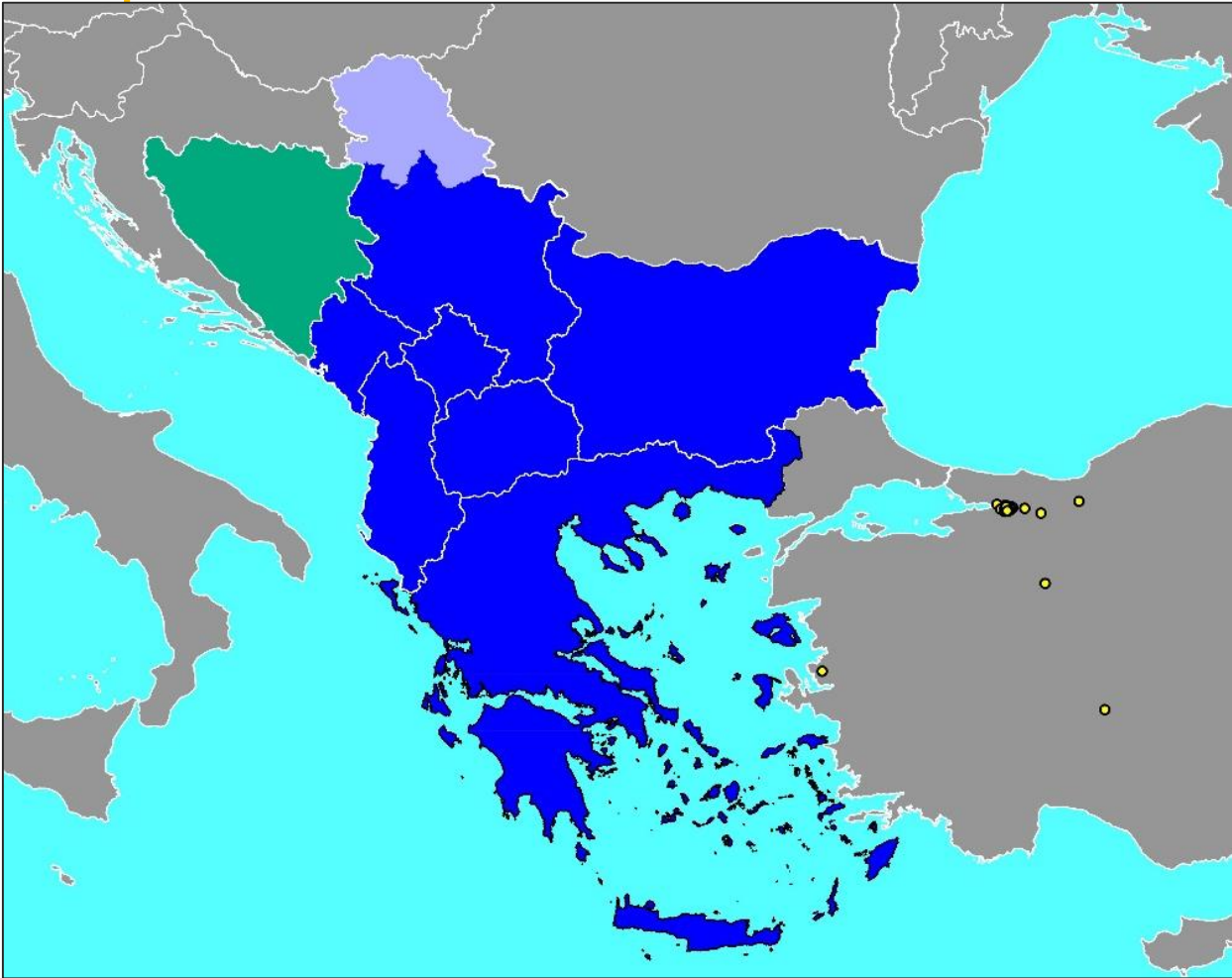
Vaccination in progress

Cease of vaccination

LSD outbreaks (ADNS)

Overview of LSD management in South-East Europe- LSD Vaccination (*homologous*)

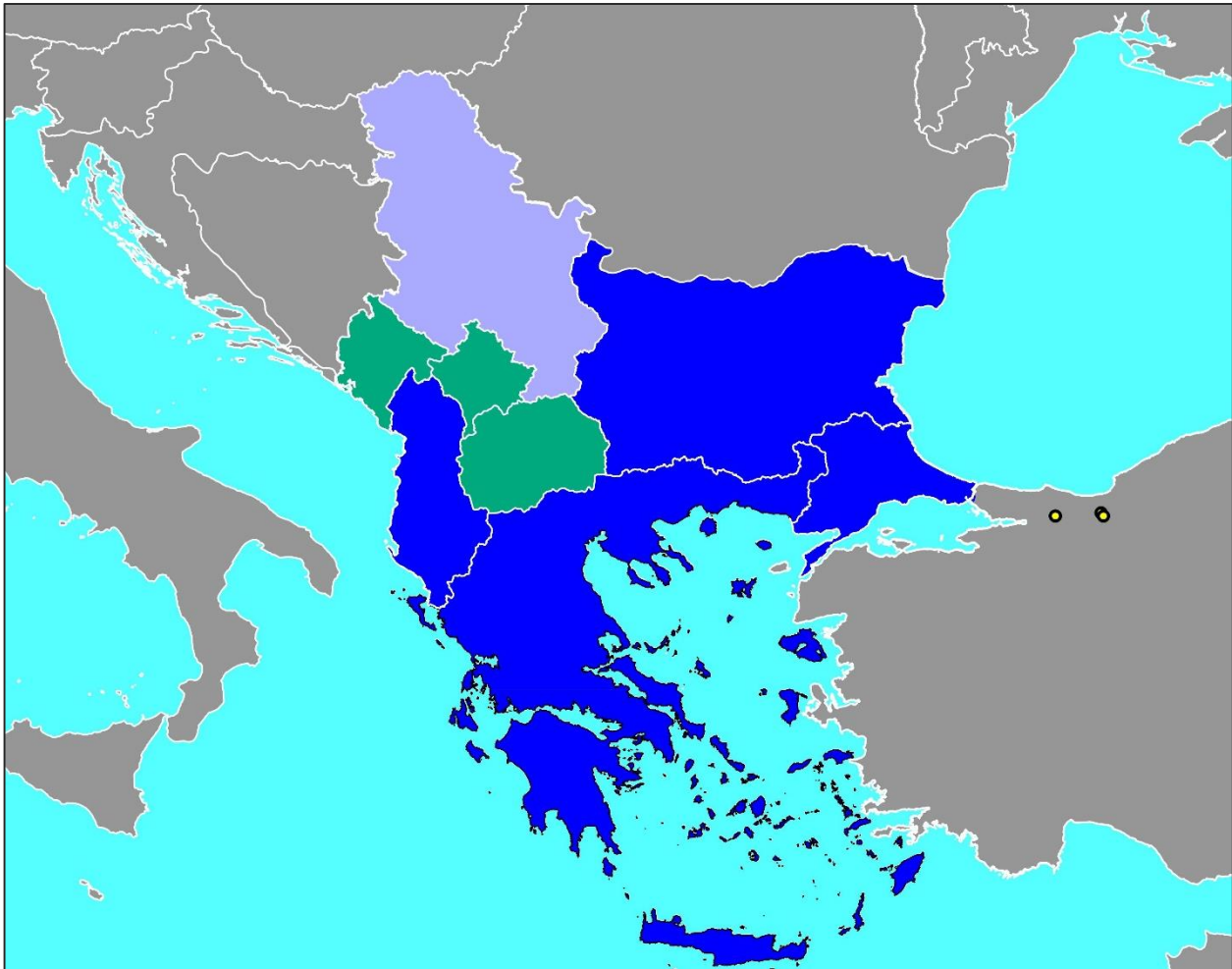
LSD outbreaks-vaccination in 2019



0 outbreaks in 0 countries (excl. Turkiye)

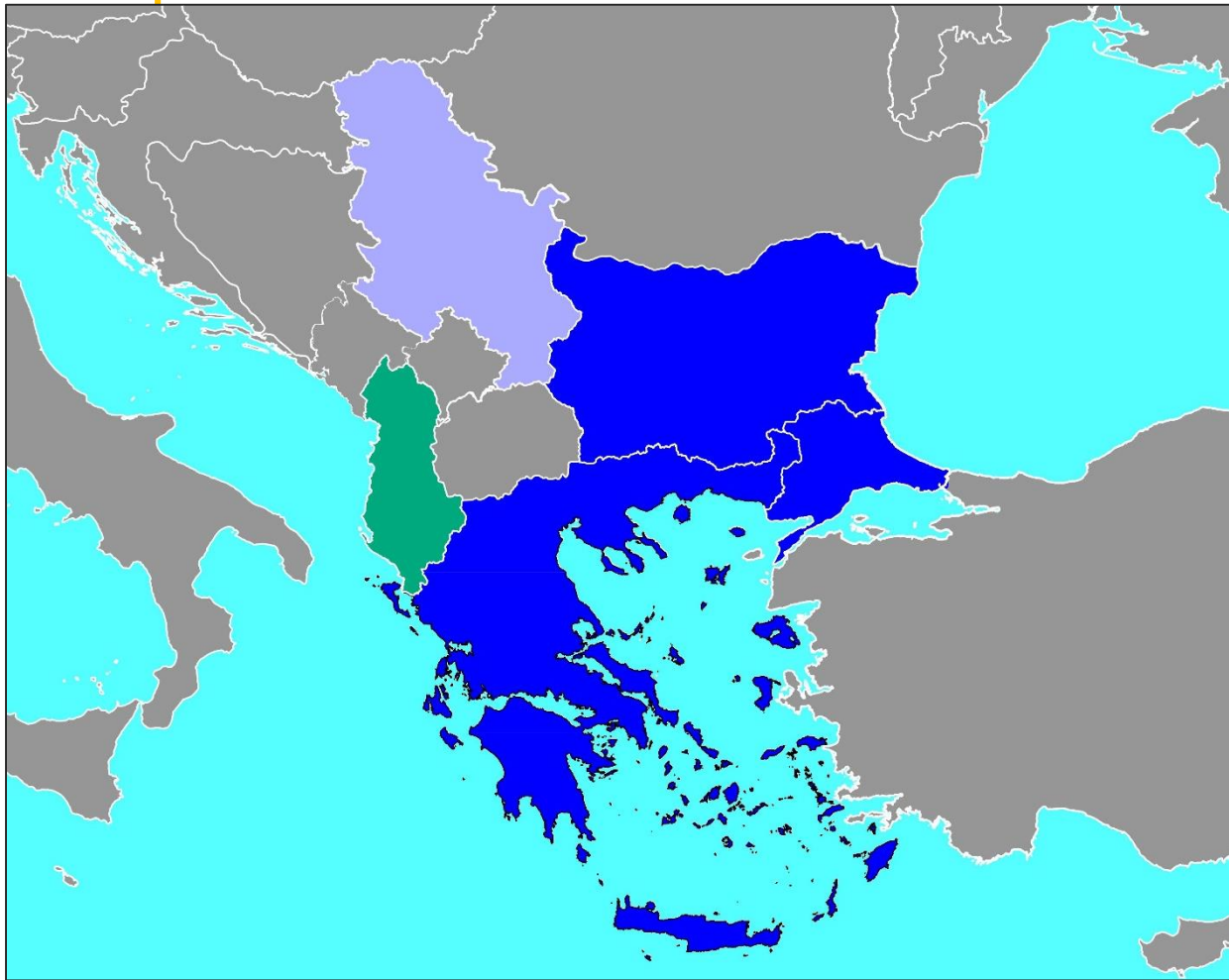
- Completion of annual vaccination
- Partial Vaccination (calves/imported)
- Cease of vaccination
- LSD outbreaks (ADNS)

LSD outbreaks-vaccination in 2020

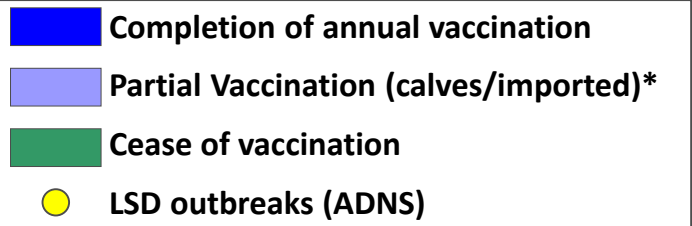


0 outbreaks in 0 countries (excl. Turkiye)

LSD outbreaks-vaccination in 2021



0 outbreaks in 0 countries (1 outbr. in Turkiye)



* 1st half of 2021

LSD outbreaks-vaccination in 2022



0 outbreaks in 0 countries (0 outbr. in Turkiye)

LSD outbreaks in South-East Europe [2015-2023(Feb)]

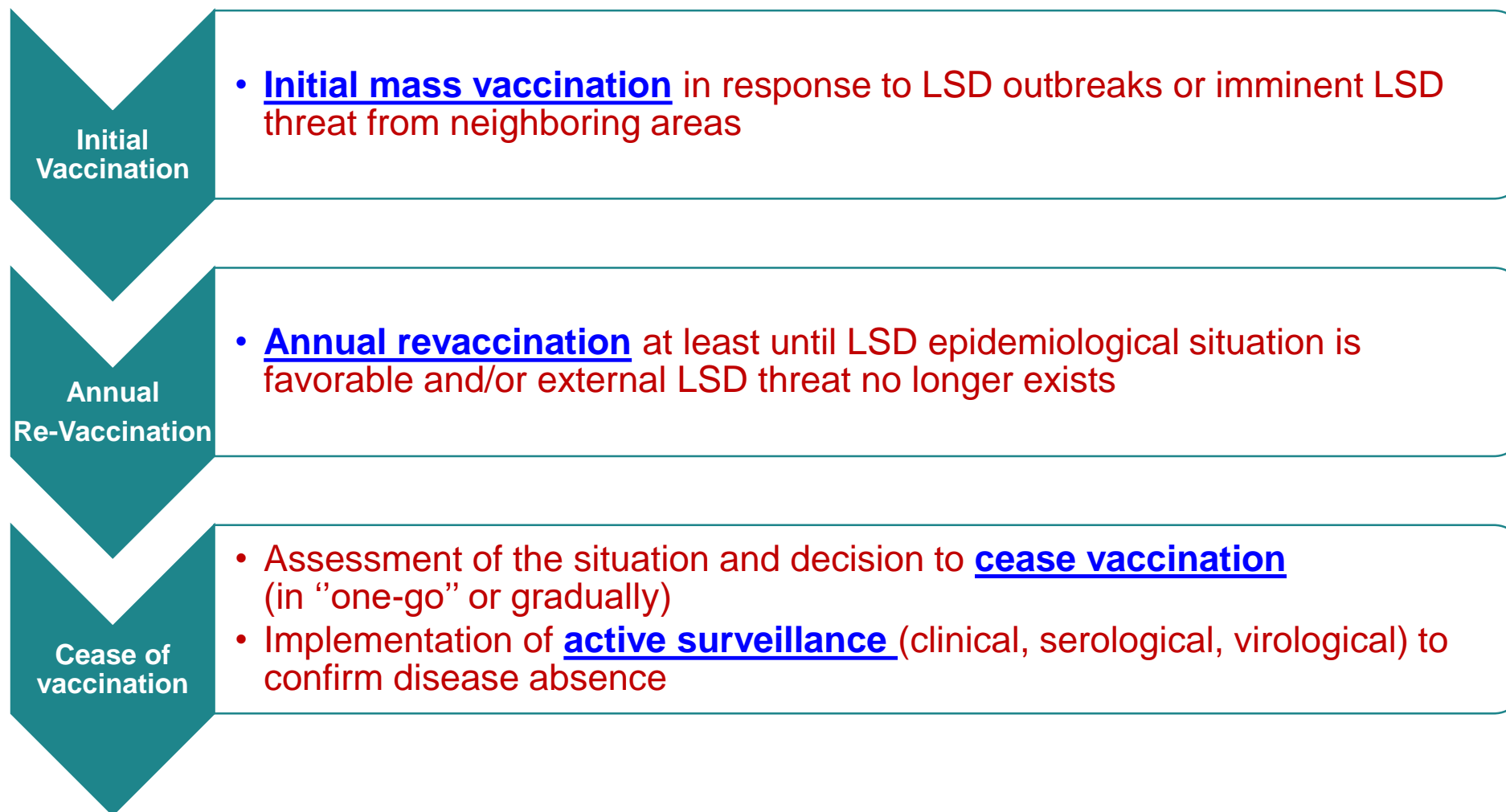
Since 2017, no infection with lumpy skin disease virus outbreaks reported in South-Eastern Europe.
Last outbreak in Turkiye on 2021 (March). Data from Animal Disease Information System (ADIS).

COUNTRY	2015	2016	2017	2018	2019	2020	2021	2022	2023 (Feb.)
ALBANIA		250	494						
BULGARIA		217							
GREECE	117	104	2						
KOSOVO		46							
MONTENEGRO		64							
NORTH MACEDONIA		117	4						
SERBIA		225							
TURKIYE	487	106	14	46	180	5	1		
TOTALS	604	1129	514	46	180	5	1	0	0

Epidemiological situation in South-East Europe

LSD VACCINATION IN SOUTH EAST EUROPE										
YEAR	Albania	Bosnia and Herzegovina	Bulgaria	Croatia	Greece	Kosovo*	Montenegro	North Macedonia	Serbia	Turkiye (ongoing since 2013 with heterologous vaccine)
2015					X					X
2016	X		X	X	X	X	X	X	X	X
2017	X	X	X	X	X	X	X	X	X	X
2018	X	X	X		X	X	X	X	X	X
2019	X		X		X	X	X	X	X	X
2020	X		X		X				X (calves/imported)	X (homologous vaccine in Turkish Thrace, heterologous in Anatolia)
2021	X (ceased 1st quarter)		X		X				X (calves/imported)	X (homologous vaccine in Turkish Thrace, heterologous in Anatolia)
2022			X		X					X (homologous vaccine in Turkish Thrace, heterologous in Anatolia)

Exit strategy



Countries/areas with ongoing LSD mass vaccination

- **Passive surveillance** (*for early detection of possible new outbreaks, e.g. in areas of low vaccine coverage or non-immune animals*).

Countries/areas where LSD mass vaccination has stopped (or replaced by partial vaccination)

- **Passive surveillance** (early detection of possible outbreaks)
- **Active surveillance** (to prove disease absence)
 - Focus on the high-risk period for LSD in SE Europe (April–October)
 - Clinical inspections of selected holdings (ideally every 5 weeks according to EFSA).
 - Serological testing of non vaccinated animals (supplemented with virological testing)
 - Surveillance supplemented by other systematic clinical examinations for LSD (e.g. live animal markets, pre-movement clinical checks , ante-mortem examinations on animals to be slaughtered).
 - Activities often combined with other programmes on the cattle population in place in the same country/region.

➤ EU support for LSD vaccination

- ✓ *Donations from EU LSD vaccine bank*
- ✓ *Reimbursement for the cost of LSD vaccines*
- ✓ *Co-financing of LSD vaccination programmes (2023 : Bulgaria, Greece)*

➤ EU support for LSD surveillance after cease of vaccination

- ✓ *Co-financing of LSD surveillance programmes (2023: Serbia, Montenegro, North Macedonia, Kosovo*)*

➤ EU Support for Regional Coordination – GF TADs LSD group meetings

Support for the organisation of GF TADs and other international meetings on LSD

➤ EU LSD Scientific – Technical support

- ✓ *EFSA Opinions- Reports on LSD (3 opinions & 4 reports published to date).*
<https://www.efsa.europa.eu/en/topics/topic/lumpy-skin-disease>
- ✓ *EUVET expert missions (on-the-spot technical support upon country request)*
- ✓ *EU Reference Laboratory for LSD (technical support for National LSD Laboratories)*
National Reference Laboratories Annual Workshops and Proficiency Tests

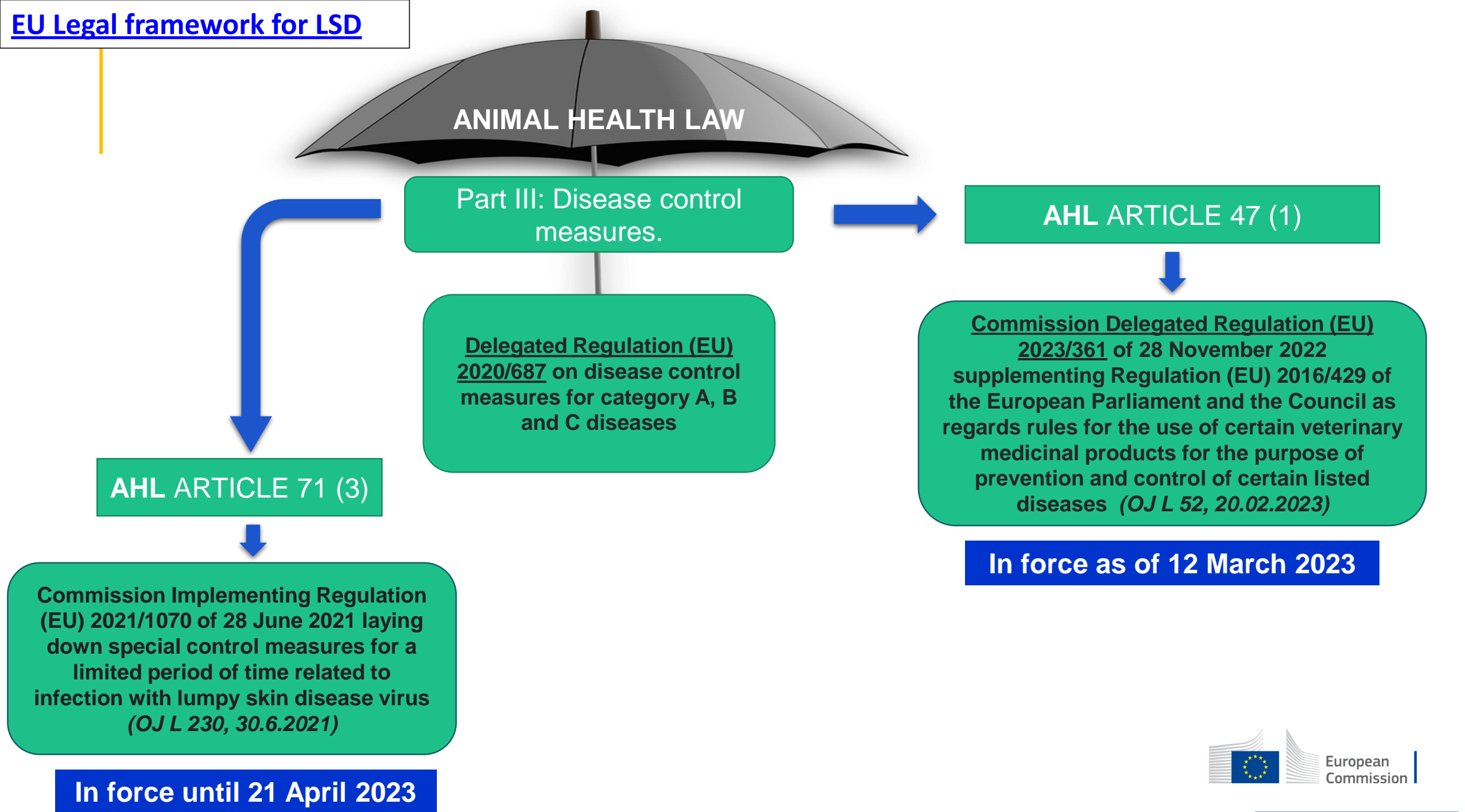
➤ EU LSD training activities

- ✓ *Sustained Technical Missions – STMs (each time in a specific country)*
- ✓ *BTSF training workshops on LSD (for officers of multiple countries)*

European Union Lumpy Skin Disease Vaccine Bank Grants (2016-2022)

Year	Country		Doses granted
2016	Bulgaria, Greece , North Macedonia, Serbia, Kosovo*, Albania, Montenegro, Croatia		625,000
2017	Bosnia & Herzegovina, Montenegro, Greece, Albania, Kosovo*		325,000
2018	North Macedonia, Kosovo*, Montenegro, Greece, Albania, Georgia		876,000
2019	North Macedonia	150,000	670,000
	Kosovo*	190,000	
	Montenegro	80,000	
	Albania	250,000	
2020	Albania	228,000	438,000
	Georgia	200,000	
	Taiwan	10,000	
2021	Turkey	250,000	250,000
2022	Bulgaria	50,000	50,000

3.324.000 doses
of LSD vaccine
(live-homologous)
granted to date
to 12 countries
(EU + non EU MS)



CIR (EU) 2021/1070

RESTRICTED ZONES I AND II

‘Restricted zone I’ means a part of the territory:

- **outside the area where infection** with lumpy skin disease virus was confirmed;
- **in which vaccination** against infection with lumpy skin disease virus is carried out.

‘Restricted zone II’ means a part of the territory:

- which includes the area where infection with lumpy skin disease virus **was confirmed**;
- in which **vaccination** against infection with lumpy skin disease virus is carried out.

CDR (EU) 2023/361

VACCINATION ZONES I AND II

‘Vaccination zone I’: vaccination zone where emergency protective vaccination is implemented in **areas where LSD has not been confirmed**;

‘Vaccination zone II’ : vaccination zone where emergency protective vaccination is implemented in areas where **outbreaks of LSD have been confirmed**.

Key Components of a harmonised regional control strategy for LSD

The 3 Cs !

Communication

Collaboration

Coordination

Key Components of a harmonised regional control strategy for LSD

Communication

- Transparency - sharing of epidemiological information.
- Quick and accurate notification of disease incidents [OIE /WAHIS + ADIS (Europe)]
- Direct communication (e.g. country to country or country to E. Commission)
- Presentations - discussions at meetings

Collaboration

e.g. Technical support for LSD diagnosis, exchange of technical expertise, sharing of experience, transfer of vaccines from national vaccine banks between countries e.t.c.

Key Components of a harmonised regional control strategy for LSD

Coordination - Meetings

- Regular meetings of the GF TADs LSD Expert Group, with active participation of all member countries (e.g. Presentations /updates)
- Meetings prepared in advance using data provided by the participating countries (facilitation of discussions)
- Participation of experts/scientific institutions (e.g. EU-Reference Laboratory, European Food Safety Authority) to provide the technical / scientific inputs needed
- Discussions
- Drafting of recommendations – finalisation (= next step in the regional LSD control strategy)

Key Components of a harmonised regional control strategy for LSD

Coordination – Outcomes

- Coordination of the national vaccination campaigns in the region (same strategy in all countries, e.g. all cattle)
- Coordination of timing (common objective in SE Europe: to ensure immunity during the high risk season , April to October/November at least)
- Uniform type of vaccines (live homologous vaccines in majority of countries)
- Coordination of vaccine supply in the region (EU financial support / vaccine grants from the EU LSD vaccine bank)
- Coordination of data collection and analysis in the region (e.g. EFSA reports)

Key Components of a successful LSD vaccination policy in SE Europe

- **Choice of LSD vaccines**
- **Choice of LSD vaccination area**
- **Vaccine availability**
- **Choice of LSD vaccination strategy (which animals , when e.t.c.)**
- **Protective vaccination against LSD in non-affected areas**

Key Components of a successful LSD vaccination policy in SE Europe

Choice of LSD vaccines

In all countries participating in the regional LSD control strategy these have been live homologous vaccines against LSD (vaccines based on LSD virus) excl. Turkiye (heterologous vaccines , use of homologous in Turkish Thrace).

Choice based on:

- Scientific information [EFSA opinions - WOAHA standards - scientific articles].
- The example of other countries that successfully coped with LSD (e.g. Israel)
- Availability of vaccines (e.g. no LSD vaccines with an EU marketing authorisation available to date)
- Trade issues

Key Components of a successful LSD vaccination policy in SE Europe

Choice of LSD vaccination area

- Initially some countries tried a “ring vaccination approach”, however it soon became evident that vaccinations areas had to be large and had to extend well beyond the limits of the outbreaks.
- In all LSD affected countries in SE Europe vaccination covered their **entire territory**.

Vaccine availability

- A crucial factor particularly in emergency situations
- Most countries need (ideally) at least **1 month** before vaccines can be purchased through national procedures (hence the importance of vaccine banks).

Key Components of a successful LSD vaccination policy in SE Europe

Choice of LSD vaccination strategy (which animals , when e.t.c.)

- All animals, irrespective of age, sex, productive direction, rearing systems e.t.c. according to the directions of the vaccine's manufacturers, at least during the first few years of vaccination/annual revaccination campaigns.
- Timing of vaccination based on disease seasonality (e.g. April-October/November in SE Europe based on 2016-2017 observations).
- A simple concept, easy to coordinate, supervise and communicate to those who implement it.
- A choice subsequently reaffirmed by :
 - ✓ EFSA Urgent advice on lumpy skin disease EFSA Panel on Animal Health and Welfare [EFSA Journal 2016; 14(8):4573],
 - ✓ Epidemiological events in SE Europe in 2016-to date (LSD recurrence only in areas of low vaccine coverage or non-immune animals among vaccinated ones).

Concluding remarks

- LSD effectively controlled in SE Europe since the 2015 incursion thanks to coordinated vaccination campaigns using effective vaccines (live homologous ones)
- Regional approach figures as the key to successful LSD control
- Mass vaccination of bovines uniformly implemented, in large areas using effective vaccines (homologous), remains the most important control policy against LSD.
- Availability of sufficient vaccine doses is a key factor for the successful implementation of vaccination programmes.
- Countries at risk, should enhance preparedness and ensure efficient & timely procurement of sufficient vaccine doses for the implementation of vaccination programmes as and when needed.
- Awareness campaigns, among veterinarians , farmers e.t.c. very important for early detection of LSD
- In an era of new emerging transboundary diseases of animals regional cooperation and coordination between countries is a crucial requirement for effective transboundary disease control and prevention

Thank you



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