



HPAI report from the EU/OIE/FAO reference laboratory for avian influenza

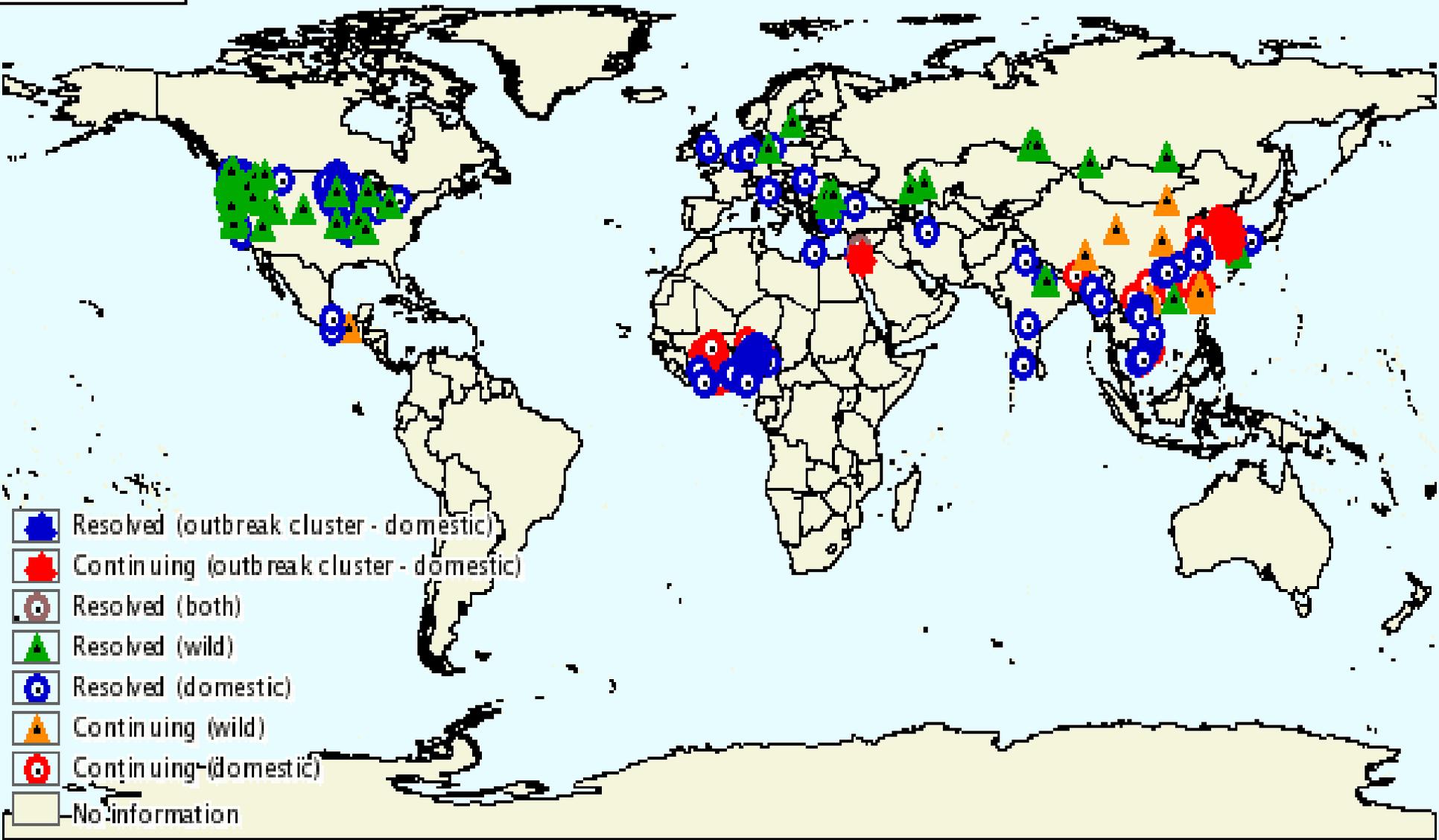
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Animal and Plant Health Agency-Weybridge

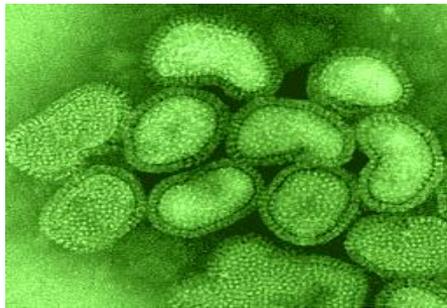
(presented by Maria Pittman, European Commission)

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Country/region disease status in relation to H5 HPAI 2012-2015

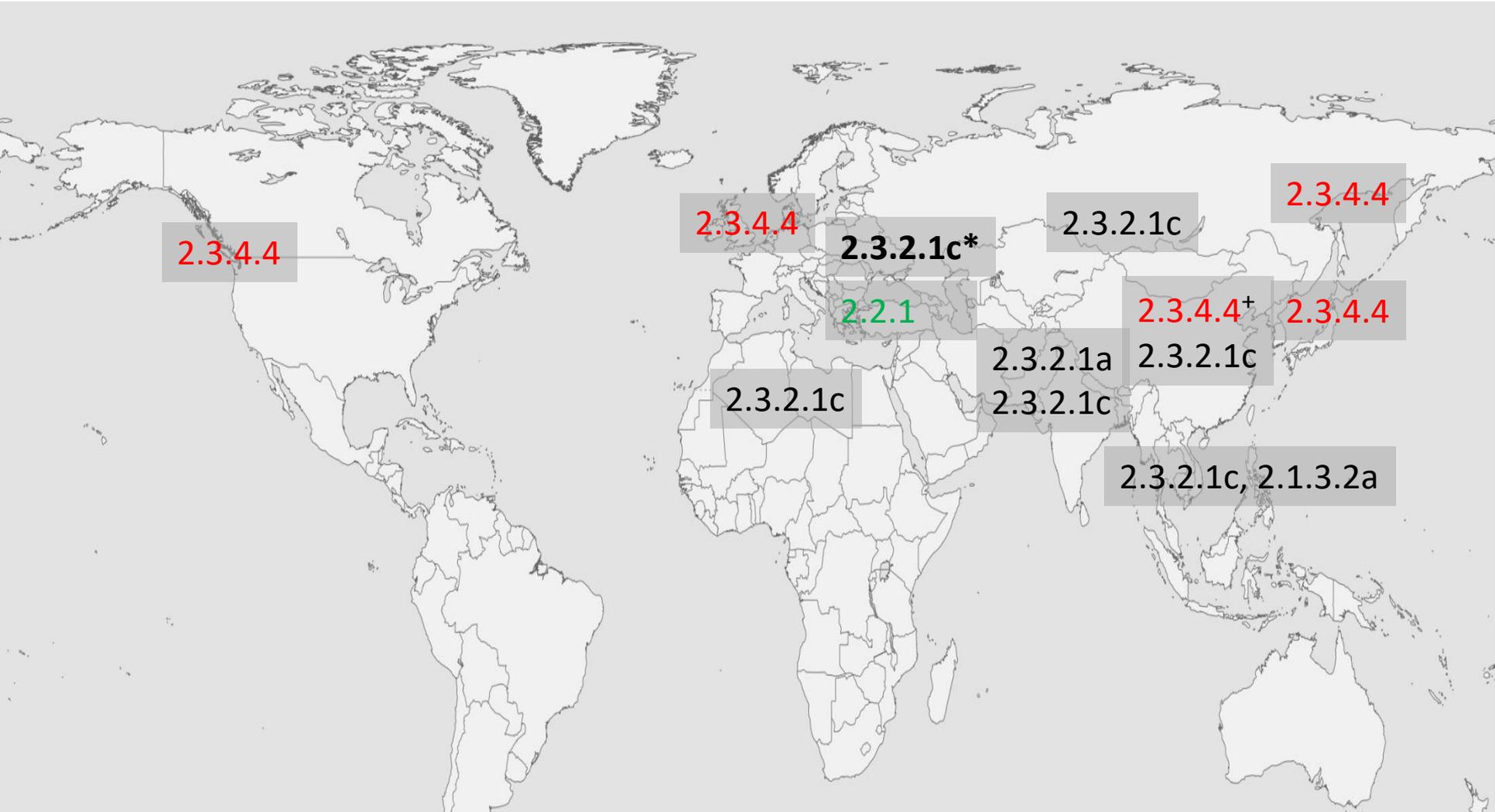
- Endemic infection:
 - PR China, the Greater Mekong region in Vietnam, Indonesia, the Indian Ganges plain, Bangladesh and Egypt
- Repeated re-incursions generating a status approaching endemic but with reduced levels
 - Other parts of Vietnam, Cambodia
- Successful eradication but occasional reintroduction
 - Japan, EU Member States, Rep. of Korea, Nigeria
- Risk of spread to historically unaffected areas
 - N. America
- Remain free!



EURASIAN HPAI H5N1 & H5Nx



HA Clade of H5 HPAI viruses isolated in October 2014 - June 2015*



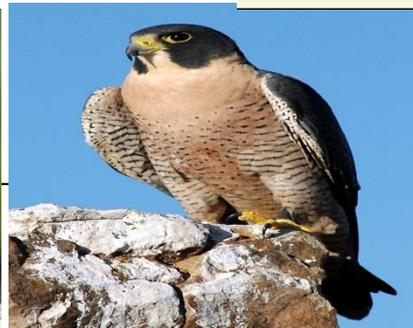
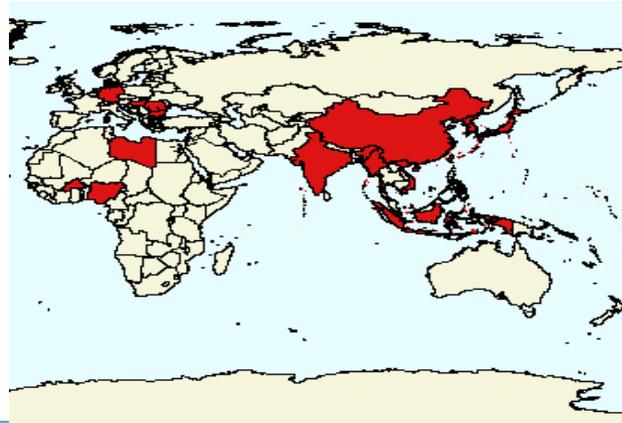
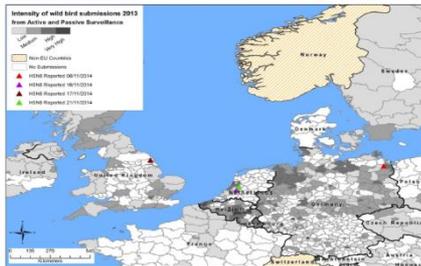
*Bulgaria, Romania, Russian Federation, Turkey 2015
+China (including Taiwan)

Wild birds – H5 HPAI

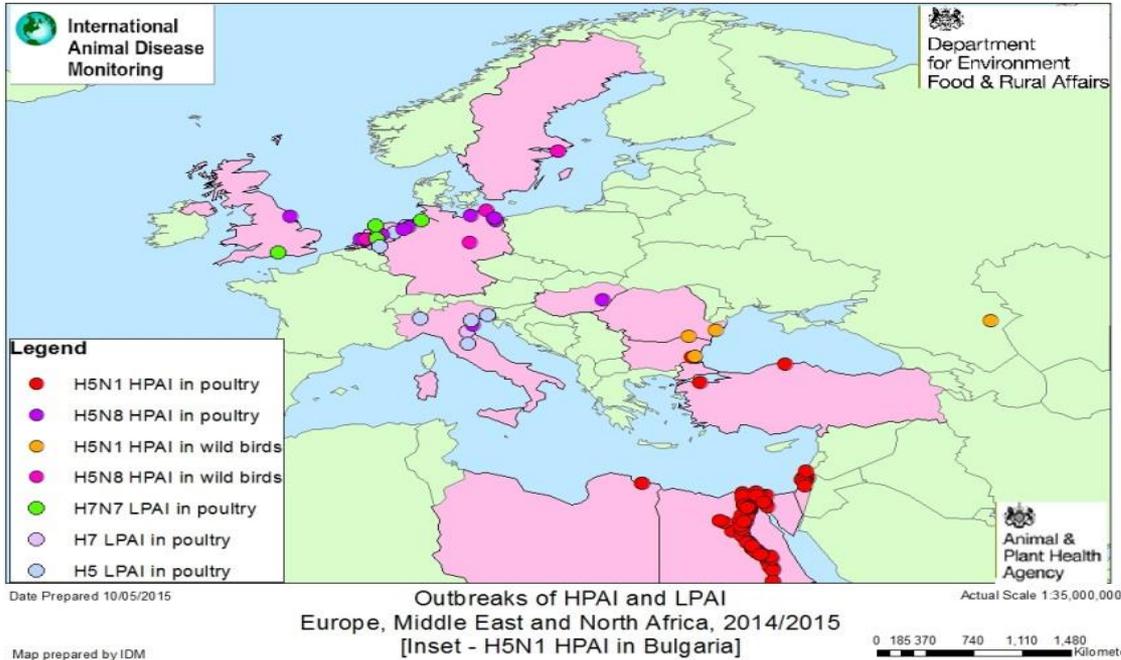


- Viruses from clades 2.3.2.1, 2.3.4.4 & 1.1
- Detected through **active & passive** surveillance
- Eurasian Widgeon, Eurasian Teal, Mallard, Dalmatian Pelican, Black Headed Gull, Mute Swan, Common Magpie, Great Crested Grebe, Little Egret, Grey Heron, Bar Headed Goose, Bean Goose, Whooper Swan, Ruddy Shelduck, Peregrine falcon, Common Buzzard, Oriental Magpie, Robin, Feral Pigeon, House & Tree Sparrow

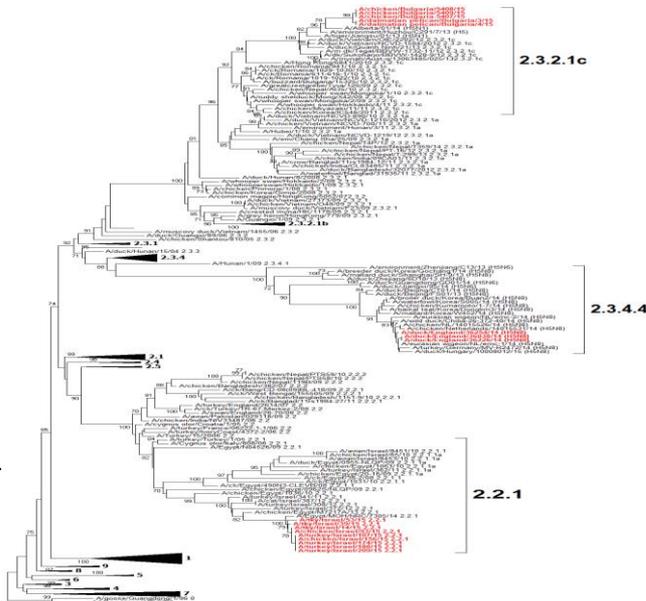
Figure 2: Active and Passive surveillance intensity of submissions in Western Europe in 2013



Recent events – H5 HPAI Europe

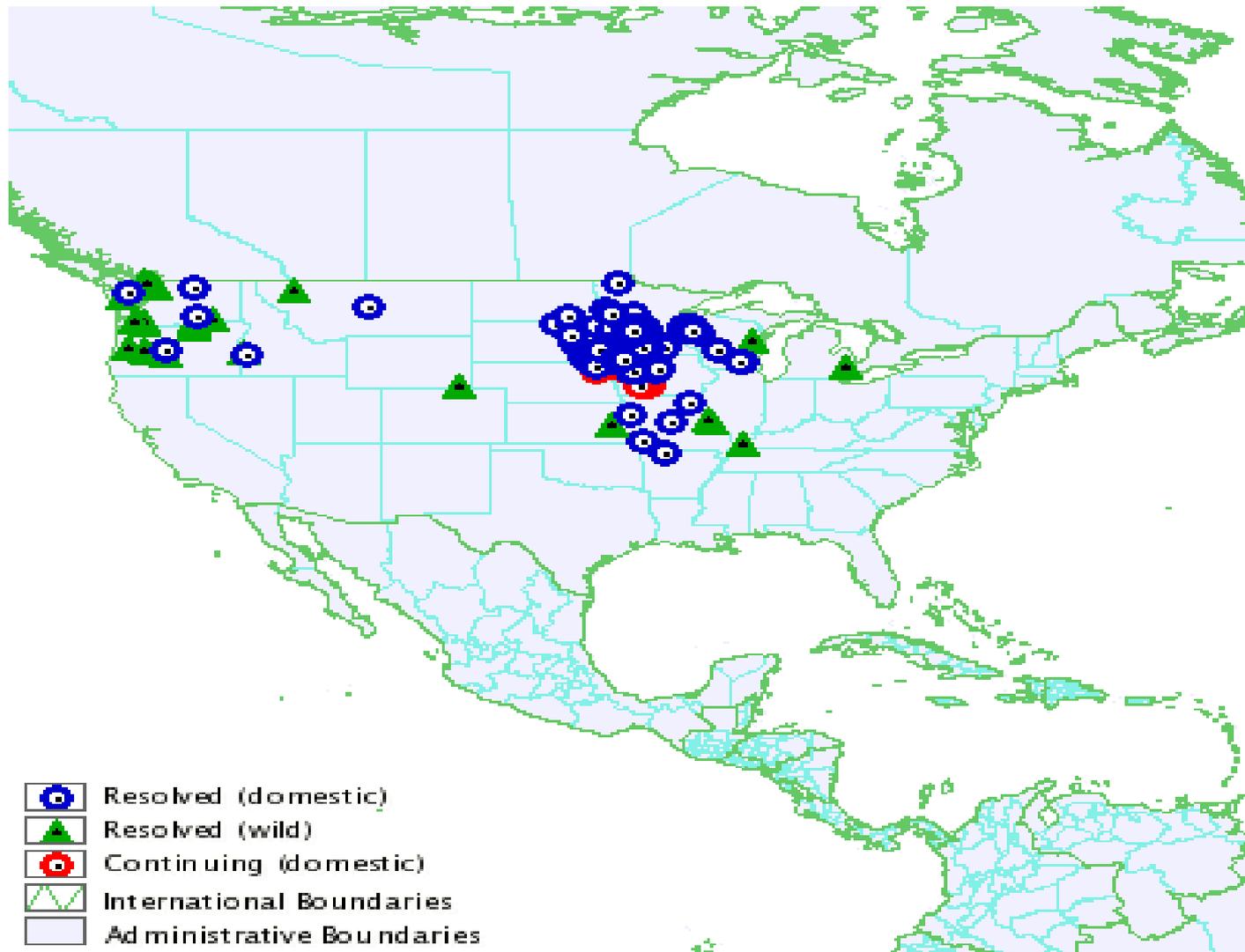


- Multiple detections of H5N8 in poultry holdings (5 DE, 5 NL, 1 UK, 1 IT, 1 HU) (plus zoo birds in DE)
- Multiple detections of H5N8 HPAI in wild birds in DE and NL - wigeon (*Anas penelope*), teal (*Anas crecca*), mallard (*Anas platyrhynchos*) [hunted and found dead], gull species; Mute Swans (*Cygnus Olor*), Sweden



- Detection of H5N1 HPAI in wild birds and backyard poultry (1 case) in Bulgaria - Dalmatian pelican (*Pelecanus crispus*) & Black Headed Gull 2.3.2.1c
- Detection of H5N1 HPAI in Romania in Dalmatian pelicans (*Pelecanus crispus*)
- H5N1 HPAI 2.3.2.1c outbreaks in Turkey
- **First EU incursions since 2010**

Spread of H5 clade 2.3.4.4 viruses to North America- H5N2 subtype distribution



Epidemiology of H5Nx HPAI 2.3.4.4

- H5N8 HPAI appears to be less pathogenic than H5N1 HPAI in some wild waterfowl and domestic ducks, although still retains high pathogenicity in chickens and turkeys
- Clinical presentation in ducks and geese is challenging – may be inapparent infection
- Extended incubation period (c9 days) in turkeys without signs
- Multiple incursions to holdings in Asia/Europe with indoor poultry emphasising **potential role for fomite spread and need for improved biosecurity**
- Environmental persistence
 - H5 HPAI 4⁰C >50 days



Wild birds role in spread of H5N8 & H5Nx (clade 2.3.4.4)?



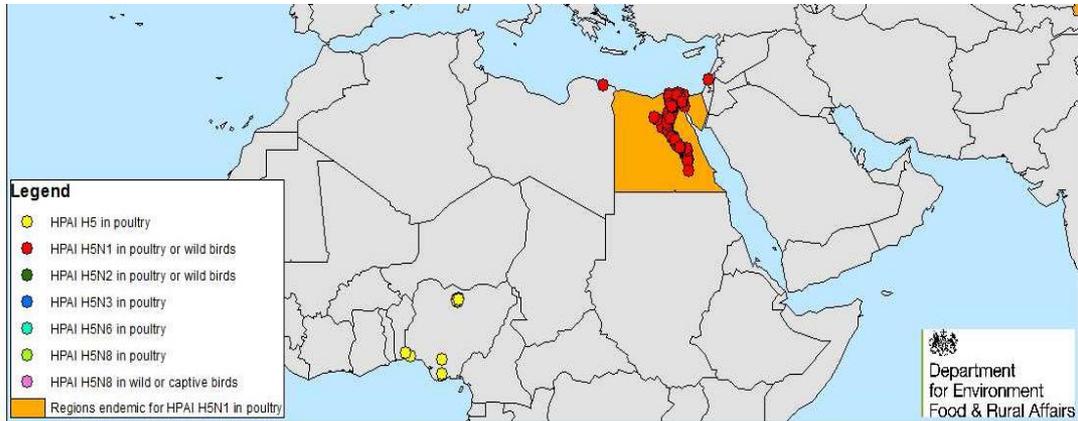
Wild bird positive detections in 2014
in Germany & Netherlands

- Active Surveillance > Passive

Virus replicates well in domestic
ducks



Recent events with H5 HPAI in Africa and Middle East



Reports of Highly Pathogenic Avian Influenza Outbreaks in domestic poultry and wild birds in 2014/5 (endemic countries highlighted)

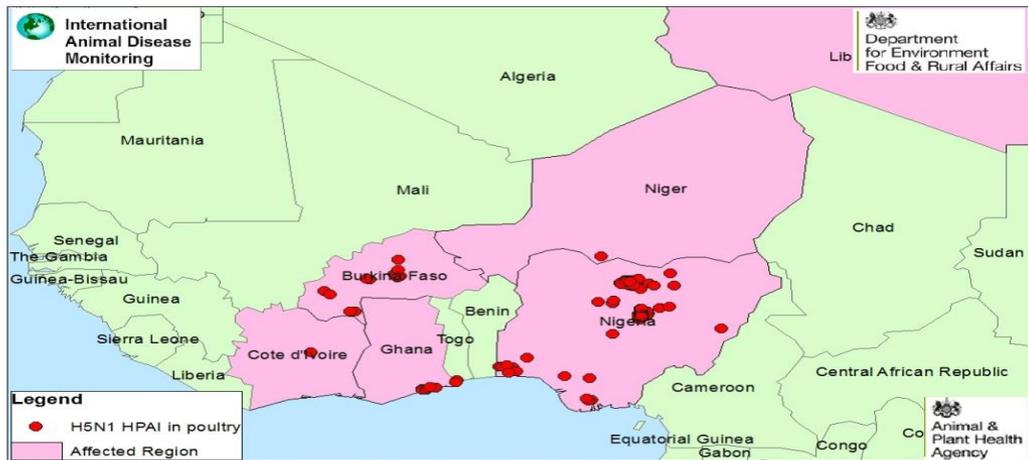
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Date created 20/01/2015

Map prepared by IDM

0 250 500 1,000 1,500 2,000 Kilometers

- Ongoing endemicity in Egypt and significant increase in human cases
- Clade 2.2.1.2
- Detection of H5N1 HPAI in turkeys in Israel and Palestine Autonomous region; clade 2.2.1.2



Outbreaks of H5N1 HPAI West Africa, 2015

Date Prepared 28/06/2015

Actual Scale 1:35,000,000

- H5N1 In Libya
- New incursion (last 2008) of H5N1 in Nigeria/Burkina Faso/Niger/Ghana/Ivory Coast (clade 2.3.2.1c)- origin?

New and increased threat to Africa and Middle East

Map prepared by IDM

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0 105 210 420 630 840 Kilometers

H7 HPAI in Europe

- H7N7 in free range chickens, Italy 2013
- H7N7 in free range/caged layers, UK 2015
- H7N7 in laying hens, Germany, 2015
- All outbreaks as a result of introduction of H7 LPAI which mutated to HPAI as the virus spread through the farm
- Continual risk for introduction of H5/H7 LPAI



Thank you for your attention

<http://flu-lab-net.eu/>



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