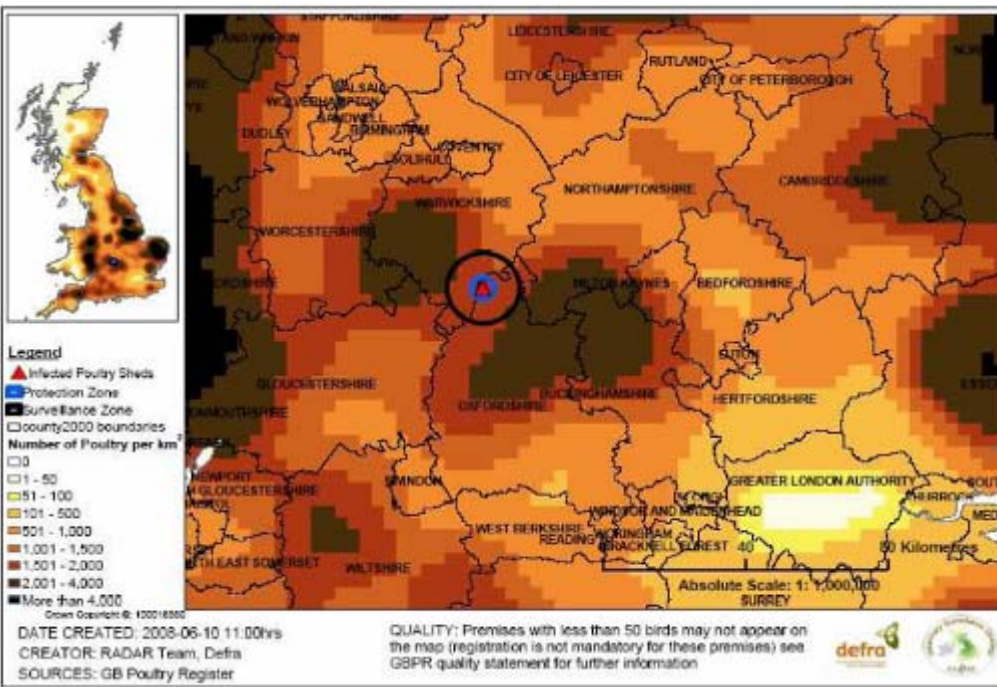


Avian Influenza in the UK H7N7 HPAI, Oxfordshire June 2008

SCoFCAH
18 June 2008



defra
Department for Environment
Food and Rural Affairs



FOOD AND FARMING GROUP
Veterinary Sciences Core team
EPIDEMIOLOGY REPORT

Highly Pathogenic Avian Influenza H7N7, Oxfordshire, June 2008
Situation at 12.30pm Wednesday 11th June,

www.defra.gov.uk/animalh/diseases/notifiable/disease/ai/latest-situation/index.htm

Location of HPAI H7N7 Protection and Surveillance zones in GB



CREATOR: RADAR Team, Defra

QUALITY: N/A

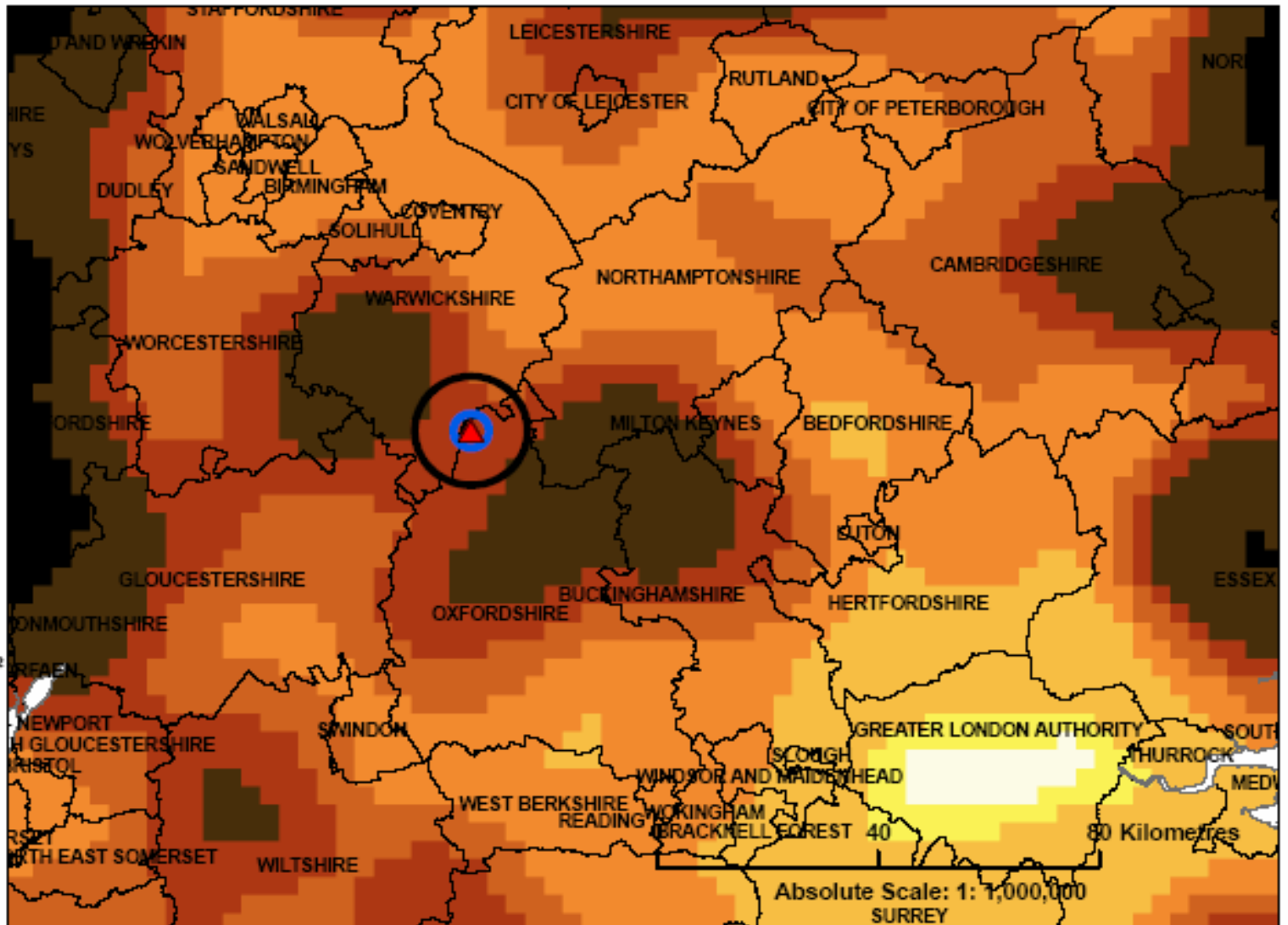
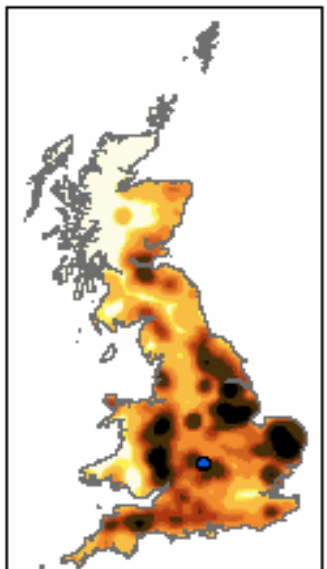
DATE CREATED: 2008-06-13

SOURCES: NDI forms

PUBLISHER: RADAR Team, Defra



Density of all poultry around the IP



Legend

- ▲ Infected Poultry Sheds
- Protection Zone
- Surveillance Zone
- county2000 boundaries

Number of Poultry per km²

- 0
- 1 - 50
- 51 - 100
- 101 - 500
- 501 - 1,000
- 1,001 - 1,500
- 1,501 - 2,000
- 2,001 - 4,000
- More than 4,000

Crown Copyright ©: 100018880

DATE CREATED: 2008-06-10 11:00hrs
 CREATOR: RADAR Team, Defra
 SOURCES: GB Poultry Register

QUALITY: Premises with less than 50 birds may not appear on the map (registration is not mandatory for these premises) see GBPR quality statement for further information



Absolute Scale: 1: 1,000,000
 80 Kilometres

Infected Holding

- 60 hectares
- 25 000 free range laying hens
- Aged approx 28 weeks
- Shed 1: 3000 (2 600 alive)
- Shed 2: 3000 (2 900 alive)
- Shed 3: 3000 (1 600 alive)
- Shed 4: 16000 (13 600 alive)
- 5 pigs

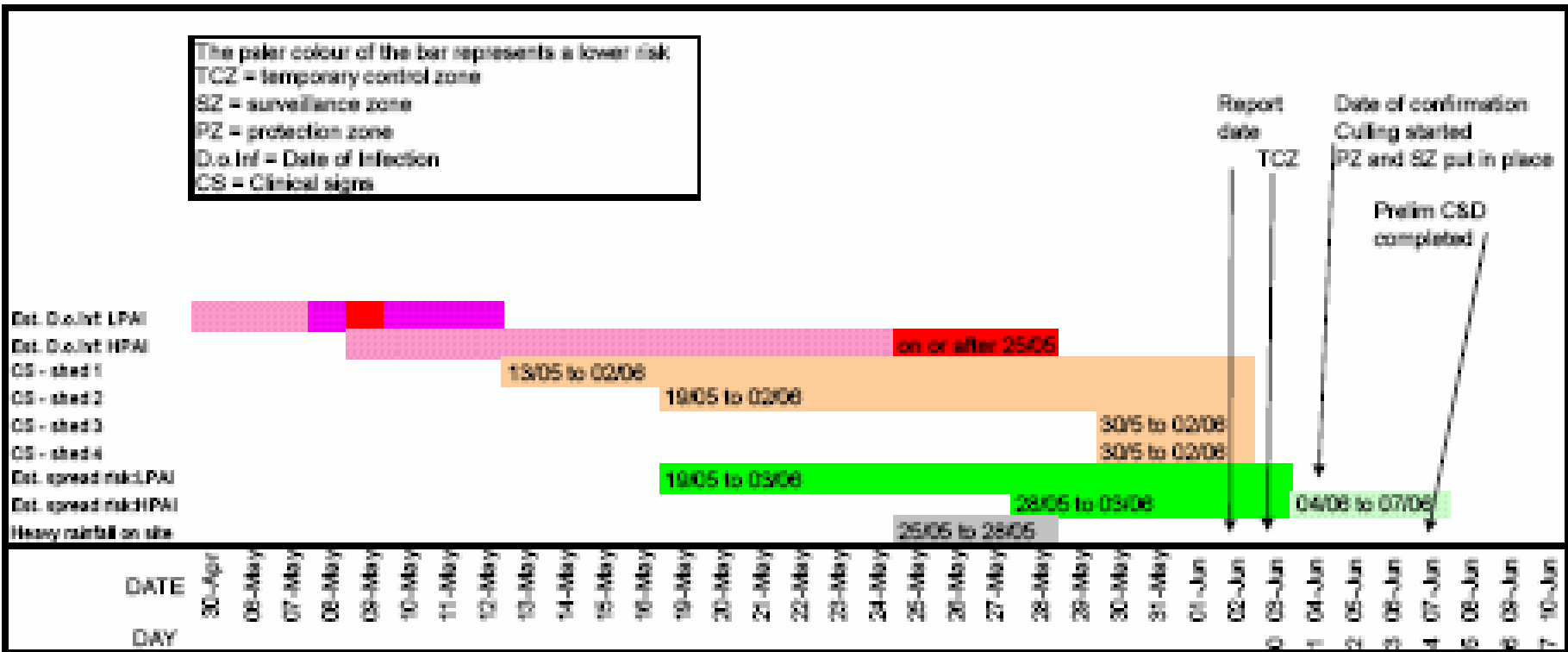
Figure 1 (a): Disposition of the shed units on the IP

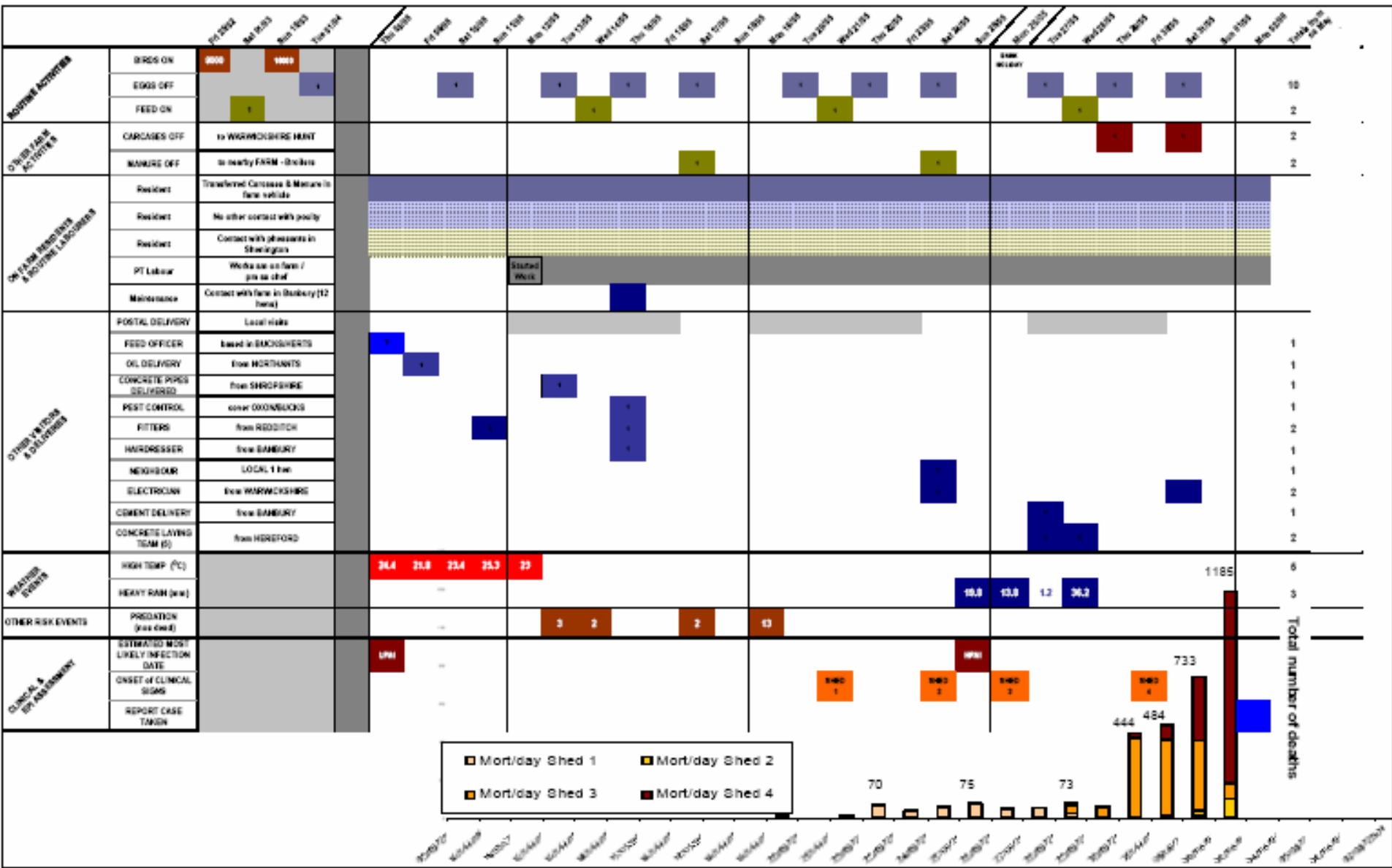


Chronology

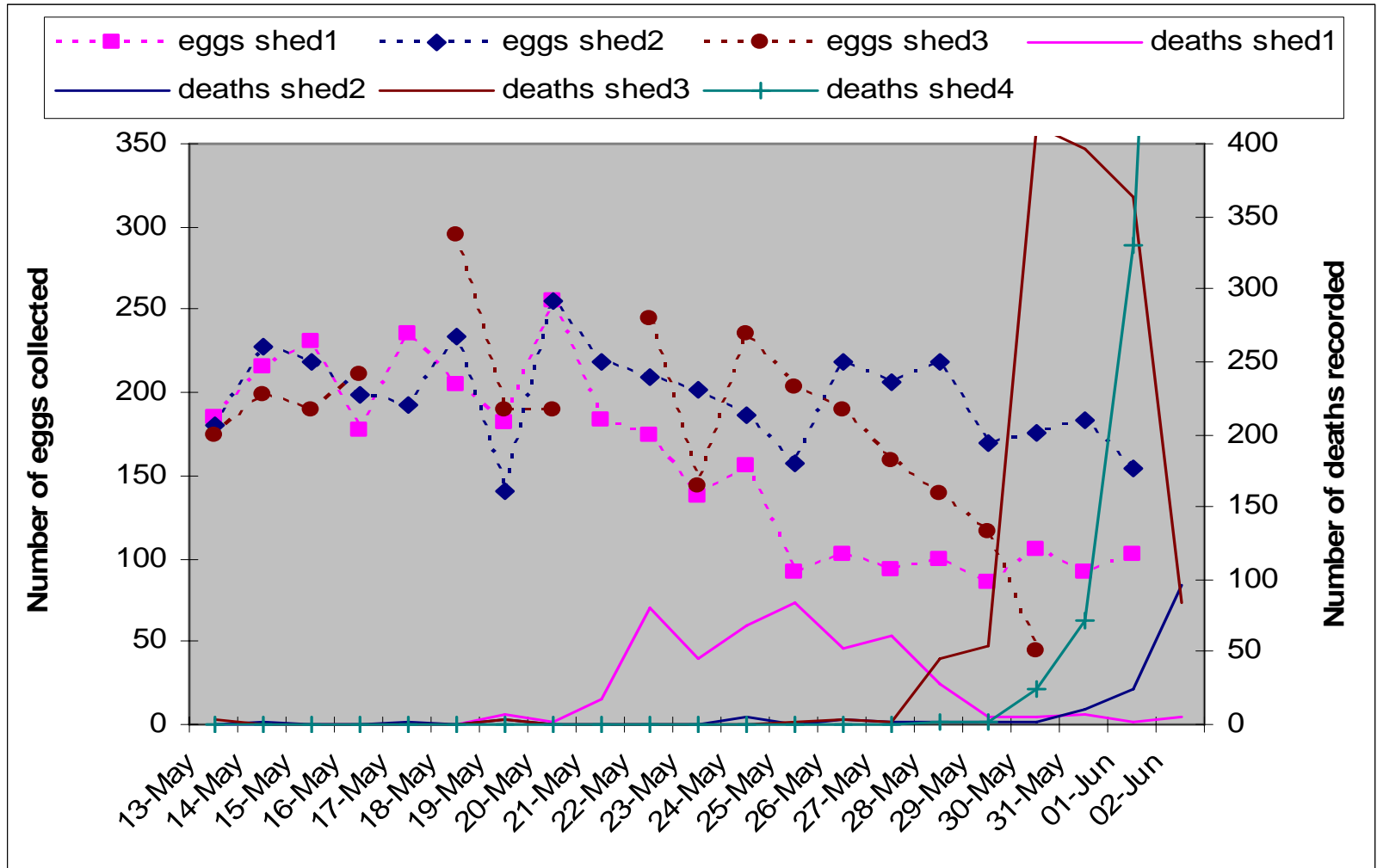
- 21 May – reduced egg production and increased mortality
- 2 June – mortality increases, notifiable disease suspected
- 3 June – H7 found
 - 3km & 10km temporary control zones established
- 4 June – HPAI confirmed
 - PZ & SZ established, culling starts
- 5 June – culling complete
- 7 June – preliminary C&D complete

Figure 4: Summary diagram to show estimated dates of disease risk and progression, and outbreak management events.





Mortality and egg-production in each shed (except shed 4, only deaths shown)



Laboratory Diagnosis

- Influenza A HP H7N7
- IVPI = 3.0
- Extensive sampling of all groups at culling – genotyping in progress
- Similar to recent H7 isolates from around Europe
- Possible mutation LP>HP 7-10 days after clinical signs first seen
- Seroprevalence and genotype appears to vary between groups

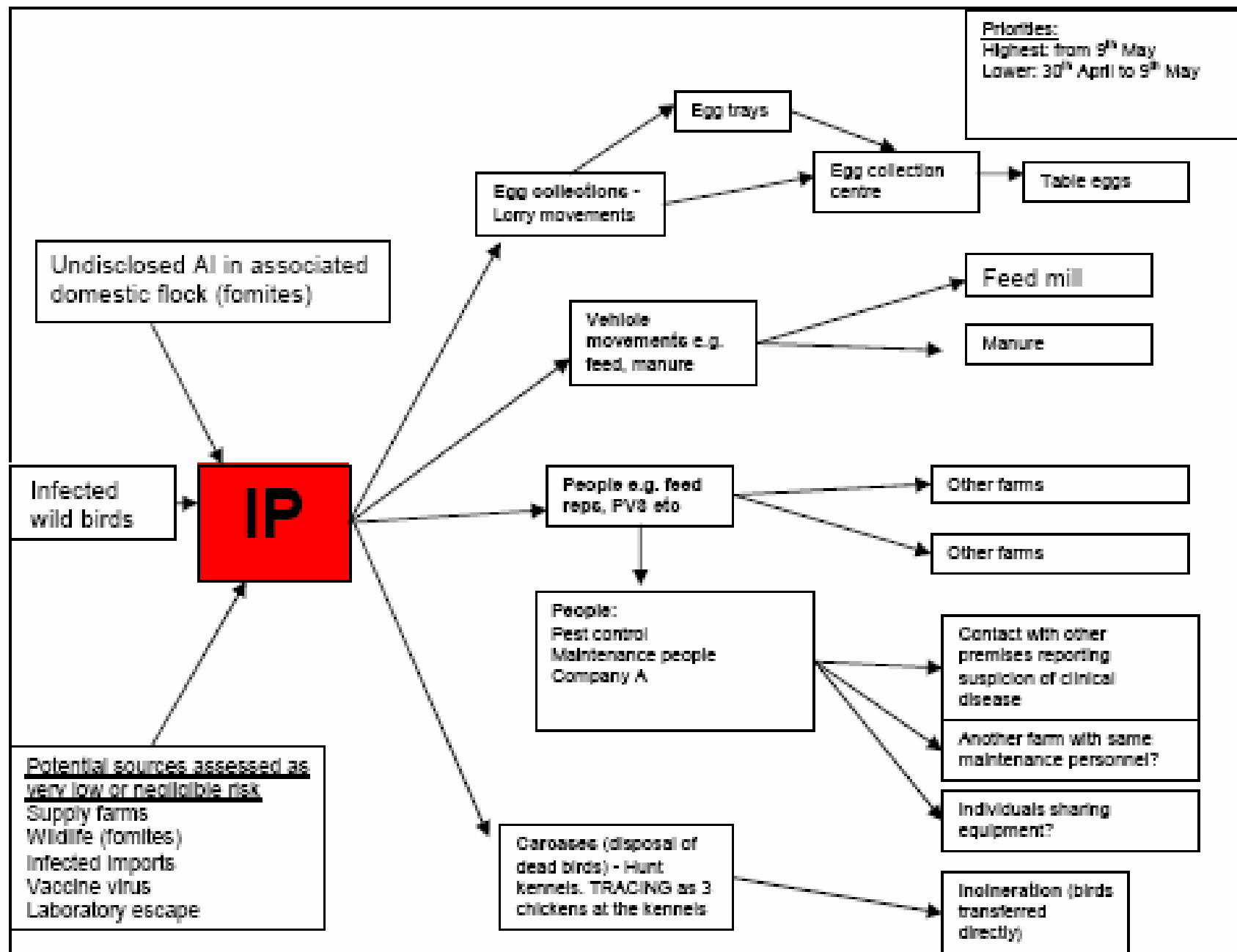
Epidemiology - spread

- 46 tracings with 340 000 birds at risk
- No live birds moved off
- Movements of:
 - Manure
 - Vehicles
 - Personnel
 - Carcasses
 - Eggs
- Passive clinical surveillance – 11 reports investigated since 1 June
 - all negative except IP

Table 2. Tracing data classification showing the of premises potentially put at risk of infection due to contact with the IP

Zones	Risk assessment	Premises traced
Outside restricted area	Medium	43
	Low	
	Very low	
Protection zone (PZ)	Medium	3
Surveillance zone (SZ)	Medium	3
	Low	
	Very low	

Figure 6: Network of exposure risks for source and spread of infection

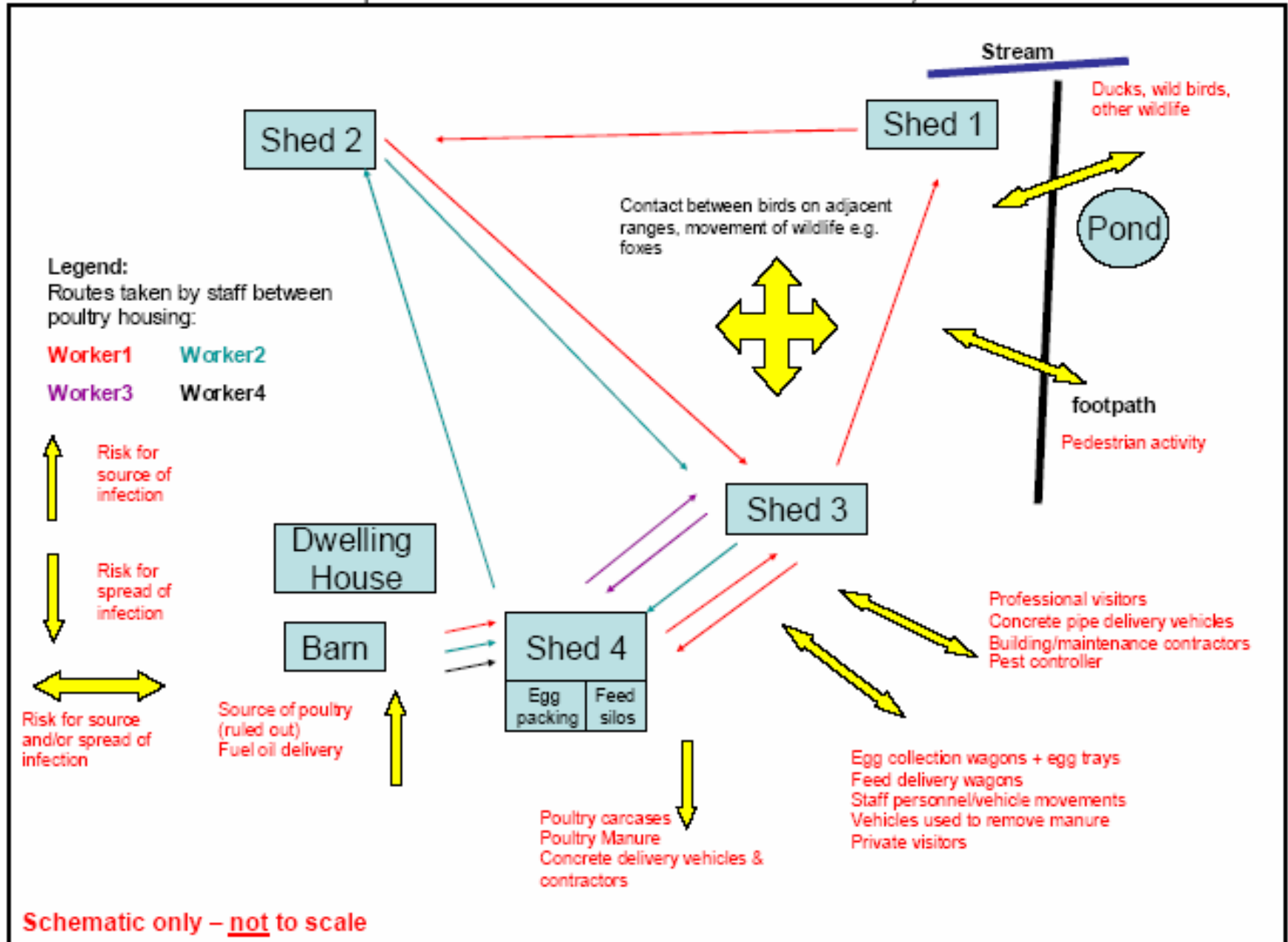


Epidemiology - source

- Under investigation:
 - Egg collection routes
 - Nearby game bird farm
 - Feed trucks
 - Human contacts
 - Rearing farm
 - Imports
 - Illegal vaccination
 - Processing plant
 - WILD BIRDS – 30 mallards on nearby pond
 - Samples from wild birds and environment negative so far

Figure 2: Identified network of contacts posing risks of introduction of infection, and then risks of spread within and off the IP.

Thin arrows show direction of personnel movements and are colour coded by worker number



Census of Zones

	Protection Zone		Surveillance Zone	
	Number of premises	Number of birds	Number of premises	Number of birds
Outdoor premises	5	2,842	28	20,898
Indoor premises	4	47	16	34,187
Unknown housing premises	54	4	4	Not quantified
TOTAL	63	3,168	48	55,085
In which				
Ducks & geese present	7	657	15	1,152
Game birds present	1	2,150	16	12,879

Measures in the zones

- PZ –
 - Movement restrictions in accordance with Directive
 - Clinical inspection and records check
 - Sampling of waterfowl and other birds if necessary
- SZ –
 - Movement restrictions
 - Increased awareness

Mammalian species

- 5 pigs on a separate part of IP
- All antibody and PCR negative

Summary

- Single case of H7N7 HPAI
- No evidence of spread 14 days post-confirmation
- Source most likely to be either
 - undisclosed AI infection in poultry
 - AI in wildlife
- Further investigations in progress



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