

Do we need a regular virological duck monitoring?

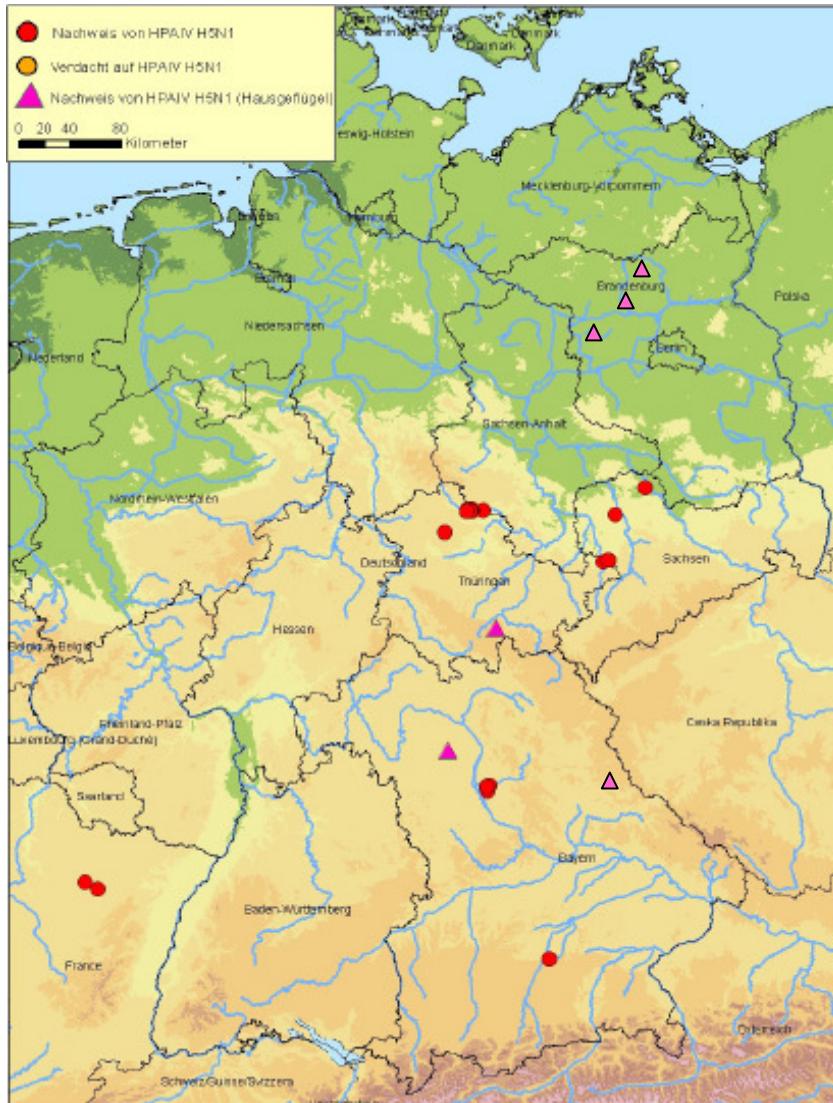
Timm Harder, Elke Starick, Miriam Rudolf, Christian Grund,
Jürgen Teuffert, Franz Conraths, Martin Beer

**O.I.E. and National Reference Laboratory for Avian Influenza,
Institute of Diagnostic Virology
Institute for Epidemiology**

Friedrich-Loeffler-Institut, Isle of Riems/Wusterhausen



HPAIV H5N1 in Germany, 2007



Two outbreak phases:

- June-August 2007 (mainly wild birds, 2 industrial duck holdings, 1 backyard)
- December 2007 (3 backyard chicken holdings)



HPAI H5N1 in Germany, 2007

	Date of detection	Federeal state	County	Poultry	Size of holding	died
1	06.07.	TH	Saalfeld-Rudolstadt	Ducks, geese	10	1
2	25.08.	BY	Erlangen-Höchstadt	Fattening ducks	169.857	4.000
3	10.09.	BY	Hofing/Schwandorf	Fattening ducks	170.856	0
4	15.12.	BB	Oberhavel	Chickens	11	10
5	21.12.	BB	Potsdam Mittelmark	Chickens	30	19
6	25.12.	BB	Ostprignitz	Chickens	15	11

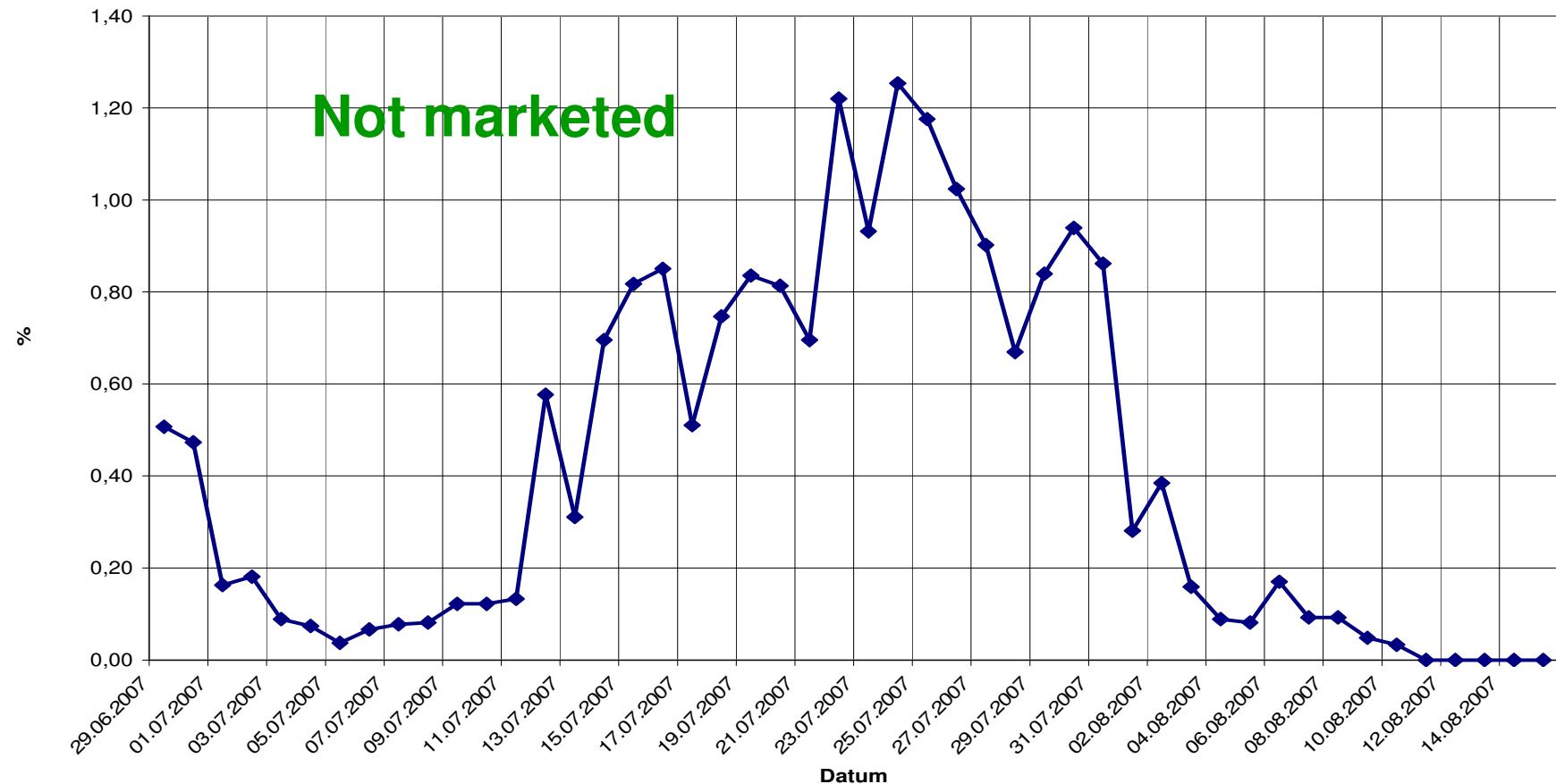
Clinical signs

- **Ducks:** None, if aged > 10 days; mortality only in association with opportunistic bacterial/parasitic infections
- **Geese:** Neurologic symptoms
- **Chickens:** Apoplectiform deaths, severe depression



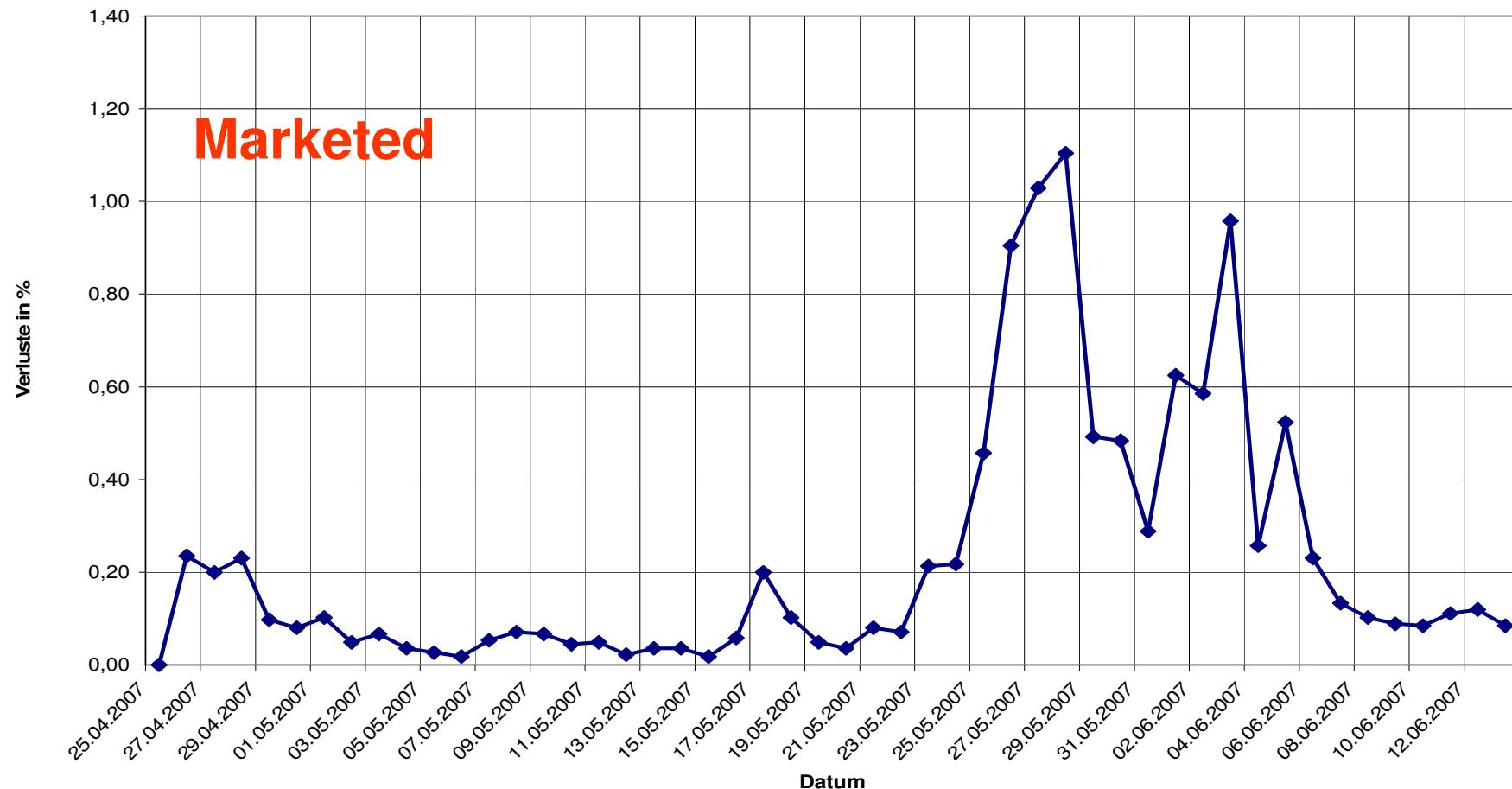
Mortality rates fattening ducks (Bavaria 2)

Hatched 29.06.2007 (house 1, slaughtered 11.08.2007):
1 HPAIV H5N1-indiscriminate samples (H5N1 ct 36 non-typable)
detected in frozen retain samples.



Mortality rates fattening ducks (Bavaria 2)

Hatched 25.04.2007 (house 5, slaughtered 14.06.2007): No retain material available.



Reconstruction of HPAIV H5N1 poultry cases

Thuringia

Isolated backyard case,
likely incursion by wild
birds in July

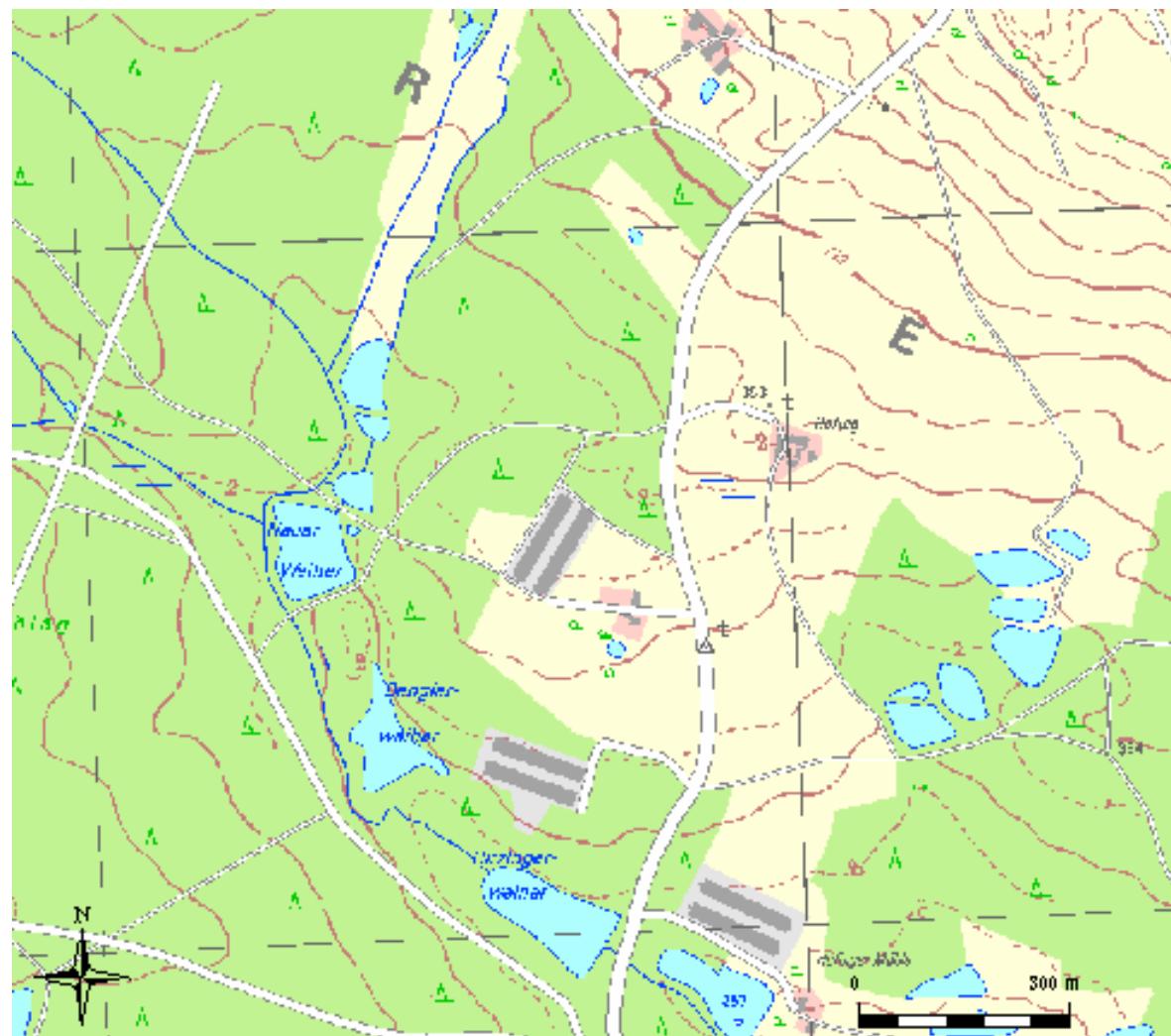
Bavaria-1,
Slaughterhouse
Clinically „overt“ infections



Bavaria-2
Incursion in June??
Silent spread



Location of Bavaria-2 duck holding



Reconstruction of HPAIV H5N1 poultry cases

**Lower Saxony,
Slaughterhouse**

Common source: Supermarket
bargain action for frozen ducks
in October in Brandenburg cities

Holidays June/July

Thuringia
Isolated backyard case,
likely incursion by wild
birds in July

**Bavaria-1,
Slaughterhouse**
Clinically „overt“ infections

Brandenburg
„Feeding“ offal of
christmas ducks
to **chickens**

Bavaria-2
Incursion in June??
Silent spread



Plan for regular, virological duck monitoring

- **High risk of endemic circulation in ducks**
- **High risk of spread to gallinaceous poultry where disease becomes visible**
- **Increased risk of spread to workers in duck poultry holdings (see also: Chlamydia)**
- **High risk of incursion of the food chain**
- **No syndrome surveillance possible (cumulative mortality, opportunistic infections)**
- **Sentinel placement difficult**



Plan for regular, virological duck monitoring

- **Virological monitoring (rRT-PCR) of all duck holdings > 1000 animals:**
Oropharyngeal/cloacal swabbing of at least 60 dead animals per stable unit on three sampling points spaced at least 7 days apart in one nationwide cycle. Results will specify how to proceed.
- **Regular serological monitoring for AIV-specific antibodies during slaughtering (holdings > 100 animals)**
40 samples per stable unit (procedures like EU monitoring, but tend to use cEIA as screening assay).
Sampling, testing (cEIA) and costs to be covered by owners and private laboratories.



Thank you for your attention!



Copyright © Generalplaner Insel Riems

FRIEDRICH-LOEFFLER-INSTITUT

FLI

Bundesforschungsinstitut für Tiergesundheit
Federal Research Institute for Animal Health