Taking the evidence into account in the Abbotsbury wild bird monitoring area, what is the current risk of the transmission of high pathogenic H5N1 avian influenza to domestic poultry and other captive birds.

Update to VRA’s published on the 29th January and 22nd February 2008.
Table of Content

1 Introduction ..................................................................................................................3
2 Terms and definitions ..................................................................................................3
3 Situation Update ...........................................................................................................4
4 Risk Assessment ..........................................................................................................5
  4.1 Domestic poultry or other captive birds in Wild Bird Monitoring area ..........5
  4.2 Wild Birds in the Wild Bird Monitoring Area ...............................................6
  4.3 Transmission between wild birds and domestic poultry .........................8
    4.3.1 Disease Control Measures ...........................................................................9
      4.3.1.1 Relaxation of requirement to house domestic birds: .......................9
      4.3.1.2 Permission to shoot waterfowl within 1km of the edge of the ‘fleet’ 10
      4.3.1.3 Permission to release game birds......................................................10
      4.3.1.4 Relaxation of biosecurity arrangements regarding footbaths, protective clothing and vehicles. .................................................................10
    4.3.2 UK situation ......................................................................................10
5 Conclusions ...............................................................................................................11
1 Introduction

A veterinary risk assessment was produced on 29th January 2008 and subsequently updated on the 22nd February 2008. This is a second update to reflect the situation on the 18th March 2008.

The initial VRA’s can be found at:


The Secretary of State declared on 10 January 2008 a Wild Bird Control Area and a Wild Bird Monitoring Area around the place where disease was confirmed. The Wild Bird Control Area was revoked on 19 February, but following confirmation of H5N1 in a Canada goose, was reinstated on 29 February. On 5 March, this Control Area was lifted and the Monitoring Area was reduced in size.

Inside the Wild Bird Monitoring Area, no hunting of wild birds is allowed except under licence, no gatherings of poultry or other captive birds are allowed, and no release of game birds is allowed. Bird keepers must house their birds or otherwise isolate them from contact with wild birds. Cleansing and disinfection is also required at the entrance and exits to poultry/captive bird premises.

The Secretary of State may revoke all restrictions 30 days after the date of collection of the last sample showing the presence of H5 virus from a wild bird.

2 Terms and definitions

For the purpose of this document following terminology will apply:

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Likelihood</td>
<td>Probability; the state or fact of being likely</td>
</tr>
<tr>
<td>Likely</td>
<td>Probable; such as well might happen or be true; to be reasonably expected</td>
</tr>
<tr>
<td>Negligible</td>
<td>So rare that it does not merit to be considered;</td>
</tr>
<tr>
<td>Very low</td>
<td>Very rare but cannot be excluded;</td>
</tr>
<tr>
<td>Low</td>
<td>Rare but does occur;</td>
</tr>
<tr>
<td>Medium</td>
<td>Occurs regularly;</td>
</tr>
<tr>
<td>High</td>
<td>Occurs very often.</td>
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3 Situation Update

HPAI H5N1 was confirmed in three wild mute (1 dead and 2 euthanised) swans in the Chesil Beach area in Dorset on 10 January 2008. These swans were collected during warden patrols part of the AI wild bird surveillance programme.
Disease control measures were established in accordance with EU rules meeting requirements of article 6 (3) of the Avian Influenza (H5N1 in Wild Birds)(England) Order 2006. (The Order)

7 further dead swans, collected on 11th, 14th, 21st, 24th, 28th (2) and 29th January within the WBCA area tested positive. These cases did not result in any changes to already established Control and Monitoring Zone. On February 19th the Wild Bird Control Zone was revoked. On the 29th February H5N1 was confirmed in a Canada Goose this lead to re-instatement of the Wild Bird Control Zone. On 5 March, this Control Area was lifted and the Monitoring Area was reduced in size.

4 Risk Assessment

4.1 Domestic poultry or other captive birds in Wild Bird Monitoring area.
All field, laboratory and preliminary epidemiological evidence gathered indicates that initial introduction of the virus has resulted in a very limited spread within the susceptible populations with no spill-over to the domestic poultry.

267 premises were identified in the WBMA, 213 of these were located in the original wild bird control area. Visits by Animal Health staff were undertaken on these 213 premises and clinical inspection (with oropharyngeal sampling of ducks and geese) revealed no evidence of infection or clinical disease in domestic poultry.

There has been one report case in the WBMA which was negated on clinical grounds.
4.2 Wild Birds in the Wild Bird Monitoring Area

Apart from the 10 infected swans and one infected goose, there have been no reports of increased morbidity and mortality in any species of wild birds present in the wild bird monitoring area. There is no evidence of spread from the affected swan population into any other bird populations. All 11 birds were found in the original wild bird control area. The bird furthest from the original Abbotsbury Swannery site was the last bird found on the 29th January at Radipole lake. This bird was first recorded present at this site on the 26th January and therefore is likely to have been infected elsewhere in the Fleet system.

Random sampling and testing of 60 apparently healthy cohort swans was carried out. This number provides for the detection of at least one infected swan if at least 5% of that population are infected. All the swans tested negative for HPAI H5N1.

The predominant species that mix with the swans at Abbotsbury are coot and mallard. Testing of faeces from the coot and mallard populations resulted in no positive findings for HPAI H5N1.
4.3 Transmission between wild birds and domestic poultry

HPAI H5N1 can be transmitted through respiratory secretions or oro-faecal routes and therefore both these should be considered.

Figure below outlines exposure assessment under assumption that the virus may have been introduced by wild migratory birds to the wild bird population in the affected area.

On the 10th January the Ornithological Expert Panel (OEP) advised Defra that the species of wildfowl (i.e. swans, ducks, geese) that may have been in contact with the infected swans are unlikely to have moved more than 3 km inland from the wetland areas. Field studies were undertaken to validate these assumptions and identified that local farmland was poor habitat for grazing waterfowl. It was determined that the populations of wild waterfowl freely mix and associate along the length of the coastline including Radipole Lake, the site where the 10th positive swan was found.

On the 11th February the OEP advised that the spring migration i.e wintering waterbirds departing for summer breeding areas, is starting and many species will begin to make longer distance moves eastwards across southern England (and to a lesser extent northwards) and onto mainland Europe and Scandinavia.
Large numbers of gulls were identified in the wild bird monitoring area. Gulls were considered more likely to transfer infection (if present) further inland. Concerns relating to the potential risk of disease transmission by gulls due to increased contact at Radipole lake between gulls and swans have not been substantiated.

Relaxing the requirement to house birds in the current WBMA could alter the feeding habits of gulls e.g. through providing access to external sources of food and may increase the interaction with poultry.

4.3.1 Opening of the Abbotsbury Swan Sanctuary to the Public
The opening of the Swannery to the public has the potential for transmission of infected faeces on the public’s feet and clothing to domestic poultry either the commercial sector should poultry workers visit the swannery or the backyard poultry from members of the public. This risk is being mitigated by facilities being provided to brush off and disinfect footwear that may have been contaminated with any bird faecal material. Signs have been erected to emphasise this requirement if visitors have any contact with poultry or intend visiting poultry premises. Hand washing facilities are available and advice on human health aspects of HPAI have been provided by the HPA.

4.3.2 Disease Control Measures
Removing the remaining restrictions by lifting the declaration of the Wild Bird Monitoring Area would allow the following activities currently prohibited;

4.3.2.1 Relaxation of requirement to house domestic birds:
This may lead to exposure of domestic birds to wild birds with undiagnosed infection. The risk of this occurring is considered to be low.

4.3.2.2 Permission to shoot waterfowl within 1km of the edge of the ‘fleet’
Shooting activities are unlikely to increase likelihood of the dissemination of the virus compared to usual movements of birds that that may take place on a daily basis. Continuing surveillance in the wild birds has not detected infection in the wild birds beyond the 10 swans. In addition the water fowling season closed on the 20th February and thus the lifting of the restrictions is inconsequential.

4.3.2.3 Permission to release game birds
No disease has been detected in game birds in the wild bird monitoring area either via active surveillance or report cases. Due to the housing and biosecurity
requirements that have been in place the risk of undiagnosed infection is very low.

4.3.2.4 Relaxation of biosecurity arrangements regarding footbaths, protective clothing and vehicles.

Relaxing these requirements could lead to the infection of domestic poultry with HPAI through fomite transfer of virus by poultry workers of vehicles which have had previous direct or indirect contact with infected wild birds. Surveillance undertaken in dead and live wild birds faecal testing suggests a very low level prevalence of infection. HPAI has a variable but limited survival time in faeces depending on desiccation, pH and temperature (Differing reports of >44 days at 4°C, >23 days at 4°C and less time at higher temperatures) However faecal testing at the Abbotsbury Swannery did not detect virus. Therefore this risk is considered to be low.

4.3.3 UK situation

Prior to the 11 cases in wild waterfowl in 2008, no cases of HPAI H5N1 have been detected in the UK since November 2007. Genetic analysis does not suggest a link between this incident in the swans and the outbreak in November 2007. On-going wild bird surveillance in the UK, heightened awareness and investigation of report cases have not resulted in detection of HPAI H5N1 in any other species.

Defra’s qualitative risk assessments consider that there is an on-going low risk that HPAI H5N1 or any other HPAI H5 or H7 may be detected in wild birds anywhere in the UK.

5 Conclusions

On the basis of the evidence above, there is:

a) A very low (reduced from a low risk determined on the 29th January 2008) risk that the virus may be present and undetected in the Wild Bird Monitoring Area in wild bird populations as supported by continuing surveillance activities and the period of 30 days (i.e. more than the maximum incubation period of 21 days) since the last positive case of H5N1 in wild birds. Further sporadic individual cases in wild birds may be detected.

b) A very low risk that the virus is present in domestic poultry and other captive birds in the areas. This is based on the surveillance and monitoring activities that have been completed.

c) A low risk of transmission of HPAI H5N1 from wild birds to domestic poultry and other captive birds based on the assessment (a) above. However should H5N1 be present but undetected in wild birds there is an
increased risk compared to the VRA completed on the 29th January that transmission could occur to domestic birds due to:

1. Reduced biosecurity due to lifting requirements to house domestic poultry.
2. Increased movement of waterfowl and therefore increased likelihood of contact with outdoor poultry due to the spring migration.

Therefore in the wild bird monitoring area there is considered to be at the same low risk of the transmission of HPAI H5N1 to domestic poultry from wild birds as in the rest of the UK. These risks are mitigated through routine surveillance, biosecurity, vigilance and prompt reporting of disease.