

# **Report of the Independent Review of Avian Quarantine**

**A report to the Chief Veterinary Officer  
and Secretary of State for Environment,  
Food and Rural Affairs on UK quarantine  
arrangements for captive birds**

**Chair: Emeritus Professor Nigel Dimmock**

**GROUP MEMBERS:**

Anna Bradley

Dr Nigel Lightfoot

Dr Terry Russell

Peter Scott FRCVS

Professor Christopher Wathes

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# REPORT OF THE INDEPENDENT REVIEW OF AVIAN QUARANTINE

## CHAIRMAN'S INTRODUCTION

The Independent Review of Avian Quarantine has pleasure in presenting this report to the Secretary of State for Environment, Food and Rural Affairs and the Chief Veterinary Officer. The Review was announced by the Secretary of State for Environment, Food and Rural Affairs on 26 October 2005, with the terms of reference:

- to review avian quarantine arrangements and procedures for captive birds; and
- to make recommendations on any changes needed to policies or procedures, including guidance, to improve biosecurity, compliance with relevant legislation and clarity of accountabilities.

The Review Group was asked to report within one month.

Quarantine was originally put in place to protect the UK poultry industry from infectious diseases, but it is clear, with the evolution of potential human pathogens like avian influenza, that it will *de facto* play a role in protecting human health.

Because of the time constraints, the Review has concentrated on the principles of quarantine, leaving details of the implementation to others. The Review Group has studied all major aspects of the quarantine process from the time that birds leave a third country to completing quarantine.

The Review Group considered three options – to ban the importation of captive birds, to allow importation without quarantine, or to have a system of importation and quarantine. It concluded that the best option was to continue to permit importation because of the risk that, if legal importation were to be prevented, trade would be diverted to illegal unquarantined movements. The Review Group also concluded that quarantine is an essential protection if importation of captive birds is to continue. The Group was particularly aware of the need to achieve unity of thought and action across the EU since birds other than parrots, once quarantined in the EU, have freedom of movement within the EU without further veterinary certification.

The Review Group has made 32 recommendations which are broadly directed at improving the implementation and accountability of the quarantine system and unifying its operation: in short to ensure that it is functioning optimally and correctly. Recommendations relate to health certification of birds in third countries which reduces the risk of infected birds entering quarantine, transport of birds to a border inspection post and thence to the quarantine facility, and the supervision and operation of the quarantine facility. In addition it is recommended that certain anomalies in the quarantine arrangements should cease.

In reaching its conclusions, the Review Group has focussed on the following questions.

- What contribution does importation of captive birds make to the risk of introducing human or avian disease into the UK?
- Are the arrangements for quarantine of captive birds sufficiently robust to protect against the introduction of avian influenza and Newcastle Disease into poultry, wild birds and people in the UK?
- If not, can reasonable adjustments to the arrangements for avian quarantine be made to increase the level of protection?

The Review Group would like to have considered whether or not the value of the trade in captive birds merits continuing importation, and, if so, whether or not the quarantine arrangements provide health protection which justifies that financial burden on exporters and importers. However, we were unable to do so, not only because of lack of time, but also because of a lack of hard data on which to base such an assessment.

The Chairman would like to extend his thanks to the members of the Review Group who so generously made themselves and their time available at very short notice, and so effectively brought their analytical and synthetic skills to bear on the problem of avian quarantine.

**Emeritus Professor N.J.Dimmock**

**7 December 2005**

## **GENERAL PUBLIC SUMMARY**

This review of quarantine for birds was requested by Margaret Beckett, the Secretary of State for Environment, Food and Rural Affairs, in the context of bird flu and in particular its identification in a quarantine facility in Essex.

The Independent Review Group wants it to be clear that while we are recommending a number of changes in the bird quarantine arrangements, it is our view that bird quarantine can play only a small part in protecting the UK from bird flu.

Bird flu exists in many forms (144 to be exact). In recent years one form has become a particular danger for poultry and has infected a great many poultry in East and Southeast Asia. There are reports of the same bird flu moving into Western Asia and Eastern Europe, and so nearer the UK.

In total in the last eight years, this flu has hospitalised about 150 people and five or six out of ten have died. All of these 150 people lived or worked very closely with poultry. It is very common for people to keep their own poultry in East and Southeast Asia, unlike in the UK, so the 150 serious infections is a small proportion of people in contact with infected birds. This flu is not generally passed from human-to-human because it is a bird flu.

In the UK, we want to protect our poultry from bird flu as much as possible for three reasons:

1. if poultry are infected there are very significant economic consequences for farmers and others as that flock and neighbouring flocks must be destroyed;
2. people working with poultry are at risk (even if a relatively small risk) of contracting bird flu, and we want to protect these workers; and
3. the more bird flu there is in the world, the more opportunity there is for it to evolve or change into a human flu that can be passed from human-to-human.

Bird flu viruses normally live in wild birds and especially in water fowl (such as ducks and wading birds) which do not become sick. This means that the most likely source of infection for our poultry is through wild birds, particularly as many of them migrate seasonally between continents and could bring back infection.

The Government is looking at many different ways of protecting the UK from bird flu. This review looked at only one area - the precautions we need to take to ensure that captive birds, deliberately brought into this country from elsewhere in the world, are healthy. Bird quarantine is one of these precautions.

Only 70,000 or so captive birds are imported into the UK directly from countries outside the European Union each year. In addition, about 53,000 come to the UK from other Member States of the EU. These birds are imported for various leisure activities, both as pets and breeding stock. This is a small trade and it appears to be reducing. We therefore considered whether or not it was necessary to allow bird importation to continue. We concluded that if the trade in



birds were banned, the illegal trade would grow, and so increase the risk that birds infected with bird flu would be brought into the UK.

So we have taken a critical look at the quarantine system and found that there are several ways in which it can be made more secure. In particular, we are recommending a number of changes to the way the system is monitored and audited – currently only limited checking is carried out. There is not enough information about the way this works today.

We are also suggesting a number of changes to the way quarantine is run, including some recommendations about the way birds are checked for disease.

Finally, we are recommending that the changes we propose should be adopted by the European Union. This is because birds (apart from members of the parrot family) that are imported into the European Union, can be moved between member countries without a veterinary certificate. This makes it very important that the controls on importation are applied equally and effectively by every member country of the European Union.

## EXECUTIVE SUMMARY AND RECOMMENDATIONS

The importation of captive birds is one of many routes by which diseases such as avian influenza and Newcastle Disease might be introduced into the EU or the UK. The contribution which imports of captive birds make to the overall disease risk is not well understood but pre-export holding facilities, veterinary health certification and post-import quarantine of captive birds reduce the risks.

Avian quarantine is primarily intended to protect animal health. It was originally put in place to protect domestic poultry against Newcastle Disease, and also serves to protect against highly pathogenic avian influenza. These are bird diseases that present little direct risk to public health, although the risk is greater for those in direct contact with birds.

EU legislation governs the commercial import of captive birds, while import of pet birds and show birds are covered by UK national rules. However, temporary EU rules included in Directive 2005/759 (as amended) impose some harmonised requirements until 31 January 2006.

Captive birds imported into the EU must be presented at a border inspection post, from where they are sent to a quarantine facility. In the UK, quarantine facilities are approved by the State Veterinary Service. Quarantine for a 30 day period is supervised by a Local Veterinary Inspector. During quarantine, birds are tested for avian influenza and Newcastle Disease viruses, or reliance is placed on sentinel birds becoming infected. Commercial consignments of captive birds moving between Member States are not quarantined.

The Review Group has made a number of recommendations which will improve disease security. Improvement of the veterinary supervision of quarantine in order to ensure that the rules are uniformly and properly applied is particularly important. To be effective, many of the changes recommended here, in particular those which carry a cost, require implementation at EU level. Otherwise, imported birds may be diverted to Member States which do not meet the same standards. Because captive birds (other than psittacines) can be traded between Member States without further veterinary certification, such “triangular trade” would undermine the protection which our recommendations seek to assure. We urge the Secretary of State to raise the issues covered in this report with the EU Commission with a view to EU wide implementation of our recommendations.

Our recommendations are:

*Recommendations relating to assessment of risks and benefits*

**Recommendation 1: We recommend that Defra keep avian quarantine under review so that it continues to be fit for purpose.**

**Recommendation 2: We recommend that the objectives of quarantine for captive birds be re-examined, and that the contribution which quarantine is expected to make to (a) animal health (of both poultry and indigenous wild birds) and (b) public health be clearly defined, in order that appropriate and proportionate measures can be considered.**

**Recommendation 3:** We recommend that data gathering be put in place in order to inform a quantitative assessment of risks, costs and benefits.

*Recommendations relating to controls within the EU*

**Recommendation 4:** We recommend that the EU Commission be asked to investigate and audit the implementation of EU rules on quarantine of captive birds in the Member States.

**Recommendation 5:** We recommend that consideration be given to introducing an official veterinary health certificate for movements of all captive birds between Member States, and to the introduction of arrangements for the monitoring and control of such movements.

**Recommendation 6:** We recommend that pet and show birds be treated in the same way as other captive birds, and travel between Member States with a veterinary health certificate.

*Recommendations relating to imports into the EU from third countries*

**Recommendation 7:** We recommend that pet birds imported from third countries be subject to the same rules as other captive birds imported from third countries, and be quarantined in approved facilities, and not in the owner's home.

**Recommendation 8:** We recommend that the EU rules on pre-export conditions be revisited to ensure that the risk of bringing infected birds into the EU is minimised.

**Recommendation 9:** We recommend that consideration be given to resuming imports of captive birds only from countries which can provide adequate veterinary health assurances.

**Recommendation 10:** We recommend that consideration be given to adding suitable pre-export disease testing requirements to the veterinary health certification required for imports of captive birds from third countries.

**Recommendation 11:** We recommend that consideration be given to requiring identification and certification of the individual history of the bird being imported.

*Recommendations relating to arrival of captive birds in the EU and Border Inspection Posts*

**Recommendation 12:** We recommend that exporters be required to send electronically documentation (including the veterinary health certificate) to the BIP at the same time as the BIP is given advance notice of shipment, and that the birds should not be shipped without the BIP's prior approval.

**Recommendation 13:** We recommend that the official veterinarian at the quarantine facility be obliged to confirm to the BIP that the consignment has arrived and to ensure that any discrepancy in the consignment can be resolved.

**Recommendation 14:** We recommend that vehicles used to transport birds from the BIP to the quarantine facility be approved for the purpose.

**Recommendation 15:** We recommend that where transport between the BIP and the quarantine facility is by road, the distance should be minimal.

*Recommendations relating to quarantine facilities*

**Recommendation 16:** We recommend that:

- the EU Commission should be pressed to agree more detailed rules and common interpretation of the rules for the quarantine of captive birds at EU level as soon as possible, so as to avoid disparities between Member States undermining the disease protection which the rules seek to ensure;
- the construction, equipment, operation and management of quarantine facilities should comply with ISO9001 requirements, and that the quarantine facility should be assessed by a UKAS accredited certification body; and
- the management should be required to pass an annual assessment, for example by way of a written test.

**Recommendation 17:** We recommend that:

- the full cost of approval of quarantine premises be recovered from the quarantine operator; and
- in order to avoid deflection of trade between Member States, charging for approval of quarantine premises should be adopted as a Community standard.

*Recommendations relating to veterinary supervision and audit of quarantine facilities*

**Recommendation 18:** We recommend that:

- the SVS be required to make additional, unannounced visits to avian quarantine facilities, preferably when they are in use, and in particular to ensure that suitable standards of management and biosecurity are practiced;
- SVS assessors be trained to perform the assessments consistently;
- failure to observe rules correctly should result in the suspension of approval to operate as a quarantine centre as soon as any birds undergoing quarantine have been released; and
- the existing checklist be rewritten to exclude non verifiable questions, and to include suggestions on ways to verify the reliability of answers received.

**Recommendation 19:** We recommend that:

- training of LVIs be modified to include a post-training check on understanding of Defra requirements (e.g. a short written test at the end of the training);

- an audit process be developed and documented (e.g. in line with the requirements of ISO9001 clause 8.2.2) to conduct follow-up checks on site in order to check the continued effectiveness of the training; and
- re-training be provided annually, in order to bring LVIs up to date with latest Defra requirements and to re-check effectiveness of training (e.g. in line with the requirements of ISO9001 clause 6.2).

**Recommendation 20: We recommend that:**

- auditing by the LVI be introduced to include at least one unannounced check on quarantine facilities per quarantine period in order to determine whether or not all requirements are being observed at all times and, in particular, if there are undisclosed illnesses or deaths, or unexplained reductions in numbers of birds;
- the final report from the LVI of the progress of the quarantine be enhanced to show that each individual requirement has been met, that the number of birds of each species present at the end of the quarantine can be reconciled with the number present at the start of the quarantine (taking account of any deaths which may have occurred) and recording the fate of every carcass;
- the LVI be obliged to report any discrepancies to the Divisional Veterinary Manager (DVM) of the SVS immediately they are detected; and
- the DVM be made responsible for final reconciliation of all of the figures, including the number of birds recorded at the BIP with those recorded at the quarantine facility; that the correct number of samples has been received for laboratory testing; and that the number of dead birds tallies with that received for post-mortem examination by the VLA.

**Recommendation 21: We recommend that:**

- when there is a breach of the rules in an occupied quarantine facility, that the quarantine period for the birds in the facility be restarted;
- when a breach is detected, no further birds should be permitted into the quarantine centre and, as soon as it is empty of birds, consideration be given to automatic suspension of approval of the quarantine centre until it can be demonstrated that the breach has been rectified; and
- the operator of the quarantine centre should be asked to meet the cost of re-approval when the breach has been rectified.

*Recommendation in relation to the duration of quarantine*

**Recommendation 22: We recommend that consideration be given to commissioning work to determine the duration of shedding of specified avian influenza virus strains (e.g. highly pathogenic H5N1) in specified bird species.**

*Recommendations in relation to the detection of infectious agents and diseases during quarantine*

**Recommendation 23: We recommend that:**

- samples should be taken from each species of bird in the quarantine facility, because of the possible variation in virus susceptibility between bird species; and
- the reduced level of sampling permitted for large populations of birds should be applied on a cage-by-cage basis rather than to the whole consignment.

**Recommendation 24:** We recommend that an epidemiologist should be asked to review the sampling arrangements for birds in quarantine, in particular with a view to making expert recommendations on the proportion of birds that should be sampled when large numbers of birds are involved.

**Recommendation 25:** We recommend that:

- research be commissioned to determine if sentinel birds can ever be effective at detecting avian influenza and Newcastle Disease viruses; and
- until research has shown that sentinels can be effective, the detection of avian influenza and Newcastle Disease viruses in quarantine should rely on laboratory tests.

**Recommendation 26:** We recommend that validation of RT-PCR testing for avian influenza and Newcastle Disease viruses be pursued, with a view to adding these tests to the Community standard as soon as possible.

**Recommendation 27:** We recommend that steps be taken to ensure that standing regulations on sampling are adhered to.

**Recommendation 28:** We recommend that:

- processes for checking that deaths are recorded be introduced (e.g. the numbers of birds released from quarantine be compared with the TRACES notification of numbers taken in); and
- the report submitted by the LVI to the SVS at the end of the quarantine period should demonstrate that each part of the quarantine conditions has been complied with, and should reconcile the number of birds entering quarantine, taking account of any deaths which may have occurred, with the number available for release at the end of the quarantine period.

**Recommendation 29:** We recommend that, on request, the VLA provide a full post-mortem service to owners of quarantine facilities, or that this is carried out by another (suitably approved) laboratory that is capable of carrying out a full avian post-mortem with the necessary containment facilities for sampling carcasses which may be infected with avian influenza and Newcastle Disease viruses.

*Recommendation on the management of quarantine facilities*

**Recommendation 30:** We recommend that management of a quarantine facility be required, in line with ISO 9001 clauses 4.1 and 4.2.3, to plan, identify and document the processes and interactions involved.

*Recommendation on welfare of birds during quarantine*

**Recommendation 31: We recommend that:**

- the welfare standards which should be met during transport to and inspection of birds at the BIP, transport to, and stay at quarantine facilities be reviewed;
- the LVI be responsible for auditing welfare during quarantine; and
- information on welfare of birds in quarantine be collected by the SVS and published regularly.

*Recommendation on public health*

**Recommendation 32: We recommend that:**

- guidance be drawn up on control of infection to provide generic measures to prevent transmission of all potential infections; and
- personal protection equipment should be given to staff working in quarantine facilities.

## BACKGROUND

1. Keeping captive birds is a hobby which is widely enjoyed in the UK; it is estimated that some 1.4 million UK households have pet birds. In the past birds were all caught in the wild; now a small but increasing proportion is captive-bred either in the EU or in a third country. This is to be welcomed for the advantages that it brings to the conservation, welfare and health of birds. However, there are species that cannot be captive bred economically in sufficient numbers to meet demand, and these are almost exclusively wild caught. Captive birds may be imported into the EU, although certain health protection measures, including post-import quarantine, must be met. From November 2004 to November 2005, some 70,000 birds were imported into the UK from third countries and underwent quarantine (Annex 2, Table 1).

2. There has been an escalation of public concern about the risks of contracting avian influenza following a number of reports of outbreaks of avian influenza in chickens in Southeast and East Asia since 1997. The viruses which are mainly responsible for these outbreaks (members of the H5N1 subtype) have some capacity to infect and kill humans who are in close contact with infected birds. H5N1 viruses have spread and may now be endemic in birds in parts of Asia. They have also reached Western Asia and Eastern Europe, possibly carried there by migrating birds. In addition there was an outbreak in 2003 of H7N7 avian influenza in chickens in the Netherlands, during the course of which some people in contact with infected poultry were infected and one veterinarian died.

3. A qualitative assessment of the risk of human infection with avian influenza viruses has been carried out by the Health Protection Agency<sup>(1)</sup>. This concluded that the H5N1 strains of avian influenza are not very infectious for people, but caused serious disease in those few humans who were affected (although it is not certain that the infection has been accurately diagnosed in individuals who are not seriously affected). H5N1 viruses have rarely transmitted from human-to-human. People closely associated with birds are more at risk than the general public. It concluded that

*“The HPA considers that the current risk of human infection with avian influenza in the UK remains low and emphasises that all the necessary actions are being taken to protect the public. At the moment it is considered that the risk of introduction of avian influenza to the UK is highest through returning travellers rather than through infected poultry, however this could change rapidly at any time.”*

4. The risks of introducing highly pathogenic strains of the avian influenza and Newcastle Disease viruses into the UK and the risk of disease spread in birds have been assessed by Defra<sup>(2)</sup>. These risk assessments address the following potential routes of spread:

- migratory waterfowl;
- legal trade in poultry and poultry products;
- illegal imports;



- intra-Community trade;
- other activities, including movement of captive birds; and
- movements of people.

5. Highly pathogenic avian influenza could be introduced into the UK through routes of spread which are difficult to control such as the migration of waterfowl or movements of people. These risks will vary depending, for example, on the prevailing migration patterns and prevalence of disease in the different countries of origin. However, the risk of introduction of disease into the UK by some other routes can be controlled. These controls include, for example, prohibition on the importation of birds (including poultry and poultry products) from areas either where the disease is known to be present or where surveillance for disease is not reliable, or requirements for the heat treatment of poultry products to destroy viruses. Post-import quarantine, including testing for the presence of virus, is one of the risk reduction measures which can be taken in order to reduce the risk from infections carried by imported captive birds.

6. The Animal Health and Welfare Panel of the European Food Safety Authority has adopted a Scientific Opinion and a Scientific Report on animal health and welfare aspects of avian influenza<sup>(3)</sup>. The report includes a description of the risks of introducing avian influenza into EU poultry holdings, including importation of captive birds. The Panel concluded that

*“Captive caged birds (which include ornamental, pet, zoo and show birds and fighting cocks) may be infected with AI viruses, including those of H5 and H7 subtypes, and therefore when imported, represent a risk of introducing these viruses. However, in the case of commercially traded birds, this risk is largely reduced by the legislation in place for the importation of live birds other than poultry. The actual figures relative to illegal imports are by definition very difficult to obtain. Evidence of the risk that such illegal trade represents has recently been identified at the EU border by the seizure of two smuggled captive birds infected with HPAI H5N1 detected at Brussels Airport in November 2004.”*

#### The review of avian quarantine

7. Following the detection of avian influenza in captive birds in a quarantine facility in Essex, the Secretary of State for Environment, Food and Rural Affairs announced on 26 October<sup>(4)(5)</sup> an independent review of avian quarantine procedures. This is the report of that review. The Terms of Reference of the Review, and membership of the Review Group are set out in Annex 1.

8. The Independent Review Group was not asked to consider imports of poultry or poultry products. Nor were we required to investigate the details of the case in Essex, although the separate report of that case which was published by Defra on 15 November 2005<sup>(6)(7)(8)</sup> is one of the papers that have informed our recommendations.

## Ethical issues

9. There are other, ethical issues surrounding the importation of captive birds. Conservation of endangered species is one such issue. Some birds are protected by the Convention on International Trades in Endangered Species of Wild Flora and Fauna (CITES)<sup>(9)</sup>. This regulates trade in wild animals and plants and products derived from them. Trade in the most endangered species and those which may become endangered is monitored and controlled through licensing. The scope of this review does not extend to conservation issues and the operation of CITES. However, three points are worthy of note:

- opportunities may be provided during the examination of birds in quarantine to ensure that there has been no breach of CITES licensing requirements;
- smuggling of endangered species to avoid CITES restrictions generates health risks which quarantine cannot address; and
- not all species of captive birds that are imported into the UK are covered by CITES.

10. Welfare of birds may be compromised during capture, while being held in the exporting country or during transport to the UK. In its review of the welfare of non-domesticated species kept for companionship<sup>(10)</sup>, the Companion Animal Welfare Council (CAWC) found that “reliable and up-to-date information on the welfare of wild-caught animals for the companion animal trade, from time of capture to the point of retail sale is very hard to obtain”. We have also experienced the same difficulty and would like to see analysis of the welfare of captive wild birds throughout the entire supply chain. Welfare issues are therefore not addressed by this review except those that relate to birds being transported to the UK, procedures on arrival in the UK, and quarantine. We support CAWC’s conclusion that

*“the capture, transport and trade of wild animals should be regulated so as to minimise the risks to both the viability of the wild populations and to standards of welfare”.*

## The purpose of avian quarantine

11. Quarantine for captive birds was originally introduced in the UK and elsewhere to protect poultry flocks against Newcastle Disease. Avian quarantine is now also required to protect domestic poultry flocks against high pathogenicity avian influenza, another avian diseases that can cause significant losses in poultry flocks. However, the contribution which quarantine of captive species makes to the protection of domestic poultry has not been quantified. Because of the importance of these diseases, any suspicion of infection must be notified to the appropriate authorities. Since quarantine arrangements were introduced, there have been no outbreaks of avian influenza or Newcastle Disease attributed to a failure of quarantine. However, not all of the reported disease breakdowns have been attributed to a specific cause.

### *Newcastle Disease*

12. The strain of paramyxovirus (PMV1) which causes Newcastle Disease is found in pigeons in the UK. It tends to cause a mild (mesogenic), rather than velogenic (severe), infection in poultry. It is common to vaccinate racing pigeons. Should this infection spread from pigeons to poultry, it would be considered to be an outbreak of Newcastle Disease. Poultry can also be vaccinated against the disease to protect them against virulent strains.

13. There have been 37 outbreaks of Newcastle Disease in poultry since 1978 (Annex 2, Table 9). Virulent Newcastle Disease virus has been detected in birds in quarantine on 8 occasions since 1996 (Annex 2, Table 8(b)). Although this is a very small proportion of the number of birds which have been imported during that period, it is clear that quarantine has been effective in detecting virulent Newcastle Disease virus in imported captive birds. However, should the Newcastle Disease virus have passed through quarantine undetected, the likelihood of an outbreak of Newcastle Disease in poultry is reduced because of widespread vaccination of commercial flocks.

14. Newcastle Disease virus also causes rare infections of people. Strains of both high and low virulence for chickens may cause eye infections in humans, usually consisting of unilateral or bilateral reddening, excessive lachrymation, oedema of the eyelids, conjunctivitis and sub-conjunctival haemorrhage. Although the effect on the eye may be quite severe, infections are usually transient and the cornea is not affected. Flu-like symptoms are occasionally reported.

### *Avian influenza*

15. Waterfowl are the natural host of the influenza A viruses. These viruses are classified by their major surface proteins, the haemagglutinin (H) and neuraminidase (N). There are 16 different subtypes of H and 9 of N, and viruses with most of the 144 possible combinations have been isolated from wild birds. Within each subtype will be several strains that vary in their antigenic and biological properties. In their natural hosts all influenza A viruses cause subclinical intestinal infections, and rarely is there any overt disease. Contact between the natural hosts and poultry, usually chickens or turkeys, leads to infection. Most viruses still do not cause serious disease and are known as low pathogenicity avian influenza (LPAI) viruses. While there may still be a gut infection, there is often also infection of the respiratory tract. Other viruses, notably some strains of the H5 and H7 subtypes, are capable of causing a generalized infection, serious disease and death. Some birds affected by avian influenza viruses have died within 24 hours of infection. These are known as high pathogenicity avian influenza (HPAI) viruses. However they may appear initially as low pathogenicity avian influenza viruses and mutate in poultry to high pathogenicity. Avian influenza viruses can cause significant economic loss to the poultry industry.

16. Control of avian influenza in poultry is possible, especially in the conditions which prevail in Europe. The outbreak in the Netherlands in 2003 was

contained by slaughter and disposal of infected flocks, and the spread of disease was contained by restrictions on bird movements and preventative slaughter of non-infected flocks which might have been exposed to the virus. Approximately 30 million birds died or were killed in order to bring the outbreak under control.

17. Outbreaks of highly pathogenic avian influenza (HPAI) viruses in domestic poultry have been increasing in Southeast Asia since the late 1990s. Avian influenza infection in poultry in East Asia is already widespread, possibly endemic. Because the keeping and handling of domestic poultry is much more common in Asia, eradication of the disease by slaughter and disposal of infected flocks to contain the spread of avian influenza virus is likely to be impractical for logistical, social and economic reasons, although 100 million birds may have already been slaughtered.

18. Prior to the Essex case, avian influenza viruses have been detected in 146 quarantined birds in the last 25 years (Annex 2, Table 8(a)). Of these, two were low pathogenicity H7 strains, isolated in 1979 and 1989. No H5 viruses were isolated.

#### *Avian influenza and public health*

19. Essentially there are two forms of risk to human health from avian influenza viruses: a risk of infection with the avian virus and a potential risk of the emergence of a new pandemic strain of type A influenza.

20. Some avian influenza viruses have a limited capacity to infect humans. Infection can result in mild symptoms (often conjunctivitis) or serious disease which may be fatal. The viruses that caused disease in the Netherlands and are causing disease in Southeast Asia have both caused human fatalities. In the Netherlands, one out of 82 people known to have been clinically infected at the time of the outbreak died. Subsequent serological evidence indicates that more than 1,000 people may have been infected without symptoms.

21. Prior to 1997 the human health impact of high pathogenicity avian influenza epizootics in general was very small and almost unnoticed, with infections being minor and usually self-limiting. A strain of avian H5N1 virus was detected during an outbreak in Hong Kong in 1997 that demonstrated a low ability to infect humans but a high mortality rate. This pattern of infection has continued as infection spread through the domestic poultry population of Southeast Asia.

22. In the 150 or so reported human infections in Asia (October 2005), there was a mortality rate of 50 to 60%. Mild and asymptomatic infection seems to be rare and the indications are that transmissibility of avian H5N1 virus to humans is still very low even for those directly exposed. There has been no efficient onwards transmission from human-to-human though occasional transmission to very close contacts has been seen since 1997<sup>(11)(12)(13)</sup>. The bulk of cases in Southeast Asia were people who had close contact with poultry. Those who became secondarily infected were generally relatives caring for patients at home.

Apart from one case, there has been no confirmed onward transmission to anyone providing care in a health setting and taking normal precautions<sup>(14)(15)</sup>.

23. The indication from Asia is therefore that avian H5N1 influenza viruses are poorly adapted to humans. If this continues to be the case as the virus extends to Europe, the risk of infection to any person exposed to the virus is very low. The few who are infected are likely to become very ill, but unlikely to be a major infection risk to their families and those providing care, provided normal precautions are taken. Thus the main public health implications of an occurrence of avian influenza during quarantine are for the workers who deal with the birds, and possibly their families.

#### *Human influenza*

24. There are, of course, human influenza viruses that are not associated with birds. In the last 87 years only three human subtypes (H1N1, H2N2, and H3N2) have become established in people. Currently strains of H1N1 and H3N2, together with an influenza B virus strain circulate each winter season. The human vaccine, which is adjusted each year to match the current strains, protects well against current human strains, but does not protect against any H5 or H7 avian viruses.

25. Since 1918 three pandemic strains have arisen, each killing millions of people, although the 1918 pandemic is considered exceptional. These were: H1N1 (1918) with an estimated 40 million deaths world wide, H2N2 (1957) with an estimated 1-4 million deaths and H3N2 (1968) with estimated 1-4 million deaths.

26. Human influenza viruses are believed to arise from avian strains. The recently reported studies of human remains exhumed from the permafrost have suggested that the human H1N1 strain of 1918 evolved directly from an avian strain. However, the H2N2 and H3N2 human viruses are thought to have evolved through mixing of genetic material of a human and an avian strain. The emergence of a new strain means that the human population has no immunity to it and a pandemic ensues. Although the risk of mutation of the virus into a pandemic form is low, it will inevitably be increased as the incidence of avian disease increases.

#### *Psittacosis*

27. Quarantine may also provide some protection against psittacosis, a disease in birds caused by *Chlamydophila psittaci* that can affect humans. Psittacosis in both birds and humans is treatable with antibiotics. Psittacosis is known to affect quarantine workers who should use appropriate personal protection equipment.

#### Pre-export procedures

28. When imported into the EU, captive birds must be accompanied by a veterinary health certificate showing that they have been held in a pre-export holding facility for 21 days, and that they, and the area from which they originate, are free from avian influenza and Newcastle Disease (and, for birds of the parrot

family only, from psittacosis). If properly applied, these measures provide some health guarantees, but they are not, on their own, sufficient to ensure that no infected bird arrives in the EU. Disease can be introduced even where export health certification is provided by a reliable veterinary service. Even in a country with good surveillance, disease freedom can be difficult to establish with any degree of certainty; for example, in 2005, pheasants that were subclinically infected with Newcastle Disease virus were imported into the UK from an area of France where disease had not been detected by routine surveillance, and resulted in an outbreak of disease in the UK.

29. Some post-import arrangements are therefore needed to prevent transmission of disease to poultry and humans. Although imported birds may be captive bred or wild caught (or a mixture of the two), it is safest to assume that that they all pose a disease risk, despite the pre-export procedures.

#### Post-import quarantine

30. The changing nature of the disease position worldwide means that quarantine arrangements need to be reviewed from time-to-time to ensure that an appropriate level of risk reduction/protection is maintained, and that the measures in place continue to be proportional to the risks. Our identification of sources of disease and possible routes of spread are based on qualitative assessments, and there is little quantitative information available on the degree of risk from each possible source, including the risk from importing captive birds. Thus, while we are confident that the measures we propose will contribute to a significant reduction in the disease risk posed by importation of captive birds, it is difficult to determine whether or not they will make a significant reduction in the overall risk of introducing infection into domestic poultry.

31. The detection of Newcastle Disease and avian influenza viruses in quarantined birds, including the recent detection of H5N1 avian influenza virus in quarantined birds in Essex, indicates that, in these cases, quarantine procedures were effective. However, we were concerned about the reliability of current arrangements, and whether or not they could detect all Newcastle Disease or avian influenza infection before release. Media interest and public concern about the possible public health implications of avian influenza are increasing, and it is reasonable to seek assurances that quarantine procedures are as robust as necessary and continue to work.

32. During the course of the Review, we have been concerned to hear of the variation in the rigour with which avian quarantine rules are applied, both across the EU and within the UK. If quarantine is to have the desired effect, it is important that the rules are properly applied in all cases, and that this application is monitored and audited on a regular basis.

#### Constraints on this review

33. There are around 9000 bird species which can be legally imported. Data on the pathogenesis of avian influenza in captive bird (non-poultry) species, and in particular on the duration of virus shedding, are sparse. However available

information shows that infection of different captive bird species is highly variable (some resistant and some highly susceptible), that species that can be infected are not persistently infected, and that virus is shed for approximately one week<sup>(16)(17)</sup>. Recent experimental infections of chickens and turkeys at the Veterinary Laboratories Agency (VLA) with minimum infectious doses of virus indicate virus shedding in these hosts for at least 18 days<sup>(18)</sup>. Our recommendations have, of necessity, taken note of data available for poultry and wild waterfowl. Given the number of species which pass through quarantine, it is unrealistic to expect that experimental data will ever be available for all. One concern is a report that a minority of experimentally infected parrots shed Newcastle Disease virus for more than one year<sup>(19)</sup>. However such virus would be detected by laboratory tests.

#### Proportionality and the risks of promoting avoidance of health protection measures

34. We have not had time to examine costs and benefits of avian quarantine for captive birds in any detail. However, we would make the following observations. The export of birds provides an income to those engaged in the capture or breeding of birds in exporting countries, and the EU is the major end-user of imported birds. Although details are not available for all species, the EU is the destination for 86% of CITES listed species (Annex 2, Table 3). In some cases, we understand that these activities are well organised. However, if the prohibition on legal importation of captive birds was prolonged indefinitely, exporters might resort to trading birds through illegal routes and legitimate bird importers might be encouraged to turn to illegally traded birds.

35. We understand that the trade in wild caught birds may be in decline (possibly by as much as 20% per annum) and that the proportion of captive bred birds or hand reared wild birds is rising to meet the demand. This is a change to be encouraged for a variety of reasons. The health status of captive bred and hand reared birds is better known, and can be better monitored and controlled than that of wild caught birds. In addition, the welfare cost of trade in captive bred birds is lower than for wild caught birds.

36. We have heard that the EU has no comprehensive data on seizures and confiscations of illegally imported birds as Member States are not obliged to collect and report such information systematically. It is therefore difficult to assess how great the risk of illegal trade is within the EU. However, consideration of ways to reduce the risk from illegal imports of captive birds is outside the scope of this review.

37. We consider that it is important to find an appropriate balance between risk reduction and reasonable cost. If measures put in place to prevent the introduction of disease are excessive, and therefore overly expensive, there will be an increased incentive for those who are currently trading legitimately to turn to unauthorised trade. This would defeat the objective of increasing the degree of disease protection which quarantine provides. As time has not allowed a detailed study of risks, and a comprehensive cost/benefit analysis, it has not

been possible to quantitate an acceptable level of risk. Even if it were desirable to eliminate the risk entirely, we recognise that this is not possible, however strenuously quarantine procedures are pursued.

## **EFFICACY OF QUARANTINE ARRANGEMENTS AND RECOMMENDATIONS FOR IMPROVEMENT**

38. The UK has had avian quarantine arrangements since 1976. The current arrangements were put in place in 2000, implementing Commission Decision 2000/666/EC. There is no evidence that high pathogenicity avian influenza or virulent Newcastle Disease has passed through quarantine since then. The occasions on which these viruses have been detected in quarantine are shown in Table 8 of Annex 2.

39. The successful detection of disease during quarantine indicates that the quarantine of captive birds may have provided some protection of domestic poultry against the importation of virulent strains of Newcastle Disease and avian influenza viruses. However, the general situation is dynamic and the risks may be changing; for example, through the changing nature of the current H5N1 avian influenza epidemic in Southeast Asia, the possibility that climate change may affect wild bird migration, and the possibility that climate change may promote the spread of diseases which are not currently of concern.

**Recommendation 1: We recommend that Defra keep avian quarantine under review so that it continues to be fit for purpose.**

*The purpose of avian quarantine*

40. While the intention of current quarantine arrangements is to protect the poultry industry from economic loss, the focus of testing during quarantine on highly pathogenic strains of avian influenza and Newcastle Disease is appropriate. However, recent public concern about the possibility of transmission of avian influenza to humans has raised questions about the degree of protection that avian quarantine provides to people. If the intention of quarantine is to protect public health, consideration should be given to testing during the quarantine period for the causative agents of other infections, including *Chlamydophila psittaci*, West Nile Virus, exotic *Salmonella* species and low pathogenicity avian influenza viruses. This examination should also involve those authorities responsible for public health.

**Recommendation 2: We recommend that the objectives of quarantine for captive birds be re-examined, and that the contribution which quarantine is expected to make to (a) animal health (of both poultry and indigenous wild birds) and (b) public health be clearly defined, in order that appropriate and proportionate measures can be considered.**

*The contribution which avian quarantine makes to overall risk reduction*

41. Although highly pathogenic strains of avian influenza virus are still a threat to domestic poultry flocks, it is clear that imports of captive birds are only one



potential source of infection, and that disease might be introduced through other agencies such as migrating birds or movements of people. Captive birds appear to pose a lower risk to commercial poultry flocks, as they are less likely to come into contact with poultry. Conversely, captive birds are more likely to pose a health risk to their owners, with whom they frequently come into close contact.

42. We would have liked to recommend that a quantitative risk assessment be carried out in order to determine the magnitude of the risk of importing disease through importation of captive birds, in particular to determine if quarantine of captive birds is cost beneficial, and to determine the priorities for taking forward the various proposals for tightening avian quarantine procedures recommended in this report. However, the reliable data needed for such a quantitative assessment are sparse, and in some cases, non-existent, and it would not be possible to weight the improvements we suggest on anything other than a subjective basis.

**Recommendation 3: We recommend that data gathering be put in place in order to inform a quantitative assessment of risks, costs and benefits.**

43. We have assumed that the intention of quarantine for captive birds is not the protection of the health (or welfare) of existing captive birds, and that owners of such birds should make appropriate arrangements to ensure that they do not introduce disease into their own collections.

Legal base for current arrangements

44. A summary of the EU and domestic legislation which applies to the importation of captive bird species other than poultry is attached at Annex 3.

45. Under EU rules, captive birds which are imported from outside the EU must originate from a country which is a member of the World Animal Health Organisation (Organisation Internationale des Épizooties, OIE), and be accompanied by a health certificate signed by an official veterinarian showing that:

- they have been held in a pre-export holding facility for 21 days: and
- they and the area from which they originate, are free from avian influenza and Newcastle Disease and, for birds of the parrot family only, from psittacosis.

46. On arrival in the EU, captive birds imported from third countries must be placed in quarantine for at least 30 days.

47. As one of the aims of the EU quarantine requirement for captive birds is to protect the Community against the introduction of highly pathogenic strains of avian influenza, it is important that all Member States enforce the quarantine rules carefully and that interpretation of the rules is standardised across the EU, especially as, once imported into the EU, birds other than psittacines can be legally traded between Member States without further veterinary certification.

48. Audit of the correct enforcement of these EU rules across the EU Member States is the responsibility of the EU Commission who has the authority to carry out on-the-spot inspections. However, we have been unable to ascertain if the

Commission has ever carried out any inspections of quarantine facilities in the Member States to ensure that Community rules are being observed.

49. During the course of our brief investigation, we have heard anecdotal evidence that the EU rules are not pursued with equal vigour across the Community. We appreciate that it is not possible to attach any weight to such rumours but this, coupled with the lack of evidence of on-the-spot inspections, makes for concern.

**Recommendation 4: We recommend that the EU Commission be asked to investigate and audit the implementation of EU rules on quarantine of captive birds in the Member States.**

Movement of birds (other than pet birds) within the EU

50. Commercial consignments of birds which are transported between EU Member States do not need to be placed in quarantine. Psittacines must have an official health certificate signed by an official veterinarian, and this will give rise to a TRACES message to the importing Member State to alert them to the arrival of the consignment. However, non-psittacines may travel on the basis of a certificate signed by the owner/exporter, and the authorities of the receiving Member State will not be automatically alerted through the TRACES system. The movement of non-psittacine captive birds around the EU without veterinary certification makes it harder to detect illegal trade or to trace the movement of birds in the event of a disease outbreak.

**Recommendation 5: We recommend that consideration be given to introducing an official veterinary health certificate for movements of all captive birds between Member States, and to the introduction of arrangements for the monitoring and control of such movements.**

Movement of pet birds and show birds within the EU

51. Pet birds are not covered by EU legislation, and under UK national rules may only be brought into the UK if they are accompanied by a veterinary certificate and are quarantined for 35 days. This anomaly appears to be a historical accident rather than a risk-based measure. Small consignments of poultry for exhibition, show or contest are also excluded from EU legislation, and under UK national rules may be imported on the basis of the owner/exporters declaration, as for non-psittacine captive birds.

**Recommendation 6: We recommend that pet and show birds be treated in the same way as other captive birds, and travel between Member States with a veterinary health certificate.**

Quarantine arrangements for pet birds brought from a third country

52. Temporary EU rules included in Decision 2005/759 (as amended) impose some harmonised requirements until 31 January 2006. Under the national rules which apply in the absence of EU rules, pet birds may be brought into the UK from a third country accompanied by a veterinary health certificate; up to 2 birds per person and 6 per family may be imported. Birds are then placed in

quarantine, normally at the owner's dwelling, for 35 days. The birds must be checked by a Local Veterinary Inspector (LVI) at least at the start and finish of the quarantine period.

53. We have heard anecdotal evidence that on some occasions the veterinary checks have not been carried out. We have also heard that some rogue traders may use this method to import commercial high-value birds, to avoid normal quarantine regulations and the requirement for testing of birds for infection.

**Recommendation 7: We recommend that pet birds imported from third countries be subject to the same rules as other captive birds imported from third countries, and be quarantined in approved facilities, and not in the owner's home.**

#### Pre-export health certification

54. We recognise that the measures which we are recommending to improve the effectiveness of quarantine will not reduce the disease risk to zero. Thus additional steps that reduce the risk of bringing infected birds into quarantine will continue to be needed to reduce the risk of importing disease.

55. Ideally, pre-export checks should detect disease before captive birds are exported to the EU. If effective, they reduce the risk of the spread of disease to domestic birds, wild birds, and humans within the EU during transportation, during quarantine, and after release from quarantine.

**Recommendation 8: We recommend that the EU rules on pre-export conditions be revisited to ensure that the risk of bringing infected birds into the EU is minimised.**

#### *Area based import controls*

56. There are currently 167 countries in the OIE which are normally permitted to export captive birds to the EU. Standards of animal disease surveillance and the reliance which can be placed on health certification provided by the veterinary services are variable.

57. The disease status of exporting countries is not uniform. Some have detected and reported the presence of H5N1 avian influenza virus, and exports from these countries have been suspended. This will prevent some of the highest risk trade. However, countries which do not have efficient surveillance systems may have undetected high pathogenicity avian influenza or Newcastle Disease. The absence of reports of disease from such countries cannot be relied on to demonstrate that the risk from imported birds is low.

58. On the other hand, some third countries have been assessed by the EU as having an equivalent avian disease status to the EU, and have effective disease surveillance and border controls. Imports of live poultry are restricted to those originating from such countries and the likelihood of a captive bird with avian influenza or Newcastle Disease coming from such a country is negligible.

**Recommendation 9: We recommend that consideration be given to resuming imports of captive birds only from countries which can provide adequate veterinary health assurances.**

*Individual bird based controls*

*(a) Testing requirements*

59. Pre-export testing of exported captive birds is not currently required, and might be used to reduce the risk of disease spread. However, it would be important to ensure that tests were carried out in a laboratory which can demonstrate that it meets international standards, that the sampled birds are isolated to prevent re-infection after sampling, and that the samples are correctly handled to avoid false negative results.

**Recommendation 10: We recommend that consideration be given to adding suitable pre-export disease testing requirements to the veterinary health certification required for imports of captive birds from third countries.**

*(b) Restrictions on types of bird permitted*

60. Because their history is not known, birds captured in the wild shortly before export have an uncertain health status. Restriction of imports to birds that are captive bred, or wild-caught when young and hand reared, and are from assured suppliers, or are family pets would give greater assurance of disease freedom. We have briefly considered how birds might be identified so as to distinguish between wild birds caught as adults and captive bred or hand reared wild birds, but in the time available we have been unable to reach any firm conclusions on a workable system of identification. We were particularly concerned about how means of identification might affect the welfare of the birds; for example closed rings may be damaged by parrots, causing leg injuries. However, standards for bird identification are set out in CITES rules; similar rules might be capable of being used to demonstrate the provenance of individual birds imported into the EU.

**Recommendation 11: We recommend that consideration be given to requiring identification and certification of the individual history of the bird being imported.**

Border inspection posts

61. Birds entering the EU must be taken immediately to a Border Inspection Post (BIP). In the UK there are BIPs for live birds at Heathrow, Gatwick and Manchester airports. At the BIP, a Veterinary Officer of the State Veterinary Service (SVS) examines and counts the birds, and checks that they are accompanied by the appropriate health certification.

Arrival of consignments and notification

62. When exporters send consignments of birds to the EU, they are required to give 24 hours advance notification to the BIP, but are then free to ship without further consultation. It is important that birds are shipped as soon as possible

after the veterinary health certificate is signed so that there is minimum risk of any change in the health status of the birds. We have heard that birds sometimes arrive without the appropriate documents, including health certification, or with incorrect documents. In these cases, the birds should be held at the Border Inspection Post pending Customs clearance, although in practice they may be sent forward to a quarantine station if there is not sufficient holding capacity at the BIP or for welfare reasons. This potentially increases the risk of disease spread, and compromises the welfare of the birds and the health of personnel.

63. Carriers should be encouraged to take greater responsibility for the birds which they transport. They are ideally placed to ensure that some basic conditions have been met before birds are shipped, including notification of intended shipment to the BIP and electronic transmission of the accompanying documentation for verification. Failure to do so should result in rejection of the birds at the point of arrival and return to the country of origin at the carrier's expense. If, for welfare reasons, the birds need to be rested, fed and watered at the BIP before return shipment, this should also be charged to the carrier.

**Recommendation 12: We recommend that exporters be required to send documentation electronically (including the veterinary health certificate) to the BIP at the same time as the BIP is given advance notice of shipment, and that the birds should not be shipped without the BIP's prior approval.**

#### Transport to quarantine premises

##### *Minimising the risk of diversion of consignments between the BIP and the quarantine facility*

64. We have heard that there is a possibility, especially when the BIP and the quarantine facility are located in different Member States, that consignments of birds may not arrive at the quarantine facility to which they are released from the BIP. We have also heard that, although EU rules require that the boxes in which the birds are transported are sealed, there is a need to permit air to reach the birds. Thus, sealing cannot always be carried out in such a way that access, and possibly removal of some of the birds during transport, is prevented.

**Recommendation 13: We recommend that the official veterinarian at the quarantine facility be obliged to confirm to the BIP that the consignment has arrived and to ensure that any discrepancy in the consignment can be resolved.**

##### *Minimising the risk of infecting poultry and people*

65. Imported birds are taken from the BIP to an approved quarantine facility. The conditions which are observed during transportation from the BIP to the quarantine facility must be sufficient to ensure that there is minimum risk to either personnel or to domestic birds. Standards for the vehicles used to transport the birds could be set including, for example:

- a separate compartment for the birds which can be cleaned and disinfected and with ventilation separate from the driver's cab; and

- cleaning and disinfection between loads.

66. Staff engaged in transporting captive birds to a quarantine facility should be required to observe conditions which would both protect their own health (Health and Safety rules already require this) and reduce the risk of wider spread of disease through the use of protective clothing, face masks, disinfection of vehicles, cages and footwear etc.

**Recommendation 14: We recommend that vehicles used to transport birds from the BIP to the quarantine facility be approved for the purpose.**

*Minimising the distance travelled by road*

67. The quarantine facility may be near to the BIP at which the birds arrive in the EU, but could be in another Member State. For example, of 60,000 birds which were landed at Heathrow in 2004, 20% were transhipped to another Member State (Annex 2, Table 2). The distance travelled by road or other surface transport should be minimised in order to reduce the risk of faecal or aerosol spread of disease. Quarantine centres near BIPs are therefore preferred. This also improves bird welfare.

**Recommendation 15: We recommend that where transport between the BIP and the quarantine facility is by road, the distance should be minimal.**

Approval of quarantine premises

*Avoidance of disparities between Member States*

68. The conditions with which quarantine facilities must comply are set out in EU rules (Annex B of Commission Decision 2000/666/EU). These conditions cover construction and equipment of the quarantine facility and management (biosecurity). They also require that birds of the parrot family are individually identified on arrival.

69. Implementing these standards is for the Member States. Although the basic requirements are set out in the EU rules, there is a great deal of scope in the interpretation of the EU rules, which leads to possible variation in the standards applied between and within Member States. Certification to ISO9001 standards by an UKAS accredited certification body would provide a higher level of confidence in the suitability of the quarantine facilities. A guidance note on the interpretation of ISO9001:2000 by certification bodies when assessing quarantine facilities could be prepared by Defra and circulated to interested certification bodies. This could define the key critical points in the process and should include measurable objectives against which the suitability of the facility can be measured.

70. However, if very stringent implementation were to be applied to quarantine facilities in the UK, there is a real risk that the additional cost would result in UK importers of birds using less rigorously controlled facilities in other Member States, and then moving the birds to the UK. This so-called “triangular trade” undermines the ability of Member States to set high standards for the quarantine facilities on its own territory, and tends to encourage the adoption of the lowest

standard of implementation. Variation in the rigour with which Member States apply the EU rules also encourages unnecessary movement of birds between Member States with traders seeking to take advantage of the least rigorous (and so least costly) regime. This will cause unnecessary stress to the birds.

71. Because of the possibility of triangular trade, we feel constrained to recommend only the measures which we believe will result in the greatest reduction of risk.

**Recommendation 16: We recommend that:**

- **the EU Commission should be pressed to agree more detailed rules and common interpretation of the rules for the quarantine of captive birds at EU level as soon as possible, so as to avoid disparities between Member States undermining the disease protection which the rules seek to ensure;**
- **the construction, equipment, operation and management of quarantine facilities should comply with ISO9001 requirements, and that the quarantine facility should be assessed by a UKAS accredited certification body; and**
- **the management should be required to pass an annual assessment, for example by way of a written test.**

*Ownership of quarantine facilities*

72. We were concerned about a possible conflict of interest when the owner of the quarantine facility also has a financial interest in the birds which are being quarantined in the facilities. However, we believe that abuse of the quarantine system due to such conflicts will be limited by our recommendations.

*Charging for approval of quarantine premises*

73. In the UK, approval of quarantine facilities is done on the basis of an inspection carried out by the State Veterinary Service (i.e. a veterinarian employed full time in the Government Service). Approval has a duration of one year, and a further inspection is required before re-approval.

74. We understand that there is a range of premises which are approved. Some are managed by commercial importers of captive birds, and used on a regular basis, while others are owned by occasional importers, and may not be used from year to year (and may also be used for other purposes). The approval of premises which are used infrequently gives us cause for concern. The biosecurity measures which should be followed cannot be inspected when the premises are not in use, and the training given to staff cannot be adequately assessed.

75. The taxpayer should not be asked to meet the cost of reducing the risk caused by a commercial or personal enterprise. Transfer of the cost of approval to the owner of the quarantine facility would also deter applications for approval for premises which will be used infrequently.

**Recommendation 17: We recommend that:**

- **the full cost of approval of quarantine premises be recovered from the quarantine operator; and**
- **in order to avoid deflection of trade between Member States, charging for approval of quarantine premises should be adopted as a Community standard.**

Supervision of quarantine premises

*Visits by Veterinary Officers*

76. Supervision of quarantine facilities is carried out by the LVI. Supervision and training of the LVI is a responsibility of the SVS. The training of an LVI amounts to one half day's instruction. The Divisional Veterinary Managers (DVMs) of the SVS are recommended to make additional visits to quarantine facilities over and above the annual approval visit, but this is not a requirement.

77. We were also concerned to find that there was no clear instruction on the suspension of approval of quarantine facilities in the event of detection of a serious breach in procedure (e.g. in the event that an LVI discovers that bird carcasses have not been retained for inspection, or if cleaning is not being appropriately conducted). Under these circumstances, approval of the quarantine centre should be suspended as soon as all birds in the quarantine centre have been released, pending further investigation and subsequent corrective actions. In order to ensure that suspension is justifiable, there should be a clearly defined appeals procedure and a route to restore the approval.

**Recommendation 18: We recommend that:**

- **the SVS be required to make additional, unannounced visits to avian quarantine facilities, preferably when they are in use, and in particular to ensure that suitable standards of management and biosecurity are practiced;**
- **SVS assessors be trained to perform the assessments consistently;**
- **failure to observe rules correctly should result in the suspension of approval to operate as a quarantine centre as soon as any birds undergoing quarantine have been released; and**
- **the existing checklist be rewritten to exclude non verifiable questions, and to include suggestions on ways to verify the reliability of answers received.**

*Auditing of the inspection process*

78. Proper supervision of the existing rules applying to avian quarantine is essential if the anticipated disease risk reduction is to be achieved. We have heard that the successful operation of a quarantine facility is largely dependent on the vigour with which the local SVS and the LVI approach their supervisory role, and we are not convinced that all LVIs approach this work with equal enthusiasm. There do not appear to be any data on the extent to which LVIs carry out their duties effectively, and the system is operated largely on the basis



of trust. We have heard that some LVIs may put more or less emphasis on some requirements than on others.

79. There does not appear to be a coherent audit plan or an audit process. Nor is there collection of data regarding the effectiveness of the method of appointing LVIs, nor of the effectiveness of their actions. Audit checks should be carried out on each LVI at least once in the first year, and annually thereafter if problems are noted. This might drop to once every two years if no problems are found at subsequent audits.

**Recommendation 19: We recommend that:**

- **training of LVIs be modified to include a post-training check on understanding of Defra requirements (e.g. a short written test at the end of the training);**
- **an audit process be developed and documented (e.g. in line with the requirements of ISO9001 clause 8.2.2) to conduct follow-up checks on site in order to check the continued effectiveness of the training; and**
- **re-training be provided annually, in order to bring LVIs up to date with latest Defra requirements and to re-check effectiveness of training (e.g. in line with the requirements of ISO9001 clause 6.2).**

*The nature of the inspection process*

80. LVIs are obliged to visit the quarantine facility three times during the quarantine period. The first visit is made at or soon after the arrival of the birds, when the LVI is responsible for breaking the seal on the crates or cages so that the birds can be unloaded into the quarantine unit, checking the health certificate, identifying the birds and making sure they are in good health, and recording the numbers of birds which may have died in transit. We were told that, in practice, many crates are not truly sealed and that birds frequently get to quarantines at unsocial hours. This results in birds being unpacked by quarantine staff; LVIs often visit during the following day when the birds have already been unloaded.

81. The LVI is also responsible for collection of samples. The second visit is made between days 7 and 15 to take faecal samples or to swab the imported birds. Alternatively, if sentinel chickens are used, these are blood sampled between days 21 and 27.

82. The third visit takes place between days 28 and 30 to 'sign off' the birds, assuming that they are healthy, and that the health records kept by the operator of the quarantine premises during the quarantine period are in order.

83. We are concerned that the number of visits to quarantine facilities is not sufficient to verify the accurate reporting of all deaths, especially as accurate counting may be difficult when large numbers of small birds are held together. Counting of birds and evidence of the death of birds which have died during quarantine are necessary to ensure that individual birds have not been illegally released or have not escaped from quarantine before the full period has been completed. Disposal of carcasses of dead birds without the permission of the LVI should not be permitted.

**Recommendation 20: We recommend that:**

- **auditing by the LVI be introduced to include at least one unannounced check on quarantine facilities per quarantine period in order to determine whether or not all requirements are being observed at all times and, in particular, if there are undisclosed illnesses or deaths, or unexplained reductions in numbers of birds;**
- **the final report from the LVI of the progress of the quarantine be enhanced to show that each individual requirement has been met, that the number of birds of each species present at the end of the quarantine can be reconciled with the number present at the start of the quarantine (taking account of any deaths which may have occurred) and recording the fate of every carcass;**
- **the LVI be obliged to report any discrepancies to the Divisional Veterinary Manager (DVM) of the SVS immediately they are detected; and**
- **the DVM be made responsible for final reconciliation of all of the figures, including the number of birds recorded at the BIP with those recorded at the quarantine facility; that the correct number of samples has been received for laboratory testing; and that the number of dead birds tallies with that received for post-mortem examination by the VLA.**

*Suspension of approval of premises*

84. We have heard that, even where breaches of quarantine rules have been detected, there is no automatic suspension of the approval of the quarantine facility.

**Recommendation 21: We recommend that:**

- **when there is a breach of the rules in an occupied quarantine facility, that the quarantine period for the birds in the facility be restarted;**
- **when a breach is detected, no further birds should be permitted into the quarantine centre and, as soon as it is empty of birds, consideration be given to automatic suspension of approval of the quarantine centre until it can be demonstrated that the breach has been rectified; and**
- **the operator of the quarantine centre should be asked to meet the cost of re-approval when the breach has been rectified.**

Duration of quarantine

85. The duration of quarantine is currently 30 days. Ideally quarantine should be long enough to ensure that any birds infected with avian influenza or Newcastle Disease viruses will no longer be shedding virus when they leave quarantine. However, there are only limited data available for the duration of shedding of avian influenza viruses in the species of birds which are imported through quarantine. These data show that shedding lasts for approximately one week and that there is no evidence for persistent infection.

86. With regard to Newcastle Disease virus, it is known that asymptomatic carriers of infection can shed virus for more than one year. Clearly, keeping

birds in quarantine for that period of time would be impractical, especially for species that have a short lifespan.

87. For these reasons, we do not make any specific recommendations about the duration of the quarantine period. Instead, we stress that attention should be paid to maximising the likelihood of detecting infection in birds while they are in quarantine (see next section).

**Recommendation 22: We recommend that consideration be given to commissioning work to determine the duration of shedding of specified avian influenza virus strains (e.g. highly pathogenic H5N1) in specified bird species.**

#### Diagnosis while in quarantine

##### *Virus detection*

88. The diagnosis of avian influenza and Newcastle Disease infection in birds in quarantine is made by growth of virus in embryonated chicken's eggs. This test is the gold standard, i.e. the most sensitive known test for the purpose. It is carried out on material obtained from faeces, cloacal swabs, tracheal swabs or tissues taken from dead birds. The requirements for birds in quarantine are that (a) for batches of birds of less than 60, every bird is sampled, and (b) for batches of more than 60, 60 birds should be tested. There is no stipulation about which birds should be tested. Further, since it is now apparent that there may be a relatively low level of transmission of disease between cages, it is important to ensure that every cage is sampled.

**Recommendation 23: We recommend that:**

- **samples should be taken from each species of bird in the quarantine facility, because of the possible variation in virus susceptibility between bird species; and**
- **the reduced level of sampling permitted for large populations of birds should be applied on a cage-by-cage basis rather than to the whole consignment.**

##### *Numbers of samples taken for virus detection*

89. If the number of birds in a cage is greater than 60, restricting the number of samples which must be taken to 60 reduces the confidence of detection of infection. For example, if there are 100 birds in a cage of which one is infected, sampling 60 birds will only have a 60% chance of accurately detecting the infection. As the number of birds increases, the chance of accurately detecting small numbers of infected birds declines. There are published standards for the determination of the confidence which can be attached to sampling<sup>(20)</sup>.

**Recommendation 24: We recommend that an epidemiologist should be asked to review the sampling arrangements for birds in quarantine, in particular with a view to making expert recommendations on the proportion of birds that should be sampled when large numbers of birds are involved.**

### *The use of sentinel birds*

90. Detection of infection is alternatively made by use of sentinel birds that are kept in the same premises as the quarantined birds. Sentinels are usually disease-susceptible chickens. The use of sentinel birds gives cause for concern, as they have been demonstrably unsuccessful in detecting known avian influenza and Newcastle Disease infections. Further, there may be other birds (e.g. quails) that might make better sentinels than domestic chickens if they could be housed in the same cages as the quarantined birds and were of similar or greater susceptibility to virus infection.

91. It seems likely that sentinel birds are not always sited sufficiently close to the quarantined birds to ensure that they are exposed to infection. Sharing the airspace with quarantined birds seems not to be enough. There is evidence that the most common route of transmission of avian influenza and Newcastle Disease is via faecal material, so ensuring that sentinels are exposed to the excreta of the quarantined birds is essential. Whether or not this can be done with all cages existing in quarantine establishments is not clear. It may be necessary to use more sentinel birds than are currently stipulated, so that they can be situated a certain minimum distance from all cages, and/or to use birds of another, more susceptible species.

#### **Recommendation 25: We recommend that:**

- **research be commissioned to determine if sentinel birds can ever be effective at detecting avian influenza and Newcastle Disease viruses; and**
- **until research has shown that sentinels can be effective, the detection of avian influenza and Newcastle Disease viruses in quarantine should rely on laboratory tests.**

### *Molecular biological methods of virus detection*

92. The polymerase chain reaction (PCR) technique detects DNA and reverse transcription-PCR (RT-PCR) detects RNA. This technology offers significant advantages over other methods of virus detection. It can be done quickly and robotically if required, and can deal with large numbers of samples at relatively low cost. It can also be used for viruses that cannot be cultured, and other infectious organisms. We have heard that the Veterinary Laboratories Agency (VLA), Weybridge has an RT-PCR test for avian influenza that has a similar sensitivity to virus isolation. The test allows identification of a type A influenza virus, and then identification of subtype and clade. Formal validation has been completed to international standard for the detection of influenza A viruses (generic test) and an H5 specific assay. Further work is required to validate tests for H7 and Newcastle Disease virus. All these tests will be performed to UKAS 17025 standard, and will soon be added to the VLA repertoire. In addition, we understand that these new tests will be included in the diagnostic manual that will accompany the new EU avian influenza directive.

**Recommendation 26: We recommend that validation of RT-PCR testing for avian influenza and Newcastle Disease viruses be pursued, with a view to adding these tests to the Community standard as soon as possible.**

Auditing of sampling

*Record of the numbers of samples taken*

93. At present, the VLA keeps no record to ensure that the correct number of birds has been sampled. LVIs could be asked to record in the report of the quarantine period the number of cages used during the quarantine, and the numbers of birds of each species in each cage, and to record the number of samples taken from each cage by species. This could then be used to verify that the correct number of samples has been received by the VLA for testing before the birds are released.

**Recommendation 27: We recommend that steps be taken to ensure that standing regulations on sampling are adhered to.**

Deaths in quarantine

*Recording*

94. Carcasses of birds which die during quarantine must be stored in suitable conditions, and disposed of only when authorised by the LVI and when the health status of the consignment has been fully established. Because of the infrequency of the LVI inspection visits, it is incumbent on the operator of the quarantine facility to record bird deaths during the quarantine period.

**Recommendation 28: We recommend that:**

- **processes for checking that deaths are recorded be introduced (e.g. the numbers of birds released from quarantine be compared with the TRACES notification of numbers taken in); and**
- **the report submitted by the LVI to the SVS at the end of the quarantine period should demonstrate that each part of the quarantine conditions has been complied with, and should reconcile the number of birds entering quarantine, taking account of any deaths which may have occurred, with the number available for release at the end of the quarantine period.**

*Sampling of tissues*

95. Currently it is permitted to pool tissue samples from more than one dead bird. However, in the event of a positive test result, this prevents identification of the infected individual. We have no problem with pooling of sub-samples for testing in the laboratory, providing that each original sample is kept separately and is separately identified so that it can be revisited as necessary. The laboratory will need to establish that pooling of samples is carried out so that the dilution effect of pooling does not give rise to false negative test results.

### *Mixing of consignments in quarantine facilities*

96. We have considered whether or not consignments of birds should be permitted to be mixed in quarantine. We see no objection to this in principle, provided that the quarantine period for all of the birds extends for at least 30 days after the last consignment or batch of birds is brought into the facility, and that all consignments or batches of birds are sampled in accordance with the rules. However, the owners of the birds should be made aware that the health of the birds may be compromised if birds from different sources are so mixed.

### *Diagnosis of other causes of mortality*

97. Under existing regulations, all dead birds are sent intact to the VLA. Regional Laboratories of the VLA take the tissue samples appropriate for diagnosis of avian influenza and Newcastle Disease, but do not carry out a full post-mortem examination. Thus if birds die in quarantine for other reasons, it is not possible to determine accurately the reasons for this mortality. This both denies the owner the opportunity to identify and correct husbandry problems present in the quarantine facility, and passes up the opportunity to collect surveillance data which might inform future quarantine requirements. If laboratories other than those of the VLA were approved to carry out a full post-mortem examination at the owner's request, they could also be approved to take samples for submission to the VLA Weybridge for the diagnosis of avian influenza and Newcastle Disease on captive birds in quarantine.

**Recommendation 29: We recommend that, on request, the VLA provide a full post-mortem service to owners of quarantine facilities, or that this is carried out by another (suitably approved) laboratory that is capable of carrying out a full avian post-mortem with the necessary containment facilities for sampling carcasses which may be infected with avian influenza and Newcastle Disease viruses.**

### Action to be taken in the event of diagnosis of avian influenza or Newcastle Disease during quarantine

98. At present, when avian influenza is diagnosed in quarantine the entire consignment is euthanased, the carcasses are incinerated and the facility is disinfected. The same procedure applies to Newcastle Disease but, if the birds are an endangered species or of exceptional genetic value, the competent authority has the option to give permission for the consignment to be tested and quarantined for at least a further 60 days until it is confirmed that the surviving individuals are free of infection. We have not changed these arrangements.

### Construction and equipment of quarantine facilities.

99. We have been unable to quantify the relative importance of the mechanisms and routes by which pathogens can be transmitted between birds within a quarantine facility, or can be transmitted to humans or other birds outside of the quarantine facility. This lack of information prevents us from making detailed recommendations on the construction and equipment of quarantine facilities including, for example:

- the optimal layout, design, construction and size of cages; or
- the need for high efficiency particulate absorbing (HEPA) air filters on ventilation exhausts.

In addition, we are aware of the need to demonstrate that expensive changes are cost effective in reducing the risk of introduction of disease into the UK, in particular in the face of the possible diversion of imports through other Member States with less demanding requirements, or into illegal trade.

#### Hygienic operation of quarantine facilities

100. We note that the hygienic practices in some quarantine facilities were basic, and were operating to a much lower standard than other disease secure animal accommodation, e.g. that used for laboratory animals. With regard to biosecurity measures and hygienic management of quarantine facilities, application of the principles of ISO9001 together with guidance produced by Defra, could identify the critical points within the avian quarantine process to ensure that:

- adequate resources are provided;
- access to the quarantine facility is restricted to essential personnel;
- the requirements of customers and of other interested parties, relevant legislation and codes of practice etc. are identified and understood;
- independent audits and other checks of suitability are regularly conducted and acted upon without undue delay;
- data concerning the performance of the system are collected and reviewed;
- problems are recorded, corrected and prevented; and
- improvements are made continually in order to better meet requirements.

**Recommendation 30: We recommend that management of a quarantine facility be required, in line with ISO 9001 clauses 4.1 and 4.2.3, to plan, identify and document the processes and interactions involved.**

#### Welfare of birds in quarantine

101. We have not undertaken a detailed analysis of the welfare of birds throughout the entire supply chain during capture or breeding in the exporting country, transport, inspection at the BIP, transshipment within Europe, quarantine, or wholesaling and retailing. Any concern for bird welfare will always be balanced against the costs of achieving a certain standard since a primary reason for the trade in wild birds is financial. We should like this important aspect of the trade in wild birds to be examined independently, given recent advances in animal welfare science.

102. However, although data are sparse, we have considered the welfare of birds during their transport to the UK, during procedures on arrival in the UK, and during quarantine. The mortality of birds is a very crude measure of welfare and other more sophisticated measures and techniques have been developed, particularly for farm animals. During 2004 and 2005, on arrival at Heathrow about 0.8% of birds were found to be dead (Annex 2, Table 5). In a survey of 27 consignments of 38,869 birds in seven of the busiest quarantine facilities by the

State Veterinary Service in 2003, the average mortality during transport (dead on arrival) was 5.8% and during quarantine was 6.8% (Annex 2, Table 7). The causes of death were not given. This overall level of mortality is similar to that recorded by Defra in a survey of 674,635 birds imported between 1988 and 1991 where the comparable mortalities were 2.4% and 11.1%, apparently showing an improvement during quarantine but deterioration during transport (Annex 2, Table 6). Records kept by MAFF from 1988 to 1993 of 9417 consignments of captive birds (a total of 814,908 individuals) showed a mean mortality of 13.3%. Some species had higher than average mortality, for example during this period orange-winged Amazon parrots had a mean mortality of 31.4%. In addition, the mortality of birds from some sources (e.g. Sierra Leone, mean mortality 35.1%) was higher than from other sources. We are concerned about the high mortality, which demonstrates a poor level of welfare.

103. The responsibilities for the welfare of imported birds lie with many parties as birds are traded between the exporting country and their final destination. Under the Animal Welfare Bill currently being considered by Parliament, those responsible for animals will have to take reasonable steps to provide for the welfare needs of the animals. This would apply to those looking after birds in quarantine premises, but not to earlier stages in the supply chain outside land borders of the UK. We should like a similar duty of care to be placed on all those involved in the importation and quarantine process.

104. Within quarantine we would expect the LVI to check that the welfare of the birds was satisfactory. Failure to achieve a minimal standard of welfare should be pursued under the appropriate welfare legislation.

**Recommendation 31: We recommend that:**

- **the welfare standards which should be met during transport to and inspection of birds at the BIP, transport to, and stay at quarantine facilities be reviewed;**
- **the LVI be responsible for auditing welfare during quarantine; and**
- **information on welfare of birds in quarantine be collected by the SVS and published regularly.**

Public health issues

*Risks of transmission of avian influenza during quarantine*

105. The quarantine of imported birds serves to prevent the importation of Newcastle Disease virus and avian influenza virus, the latter now of increasing importance. Quarantine may also provide some protection against psittacosis, a disease of birds caused by *Chlamydophila psittaci* that also causes an atypical pneumonia in humans. Psittacosis of both birds and humans is treatable with antibiotics. The number of human cases occurring in the United Kingdom is very low and the disease is not transmitted from person-to-person.

106. The risk of avian influenza to those exposed during quarantine is low. There will also be other infectious agents such as the *Salmonella* and *Campylobacter* gastro-intestinal pathogens, and emerging diseases such as that



caused by West Nile Virus, may pose a threat in the future. Hygiene measures to prevent transmission of infection to quarantine workers will be essential. We found evidence of good procedures followed by Local Authority staff at the Heathrow Airport Animal Reception Centre and recognised that improvements were required at quarantine facilities.

107. Birds infected with avian influenza excrete the virus in faeces. Virus may survive in the faeces for several months. Virus may also be present in respiratory secretions. Infection of humans through contact with sick birds currently does not happen very easily, and probably occurs by contact with airborne particles carrying the virus or by transfer of virus from contaminated hands. Therefore good occupational hygiene practices in quarantine premises, including personal protection equipment, should provide protection against avian influenza. Should avian influenza be suspected, the SVS and the Health Protection Agency (HPA) will carry out a risk assessment and provide antiviral treatment for those persons considered to be at risk.

108. The risk of mixing of avian and human influenza viruses in quarantine workers is very low and the HPA has advised that the public health measure of immunising quarantine workers against seasonal influenza is not considered necessary at the current low level of risk.

109. Advice for poultry workers has recently been drawn up by Defra and the Health and Safety Executive (HSE)<sup>(21)</sup>. The public health risks from birds which had an undetected infection at the end of quarantine period are considered to be negligible provided that these recommendations are implemented.

**Recommendation 32: We recommend that:**

- **guidance be drawn up on control of infection to provide generic measures to prevent transmission of all potential infections; and**
- **personal protection equipment should be given to staff working in quarantine facilities.**

## **CONCLUSIONS**

110. Quarantine of captive birds was implemented primarily to protect the poultry industry, although it also serves to protect indigenous wild birds and human health.

111. We concluded that, although the risk of importing avian influenza or Newcastle Disease into the UK through captive birds cannot be quantified, the detection of the agents responsible in birds in quarantine is a clear indication that the quarantine process does make some contribution to reduction of the risk.

112. We have identified some weaknesses in the current arrangements for avian quarantine, and have therefore made a number of recommendations which focus on tightening up and improving various aspects of the quarantine system. Amongst these are recommendations that relate to health certification of birds in third countries, transport of birds to a border inspection post, transport to the

quarantine facility, operation of the quarantine facility, and the supervision of the quarantine facility. In addition we have drawn attention to certain anomalies in the quarantine system which should cease. Overall this will enable the entire quarantine process to be audited, and will ensure that it is functioning correctly.

113. In addition we have recommended changes in the way in which Newcastle Disease and avian influenza viruses are monitored during quarantine. This will result in these processes being made more effective, more efficient and more rapid.

114. We urge the Secretary of State to bring our recommendations to the attention of the EU Commission, and press for them to be adopted throughout the EU, and implemented uniformly by all Member States. Only in this way can confidence in the health of captive birds be maintained throughout the EU.

115. Finally we consider that when the modified quarantine system is properly operating throughout the EU, the risk to poultry and wild birds will be very small, and the risk to human health will be negligible.

## **ACKNOWLEDGEMENTS**

We wish to thank all those who contributed to the review process and freely gave of their time, expertise and experience. We also wish to thank the Defra secretariat, particularly Sue Eades for her unstinting help, and Andrew Empson and Sandra Goswell for their willing support. Without them, there would be no report.

## **ANNEX 1 - TERMS OF REFERENCE AND MEMBERSHIP OF THE REVIEW**

### **TERMS OF REFERENCE**

The terms of reference for the review were:

- to review avian quarantine arrangements and procedures for captive birds; and
- to make recommendations on any changes needed to policies or procedures, including guidance, to improve biosecurity, compliance with relevant legislation and clarity of accountabilities.

### **MEMBERSHIP OF THE REVIEW GROUP**

Professor Nigel Dimmock (Chair) – Emeritus Professor of Virology at Warwick University

Anna Bradley – Lay member

Dr Nigel Lightfoot - Head of the Health Protection Agency's Pandemic Influenza Programme

Dr Terry Russell – Systems Analyst

Peter Scott FRCVS – Practising Veterinary Surgeon and Local Veterinary Inspector

Professor Christopher Wathes – Director of the Animal Welfare Group at the Royal Veterinary College, University of London and Chairman of the Farm Animal Welfare Council

### **OBSERVERS AND STAKEHOLDERS**

Meetings of the Group were attended by official observers from Defra, SVS, VLA, DH, HMRC and LACORS.

The Group met representatives of importers, retailers and keepers of captive birds and of the RSPCA and the World Parrot Trust. The Group also visited an approved avian quarantine facility.

### **SECRETARIAT SUPPORT**

Secretariat support to the Review was provided by Defra.

## **ANNEX 2 – STATISTICAL AND OTHER DATA**

### **ECONOMIC VALUE OF THE CAPTIVE BIRD TRADE**

1. There are no published figures on the size of the captive bird trade in the UK, but we have heard that the pet trade is worth between £3 billion and £3.5 billion per annum. This includes pet food, housing, peripherals and the animals themselves. It is estimated the bird market constitutes about 6% of the total pet market, which would suggest that the market for birds, food cages etc. is worth between £180m and £210m per annum. This was the consensus opinion of the industry stakeholders, including importers and retailers, but it has proved difficult to confirm.
2. The captive bird trade exists primarily to supply the pet market directly or via breeders. In 2003 a Pet food Manufacturers Association survey estimated 1.37 million households in UK own birds. This represents about 5.5% of households and it is believed that this is rising. The same survey gave a breakdown of pet owning households. In comparison with 20.9% of households owning a dog, bird ownership was estimated as follows: budgerigars 3.0%; canaries 0.5%; parrots 0.6%; finches 0.4%; other caged birds 1.9%. The European Pet Food Industry Federation estimates that there are 35 million households with birds as pets across Europe.
3. There is some trade of captive birds for research, zoos and conservation purposes but this represents a small percentage of the total.

### **IMPORTS INTO THE UK**

4. Any consignment of birds coming from a third country must come through a border inspection post (BIP). Every third country consignment is accompanied by a veterinary health certificate. The health certificate contains information on the number of animals in the consignment. At the BIP the details of the consignment are recorded on a computerised notification system called TRACES.
5. TRACES also records imports from EU Member States which do not come through a BIP. Details are logged by officials in the exporting country. However, this will only happen when the birds are accompanied by a veterinary health certificate.
6. Pet birds are not recorded on TRACES. Owners may bring 2 birds per person or 6 per family. The owner must apply for a specific licence from the Animal Health Office local to the area of final destination. However, the numbers of licences issued are not collated, but it is estimated that 24 to 96 consignments of pet birds are imported into the UK each year.
7. The table below includes all the categories that relate to birds on the TRACES system. At present no further breakdown in classification is possible.

**Table 1: TRACES records of Imports into the UK from 4 November 2004 to 4 November 2005**

|                                  | <b>Imports into the UK from EU Member States<sup>(1)</sup></b> | <b>Imports into the UK from Third Countries<sup>(2)</sup></b> |
|----------------------------------|--|---|
| <b>Pet Birds</b>                 | Not recorded   | Not recorded  |
| <b>Poultry<sup>(3)</sup></b>     | 15.6 million <sup>(5)</sup>                                    | 1,496,752   |
| <b>Psittacines</b>               | 55,038   | 16,869  |
| <b>Birds of Prey</b>             | 43   | 172   |
| <b>Pigeons</b>                   | 1,098  | 74  |
| <b>Other Birds<sup>(4)</sup></b> | 2,799,420 <sup>(5)</sup>                                       | 53,190  |

(1) Data extracted 31 November 2005 or 1 December 2005

(2) Data extracted 10 November 2005

(3) Live poultry (fowls of the species *Gallus domesticus*, ducks, geese, turkeys and guinea fowls, including day-old chicks)

(4) Includes game birds

(5) These two figures are for the period 1 November 2004 to 31 October 2005

Data Source: TRACES database – International Animal Health Division, Defra

8. Limitations on the accuracy of TRACES information include:
- the correct nomenclature code has to be entered by users, for example, under 'other live animals' there is a nomenclature code for 'others' and data may be entered using this code instead of the appropriate bird code; and
  - there is no way of confirming whether or not correct numbers are entered for the number of animals in a consignment.

#### Transshipment figures for London Heathrow

9. Of the live birds arriving at Heathrow airport, some birds are imported into the UK, some are transhipped to other EU Member States, and some are transhipped to third countries.

**Table 2: Final destination of birds arriving at London Heathrow**

| <b>Year</b> | <b>Imported into UK</b> | <b>Transhipped to EU Member States</b> | <b>Transhipped to Third Countries</b> |
|-------------|-------------------------|--|---------------------------------------|
| 2002        | 61%                     | 4%                                     | 35%                                   |
| 2003        | 54%                     | 13%                                    | 33%                                   |
| 2004        | 73%                     | 20%                                    | 7%                                    |
| 2005        | 60%                     | 17%                                    | 23%                                   |

Data source: LACORS

## LEGAL TRADE IN CITES LISTED WILD BIRDS

10. Trade in the most endangered species and species which may become endangered is regulated by CITES. Estimates of the value of the total legal international wildlife trade based on declared import values in the early 1990s totalled \$160 billion (roughly £90 billion) per annum. The figure excluding timber and fisheries was \$15 billion (roughly £9 billion) per annum.

11. The EU is one of the largest and most diverse markets for CITES listed species, accounting for an estimated one third of legal global imports. Net imports of CITES listed live birds are shown in the table below.

**Table 3: Legal trade in CITES listed live birds 1996 to 2002**

| Imported into     | Number           | Percentage |
|-------------------|------------------|------------|
| EU (25)           | 5,914,141        | 86%        |
| Japan             | 162,849          | 4%         |
| USA               | 288,841          | 1%         |
| Rest of the World | 668,135          | 9%         |
| <b>Total</b>      | <b>7,123,819</b> |            |

Source: Global Wildlife Division, Defra

12. Of the EU imports 1.6 million are psittacines. Amongst EU Member States, Italy, Portugal and Spain are the largest importers.

## ILLEGAL TRADE IN CITES LISTED WILD BIRDS

13. Estimating the scale and value of the illegal international wildlife trade presents a considerable challenge. Crime is, by definition, a hidden activity which defies any accurate measurement. In six wildlife trade prosecutions that occurred in the UK between 1996 and 2002, the total monetary value of the wildlife and wildlife products involved totalled £4,058,000; some of this relates to certain parrots and birds of prey.

14. The low risk of detection and low penalties relative to the high value of certain wildlife products serve as an incentive for criminals to engage in this trade. For example, the price of parrot species varies from £400 for a pair of common African grey parrots to up to £50,000 for the much rarer Lear's macaw, while large birds of prey such as the golden eagle can fetch up to £3-5,000 each. Illegal traders adapt to changing circumstances. They target new species when others become depleted, shift to new markets or develop new smuggling methods and routes to avoid detection. Some CITES species and their products are transported in personal luggage and through the post.

### Scale of illegal CITES trade within the EU

15. The globalisation of world trade and advances in technology have all provided new avenues for trade. At the same time, the creation of a common

market within the EU has resulted in fewer controls on intra-EU wildlife trade. Particular species are consistently threatened by organised crime groups. Birds are at high risk, especially birds of prey and parrots.

16. In recent years, an increasing number of live parrots have been seized in the new Member States of the EU, including some rare and strictly protected species. For example, between 2000 and 2002, 248 parrots were seized in the Czech Republic and 172 in Slovakia.

17. Unfortunately no comprehensive data on seizures and confiscations are currently available for the EU as Member States are not obliged to collect such information systematically and report it either to the CITES Secretariat or the EU Commission. Individual Member States maintain their own records but it is not centrally compiled. It is therefore difficult to assess how great the risk of illegal trade is within the EU.

18. The number of UK seizures of birds imported under CITES rules is shown in the table below.

**Table 4: CITES seizures in the UK**

| Year | Number of birds seized |
|------|------------------------|
| 1999 | 31                     |
| 2000 | 64                     |
| 2001 | 241                    |
| 2002 | 752                    |
| 2003 | 6                      |
| 2004 | 2,922 <sup>(1)</sup>   |
| 2005 | 313                    |

(to September 05, provisional)

(1) Approximately 2,500 were seized on a technicality, and subsequently returned

Source: Global Wildlife Division, Defra

19. The number of seizures is small compared with the total number of EU live bird imports, although they represent on average about 18% of total seizures of CITES specimens.

## **MORTALITY**

### Import and dead-on-arrival figures for Heathrow 2004-2005

20. A summary of import and dead on arrival figures at London Heathrow for 2004 and 2005 (January to October) is shown in the tables below.



**Table 5: Import and dead on arrival at London Heathrow**

| Non-psittacines 2004  |        |
|-----------------------|--------|
| Total number imported | 43,553 |
| DOA at Heathrow       | 379    |
| % Dead on arrival     | 0.9    |

  

| Psittacines 2004      |        |
|-----------------------|--------|
| Total number imported | 16,447 |
| DOA at Heathrow       | 45     |
| % Dead on arrival     | 0.3%   |

  

| Non-psittacines January to October 2005 |        |
|---|--------|
| Total number imported                   | 50,569 |
| DOA at Heathrow                         | 546    |
| % Dead on arrival                       | 1.1%   |

  

| Psittacines January to October 2005 |       |
|-------------------------------------|-------|
| Total number imported               | 5,734 |
| DOA at Heathrow                     | 15    |
| % Dead on arrival                   | 0.3%  |

Source: Robert Quest, LACORS

Mortality of birds imported into UK 1988-1991

21. Historical information on the numbers of birds dead on arrival and mortality during quarantine have been collated from the Reports of the Chief Veterinary Officer for the period 1988 to 1991. These are shown in the table below.

**Table 6: Deaths on arrival and deaths in quarantine, 1988 to 1991**

| Year      | Type            | Imported | DOA %      | DIQ%        | DOA+DIQ%    |
|-----------|-----------------|----------|------------|-------------|-------------|
| 1988      | Psittacines     | 32,039   | 1.0        | 9.8         | 10.8        |
|           | Non-psittacines | 152,538  | 2.9        | 11.5        | 14.4        |
|           | Total '88       | 184,577  | 2.6        | 11.2        | 13.7        |
| 1989      | Psittacines     | 29,235   | 1.0        | 13.0        | 14.0        |
|           | Non-psittacines | 155,366  | 2.4        | 10.1        | 12.5        |
|           | Total '89       | 184,601  | 2.2        | 10.6        | 12.7        |
| 1990      | Psittacines     | 35,009   | 1.1        | 12.9        | 14.0        |
|           | Non-psittacines | 140,958  | 2.3        | 9.7         | 11.9        |
|           | Total '90       | 175,967  | 2.0        | 10.3        | 12.3        |
| 1991      | Psittacines     | 22,695   | 1.1        | 10.3        | 11.3        |
|           | Non-psittacines | 106,795  | 3.0        | 12.5        | 15.6        |
|           | Total '91       | 129,490  | 2.7        | 12.2        | 14.8        |
| 1989-1991 | Psittacines     | 118,978  | 1.1        | 11.5        | 12.5        |
|           | Non-psittacines | 555,657  | 2.7        | 11.0        | 13.6        |
|           | All birds       | 674,635  | <b>2.4</b> | <b>11.1</b> | <b>13.4</b> |

Data source: Annual Importation of Birds Mortality Statistics from Quarantine Returns, MAFF.

DOA = Dead on arrival

DIQ = Died in quarantine

#### Quarantine mortality survey 2003

22. More up to date information is available from a non-representative survey of 27 consignments in 2003 from the seven largest UK quarantine facilities showing the number of birds imported, the number of those that were dead on arrival, and how many subsequently died in quarantine. The results are shown in the tables below.

**Table 7(a) Quarantine mortality survey - mortality by source and type of bird**

| Ref | Origin       | Type       | Arrived | DOA | DIQ | DOA+DIQ | Comments  |
|-----|--------------|------------|---------|-----|-----|---------|---|
| 1   | Guinea       | Non-Psitts | 9       | 1   | 0   | 1       |   |
| 2   | Guinea       | Psitts     | 4       | 1   | 3   | 4       |   |
| 3   | Guinea       | Non-Psitts | 100     | 0   | 0   | 0       |   |
| 4   | Ghana        | Non-Psitts | 143     | 4   | 29  | 33      |   |
| 5   | Ghana        | Non-Psitts | 167     | 20  | 30  | 50      |   |
| 6   | South Africa | Psitts     | 1,213   | 0   | 0   | 0       |   |
| 7   | Solomon Is   | Psitts     | 129     | 1   | 0   | 1       |   |
| 8   | South Africa | Psitts     | 1,118   | 0   | 2   | 2       |   |
| 9   | South Africa | Psitts     | 1,259   | 25  | 0   | 25      |   |
| 10  | Tanzania     | Non-Psitts | 1,148   | 29  | 0   | 29      |   |
| 11  | Guinea       | Non-Psitts | 1,502   | 40  | 0   | 40      |   |
| 12  | Guinea       | Non-Psitts | 3,470   | 204 | 0   | 204     |   |
| 13  | Tanzania     | Non-Psitts | 2,259   | 218 | 0   | 218     |   |
| 14  | Tanzania     | Non-Psitts | 912     | 0   | 157 | 157     |   |
| 15  | Tanzania     | Mixed      | 128     | 0   | 26  | 26      |   |
| 16  | Surinam      | Psitts     | 93      | 0   | 0   | 0       |   |
| 17  | Guinea       | Mixed      | 6,444   | 0   | 833 | 833     | Power failure   |
| 18  | Guinea       | Mixed      | 610     | 20  | 0   | 20      |   |
| 19  | Guinea       | Non-Psitts | 5,375   | 909 | 0   | 909     |   |
| 20  | Guyana       | Psitts     | 369     | 0   | 0   | 0       |   |
| 21  | Madagascar   | Psitts     | 50      | 0   | 0   | 0       |   |
| 22  | Guinea       | Non-Psitts | 2,898   | 272 | 838 | 1,110   | Power failure   |
| 23  | Guyana       | Psitts     | 317     | 6   | 0   | 6       |   |
| 24  | Guyana       | Mixed      | 284     | 7   | 220 | 227     | Pacheco's   |
| 25  | Tanzania     | Non-Psitts | 1,998   | 133 | 166 | 299     |   |
| 26  | Guinea       | Non-Psitts | 6,790   | 346 | 345 | 691     | <i>Arbitrarily split between DOA and DIQ as 691 includes both</i> |
| 27  | Australia    | Psitts     | 80      | 0   | 0   | 0       |   |

DOA = Dead on arrival, DIQ = Died in quarantine, Psitts = Psittacines

**Table 7(b): Quarantine mortality survey – distribution of mortality rate by consignment**

| <b>% Mortality (DOA + DIQ from all causes)</b> | <b>Number of consignments</b> |
|--|-------------------------------|
| 0  | 9                             |
| 1-10   | 7                             |
| 11-20  | 5                             |
| 21-30  | 3                             |
| 31-40  | 1                             |
| 41-50  | 0                             |
| 51-60  | 0                             |
| 61-70  | 0                             |
| 71-80  | 1                             |
| 81-90  | 0                             |
| 91-100   | 1                             |

**Table 7(c): Quarantine mortality survey - overall percentage mortality**

|                    | <b>Arrived</b> | <b>DOA</b>  | <b>DIQ</b>  | <b>DOA+DIQ</b> |
|--------------------|----------------|-------------|-------------|----------------|
| <b>All birds</b>   | 38,869         | 2,236       | 2,649       | 4,885          |
|                    |                | <b>5.8%</b> | <b>6.8%</b> | <b>12.6%</b>   |
| <b>Psittacines</b> | 4,632          | 33          | 5           | 38             |
|                    |                | <b>0.7%</b> | <b>0.1%</b> | <b>0.8%</b>    |

Data source: International Animal Health Division, Defra.

**ISOLATIONS OF AVIAN INFLUENZA AND NEWCASTLE DISEASE FROM BIRDS IN QUARANTINE IN THE UK**

**Table 8(a): Isolations of avian influenza virus from birds in quarantine in the UK since 1975**

| Year      | No of birds affected | Subtype          |
|-----------|----------------------|------------------|
| 1975      | 29                   | H4N6             |
| 1976-1977 | 58                   | H3N8             |
| 1979      | 2                    | H4N6             |
| 1979      | 2                    | H10N7            |
| 1979      | 1                    | H7N1             |
| 1987      | 1                    | H3N8             |
| 1988      | 5                    | H3N8,H3N6        |
| 1988      | 4                    | H4N6             |
| 1989      | 2                    | H3N8             |
| 1989      | 19                   | H4N2, H4N3, H4N6 |
| 1989      | 1                    | H7N7             |
| 1990      | 4                    | H4N3, H4N8       |
| 1991      | 4                    | H4N1, H4N8       |
| 1993      | 4                    | H4N6             |
| 1997      | 9                    | H4N6             |
| 2000      | 1                    | H3N8             |
| 2005      |                      | H5N1             |

Source: VLA

**Table 8(b): Isolations of Newcastle Disease viruses from birds in quarantine in the UK since January 1996**

| Year | Host                           | Virulence   |
|------|--------------------------------|-------------|
| 1997 | Parakeets and finches          | ICPI = 1.89 |
| 1997 | Finches and dove               | ICPI = 1.69 |
| 1997 | Finches, magpie and redbill    | ICPI = 1.65 |
| 1997 | Parrot, chicken and parakeet   | ICPI = 1.81 |
| 2001 | Parakeet, dove and starling    | ICPI = 0.89 |
| 2003 | Shrikes                        | ICPI = 1.80 |
| 2003 | Barbets, hornbills and toucans | ICPI = 1.78 |
| 2003 | Martial eagle                  | ICPI = 1.50 |

Source: VLA

ICPI = Intracerebral pathogenicity index (scale is 0.00 to 3.00 and anything over 0.7 is virulent).

#### **AVIAN NOTIFIABLE DISEASE OUTBREAKS SINCE 1978**

**Table 9: Outbreaks of notifiable avian disease in the UK outside quarantine since 1978**

|      |   |
|------|---|
| 1978 | 1 outbreak of Newcastle Disease in exotic birds.  |
| 1979 | 2 avian influenza outbreaks in Norfolk. 9,262 birds were killed.  |
| 1984 | 23 confirmed outbreaks of Newcastle Disease in poultry. The majority of these outbreaks originated from feed contaminated by infective pigeons at Birkenhead docks. |
| 1992 | 1 outbreak of avian influenza in Turkeys in Norfolk.  |
| 1996 | 1 outbreak of Newcastle Disease in pheasants in East Sussex.  |
| 1997 | 11 outbreaks of Newcastle Disease in chickens and turkeys.  |
| 2005 | 1 outbreak of Newcastle Disease in pheasants.   |

Source: Annual Reports of the Chief Veterinary Officer, Defra

**ISOLATIONS OF AI VIRUSES OF H5 OR H7 SUBTYPES FROM CAPTIVE CAGED BIRDS IN COUNTRIES OF THE EUROPEAN UNION 1991-2003**

**Table 10: Isolations of AI viruses of H5 or H7 subtypes from captive caged birds in countries of the European Union 1991-2003**

| Year | Country     | Host  | Subtype | Virulence IVPI |
|------|-------------|---|---------|----------------|
| 1991 | Italy       | monk parrot ( <i>Myiopsitta monachus</i> )  | H7N2    | 0.85           |
| 1991 | Italy       | monk parrot ( <i>Mypsitta monachus</i> )    | H7N2    | 0.45           |
| 1991 | Italy       | cockatiel ( <i>Nymphicus hollandicus</i> )  | H7N2    | 0.27           |
| 1991 | England     | turaco ( <i>Touraco musophagida</i> )       | H5N2    | 0.00           |
| 1994 | Netherlands | parakeet                                    | H7N1    | 0.00           |
| 1994 | England     | sun conure ( <i>Aratinga solstitialis</i> ) | H7N1    | 0.00           |
| 1994 | England     | parrot                                      | H7N1    | 0.00           |
| 1994 | England     | painted conure                              | H7N1    | 0.00           |

Data Source: Dennis Alexander, VLA.

IVPI = Intravenous Pathogenicity Index (scale 0.00 to 3.00, and anything over 1.2 is highly pathogenic)

None of these birds were in quarantine when the viruses were isolated.

## **ANNEX 3 – QUARANTINE FOR CAPTIVE BIRDS – LEGAL PROVISIONS**

1. Once EU legislation imposes requirements in a particular field, Member States are limited by the terms of the EU legislation as to what they can do in that field. Sometimes the EU legislation simply sets outline standards, leaving Member States to fix their own detailed rules (e.g. non-commercial movements of captive birds imported by approved zoos). There are particular problems with Member States creating controls which might be seen as a barrier to trade into or within the EU.
2. Quarantine requirements and conditions for commercial imports from non-EU countries of non-poultry birds are set out in Commission Decision 2000/666/EC.
3. Decision 2000/666/EC deals with imports of captive birds other than poultry, but excludes:
  - pets;
  - birds going to approved institutes and other centres such as experimental laboratories and zoos. Defra includes circuses, amusement parks and conservation programmes in this group.
4. In England the requirements of the Decision are given effect under the Importation of Birds, Poultry and Hatching Eggs Order 1979 (SI 1979/1702). The import of poultry birds is controlled under the Animal and Animal Products (Import and Export) (England) Regulations 2005 (SI 2005/2002).
5. Article 4 of the 1979 Order prohibits imports of birds without a licence issued by the Secretary of State. A General Licence was issued under the 1979 Order to permit the movement of captive birds, and to impose the requirements of Decision 2000/666/EC. Because the Licence is general (published on the Defra Website and by other means), importers may rely on it as authority to bring captive birds into the country without getting individual permissions, but this depends on the terms of the Licence being met. These include the quarantine requirements of Decision 2000/666/EC as well as the import conditions.
6. However, the General Licence was revoked at 12 noon Saturday 29 October 2005, reflecting the temporary emergency ban on bird imports put in place at EU level in Commission Decision 2005/760/EC (as amended). This note largely explains the normal situation where imports of live birds under Decision 2000/666/EC are permitted.
7. Quarantine facilities and quarantine centres dealing with live birds whose import is subject to Decision 2000/666/EC must be approved in accordance with that Decision. Defra approves quarantine facilities and centres in England on a non-statutory basis. The Decision imposes duties on Member States to grant such approvals on the basis that the centre or facility meets the requirements



detailed in the Decision (Art 3.4 and see Annex B). They must be given an approval number, and their details provided to the European Commission. The approval can be withdrawn if the terms on which it is granted are not met.

8. In outline, quarantine centres are premises which contain more than one epidemiologically separate quarantine facility, each of which quarantines birds on an “all-in, all-out” basis. Quarantine facilities are premises through which birds are quarantined on an “all-in, all-out” basis. There is no epidemiological separation within a quarantine facility.

9. LVIs supervise the quarantine, acting as official veterinarian authorised by Defra and in accordance with standing instructions.

10. Under the 1979 Order importers relying on the General Licence (when it is in force) and those involved in quarantine (and indeed other parties) may be prosecuted for breach of the terms of the General Licence (articles 11 and 12 of the Order). The Local Authority is the statutory enforcement agency; the Secretary of State may step in to take enforcement action if necessary.

11. The 1979 Order contains other provisions relating to quarantine (e.g. authorisation is required for removal of bird carcasses from quarantine – art 5(5)).

12. A separate General Licence has been issued to cover captive birds going to zoos, circuses, amusement parks and scientific institutions, and conservation programmes (which are not subject to Decision 2000/666/EC, see paragraph 2 above). This Licence imposes import conditions and quarantine procedures as laid down in the General Licence for captive birds. In particular, the Licence requires birds to be quarantined at facilities or centres approved under Decision 2000/666/EC. This General Licence has been slightly modified to reflect the terms of the current bird import ban.

13. Prior to the EU ban on imports of captive birds, pet birds were brought in to England according to national rules. Specific licences were issued under the 1979 Order. Now, under the current emergency EU rules introduced by Commission Decision 2005/759/EC (as amended) special conditions exist for the import of pet birds.

14. Table 1(a) following this note sets out the EU legislation mentioned above which is relevant to different types of bird movements (other than poultry). In respect of commercial consignments of captive birds (i.e. not pets or those birds going to approved centres) imported from other Member States of the EU and from non-EU states, Table 1(b) identifies the individual conditions of import and quarantine.

**Note:** This Annex only deals with imports. There are other mechanisms for detecting and controlling outbreaks of disease in animals, including birds, after the import controls end, and for those birds already in the UK.

**Table 1(a) Community Legislation relevant to Live Bird Imports (other than poultry)**

| Type of bird import  | Relevant EU legislation                   |   |
|--|---|---|
|  | Imports from other Member States          | Imports from Third Countries  |
| Captive birds  | Directive 92/65/EEC<br>(known as “Balai”) | Decision 2000/666/EC<br><br>(but note that imports are currently suspended under EU emergency legislation – Directive 2005/760/EC (as amended)) |
| Pets   | National rules                            | National rules (but note that under the current EU emergency legislation Decision 2005/759/EC (as amended) imposes EU rules)                    |
| Other Birds<br>(e.g. birds for approved zoos, circuses, amusement parks, scientific purposes, conservation breeding programmes.) | National rules                            | Largely national rules (but note minor documentation requirements imposed by Decision 2005/760 (as amended)).                                   |

**Table 1(b) Community Procedures for Live Bird Imports (other than poultry)**

| <b>Type of import or quarantine requirement</b>   | <b>Application of import and quarantine conditions for captive birds (ie, other than pets or birds going to approved centres, etc)</b>  |  |
|---|---|--|
|   | <b>- by origin of consignment</b>   |  |
|   | <b>From an EU Member State</b><br>Requirements under Directive 92/65/EEC – implemented in domestic law by the Animals and Animal Products (Import & Export) (England) Regulations 2005.   | <b>From a third country</b><br>Requirements under Decision 2000/666/EC, given effect in domestic law under the Importation of Birds, Poultry and Hatching Eggs Order 1979 (disregarding effect of the current EU emergency ban). |
| Pre export isolation  | No isolation requirement but must have been completed quarantine within the EU (for at least 30 days).  | No isolation requirement but must have been kept in a holding centre for at least 21 days prior to export or from hatching if this is a shorter period.  |
| Health certification  | No health certificate is required, but psittacines must be accompanied by a commercial document signed by the official veterinarian.  | Official veterinarian in exporting country certifies in form prescribed in Annex A to Decision 2000/666/EC.  |
| Pre export health examination   | Psittacines – official veterinary certificate does not have to state the bird has been examined and found to be healthy.<br><br>Non-psittacines – exporters self certify that the birds 'do not show any obvious signs of disease'. | The prescribed health certificate must state ( <i>inter alia</i> ) that the birds were examined on the day of loading for export, showed no sign of infectious disease, and were fit to travel.                                  |
| Freedom from Avian Influenza and Newcastle Disease (ie, in relation to the premises from which the birds are consigned) | No AI in the past 30 days<br><br>No ND restrictions current   | Holding free of AI and ND for past 30 days and not under current restrictions in relation to AI, ND and as appropriate, psittacosis.   |
| Certified freedom of area for AI and ND   | Consignment must not come from an 'area' subject to ND restrictions, or to any ban on animal health grounds.  | Area of 10 km around holding free for past 30 days.  |

|  | <b>From an EU Member State</b>  | <b>From a third country</b>   |
|--|---|---|
| Certified freedom from psittacosis               | Psittacines only: they must not come from a holding or have been in contact with animals from a holding where psittacosis has occurred over the past 2 months (or other period to be prescribed in EU law).   | Psittacines only: they must be certified as coming from a holding where no case of psittacosis has occurred over the previous 60 days.  |
| Importation through Border Inspection post (BIP) | Not necessary – so entry via any port/airport is permitted without any obligatory border checks (but see “Vet Checks on arrival” below).  | Entry only through a BIP which may be in any Member State. Birds are inspected at the BIP and sealed in their crates or cages so as to avoid possibility of substitution of the contents during transport (to the quarantine facility or centre – see below).   |
| Pre-notification of arrival                      | Importer must notify competent authority (in domestic legislation, named as the Divisional Veterinary Manager, a senior veterinary inspector covering the area where the consignment will arrive) at least 24 hours before arrival at destination.<br><br>(Only Psittacines generate a TRACES message to DVM. Non-psittacines do not generate TRACES message) | Importer must notify BIP at least 24 hours before arrival.<br><br>(BIP generates TRACES message to DVM when consignment passes through BIP)   |
| Quarantine required                              | None  | 30 days in approved quarantine premises   |
| Vet check on arrival                             | Non-discriminatory on-the-spot checks at place of destination (In practice these are rarely carried out.)<br><br>Note that where there is suspicion of an infringement of the EU legal requirements, checks may be carried out at any point in the transport of the consignment on UK territory.  | On arrival at a quarantine facility or centre, the official veterinarian must carry out clinical examination and sampling and testing of birds must be undertaken. (In practice, the LVI, who acts as official veterinarian, is expected to carry out a check within 12 hours of the birds’ arrival. The LVI must debox and examine the birds.)<br><br>Psittacines must be individually identified by tamper-proof leg ring or a microchip.<br><br>Any birds DOA must be sent to VLA (as officially designated laboratory) for virus isolation. |

|                         | <b>From an EU Member State</b> | <b>From a third country</b>  |
|-------------------------|--------------------------------|--|
| Tests required          | None                           | <p>During quarantine, all birds are tested for disease either by use of sentinels in the quarantine or by virus isolation from faeces/cloacal swabs.</p> <p>Carcases of birds dying during quarantine must be sent to VLA for virus isolation. (In practice, representative samples are sent for large numbers.)</p>   |
| Veterinary supervision  | None                           | <p>Quarantine is supervised by the official veterinarian (in practice, an LVI) who must visit at least at the beginning and end of the quarantine period, and as many further times as the “disease situation” requires.</p> <p>The official veterinarian must be informed of diseases which present themselves and of the death of birds or sentinel chickens</p> <p>(Note that Defra – via the State Veterinary Service – carries out an annual inspection of the quarantine facility and supervision of the LVI.)</p> |
| Release from Quarantine | Not applicable                 | <p>May be released only with the written authorisation of the official veterinarian.</p> <p>(In practice, under the domestic legislation, it is the Divisional Veterinary Manager (a senior Defra veterinary inspector) who provides the authorisation, after receiving and checking all the LVI and lab reports.)</p>   |

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(27) Defra qualitative risk assessment: Newcastle disease in France

[www.defra.gov.uk/animalh/diseases/monitoring/pdf/nd\\_france.pdf](http://www.defra.gov.uk/animalh/diseases/monitoring/pdf/nd_france.pdf)

(28) Defra qualitative risk assessment: Highly Pathogenic Avian Influenza in Asia

[www.defra.gov.uk/animalh/diseases/monitoring/pdf/hpai\\_asia.pdf](http://www.defra.gov.uk/animalh/diseases/monitoring/pdf/hpai_asia.pdf)

(29) Defra qualitative risk assessment: Highly Pathogenic Avian Influenza in Eastern Europe

[www.defra.gov.uk/animalh/diseases/monitoring/pdf/hpai-easterneurope.pdf](http://www.defra.gov.uk/animalh/diseases/monitoring/pdf/hpai-easterneurope.pdf)

(30) European Centre for Disease Prevention and Control: Interim guidance for Workers' Protection

[www.ecdc.eu.int/avian\\_influenza/H5N1\\_Occupational\\_Guidance\\_ECDC\\_051019.pdf](http://www.ecdc.eu.int/avian_influenza/H5N1_Occupational_Guidance_ECDC_051019.pdf)

(31) European Centre for Disease Prevention and Control: The Public health risk from Highly Pathogenic Avian Influenza Viruses Emerging in Europe with Specific Reference to A/H5N1

[www.ecdc.eu.int/avian\\_influenza/H5N1\\_European\\_Risk\\_Assessment\\_ECDC\\_051019.pdf](http://www.ecdc.eu.int/avian_influenza/H5N1_European_Risk_Assessment_ECDC_051019.pdf)



## GLOSSARY OF TERMS AND ACRONYMS

|                               |   |
|-------------------------------|---|
| AI                            | Avian Influenza   |
| ARC                           | Animal Reception Centre - the BIP at Heathrow Airport, that has capacity to handle live animals   |
| Avian chlamydophilosis        | Synonym for psittacosis   |
| Balai                         | Council Directive 92/65/EEC   |
| BIP                           | Border Inspection Post  |
| Captive birds                 | Birds in captivity excluding poultry  |
| Captive bred birds            | Birds born and raised in captivity  |
| CAWC                          | Companion Animal Welfare Council  |
| CEN                           | European Committee for Standardisation  |
| <i>Chlamydophila psittaci</i> | The causative organism of psittacosis. Used to be called <i>Chlamydia psittaci</i>  |
| CITES                         | Convention on International Trade in Endangered Species of Wild Flora and Fauna   |
| Co-terminous quarantine       | Quarantine where animals from different consignments are housed together in one batch such that they all complete their quarantine at the same time.                          |
| CVED                          | Common Veterinary Entry Document – clearance document issued by the BIP after they have confirmed that the documentary and physical checks have been completed satisfactorily |
| CVO                           | Chief Veterinary Officer  |
| Defra                         | Department for Environment, Food and Rural Affairs  |
| DG SANCO                      | Directorate General for Health and Consumer Affairs – European Commission   |
| DH                            | Department of Health  |
| DIQ                           | Died in quarantine  |
| DNA                           | Deoxyribose Nucleic Acid  |
| DOA                           | Dead on arrival   |
| DVM                           | Divisional Veterinary Manager of the State Veterinary Service   |
| EFSA                          | European Food Safety Authority  |

|                        |  |
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| EU                     | European Union   |
| FFP                    | Full Face Protection mask - FFP3 should filter viruses.  |
| H                      | Haemagglutinin – a surface protein of influenza virus  |
| HACCP                  | Hazard Analysis and Critical Control Point   |
| Hand reared wild birds | Birds which are taken from the wild at a very young age  |
| HEPA filter            | High Efficiency Particulate Air filter – filters particulates, including micro-organisms, from the air.  |
| HMRC                   | HM Revenue & Customs   |
| HPA                    | Health Protection Agency   |
| HPAI                   | High Pathogenicity Avian Influenza   |
| HSE                    | Health and Safety Executive  |
| IATA                   | International Air Transport Association  |
| Influenza A virus      | All influenza A viruses have an A antigen inside the virion: this distinguishes them from influenza B viruses which share a common B antigen   |
| ICPI                   | Intracerebral pathogenicity index  |
| IVPI                   | Intravenous pathogenicity index  |
| JNCC                   | Joint Nature Conservancy Council   |
| JCVI                   | Joint Committee on Vaccination and Immunisation  |
| LACORS                 | Local Authorities Coordinators of Regulatory Services  |
| LPAI                   | Low Pathogenicity Avian Influenza  |
| LVI                    | Local Veterinary Inspector – a private veterinarian acting on behalf of the Secretary of State   |
| N                      | Neuraminidase – a surface protein of influenza virus   |
| ND                     | Newcastle Disease  |
| Negative pressure      | A room that has a pressure less than that of its surroundings such that air will not flow out of the room. (This may be achieved by raising the pressure of an enclosing air space.) |
| NZ                     | New Zealand  |
| OIE                    | Organisation International des Épizooties or the World Organisation for Animal Health  |
| OV                     | Official Veterinarian – a veterinarian who is either a member of the SVS or an LVI   |

|                             |  |
|-----------------------------|--|
| PCR                         | Polymerase chain reaction. A test method which detects a specific sequence of DNA.   |
| Pet birds                   | Family pet birds imported with their owners. Imports are restricted to two per person or 6 per family.   |
| PHA                         | Port Health Authority  |
| PMV1                        | Paramyxovirus 1 – the causative organism of Newcastle Disease  |
| POAO                        | Products of Animal Origin  |
| Poultry                     | From Council Directive 92/35/EC ‘poultry’ means fowl, turkeys, guinea fowl, ducks, geese, quails, pigeons, pheasants, partridges and ratites (Ratitae) reared or kept in captivity for breeding, the production of meat or eggs for consumption, or for re-stocking supplies of game. For the purposes of TRACES, the definition of poultry is fowls of the species <i>Gallus domesticus</i> , ducks, geese, turkeys and guinea fowls. |
| PPE                         | Personal Protection Equipment  |
| Psittacines                 | Birds of the parrot family   |
| Psittacosis                 | A disease of birds, mainly parrots, and humans caused by <i>Chlamydophila psittaci</i> infection   |
| Quarantine Facility or Unit | A single quarantine building through which birds are processed on an ‘all-in, all-out’ basis   |
| Quarantine Centre           | A single premises which may comprise several separate quarantine facilities/units.   |
| RSPCA                       | Royal Society for the Prevention of Cruelty to Animals   |
| RT-PCR                      | Reverse transcription polymerase chain reaction. A test method which detects a specific sequence of RNA.   |
| SCoFCAH                     | Standing Committee on the Food Chain and Animal Health   |
| Show birds                  | Birds for approved zoos, circuses, amusement parks, scientific purposes and conservation breeding programmes.  |
| SVS                         | State Veterinary Service   |
| Third countries             | Countries which are not Member States of the EU  |
| TRACES                      | TRAdE Control and Expert System – a system which provides automatic notification to the veterinary authority of a receiving Member State when an official veterinary health certificate is signed in a consigning Member State   |
| Transshipments              | Consignments that arrive from third countries at a BIP and are not brought into the country but are consigned forward  |

|                   |  |
|-------------------|--|
|                   | to another third country                                   |
| UK                | United Kingdom   |
| UKAS              | UK Accreditation Service                                   |
| USA               | United States of America                                   |
| VIPER             | Veterinary Instructions, Procedures and Emergency Routines |
| VLA               | Veterinary Laboratories Agency                             |
| VO                | Veterinary Officer of the State Veterinary Service         |
| Waterfowl         | Ducks, geese, swans, wading birds, shore birds etc.        |
| WHO               | World Health Organisation                                  |
| Wild caught birds | Birds which are taken from the wild as adults              |
| WNV               | West Nile Virus  |