



Practical Advice for Reducing Avian Influenza Risks at Wetlands of Importance to Waterbirds

By Crawford Prentice



Contact should be minimized between wild birds and captive/domestic birds to reduce HPAI transmission.

Introduction

The emergence and spread of the highly pathogenic avian influenza subtype H5N1 (HPAI H5N1) in recent years has led to widespread concern about the potential impacts on human health (especially the risk of a global influenza pandemic), the poultry industry, and the conservation of wild birds. This factsheet focuses on the last aspect and is based on guidelines developed under the UNEP/GEF Siberian Crane Wetland Project that were subsequently included in Ramsar Resolution X.21 Guidance on responding to the continued spread of highly pathogenic avian influenza (see Section 2 of the Annex): http://www.ramsar.org/res/key_res_x_index_e.htm Please refer to these guidelines for further information on the advice presented below.

The guidelines are intended to reduce the potential risk of outbreaks of the disease at wetlands of national and international importance for waterbirds by proposing a range of measures that can be taken before any outbreaks have occurred. Ideally, these measures should be systematically planned on the basis of a risk assessment for the site, within the context of site management plans and outbreak response plans, but a less comprehensive approach can still reduce the risks.



Risks are related to the timing of disease outbreaks, such as at key migration staging or wintering areas where dense flocks of migratory waterbirds concentrate.

The UNEP/GEF Siberian Crane Wetland Project (SCWP) is a six-year effort to protect a network of globally important wetlands in Asia that are of critical importance for migratory waterbirds and other wetland biodiversity. The project uses the globally threatened Siberian Crane (*Grus leucogeranus*) as a flagship species, linking activities at 16 key wetlands along the species' western and eastern flyways in Russia, Kazakhstan, Iran and China.

For more information visit www.scwp.info or contact the International Crane Foundation, E11376 Shady Lane Rd, Baraboo WI, USA +1-608-356-9462 scwp@savingcranes.org

For more information contact Crawford Prentice, SCWP International Technical Advisor, at crawford@savingcranes.org; Tel: +60 3 7725 9546; Fax: +60 3 7726 0987

Site Risk Assessments

It is recommended to undertake site risk assessments which should be transparent, structured, and science-based and make use of all available knowledge. However, as much remains unknown about the epidemiology and transmission of HPAI H5N1, the development of accurate risk assessments for individual wetland sites are problematic. This reflects the need to give priority to applied research, monitoring, and surveillance. However, it is important to make efforts using the best available information to reduce risks at wetlands, starting with a site risk assessment. The recommended approach follows the Ramsar Convention's Wetland Risk Assessment Framework (Ramsar Convention Secretariat 2007). The application of this framework to assess the risks of HPAI occurrence at a site (i.e., a specific animal health problem) may have some shortcomings, but the general approach is recommended as good practice. Examples of practical considerations for risk assessments include:

- The **timing of an outbreak** will affect its impacts. For instance, risks caused by an outbreak may be higher during the peak migration and non-breeding period for some sites – or the opposite for other sites which have, for example, important breeding waterbird populations.
- The risks posed by infection **at sites containing high concentrations of birds** (e.g., dense flocks of swans, geese, ducks and cranes) may be relatively high if there are significant infection routes (perhaps bridge species¹, presence of captive birds, poultry, or feeding stations).
- Wild birds often **move outside the wetland's boundaries** to other areas in the surrounding landscape. For instance, ducks, geese, swans and cranes may feed on agricultural fields and use the wetland for roosting. Fish-eating birds like cormorants may commute between wetlands, rivers, fishponds, and coastal areas. In such cases, wider assessments of the risk of cross-infection and spread are needed.
- Use of wetlands by people and related activities can lead to movement of the virus into and out of the site (including farming, open grazing of ducks and cattle, ecotourism and public feeding of wild birds).



Flocks of waterfowl using agricultural land close to human habitation may be vulnerable to infection, such as these Whooper Swans.

¹Species that live in and around poultry farms and human habitations that could potentially transmit the virus between poultry and wild birds either by direct contact, or by indirect contact with contaminated materials.

Principles for Risk Reduction

Wetland site managers can implement a series of measures that should effectively reduce the risks of HPAI transmission between domestic birds, wild birds, and people at their sites. As the situation at each site will be different, risk reduction measures should focus on individual sites in order to control the key risk factors involved.

However, managers of individual sites and wetland systems can also put in place systematic measures which should reduce the overall risks of HPAI transmission across all sites. The general principles of these measures are to:

- physically separate wild birds and domestic/ captive birds (including poultry), their food and water sources, and their waste where this is feasible;
- improve biosecurity² arrangements for domestic/ captive birds;
- control environmental transmission routes for the virus on the site and, where appropriate, when leaving the site, e.g., via wild, captive or domestic birds and fomites³;
- improve surveillance and reporting of the health of domestic/captive birds and wild birds;
- improve the knowledge base on use of the site by wild birds and potential bridge species; and
- be fully prepared with a response plan in the event of an outbreak.



Open grazing of domestic poultry around wetland areas allows mixing with wild birds and increases risks of disease transmission. Photo by Azin Fazeli

There is wide international consensus that attempting to control HPAI through responses such as culling or disturbing wild birds, or destroying wetland habitats, is not feasible and should not be attempted. Such measures may increase the problem by causing further dispersion of infected birds.

²Biosecurity means taking steps to ensure good hygiene practices are in place so that the risk of a disease occurring or spreading is minimised.

³Inanimate contaminated objects such as footwear or vehicle wheels

Management Planning

Wetland management plans provide a systematic approach to the maintenance of conservation values and the sustainable use of natural resources, as well as a basis for controlling land uses and other activities within wetland areas. Local measures related to reducing HPAI risks will usually be related to **site management objectives** concerning the following subjects:

- Conservation of waterbird populations (management of adequate and appropriate feeding, roosting and nesting habitat/areas);
- Conservation of threatened or endemic bird species;
- Captive breeding/reintroduction of wild bird species on site;
- Agricultural practices within, adjacent to, and in the water catchment of the site;
- Sustainable use of natural resources (including hunting);
- Human access to different parts of the site;
- Communication, education and public awareness programmes; and
- Stakeholder participation (including local people, tourist guides, schools, colleges) and inter-agency communications (including public health, animal health, environmental protection, forestry, hunting, agriculture, social services, etc.).



The Swan Goose is a globally threatened species (Vulnerable) in East Asia which may be at risk through its mixing with other wild birds and proximity to domestic poultry at some sites.

In general, best practice measures should be put in place to minimize contact between wild bird populations and domestic/captive birds (including poultry) and their waste.

In situations of immediate risk (presence of infection in the country/geographical region), further measures should be taken to minimize contact between wild bird populations and domestic/captive birds including poultry, as well as people, although this may be difficult to achieve in some situations.

Some practical steps that can be taken to reduce transmission risks are as follows:

- Zone land uses to separate human activities and main areas of wild bird use;
- Restrict human and vehicular access to minimize contact with wild bird populations in the case of virus circulation at the site or in its surroundings, in order to reduce risk of onward spread of infection and minimise human health risks. This can be done through management zones, controls on vehicle and human access, fencing, etc.;
- Further constrain movements of free-flying or feral birds and open grazing domestic ducks;
- Prohibit use of live decoy birds for hunting/trapping, releases of birds for hunting activities, and “merit releases” of captive birds (the traditional custom of releasing caged birds as part of religious practices, especially in Asian countries);
- Prohibit public feeding and hunting of wild birds in the case of HPAI outbreaks in the proximity of the site;
- Consider alternatives to the feeding of wild birds by reserve managers in order to avoid over-concentration of wild birds and related disease transmission risks; and
- Promote public education to raise awareness of HPAI, the risks it poses, and some simple precautions and response actions.



The use of covered enclosures and fenced grazing areas can help to reduce disease transmission risks between commercial poultry farms and wild birds.

Regulations and their enforcement may be required to ensure implementation of some of the above measures.

Further Information

Ramsar Convention Secretariat, 2007. Inventory, assessment, and monitoring: An Integrated Framework for wetland inventory, assessment, and monitoring. Ramsar handbooks for the wise use of wetlands, 3rd edition, vol. 11. Ramsar Convention Secretariat, Gland, Switzerland. http://www.ramsar.org/lib/lib_handbooks2006_e.htm

Contact details of international organizations concerned with avian influenza and wild birds can be obtained from the Scientific Task Force on Avian Influenza and Wild Birds’ website: <http://www.aiweb.info>

Hyperlinks to further resources on HPAI are listed in the guidance directory in section 1.3 of Ramsar Resolution X.21: http://www.ramsar.org/res/key_res_x_index_e.htm