



Update on Avian Influenza in South Africa

This statement is released by BirdLife South Africa in response to the recent outbreak of avian influenza (H5N8 strain) in South Africa in 2017. At the time of the statement, at least six provinces have been affected, namely the Western Cape, Mpumalanga, Eastern Cape, North West, KwaZulu-Natal and Gauteng. More than 581 carcasses of wild birds have been found in the Gauteng area, including at the Johannesburg Zoo, Westdene Dam, Emmarentia Dam, Zoo Lake and Montecasino Bird Gardens. Since June 2017, more than 2 million domestic birds/poultry have died or had to be culled in the Western Cape due to the H5N8 outbreak.

The aim of this statement is to inform all stakeholders about the potential interaction between wild birds and the H5N8 virus and to ensure the protection of wild birds. The spread of avian influenza viruses has resulted in mortality and conservation issues for wild birds, globally. BirdLife South Africa states that:

- Many influenza viruses are not highly pathogenic and do not readily cause mass mortalities in wild and domestic birds.
- The highly pathogenic avian influenza outbreaks are usually associated with intensive domestic poultry production.
- H5N1 is the most important of the highly pathogenic avian influenza viruses, but the local outbreak is caused by the H5N8 strain.
- Although H5N1 has resulted in human infections, H5N8 remains a bird-specific virus. To date, no human infections with H5N8 have been reported. However, appropriate personal hygiene measures should be taken.
- The specific role of wild birds in the long-distance transmission of the H5N8 virus remains unclear.
- During the current outbreak in South Africa, we do not have an extensive list of the wild bird species affected, nor do we know the exact species involved in carrying the virus. The main groups affected by H5N8 in South Africa are the Anseriformes (ducks and geese), Galliformes (poultry) and Charadriiformes (gulls, terns and shorebirds). Domesticated ostrich have also been affected.
- The origin of the H5N8 strain remains unresolved. Phylogenetic analyses indicate that wild birds acquired H5N8 from a pool of H5 viruses in domestic ducks and geese (Anseriformes) in eastern Asia.
- In 2016, outbreaks from H5N8 were first reported from wild birds in the Republic of Korea, followed by detections of the virus in late spring in the Tyva Republic of the Russian Federation and in India, two countries in the Middle East, two in North Africa and 13 countries in Europe.
- The virus does not survive for a long period outside the body but can survive for longer periods where water habitats are involved. The virus seems to be more prevalent in waterbirds, e.g. Sacred Ibis, Egyptian Geese and Yellow-billed Duck.

- Primary transmission is from one bird to the other and this can happen more easily in congregatory species and/or at roost sites.
- Any bird species could potentially contract the disease and bird breeders need also to be vigilant.
- Rare and threatened waterbirds might be at highest risk, e.g. White-winged Flufftail where the sequencing of Toll-like receptor genes confirmed a low genetic diversity in the regions of the species similar to that observed in other bird species that have undergone population bottlenecks (Dalton et al. 2016 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5101489/>). Other diseases such as avian malaria has caused the extinction of immunologically naïve populations of birds, such as in the endemic Honey-eaters of the Hawaiian Islands.
- The United Nations Environment Programme/Convention on Migratory Species (UNEP/CMS) and the Food and Agriculture Organisation (FAO) co-convened the Scientific Task Force on Avian Influenza and Wild Birds in 2005. The latest statement on H5N8 in poultry and wild birds by the Scientific Task Force on Avian Influenza and Wild Birds can be downloaded at ² http://www.birdlife.org/sites/default/files/scientific_task_force_on_avian_influenza_and_wild_birds_h5n8_hpai_december_2016_final.pdf#overlay-context=worldwide/policy/update-avian-influenza
- Research questions include determining the true long-distance, regional and local transmission of the virus, including possible transmission through national and international poultry trade and its by-products, and mechanisms of transmission amongst domestic, captive and wild birds. To facilitate investigations, government reports should include as much information on the bird species and numbers affected.
- Apart from avian influenza, other viruses and bacteria can cause mass mortalities in wild birds or domesticated birds. These include, but are not limited to, botulism², pigeon paramyxovirus, trichomonas, avian herpes viruses, avian cholera, avian malaria and also cyanobacterial blooms.

The spread of H5N8 can be minimised through focused disease prevention and increased biosecurity at chicken and ostrich farms, as well as at zoos and bird parks. Poultry/captive/wild bird contact should be prevented as far possible. Poor biosecurity at poultry farms can lead to the contamination of the environment with the virus and it could then spread to wild birds, which will either die, or potentially act as a reservoir for highly pathogenic avian influenza strains.

There should be no consideration of killing wild birds, spraying toxic products or negatively affecting wetland habitats as disease control measures. Such actions would contravene provincial and national legislation and international commitments made by signatory countries to the Convention of Migratory Species of Wild Animals (CMS), the agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA), the Ramsar Convention on Wetlands, and the Convention on Biological Diversity. South Africa is a signatory to the above-listed conventions.

It should further be appreciated that wild birds are not the only potential route of transmission and that avian influenza outbreaks are usually associated with intensive domestic poultry production. Ineffective disease control and poor biosecurity will result in the continued spread in poultry populations. Further spread will result in negative conservation outcomes and the potential loss of biodiversity, as well as economic losses to farmers and national income. The current situation in South Africa is more than likely to lead to both egg and chicken shortages, critical food sources, and will impact on low-income communities the most.

What can we do to protect our wild birds and limit the spread of H5N8?

- Avoid areas where large colonies of birds roost, especially around waterways, or where outbreaks have been confirmed.
- Poultry farmers should enforce strict biosecurity measures, and poultry farms should be avoided by members of the public.
- Aviculturists and other bird keepers (pet bird owners, zoos, bird parks) should avoid any contact between captive and wild birds.
- Report large scale bird deaths to the relevant authorities (state veterinarians and provincial nature conservation e.g. Gauteng Department of Agriculture and Rural Development in Gauteng).
- Large numbers of carcasses should be handled by the government veterinary services. Single birds could be buried in the garden or sealed hygienically in a double bag and handed to a veterinary practise which would be willing to send it for communal incineration free of charge.
- Avoid ringing or handling of wild birds until no further cases of H5N8 is reported in wild birds in the area, especially the ringing/handling of waterfowl or in areas near waterbodies. The disease can be transferred between birds by contaminated bird bags, ringing equipment and ringers' hands, etc.

The information above has been taken from (taken from various sources, including BirdLife International (see <http://www.birdlife.org/worldwide/policy/update-avian-influenza>). Thanks to veterinarians serving on the BirdLife South Africa Ethics Committee, Dr Philip Stapelberg and Dr Brett Gardner, for their expert opinion and input provided at the time of writing this statement.

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Notes for Editors

- 1.) BirdLife South Africa is the local country partner of BirdLife International. BirdLife International is the world's largest nature conservation Partnership with more than 120 BirdLife partners worldwide and growing, with almost 11 million supporters, 7000 local conservation groups and 7400 staff. Find out more at www.birdlife.org or www.facebook.com/BirdLifeInternational.
- 2.) BirdLife South Africa strives to conserve birds, their habitats and biodiversity through scientifically-based programmes, through supporting the sustainable and equitable use of natural resources and through encouraging people to enjoy and value nature. BirdLife South Africa is the largest non-profit bird conservation organisation in the country, and relies on donor funding and financial support from the public to carry out its critical conservation work. For more information, visit www.birdlife.org.za.

¹*The Scientific Task Force on Avian Influenza and Wild Birds, urges countries, agencies and organizations to:*

a. further extend surveillance and collaboration across sectors, and epidemiological evaluation, to determine the true long-distance, regional and local transmission routes of the virus, including possible

transmission through national and international poultry trade and its by-products, and mechanisms of transmission among domestic, captive and wild birds;

b. focus disease prevention on biosecurity at poultry holdings and in marketing systems, and focus disease control actions on affected farms and zoos, with the aim of minimizing the risk of disease spread to other poultry farms, zoos and/or wildlife by preventing poultry/captive-bird-wildlife contact;

c. recognize their international obligations and ensure that there is no consideration of killing of wild birds, spraying toxic products or negatively affecting wetland habitats as disease control measures, appreciating that focussing attention on wild birds, to the exclusion of other potential routes of transmission, can misdirect critical resources away from effective disease control and result in continued spread among poultry populations and economic losses to farmers and national income, as well as negative conservation and health outcomes and loss of biodiversity.

²*Considered to be one of the most toxic substances in the world, botulism is a neurotoxin produced by the bacterium Clostridium botulinum. Type C botulism is considered the most significant disease of waterbirds worldwide, as it can kill millions of birds during a single outbreak. Most outbreaks occur in summer and autumn (and to a lesser extent in early spring) when increased wetland temperatures promote bacterial growth and toxin production. Importantly, the occurrence of avian botulism is dependent on environmental factors and not waterbird density, so it potentially could decimate populations of endangered species that do not have the population numbers or reproductive output to withstand high losses.*