Key government obligations and recommendations in response to the current HPAI crisis



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1996 – emergence of Goose Guangdong (Gs/Gd) H5N1 HPAI virus

Spring 2005 the HPAI wild bird story begins...

 H5N1 HPAI responsible for first major outbreak in wild birds at Lake Qinghai, China, killing ~6000 migratory and resident wild birds



H5N1 HPAI in poultry and wild birds 2003-2008

H5N1 HPAI spread by:

- Poultry
- Poultry products
- Traded birds
- People
- Wild birds



Notifiable disease



We should not forget the scale of wild bird mortality from this 'novel' virus

Summer 2007:

Germany

~300 pairs Black-necked Grebes

100% Breeding population



July 2005: Lake Chany, Russia > 5,000 wild birds Pochard Mallard Teal

Summer 2006: Tuva Republic, Russia >3,100 wild birds 100% Great Crested Grebe

Winter 2005/2006: Azerbaijan

~ 26,000 wild birds

???

How did this happen?

- Wild bird farming?
- Grazing domestic ducks in wetlands?





Genie was out of the bottle...

H5N1 HPAI – unprecedented One Health issue



'One Health' framework

An integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals, and ecosystems. It recognizes the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and interdependent.

OHHLEP (2022)



Adapted from World Bank & FAO (2022)



As a consequence Multi-lateral Environmental Agreements responded

CHANGWON 2008

- 2005 AEWA MOP3 Resolution 3.18
- 2008 AEWA MOP4 Resolution 4.15
- 2006 CBD Decision VIII/32
- 2005 Ramsar COP9 Resolution IX.23
- 2008 Ramsar COP10 Resolution X.21
- 2005 CMS COP8 Resolution 8.27
- 2008 CMS COP9 Resolution 9.8

10th Meeting of the Conference of the Parties to the Convention on Wetlands (Ramsar, Iran, 1971) *"Healthy wetlands, healthy people"*

Changwon, Republic of Korea, 28 October-4 November 2008

Resolution X.21

Guidance on responding to the continued spread of highly pathogenic avian influenza

- CONSCIOUS of the spread of highly pathogenic avian influenza (HPAI) subtype H5N1 across Eurasia and into Africa, the implications of this disease on livelihoods and human health, and the direct and indirect implications for the conservation of waterbirds and their wetland habitats (including Ramsar sites and other protected wetlands);
- 2. UNDERSTANDING that this virus evolved in and spread within domestic poultry but

Handbook 4 Avian influenza and wetlands

Ramsar Handbooks 4th edition









UN CMS FAO Co-convened Scientific Task Force on Avian Influenza and Wild Birds established 2005 EN 🗸 **E** CMS

Aims and Objectives

- Ensure international efforts to contain H5N1 HPAI do not overlook wildlife and other environmental considerations
- Issue advice on spread and conservation 2. impact of H5N1 HPAI based on best scientific knowledge (counter misinformation)
- Provide information and guidance for policy 3. and decision makers

Convention on the Conservation of Migratory Species of Wild Animals

Review Mechanism & National Legislation Programme Working Groups Task Forces Projects Small Grants Capacity Building Campaigns Awards

Home / Activities / Working Groups / Scientific Task Force on Avian Influenza and Wild Bird

About

Scientific Task Force on Avian Influenza and Wild Birds

In August 2005, concerns about the role of migratory birds as potential vectors of Highly Pathogenic Aviar Influenza (HPAI) virus subtype H5N1 led the UNEP Convention on the Conservation of Migratory Species of Wild Animals (CMS), in close cooperation with the Agreement on the Conservation of African Eurasian Migratory Waterbirds (AEWA), to establish a Scientific Task Force on Avian Influenza and Wild Birds

AFWA CMS

Publication

CMS instrume

The Task Force aims to bring together the best scientific advice on the conservation impact of the spread of avian influenza, assessing the role of migratory birds as vectors of the virus. It is also intended to issue advice on the root causes of the epidemic as well as on technically sound measures to combat it and to develop early warning systems. The Task Force draws on the expertise of conservation scientists, hunters, veterinarians, epidemiologists virologists, land managers and other experts comprised of 14 members and observers, including UN bodies, wildlife treaties and specialist intergovernmental and nongovernmental organizations

In March of 2007, FAO changed its status from an observer member to full member of the AI Task Force. In June 2007, FAO was asked to co-convene and co-coordinate the AI Task Force with UNEP/CMS.

More information is available in the related publications, press releases and documents.

Documents

- Scientific Task Force on Avian Influenza and Wild Birds statement on: H5N1 High pathogenicity avian influenza in wild birds - Unprecedented conservation impacts and urgent needs. July 2023
- Scientific Task Force on Avian Influenza and Wild Birds statement on: H5N1 Highly Pathogenic Avian Influenza in poultry and wild birds: Winter of 2021/2022 with focus on mass mortality of wild birds in UK and Israel
- Northern Winter 2020-2021 statement in response to die-offs of wild birds in UNESCO and Ramsa Sites
- Task Force Statement: December 2016 H5N8 HPAI in wild birds in Asia, Europe and Africa
- Task Force Statement: December 2014 H5N8 HPAI in wild birds in Asia, Europe and North America





H5N1 HIGHLY PATHOGENIC AVIAN INFLUENZA IN POULTRY AND WILD BIRDS: WINTER OF 2021/2022 WITH FOCUS ON MASS MORTALITY OF WILD BIRDS IN UK AND ISRAEL

Summer 2021: unusual cases of H5N1 HPAI in remote Scottish islands, UK



Avian influenza has been recorded in several Great Skua colonies in the UK, a country home to roughly 90 per cent of its global breeding population © Eleanor Hamilton

Banyard *et al*. Viruses 2022, 14(2), 12; https://doi.org/10.3390/v14020212

December 2021: Transatlantic spread



Caliendo *et al*. Sci Rep 2022 12, 11729 https://doi.org/10.1038/s41598-022-13447-z

2022 summer outbreaks in European seabird breeding colonies





- Northern Gannets mass mortality multiple locations
- Great Skuas up to 80% losses in colonies

- Terns spp. high mortalities chicks and adults
- Guillemots etc. etc. etc.

Task Force Statement July 2023

Scientific Task Force on Avian Influenza and Wild Birds statement on:

H5N1 High pathogenicity avian influenza in wild birds -Unprecedented conservation impacts and urgent needs

- 1. Key messages
- 2. Situation update
- 3. Guidance on responses
- 4. Further information





CMS





Current situation



Focus on government obligations under 2024 CMS Resolution 14.18







UNEP/CMS/Resolution 14.18 Original: English

AVIAN INFLUENZA

Adopted by the Conference of the Parties at its 14th Meeting (Samarkand, February 2024)

Noting the significant work under CMS on avian influenza,

Recalling Resolution 12.6 Wildlife Disease and Migratory Species, and the resolutions on wildlife disease and avian influenza which were consolidated into it and repealed by COP12: Resolution 8.27 Migratory Species and Highly Pathogenic Avian Influenza, Resolution 9.8 Responding to the Challenge of Emerging and Re-emerging Diseases in Migratory Species, including Highly Pathogenic Avian Influenza H5N1, and Resolution 10.22 Wildlife Disease and Migratory Species,

Aware that the spillover of the A/goose/Guangdong/1996 lineage of H5 highly pathogenic avian influenza virus (hereinafter HPAI virus) from the poultry sector has subsequently caused significant and concerning mortality in waterbirds, seabirds, raptors and avian scavengers as well as a number of mammal species on multiple continents and *further concerned* about future spread to other populations of migratory and other species already under multiple pressures,

Aware that via spillback events, HPAI virus has had major impacts on livelihoods and economies related to poultry production,

CMS



Planning, preparedness and responses

Governments should undertake

- 1. cross-sectoral, multi-stakeholder planning and preparedness
- 2. development and implementation of *national wildlife contingency plans for HPAI*
- **3.** *full engagement of environment sections of government* to take responsibility for wildlife aspects of HPAI
- 4. robust outbreak investigation
- **5.** *integrated population monitoring* to measure impacts of the disease





Do not respond inappropriately

Responses to HPAI in wildlife must not be inappropriate

Essential to have appropriate outreach / messaging

- 1. No lethal responses (such as culling of wildlife)
- 2. No use of disinfectants or other measures in wild settings that may affect habitat quality
- 3. No destruction or substantive modification of habitats with the objective of reducing contact between domesticated and wild birds





Broader support for prevention, preparedness and response

- research into HPAI in wild birds and mammals including determination of impacts of HPAI outbreaks
- 2. long-term monitoring of migratory bird populations and movements, with focus on enhanced assessment for those species affected by HPAI
- **3.** robust surveillance programmes with conservation objectives for HPAI also preventing delays in diagnosis/research due to regulations on national borders
- 4. Integrating, sharing and *analysing existing data sets* on population movements and dynamics for risk assessments
- 5. early warning systems
- 6. international cooperation in surveillance and risk assessments across flyways
- 7. improving rapid wildlife reporting systems



Further ways to reduce risks

- 1. preventing spillover from poultry to wildlife and reducing risks to both sectors by
 - enhancing biosecurity measures,
 - implementing adequate *farming and aquaculture standards*
 - *vaccinating* domestic birds
 - *better planning* as well as reforming and *reassessing intensive production*
- **2.** *mitigating high risk activities* for virus exchange between livestock, wildlife and people by e.g.
 - *restricting the grazing of domestic ducks* in natural wetlands
 - addressing risks associated with *high-risk markets and trade* of wild birds
- 3. strictly applying internationally agreed *quarantine/health standards* for cross-border transport of birds and their products and *prevent illegal transportation* of birds and their products
- 4. maintain ecosystem integrity to reduce wild and domestic interfaces.





Importance of protected areas for reducing disease risks

diversity MDPI Potential Effects of Habitat Change on Migratory Bird Movements and Avian Influenza Transmission in the East Asian-Australasian Flyway John Y. Takekawa 1,2,3,*⁽⁰⁾, Diann J. Prosser⁴, Jeffery D. Sullivan⁴⁽⁰⁾, Shenglai Yin^{3,4,5}, Xinxin Wang⁶⁽⁰⁾, Geli Zhang 3,70 and Xiangming Xiao 30 Suisun Resource Conservation District, Suisun City, CA 94585, USA U.S. Geological Survey, San Francisco Bay Estuary Field Station, Vallejo, CA 94592, USA School of Biological Sciences, University of Oklahoma, Norman, OK 73019, USA ⁴ U.S. Geological Survey, Eastern Ecological Science Center, Laurel, MD 20708, USA ⁵ College of Life Sciences, Nanjing Normal University, Nanjing 210097, China ⁶ Ministry of Education Key Laboratory for Biodiversity Science and Ecological Engineering, School of Life Sciences, Fudan University, Shanghai 200438, China ⁷ College of Land Science and Technology, China Agricultural University, Beijing 100083, China Correspondence: jtakekawa@suisunrcd.org Abstract: Wild waterbirds, and especially wild waterfowl, are considered to be a reservoir for avian influenza viruses, with transmission likely occurring at the agricultural-wildlife interface. In the past few decades, avian influenza has repeatedly emerged in China along the East Asian-Australasian Flyway (EAAF), where extensive habitat conversion has occurred. Rapid environmental changes in

Research Article | Published: 22 August 2019

Protection of wetlands as a strategy for reducing the spread of avian influenza from migratory waterfowl

<u>Tong Wu</u> [⊠], <u>Charles Perrings</u>, <u>Chenwei Shang</u>, <u>James P. Collins</u>, <u>Peter Daszak</u>, <u>Ann Kinzig</u> & <u>Ben A</u>. <u>Minteer</u>

Ambio 49, 939–949 (2020) Cite this article

897 Accesses 3 Citations 5 Altmetric Metrics

Abstract



Most conversions to HPAI occur in intensive poultry production systems; increase in outbreaks with growth of poultry sector (Dhingra et al. 2015, Front Vet Sci; Reperant et al. 2012 Curr Top Microbiol Immunol)



Thanks to Thijs Kuiken, Eramsmus Medical Centre, Netherlands

How can we reduce chance of *future* HPAI viruses spilling over from poultry into wildlife?







Kuiken & Cromie 2022, DOI: 10.1126/science.adf0956

ourworldindata.org, fao.org/faostat, <u>10.1126/science.adf0956</u>

Wider context of wildlife health

For HPAI – obligations to maintain ecosystem resilience (even creating new protected areas?) has multiple benefits including

- Reduces risks of serious impacts
- Improves chances of recovery of populations



Res. 12.6(Rev.COP14) _____

CONVENTION ON UNEP/CMS/Resolution 12.6 (Rev.COP14)
MIGRATORY Original: English
SPECIES

WILDLIFE HEALTH AND MIGRATORY SPECIES

Adopted by the Conference of the Parties at its 14th Meeting (Samarkand, February 2024)

Recalling the work on wildlife disease that has been ongoing under the Convention since COP8,

Further recalling Resolutions 8.27, 9.8 and 10.22 on various aspects of wildlife disease, which have been repealed by COP12 and consolidated in Resolution 12.6 Wildlife Disease and Migratory Species,



Acknowledging that wildlife health, livestock and companion animal health, human health, and ecosystem health are interdependent and influenced by multiple factors including socioeconomic factors, the sustainability of agriculture, demographics, climate and landscape changes, and the fact that the environment is the setting (place and context) and determinant of potential resilience to disease,

Aware that wildlife diseases are a normal cause of mortality and morbidity, yet conscious that emerging or re-emerging diseases in wildlife can have serious implications for the status of species, especially when populations are small and fragmented, and that pressures on health can be synergistic or cumulative in their contribution to ill-health and poor reproductive success.



Key take home messages

Guidance

- Essential for environment sections of government and agencies to take responsibility for wildlife
- Preparedness and planning is key test plans
- No inappropriate responses
- Take wider pressures off wildlife to promote ٠ resilience and recovery from HPAI





Food and Agricultur Organization of the United Nations





Avian influenza and Wildlife **Risk management for people working** with wild birds

Purpose

a radius disease risks associated with axian influenza virus strains. The midance takes a Health annroach by considering the health of wildlife newltry and p

Impacts of the ongoing avian influenza outbr wildlif

r wildlife conservation due to their unusual imp as and transmission to mammals. The most recent uses of infect













SCIENTIFIC TASK FORCE O

Ramsar Wetland Disease Manua nt, Monitoring and Ma of Animal Disease in Wetlands