

FOR INFORMATION

NAHIP Advisory Committee Annual Meeting 2021

Agenda Item 3.1

Last updated: **15 November 2021**

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WHA REPORT – SURVEILLANCE ACTIVITIES 2020/21**RECOMMENDATION**

1. That the NAHIP Advisory Committee NOTE:
 - a. **The update on surveillance activities provided by WHA**

BACKGROUND

2. Wildlife Health Australia (WHA) is the coordinating body for wildlife health in Australia. Given the global trend for emerging infectious diseases to originate from wildlife, it is important that wildlife is incorporated into Australia's general animal health surveillance system. WHA administers Australia's general wildlife health surveillance system and collects and disseminates information on wildlife disease events from across Australia. Through WHA's programs and projects, wildlife health information is collected into a national database, the electronic Wildlife Health Information System (eWHIS). Information includes submissions by our network of State/Territory WHA Coordinators, veterinarians at zoo-based wildlife hospitals, sentinel wildlife clinics and university clinics and pathology departments, as well as researchers, other wildlife health professionals and WHA members. Dedicated technical officers provide support for the system. WHA ensures that nationally collated data in eWHIS is available to inform decision making and policy development, for the management of emergency disease incidents, for international reporting, and to protect Australia's trade, human health, livestock health and biodiversity.

A summary of wildlife disease and mortality events, reported through the system to eWHIS, is published through the NAHIP in each issue of Animal Health Surveillance Quarterly (AHSQ). WHA provides information to help fulfil Australia's reporting requirements to the World Organisation for Animal Health (OIE).

This paper briefly summarises some of the key programs and projects supported by WHA that are of relevance to the NAHIP Advisory Committee. WHA also supports the wildlife component of the National Significant Disease Investigation Program (NSDIP) (reported separately to the NSDIP Advisory Committee).

DISCUSSION**3. Wildlife Health in 2020-2021**

A large number of wildlife events (n=835) were submitted to the national database between July 2020 and June 2021 (Figure 1), with a wide variety of species reported (Table 1). Significant wildlife disease events from 2020/21 included:

- Paralysis event in flying-foxes affecting high numbers across a large geographic area of northern NSW and southern Qld.
- Frog mortality with over 1,400 sick and dead frogs reported from NSW, Qld and eastern Vic, affecting 30 different species of native frogs (not represented in 2020-21 eWHIS figures).
- *Mycobacterium ulcerans* in a ringtail possum in a new location in Victoria.
- Higher than usual number of bats with Australian bat lyssavirus infection in NSW & Qld, including a cluster in little red flying-foxes in south-east Qld.

- Silver gull mortality in Tasmania caused by organophosphate poisoning.
- Nidovirus in captive freshwater turtles in Qld.

Figure 1: Wildlife disease events in eWHIS from July 1986 – June 2021 by financial year. Monthly submissions for 2020/21 in the inset. Total number of events in eWHIS = 13,096.

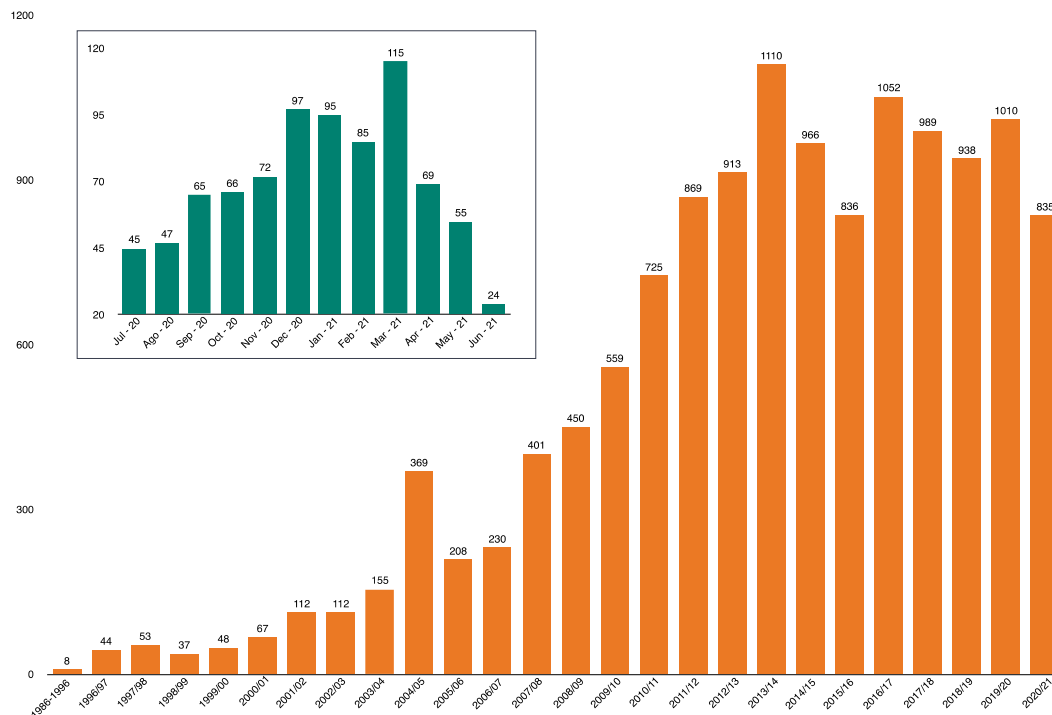


Table 1: Species involved in wildlife disease events reported into eWHIS, July 2020-June 2021^a

Animal Group	Number of eWHIS events
Bats ^b	389
Birds ^{c,d}	236
Marsupials & native rodents	134
Feral mammals	35
Marine Mammals	13
Snakes & Lizards	10
Amphibians	6
Marine & Freshwater Turtles	4
Monotremes	4
Exotic mammals (captive)	2
Other Mammals ^e	1
Fish & crustaceans	1

^a Disease investigations may involve a single animal or multiple animals e.g. mass mortality event.

^b The majority of bat disease investigations are single bats submitted for Australian bat lyssavirus testing.

^c Includes native and feral bird species.

^d Additional sampling for targeted avian influenza surveillance is presented below.

^e Dingo (*Canis familiaris dingo*)

4. Programs and Projects

a. General Surveillance Program

The aims of the program are to:

- Maintain and develop a national general wildlife health surveillance system that can be used to protect Australia's trade, human health and biodiversity.
- Improve collaboration, coordination and communication between the Australian government, States, Territories, and others on issues relating to diseases with wildlife as part of their ecology.

Deliverables include:

- Monthly entry of significant wildlife cases into eWHIS based on priorities identified for wildlife disease reporting.
- Regular reports for AHSQ, OIE, Animal Health in Australia (AHIA) and others as requested.
- Ad hoc reports, analysis and foresighting as requested by stakeholders.

The program is primarily funded through a cost-shared agreement with the Australian Government Department of Agriculture, Water and Environment and all Australian state and territory governments, and receives significant in-kind contributions from our surveillance partners. WHA also receives funding through the NAHIP.

b. National Avian Influenza Wild Bird (NAIWB) Surveillance Program

In 2020-21 WHA continued to assist the National Avian Influenza Wild Bird (NAIWB) Steering Group to coordinate the NAIWB surveillance program. The primary areas of responsibility for WHA are management of the NAIWB surveillance program, and collation and reporting of surveillance data for avian influenza in wild birds in Australia. National funding is provided by DAWE and is matched by in-kind contributions from many collaborators including commonwealth, state and territory government agencies, non-government organisations, industry, and universities. Surveillance activities will continue through to the end of 2021. In addition to ongoing surveillance activities, three special projects in collaboration and consultation with the NAIWB Steering Group to analyse epidemiological and sequence data collected through the program are progressing.

Since July 2005, over 130,710 wild birds have been tested for avian influenza viruses (AIVs), with a sub-set also tested for avian orthoavulavirus 1 (AOAV-1; also known as Newcastle disease virus or avian paramyxovirus 1). Between July 2020 and June 2021 pathogen-specific, risk-based surveillance was conducted by sampling apparently healthy, live (predominantly waterfowl species) and hunter-shot wild birds at sites in NSW, NT, Queensland, SA, Tasmania, Victoria and WA. A total of 7,344 faecal environmental swabs and/or cloacal and oropharyngeal swabs, collected from waterbirds, were tested for AIVs, with a subset (n=1,412) also tested for AOAV-1. No highly pathogenic AIVs or virulent strains of AOAV-1 have been identified. However, targeted surveillance activities continued to find evidence of low pathogenicity avian influenza (LPAI) viruses, including LPAI H1, H2, H3, H4, H5, H6, H7, H8, H9 and H11. No strains of AOAV-1 were identified between July 2020 and June 2021. The National Avian Influenza Wild Bird Surveillance Newsletter, '[Wild Bird News](#)', makes the results of this program available to the general public.

A [Technical Issue Update](#) from the NAIWB Steering Group was published in response to global High Pathogenicity Avian Influenza events.

c. Wild bird mortality and morbidity events

Between July 2020 and June 2021, 236 wild bird mortality/morbidity event investigations were reported to WHA, with 24 events involving species from more than one bird order. AIV was excluded by PCR in 151 events. AOAV-1 was excluded by PCR specific for Newcastle disease virus and/or pigeon paramyxovirus type 1 in 135 events. Specific disease exclusion testing was not warranted in the remaining events based on clinical signs, history, prevailing environmental conditions or other diagnoses. The top primary diagnoses for

wild bird events were: botulism, poisoning, salmonellosis, aspergillosis, psittacine beak and feather disease, *Macrorhabdus ornithogaster*, mycobacteriosis, trauma and trichomoniasis.

There were also incidental findings of AIV:

- November 2020: incidental finding of LPAI virus detection in an entrapped royal spoonbill in NT. Details in [AHSQ, Volume 25, Issue 4, pp 11-16, Dec 2020](#).
- February and March 2021: AIV incidental finding in silver gull mortality events in Tasmania. Details in [AHSQ, Volume 26, pp 18-21, March 2021](#).

d. WHA Environment Representatives

In order to further promote collaborative links in the investigation and management of wildlife health, representatives from each jurisdiction's environment agency are included as part of Australia's general wildlife disease surveillance system. Each WHA Environment Representative works closely with their respective Primary WHA Coordinator and ensures a second point of contact in the jurisdiction.

e. Zoo, Sentinel Clinic & University Wildlife Disease Surveillance Programs

National surveillance programs coordinated by WHA include:

- A Zoo Based Wildlife Disease Surveillance Program, a collaborative project between WHA and the Zoo and Aquarium Association, with ten major Australian zoos participating.
- A Sentinel Clinic Wildlife Disease Surveillance Program including ten veterinary clinics with a high or dedicated wildlife caseload, or which expand the geographic or taxonomic range of the national surveillance system.
- A University Based Wildlife Disease Surveillance Program including seven university veterinary clinics and pathology departments.

In 2020/21, more than 61,000 free-ranging wildlife cases were seen by clinics participating in these surveillance programs, which represents a significant surveillance effort. Over 3,800 wildlife disease records have been entered into eWHIS by these clinics and organisations since 2010.

f. WHA Bat Health Focus Group

The Bat Health Focus Group, supported by WHA, uses a collaborative One Health approach to consider bat health issues in relation to the broader context of biosecurity, public health, domestic animal health and environmental impacts in Australia. Members come from a wide range of government and non-government organisations. Working with the Bat Health Focus Group, WHA maintains a national dataset of ABLV bat testing, with data contributed into eWHIS by State/Territory WHA coordinators, zoo and sentinel clinic coordinators and Queensland Health, as part of the general wildlife health surveillance system. Summary reports of ABLV testing of bats are provided in WHA's reports in AHSQ and published in '[ABLV Bat Stats](#)' every six months.

5. Priorities for 2020/21

As part of a strategic review, WHA identified priorities for future wildlife health surveillance activities in an expanded national wildlife health information system, with an increased focus on:

- wildlife health and disease issues impacting upon human health
- information on antimicrobial resistance in Australian native wildlife
- disease impact on conservation, biodiversity and ecosystems for wildlife
- use of wildlife as bio-sentinels for environmental pollutants, pesticides and heavy metals wildlife as indicators of ecosystem health

Ongoing priorities include:

- Continue to contribute reports to AHSQ and coordinate implementation of the NSDIP for wildlife.
- Provide ongoing support for the CVO appointed State/Territory WHA coordinators and Environment Representatives.

- Continue to work towards better alignment of wildlife health information, and information on production animal and feral animal diseases.
- Maintain the zoo, sentinel clinic and university surveillance programs to ensure capture and flow of wildlife health information to the CVO appointed State/Territory WHA coordinators and incorporate these data into reports prepared for AHSQ and AHIA.

FINANCIAL IMPLICATIONS

N/A

CONSULTATION/COMMUNICATION

N/A

NEXT STEPS/ACTIONS

N/A

FEEDBACK

Q1 My organisation's needs and expectations of the NAHIP are being met.				
Strongly agree	Agree	Undecided	Disagree	Strongly disagree
Please explain your answer, including any suggested changes: Continued inclusion of a wildlife health article and key wildlife health feature articles in AHSQ and AHIA acknowledges the importance of wildlife in the Australian national animal health surveillance system. These outputs assist in raising awareness of wildlife health issues and disease investigations nationally.				

Q2 My organisation is satisfied that the outputs of NAHIP, such as the Animal Health in Australia report are Animal Health Surveillance Quarterly, are credible and robust.				
Strongly agree	Agree	Undecided	Disagree	Strongly disagree
Please explain your answer, including any suggested changes: No suggested changes.				

Q3 The format and protocols in place for uploading and transferring national surveillance data are fit for purpose.				
Strongly agree	Agree	Undecided	Disagree	Strongly disagree
Please explain your answer, including any suggested changes: Unable to comment on the whole, as WHA's only experience is with the NSDI project. However, we have found data upload for NSDI to be time-consuming and at times difficult.				

Q4 NAHIP satisfies national surveillance data and reporting requirements. (Please outline any requirements not being met).				
Strongly agree	Agree	Undecided	Disagree	Strongly disagree
Please explain your answer, including any suggested changes: No suggested changes.				