

**FOR INFORMATION**

NAHIP Advisory Committee Annual Meeting 2020

Agenda Item 3.1

Last updated: **3 September 2020**

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**WHA REPORT – SURVEILLANCE ACTIVITIES 2019/20****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) (see separate paper).

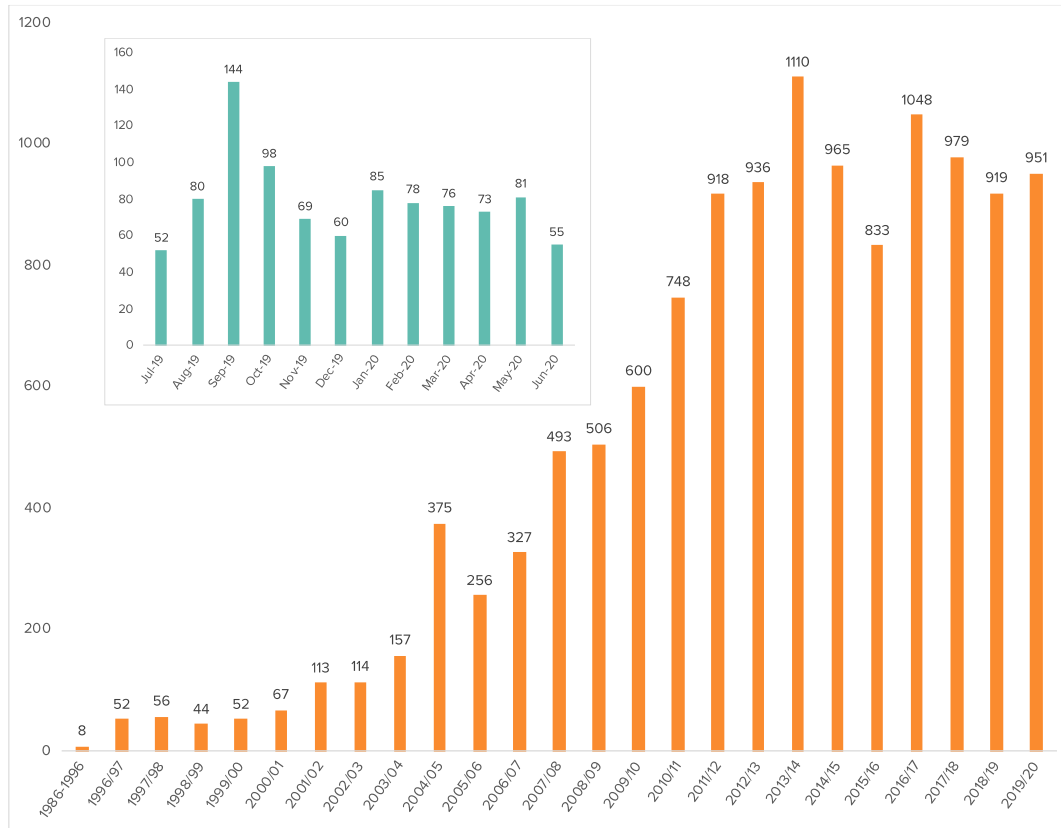
**DISCUSSION****3. Wildlife Health in 2019-2020**

A large number of wildlife events (n=951) were submitted to the national database between July 2019 and June 2020 (Figure 1), with a wide variety of species reported (Table 1). Significant wildlife disease events from 2019/20 included:

- Unusually high numbers of lorikeet paralysis syndrome in northern NSW and southern Qld.
- Mass mortalities of grey-headed and black flying-foxes in NSW and Qld due to starvation.
- Two probable human cases of tularaemia in NSW linked, in one case, to bites and scratches from a possum, and in the other to wildlife necropsy; no related detections in wildlife.
- Avian chlamydiosis in Australian king parrots and crimson rosellas in the Blue Mountains region of NSW, and in crimson rosellas in Victoria.

- Endemic leishmaniasis in a wild agile wallaby in the rural Darwin region.
- Detection of *Nannizziopsis* spp. in confiscated shingleback lizards in WA.
- Nidovirus identified in ‘wobbly possum’ syndrome in Tasmanian brushtail possums.

**Figure 1: Wildlife disease events in eWHIS from July 1986 – June 2020 by financial year. Monthly submissions for 2019/20 in the inset. Total number of events in eWHIS = 12,627.**



**Table 1: Species involved in wildlife disease events reported into eWHIS, July 2019-June 2020<sup>a</sup>**

| Animal Group                | Number of eWHIS events |
|-----------------------------|------------------------|
| Bats <sup>b</sup>           | 589                    |
| Birds <sup>c,d</sup>        | 157                    |
| Marsupials & native rodents | 117                    |
| Feral mammals               | 30                     |
| Marine Mammals              | 19                     |
| Snakes & Lizards            | 10                     |
| Monotremes                  | 10                     |
| Marine & Freshwater Turtles | 8                      |
| Amphibians                  | 5                      |
| Exotic mammals (captive)    | 4                      |
| Fish & crustaceans          | 1                      |

<sup>a</sup> Disease investigations may involve a single animal or multiple animals e.g. mass mortality event.

<sup>b</sup> The majority of bat disease investigations are single bats submitted for Australian bat lyssavirus testing.

<sup>c</sup> Additional sampling for targeted avian influenza surveillance is presented below.

<sup>d</sup> Includes native and feral bird species.

#### 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 by the Australian Department of Agriculture, Water and the Environment (DAWE) and State/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 2019/20 WHA continued to assist the NAIWB Steering Group to coordinate the NAIWB surveillance program. National funding is provided by DAWE and is matched by in-kind contributions from a large number of collaborators including commonwealth, state/ territory government agencies, non-government organisations, industry, and universities. WHA is responsible for collation and reporting of surveillance data for avian influenza and APMV-1 in wild birds in Australia. With funding from DAWE, a dedicated NAIWB database has been developed through a collaboration between Deakin University and WHA. The database will enable more detailed epidemiological interrogation of the NAIWB dataset.

Since July 2005, over 111,700 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 (APMV-1)). Between July 2019 and June 2020 pathogen-specific, risk-based surveillance was conducted by sampling apparently healthy, live (predominantly waterfowl species) and hunter-shot wild birds at sites in New South Wales, Northern Territory, Queensland, South Australia, Tasmania, Victoria and Western Australia. A total of 5,559 faecal environmental swabs and/or cloacal and oropharyngeal swabs, collected from waterbirds, were tested for AIVs, with a subset (n=1,610) also tested for AOAV-1. No highly pathogenic AIVs nor 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, H10, H11, H13 and H16, as well as avirulent strains of AOAV-1.

##### c. Wild bird mortality and morbidity events

Between July 2019 and June 2020, 157 wild bird mortality/morbidity event investigations were reported to WHA, with 12 events involving species from more than one bird order. Avian influenza was excluded by PCR in 74 events. Avian paramyxovirus was excluded by PCR specific for Newcastle disease virus and/or pigeon paramyxovirus type 1 (PPMV-1) in 68 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, cachexia, trauma, *Macrorhabdus ornithogaster*, avian chlamydiosis, mycosis, enteritis and aspergillosis.

**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**

The Zoo Based Wildlife Disease Surveillance Program is a collaborative project between WHA and the Zoo and Aquarium Association. There are ten zoos participating in this national program. The Sentinel Clinic Wildlife Disease Surveillance Program includes veterinary clinics with a high or dedicated wildlife caseload, or which expand the geographic or taxonomic range of the national surveillance system. Eight clinics are currently participating (see NSDI Program report). Three universities have joined with the zoo and sentinel clinic surveillance programs, and a further four universities continue to contribute to the national system via regular teleconferences with WHA. In 2019/20, more than 47,000 free-ranging wildlife cases were seen by clinics participating in the zoo, sentinel and university clinic surveillance programs, which represents a significant surveillance effort. Over 3,500 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. Data are 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 2019/20**

- 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.
- Further strengthen input from State/Territory Environment Representatives.
- Continue to work towards better alignment of wildlife health information and information on production 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                                                                                                                                                                                                                                                                                                                                                                                       | <b>Agree</b> | Undecided | Disagree | Strongly disagree |
| <p>Please explain your answer, including any suggested changes:</p> <p>Continued inclusion of a wildlife health article and key wildlife health feature articles in AHSQ and AHIA acknowledges that wildlife forms part of the Australian national animal health surveillance system. These outputs assist in raising awareness of wildlife health issues and disease investigations nationally.</p> |              |           |          |                   |

| Q2 The outputs of NAHIP, such as the Animal Health in Australia report, Animal Health Surveillance Quarterly and the interactive data map are credible and robust.            |              |           |          |                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------|----------|-------------------|
| Strongly agree                                                                                                                                                                | <b>Agree</b> | Undecided | Disagree | Strongly disagree |
| <p>Please explain your answer, including any suggested changes:</p> <p>Outputs of AHIA and AHSQ continue to be credible and robust. Unable to comment on interactive map.</p> |              |           |          |                   |

| Q3 The format and protocols in place for uploading and transferring national surveillance data are fit for purpose.                                                                                                                 |              |           |          |                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------|----------|-------------------|
| Strongly agree                                                                                                                                                                                                                      | <b>Agree</b> | Undecided | Disagree | Strongly disagree |
| <p>Please explain your answer, including any suggested changes:</p> <p>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 difficult at times.</p> |              |           |          |                   |

| Q4 NAHIP satisfies national surveillance data and reporting requirements.                                                                                                                                                                                                                               |              |           |          |                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------|----------|-------------------|
| Strongly agree                                                                                                                                                                                                                                                                                          | <b>Agree</b> | Undecided | Disagree | Strongly disagree |
| <p>Please explain your answer, including any suggested changes:</p> <p>Information collated via NAHIP provides a national dataset of animal health information for specific projects. Keen to better understand if NAHIP provides an avenue to detect emerging disease events in livestock species.</p> |              |           |          |                   |