

Wildlife Health in Australia



Newsletter of the Australian Wildlife Health Network

Volume 7, Issue 1

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Message from the Chair

DR. CHRIS BUNN,

Office of the Chief Veterinary Officer

A very warm welcome to the latest AWHN newsletter. It has been another very busy year for the AWHN as we continue to support, facilitate and coordinate activities amongst our many agencies, organisations and individuals with an interest in wildlife health issues. This year saw the departure of one of our staff, Janelle Ward to take on a Residency at Massey University. We thank Janelle for all her good work and wish her well in what will be an exciting future working with zoo and wild animals.

In early July we were lucky enough to engage the services of Karen Magee. Karen has very ably filled the gap left by Janelle's departure and is now an important part of the team. We would encourage any of you who are in Sydney to visit the Network and say hello to Karen. We would like to thank everyone for their continued support and contributions to the Wildlife Health Network.

AWHN updates

Database Update

Core business for the AWHN is to coordinate all of Australia's many wildlife health information systems into a single database: the wildlife health information system or WHIS. The latest version of the web-enabled component of WHIS (eWHIS II) goes live to the web in January 2009. In 2008 a detailed operating plan and process for development of a five year integrated information technology strategy was put in place. eWHIS II is going to be a significant step forward for management of wildlife health surveillance information for Australia.

Formation of a Universities focus group

In June 2007, a workshop was organised by the Australian Government Department of Agriculture, Fisheries and Forestry (DAFF), Sydney University and the AWHN. The workshop examined how Australian Universities could better assist Australia in management of risk associated with diseases with wildlife as part of their ecology. Most of Australia's Universities and Government organisations working in the areas of wildlife biosecurity attended.

A small number of NGOs and others also attended. Over 30 universities, agencies, organisations and NGOs were represented. It was concluded that Australian Universities have the capacity and interest to contribute significantly to the management of biosecurity in Australia. It was identified that an important activity for 2007/08 would be to form a small working group and seek funding to take the recommendations from the workshop forward.

A small amount of funds (\$10K) was committed by DAFF in early 2008 and included in the AWHN budget for 2008/09. A teleconference was held on November 6, 2008 and it was resolved to form a two tiered structure made up of a focus group and advisory group. A key action was to approach invitees of the workshop to seek volunteers for the groups and also to suggest a process for appointment of a Chair, which was done through group emails and follow up phone calls. Simultaneously, draft operating procedures were also circulated and comments and suggestion incorporated.

The group has agreed to a Chair (Dr Lee Skerratt-School of Public Health, Tropical Medicine and Rehabilitation Sciences, James Cook University) and will hold its first meeting in early 2009.

The group will act as a focus point for facilitation, collaboration and coordination of Australian Universities in the management of wildlife health issues in Australia and the Region. This will primarily be in the areas of research, education and training, capacity building and future proofing. It will identify areas for research and further work on wildlife health issues in Australia and the Region, as well as acting as a link and catalyst to improve communication and coordination in the Australian context and address priorities as identified for this sector at the Universities and Wildlife Disease Workshop: The Role of Universities in improving Wildlife Biosecurity for Australia (available from kmagee@zoo.nsw.gov.au)

The key role of the Universities Focus Group is to act as a link and catalyst to improve communication and coordination regarding issues relating to wildlife health in the Australian context.

INFORMATION IN THIS NEWSLETTER IS NOT INTENDED FOR CITATION IN SCIENTIFIC LITERATURE—PLEASE CONTACT THE AWHN FOR DETAILS

Special Event investigations in Wildlife Health

WEIT—Wildlife Event Investigation Team

Criteria for nationally supported special investigations of significant syndromes or mortalities in wildlife as the basis of a framework for event investigation have recently been approved by Animal Health Committee. The criteria cover events of biodiversity significance as well as industry/trade or human health significance based on an assumption that appropriate cost-sharing measures can be agreed upon to address these investigations. The criteria are:

- Potentially exotic disease events where OIE listed diseases or overseas risks (e.g. HPAI) form part of the differential diagnosis;
- Mass or unexpected mortalities/morbidities-assessment will depend on species ecology;
- Suspect livestock associated notifiable diseases - priority to be given to diseases in feral species where there is a threat of disease flow to domestic animals;
- Cases with known or suspected zoonotic potential;
- Significant spatial and temporal clusters of morbidity or mortality;
- Undiagnosed syndromes, particularly if suspected likely to spread and be difficult to eradicate if they become established (e.g. Pacheco's disease);
- Emerging disease syndromes, trends, unusual events;
- Diseases with an expanding geographic or host range;
- Diseases listed by DEH or with potential to become key threatening processes with biodiversity conservation impact.

The criteria are aimed at identifying events that may warrant further investigation but are also useful for prioritising general surveillance activities. Assessment of these criteria and approval of further special investigation needs the consideration of an appropriate forum comprising all or some of the following:

- CVO of affected state
- *Australian CVO*
- AWHN Wildlife Coordinator
- AWHN Manager
- SCAHLS chair
- Australian Registry of Wildlife Health
- Department of the Environment, Water, Heritage and the Arts representative
- Health representative
- Appropriate technical expert(s)
- executive support

The forum should include representatives of organisations outside of the affected jurisdiction.

The WEIT would be convened by the CVO in the affected State, or the Australian CVO, and meet (in the first instance) by teleconference to consider all available information on the event. The WEIT would then prepare a well reasoned, detailed and costed proposal based on the agreed criteria for further investigations for consideration by Animal Health Committee and Animal Health Australia National Animal Disease Surveillance Program, DEWHA and other funding bodies.

This initiative is being funded and driven by Animal Health Australia, Industry and government. For more information on WEIT please contact Ian Langstaff (Manager Disease Surveillance, Animal Health Australia- langstaff@animalhealthaustralia.com.au) or your local wildlife coordinator.

New Staff Member



Karen Magee has joined the AWHN in June after coming to us from a background in real estate and administration. Karen has joined us looking for a new challenge and is taking a keen interest in Australian Wildlife. She aspires to continue learning from the AWHN and becoming actively involved in Wildlife.

Fact sheets

A small amount of funding is now available to support production and review of AWHN fact sheets. Fact sheets will be reviewed and prepared during 2009.



Upgrade to AWHN Offices

In an exciting development for Australia, Taronga Conservation Society Australia has recently moved to upgrade and co-locate the Australian Registry of Wildlife Health with the Australian Wildlife Health Network in their new Wildlife Health Centre located at Taronga Zoo in Sydney, Australia.

The Australian Registry of Wildlife Health (ARWH - The Registry) is a diagnostic and resource centre that improves Australia's ability to detect and diagnose endemic, emerging and exotic diseases of wildlife that could have negative impacts on Australia's trade/economy, biodiversity, tourism and human health. The Registry was established by the Zoological Parks Board of NSW (ZPB) in 1985, and it is now a significant resource centre that allows us to better understand the health of Australian ecosystems. The ARWH is regularly used by private, government and university based veterinarians, students and biologists for surveillance, research, and to improve animal care.

A closer relationship between the ARWH and the AWHN significantly improves our defence against any potential disease threat from native wildlife that could affect human and domestic animal health.

For further information on the activities of the Australian Registry of Wildlife Health and the Australian Wildlife Health Network see the websites: www.arwh.org and www.wildlifehealth.gov.au.

Disease Incidents

2008

Avian Influenza (AI) Exclusion

As part of Australia's AI surveillance program, wild bird sampling occurred at sites in NSW, Northern Territory, Queensland, South Australia, Victoria and WA. Sampling in Tasmania will recommence in 2009. Swabs (cloacal, faecal) and blood samples were collected from approx 3,780 wild birds. The majority of samples were collected from waterbirds (eg ducks and waders). While no highly pathogenic AI viruses were isolated, a range of low pathogenic AI virus subtypes have been identified

46 wild bird mortality events were investigated between April and September 2008. All of the mortality events were atypical of deaths due to highly pathogenic avian influenza, however AI was specifically excluded as the cause of twenty two of the events. AI exclusion testing was not warranted in the remaining 24 events based on clinical signs, history, prevailing environmental conditions and/or other diagnoses.

Victoria reported deaths in: five little penguins (starvation, trauma, enteritis); five crimson rosellas (circovirus, trauma); an ibis (species unknown) (haemolysis); a purple swamphen (*Porphyrio porphyrio*) (trauma); two galahs and two sulphur-crested cockatoos (*C. galerita*) (circovirus); a crimson rosella (psittacosis); an Australian magpie (splenitis); a Southern giant petrel (*Macronectes giganteus*) (aspergillosis); two Australian king parrots (*Alisterus scapularis*) (spironucleosis); eight Pacific black duck (*Anas superciliosa*) (suspected poisoning); and 13 Australian white ibis (*Threskiornis molucca*) (suspected botulism).

Tasmania reported deaths in 2 little penguins (*Eudyptula minor*) (starvation), grey goshawk (*A. novaehollandiae*) (trauma) and masked owl (*Tyto novaehollandiae*) (carcinoma).

New South Wales reported the death of an unknown number of galahs (suspected poisoning), Australian magpies (suspected poisoning and enteritis/hepatitis), ducks (Anatinae) (botulism) and powerful owl (*Ninox strenua*) (trichomonas).

Western Australia investigated the deaths of over 260 silver gulls (*Larus novaehollandiae*) at Woodman Point (near an industrial site). No other affected bird species or fish kills were reported. Tests on submitted dead birds excluded: infectious diseases (AI, Newcastle Disease and West Nile virus); heavy metals; and poisoning (pesticides, organophosphate, alpha chloralose). Similarly, heavy metals and organophosphates were negative in water and sediment samples

While histopathology showed renal degeneration, suggestive of a toxin, the identification of a specific toxin has been unsuccessful. In separate events, WA reported deaths in 40 long-billed corellas (*Cacatua tenuirostris*) (poisoning), a raven (*Corvus* spp.) (toxoplasmosis), a crimson rosella (*Platycercus elegans*) (Wallerian degeneration), and parrots (species unknown) (psittacosis).

Australian Bat Lyssavirus

There were no positive Australian Bat Lyssavirus tests reported between April and September. 30 negative tests were reported from 26 flying foxes (*Pteropus* spp.) and microbats (Microchiroptera) in QLD, VIC and WA. In addition to ABLV testing, Queensland also tested 7 flying foxes for Hendra virus (by PCR & virus isolation) and all results were negative.



Photo Courtesy of Halley design

Marine Mammal Investigations

Tasmania reported a dead Australian fur seal with pneumonia. Australian fur seals from Victoria tested negative for morbillivirus, avian influenza and leptospira serology during serological surveillance. However, there were *Brucella* positive cELISA samples, which is a common finding in seals worldwide.



Photo Courtesy of Frog and Tadpole Society

Other investigations

Toxoplasmosis was reported in two Bennett's wallabies (*Macropus rufogriseus*), two common wombats (*Vombatus ursinus*) and three rufous-bellied pademelons (*Thylogale billardierii*) in Tasmania and in Southern brown bandicoots (*Isodon obesulus*) in WA. WA reported pneumonia in a banded hare wallaby and confirmed (on IHC stain) *Batrachochytrium dendrobatidis* (chytrid) in wild Western green and golden bell frogs (*L. moorei*) from the Perth and outer Perth area. While chytrid in WA has been previously recorded, this is the first WA report to the national database. Parasitism in bandicoots, suspected poisoning in an unidentified turtle were also reported in WA. Tasmania reported osteosarcoma in an echidna (*Tachyglossus aculeatus*), pneumonia and skin infections in four platypus (*Ornithorhynchus anatinus*), nephrocalcinosis in a ringtail possum (*Pseudocheirus peregrinus*), and enteritis in a koala (*Phascolarctos cinereus*). Victoria reported a number of eastern grey kangaroos (*M. giganteus*) and a swamp wallaby (*Wallabia bicolor*) with cataracts (age and nutrition related). Victoria also reported tricholemmoma (a rare tumour of hair follicles) and pneumonia in two ringtail possums and cryptosporidiosis in a coastal taipan (*Oxyuranus scutellatus*). The Biodiversity Conservation Unit in the Northern Territory is currently investigating a possible decline in free-ranging small native mammals. Necropsies have been undertaken on four black-footed tree rats (*Mesembriomys gouldii gouldii*) in good body condition. There was no obvious gross or histological evidence of infectious disease and their diagnosis is open.

Contributed by: Chris Bunn, DAFF, and Leesa Haynes, Projects Coordinator AWHN. The information in this report is based on that submitted by Network subscribers and Network State and Territory Coordinators. The Network would like to thank all those who submitted information for this report.

INTERESTING CASES

The Australian Registry of Wildlife Health

April 2008

Metallic starling– captive, NSW – Found dead. The trachea of this bird was packed with thin, red worms which on direct microscopic examination were found to be *Syngamus* trachea, the gape worm. Cause of death was likely suffocation, however, on histological examination inflammation was noted in the heart that resembles a viral infection. Tests are pending to rule out infection with a virus (6275.1). We have been seeing a number of captive and wild birds with acute to subacute myocardial necrosis in the Sydney basin area. Some of the affected birds have non-suppurative inflammation associated with the lesions and some have an acute fibrinous vasculitis - suggestive of a viral infection.

April 2008

Yellow-footed rock wallaby– captive animal, NSW - presented to referral veterinarian due to lethargy, loss of balance and ulcerative skin condition. Died 2 days later. Histological examination revealed the presence of a protozoal parasite in numerous blood vessel lining cells and inflammation of the vessels. Affected vessels were present in the skin, accounting for the ulcers, in the cerebellum, accounting for the loss of balance and in the lungs, which likely resulted in the animal's death (6296.1).

February 2008

Sulphur crested cockatoo– captive, NSW - found dead in enclosure after a two day history of inappetence and listlessness. Gross necropsy revealed an enlarged, discoloured liver. Histopathology and microbiology confirmed a septicemic bacterial infection caused by *Salmonella typhimurium*, phage type 99. This particular strain of *Salmonella* is carried by pigeons and does not often cause disease in other species. It can, rarely, cause disease in humans. (6210.1)

July 2008

Loggerhead turtle– wild, rehabilitation, NSW -Presented with history of having washed up on a beach and with a possible eye injury and oral lesion. After extended hospital care, the turtle failed to gain weight and further developed a nasal discharge in which acid fast bacteria identified. Euthanasia was elected. *Mycobacterium chelonae* and *Myobacterium fortuitum* were identified in culture of the oral lesion, along with *Aeromonas caviae*, *Chryseobacterium meningosepticum*, *Ralstonia pickettii*, *Stenotrophomonas maltophilia*. (6435.1).

POSITION VACANT

Australian Wildlife Health Network

The Taronga Conservation Society Australia (TCSA) is a Government of New South Wales agency responsible for Taronga Zoo and the Western Plains Zoo, catering for local, interstate and international visitors. With NSW Department of Primary Industries, it hosts the Australian Wildlife Health Network (a national initiative of the Australian Government, Department of Agriculture, Fisheries and Forestry).

The Australian Wildlife Health Network is seeking a motivated and energetic veterinarian with significant data management experience, to join its team on a full time temporary basis (38hrs p/wk).

The successful applicant will possess:

- 1 Veterinary degree registrable in Australia.
- 2 Experience in animal disease management including wildlife diseases.
- 3 Knowledge and interest in wildlife disease surveillance and management.
- 4 Experience and commitment to accurate record keeping, fact finding, data collection and interpretation.
- 5 Experience with website and database management and programming.
- 6 Excellent computer skills including MS Office.
- 7 Demonstrated excellence in oral and written communications.
- 8 Understanding of government processes and functions.

The salary package, including superannuation and leave loading, is \$85,524 p.a.

To obtain an information package, including position description, application form and selection criteria, please contact Karen Magee on 02 9932 4368 or email kmagee@zoo.nsw.gov.au.

Applications, addressing the selection criteria, should be sent to HR Officer, TCSA, PO Box 20, Mosman 2088 by close of business Friday 6th February 2009, quoting reference. no. 2009/3.

Disease Surveillance and Epidemiological Investigations in Australian fur seals



Most previous studies of infectious diseases in seals have been conducted on northern hemisphere species and little is known about the disease status of local species. Melbourne Zoo's Veterinary Department is leading a three-year collaborative research program concerned with detecting, quantifying and documenting the presence and prevalence of diseases that may impact on the conservation status of Australian fur seals. Diseases selected for surveillance are not only those reported as significant causes of morbidity and mortality in marine mammals, but also those of importance to domestic animals, and human health. In addition a potential emerging health issue of Australian fur seals is being investigated. The condition manifests as a syndrome of partial alopecia (hair loss). Hair loss is

expected to be significant to the health of the animal as fur seals rely on the insulating properties of their coats while foraging. This study is attempting to establish the seasonal variation in prevalence of this condition, the cause of this syndrome, and the impact of the condition on the animal. Collaborative partners in this program include Deakin University, Phillip Island Nature Park, The Department of Primary Industries (Victoria), the Melbourne Veterinary Referral Centre, The Australian Animal Health Laboratories (CSIRO) and Fisheries and Oceans Canada.

The program commenced in June 2007 and fieldwork has been conducted at all of Victoria's four main Australian fur seal breeding colonies. Blood samples collected from over 100 adult females and at one site were tested for antibodies to *Brucella sp*, Avian Influenza Virus, tuberculosis, morbilliviruses and six *Leptospira* serovars (*L. australis*, *copenhageni*, *grippotyphosa*, *hardjo*, *pomona* and *tarassovi*). Results indicate that adult seals have a high prevalence of antibodies to an as yet unidentified brucella species. No antibodies to leptospirosis, tuberculosis, morbilliviruses, or Avian Influenza Virus were detected.

The finding of *Brucella* antibodies in the Australian fur seal population raises questions regarding the epidemiology and significance of this organism. The first steps to assessing the significance of this finding are to obtain an isolate of the organism and to define the pathology it causes in seals. To achieve this end, Melbourne Zoo has recently set up an information network aimed at procuring seals for post mortem examination. The network includes field officers from the Department of Sustainability and Environment, wildlife officers from local councils and wildlife carer groups. Animals that have died on Victoria's coastline are collected by Melbourne Zoo staff or delivered by network members. Post mortem examinations are conducted by Melbourne Zoo vets together with DPI pathologists at their Attwood facility.

The prevalence of seals exhibiting some degree of alopecia varies between Victoria's four breeding sites. It appears to be most prevalent at Lady Julia Percy Island, located south of Port Fairy in Western Victoria. At this site a seasonal variation in prevalence of the condition has been observed with up to 25% of juvenile animals displaying some degree of alopecia in the spring of 2008. Samples collected in 2007 and 2008 suggest that parasitic and infectious causes of alopecia are not present in affected animals. Nutritional factors that may influence hair growth are currently under investigation.

Article and Photo Courtesy of Michael Lynch



Photo Courtesy of Paul Whiteley

Wildlife Health Surveillance Victoria

Wildlife Health Surveillance Victoria is a collaborative network that has been set up by the University of Melbourne's Faculty of Veterinary Science with support from the Hermon Slade Foundation to develop our knowledge and understanding of wildlife health ecology. They are currently asking for people to help by completing the Wildlife Health Survey, which is currently available on their website. The survey is about health and disease in free ranging wildlife populations based in Victoria, Australia. The survey is designed to collect information about selected wildlife species with specific signs of disease during the last 2 years.

If you would like to complete the survey please visit

www.vet.unimelb.edu.au/wildlifehealthsurveillancevic
before 28 February 2009, or contact:
Pam Whiteley on Tel: 0400 119 301
Email: pamw@unimelb.edu.au

**Ausvetplan manuals available on the internet:
www.animalhealthaustralia.com.au**

Wildlife Health in Australia is the newsletter of the Australian Wildlife Health Network. The newsletter aims to facilitate communication between people with an interest in Australian wildlife health issues. It is distributed to approximately 500 professionals and others around the country and overseas. We encourage you to show it to others and give us critical feedback on its contents.

If you wish to contribute to a future addition of the newsletter please send (in word format) articles to the AWHN email or postal address with your name and contact details supplied.

Any images included must be sent as .jpg files with a resolution of no less than 350 dpi (350 pixels/inch). All contributions may be subject to editing.

Send to: Karen Magee
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Fax: (02) 9932 4376
Email: kmagee@zoo.nsw.gov.au
website: www.wildlifehealth.org.au



DISEASE WATCH HOTLINE

1800 675 888

The Disease Watch Hotline is a toll-free number that connects callers to the relevant state or territory officer to report concerns about any potential emergency disease situation.

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WILDLIFE CO-ORDINATORS*

GOT SOMETHING TO REPORT?

We are interested in receiving reports of unusual or mass wildlife mortalities. If you see anything suspicious, please download and complete the submission form (endorsed by Animal Health Australia) found on our website (www.wildlifehealth.org.au) and send it to your local Dept of Primary Industries or your State Coordinator as listed below.

State or Territory	Co-ordinators	Notes	Address	Contact details
AAT (Australian Antarctic Territory)	COLIN SOUTHWELL	Government rep Appointed by the Director, Australian Antarctic Division (DEWR)	Australian Antarctic Division Channel Highway Kingston TAS 7050	colin.southwell@aad.gov.au W: 03 6232 3450 F: 03 6232 3351 M: 0407 768 085
ACT	WILL ANDREW	Government vet	ACT Veterinary Services Parks Conservation & Lands (Athlon) PO Box 158	wil.andrew@act.gov.au W: 02 6207 2357 F: 02 6207 2093
NSW	DIANE RYAN	Government rep Appointed by CVO NSW	NSW Department of Primary Industries EMAI, PMB 8,	diane.Ryan@dpi.nsw.gov.au W: 02 4640 6333 F: 02 4640 6300
NT	CATHY SHILTON	Government rep Appointed by CVO NT	Dept of Business, Industry and Resource Development Berrimah Vet Laboratories GPO Box 3000 Darwin, NT 0801	cathy.shilton@nt.gov.au W: 08 8999 2122
QLD	ANITA GORDON	Government rep Appointed by CVO QLD	QLD Dept Primary Industries Animal Research Institute 665 Fairfield Road Yeerongpilly, QLD 4105	anita.gordon@dpi.qld.gov.au W: 07 3362 9419 F: 07 3362 9440
TAS	SARAH PECK	Government rep Appointed by CVO TAS	Department of Primary Industries and Water PO Box 46, Kings Meadows, TAS 7249	sarah.peck@dpiwe.tas.gov.au W: 03 63365217 F: (03) 6344-3085
VIC	JEMMA BERGFELD	Government rep/ Appointed by CVO VIC	Department of Primary Industries Primary Industries Research Victoria 475 Mickleham Rd, Attwood VIC 3049	Jemma.Bergfeld@dpi.vic.gov.au W: 03 9217 4292 F: 03 9217 4399
WA	CLEVE MAIN	Government rep Appointed by CVO WA Pathologist	Animal Health Laboratory Department of Agriculture, WA Locked Bag 4 Bentley Delivery Service WA 6983	cmain@agric.wa.gov.au W: 08 9368 3426 F: 08 9474 1881
OTHER USEFUL CONTACTS				
Australian Registry of Wildlife Health	KARRIE ROSE	Registrar	Taronga Zoo Veterinary & Quarantine Centre PO Box 20 Mosman NSW 2088	krrose@zoo.nsw.gov.au W: 02 9978 4749 F: 02 9978 4516
Australian Wildlife Health Network	RUPERT WOODS	Manager	AWHN PO Box 20 Mosman NSW 2088	rwoods@zoo.nsw.gov.au W: 02 9978 4579 M: 0438 755 078
	POSITION VACANT State/Territory Coordinators Contact	Projects Coordinator	AWHN P.O. Box 20 Mosman NSW 2088	W: 02 9932 4788 F: 02 9932 4376
	KAREN MAGEE	Administrative Assistant	AWHN P.O. Box 20 Mosman NSW 2088	kmagee@zoo.nsw.gov.au W: 02 9932 4368 F: 02 9932 4376

*AWHN Coordinators are funded by Animal Health Australia as part of Australia's National Animal Health Information System.

We are extremely grateful for their ongoing support.