

AUSTRALIAN REGISTRY OF WILDLIFE HEALTH AT TARONGA ZOO

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The Australian Registry of Wildlife Health was established by Dr. Bill Hartley at Taronga Zoo in 1985 to develop a collection of information and materials relating to healthy and diseased native fauna and zoo animals. Since 1985, the Registry has grown into a significant resource centre to allow us to better understand the health of Australian ecosystems.

The Registry is also a diagnostic centre, investigating outbreaks of sudden death or disease on behalf of wildlife managers, conservation departments, wildlife rehabilitation groups, the RSPCA, and zoos.

Diseases in wildlife can have a significant impact on human health, the agricultural industry and threatened species survival. Determining the health status of wildlife populations provides vital information required for animal management, policy development, biodiversity protection, and conservation efforts. The Registry is regularly used by private, government and university based veterinarians, biologists and wildlife carers.

Wildlife rehabilitators play a major role in the surveillance of wildlife for disease. As the primary carers of injured and orphaned wildlife, carers have the ability to be at the forefront of disease and syndrome detection. If you believe you have an animal with an unusual disease or have noticed a number of unexplainable mortalities in any given species then we at the registry are interested to hear from you. While we do not have the resources to investigate individual animal deaths, such as those caused by trauma, we are interested in cases involving unusual clinical signs and death, such as unusual behaviour and mass mortality.

The registry is interested in building information to gain a better look at the 'big picture'. Diagnostic investigations are focused on diseases that could harm Australia's trade/economy, threatened/endangered wildlife, tourism and human health. We are keen to receive interesting cases that are diagnosed by other vets and pathologists around the country. If you feel that you have a case that could be useful to the Registry, please contact us. We will endeavour to help you directly or find someone in your local area who can.

The Registry maintains more than 20 years of health information, photographs, and case material representing wildlife from across Australia, with the last six years of data accessible through a state-of-the-art wildlife health archival database program. The Registry library contains an abundance of wildlife health related publications.

What we can offer

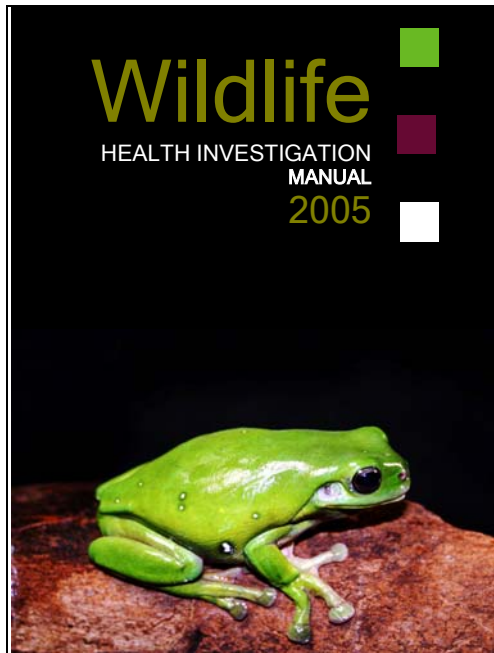
- 20 years of animal health information and diagnostic materials
 - Wildlife Health Investigation Manual
 - A dynamic and interactive Website www.ARWH.org
 - Comparative pathology self-teaching slide sets for common disease of Australian amphibians, reptiles, birds and mammals
 - A comprehensive collection of 35 mm reference photos of diseased and healthy fauna
 - A library containing field manuals, textbooks, manuscripts and reprint journal articles
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- Computerised archival system - tracking data, paraffin blocks, glass slides, 35 mm slides, digital images and electronic reports

Access to materials and information in the Registry is free to those interested in the study of wildlife health.

The Registry's most recent achievements are the publication of the Wildlife Health Investigation Manual and the development of the Australian Registry of Wildlife Health website (www.ARWH.org). Both the manual and the website have been designed with a wide audience in mind. They are suitable for use by carers and laypeople as well as veterinarians interested in working with wildlife. They are designed as a communication tool with the purpose of sharing information and techniques for wildlife disease investigation.

Recent Registry developments



The Wildlife Health Investigation Manual was created to assist biologists, field staff, wildlife rehabilitators and veterinarians in their efforts to investigate and better understand wildlife health. Australian fauna is quite distinct from domestic species and from wildlife in other parts of the world. Exotic diseases in wildlife could manifest in unexpected ways. Wildlife can be an important indicator of emerging diseases. The manual is aimed at improving disease observation, recognition, notification and diagnosis in wildlife.

Through the manual, we hope to increase awareness of emerging and exotic disease in Australia that could potentially threaten our country's trade/economy, threatened and endangered wildlife and tourism industry, as well as human health. The manual provides protocols for information and sample collection that can be used by experienced wildlife handlers and veterinarians. The manual offers advice on methods of humane euthanasia for a variety of different species and provides protocols for wildlife health and outbreak investigations. Importantly

the manual also supplies contact details for reference laboratories and other wildlife/health agencies so that if you believe you have an animal worth investigating you will be able to contact the appropriate people in your region to help and advise you.

The Australian Registry of Wildlife Health website (www.ARWH.org) was developed to allow online access to Registry resources. The site is an interactive medium where people are encouraged to add their own interesting cases and browse through existing case reports. We hope that in the future, with sufficient funding, the website will be expanded to incorporate the pathology database.

The website links closely with the Australian Wildlife Health Network (AWHN).

Online you will be able to learn about the Registry and our staff, view interesting cases and submit your own interesting case reports and digital images to the Registry, print and display a series of illustrated case reports, and download illustrated chapters of the "Common Diseases of Urban Wildlife". The website contains a number of illustrations and links to other useful sites. You can also download the order form for the Wildlife Health Investigation Manual by visiting the website.



The Common Diseases section of the website may be of particular interest to wildlife carers and veterinarians. This section of the site contains information regarding a variety of parasitic, bacterial, fungal and viral diseases, trauma, and several syndromes with unknown cause in mammals, birds and reptiles. The chapters are fully illustrated (also available in a text only version) in colour and provide a useful guide to diseases that may be seen regularly in native fauna.

Diagnostic achievements

The annual Registry wildlife caseload exceeds that of all state and commonwealth agriculture laboratories combined (P. Ladds, 2005). In 2004, for example, the Australian Registry of Wildlife Health processed approximately 1180 individual cases of wildlife mortality. These figures do not include captive wildlife.

The following are merely a few examples of current investigations and discoveries made by the Registry and their potential impacts on our environment.

* Discovering what appears to be a new *Leishmania* species in macropods in the Northern Territory. This single celled parasite has the potential to cause disease in threatened species of wildlife, domestic animals, and its zoonotic capacity is unknown.



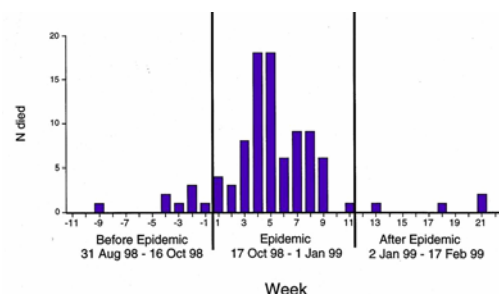
* Investigating mortalities among Tawny Frogmouths, particularly using this animal as an indicator of the presence of the rat lungworm, *Angiostrongylus cantonensis* in the environment. This parasite has the potential to cause debilitating neurological disease in captive and free-ranging wildlife, and humans.



* Investigating outbreaks of mortality among green turtles, an endangered species, off the coast of NSW, caused by infection with the single celled parasite *Caryospora cheloniae*. Environmental conditions of low inland and coastal rainfall were found to be linked to all known outbreaks of this parasitic infection. Algal toxins that are potentially harmful to humans were identified in the liver tissue of animals that died in the 2003 outbreak.



* Identifying a new orbivirus, of the Eubenangee serogroup, as the cause of acute mortality and haemorrhagic disease of tammar wallabies. Between 250 and 350 tammar wallabies died in a series of three outbreaks in NSW and QLD during 1998.



Registry Supporters

The Wildlife Health Investigation Manual was published by the Zoological Parks Board of NSW, with the financial assistance of the following organisations:

- Koala and Endangered Species Trust
- Australian Biosecurity Cooperative Research Centre for Emerging Infectious Diseases
- Australasian Invasive Animal Cooperative Research Centre
- The Australian Department of Agriculture, Fisheries and Forestry
- Wildlife Disease Association - Australasia Section
- IDEXX Laboratories

The website was created with financial support from the following organisations:

- Koala and Endangered Species Trust
- The Australian Department of Agriculture, Fisheries and Forestry
- Creative Digital Technology

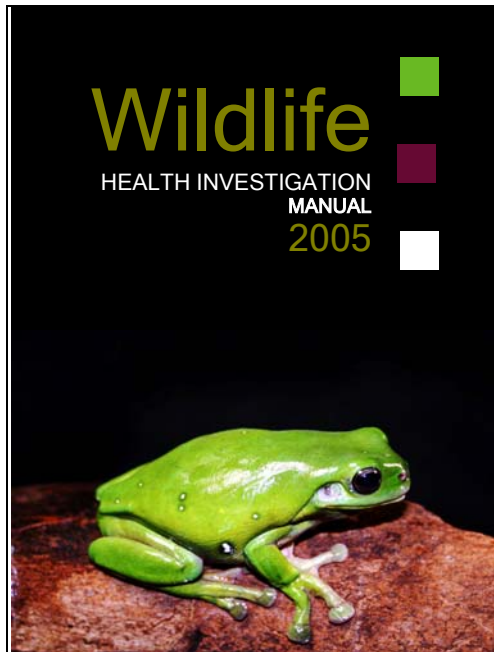
We are also extremely grateful to the generosity of the following organisations for the donation of funds and gifts-in-kind through this financial year:

NSW National Parks & Wildlife Service (DEC)
Australian Association of Veterinary Conservation Biologists
NSW Department of Primary Industries
University of Sydney
Zoo Friends
Harvey Norman

The Australian Registry of **Wildlife Health**

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Australian Registry of Wildlife Health at Taronga Zoo
Jane Hall and Dr Karrie Rose