

## White-nose syndrome – Protecting Australian bats

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White-nose syndrome (WNS) is a fungal disease that has caused significant declines in insectivorous bat populations in North America, with mortality estimates over 6 million. The fungus causing WNS has also been found across Europe and in China, but without the mass mortalities observed in North America. WNS has not been identified in Australia.

WNS affects hibernating bats by causing wing damage that leads to disturbance and depletion of fat reserves over winter. The fungus only grows in low temperatures, and can persist in the environment for long periods, even in the absence of bats. Humans have been implicated in the spread of disease by transferring the fungus between caves on clothing, boots and equipment.

A number of activities are underway to reduce the risk of introduction of WNS into Australia, and to better prepare Australia for dealing with a possible outbreak if the disease were to be found here.

### 1. Assessing the risk

A risk assessment was conducted to help answer the question of whether Australian microbats are at risk from WNS. The assessment was conducted by a team of experts from The University of Melbourne, the South Australian Museum, the Department of Environment, Land, Water and Planning Victoria (Arthur Rylah Institute), and The University of Adelaide, with funding from the Department of Agriculture and Water Resources (DAWR).<sup>1</sup>

The risk assessment found that cave-dwelling insectivorous bats in the colder southern parts of Australia are likely to be at risk of WNS if introduced, in particular the critically endangered southern bent-winged bat (*M. orianae bassanii*) and the eastern bent-winged bat (*Miniopterus orianae oceanensis*). The assessment also found that the most likely method of entry of WNS into Australia is via infected objects such as clothing, footwear or equipment used in affected caves overseas.

### 2. Reducing the risk of introduction

The Australian Government has provided advice on reducing the risk of WNS introduction.<sup>2</sup> Cavers visiting Australia are asked not to bring clothing, footwear or caving gear that has been used in other countries, and Australian cavers are asked to avoid taking their own gear when they travel to caves overseas. Bat researchers should also be mindful of this advice if visiting caves overseas. Care should also be taken when moving between caves within Australia, to avoid the transfer of any potential pathogens.

An International Congress of Speleology is being held in Sydney in July 2017, which will be attended by cavers from overseas and includes a number of field trips. The organisers have been very proactive in providing information to delegates on WNS, arranging clean loaner gear for field trips, and developing protocols for decontamination. WHA, DAWR and the Australasian Bat Society have been assisting with this process. WHA is presenting at the congress on the risk of WNS. The Australian Chief Veterinary

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<sup>1</sup> Holz P, Hufschmid J, Boardman W, Cassey P, Firestone S, Lumsden L, Prowse T, Reardon T, Stevenson M, 2016. Qualitative risk assessment: White-nose syndrome in bats in Australia

<http://www.wildlifehealthaustralia.com.au/Portals/0/Documents/ProgramProjects/WNS%20Disease%20Risk%20Analysis%20Australia.pdf>

<sup>2</sup> <http://agriculture.gov.au/pests-diseases-weeds/animal/white-nose-syndrome>

Officer will be writing to delegates, and border staff will be alerted to the risk. These activities will help prevent introduction of WNS not just in relation to the congress, but for the longer term.

### 3. *How would we respond?*

A workshop was held in October 2016 to discuss response options for a possible incursion of WNS into bats in Australia.<sup>3</sup> The workshop, run by WHA and Animal Health Australia, brought together representatives from Commonwealth and State agriculture and environment agencies, biosecurity emergency management experts, bat ecology experts from the Australasian Bat Society, and university wildlife disease experts and epidemiologists. Based on the outcomes of the workshop, guidelines have been developed to assist response agencies should WNS appear in Australia.

### 4. *How to identify and report a suspect case of WNS*

People working with, researching, or caring for microbats play an important role in identifying and reporting suspect cases of WNS. Clinical signs of WNS include white or grey powdery fungus on the face, fur, skin or wings; wing damage; mass mortality (multiple deaths); and abnormal behaviour such as flying during the day.

If WNS is suspected, contact: your State/Territory WHA Coordinator,<sup>4</sup> the 24 hour Emergency Animal Disease Watch Hotline (freecall 1800 675 888), a local veterinarian, or Wildlife Health Australia.<sup>4</sup> For further details, see WHA's *How to report a suspect case of white-nose syndrome*.<sup>5</sup>

**Note:** Members of the public should not handle bats. Contact with bats such as bites and scratches carry a risk of infection with Australian bat lyssavirus and require urgent first aid and medical attention. Only people who are trained, have current rabies immunity, and are wearing appropriate personal protective equipment should handle bats.

### 5. *Where to find more information*

- Wildlife Health Australia fact sheet: <http://www.wildlifehealthaustralia.com.au/FactSheets.aspx>
- Australian Government Department of Agriculture and Water Resources website: <http://agriculture.gov.au/pests-diseases-weeds/animal/white-nose-syndrome>
- USGS National Wildlife Health Center website: [https://www.nwhc.usgs.gov/disease\\_information/white-nose\\_syndrome/index.jsp](https://www.nwhc.usgs.gov/disease_information/white-nose_syndrome/index.jsp)
- *White-NoseSyndrome.org* website: <https://www.whitenosesyndrome.org>
- US Fish & Wildlife Service national white-nose syndrome decontamination protocol <https://www.whitenosesyndrome.org/topics/decontamination>

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<sup>3</sup> <http://www.wildlifehealthaustralia.com.au/Portals/0/Documents/ProgramProjects/WHA-AHA%20WNS%20workshop%20summary%20Oct%202016.pdf>

<sup>4</sup> <http://www.wildlifehealthaustralia.com.au/AboutUs/ContactDetails.aspx>

<sup>5</sup> <http://www.wildlifehealthaustralia.com.au/ProgramsProjects/BatHealthFocusGroup.aspx#WNS>