Freshwater Turtle Disease Notification

Report unusual sickness or unexplained deaths of captive or free-ranging freshwater turtles

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Background

A virus, strongly suspected to have caused the death of a large proportion of the critically endangered Bellinger River Snapping Turtle (*Wollumbinia georgesi*[1]; 2015 BRST event[2]) population in 2015, has been detected in a collection of captive Australian freshwater turtles in Queensland.

The affected captive freshwater turtles showed signs of disease and death similar to those seen in the 2015 BRST event. A disease investigation was suggested by the owner and undertaken in collaboration with a local Private Veterinary Practitioner (PVP) and reptile disease specialists. The investigation identified the Bellinger River Virus and another novel nidovirus in sick captive freshwater turtles. The viruses were also detected in a number of apparently healthy animals. The owner and investigators are working in collaboration with government authorities in response to this concerning detection, including investigation into the possible source of the virus. The multi-agency response team is continuing to investigate this event and includes biosecurity and environment government agencies in New South Wales and Queensland.

The following information outlines how you can help, what to be on the lookout for, what information to collect, and who to contact if you come across a suspect case.

LOOK

For unusual sickness or unexplained deaths of captive or free-ranging freshwater turtles.
Clinical signs include

- Lethargic (note freshwater turtles are naturally less active in cooler weather)
- Severely thin (emaciated)
- Swimming in a disoriented manner
- Swelling of both eyelids
- Abnormal breathing
- Skin discolouration

RECORD

- what you see
- the location
- take a photo if you can.

REPORT

- To your local wildlife or exotic animal veterinary clinic
- To your State/Territory WHA Coordinator
- Any unusual or mass mortality events in free-living turtles can also be reported via Emergency Animal Disease Watch Hotline 1800 675 888[3]

[1] The species was previously known as *Elseya georgesi*,and is referred to as *Myuchelys georgesi* in some publications.
[2] Further information on the 2015 BRST event: https://www.wildlifehealthaustralia.com.au/DiseaseIncidents/HistoricIncidents.aspx#BRST
[3] The **Emergency Animal Disease (EAD) Watch Hotline** is a toll-free telephone number that connects callers to the relevant state or territory officer to report concerns about any potential EAD situation. Anyone suspecting an EAD outbreak should use this number to get immediate advice and assistance.

For advice on how to manage animals potentially affected by this virus, and to protect yourself and other animals in your care, see the National Wildlife Biosecurity Guidelines[4]

These viruses can cause serious disease and death in some freshwater turtle species. The virus is not believed to affect humans. It is assumed that the virus is contagious through physical contact and through the environment. Turtles and wildlife can also carry diseases which in some cases may be transmissible to other species and people. **Therefore best practice biosecurity measures are recommended.**

Care of sick, injured and orphaned wildlife

The care of sick, injured and orphaned wildlife must be referred to an authorised wildlife rehabilitation organisation or veterinarian. See Links to 'injured wildlife' under contact details for your local **State/Territory Environment Representative**

Please remember, if you see any other unusual signs of disease or mass deaths in wildlife you can report it to:

- **Your local State/Territory WHA Coordinator (https://wildlifehealthaustralia.com.au/AboutUs/ContactDetails.aspx)**
- **The 24-hour Emergency Animal Disease Watch Hotline on free call 1800 675 888**
- **The Department of Primary Industries or Agriculture in the State/Territory in which the event has occurred**
- **Or, if you are a carer: your local veterinarian**

Background on the 2015 BRST event

A significant mortality event involving Bellinger River Snapping Turtles (*Wollumbinia* [*Myucehlys*] *georgesi*) was investigated after dead and dying turtles were reported in February 2015. Over 430 turtles are estimated to have been affected with clinical signs including swollen eyes, blindness, emaciation, clear nasal discharge and hind limb paresis, and a very high case fatality rate. Diagnostic investigation was conducted by multiple agencies and organisations. A wide range of potential infectious aetiologies were excluded by laboratory testing and no evidence of pesticides was found in river water samples. A novel nidovirus (Bellinger River Virus; BRV) was identified as the likely cause of these mortalities (Zhang et al 2018[5]). The origin of BRV is yet to be determined. During investigations in 2015, there was no evidence of this virus causing disease in other species sampled from the affected area.

Wollumbinia [*Myucehlys*] *georgesi* is a unique species of freshwater turtle found only in small sections of the Bellinger and Kalang rivers in NSW. As a result of the outbreak, their population was reduced to such an extent that the species has now been classified as “critically endangered”, with perhaps fewer than 100–200 animals present in the wild. A small number of healthy *W. georgesi* were therefore removed from the river for a captive breeding program and have remained healthy.

Further information about the Bellinger River Snapping Turtle event including links to key resources and publications can be found on the Wildlife Health Australia website:
https://www.wildlifehealthaustralia.com.au/DiseaseIncidents/HistoricIncidents.aspx#BRST

[4] National Wildlife Biosecurity Guidelines: https://www.wildlifehealthaustralia.com.au/Portals/0/Documents/ProgramProjects/National_Wildlife_Biosecurity_Guidelines.PDF

[5] Zhang et al. (2018) Identification of a novel nidovirus as a potential cause of large scale mortalities in the endangered Bellinger River snapping turtle (*Myuchelys georgesi*). PLoS ONE 13(10): e0205209. https://doi.org/10.1371/journal.pone.0205209