



**NABSnet**

**Newsletter**

**#35 | 9 February 2022**

## Watching our northern coast

Hi everyone

2022 kicks off with monsoonal rain for many of us – opening up the prospect of good growth - and a reminder of just how much our northern coastline has winds and currents that potentially bring biosecurity risks – for humans and livestock.

In this newsletter there's info about Japanese encephalitis virus – given a recent (2021) fatal human case. There is also a summary of the important targeted surveillance activities done by NAQS.

The SDI is a good example of our NABSnet role as northern vets - keeping a weather eye out for unusual presentations of disease events and ensuring the 'rule outs' are done for everyone's peace of mind and to underpin our strong trade position.

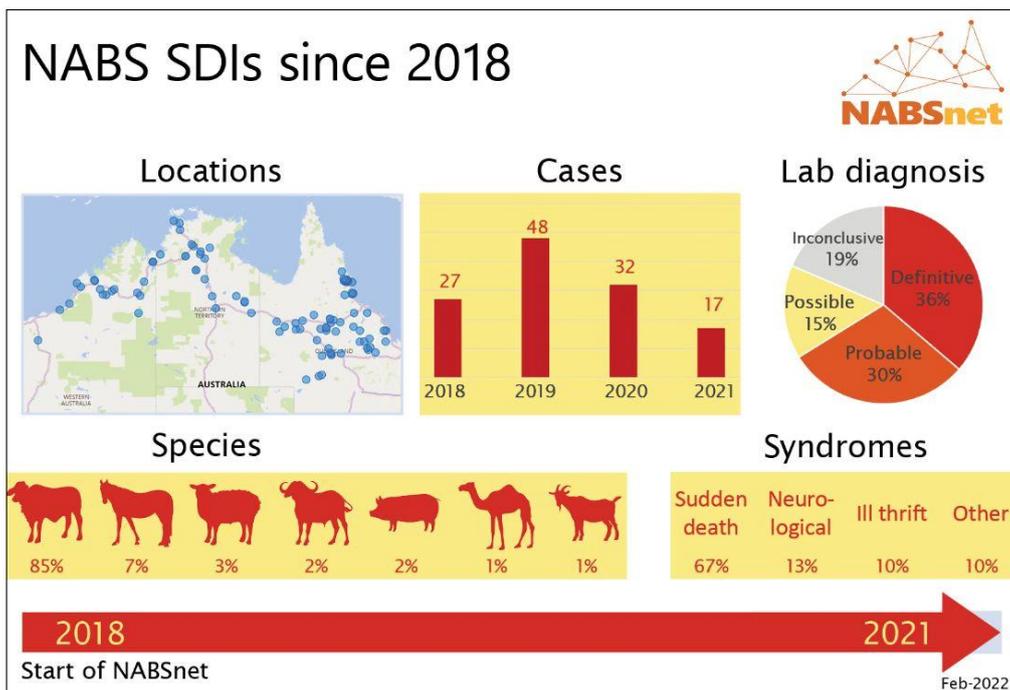
I am keen to know more about how practices approach submitting SDIs so will connect with some of you over the next few weeks.

**Cheers**

**Kev**



## NABS SDIs since 2018



## Rapid spread of skin lesions in 250 weaners

In September 2021, 20% of a mob of 250 weaners in central coastal Queensland developed skin lesions over about 3 weeks. The owner was concerned about the nature of the lesions and how quickly they were spreading, and requested a veterinary investigation.

The mob was made up of heifers and steers approximately 240kg average weight with 5-6 poor-doers. They were located in a small paddock where they were fed grain through a feeder and received hay and pasture.

Half of the animals had been in the pen for 3 months; the others were added in two groups, 1 and 2 months prior to the investigation. The feed ration was the same throughout. All animals added to the herd were healthy at the time of introduction. They were treated with Dectomax pour-on 2 weeks before the first affected animals were seen and a significant rain event of 60mm occurred 10 days before first signs.

### **Clinical observations**

Approximately 50 animals were affected with varying degrees of skin lesions. About 15 head had severe lesions, especially around the eyes, but extending back over the shoulders, and some between legs and around the scrotal area on the steers. The lesions were from a few millimetres to 75mm in diameter. Some were raised nodules, some were pedunculated, some were almost flat. The remainder of the 50 had a few isolated lesions on the neck and head but no more than about a dozen per animal. Affected and non-affected animals were similar body condition and weights.



### **Differential Diagnosis**

- Bovine Papilloma Virus (although rarely 20% of a herd affected at the same time).
- Lumpy Skin Disease
- Ringworm
- Rain Scald from the rain event

### **Samples taken**

- Skin lesion from 5 of the worst affected animals – fresh tissue for LSD exclusion.
- Ear notch of the 5 poor doing animals for BVD Antigen
- Blood samples from 5 randomly selected animals for BVD antibody

### **Results**

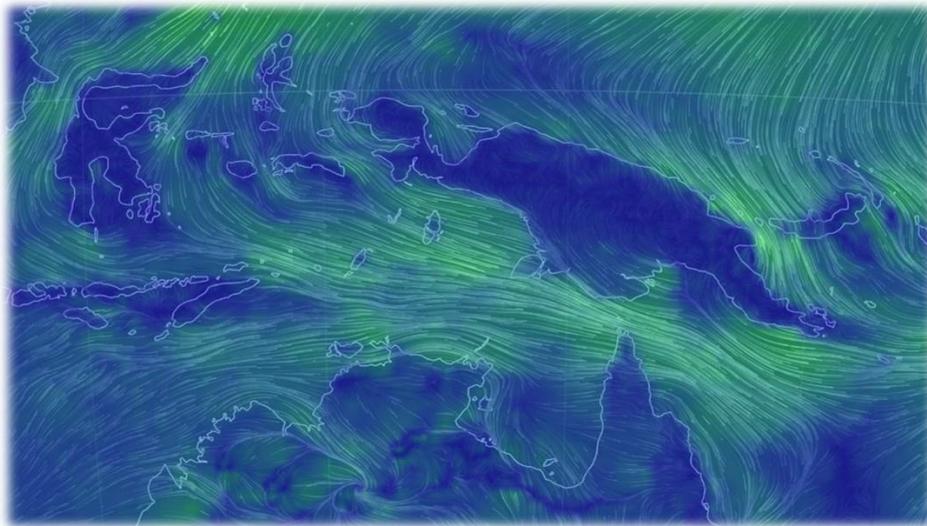
- Histology is consistent with Bovine Fibropapilloma.
- Negative results to both Antibody and Antigen for BVD
- Negative for Lumpy Skin Disease (TaqMan assay at AAHL).

### **Recommendations**

Advice to the owner while waiting for results was to continue to keep the animals separate and keep watch on the non-affected animals.

Papillomas usually fall off with time, but irritation of the lesions can sometimes speed up the process (iodine solution and rubbing with a stiff brush, wearing gloves).

General herd immunity has possibly been lowered from co-mingling of animals from different origins and the weather being cold and wet. The implications may not be limited to BPV – there could be a higher risk of other diseases such as BRD and Coccidiosis. Consequently the recommendation was to continue to keep the mob as one as far as practically possible and maintain observation.



*North-westerly monsoonal winds – bring rain and biosecurity risks*

### **Quick primer on Japanese encephalitis virus (JEV)**

**In 2021, a locally-acquired fatal human case of JEV was diagnosed in a resident of Tiwi Islands, Northern Territory – well outside the known risk area for JEV transmission in Australia. Surveillance is currently being undertaken across the Top End using mosquito trapping and sentinel animals.**

JEV is an arbovirus within the family Flaviviridae and is closely related to Murray Valley encephalitis virus, Kunjin virus, Ross River fever virus, Yellow fever virus, Zika virus, Dengue virus and West Nile virus. JEV most often results in mild disease and transient fevers in a range of hosts but can cause severe fever and encephalitis (often fatal) predominantly in horses and humans (both dead-end hosts), and abortions and stillbirths in pigs.

Being an arbovirus, it is spread by mosquitoes and a sylvatic cycle transmits between water birds and pigs often without any obvious signs. Pigs are an amplifying host, so pose a particular risk when housed near human dwellings during transmission season.

Since the first human cases diagnosed in Australia in 1995, investigations, research and surveillance programs have determined that JEV is an ongoing risk in the Torres Strait and northern Cape York Peninsula area of Queensland, with the virus believed to incur occasionally via either infected mosquitoes blown in from neighbouring Papua New Guinea on monsoonal winds, and/or infected wild migratory waterbird hosts entering the region.

Public health interventions to reduce risk of further cases have so far been successful:

- Public awareness (e.g. to prevent mosquito bites)
- Elimination of mosquito breeding sites from residential areas
- Removal of pigs from close proximity to human dwellings, and
- Vaccination of people at higher risk of JEV infection (e.g. Torres Strait residents).

Queensland Health has established mosquito traps (collecting mosquito saliva on FTA cards and testing for presence of virus) at 13 sites in north Queensland. These are cleared fortnightly during the transmission season (Dec–May) each year.

Surveillance for JEV in potential animal hosts also occurs via active surveillance activities conducted by NAQS in the Torres Strait and northern Cape York Peninsula, with routine screening of blood samples from a range of domestic and feral animal species; and inclusion of JEV as a differential in relevant disease investigations (e.g. neurological symptoms in horses or pigs).

**While public health and biosecurity agencies are working together to understand and monitor the risk of JEV in northern Australia, vets in private practice are key too.**

- Do your bit to educate and protect yourself, your staff and clients about mosquito/insect bite prevention.
- Consider JEV infection as an exotic differential for neurological horse cases and contact your local government veterinary officer or laboratory for advice to ensure a thorough investigation.

**Worth noting .... in the last month cases of Kunjin (described in the press as West Nile Virus) have been diagnosed in horses in multiple regions of NSW.**

ABC RURAL

## **West Nile virus cases in horses rise in NSW as hot, wet summer fuels mosquito population**

ABC Rural / By Amelia Bernasconi

Posted Thu 3 Feb 2022 at 6:17am



Vets say the best treatment for West Nile virus is supportive care. (ABC Rural: Melanie Groves)

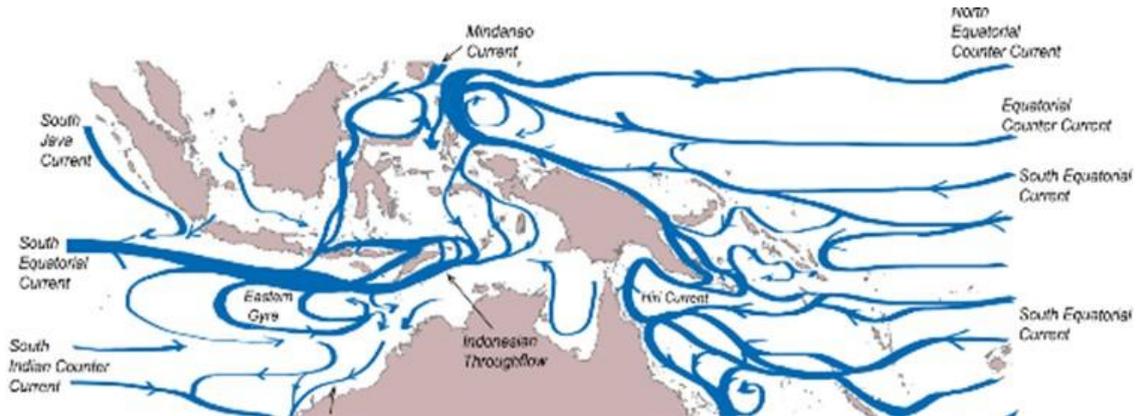


*Near neighbours - view of PNG coastline from Saibai Island  
(most northern Island in Torres Strait)*

## **Northern Australia Quarantine Strategy – in action**

Northern Australia is dramatically different to the south in many ways (no doubt exactly why many of us choose to live here!) including biosecurity risk, management and preparedness.

Our northern coastline is sparsely populated, adjacent to busy international shipping channels and exposed to marine debris, migratory animals, wind and ocean currents, and potentially unregulated or illegal vessels, all of which could result in the arrival of unchecked biosecurity risk material, such as virus-infected midges blown via cyclones or monsoon winds from host countries, contaminated food and rubbish washing up on the coastline, migratory birds carrying viruses as they fly through SE Asia, or a rabid dog entering on vessels landing along the coast, entering illegally.



*Ocean currents wash up rubbish and debris (eg traditional rafts) that could be contaminated with biosecurity risk material*



The Northern Australia Quarantine Strategy (NAQS) is the surveillance program within the Australian Department of Agriculture, Water and the Environment (DAWE) tasked with assessing the biosecurity risk to northern Australia. The program conducts targeted early detection surveillance, improving options for eradication and containment for pests/disease and providing area freedom data to support our international trade market access (think FMD-free cattle for export to SE Asia).

NAQS' targeted surveillance activities currently include:

- Sentinel cattle herds in five key locations to monitor for bluetongue viruses and act as general markers of any other pest or disease incursion such as screwworm fly or FMD.

- Collection of environmental faecal samples from wild ducks, geese and migratory shorebirds to identify endemic and exotic strains of avian influenza before they impact commercial poultry.
- Feral animal surveys to provide information on host distribution across northern Australia; and humane destruction and post mortem sampling of feral hosts to demonstrate Australia's freedom from diseases such as African and classical swine fever, Aujeszky's disease, and surra to the World Animal Health Organisation (OIE).
- Vector trapping activities for mosquitoes, *Culicoides* midges and screwworm fly to offer an insight into seasonal risks for pest and disease incursion, with information included in national datasets for Japanese encephalitis, bluetongue virus, African horse sickness and screwworm fly.



*Location of the five sentinel cattle herds*

As well as targeted surveillance, northern Australia benefits greatly from general surveillance which improves early detection of disease, particularly in less accessible areas where residents are much more likely to notice something unusual than an infrequent visitor.

- Indigenous ranger groups are contracted to provide biosecurity information through various reporting tools.

- The Biosecurity Topwatch! public awareness campaign encourages reporting of unusually sick animals by the public.
- And the NABS Vet Network has contributed more than 120 significant disease investigations over three years, including many notifiable disease exclusions – all of which increases our confidence that exotic or emerging disease would be detected early enough to improve our response efforts.



## Key NABS SDI network contacts

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Newsletter sent on Kevin's behalf from the team at Harris Park Group