

NSW Arbovirus Surveillance and Mosquito Monitoring 2024-2025

Environmental Health Branch, Health Protection NSW

Weekly Update: Week ending 7 December 2024



Bottom left - Common banded mosquito, *Culex annulirostris* **Top and bottom right** - Saltmarsh mosquito, *Aedes vigilax* (Copyright 2020)

Weekly reports are available on [Mosquito-borne disease surveillance](#).

Please send questions or comments about this report to:

Surveillance and Risk Unit, Environmental Health Branch, Health Protection NSW: hssg-ehbsurveillance@health.nsw.gov.au

Testing and scientific services are provided by the Department of Medical Entomology, NSW Health Pathology, Institute of Clinical Pathology and Medical Research (ICPMR) for mosquito surveillance, and the Arbovirus Emerging Diseases Unit, NSW Health Pathology (ICPMR) for sentinel chicken surveillance.

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SPHN (EH) 241091

Summary

Arbovirus Detections

Sentinel Chickens

- There have been no arbovirus detections in sentinel chickens.

Mosquito Isolates

- There was a detection of Japanese encephalitis virus in a mosquito sample taken at Lake Wyangan in Griffith on 3 December 2024.

Mosquito Abundance

Inland

LOW: Albury, Bourke, Cootamundra, Deniliquin, Forbes, Grong Grong, Leeton, Murrumbidgee and West Wyalong.

MEDIUM: Wagga Wagga and Yass.

HIGH: Griffith, Macquarie Marshes and Moree.

Coastal

LOW: Batemans Bay, Byron Bay, Kempsey, Murwillumbah and Tweed.

MEDIUM: Wyong.

HIGH: Ballina and Gosford.

Sydney

LOW: Blacktown, Cumberland, Earlwood, Hills Shire, Northern Beaches, Penrith and Sydney Olympic Park.

MEDIUM: Canada Bay, Georges River and Hawkesbury.

HIGH: Bankstown, Liverpool and Parramatta.

Environmental Conditions

Climate

- In the week ending 7 December 2024, rainfall was about average or higher than average across most of NSW. Rainfall was heavy south of Canberra extending across Kosciuszko National Park into Victoria. Rainfall was below average in the northwest quadrant of NSW and in areas north of Sydney and extending into Newcastle.
- In the coming week, 12 December to 18 December 2024, rainfall is expected to be around average along the eastern half of NSW and below average elsewhere.
- Minimum temperatures are expected to be higher than average across most of NSW especially along the coast, in pockets to the northwest of Canberra and in the southwest quadrant of NSW along the Victoria border.
- Maximum temperatures are expected to be about average across most of the northern half of NSW and higher than average along the coast and in the southern half of the state.

Tides

- High tides over 1.8 metres are predicted for 13-18 December, 31 December 2024 - 4 January 2025, and 11-16 January 2025 which could trigger hatching of *Aedes vigilax*.

Human Arboviral Disease Notifications

Ross River Virus

One probable case was notified in the week ending 7 December 2024.

Barmah Forest Virus

No cases were notified in the week ending 7 December 2024.

Arbovirus Detections

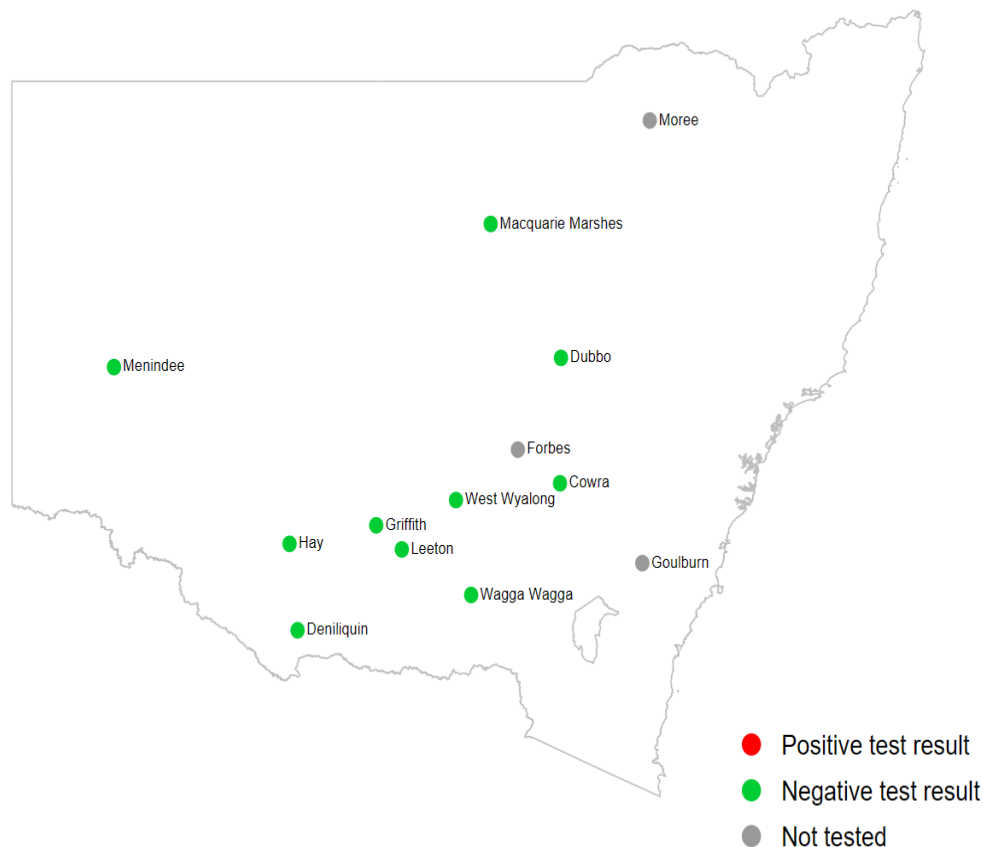
This section details detections of Murray Valley encephalitis virus, Japanese encephalitis virus, Kunjin virus, Ross River virus and Barmah Forest virus in the NSW Arbovirus Surveillance and Mosquito Monitoring Program.

Sentinel chickens

Chickens are bled for detection of antibodies directed against Murray Valley encephalitis virus, Japanese encephalitis virus and Kunjin virus, indicating exposure to these viruses. Test results for the past week are shown in the map below. A positive test result indicates one or more chickens in a flock tested positive for the **first time** to antibodies directed against a particular virus, indicating newly acquired infection.

Sentinel chicken antibody test results for samples collected in the week ending 7 December 2024

In the week ending 7 December 2024, there were no arbovirus detections in sentinel chickens.



There have been no arbovirus detections in sentinel chickens during the 2024-2025 surveillance season.

Sydney sites

The map highlights detections of arboviruses that can cause human notifiable conditions, such as Murray Valley encephalitis virus, Japanese encephalitis virus, Kunjin virus, Ross River virus, and Barmah Forest virus. Detections of all arboviruses (including Edge Hill virus, Stratford virus and Kokobera virus) for the season are detailed in the positive test results for the 2024-2025 surveillance season.



There have been no arbovirus detections in Sydney sites during the 2024-2025 surveillance season.

Mosquito abundance

This section details counts of mosquitoes in the NSW Arbovirus Surveillance and Mosquito Monitoring Program. Each location represents the count average for all trapping sites at that location for the most recent week that collections were provided prior to preparation of this report.

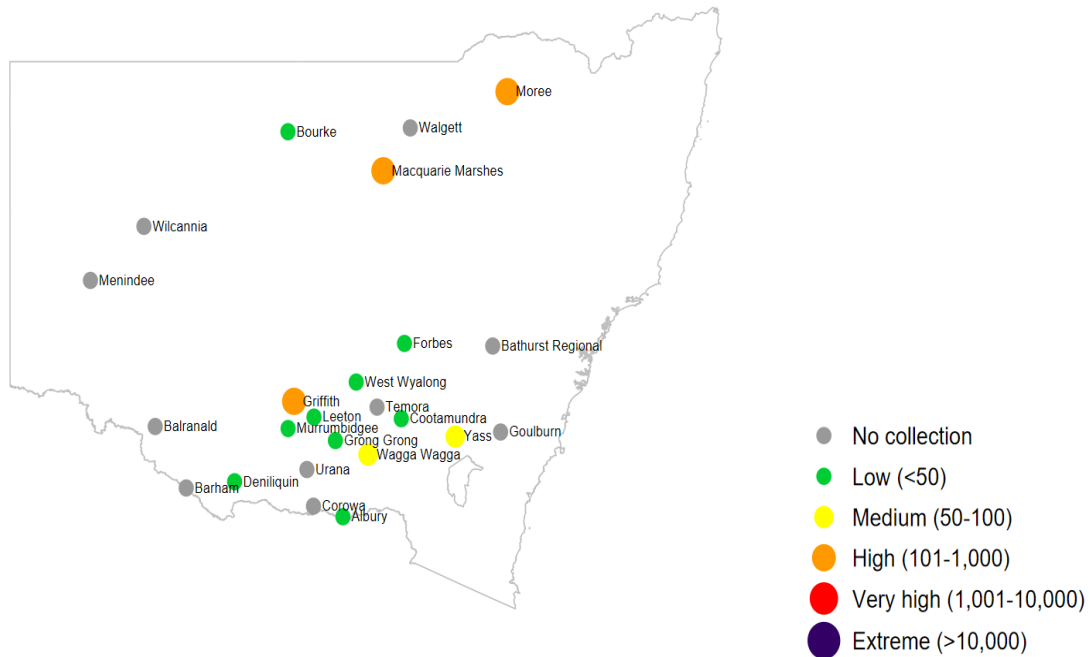
Culex annulirostris and *Aedes vigilax* are vectors of interest for Ross River virus and Barmah Forest virus, *Culex annulirostris* is also a vector for Japanese encephalitis virus.

Mosquito counts

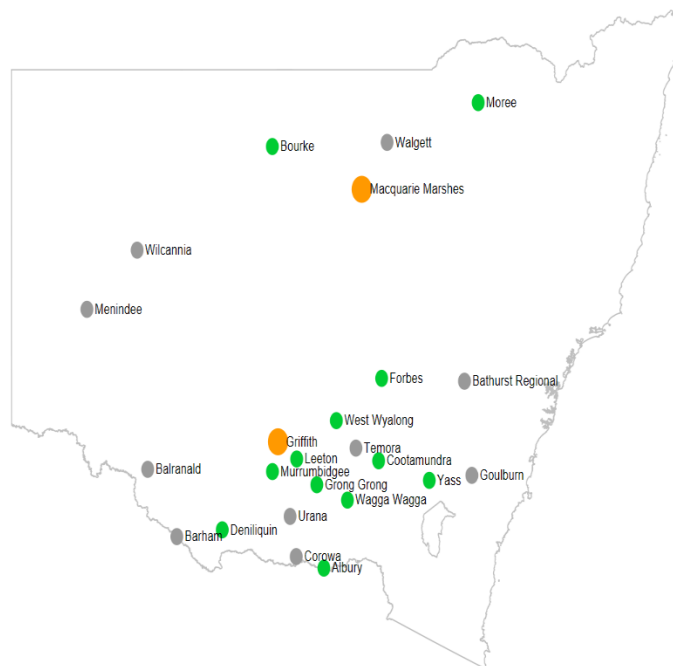
Mosquito counts (average per trap per location) for mosquito trapping sites reported in the week ending 7 December 2024

Inland sites

Total mosquito counts

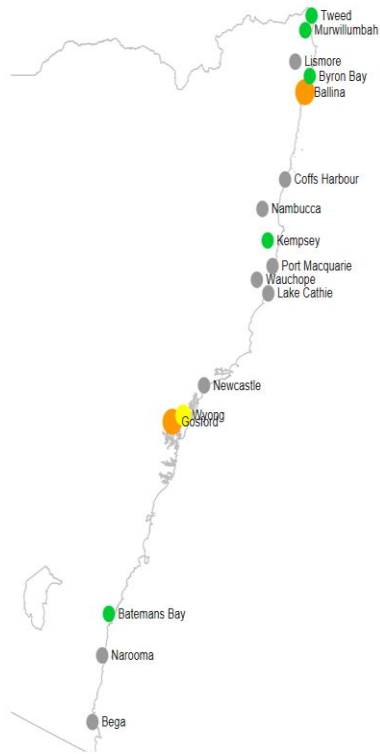


Culex annulirostris counts



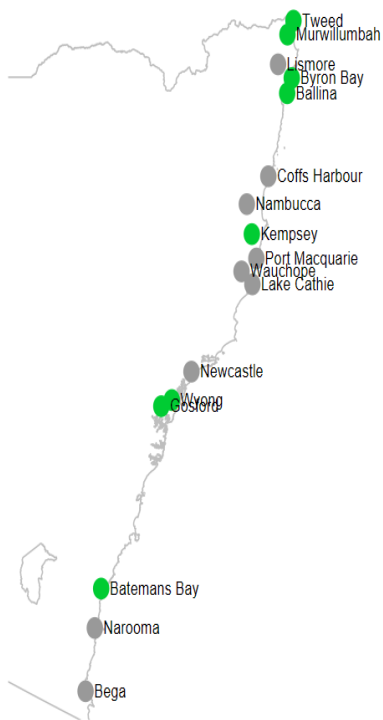
Coastal sites

Total mosquito counts

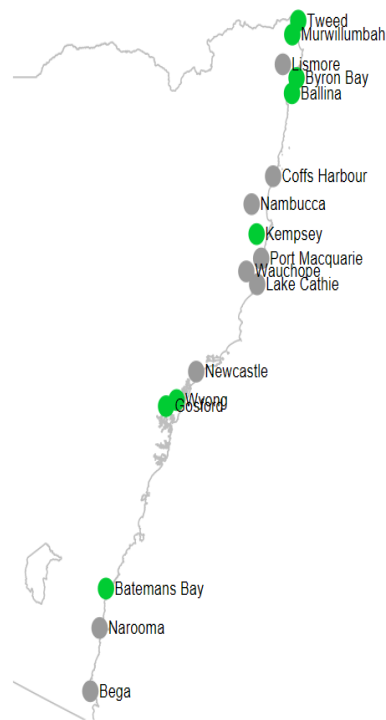


- No collection
- Low (<50)
- Medium (50-100)
- High (101-1,000)
- Very high (1,001-10,000)
- Extreme (>10,000)

Culex annulirostris counts

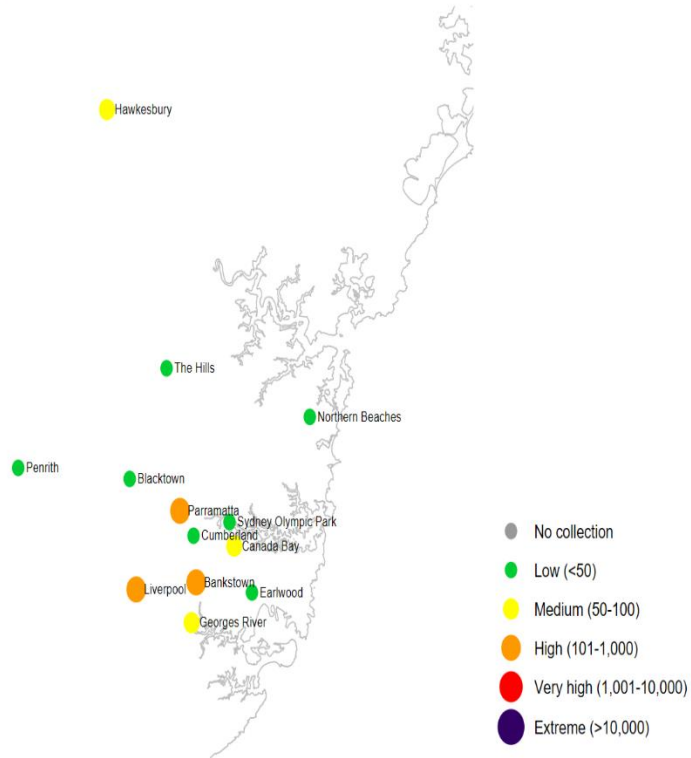


Aedes vigilax counts

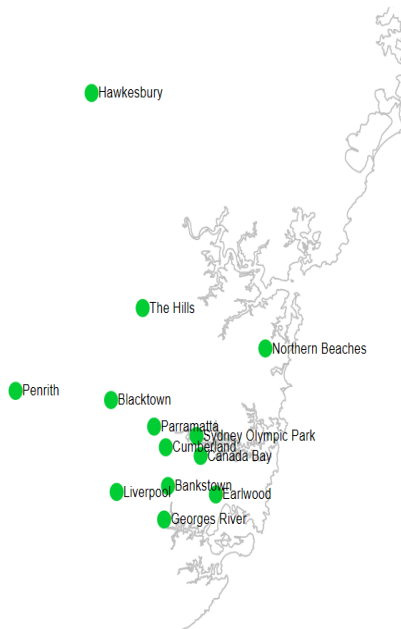


Sydney sites

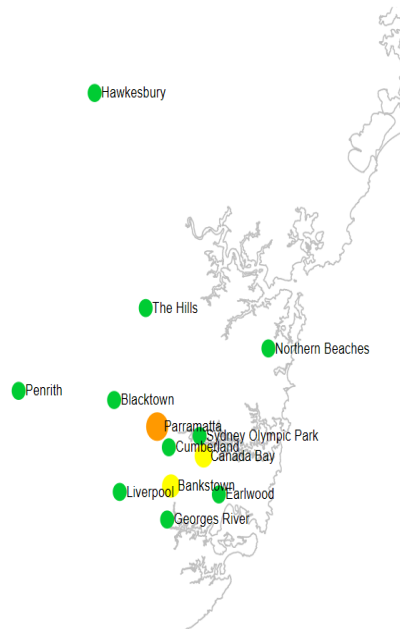
Total mosquito counts



Culex annulirostris counts



Aedes vigilax counts



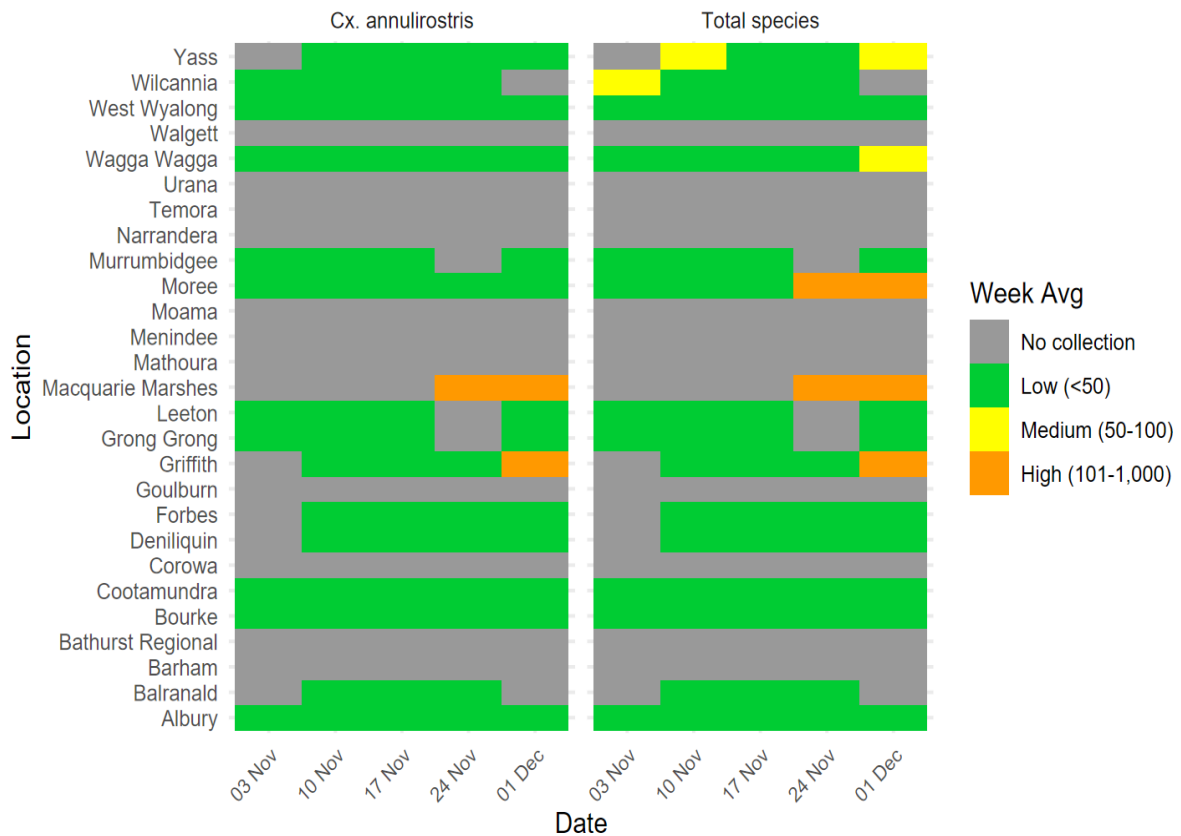
Mosquito abundance results for the 2024-2025 season

season

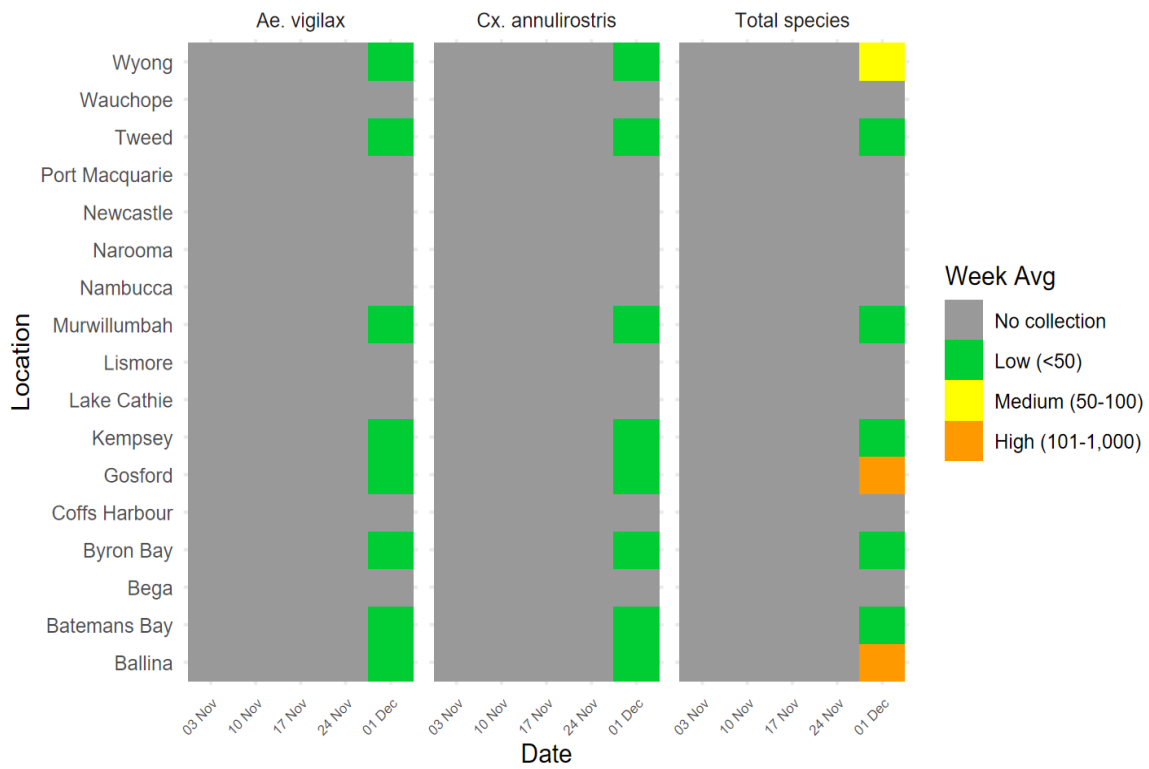
This section shows all mosquito trapping results by location and species type to date for the current arbovirus season.

Cumulative mosquito abundance tables

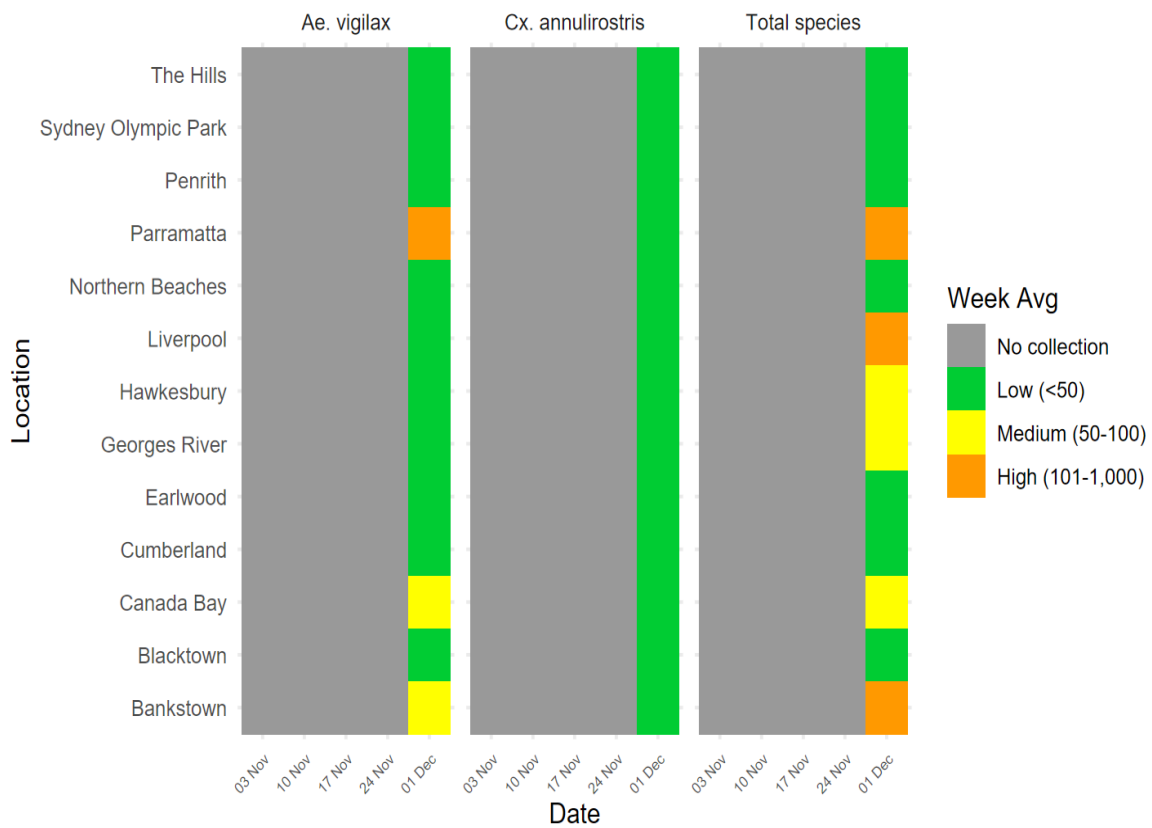
Number of mosquitoes trapped inland (weekly average)



Number of mosquitoes trapped along the coast (weekly average)



Number of mosquitoes trapped in Sydney (weekly average)



Human arboviral disease notifications

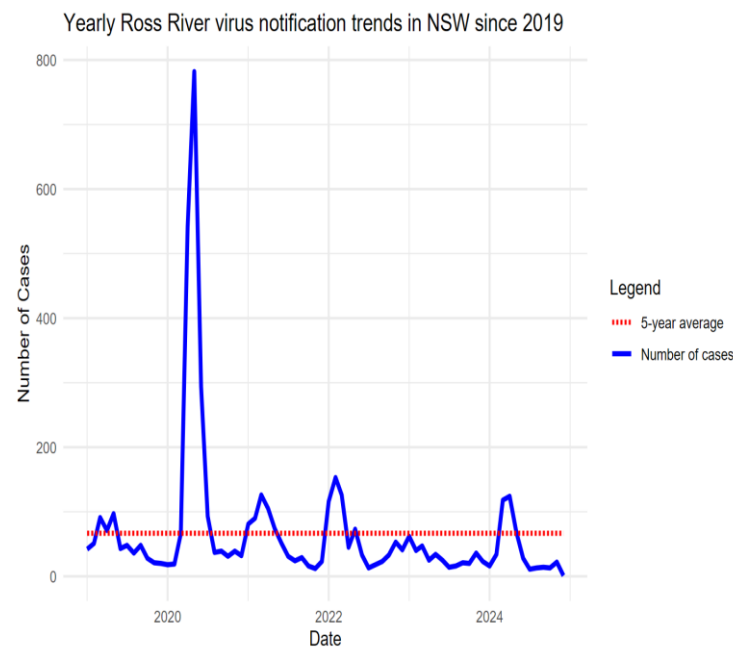
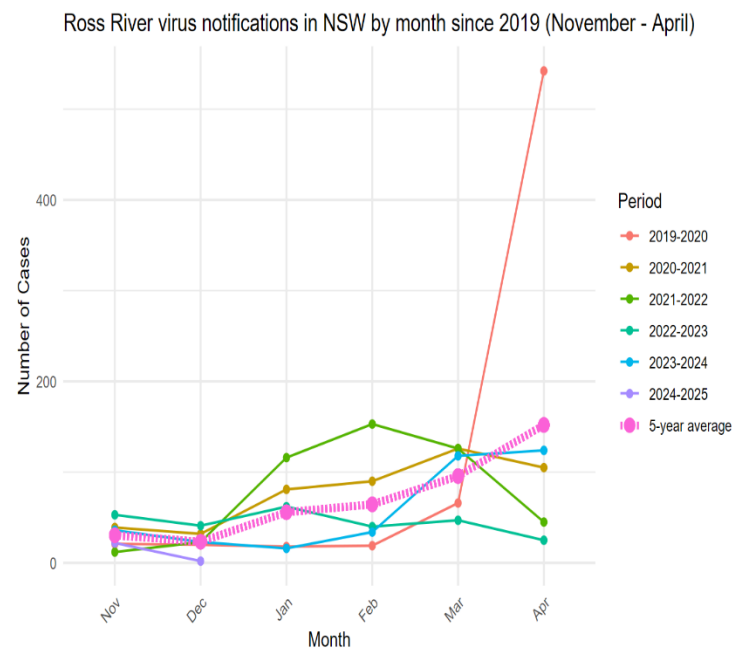
Under the *NSW Public Health Act 2010*, human arboviral infections are notifiable in NSW.

Recent notifications of Ross River virus and Barmah Forest virus infections in humans (by date of case report received)

Notifications of Ross River virus and Barmah Forest virus infections, by month of disease onset (the earlier of patient-reported onset or specimen collection date), are available online at the [NSW Health website - infectious diseases data](#).

The following figures show notifications for the current NSW Arbovirus Surveillance and Mosquito Monitoring season (2024-2025), and the same period in the previous four years.

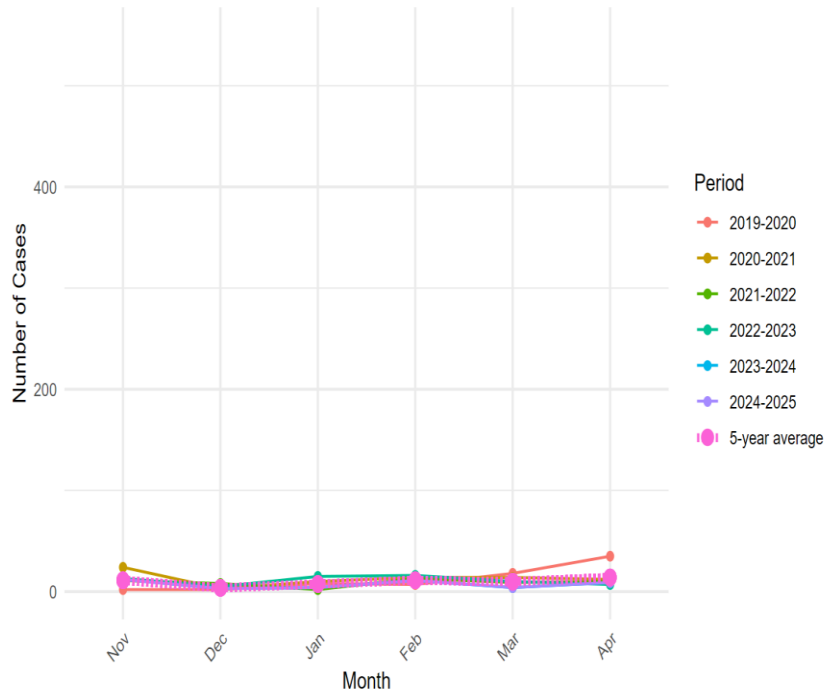
Ross River virus



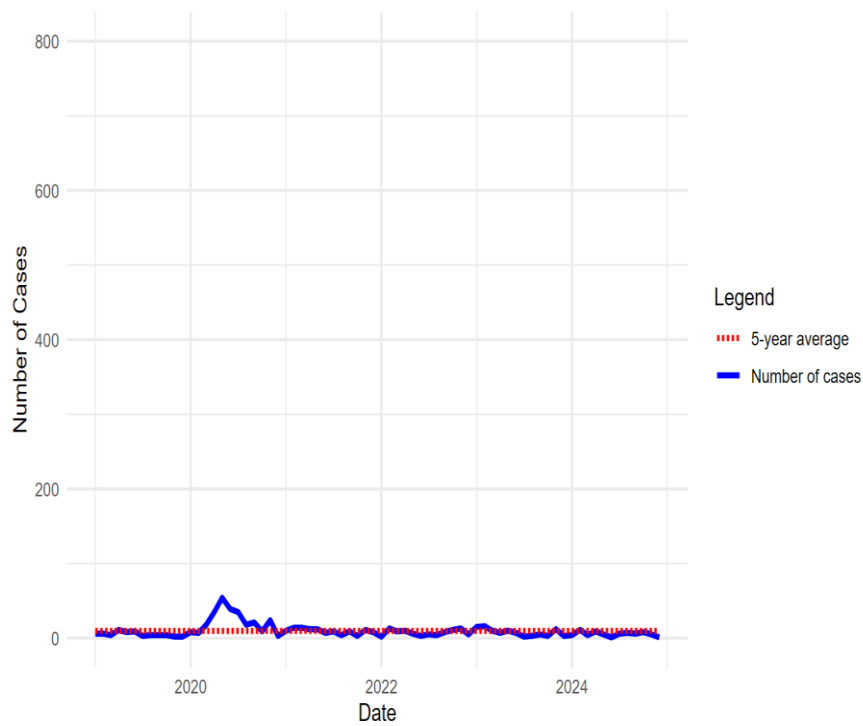
Note: Presented human cases include both confirmed and probable cases.

Barmah Forest virus

Barmah Forest virus notifications in NSW by month since 2019 (November - April)



Yearly Barmah Forest virus notification trends in NSW since 2018



Note: Presented human cases include both confirmed and probable cases.