NSW Arbovirus Surveillance and Mosquito Monitoring 2024-2025

Environmental Health Branch, Health Protection NSW

Weekly Update: Week ending 18 January 2025

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.

SPHN (EH) 241091

Summary

Arbovirus Detections

Sentinel Chickens

• There were no arbovirus detections in sentinel chickens for the week ending 18 January 2025.

Mosquito Isolates

• Barmah Forest virus was detected in a mosquito sample trapped at Batemans Bay on 14 January 2025.

Mosquito Abundance

Inland

- **Low:** Balranald, Bourke, Grong Grong, Leeton, Macquarie Marshes, Moree, Wagga Wagga, West Wyalong, Young
- **Medium:** Albury, Murrumbidgee
- **High:** Deniliquin, Yass
- **Very high:** Griffith

Coastal

- **Low:** Byron Bay, Gosford, Murwillumbah, Wauchope, Wyong
- **Medium:** Batemans Bay, Lake Cathie, Tweed
- **High:** Ballina, Bega, Kempsey, Narooma, Newcastle, Port Macquarie, Wardell

Sydney

- **Low:** Blacktown, Cumberland, Earlwood, Hawkesbury, Northern Beaches, Penrith, The Hills
- **Medium:** Liverpool
- **High:** Bankstown, Canada Bay, Georges River, Parramatta, Sydney Olympic Park

Environmental Conditions

Climate

- In the week ending 18 January 2025, rainfall was above average along the NSW coastline and average or below average across the rest of NSW.
- In the coming week, 24 January to 30 January 2025, rainfall is expected to be slightly above average in the north-western region of NSW. Rainfall is expected to be average, in other parts of NSW.
- Minimum temperatures are expected to be average or higher than average across NSW, especially in Mid-North Coast and Northern NSW. Maximum temperatures are expected to be higher than average along the Queensland border and average or lower than average everywhere else in NSW.

Tides

- High tides over 1.8 metres are predicted for 28 January 2025 - 2 February 2025 and 26 February 2025 - 2 March 2025 which could trigger hatching of *Aedes vigilax*.

Human Arboviral Disease Notifications

Ross River Virus

Twelve probable cases and one confirmed case were notified in the week ending 18 January 2025.

Barmah Forest Virus

Four probable cases were notified in the week ending 18 January 2025.

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 18 January 2025

In the week ending 18 January 2025, there were no arbovirus detections in chickens.

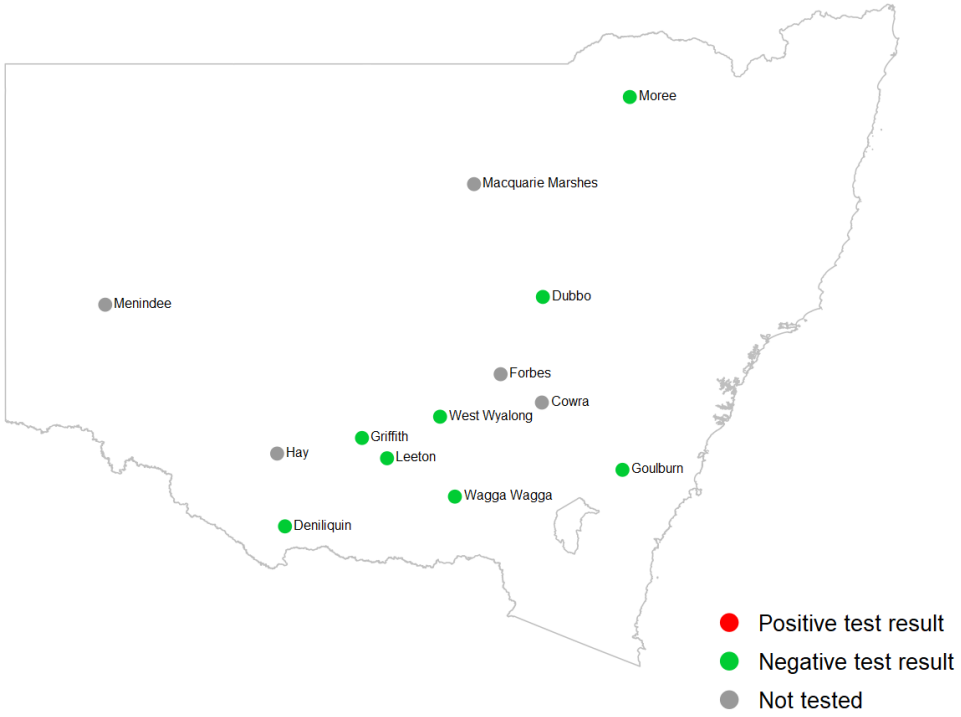


Table 1: Positive test results in the 2024-2025 surveillance season.

Date of sample collection	Location	Virus
2024-12-05	Cowra	Murray Valley encephalitis
2024-12-18	West Wyalong	Murray Valley encephalitis

Mosquito isolates

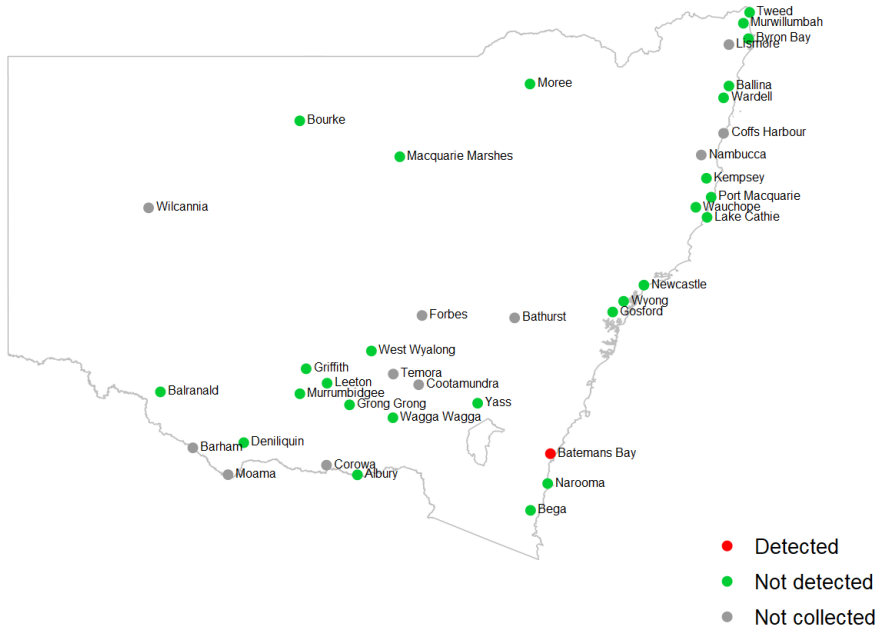
Whole grinds of collected mosquitoes are tested for arbovirus nucleic acids to determine the presence of arboviruses in mosquitoes. Test results for detections of Murray Valley encephalitis virus, Japanese encephalitis virus, Kunjin virus, Ross River virus and Barmah Forest virus for the past week are shown in the maps below. Detections of all arboviruses (including Edge Hill virus and Kokobera virus) for the season are detailed in the positive test results for the 2024-2025 surveillance season.

Test results for mosquito trapping sites reported in the week ending 18 January 2025

In the week ending 18 January 2025, Barmah Forest virus was found in mosquitoes trapped in Batemans Bay (sample date 14 January 2025).

Inland and coastal 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.



Inland and coastal sites - positive test results in the 2024-2025 surveillance season.

Date of sample collection	Location	Virus
2024-12-03	Griffith	Japanese encephalitis
2024-12-18	Griffith	Ross River
2024-12-22	Moree	Japanese encephalitis
2025-01-13	Newcastle	Gan Gan
2025-01-14	Deniliquin	Trubanaman
2025-01-14	Batemans Bay	Barmah Forest

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 arbovirus 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.

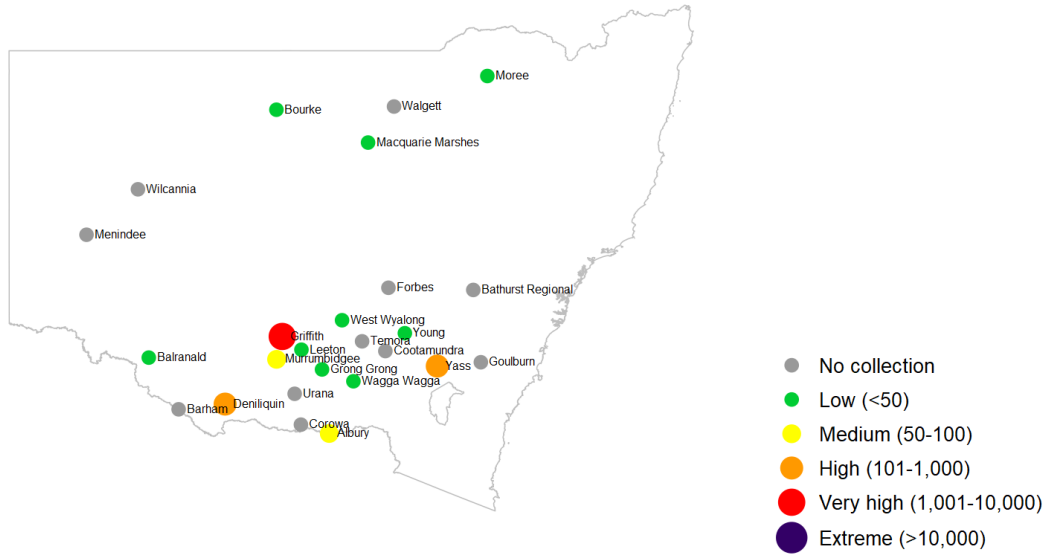
Culex annulirostris and *Aedes vigilax* are vectors of interest for Ross River virus and Barmah Forest virus, *Culex annulirostris* is also a vector for Japanese encephalitis virus.

Mosquito counts

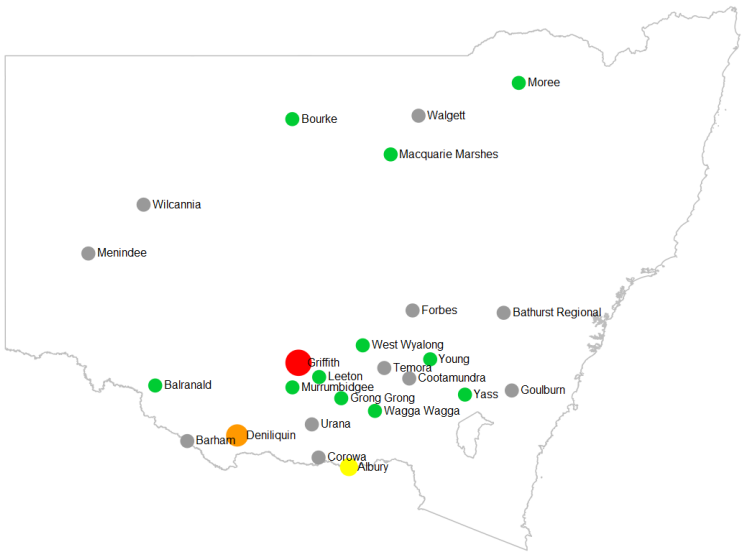
Mosquito counts (average per trap per location) for mosquito trapping sites reported in the week ending 18 January 2025

Inland sites

Total mosquito counts

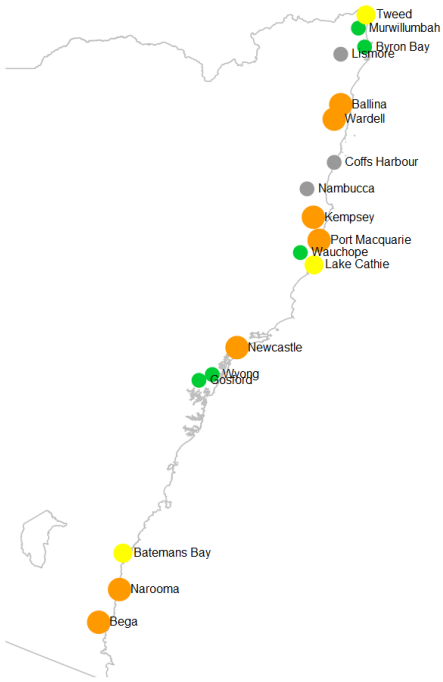


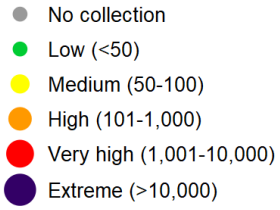
Culex annulirostris counts



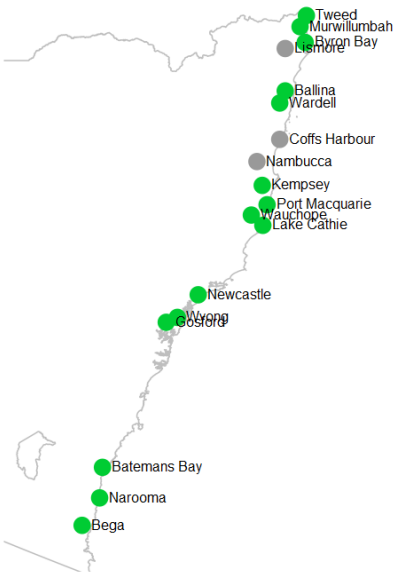
Coastal sites

Total mosquito counts

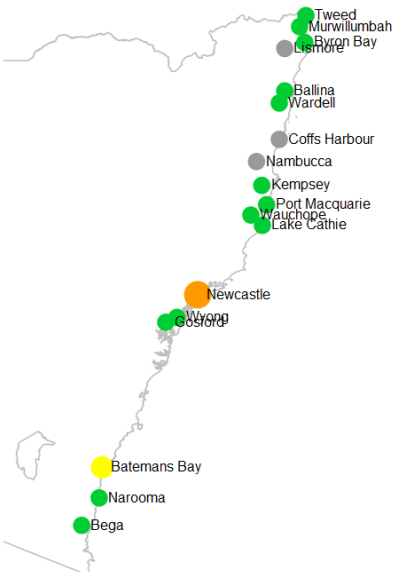




Culex annulirostris counts

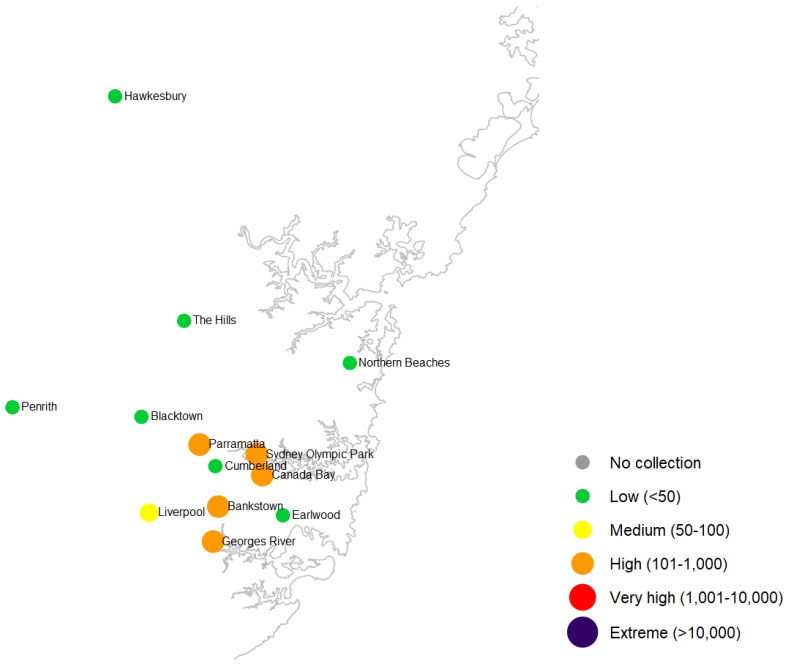


Aedes vigilax counts

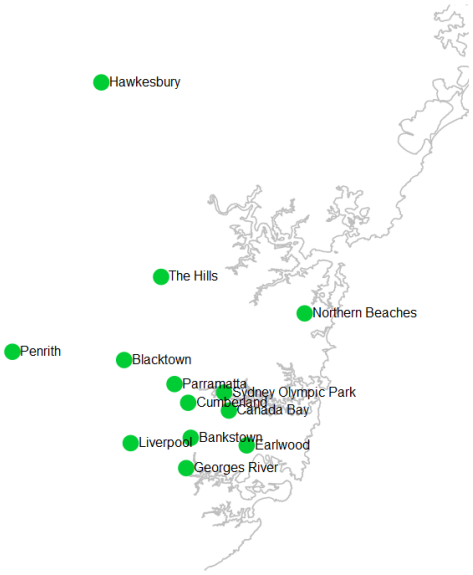


Sydney sites

Total mosquito counts



Culex annulirostris counts

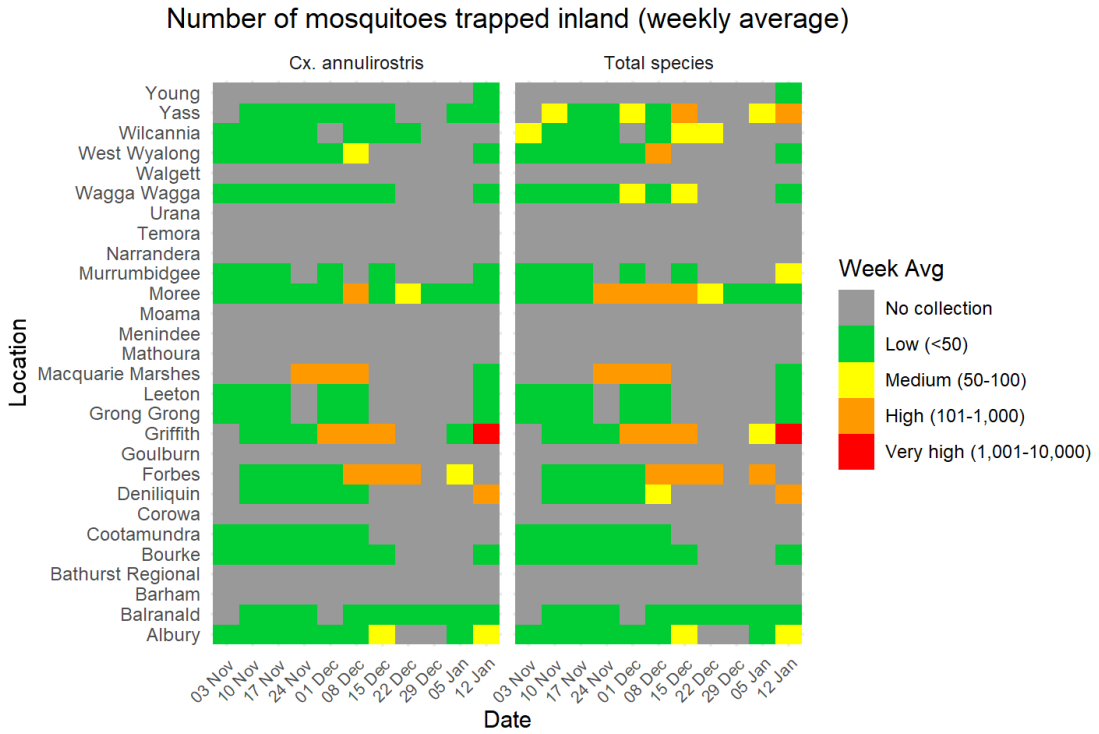


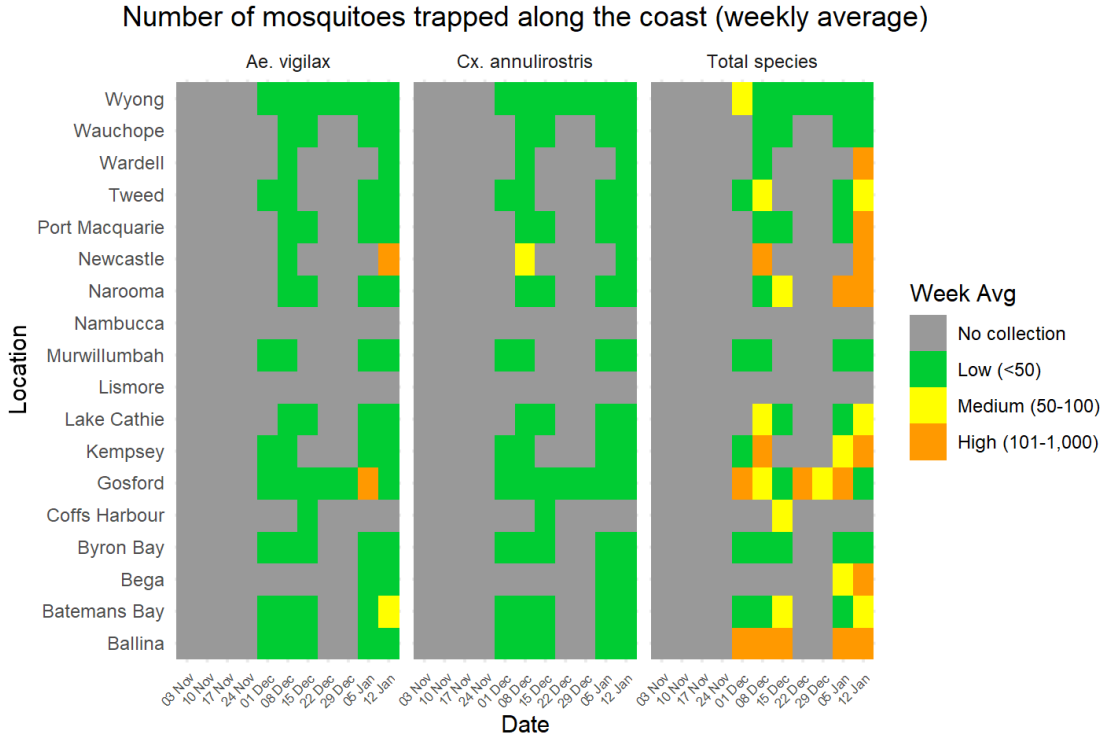
Aedes vigilax counts

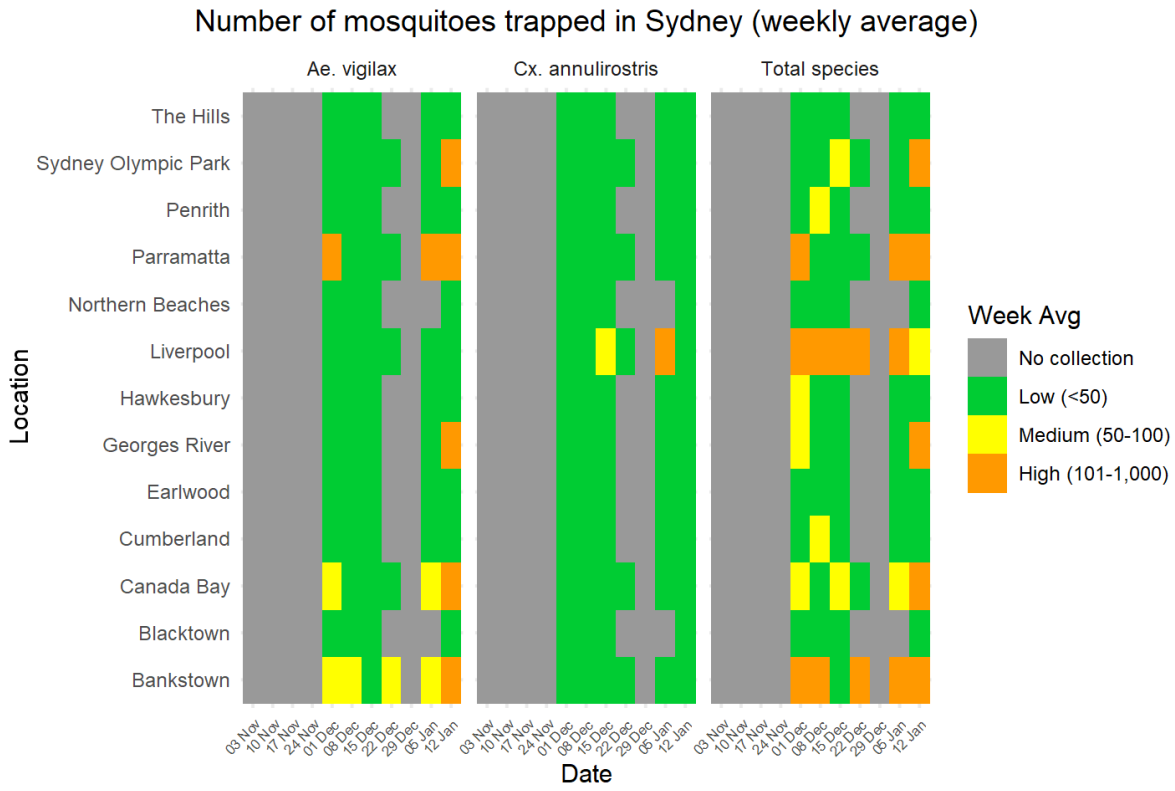
Mosquito abundance results for the 2024-2025 season

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 in Sydney (weekly average)
Ae. vigilax
Cx. annulirostris
Total species
Location
The Hills
Sydney Olympic Park
Penrith
Parramatta
Northern Beaches
Liverpool
Hawkesbury
Georges River
Earlwood
Cumberland
Canada Bay
Blacktown
Bankstown
03 Nov
10 Nov
17 Nov
24 Nov
01 Dec
08 Dec
15 Dec
22 Dec
29 Dec
05 Jan
12 Jan
Date
Week Avg
No collection
Low (<50)
Medium (50-100)
High (101-1,000)

Human arboviral disease notifications

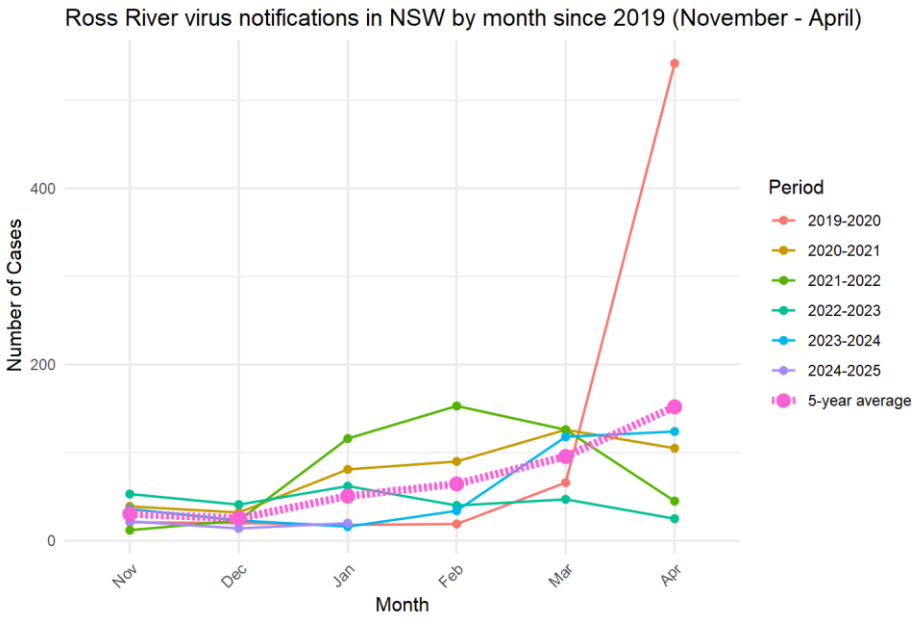
Under the *NSW Public Health Act 2010*, human arboviral infections are notifiable in NSW.

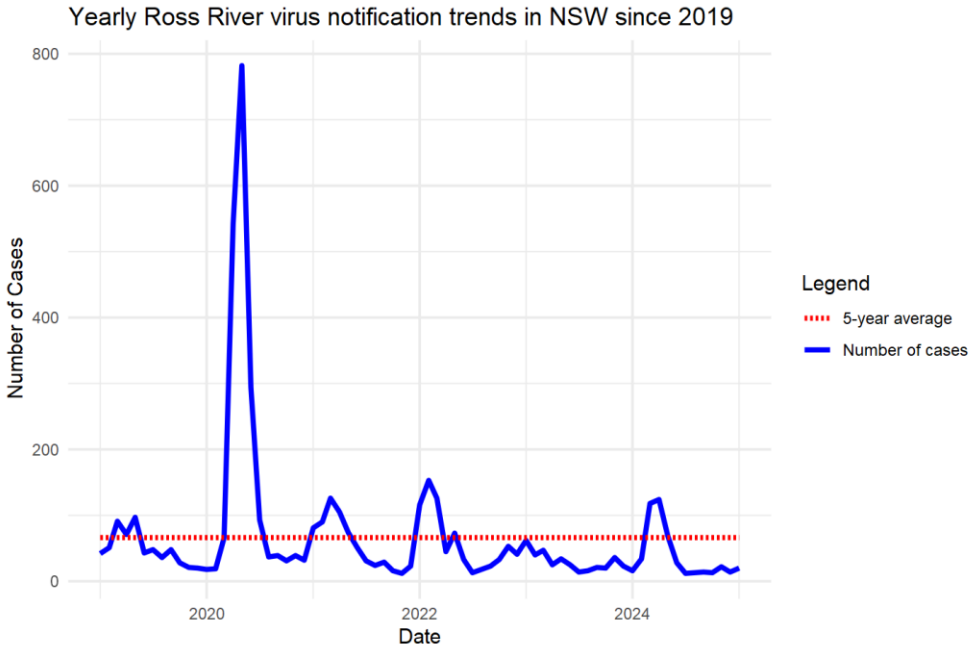
Recent notifications of Ross River virus and Barmah Forest virus infections in humans (by date of case report received)

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





Barmah Forest virus

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