

# NSW Arbovirus Surveillance and Mosquito Monitoring 2024-2025

Environmental Health Branch, Health Protection NSW

Weekly Update: Week ending 4 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](mailto: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 were no arbovirus detections in chickens.

### Mosquito Isolates

- Japanese encephalitis virus was detected in mosquitoes trapped at Moree in Hunter New England on 22 December 2024.

## Mosquito Abundance

### Inland

- **LOW:** Balranald, Moree

### Coastal

- **LOW:** Wyong
- **MEDIUM:** Gosford

## Environmental Conditions

### Climate

- In the week ending 4 January 2025, rainfall was well below average across all of NSW.
- In the coming week, 10 January to 16 January 2025, rainfall is expected to be above average in the eastern regions of the state. Rainfall is expected to be below average in western parts of NSW.
- Minimum and maximum temperatures are expected to be high across NSW.

### Tides

- High tides over 1.8 metres are predicted for 11-16 January 2025 and 28 January 2025 - 2 February 2025 which could trigger hatching of *Aedes vigilax*.

## Human Arboviral Disease Notifications

### Ross River Virus

Three probable cases were notified in the week ending 4 January 2025.

### Barmah Forest Virus

There were no cases notified in the week ending 4 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 4 January 2025

In the week ending 4 January 2025, there were no arbovirus detections in chickens,

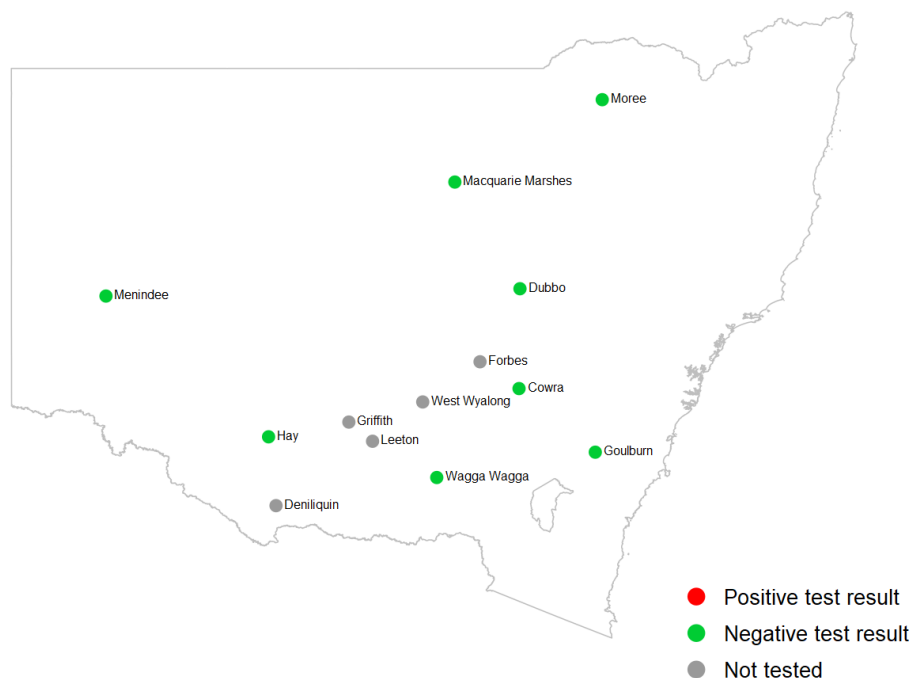


Table 1: Positive test results in the 2024-2025 surveillance season

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

# Mosquito isolates

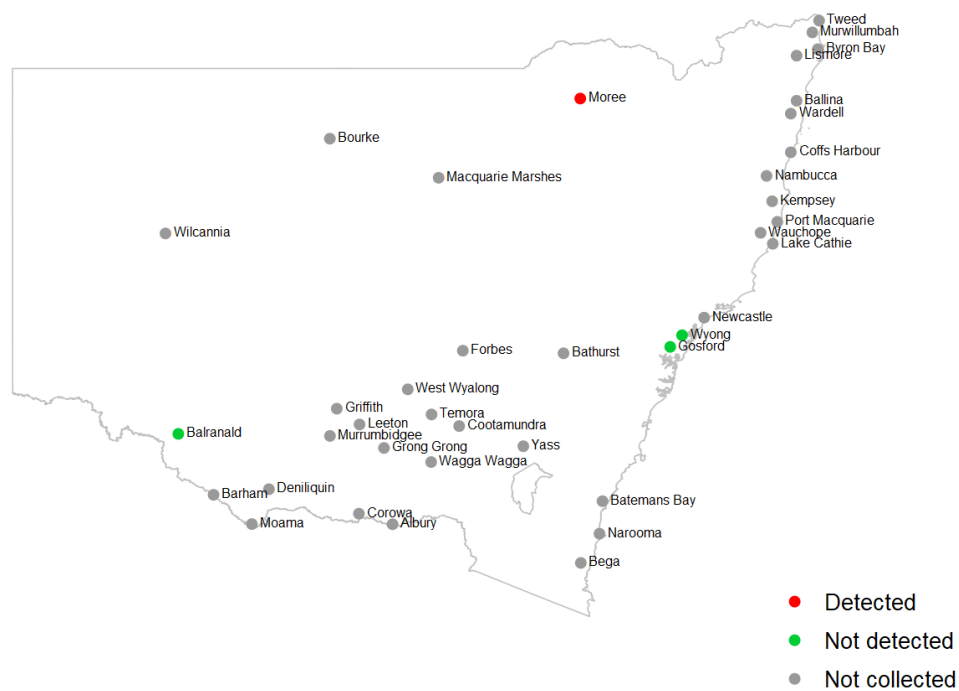
Whole grinds of collected mosquitoes are tested for arbovirus nucleic acids to determine the presence of arboviruses in mosquitoes. Test results for detections of Murray Valley encephalitis virus, Japanese encephalitis virus, Kunjin virus, Ross River virus and Barmah Forest virus for the past week are 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 4 January 2025

In the week ending 4 January 2025, Japanese encephalitis virus was found in mosquitoes trapped in Moree in Hunter New England (sample date 22 December 2024).

## 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

## 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.

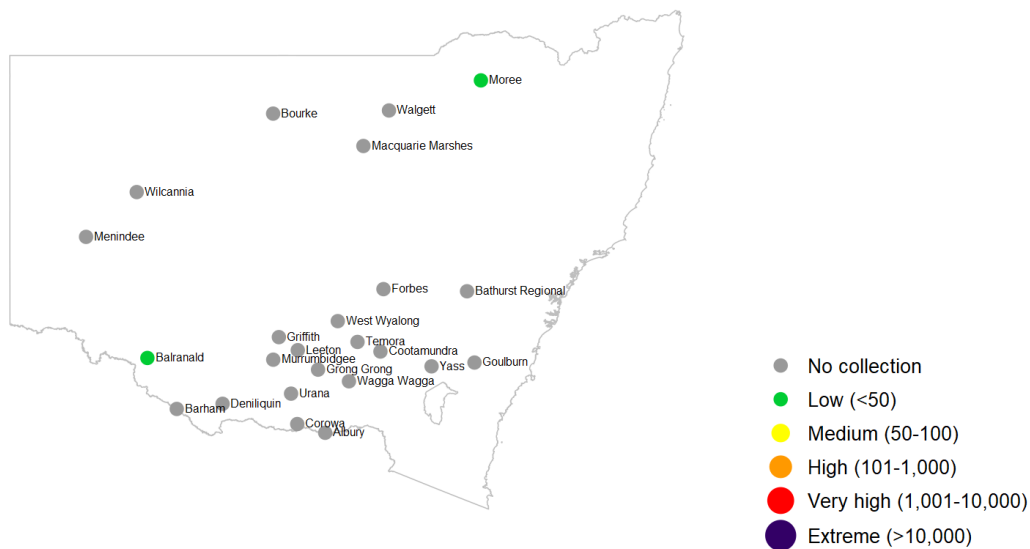
*Culex annulirostris* and *Aedes vigilax* are vectors of interest for Ross River virus and Barmah Forest virus, *Culex annulirostris* is also a vector for Japanese encephalitis virus.

## Mosquito counts

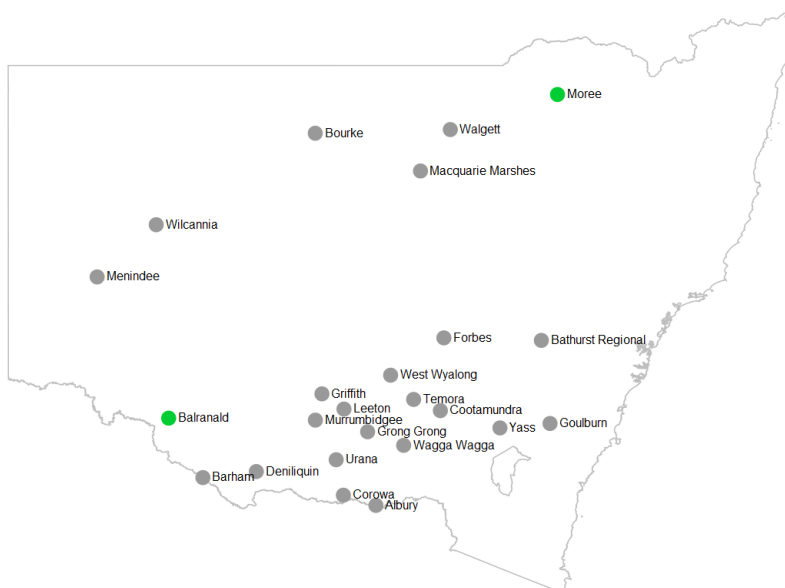
Mosquito counts (average per trap per location) for mosquito trapping sites reported in the week ending 4 January 2025

### Inland sites

Total mosquito counts

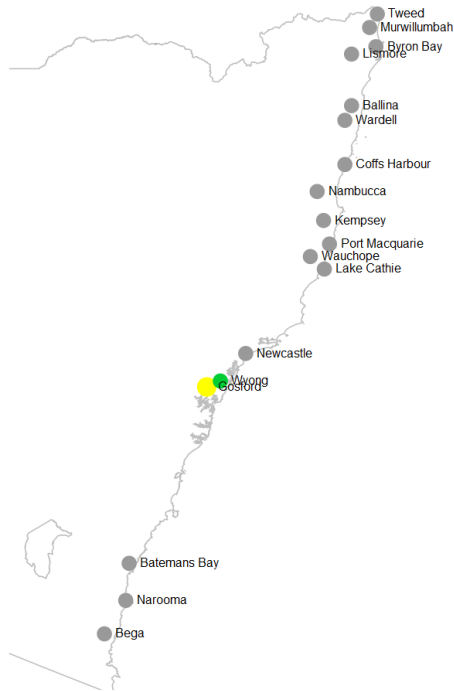


*Culex annulirostris* counts



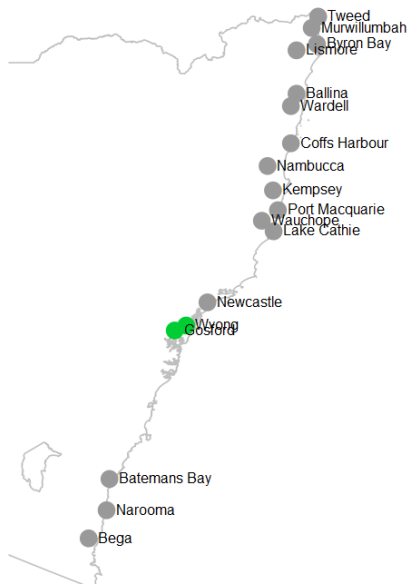
# Coastal sites

Total mosquito counts

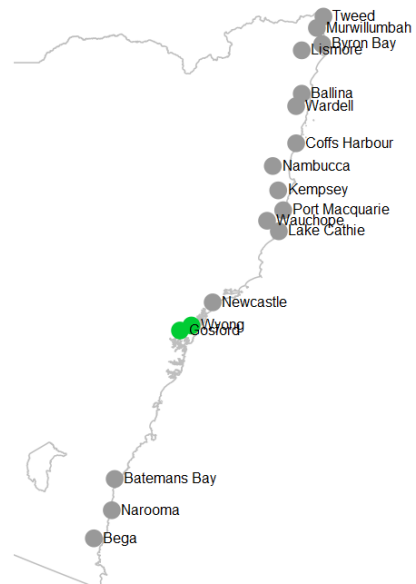


- No collection
- Low (<50)
- Medium (50-100)
- High (101-1,000)
- Very high (1,001-10,000)
- Extreme (>10,000)

*Culex annulirostris* counts

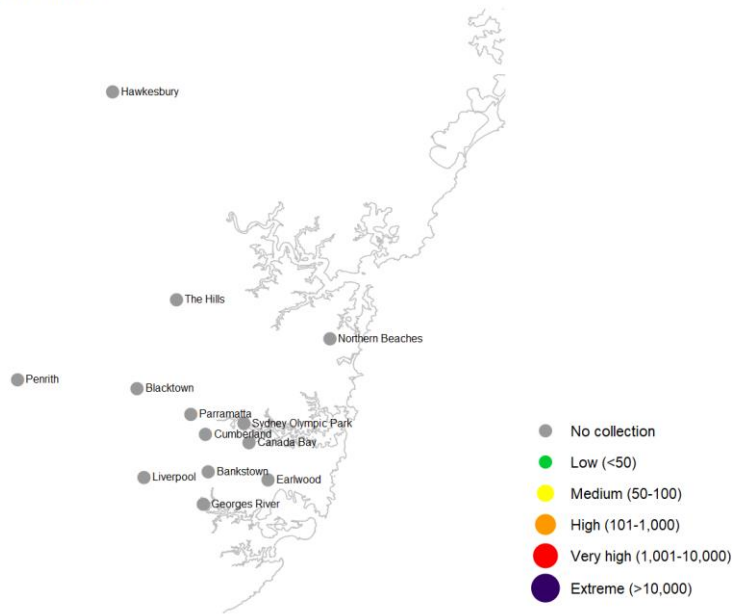


*Aedes vigilax* counts



# Sydney sites

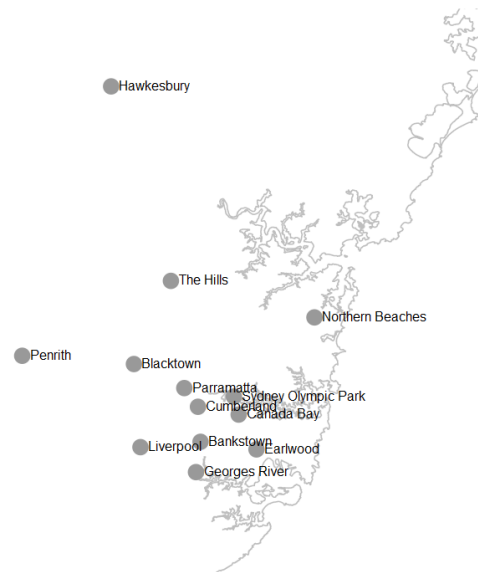
Total mosquito counts



*Culex annulirostris* counts



*Aedes vigilax* counts





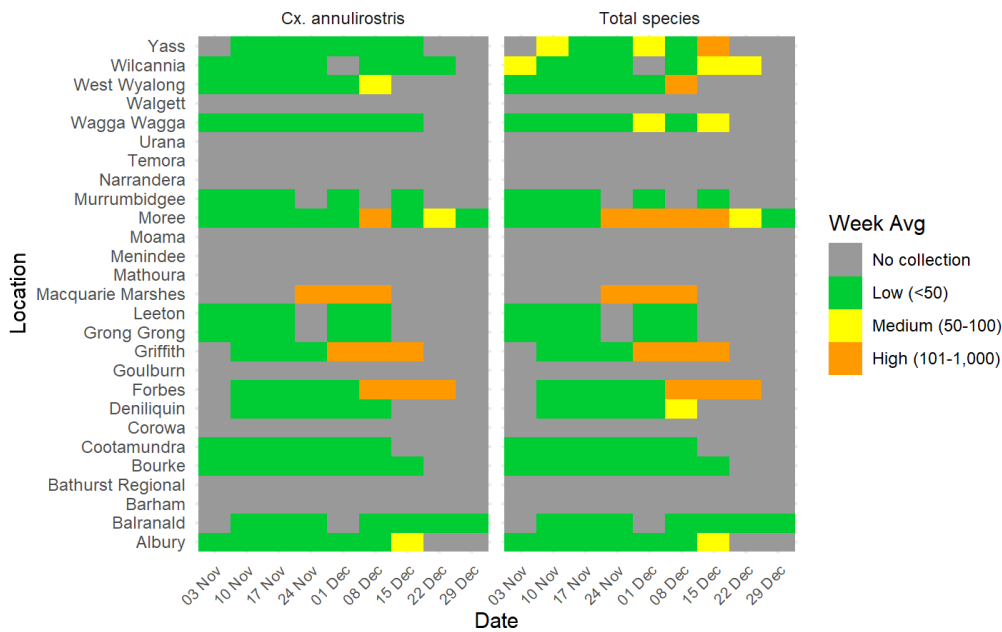
# Mosquito abundance results for the 2024-2025 season

## season

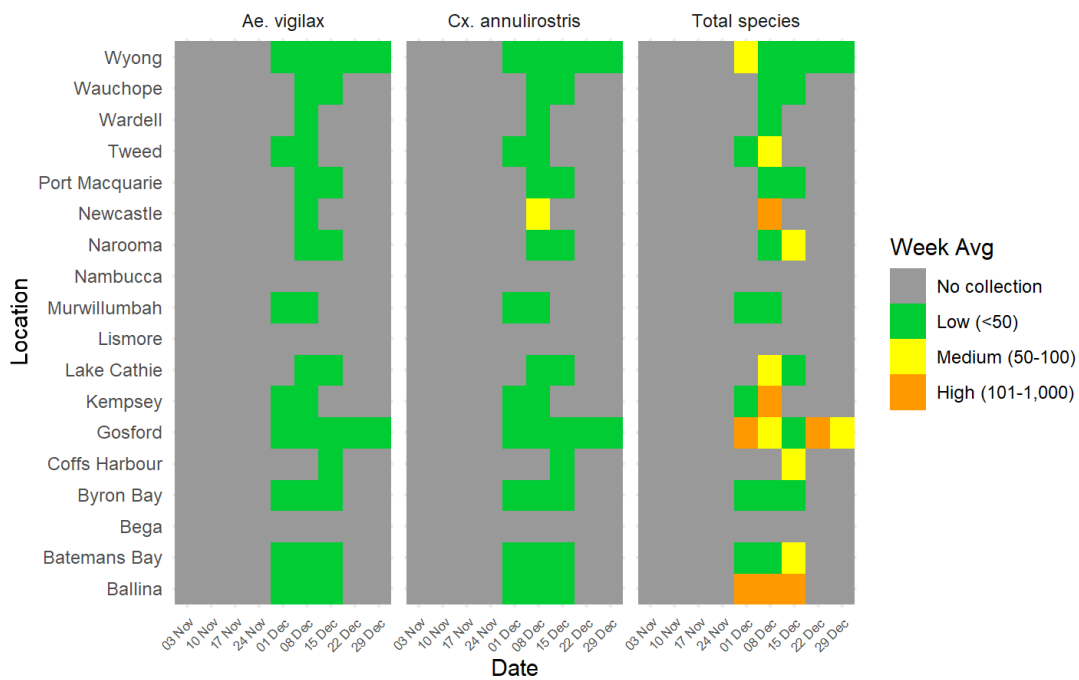
This section shows all mosquito trapping results by location and species type to date for the current arbovirus season.

### Cumulative mosquito abundance tables

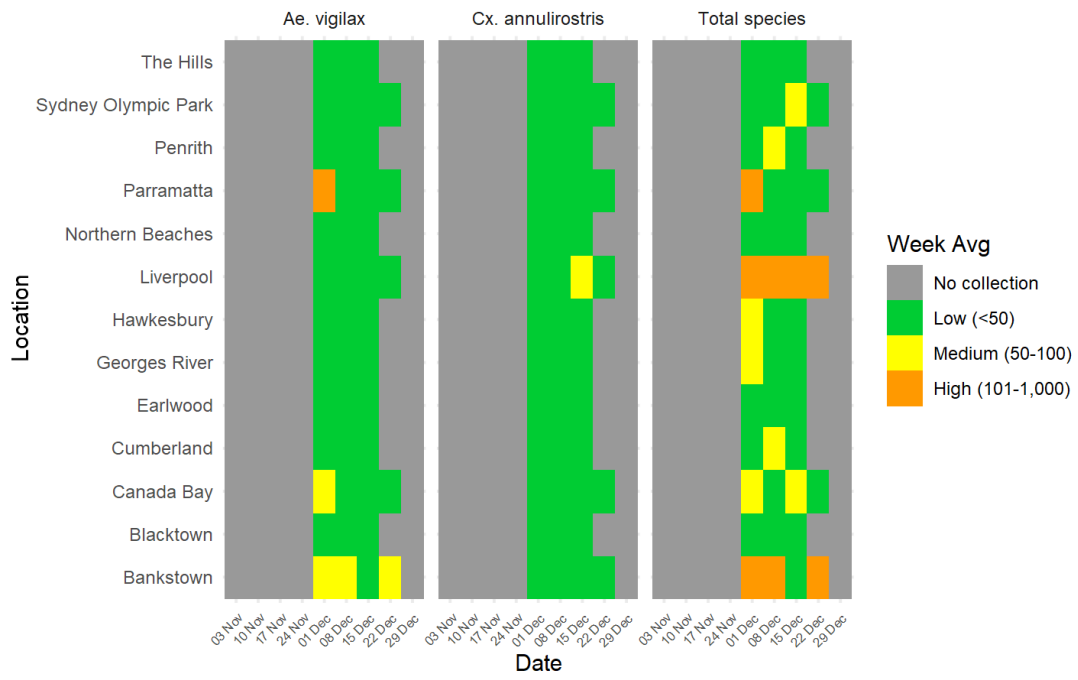
Number of mosquitoes trapped inland (weekly average)



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.

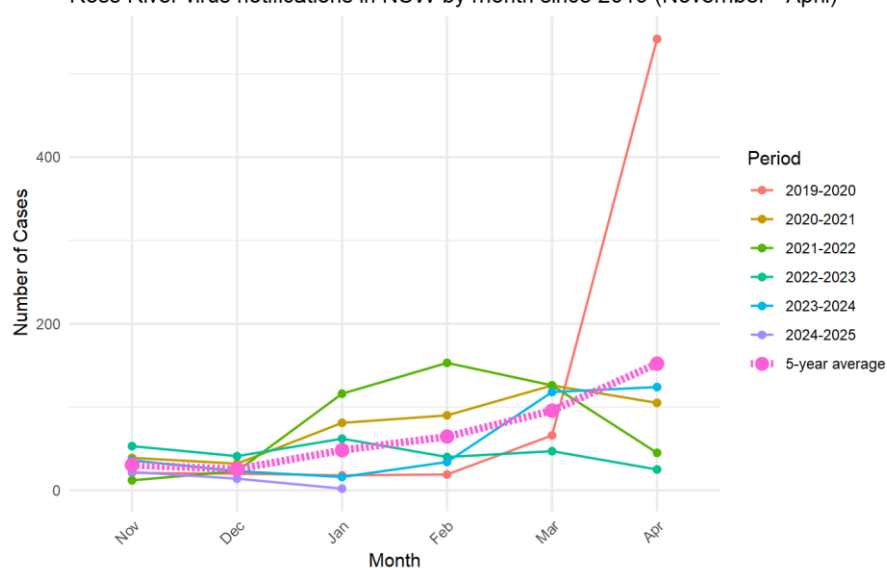
## Recent notifications of Ross River virus and Barmah Forest virus infections in humans (by date of case report received)

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

Ross River virus notifications in NSW by month since 2019 (November - April)

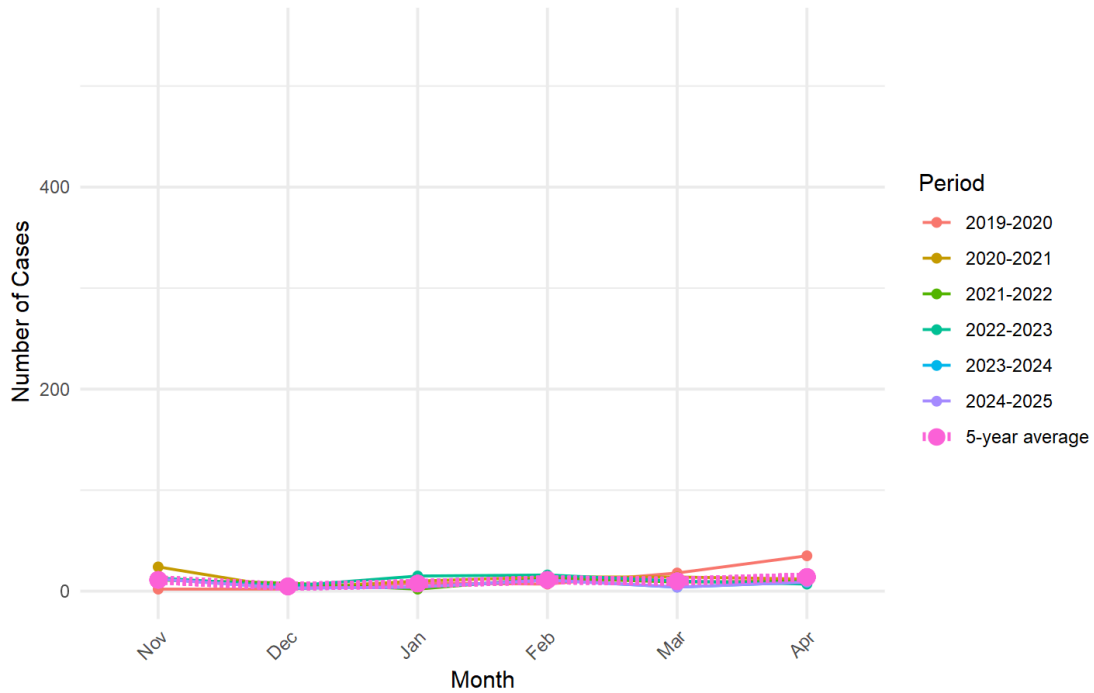


Yearly Ross River virus notification trends in NSW since 2019

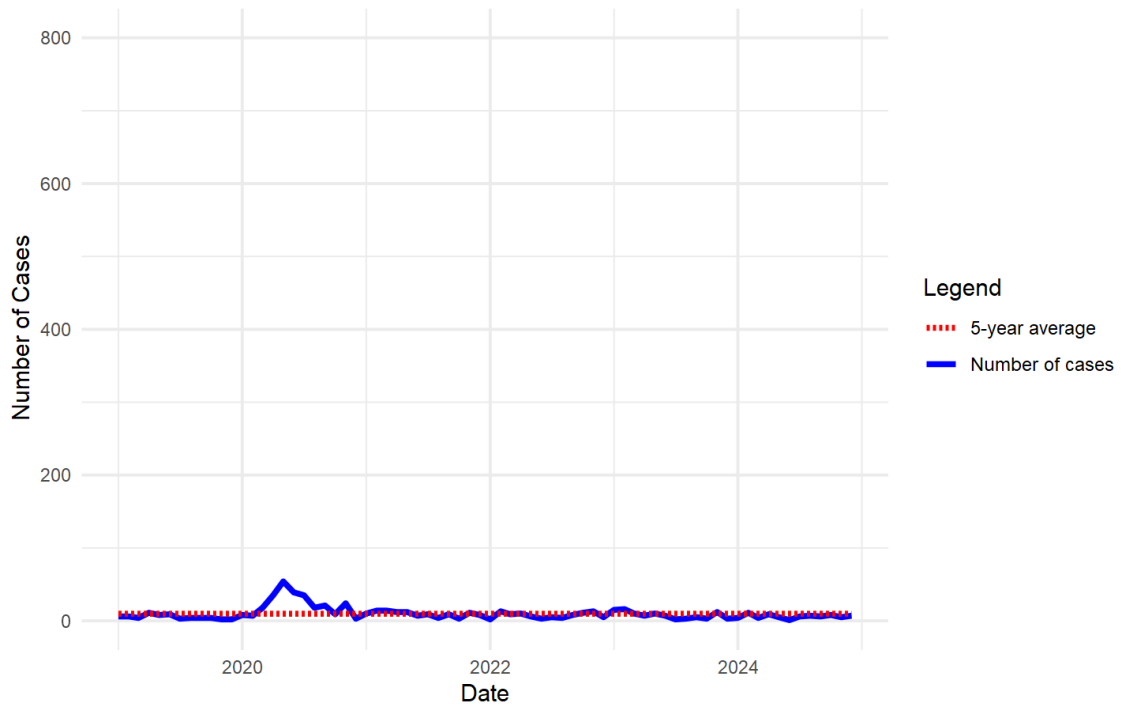


# Barmah Forest virus

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.