March 2025

The South Australian arbovirus and mosquito monitoring report

Current hierarchy of response level 2 **MEDIUM**

The South Australian (SA) arbovirus and mosquito monitoring report summarises the most recent available data to inform the current level of risk of mosquito-borne disease in SA. This data determines the appropriate graded response in accordance with the South Australian Arbovirus and Mosquito Monitoring and Control Plan (the Plan) hierarchy of responses (HoR). The HoR is dependent upon on-going data and trends identified by surveillance activities, weather forecasting and disease notifications.

On 8 January 2025, SA Health raised the mosquito-borne disease threat level to 2 (medium) in South Australia. This was due to recent interstate flavivirus detections.

The broad areas of flood plain associated with the River Murray provide breeding opportunities for *Culex annulirostris*, the main vector mosquito associated with Murray Valley encephalitis virus (MVEV) and Japanese encephalitis virus (JEV). The most current River Murray flow report is available on the WaterConnect website here.

Meteorological data

Rainfall totals for March were above average across the state's north and north east and very much below average in the south of the state including south western and south eastern regions.

The Bureau of Meteorology reports that South Australia's area averaged rainfall in March was 26.9mm, 34% above the 1961-1990 average. Following the drier than average conditions of the previous months.

Mean maximum temperatures across the state were above average for the month of March. The area averaged mean maximum temperature for March was 34.5°C, 3.17°C above the 1961–90 average. Mean minimum temperatures for March were above average across South Australia. The area averaged mean minimum temperature for South Australia was 19.7°C. This was 3.35°C above the 1961-1990 average. The South Australian area averaged mean temperature for March was 27.1°C and was recorded as the warmest March since 1910.

Sea Surface Temperatures (SST) are the warmest on record since records began in 1910. Monthly SSTs in the Australian region have continuously been the warmest on record for each month since October 2024. Recent SST monitoring has recorded warmer than average waters around most of the Australian Coastline, reaching up to 3°C warmer to the West and South of Australia.

El Niño – Southern Oscillation (ENSO) is currently neutral and is predicted to remain neutral until August 2025.

The Indian Ocean Dipole (IOD) is also neutral. The IOD index for the last week of March 2025 was positive due to cooling in the eastern Indian Ocean Dipole region however this is change is predicted to be temporary with Bureau modelling expecting IOD to return and remain neutral until August 2025.

The Southern Annular Mode (SAM) is neutral as at the end of March, forecasts show that the SAM will likely become positive throughout April. A positive SAM results in weaker than normal westerly winds which can lead to higher pressures over southern Australia resulting in fewer winter rain events.

Source: Australian Government, *Bureau of Meteorology*

Government of South Australia
SA Health

Northern Adelaide mosquito surveillance program

The 2024-25 northern Adelaide mosquito surveillance is conducted weekly at six locations in the Torrens Island and Globe Derby Park areas.

Mosquito surveillance is conducted weekly at six locations. Mean abundance data for March trap catches increased across all six locations when compared to the 2022-23 season and at five locations (with the exception of Globe Derby Park Racetrack) when compared to the 2023-24 season See table 1.

Table 1: **Northern Adelaide mosquito surveillance program trapping mean trap abundance data March 2025 three-year comparison.**

Trap location	2023	2024	2025
Globe Derby Park Racetrack	27	57	39
Daniel Avenue Wetland	98	40	115
Swan Alley	1604	1983	4186
TI Quarantine Station	690	665	1482
TI Power Station	320	363	1062
Mawson Lakes	84	30	175

Local council mosquito surveillance

In response to the season risk level, River Murray councils continued to set between four and six adult mosquito traps fortnightly in their local area. Several non-River Murray councils continued to participate in the SA mosquito surveillance subsidy program, with these councils setting between four and six adult mosquito traps in their local area monthly.

All council traps containing >10 mosquitoes were submitted to the Agriculture Victoria laboratory to be processed according to trap location, counted, identified to species level, then screened for JEV, MVEV, Ross River virus (RRV), Barmah Forest virus (BFV) and West Nile virus/Kunjin (WNV/KUN). Traps containing <10 mosquito traps were not routinely submitted to Agriculture Victoria for processing.

Table 2 details the mean March trap abundance data in SA from local council traps for three seasons (where available).

Table 2: **Local council mosquito surveillance trapping mean abundance data March 2025 three-year comparison.**

Council	2023	2024	2025
Adelaide Plains Council	33	47	22
Alexandrina Council	37	4	30
Berri Barmera Council	22	14	81
Coorong District Council	122	31	106
District Council of Loxton Waikerie	55	27	62
Mid Murray Council	42	15	196
Rural City of Murray Bridge	100	38	15
Renmark Paringa Council	13	43	86
Port Adelaide Enfield	-	48	43
City of Salisbury	28	54	17

\- Indicates no trap data.

Table 3 details the mean March trap abundance data for *Culex annulirostris* from local council mosquito traps for three seasons (where applicable). The available data identified greater mean *Culex annulirostris* abundance in six council areas when compared to the previous season. With The Mid Murray Council, Berri Barmera Council and Renmark Paringa Council all having significant increases throughout March.

***Table 3: Culex annulirostris* mean trap abundance data by local council area March 2025 three-year comparison.**

Council	2023	2024	2025
Adelaide Plains Council	1.13	0	8.3
Alexandrina Council	2.0	0.3	0.3
Berri Barmera Council	6.7	3.4	64.3
Coorong District Council	14	0.4	0
District Council of Loxton Waikerie	44.3	7.2	10.8
Mid Murray Council	30.3	3.5	147.8
Rural City of Murray Bridge	33.4	10.6	2.0
Renmark Paringa Council	10	15.7	47
Port Adelaide Enfield	-	0.2	0
City of Salisbury	8	3.3	0.3

- Indicates no trap data.

Arbovirus isolations from trapped mosquitos (whole trap grinds)

As detailed in table 4, there were no arbovirus detections from qPCR testing of trapped mosquitos during March.

***Table 4:* Arbovirus isolations from whole trap grinds March 2025.**

Arbovirus	JEV	MVEV	RRV	BFV	WNV/KUN
Detections	0	0	0	0	0

South Australian sentinel surveillance program

Seven sentinel chicken flocks established in high-risk locations along the river are bled throughout the mosquito season. The blood is tested for JEV, MVEV and WNV/KUN antibodies, which if present indicates that the chicken has been infected by a mosquito carrying one of these viruses. The sentinel chicken flock bleed frequency is currently every fortnight with this month's bleeds occurring on the 11/12 and 25/26 of March 2025. There were no positive arbovirus results in any flocks during March 2025.

Arbovirus notification data

All confirmed and probable arbovirus infections detected in humans in SA are notifiable under the *South Australian Public Health Act 2011*. The two most common locally acquired arbovirus infections notified in SA are infections with RRV and BFV. Figure 1 details arbovirus notification data 2019-2025 by month.

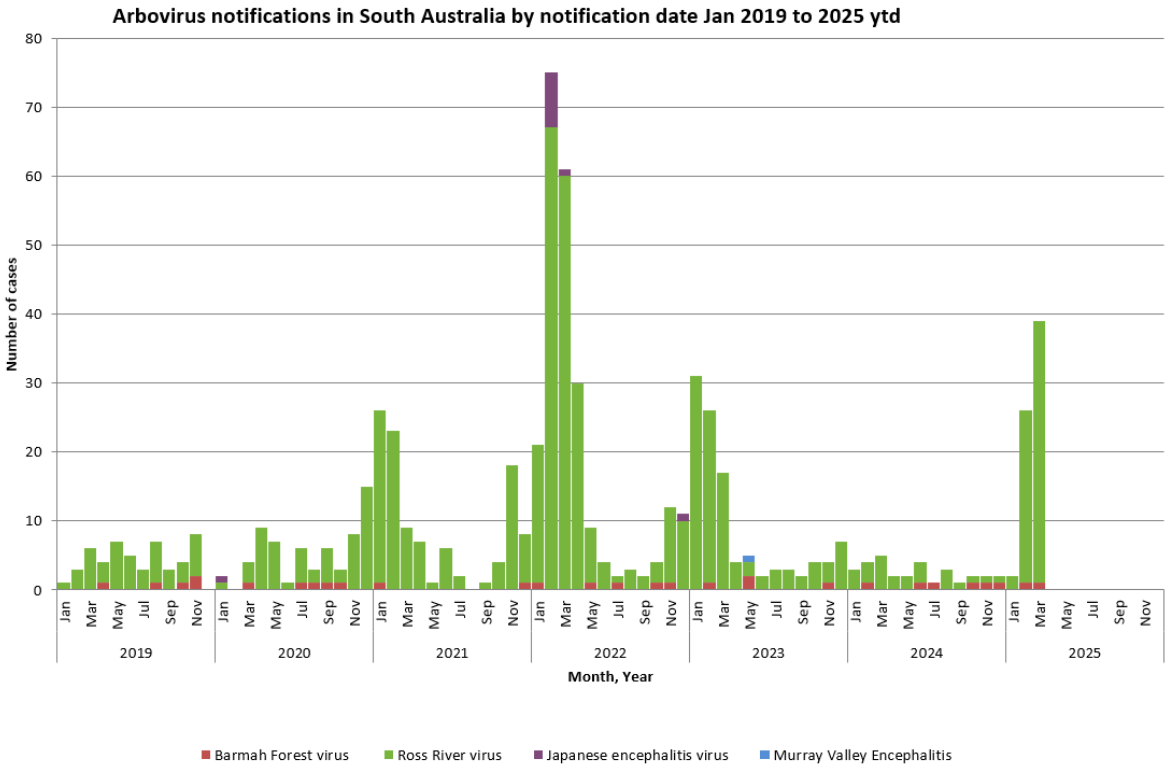

Figure 1: **Arbovirus in South Australia by notification month – 01 January 2019 to Mar 2025.**

Source: Communicable Disease Control Branch, SA Health.

Further information

For further information regarding mosquito borne disease see the SA Health website here.

For mosquito management resources and information for environmental health officers see the SA Health website here.

For more information

Health Protection Programs
Health Protection and Regulation
Department for Health and Wellbeing
PO Box 6
RUNDLE MALL SA 5000
Email: HealthProtectionPrograms@sa.gov.au
Telephone: 08 8226 7100
www.sahealth.sa.gov.au

https://creativecommons.org/licenses

Government of South Australia
SA Health

© Department for Health and Wellbeing, Government of South Australia. All rights reserved.