

Mosquito Surveillance Report: Week of July 26th

Highlights & Average Trap Counts

A total of 4,792 mosquitoes were caught throughout Western Manitoba during the week of July 26th with an overall average of 368 mosquitoes per trap per night. The highest number of mosquitoes collected in a single trap was 2,737 mosquitoes collected in Cypress River on July 27th. In 2020, an average of 379 mosquitoes were caught per trap per night for the same week (Table 1). Trapping occurred on one night this week in Cypress River and Shoal Lake due to trap malfunctions.

Last week, Manitoba Health identified six *Culex tarsalis* pools that tested positive for West Nile virus throughout the province (Interlake Eastern, Winnipeg, and Southern health regions). The province has consequently raised the risk of West Nile virus exposure to moderate. The province recommends that Manitobans take precautions to reduce exposure risks by wearing repellents and long, loose fitting clothing, reducing time spent outdoors during dusk and the night and eliminating sources of standing water that *Culex tarsalis* can lay eggs in.

Table 1. The average number of mosquitoes trapped per trap per night in each community for the week of **July 26th, 2021**. The 2020 average trap counts for the same week have also been included.

Community	2021 Average Trap Count	2020 Average Trap Count
Boissevain	79	155
Brandon	279	461
Carberry	81	68
Cypress River	2,737	1,110
Killarney	6	115
Shoal Lake	619	654
Souris	207	70
Virden	67	57

Virus Screening

32 pools of RNA representing 8,024 mosquitoes caught between June 26 and July 13 of 2021 have been screened for the presence of a California serogroup virus by PCR. No virus detections were made.

Mosquito Species

A total of 4,335 mosquitoes representing 7 mosquito species that are capable of transmitting pathogens to humans were identified from the mosquitoes collected this week (Table 2).

The most numerous mosquito species caught was *Coquillettidia perturbans*, the cattail mosquito, representing 57% of identified mosquitoes. The majority of *Coquillettidia perturbans* were caught in Cypress River and Virden. This mosquito plays a minor role in the transmission of California serogroup, West Nile, and Eastern Equine encephalitis viruses.

Followed behind *Coquillettidia perturbans* was *Culex tarsalis*, whose numbers have significantly increased since last week with an overall average of 88 *Culex tarsalis* mosquitoes per trap up from 31 *Culex tarsalis* per trap last week. *Culex tarsalis* was present in all communities and represented 22% of identified mosquitoes. The highest number of *Culex tarsalis* in a single trap was collected from Cypress River with 262 *Culex tarsalis* having been caught on July 27th. The average number of *Culex tarsalis* mosquitoes per trap in each community can be found in Table 3. The increase observed is consistent with trends seen across the province reported by Manitoba Health. *Culex tarsalis* is the primary vector for West Nile virus in Manitoba and is also involved in the transmission of Western equine encephalitis and California serogroup viruses.

Aedes vexans, the inland floodwater mosquito, represented 18% of identified mosquitoes. *Aedes vexans* was present throughout all the traps. This mosquito plays a role in the transmission of California serogroup viruses to humans and is a major nuisance mosquito in Manitoba.

The other mosquito species caught includes a variety of *Aedes*, *Culex* and *Anopheles* mosquitoes, all of which can act as vectors for California serogroup viruses and/or West Nile virus (Table 2).

Table 2. The numbers of 7 mosquito species caught throughout Manitoba during the week of July 26th, 2021.

Species	Boissevain	Brandon	Carberry	Cypress River	Killarney	Shoal Lake	Souris	Virden	Total
<i>Ae. dorsalis</i>	1	1	0	0	1	0	2	0	5
<i>Ae. flavescens</i>	0	0	0	0	0	3	0	0	3
<i>Ae. trivittatus</i>	0	0	0	0	0	0	1	0	1
<i>Ae. vexans</i>	20	211	0	12	0	283	250	12	788
<i>An. earlei</i>	6	0	1	0	2	80	2	1	92
<i>Cq. perturbans</i>	0	2	0	2372	0	0	9	101	2484
<i>Cx. tarsalis</i>	90	205	149	262	2	182	67	5	962
Total	117	419	150	2646	5	548	331	119	4335

Table 3. The average number of *Culex tarsalis* identified per trap for each community during the week of July 26th, 2021.

Location	Average Number of <i>Cx. tarsalis</i>
Boissevain	45
Brandon	103
Carberry	75
Cypress River	262
Killarney	1
Shoal Lake	182
Souris	34
Virden	3