

Mosquito Surveillance Report: Week of June 14th

Summary

Mosquito trapping occurs twice per week on Monday and Tuesday nights. Due to trap counts varying considerably day-to-day, the average trap count is reported for the week for each location.

In the third week of mosquito surveillance, we have observed moderate increases in average trap counts compared to last week except for the Cypress River trap which caught approximately nine times the number of mosquitoes compared to last week (Table 1). Trap counts have likely started to increase due to a combination of the rain received late last week and the consistently warm weather Manitoba has experienced over the last few weeks. 77% of the rainfall received in Western Manitoba in May and June thus far was received between June 9 and June 11 (Environment Canada, 2021).

Average Trap Counts

A total of 9,212 mosquitoes were caught across Western Manitoba during the week of June 14th, with an average of 576 mosquitoes per trap night. 97% of these, 8,904 mosquitoes, were caught in Cypress River. In 2020, an average of 306 mosquitoes were caught per trap night for the same week (Table 1).

Table 1. The average number of mosquitoes trapped per trap night in each community for the week of **June 14th, 2021**. The 2020 average trap counts for the same week have also been included.

Community	2021 Average Trap Count	2020 Average Trap Count
Boissevain	39	117
Brandon	43	56
Carberry	14	108
Cypress River	4,452	1,393
Killarney	13	69
Shoal Lake	35	480
Souris	9	42
Virden	2	20

Mosquito Species

A total of 8,569 mosquitoes representing 10 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 90.5% of identified mosquitoes. This mosquito plays a minor role in the transmission of California serogroup, West Nile, and Eastern Equine encephalitis viruses. *Coquillettidia perturbans* mosquitoes thrive in low lying swampy areas rich in vegetative cover and cattails which allow for optimal larval development. These conditions perfectly describe the area adjacent to our trap where most of the *Coquillettidia perturbans* have been caught this year and last and it is not surprising that *Coquillettidia perturbans* is present in high numbers at this location^{1,2}.

Followed behind *Coquillettidia perturbans* is *Aedes vexans*, the inland floodwater mosquito, representing 6.5% of identified mosquitoes and was present in all traps. This mosquito can transmit California serogroup viruses to humans and has likely increased in numbers due to the recent precipitation.

Culex tarsalis was present throughout all traps in low numbers and we have observed an increased presence of these mosquitoes compared to last year. This can likely be attributed to the drier than normal conditions in recent months. Contrary to *Aedes* mosquitoes, *Culex* mosquitoes thrive in dry weather as opposed to wet weather². *Culex tarsalis* is the primary vector of West Nile virus 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 10 mosquito species caught throughout Manitoba during the week of June 14th, 2021.

Species	Boissevain	Brandon	Carberry	Cypress River	Killarney	Shoal Lake	Souris	Virден	Total
<i>Ae. communis</i>	0	0	0	0	0	24	1	5	30
<i>Ae. dorsalis</i>	25	10	1	35	5	1	5	0	82
<i>Ae. excrucians</i>	0	3	1	0	0	7	0	0	11
<i>Ae. flavescens</i>	0		0	0	0	12	0	0	12
<i>Ae. trivittatus</i>	0	1	2	14	0	0	0	4	21
<i>Ae. vexans</i>	24	54	1	453	8	5	8	6	559
<i>An. earlei</i>	0	2	0	5	0	11	1	4	23
<i>Cq. perturbans</i>	0	0	0	7759	0	0	0	0	7759
<i>Cx. restuans</i>	0	0	1	1	0	7	0	0	9
<i>Cx. tarsalis</i>	20	10	20	2	6	2	3		63
Total	69	80	26	8269	19	69	18	19	8569

Literature Cited

1. Poirier, L. M. & Berry, K. E. New distribution information for *Coquillettidia perturbans* (Walker) (Diptera, Culicidae) in northern British Columbia, Canada. *J. Vector Ecol.* **36**, 461–463 (2011).
2. Carpenter, S. & LaCasse, W. *Mosquitoes of North America*. University of California Press (University of California Press, 1955).