

The West Nile Seasonal

How does 2017 look?

Predictions for statewide risk in 2017, made on July 24th, are displayed below in Figure 1. Currently, we estimate that 63 cases are most likely for the year. This is up just slightly from the previous week's estimate of 58 cases, and this difference is due to increases in humidity and additional WNV-positive mosquito pools reported throughout the state.

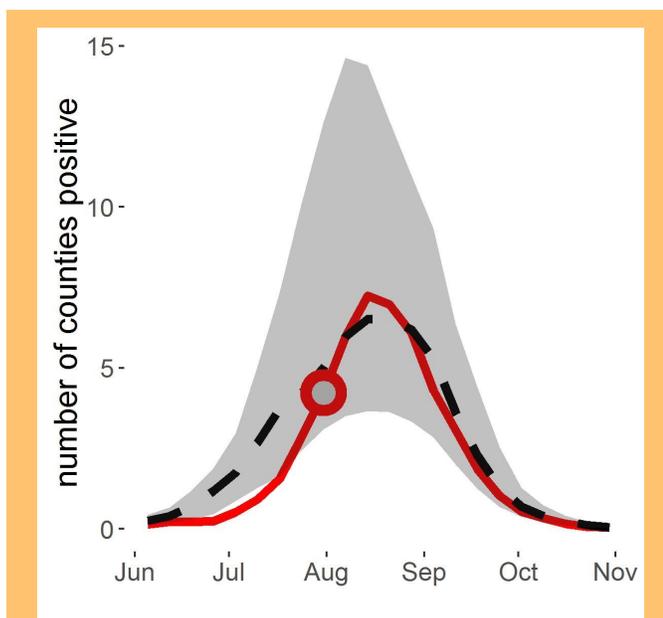


Figure 1: Estimated risk for 2017 (red), with average risk in other years (dashed) and 50% CI for historical risk (grey). July 24th is circled.

We still suspect that 2017 will be an average year for WNV in SD overall, with substantial disease transmission.

The scenario we have been discussing in previous seasonal forecasts may be now occurring. The state has become more humid in recent days, with several heavy rain events making the environment more hospitable for the vector mosquito.

The rainstorms themselves do not tend to help the mosquito (wind and rain may actually destroy adults)

but the humidity before and after storms means a mosquito is less likely to dry out while trying to find a blood meal.

If the state continues to be more humid than normal for this point in the year, then the risk of transmission to humans will be raised above average and more human cases will occur than originally anticipated, later in the year.

While 2017 began very warm, long-term average daily temperatures continue to hover around historical means. There have been a number of very hot days, but these have been balanced by cooler days. There is no clear sign of high temperatures increasing WNV risk, as there has been in previous years. For example, the persistently warm days in 2016 were a predictor of higher-than-average WNV cases, but we have not seen any persistent temperature trend in 2017.

There is every reason to believe that 2017 will bring a substantial number of human cases. We continue to urge mosquito control, collection, and testing, especially as the peak WNV month of August approaches. If there is to be a spike in the number of human cases late in 2017, it will likely be reflected in the mosquito infection rate in the next few weeks.

How are the mosquitoes?

As of July 23rd, 22 positive pools have been reported out of 1275 tested, at a rate of 1.7% pools infected, and we estimate that at least one female *Cx. tarsalis* mosquito out of every 1000 collected is infected. This places 2017 almost exactly at average for this point in the year for mosquito infections.

Four counties have reported positive pools, although some counties (e.g. Minnehaha) have reported substantial numbers of pools without seeing any positives. This is not, we caution, evidence that WNV is absent. Minnehaha is next to Lincoln, for example, in which positive pools have been found.