

The West Nile Weekly

What does this week look like historically?

Typically, around 1% of a year's human cases will occur during this week, and only 2% of a year's total cases will have occurred before the end of this week.

The SDDOH has already reported one case, but the timing of these first human cases is not always a good indicator of human risk. For example, the outbreak year 2003 had more than 1,000 cases but only one occurred before July 2nd. In 2015 there were fewer than 50 cases diagnosed, but 4 had occurred by the end of this week.

What to expect?

Our model currently estimates that one county will be positive for human cases during this week (Fig. 1). Brown County, in particular, is estimated to have a 12.2% (1 in 8) chance of reporting a case.

The data we have imply that most of the state has estimated risk for this week of the year, compared to an average WNV year (yellow in Figure 2 below). Some

counties in the southwest have higher-than-average risk for this week (red). We are still early in the season, and higher-than-normal risk for this week is not yet a cause for alarm, and lower-than-normal risk should not be too reassuring. Our early estimates are based on a cold winter, a warm spring, and humid conditions in early 2017. Long-term weather forecasts indicate a warmer-than-average summer.

Last year had substantial transmission, and it is possible that our bird populations will have built up immunity to the virus. We have only received reports of 82 tested pools from 3 counties in the state, and 3 pools (3.6%) have been positive. It is not yet clear how quickly the virus is spreading among birds and mosquitoes, and our estimates will improve as new weather data and especially mosquito data become available.

Current recommendations?

WNV is already circulating and is even crossing over into human populations, so control (larviciding and adulticiding) and public education are advised.

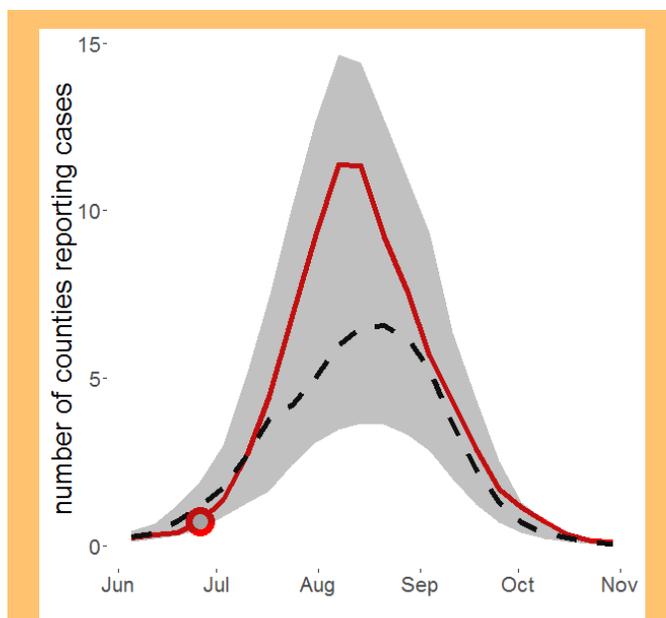


Figure 1: Estimated risk for 2017 (red), with average risk in other years (dashed) and 50% confidence interval for historical risk (grey).

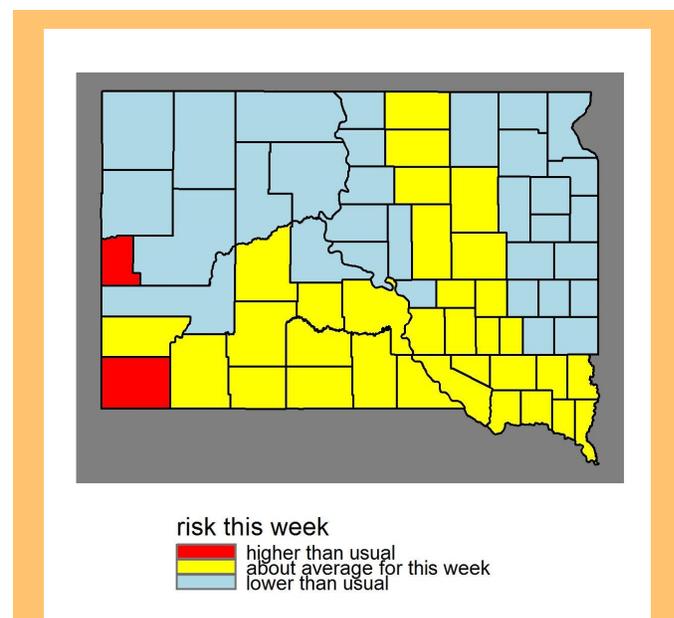


Figure 2: Risk for the week beginning June 26th, compared to risk in this county, this week, in the average WNV year.