CONCORD MONITOR

West Nile and EEE weren't a problem in N.H. this year, but they haven't gone away

Posted on November 26, 2015Author DAVID BROOKS Monitor staffCategories Health, None

New Hampshire got the benefit this year of the ebb and flow of West Nile virus and EEE, two widespread mosquito-borne diseases, but that doesn't mean either one is going away.

Testing in 2015 found no people and just one animal – a raven – positive for West Nile virus, and no one was positive for Eastern equine encephalitis. Only three batches of mosquitoes were found with West Nile and two with EEE, the lowest total since 2010.

This doesn't indicate that either disease is disappearing, however.

The viruses that cause West Nile virus and EEE lurk in populations of certain animals and birds, which is known in public health terms as the reservoir, and are passed around by mosquitoes, known as the vector.

The prevalence of each disease every year is the result of interaction between the status of the reservoir populations and the status of different mosquito species, which depends on many factors, including the weather.

"Last winter, when we were trying to prepare for the 2015 season, there was significant concern that it would be a bad season because given the amount of snow there would be a lot of vernal pools, and it would have been ideal for mosquito habitat. But it didn't happen because we had a very dry spring," said Abigail Mathewson, the state public health veterinarian.

The diseases often do not progress in parallel, partly because they're transmitted by different mosquito species with different habits.

The West Nile virus mosquitoes are "container breeders," Mathewson said, meaning they live in stagnant water that collects in places like gutters or birdbaths, while EEE mosquitoes prefer freshwater or swamps.

"I'm absolutely sure that there are more mosquitoes out there that are positive and we didn't pick up," said Mathewson. Mosquito testing is not done in all parts of the state on a consistent basis.

"This is a good time to do some preparation for next year, before the season hits. If you've got flower pots outside, removing them, emptying them, turning wheelbarrows over, getting rid of anything that could have standing water, including cleaning out gutters," Mathewson said.

Arboviral is a health term for diseases caused by viruses that are passed on by insects.

Both generally produce flu-like symptoms but they can be fatal, especially EEE. Maine recently announced that a woman had died of EEE in October, that state's first such death. In 2014, two people in New Hampshire died of EEE, which is often more dangerous than West Nile virus.

Neither disease has a vaccine that works in humans, although there is a EEE vaccine for horses.

Lyme disease has a similarly complicated transmission cycle involving populations of reservoirs and vectors, although it is caused by a bacteria rather than a virus and is transmitted by ticks.

Lyme has a longer lag time before showing up as a sickness in humans, so a report on its prevalence in New Hampshire this year is not expected until next spring.

Unlike mosquitoes, which are killed off by the first heavy frost, ticks can emerge to bite people any time that the temperature rises above about 42 degrees.

“Ticks remain a problem until we get serious about winter,” Mathewson said.

EEE has been prevalent in New England for many decades, but West Nile came here in 1999, probably via an infected mosquito in a shipping container.

It spread quickly, showing up in New Hampshire in 2000, and peaked in 2002, and then almost disappeared from the state. Similar patterns were seen around the country.

In 2012, for reasons that remain unclear, West Nile virus returned in force, particularly in the Midwest and South; cases of the virus in mosquitoes, animals and humans rose through 2013, then declined again.

Such ebb and flow has long been the pattern for EEE, although the cycles seem to be less extreme in recent years, perhaps because climate change allows mosquitoes to survive longer each year, altering the patterns of transmission, Mathewson said.

(David Brooks can be reached at 369-3313, dbrooks@cmonitor.com, or on Twitter @GraniteGeek.)

DAVID BROOKS Monitor staff

Dave Brooks is a reporter with the Concord (NH) Monitor who has has written a science/tech column since 1991 and has written this blog since 2006, keeping an eye on topics of geekish interest in and around New Hampshire. He moderates monthly Science Cafe NH discussions, beer in hand, and appears regularly on New