

## WEST NILE VIRUS IN NASSAU COUNTY, 2014 – 2023

West Nile Virus (WNV) is an infectious disease transmitted to people through the bite of an infected mosquito. WNV can also infect birds, horses, and some other mammals. Less often, the virus can spread in transfused blood, a transplanted organ or by transplacental transmission (mother-to-child) (WHO, 2017). WNV is seasonal, occurring mostly from the beginning of Summer through Fall. About 1 in 5 people who are infected develop a fever or other symptoms, while 1 in 150 infected people develop a serious, sometimes fatal, illness such as meningitis or encephalitis. WNV can occur in people of any age but people who are 60 years and above, and those with pre-existing medical conditions such as cancer, diabetes, hypertension, and kidney disease are more at risk of the disease (Centers for Disease Control and Prevention [CDC], 2023; NYSDOH, 2017).

However, the risk of WNV can be reduced by using the CDC recommended insect repellent, avoiding mosquito bites by wearing long sleeves and pants, and displacing mosquito breeding sites.

Data from Nassau County, NY revealed that there were 24 cases of WNV in 2022 as shown in Figure 1, making it the highest recorded incidence in a single year since 2014 in the county of Nassau. 18 cases were reported in 2023, showing a 25% decrease from 2022.

**Figure 1**

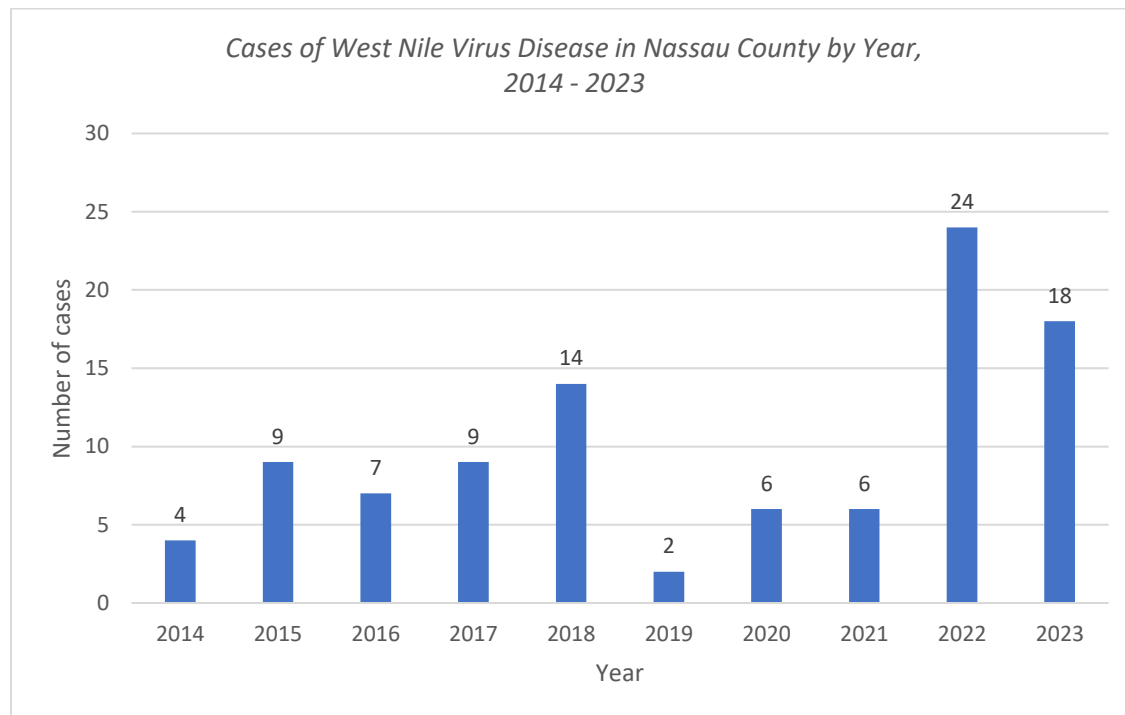


Figure 2

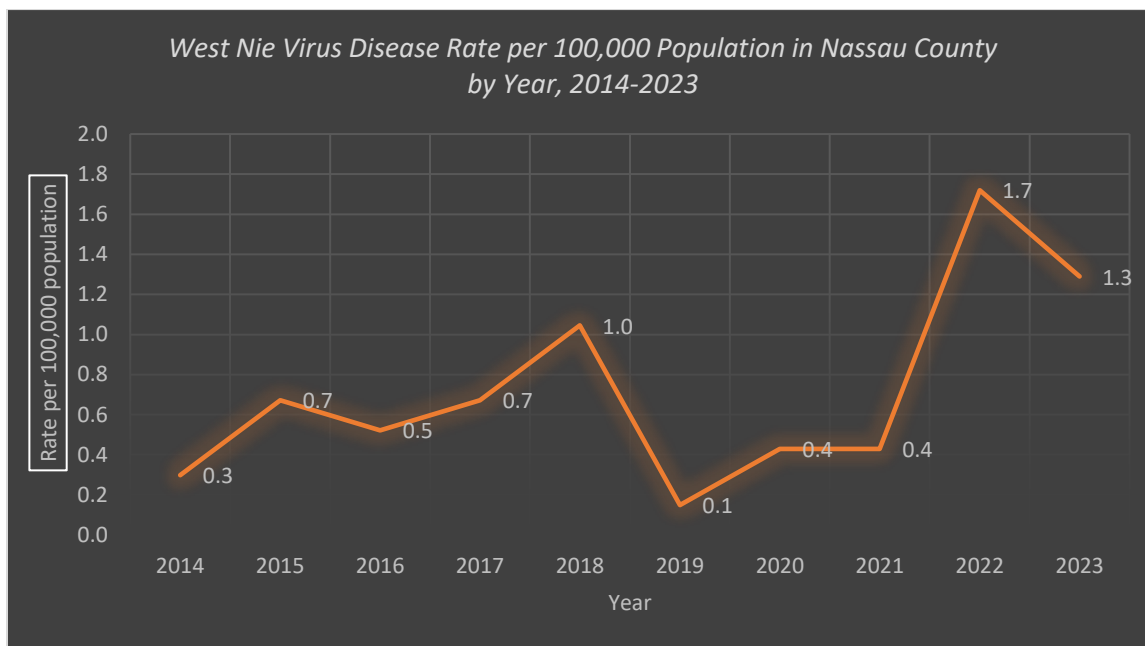


Figure 3

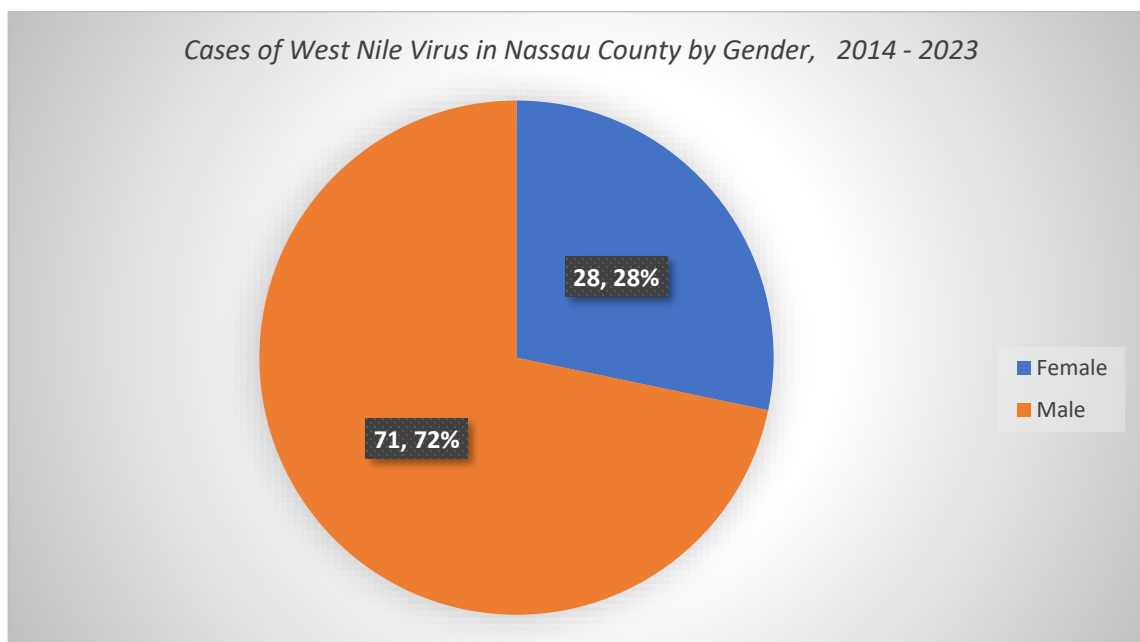


Figure 4

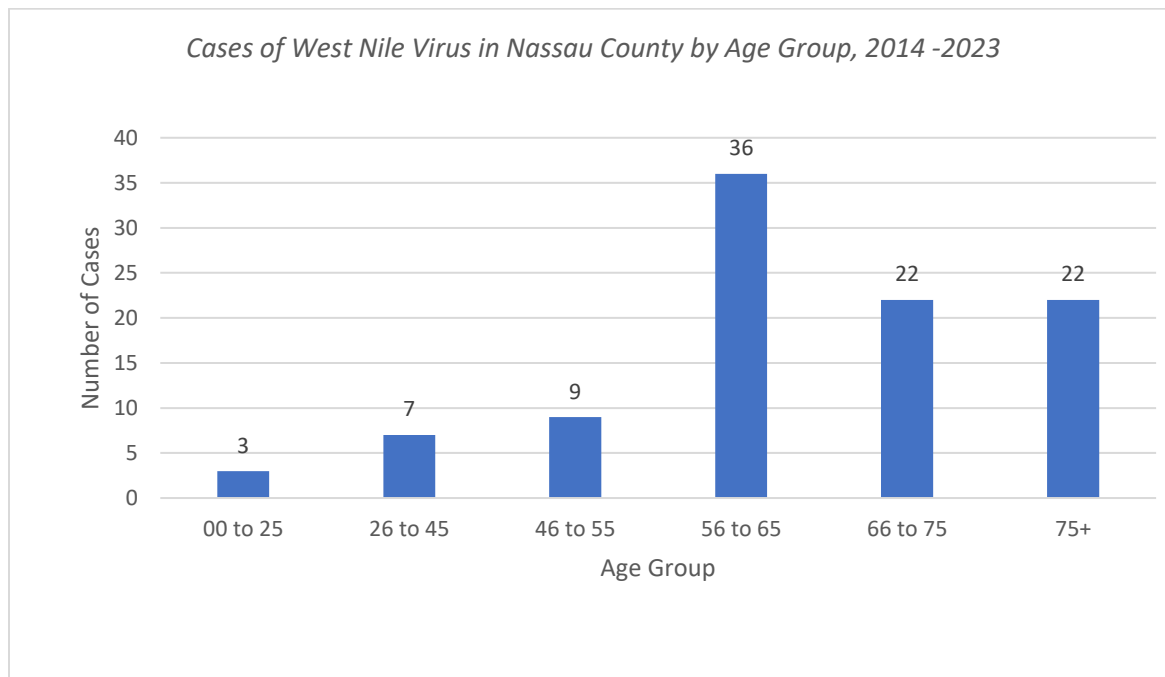


Figure 5

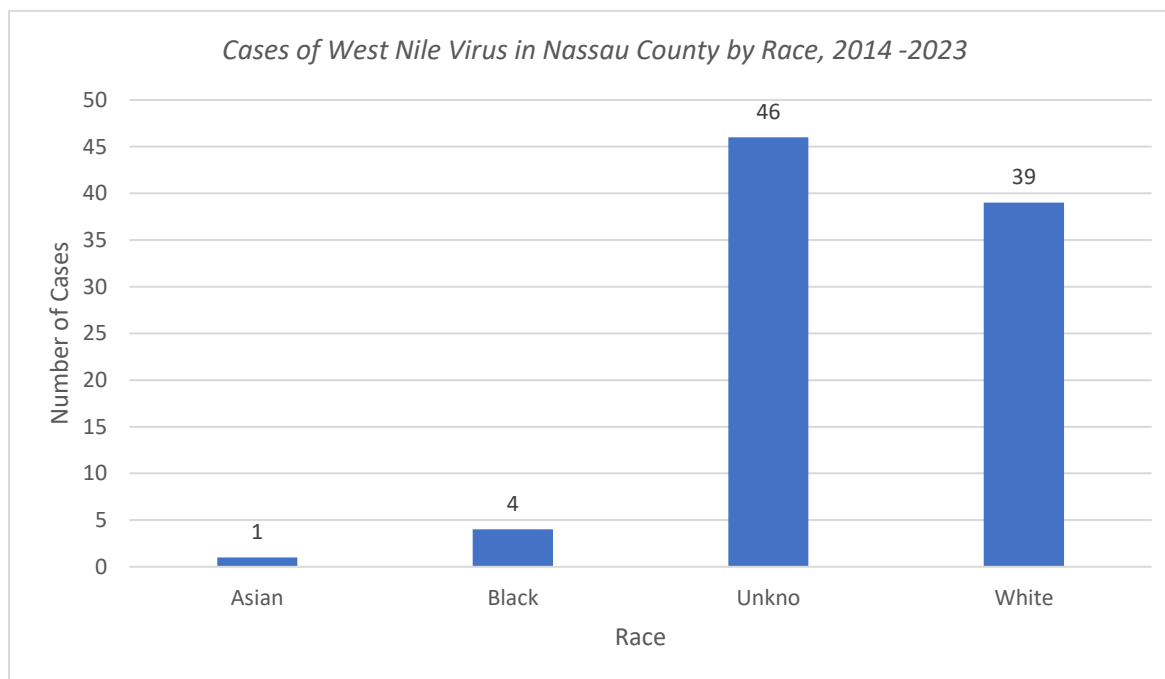


Figure 6

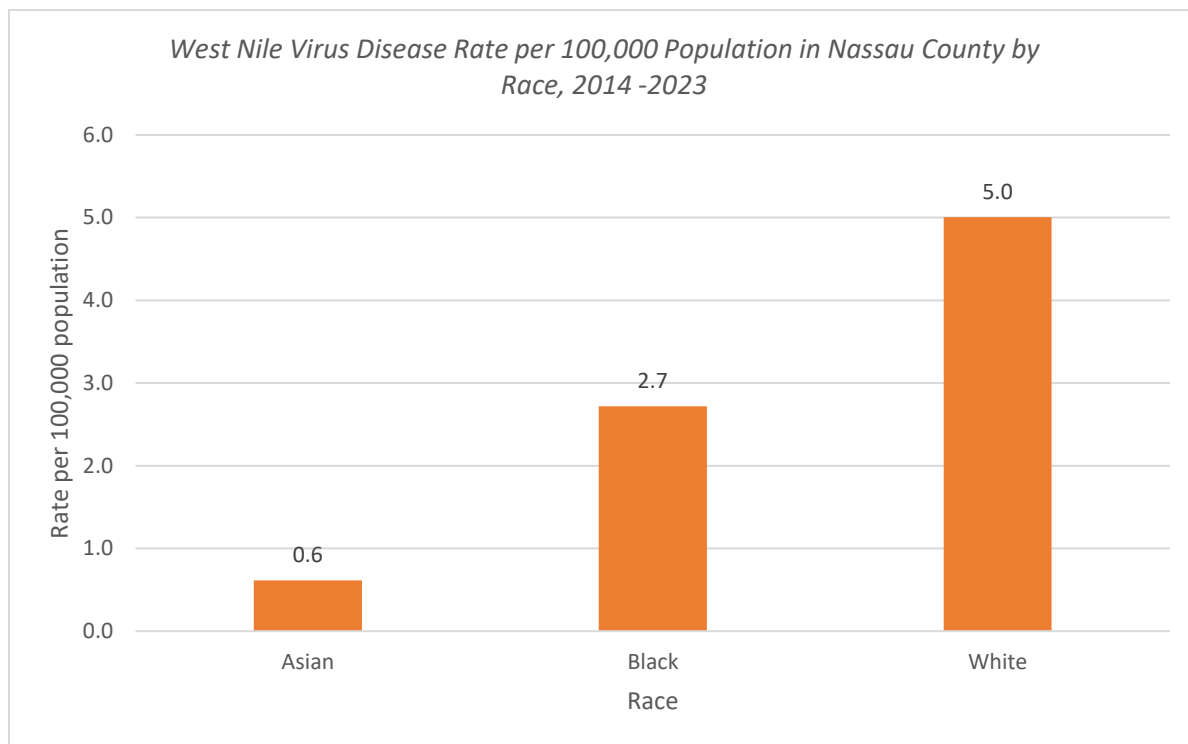


Figure 7

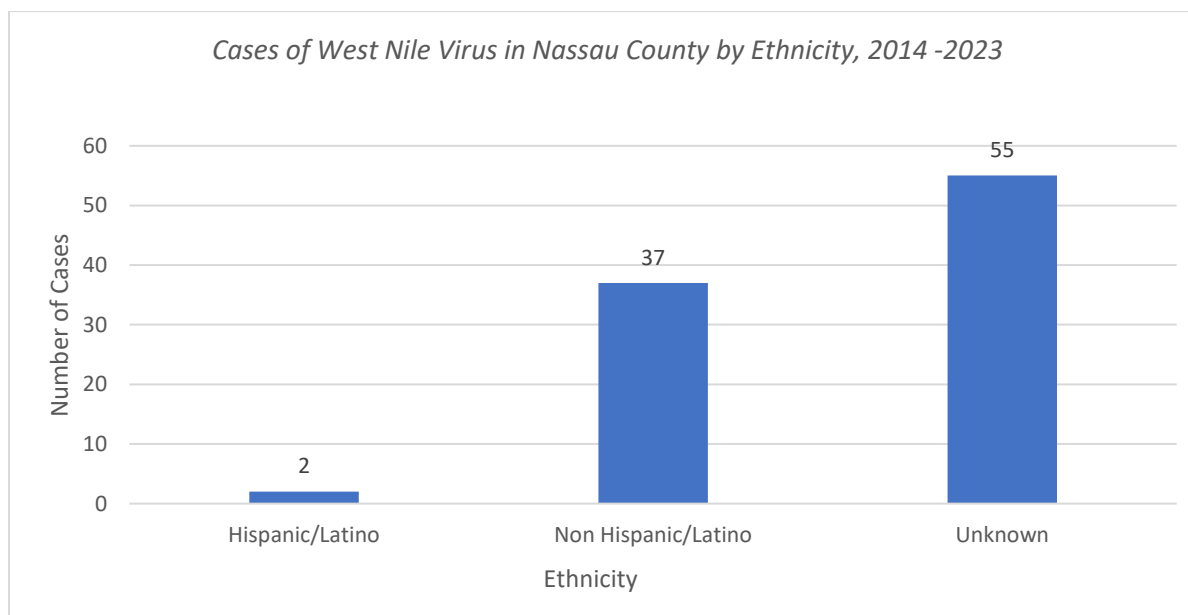


Figure 8

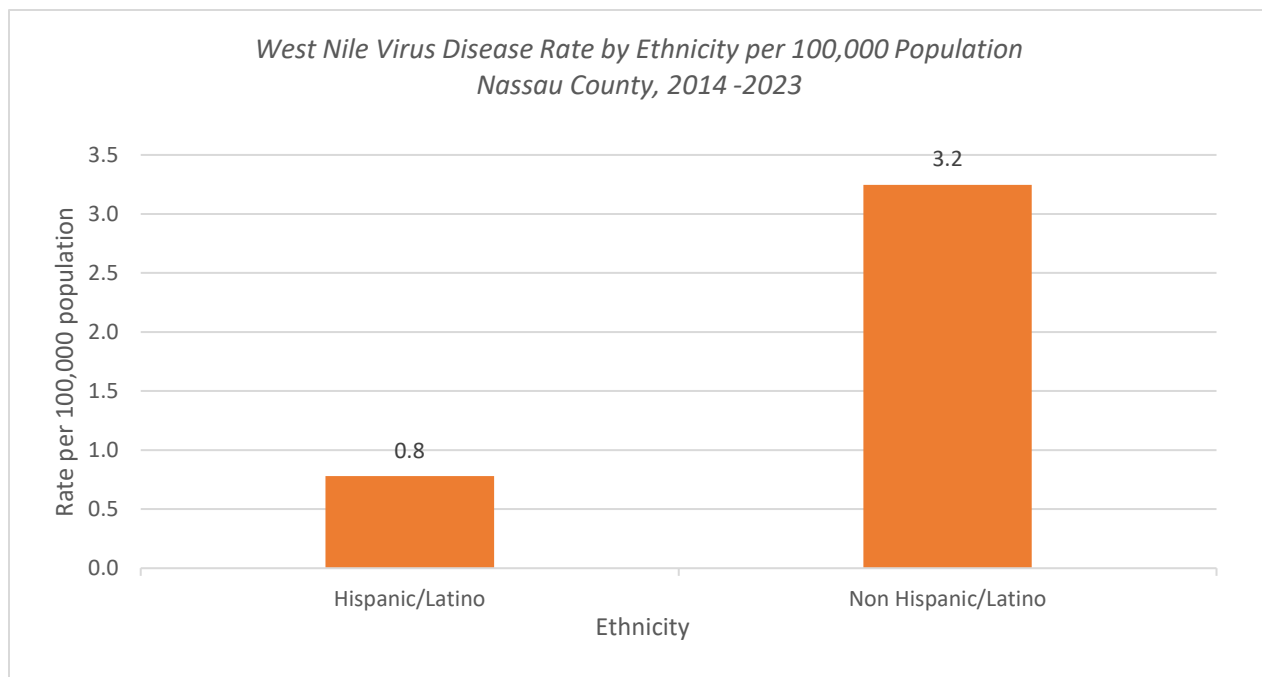


Figure 9

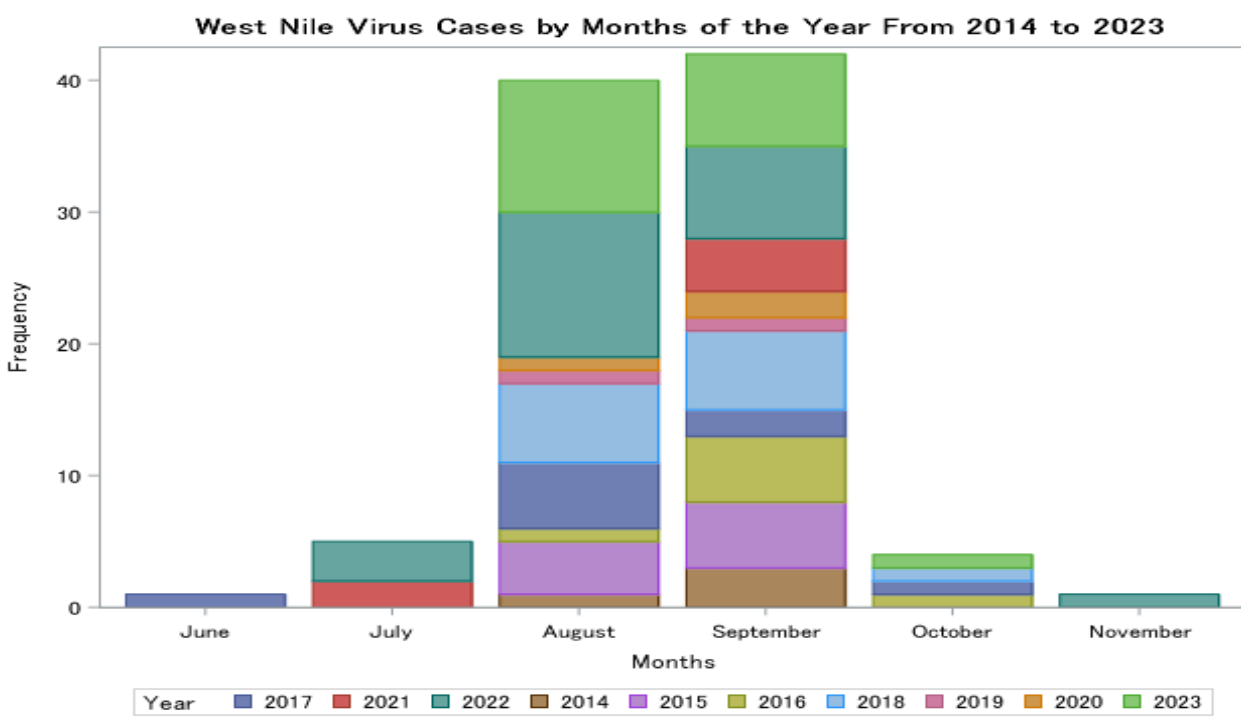


Figure 10

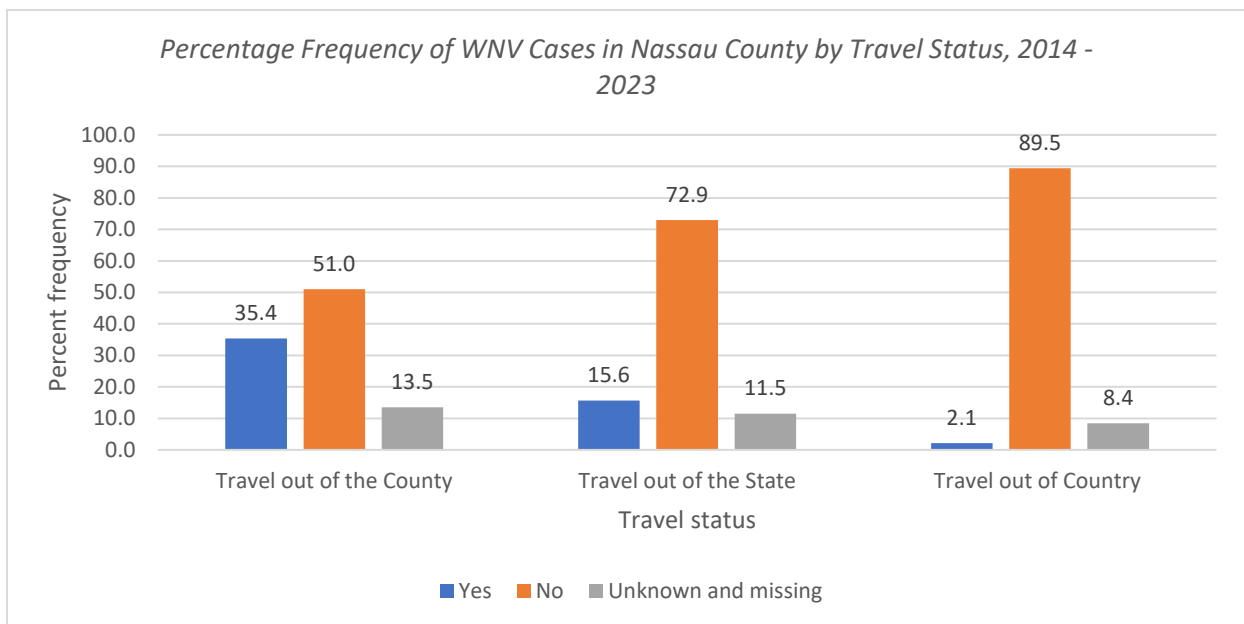


Figure 11

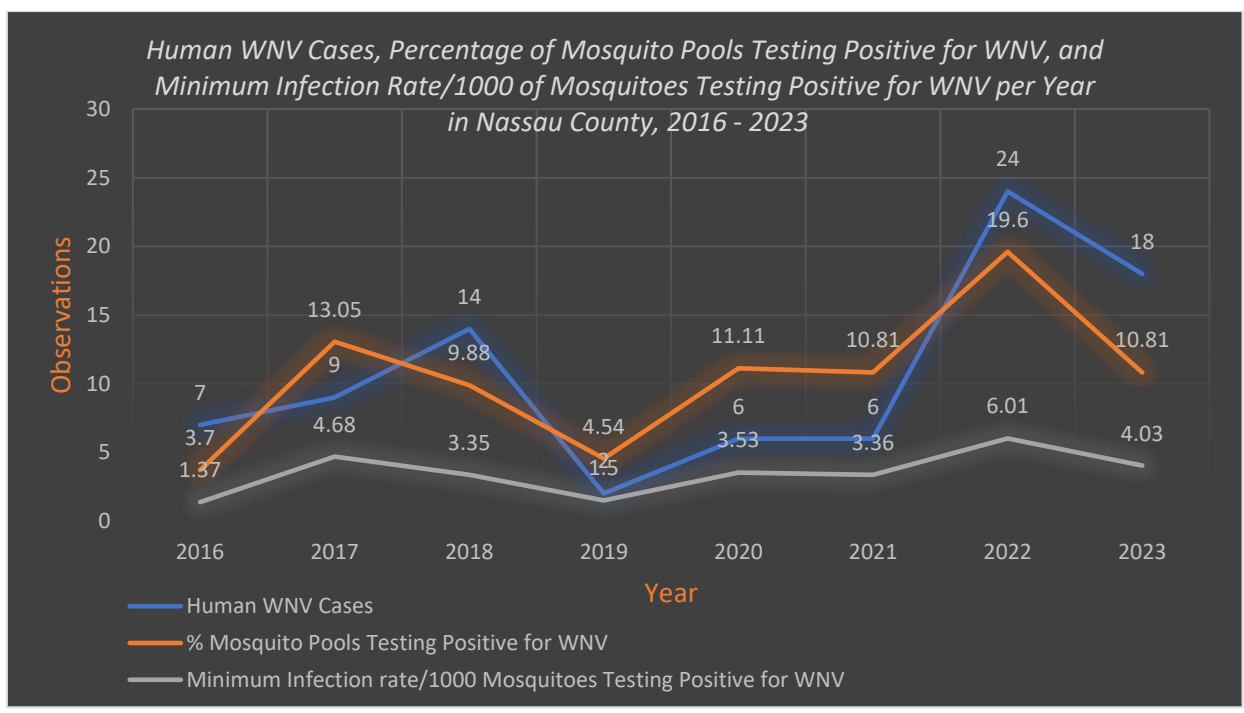
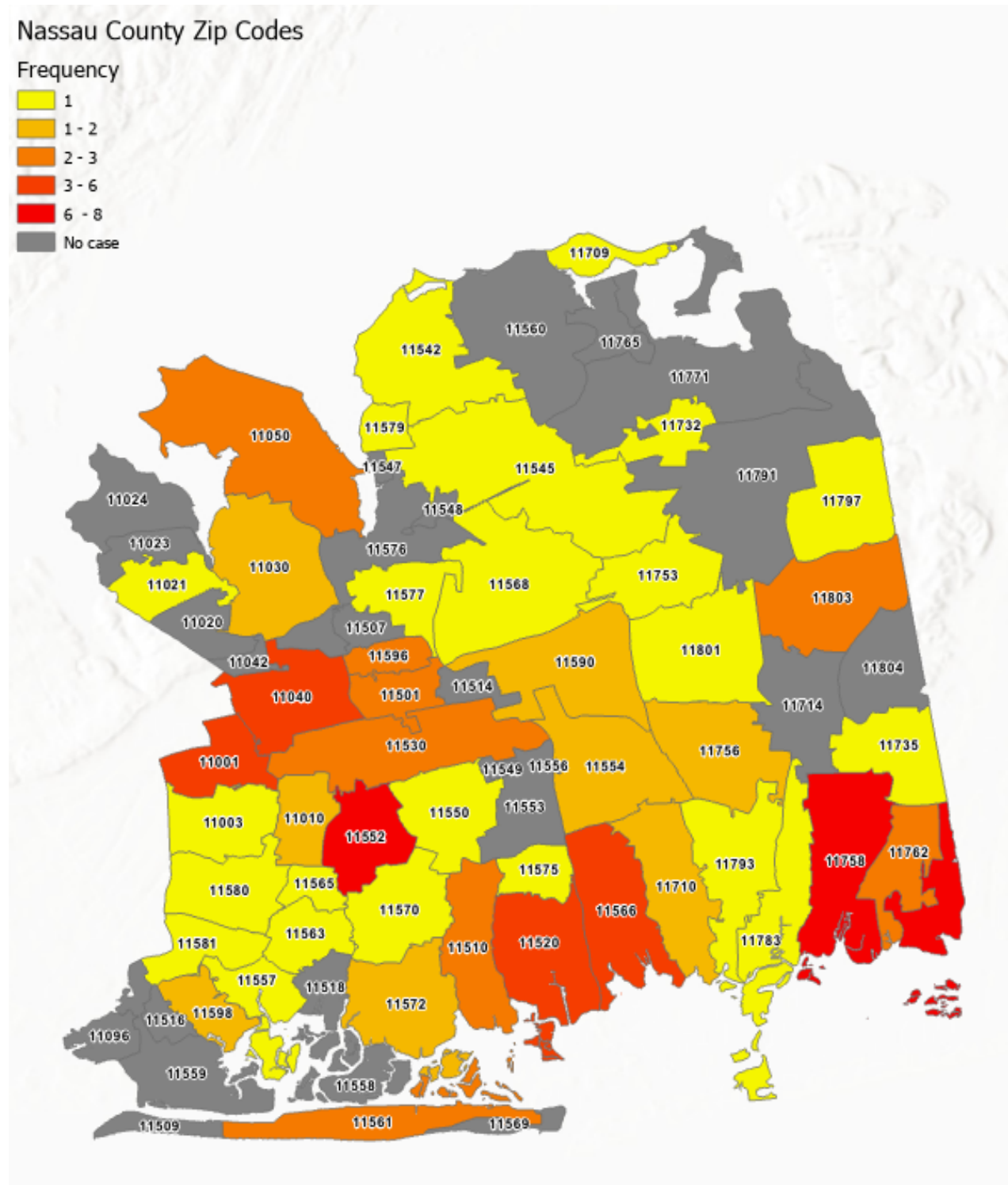


Figure 11 shows the percent mosquito pools testing for WNV, and the minimum infection rate per 1000 mosquitoes testing positive for WNV following the same pattern with the reported cases of human WNV across the years, from 2016 to 2023. There is a strong and significant relationship (correlation) between human WNV cases and both the percent mosquito pools testing positive for WNV ( $r = 0.74$ ), and the minimum infection rate per 1000 mosquitoes testing positive for WNV ( $r = 0.77$ ). Highlighting the importance of mosquito surveillance and control measures in preventing the spread of WNV to humans.



Figure 12

Cumulative Cases of West Nile Virus by Zip Code in Nassau County, 2016 -2023



## Sources

Data Source: *CDESS. Line Listing, Download and Supplemental*

Denominators: [Nassau County, New York - Census Bureau Search](#). 2010 & 2020 Decennial Census of Nassau County Population.

Communicable Disease Electronic Surveillance System (CDESS). Vector Surveillance Report Lab Test Result by County, Nassau County.

## References

CDC (2023). West Nile Virus.

<https://www.cdc.gov/westnile/healthcareproviders/healthCareProviders-ClinLabEval.html>

World Health Organization (Oct.,2017). <https://www.who.int/news-room/fact-sheets/detail/west-nile-virus>.

New York State Department of Health (NYSDOH, 2017) West Nile Virus Fact Sheet.

[https://www.health.ny.gov/diseases/west\\_nile\\_virus/fact\\_sheet](https://www.health.ny.gov/diseases/west_nile_virus/fact_sheet)

## Notes

- The data analysis included probable and confirmed cases of WNV unless where specified.
- 2010 and 2020 Census data for Nassau County were used to compute incidence rates.
- WNV infection rates in mosquitos were not assessed prior to 2016; data was not available.
- Percentage of mosquitoes' pools testing positive= (# positive pools testing positive for WNV/# pools tested) \*100.
- Minimum infection rate= (# positive pools with at least one mosquito testing positive for WNV/total number of mosquitoes tested) \*1000.

