



West Nile Virus Program and Tick Surveillance

WCD MUNICIPAL ROUNDTABLE 2022

CHELSEA GROSS, WNV FIELD MANAGER

TONY QUADRO, WNV PROGRAM COUNTY COORDINATOR

West Nile Virus Technician Position

- ▶ We will have a new WNV technician this season
- ▶ Mosquito trapping will begin April 25, 2022 and continue through October
- ▶ In April we plan to hold our annual discounted tire recycling day in collaboration with Westmoreland Cleanways
- ▶ Gravid traps will be set weekly
- ▶ When positive West Nile virus samples occur then increased trapping will occur in the area
- ▶ West Nile Virus Mosquito positives can be found at PADEP's WNV Program website <https://gis.dep.pa.gov/WNV/index.html>

Mission Statement

Our mission is to protect the public health of residents in Westmoreland County by collecting field data and eliminating vectors of the West Nile and Zika viruses.

Fact: Mosquitoes are the world's deadliest animals. Vector-borne diseases account for more than 17% of all infectious diseases, causing more than 700,000 deaths annually. (CDC)

Integrated Mosquito Management (IMM)

A science driven, holistic approach using a combination of:

1. Public Education
2. Surveillance
3. Source Reduction
4. Larval Control
5. Adult Control

Public Education



On-the-job



Future Presentations



Brochures and Fact Sheets



Surveillance

- ▶ Larval Surveillance
 - ▶ Dipping

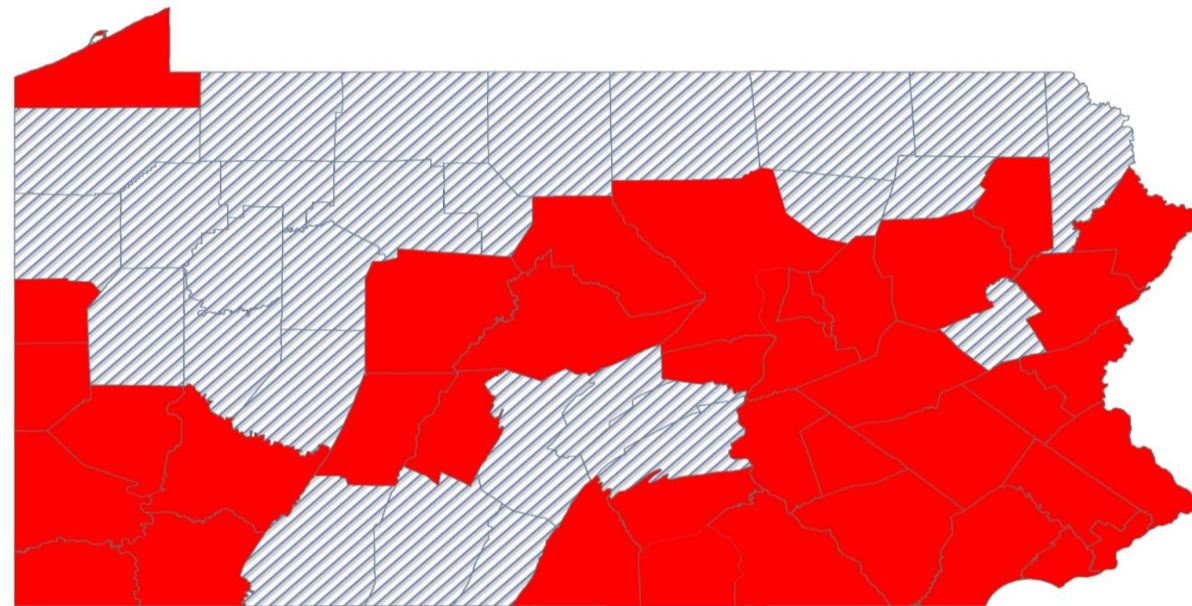
- ▶ Adult Surveillance
 - ▶ BG Sentinel traps
 - ▶ Gravid traps
 - ▶ Landing rates
 - ▶ Complaint calls



2021 WNV Positive Mosquito Counties

Westmoreland County had 3 positive WNV mosquito samples out of 108 tested samples

No human, bird, or equine cases reported in Westmoreland County



Legend

-  No Surveillance in County
-  West Nile Virus Found
-  West Nile Virus Not Found

<https://gis.dep.pa.gov/WNV/index.html>

Source Reduction



EMPTYING
CONTAINERS



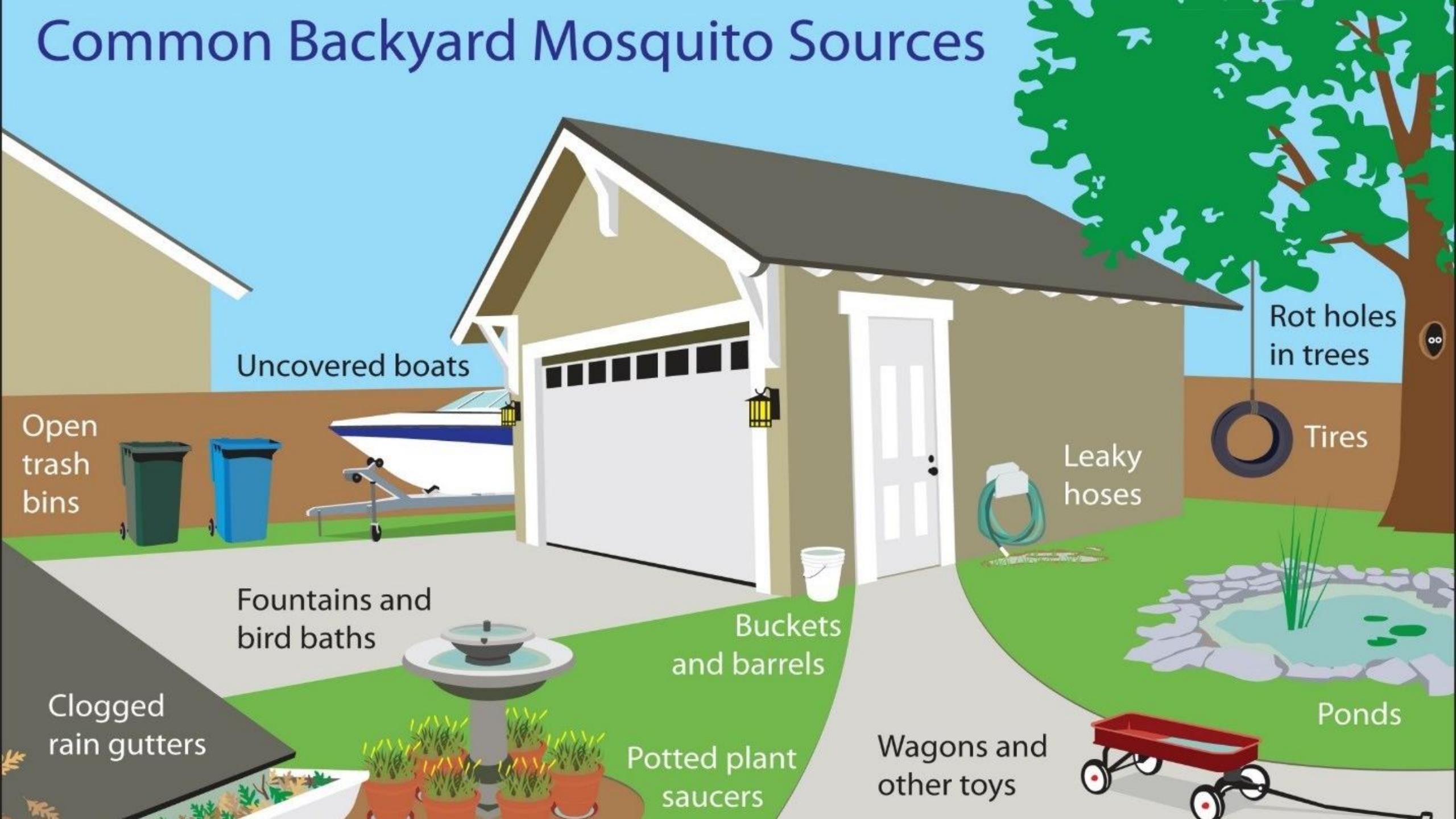
SOLVING
DRAINAGE ISSUES



REDUCING
STANDING WATER

Removal of artificial containers and man-made habitat.

Common Backyard Mosquito Sources



Open trash bins

Uncovered boats

Fountains and bird baths

Buckets and barrels

Clogged rain gutters

Potted plant saucers

Leaky hoses

Wagons and other toys

Rot holes in trees

Tires

Ponds

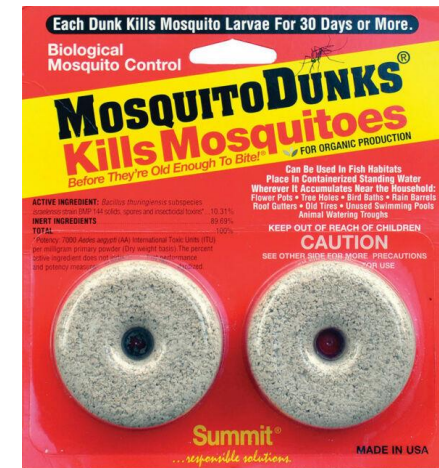
Larval Control

Biological Larvicides

- ▶ BTI (*Bacillus thuringiensis israelensis*) and BS (*Bacillus sphaericus*)
 - ▶ Naturally occurring
 - ▶ Used for decades
 - ▶ Target specific
 - ▶ No toxicity to people
 - ▶ Available to the consumer

Chemical Larvicides

- ▶ (S)-Methoprene
 - ▶ Insect Growth Regulator
 - ▶ Low toxicity
- ▶ Larvicide Oil
 - ▶ Simple





Adult Control

- ▶ Pesticide Discharge Management Plan (PDMP)
- ▶ DEP Vector Index (VI)
- ▶ Truck-mounted Ultra-low Volume (ULV) Applications (public notifications)
- ▶ Barrier Control Applications

What can your municipality do to help us reduce the risk of mosquito-borne disease?

- 1) Stagnant Water Ordinance
- 2) Source reduction
- 3) Avoid mowing wet areas & during wet periods
- 4) BTI in areas of concern
- 5) Educate citizens

Standing Water Ordinance

Sample ordinance by PA
State Association of Boroughs

AN ORDINANCE DEFINING STAGNANT WATER POOLS, DECLARING STAGNANT WATER POOLS TO BE A PUBLIC NUISANCE; DECLARING AN OFFENSE; ESTABLISHING PROCEDURES TO ABATE THE NUISANCE; PROVIDING FOR NOTICE; PROVIDING FOR A HEARING; PROVIDING FOR SEVERANCE CLAUSE; PRESCRIBING FEES; PROVIDING A REPEALING CLAUSE; PRESCRIBING A PENALTY; AND PROVIDING AN EFFECTIVE DATE.

BE IT ORDAINED by the Council of the Borough as follows:

SECTION 1. Definitions.

As used in this Ordinance, certain terms are defined as follows:

Borough – Borough of _____

Stagnant Water Pool – Stagnant water in pools in which mosquitos, flies or other insects may multiply, including, but not limited to, open containers, sewage, lagoons, ditches, roof gutters, wheelbarrows, bird bathes, ornamental pools, swimming pools, vegetation weeds, and grass in excess of eight inches (8”) in height (except as may be otherwise provided in Wetlands and Environmental Ordinances and Statues).

Premises – A lot, plot or parcel of land including any structures thereon.

Structure – That which is built or constructed or a portion thereof.

Titled Owner – Any person, firm, partnership or corporation having legal title or equitable interest in a structure and/or premises as recorded in the official records of the state, county or municipality; or guardian of the estate of any such person, or the executor, or administrator, of the estate of such person if in possession of real property as a fiduciary or heir.

Source Reduction:

- ▶ The most effective mosquito control effort is directed toward the source: standing water where larval stages of the mosquito are found. Mosquitoes are extremely vulnerable during the larval stages because of their relatively dense concentrations and the limited protection shallow breeding waters offer. Larval mosquito habitats are generally divided into three types: permanent water, temporary floodwater, and containers.
- ▶ Catch Basins
- ▶ Storm Drainage Areas
 - ▶ Retention
 - ▶ Detention
 - ▶ Ditches
- ▶ Wastewater treatment
- ▶ Floodplains
- ▶ Tires and other artificial containers

BTI for Municipal and Residential Use

- ▶ Naturally occurring bacteria
- ▶ Widely available
- ▶ Many forms
- ▶ Kills only mosquito & black fly (i.e. gnats) larvae
- ▶ NOT harmful to humans, pets, aquatic life, or plants
- ▶ FOLLOW THE LABEL!

Takeaways...

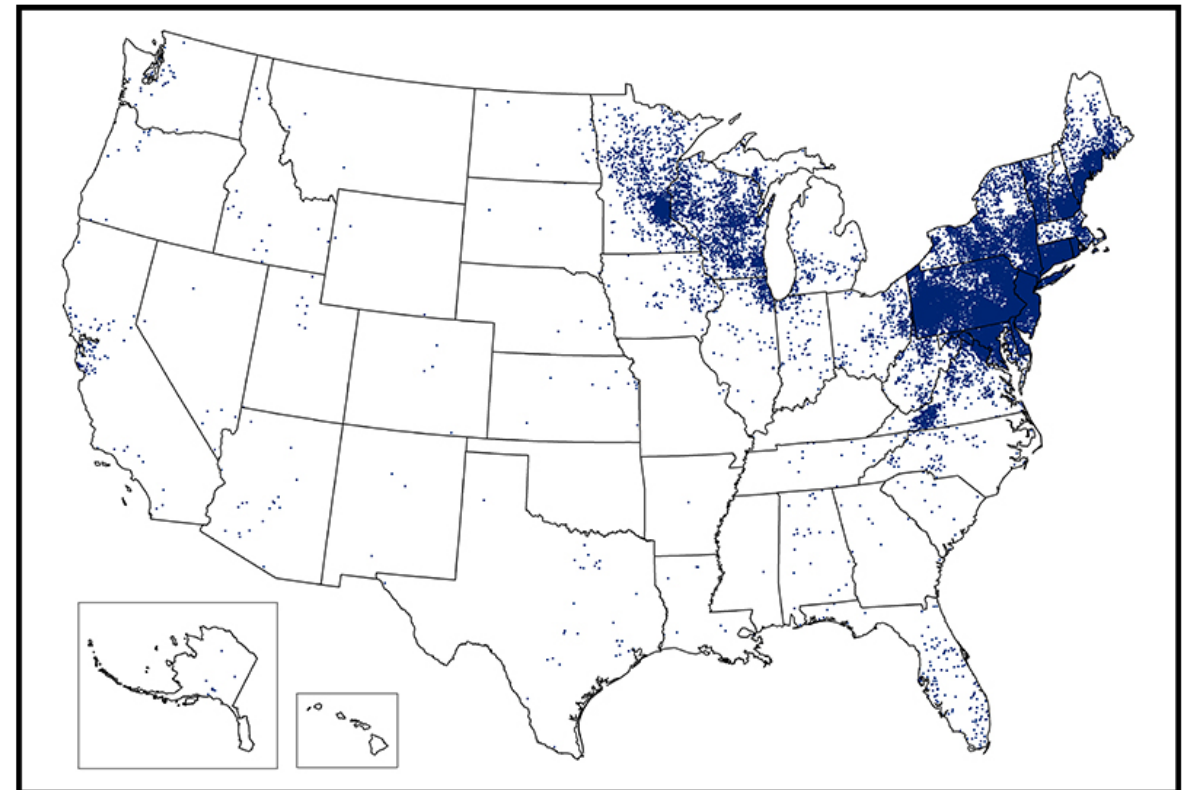
- 1) Contact our staff. We are here to help!
- 2) Reduce mosquito habitat, where possible.
- 3) Help us in educating citizens or refer them to us.
- 4) Avoid mowing wet areas & during wet periods.
- 5) Consider imposing a Standing Water Ordinance
- 6) Consider utilizing BTI in areas of concern

Tick Surveillance Mission

A collaborative partnership between the Department of Environmental Protection, Department of Health and County Government

- ▶ Focus is to gain a better understanding of the distribution, density, phenology and disease transmission of ticks in Pennsylvania
- ▶ Surveys
 - ▶ April – August
 - ▶ Parks and other recreational habitats

Reported Cases of Lyme Disease — United States, 2017



1 dot placed randomly within county of residence for each confirmed case