



West Nile Virus, Wetlands and Stormwater Ponds Frequently Asked Questions

West Nile virus is now here in Southeastern Michigan. The Department of Environment is one among the many agencies trying to help answer questions about West Nile.

Background

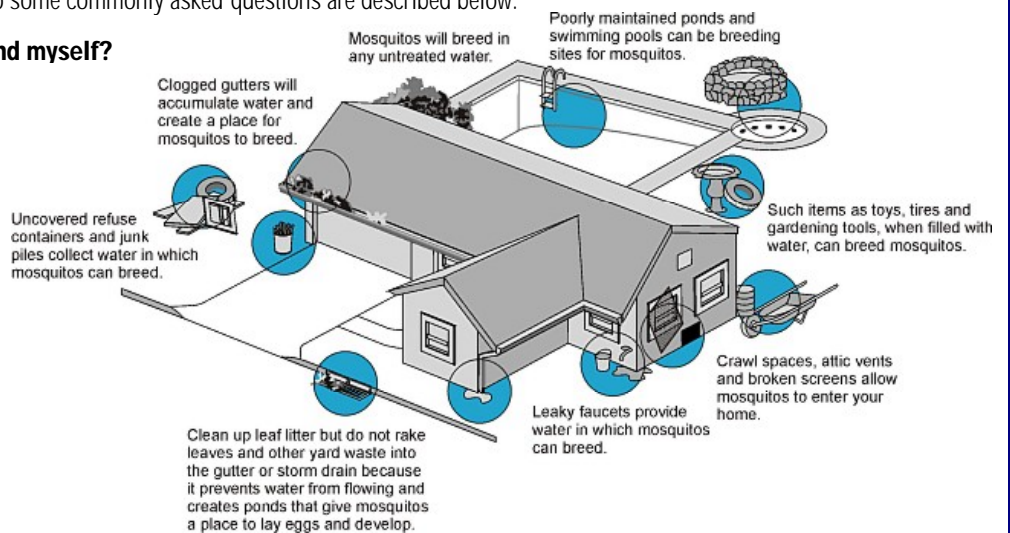
Mosquito borne illnesses in the United States were largely eliminated as a health risk in the first half of the 20th Century. Consequently, Americans have not regarded mosquito-borne diseases as a major domestic public health threat for a long time. With the introduction and rapid spread of the West Nile Virus (WNV) across the country this perception has changed. This heightened concern has focused the attention and resources of public officials on the habitat, control, eradication, and prevention of mosquito populations.

In 2002, WNV infected 3862 people, and killed 263. The deaths were from 39 states and Washington D.C. The total number of confirmed infected states in 2002 was 44 of the 48 continental states and Washington D.C. Every year the flu infects between 10%-20% of the US population (approximately 28-56 million people), and kills approximately 20,000. There is currently no test for WNV infection, no specific medication or therapy exists to treat it, and no vaccine is available to prevent it. The Food and Drug Administration has predicted a test may be available by 2003 and the National Institutes of Health forecasts a human vaccine may be ready by 2005.

Wayne County citizens have been asking about what they can do to protect themselves and their families from WNV and about wetlands and storm water ponds in relation to WNV. Answers to some commonly asked questions are described below.

What can I do to protect my family and myself?

Local and federal health experts recommend avoiding contact with mosquitoes by staying indoors during peak mosquito activity (e.g. evening and early morning), and wearing protective clothing and mosquito repellants containing "DEET" when outdoors. In addition, experts recommend eliminating places where water can stagnate in containers such as buckets, flowerpots, tires, landscaping plastic, and pool covers because mosquito species need only small puddle or depressions to breed. Change water regularly in birdbaths, clean clogged rained gutters, and put mosquito screens on rain barrels.



Why not drain wetlands near homes?

Healthy wetlands provide minimal habitat for mosquitoes in that water conditions, water quality, and natural predators deter mosquito use and minimize larval success if egg laying occurs. Predators including other aquatic insects, amphibians, fish, bats and birds heavily feed on any mosquitoes present. Wetlands are a critical element in a healthy ecosystem that benefits people, water quality and wildlife. Wetlands clean and slowly release rainwater and provide flood protection and wildlife habitat. Many wetlands recharge groundwater critical for local drinking water supplies and prevent streams from drying up during the summer. Draining wetlands will not eliminate mosquitoes. In fact, mosquito populations could actually increase because draining a wetland may destroy the mosquito's natural predators. With approximately 80% of Wayne County's wetlands already destroyed by human activities, additional wetland loss is not desirable.

Why can't we put fish in ponds, wetlands and creeks with standing water to kill the mosquito larvae?

Natural wetlands and creeks do have native fish, amphibians (i.e. frogs, toads, newts and salamanders) and other aquatic invertebrates that are voracious predators of mosquitoes and their larvae. Moreover, it is illegal to deliberately introduce a non-native species into local waters without a permit from the Michigan Department of Natural Resources. Non-native species often create additional problems. They can proliferate forcing out native, beneficial species of fish and other wildlife and often they carry exotic diseases that kill and harm native species. Many ponds and wetlands dry out during the summer and any fish introduced would not survive.

Why does the county have stormwater ponds?

When land is developed to create homes and other improvements, the natural system of trees and dense vegetation over spongy soil is replaced with hard surfaces and lawns over compacted soil. Consequently less of the rainwater that falls is soaked up and more of it runs off at a faster rate. In addition, there are more pollutants in the rainwater runoff due to a variety of outdoor human activities.



Stormwater ponds detain and slow the rate of runoff from developed areas and remove pollutants that are collected in the runoff. They are commonly used throughout the United States and the rest of the world. In doing so, the ponds reduce flooding, erosion, and pollution, all of which are essential to protecting public and private property, public health and safety, and water quality. These ponds are a vital element of Wayne County and local community programs to improve water quality, meet federal and state water quality laws and to preserve and protect our valuable natural resources.

Is someone going to spray for mosquitoes?

If a community is going to spray for mosquitoes, there are a few special requirements they must follow.



- In addition to notifying the public through either personal contact, advertisement in local newspaper or written notification, a comprehensive community outreach program may be used to notify the public. For example, some counties in Michigan have an established mosquito control board that is responsible for public outreach and education.
- The community mosquito control program must have a way to notify those community members who request special notification prior to any pesticide application for mosquitoes.
- The community mosquito control program must also have a method to exclude private properties from participating upon request.
- The community mosquito control program must also provide a contact person who can respond to public questions about the pesticide application.

What pesticides are being used? Are they dangerous?

Various products containing the naturally occurring bacteria *Bacillus thuringiensis israelensis* (B.t.i) are being used. According to EXTOXNET – Pesticide Information Profile developed by the Pesticide Information Project of Cooperative Extension Offices of Cornell University, Oregon State University, the University of Idaho, and the University of California at Davis and the Institute for Environmental Toxicology, Michigan State University. B.t.i is considered ideal for mosquito larvae management because of its specificity to mosquitoes and its non-toxicity to humans, birds, pets, fish and desirable insects. B.t.i. is added to water as either a wettable powder, spray concentrate, liquid concentrate, dust, bait or time release ring, where larval stage mosquitoes ingest it. B.t.i is a naturally occurring pathogen that readily breaks down in water, soil and on vegetation.



For more information on West Nile virus, visit Public Health - Wayne County's West Nile Web page at <http://intranet.wc.waynecounty/hcs/phealth/disease/wnile.htm#Home>.

The web page will be kept up-to-date as new information becomes available.

Or you can call Wayne County Department of Environment's 24-Hour Environmental Hotline to get answers for any of your environmental questions at

1-888-223-2326

References:

Rapid Spread Of West Nile Virus & Clean Water Act Barriers For Mosquito Control To Be Focus Of Congressional Hearing. Press Release October 8, 2002, U.S. House Committee on Transportation and Infrastructure, U.S. Rep. Don Young, Chairman.

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Possible Mosquito Breeding Sites Diagram. – Maine Department of Public Health, Bureau of Health. October 31, 2002

Influenza (the flu) Questions & Answers – Center for Disease Control Website, <http://www.cdc.gov/ncidod/diseases/flu/facts.htm#12>, July 09, 2002