

Gloucester County Public Works / Mosquito Control Division

** Municipalities are encouraged to share this information with all residents in their communities **

Mosquitoes ... What Everyone Should Know Questions & Answers

What is the life cycle of mosquitoes?

Mosquitoes have four stages of development – egg, larvae, pupae and adult. They spend their larval and pupa stages in water. Female mosquitoes of most pest species in Gloucester County deposit eggs on moist surfaces such as mud or fallen leaves. Rain re-floods surfaces and stimulates the hatching of the eggs, starting the life cycle. Other mosquito species in the county lay their eggs on the surface of permanent water and since the water is constant, there are always eggs hatching and larvae developing. Mosquitoes take approximately one week to develop from egg to flying adult. Only the female adult mosquitoes bite. After emerging from the aquatic stages, adult mosquitoes mate and females seek a blood meal to obtain nutrients necessary for egg development. Adult male mosquitoes feed on plant nectar and die shortly after mating. While various species differ, the average life expectancy for adult mosquitoes is 4-6 weeks.

How many kinds of mosquitoes are there?

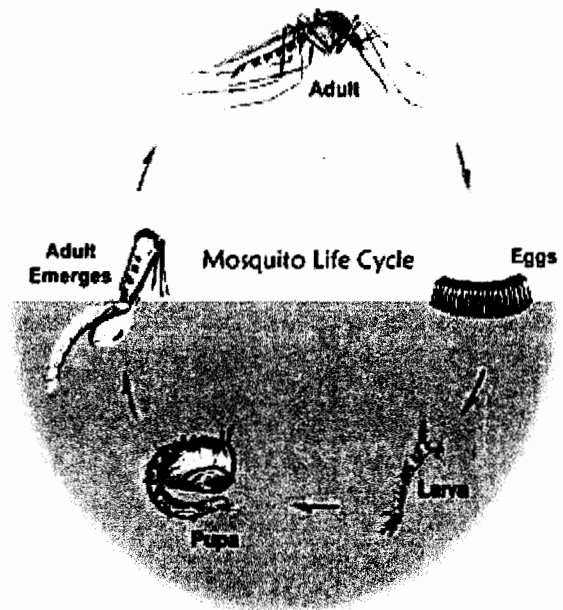
In Gloucester County, there are 35 different species documented on a total 63 species found in the state of New Jersey.

What HUMAN diseases do mosquitoes cause?

West Nile Virus, a mosquito-borne virus causing encephalitis, was first recognized in the United States, in New York City and surrounding areas in the fall of 1999. The primary vector is a mosquito commonly found around homes. La Crosse Encephalitis, although rare in the area, is a form of encephalitis occurring almost exclusively in children. While the disease is seldom fatal, it can cause convulsions and paralysis. This disease is transmitted primarily by mosquito species that breed in tires and other containers that are found around the home. Eastern Equine Encephalitis (EEE) is a severe disease with headache, stiff neck, high fever, stupor, disorientation, tremors, convulsions, and coma. This virus caused New Jersey's first record outbreak of a mosquito-borne disease in 1959, causing 32 cases with 21 deaths.

Mosquitos need water to breed and grow. Almost anything that holds water for one week or longer can produce these pests. To eliminate mosquito problems, eliminate any standing water on your property.

THE MOSQUITO LIFE CYCLE



What ANIMAL diseases do mosquitoes cause?

Dogs and horses are targets for mosquito-borne diseases. Dog heartworm is a serious threat to your pet's life and is costly to treat once it is contacted through the bite of the mosquito. Your dog should be checked for this condition and put on preventive medication. Eastern Equine Encephalitis (EEE) is a disease that is a threat to horses and horses should be vaccinated against FEE. Horses are also susceptible to West Nile Virus. A vaccine has also been approved and your veterinarian can provide more information. West Nile Virus has also been responsible for the death of numerous birds, particularly in the wild bird population.

What does the Gloucester County Public Works, Mosquito Control Division do?

Mosquito Control services have been provided by the Gloucester County Board of Chosen Freeholders since 1960 and the County has always had a mosquito control program in place and working for years since that time. The statutory mandate of the Gloucester Public Works, Mosquito Control Division is "To perform all mosquito control services according to the best management practices designed to eliminate mosquito breeding areas or which will tend to exterminate mosquitoes county wide." A comprehensive surveillance program guides the Mosquito Control Division's activities. Emphasis is placed on the elimination of mosquito-breeding habitat and the control of mosquitoes when they are still in the aquatic stages of their development.

What control efforts are utilized by the Gloucester County Public Works, Mosquito Control Division?

The Mosquito Control Division uses an Integrated Pest Management (IPM) approach to controlling mosquitoes. IPM uses various methods of control, including the use of biological pesticides and other pesticides when warranted and according to best management practices. Utilizing an IPM strategy, control efforts focus primarily on the immature, water borne stages of the mosquito. In the immature stage, the mosquito cannot escape control measures and are more concentrated and accessible than adult mosquitoes, which disperse after emerging. The primary insecticide used to control the immature stage of the mosquito is a biological pesticide, which is a bacterial larvicide (BTI) that specifically targets various types of fly and mosquito larvae. Mosquito Fish (**Gambusia Affinnis**) and other fish species that feed on the immature mosquitoes are released in locations that will sustain fish but do not have other fish species present. The NJ Division of Fish, Game & Wildlife in Hackettstown, raises these fish as part of the State Mosquito Control Commission's bio-control program. The Gambusia are distributed to mosquito control agencies throughout the state. Also, other fish species in the Bio-Control program (such as fish species indigenous to Gloucester County). The Mosquito Control Division conducts annual source reduction projects that control mosquitoes by eliminating the standing water. Hand-held tools are utilized to perform this work. Tire collection projects are also undertaken. As a final line of defense, truck-mounted sprayers may apply a treatment for adult mosquitoes if a significant mosquito population exists. All pesticide applications comply with guidelines published by Rutgers University, Federal Government and regulations set by NJ Department of Environment Protection.

What are the winter activities of the Mosquito Control Division ?

The seasonal control operations start in February with the hatching of snowpool mosquito species and continue in October, until a killing frost. Source Reduction activities are conducted annually. Follow-up record keeping on the season's mosquito activity at all the breeding sites continues beyond the active mosquito season. The inspection routes are revised after additions I deletions of breeding sites. New sites where the breeding source was not apparent with the presence of heavy vegetation in the summer are inspected after the foliage falls for a clearer view of the area. Breeding sites that are difficult to access are kept clear with brush clearing work performed when the time permits. Leaf dams are cleared from drainage structures after the fall season. Site evaluation occurs to target sites for fish stocking or source reduction activities' potential. Equipment is maintained and readied for the next mosquito season. Educational presentations are conducted at County functions (fairs, township meetings, etc...) on mosquitoes and mosquito control.

What can homeowners do?

- Maintain swimming pools and septic systems on cesspools.
- Homeowners can provide effective control by eliminating standing water on their property. Any container holding water is a potential mosquito-breeding source and is likely to cause problems around your home. Clogged gutters and scattered tires are of particular concern. Both tend to collect leaves then fill with water and provide very attractive sites for mosquitoes to breed. Since these containers are watertight, they dry out very slowly. Natural depressions in your yard will hold water but will often dry out in less than a week, killing the mosquitoes before they fly, whereas artificial containers will remain wet. Keep gutters clean and remove or overturn containers if possible. Items such as dog water bowls and birdbaths should be emptied and refilled at least once a week.
- Small depressions in your yard can be filled to prevent the collection of water, If larger wet areas exist on your property, bring them to the attention of the Mosquito Control Division personnel.
- Keeping adult mosquitoes out of your home is another step. Make sure windows and door screens are properly fitted and holes are patched to prevent mosquitoes from entering the house.
- A wide variety of repellants are available to provide relief from mosquitoes and other insects. Most repellants contain the same active ingredient, only the percentages vary. Sport shops generally carry the brands that contain higher percentages. the repellants are effective but caution should be used and directions followed carefully.

What do I do if there are adult mosquitoes or possible breeding areas around my home?

If mosquitoes present a problem in your area, contact the **Gloucester County Public Works, Mosquito Control Division (MCD) at 856-307-6400**. Our staff will investigate your call promptly. Each area is inspected to verify the presence of adult mosquitoes. The area of the complaint is also searched to locate the breeding source(s) to facilitate controlling the mosquitoes in their immature stages in the future. If warranted, spraying for adult mosquitoes may be carried out. Spraying is triggered by retrieving surveillance data from landing rates (counting the number of mosquitoes landing on the naked arm), and mosquito trapping devices (CDC traps, NJ Light Traps, Gravid Traps, etc.). Providing mosquito population levels are high and other surveillance data confirms the need to apply pesticides, a pesticides treatment is scheduled within 24 to 48 hours, when possible.

What pesticides are used to control mosquitoes in Gloucester County ?

The majority of mosquito pesticides used are products to control mosquito larvae in the aquatic stage. These products are designed to target mosquito larvae in aquatic habitats. There are different formulations of larvicides, granules, liquid, and briquets. The inspector selects the most efficient formulation to facilitate control and according to best management practices. In addition, larvicides are developed to target mosquito larvae only. Ultra Low Volume (ULV) dispersal is a method utilizing state-of-the-art ground application equipment to dispense liquid mosquito-control insecticides proportionately over sizable areas to control adult mosquitoes. This ULV dispersal method is referred to as adulticiding. Adulticiding is employed to control disease vectors and adult mosquitoes causing a nuisance. There are different methods of adulticiding or ground application equipment used to target increased adult mosquito populations, such as hand held, ULV truck-mounted and back-pack units.

In addition, aerial adulticiding is also a control method strategically utilized to target adult mosquitoes causing a nuisance or for vector borne-disease-outbreaks where access or terrain curtails the use of ground application equipment when vector suppression is immediately required. All pesticide applications are performed by applicators licensed by the NJDEP. All pesticides applied by the MCD are registered with the NJDEP and Federal Government, and all applications comply with the recommendation for mosquito control published by the NJ Agriculture Experiment Station, Rutgers University. For detailed pesticide information, please refer to the attached NJDEP approved pesticide product fact sheets.

Where can I find more specific information on mosquito spraying in Gloucester County and how will I be notified of the spraying?

In reference to community or area wide pesticide application notifications, all spraying for adult mosquitoes performed on more than three (3) acres aggregate will be published in two (2) local newspapers, (the Gloucester County Times; a display ad in the main news section - and the Courier Post; legal section). These newspaper ads will provide information regarding the pesticide application schedule in Gloucester County, contact name, and telephone number for questions. Attached is an example of a newspaper notice that the Gloucester County Public Works / Mosquito Control Division (MCD) places in local newspapers throughout the mosquito control treatment season. A citizen has the right to ask the MCD for specific information about a planned application in the County prior to the application.

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