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County of Sussex

Sussex County Mosquito Control

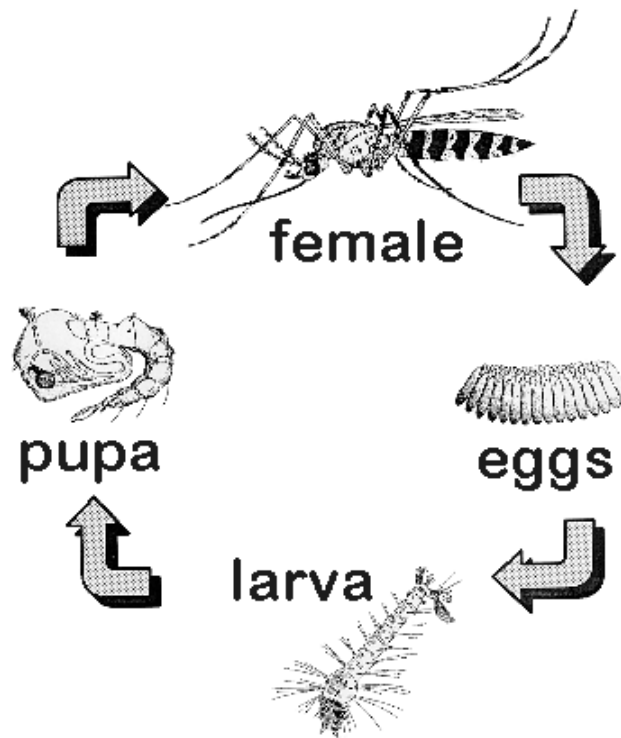
Municipalities are encouraged to share this information with all residents in their community

MOSQUITOES....WHAT EVERYONE SHOULD KNOW

Questions & Answers

What is the life cycle of mosquitoes?

All mosquitoes have four stages of development—egg, larva, pupa, and adult. Mosquitoes spend their larval and pupal stages in water. The females of some mosquito species deposit eggs on moist surfaces, such as mud or fallen leaves that may be near water but dry. Later, rain refloods these surfaces and stimulates the eggs to hatch into larvae. The females of other species deposit their eggs directly on the surface of still water in such places as ditches, street catch basins, tire tracks, streams that are drying up, and fields or excavations that hold water for some time. This water is often stagnant and may be close to homes in discarded tires, ornamental pools, unused wading and swimming pools, tin cans, bird baths, plant saucers, and even gutters and flat roofs. The eggs deposited on such waters soon hatch into larvae. In the hot summer months, larvae grow rapidly, become pupae, and emerge one week later as flying adult mosquitoes. A few important spring species have only one generation per year. However, most species have many generations per year, and their rapid increase in numbers becomes a problem.



When adult mosquitoes emerge from the aquatic stage, they mate, and the female seeks a blood meal to obtain the protein necessary for the development of her eggs. After a blood meal is digested and the eggs are laid, the female mosquito again seeks a blood meal to produce a second batch of eggs. Depending on her stamina and the weather, she may repeat this process many times without mating again. The male mosquito does not take a blood meal, but may feed on plant nectar. He lives for only a short time after mating.

How many kinds of mosquitoes are there?

In Sussex County we have 43 species of mosquitoes. The state of New Jersey has 63 documented species of mosquitoes, with the last state species added in 2001.

What human diseases do mosquitoes cause?

Mosquito-borne diseases, such as malaria and yellow fever, have plagued civilization for thousands of years. Organized mosquito control in the United States has greatly reduced the incidence of these diseases. However, there are still a few diseases that mosquitoes in New Jersey can transmit. West Nile Virus is the newest introduced mosquito-borne virus but several other viruses have been in New Jersey for a long time including those that cause Eastern Equine Encephalitis and St. Louis encephalitis.

What animal diseases do mosquitoes cause?

Both dogs and horses are possible hosts for mosquito-borne diseases. Dog heartworm is a serious threat to canine life and is costly to treat once an animal becomes infected. Dog heartworm can be transmitted by one of the mosquito species, the northern house mosquito, which also transmits West Nile Virus. Horses are susceptible to both West Nile Virus and Eastern Equine Encephalitis. In Sussex County during the 2000 season, 3 horses died of West Nile Encephalitis. Consult your veterinarian for the availability of horse vaccines.

What does the office of Mosquito Control do?

The office of Mosquito Control is responsible for the suppression of vector borne diseases and the control of nuisance mosquito populations. Our activities are based on an extensive surveillance program. Emphasis is placed on elimination of mosquito breeding habitat and the control of mosquitoes while they are still in their aquatic stages of development.

What control efforts are utilized by Mosquito Control?

This office uses an Integrated Mosquito Management approach to controlling mosquitoes. It starts with the philosophy that a multi-faceted prevention and control plan is the most cost-efficient and effective means of controlling mosquito populations.

Source reduction or the elimination of breeding habitat is the most effective method of preventing mosquito populations. This practice ranges from removing tires and other artificial containers from the landscape to using water management practices to render habitats inhospitable to mosquitoes. In cases where this is not feasible, controlling mosquitoes in the aquatic habitat is the preferred approach. The mosquito larvae are concentrated and limited to their aquatic habitat; they cannot escape control efforts as can adult mosquitoes on the wing. Several control agents can be employed against mosquitoes at this larval stage. Fish ranging from *Gambusia* to native fat-head minnows are natural predators of mosquitoes and are readily stocked in breeding sites to provide 24 hour larval control. Biorational larvicides with active ingredients found in soil everywhere, such as Bti, are used quite extensively and offer effective control as well.

As a final line of defense, a treatment for adult mosquitoes may be applied by truck-mounted sprayer if a significant mosquito population exists. All pesticide applications comply with guidelines published by Rutgers University and regulations set by NJ Department of Environmental Protection.

What are the winter activities of the Office of Mosquito Control?

The control of mosquitoes starts in February with the first emergence of the snow pool species of mosquitoes and continues through mid November. We also perform source reduction during the months when mosquito populations are low. This includes tire removal and some minor water

management activities. Winter provides us time to update information on breeding sites in our database, analyze the season's data and produce the annual reports and permits required of our office by NJ DEP, the National Park Service, USFWS, Sussex County, and Rutgers University. In addition, equipment maintenance is performed, as well as "right of way" work, if time permits.

What can homeowners do?

The most efficient method of controlling mosquitoes is reducing the availability of water suitable for larval and pupal growth. Large lakes, ponds, and streams that have waves, contain mosquito-eating fish, and lack aquatic vegetation around their edges do not contain mosquitoes; mosquitoes thrive in smaller bodies of water in protected places. Examine your home and neighborhood and take the following precautions:

- Dispose of unwanted buckets and tires.
- Clean clogged roof gutters and drain flat roofs.
- Flush sump-pump pits weekly.
- Stock ornamental pools with fish.
- Change water in birdbaths, fountains, and troughs twice a week.
- Clean and chlorinate swimming pools; when not regularly used, they should be emptied.
- Turn over unused wading pools and other containers that tend to collect rainwater.
- Cover containers tightly with window screen or plastic when storing rainwater for garden use during drought periods.

What do I do if there are adult mosquitoes or standing water around my home?

If mosquitoes present a problem in your area, contact the office at 973-948-4545. Our staff will investigate your service request. Each area is inspected to verify the presence of adult mosquitoes and 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. *What triggers adult spraying? The number of mosquitoes trapped, species trapped, disease presence, weather conditions, location of bodies of water, location of bee hives, and other factors.

What pesticides are used to control mosquitoes?

The majority of the pesticides used are products to control mosquito larvae in water, some of which may be applied by aircraft in a granular form. Also, it is sometimes necessary to use pesticides to control adult mosquitoes. For more information regarding the pesticides which may be applied by aircraft or the pesticide used for adult control, please refer to the accompanying NJ Department of Environmental Protection approved Fact Sheet. All pesticides used by the Sussex County Office of Mosquito Control are registered with both the USEPA and the NJDEP, which means that they are legal for use in New Jersey. All employees of Sussex County Mosquito Control are licensed by the NJDEP.

What do I do if exposed to pesticide?

See enclosed NJDEP pesticide Fact Sheets.

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

You can find on our Web Site at www.sussex.nj.us/mosquito for updated information on time and location of application(s).