

Dragon Mosquito Control Inc.

Information Sheet

The Importance of Surveillance: Arboviral diseases are a continuing source of severe illness in the United States each year. Surveillance remains especially important to identify outbreaks and guide prevention strategies. Dragon's surveillance program includes sampling larval populations, trapping and identifying adult mosquitoes to species. Select adult species are sent to the State Lab in Concord for disease testing.

- **Public Health Threat in 2018:** The New Hampshire Department of Health and Human Services issued a public health threat declaration in southern New Hampshire for West Nile Virus (WNV).
- **West Nile Virus:** Last year, New Hampshire identified 32 mosquito batches positive for the virus the highest number in five years. Increased disease activity was reported in Massachusetts, Vermont and Maine. Massachusetts had 49 human cases of WNV (a state record).
- **Eastern Equine Encephalitis:** EEE is the deadliest mosquito borne disease in North America. The New Hampshire State Lab confirmed EEE in 6 batches of mosquitoes in 2018.
- **Jamestown Canyon Virus:** In 2018, New Hampshire had one human case of Jamestown Canyon Virus (JCV). Four human cases of JCV were contracted in NH in 2017. One of these individuals died in June of 2018. JCV is transmitted by many species of mosquitoes including both fresh and salt water mosquitoes.
- **Zika:** Primarily spread by mosquitoes that have not yet been found in New Hampshire. These mosquitoes continue to expand their range and are established in several locations in Massachusetts. We continue to search for Zika mosquitoes using specialized traps.

What works

- Dragon's **Integrated Mosquito Management** Program is a knowledge-based, surveillance-driven control strategy that employs all available control methods for managing mosquitoes including:
 - **Surveillance:** Sampling, trapping, species identification and disease testing
 - **Source Reduction:** Draining or removing standing water where mosquitoes develop
 - **Controlling mosquitoes at the larval stage:** Killing larvae in the water using a bacterium such as *Bacillus thuringiensis israelensis* (Bti) will not harm people, pets and other animals, aquatic life, or other insects, including honeybees
 - **Spraying adult mosquitoes:** Using an EPA-registered pesticide is one of the fastest and best options to combat an outbreak of mosquito-borne disease
- **Everyone** can reduce the risk of mosquito bites. See information at <https://www.cdc.gov/features/stopmosquitoes/>
 - Eliminate standing water by turning over containers and dumping out standing water once a week
 - Use EPA registered insect repellent
 - Cover up by wearing long pants, long sleeves and socks
 - Keep mosquitoes outside by ensuring your screens are free of holes or use air conditioning

What doesn't work

- **Bug Zappers:** These kill thousands of insects every day. Two independent studies found that mosquitoes comprised only 4-6.4% of daily catches during the season with no significant reduction of mosquitoes in yards. Non-pest insects made up the majority of the catches including vast number of beneficial insects. In addition, mosquitoes are more attracted to humans than the device.
- **Ultrasonic devices:** At least 10 studies in the past 15 years have denounced ultrasonic devices as having no repellency value whatsoever. Yet, consumers flock to stores to purchase these contraptions.
- **Bats:** Food items identified in their diet are primarily beetles, wasps, and moths. Mosquitoes have comprised less than 1% of gut contents of wild caught bats in all studies to date. A moth provides much more nutritional value per capture than a mosquito. White nose syndrome is fatal to several species of hibernating bats, and several species have declined by nearly 99% in New Hampshire.
- **Purple Martins:** The purple martins diet includes many types of insects other than mosquitoes, but this appears to have been lost on many individuals searching for a natural means of control. In fact, during daylight, purple martins often feed voraciously upon dragonflies, a known predators of mosquitoes. In the evening, when mosquitoes are most active, purple martins tend to feed at treetop level, well above most mosquito flight paths.