



Commonwealth of Massachusetts
State Reclamation and Mosquito Control Board



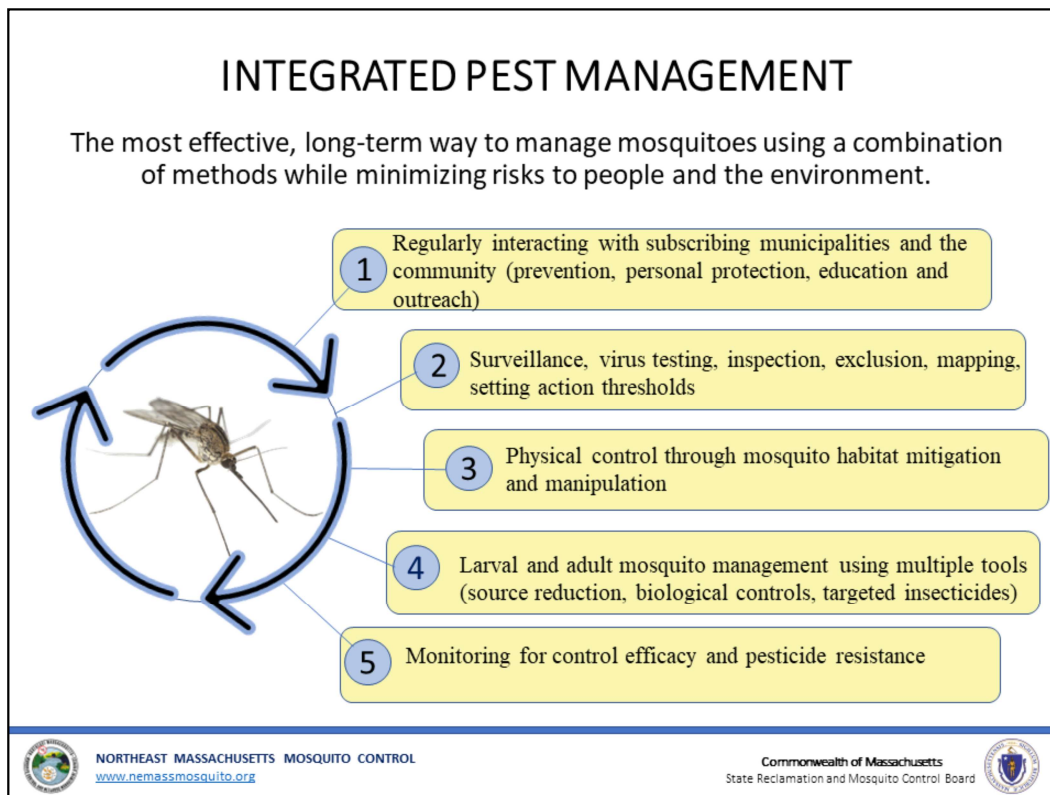
NORTHEAST MASSACHUSETTS MOSQUITO CONTROL & WETLANDS MANAGEMENT DISTRICT

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www.nemassmosquito.org

Good evening everyone from the Northeast Mass Mosquito Control & Wetlands Management District. We would like to thank everyone for their time and interest in our presentation. This presentation will discuss our policies and operations. Once we finish the presentation, we will answer any questions there may be. Lets begin.

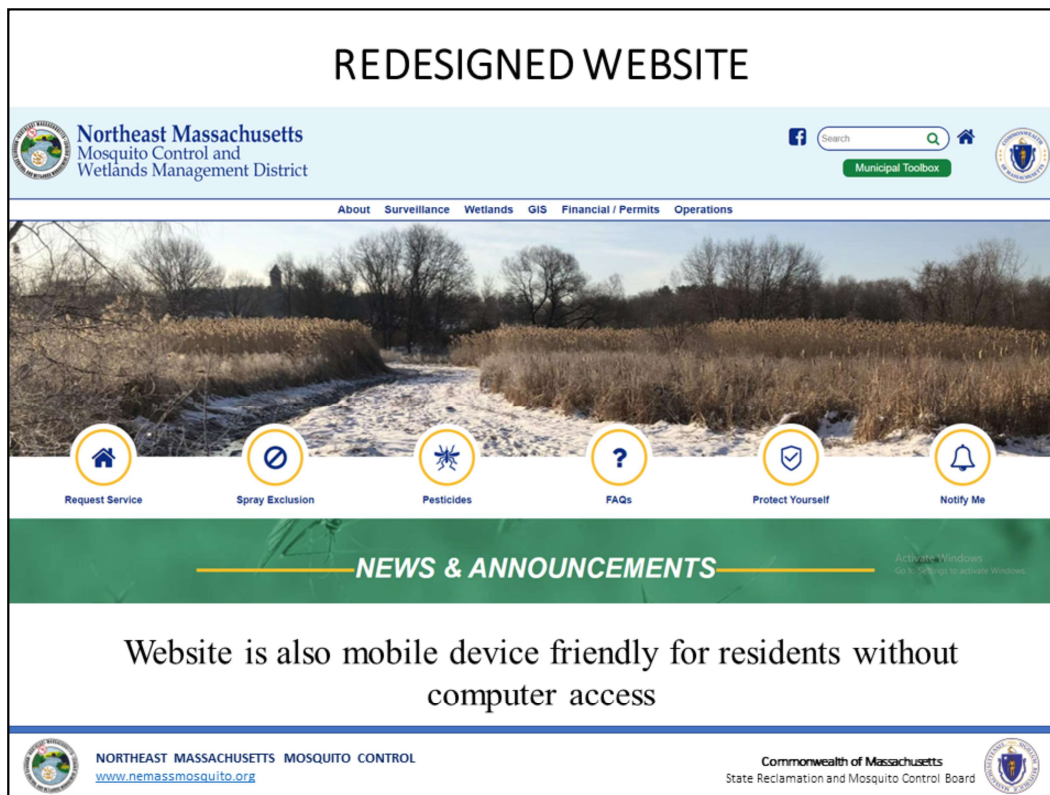


Integrated Pest Management (or IPM) is a circular systems approach for managing pests. IPM incorporates cultural, biological and chemical control strategies. It is an effective and environmentally sensitive approach to pest management. IPM programs use comprehensive information on the life cycles of pests and their interaction with the environment.

Our Districts Integrated Mosquito Management Program is based on accurate mosquito identification, surveillance and monitoring for efficacy, use of prevention strategies, use of action and treatment thresholds, and use of all suitable control measures. This is accomplished by maintaining mosquito population levels below those causing economically significant illness.

If no effective non-pesticide control measures are available, A key IPM principal is that selected pesticides should result in the lowest possible risk to health, property and the environment.

This presentation will discuss the integrated mosquito management techniques NEMMC uses to minimize the impact of mosquitoes on human health including; education, surveillance, source reduction, habitat manipulation, biological controls and targeted insecticides.



We recently redesigned our website to be more user friendly to residents.

The homepage buttons are focused on services provided to the residents, such as Residential ULV "Spray" and Property Inspection Requests. Spray Exclusion (we will give more on this later). Pesticides – Which provides a detailed list of the Pesticides we use, their labels and Safety Data Sheets.

FAQS – Providing questions and answers on everything from catch basin larviciding to salt marsh helicopter treatment.

Protect yourself – offers information to residents on how they can prevent mosquito bites and breeding on their property.

Lastly, Notify me – An option for residents to subscribe to topics of interest as they are shared on our website and other social media platforms. (We are also expanding to Facebook and YouTube this year).

We still have our Municipal Toolbox, the login is located on the top right corner of the screen. Boards of health may sign in for information relevant to them in a mainstream

format. Helping you find what you are looking for that much faster.

The website is also mobile device friendly, making it easier for residents to utilize this resource right from their smart phone or tablet.

PREVENTION & PERSONAL PROTECTION

MOSQUITO BITE PREVENTION | REDUCE YOUR CHANCES OF GETTING BITTEN AND PREVENT DISEASE



AVOID GOING OUT AT DUSK/DAWN WHEN MOSQUITOES ARE MORE ACTIVE.



WEAR PROTECTIVE CLOTHES



USE INSECT REPELLENT



STAY IN A PLACE WITH AIR CONDITIONING AND WINDOW SCREENS



REMOVE STANDING WATER AT HOME





Contact us for property inspections



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Part of our education and outreach follows the states messaging on preventing mosquito bites by reducing mosquito breeding around your home and the use of personal protection while outdoors.

Encouraging residents to use CDC approved insect repellent aids in reducing both mosquito and tick bites, and lessens the risk of getting the illnesses they carry. Also, we encourage residents to wear protective clothing or stay indoors when mosquitoes are most active.

We encourage residents to mosquito proof their home by dumping any standing water that is present for more than 5 days, like regularly cleaning bird baths, clogged gutters, pet dishes and swimming pools.

Make sure all screens are repaired and trash, recycle bins, tarps and boats are turned upside down so they don't collect water. The diagram shows areas around a home that can fill with water and breed mosquitoes. Even a bottlecap filled with water can produce mosquitoes.

PROPERTY INSPECTION REQUESTS

Property Inspections

General provisions of MA GL Chapter 252

- Resident
- Construction site
- Board of Health- Sanitation Department or Inspectional Services
 - Vacant and abandoned properties
 - Unmaintained swimming pools/covers
 - Unsanitary exterior property conditions with standing water



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Massachusetts General Law, Chapter 252, in conjunction with the Mass Department of Public Health, mosquito control districts may engage in preventive, management and eradication methods as deemed necessary within the commonwealth.

Residents or boards of health may call us for property and site inspections. If there are wet areas on lawns, unused swimming pools, ditches or wetlands that have breeding mosquitoes we can treat using a larvicide. Boards of health can also call us to inspect unsanitary or vacant properties for mosquito breeding. We will also remove abandoned tires upon request.

Upon completion of a requested property inspection, our Field Technicians will leave a doorknocker notifying the resident. When the boards of health request this service, NEMMC will provide a detailed e-mail regarding the state of the property including an inspection assessment.

MOSQUITO/ARBOVIRUS SURVEILLANCE PROGRAM

Adult Mosquito Surveillance Season

- 2nd week in May to September 31st
- State lab testing June 1st to September 31st
- 10 to 15 different species of mosquitoes may be tested for EEE/WNV

- CDC/Gravid Traps operate 24 hours per collection cycle
- 1 collection per week
- State lab notifies on Thursdays (before 11:00 am) of any positive mosquito specimens to Municipal BOH and to NEMMC
- We contact the local BOH with positive findings and coordinate the appropriate response
 - NEMMC and BOH coordinated response to arboviral activity is critical for risk reduction



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Surveillance is the cornerstone of a quality integrated mosquito management program. Surveillance provides data to support timely and effective control actions to reduce mosquito populations and the risk of mosquito borne disease. Massachusetts has about 52 species of mosquitoes. We are experienced in all methods of larval and adult mosquito surveillance and identification. Larval surveillance allows us to identify and treat breeding sites, often eliminating the problem before adult mosquitoes appear. Adult surveillance is the process of understanding the population dynamics and species distribution of mosquitoes in a given area. This is a critical factor to determine how to control mosquitoes and the potential disease risk in a community.

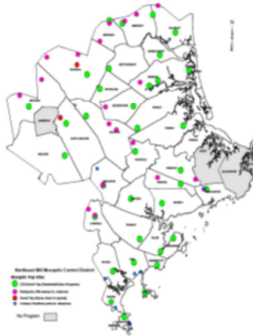
Adult mosquito surveillance season begins the second week of May and continues weekly until the end of September. Each municipality has several different trap types collected each week, usually on Mondays and Tuesdays. Only the female mosquitoes are identified to species, the females are the ones that feed on blood. Specimens will be sent to the public health lab for testing starting June 1st. In the beginning of the season, we will only send bird biting mosquitoes to determine if WNV or EEE is circulating in the bird population.

Once any community in Massachusetts gets a positive virus notification, all mosquito control districts start submitting bridge vector mosquitoes. These are species that feed on both mammals and birds transmitting the viruses from infected birds to humans

and other animals such as horses. The Public health lab releases positive results on Thursdays by noon. We then contact the local board of health and coordinate the appropriate response.

In years where virus is extremely active and weather conditions are suitable for response, the department of health may extend the surveillance and virus testing season into October.

MOSQUITO/ARBOVIRUS SURVEILLANCE PROGRAM



CDC CO₂/Light Trap

- Bridge vector species (human biters)

Gravid Trap

- Early WNV detection in *Cx. pipiens/restuans* (bird biters)

Ovitrap

- *Aedes albopictus* monitoring (1st occurrence in N. MA 2018 Manchester)



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Most our traps are designed to capture adult female biting mosquitoes. We use 4 main types of traps for surveillance. The CDC/CO₂ light trap uses carbon dioxide, octenol and light as attractants. The carbon dioxide and octenol mimic exhaled breath and the light attracts them by radiating heat and light frequencies.

Mosquitoes are drawn to the attractant, pulled into a mesh container by a fan, and remain trapped until we collect them for identification. The traps are on a weekly timer and use household AC power to run all season. They are mainly used for virus testing of bridge vectors which are mosquitoes that can transmit virus from birds to humans. We also use them to monitor when mosquitoes are active, how many mosquitoes there are in a collection period and which species of mosquitoes are in a habitat. Traps are usually placed in historic locations to monitor mosquitoes over long periods of time. These same traps are also used as mobile deployed supplementals for virus response and can be used in pesticide efficacy studies.

Gravid traps are designed to collect mosquitoes that bite birds. These mosquitoes are the primary vector species in the, bird to bird, West Nile Virus cycle and tested at the beginning of the season. These traps contain gravid water as an attractant to lure the female to lay eggs. The females fly into the water filled pan to lay eggs but are pulled by a fan into a collection basket. These females are gravid, which means they have blood fed and contain eggs for laying. Once a mosquito has fed on blood, the viral

genetic material can be detected in lab tests.

One trap is designed to collect mosquito eggs. The ovitrap trap consists of filter paper lined cups filled with stagnant water. These are placed in our dense urban areas that have tire facilities, boat yards and areas that contain man-made container habitats. The gravid female, attracted to the water, lays eggs on the filter paper. We collect these papers, count the eggs then send them to the public health lab for rearing and identification. We are looking for *Aedes albopictus*. New to Massachusetts, this mosquito is an invasive urban species that is capable of transmitting endemic and tropical arboviruses to humans.

MOSQUITO/ARBOVIRUS SURVEILLANCE PROGRAM

Resting Boxes – EEE surveillance in areas of risk

Recycled fiber pulp 11" square planting pots
Attracts ~5 species (target: *Cs. melanura*)
Placed near acidic/hummocky swamp areas
128 resting boxes at 16 sites



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Resting boxes are for monitoring for Eastern Equine Encephalitis in areas of historic risk. They are peat fiber planting boxes painted black on the inside to mimic *Culiseta melanura* crypt habitat. *Culiseta Melanura* is the primary mosquito vector species in the, bird to bird, EEE transmission cycle. These along with *Culex* species are the ones we test during the beginning of the season. They also overwinter as larvae and are one of the earlier mosquitoes out flying in the spring to feed on nesting birds in sheltered swamp habitats. This mosquito is also targeted for larval control during the winter months.

Resting boxes are placed on the upland edge of acid bogs and red maple swamps where this mosquito lives. *Melanura* use these boxes to protect themselves from the elements when developing eggs before laying. These mosquitoes can also feed on mammals when birds are unavailable also making them potential bridge vectors if you are close to their habitat.

SUPPLEMENTAL ARBOVIRUS SURVEILLANCE

CDC CO2/light trap

Deployed after the 1st positive WNV/EEE detection in any municipality

- Radius of collection
- Distance from historic trap
- Topography
- Human population density
- Bridge vector potential breeding sites
- Schools/parks/recreation areas
- Wetland/wooded/shaded areas



Collections sent to State Laboratory for additional testing



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Supplemental traps are deployed after the 1st positive WNV or EEE detection in any municipality and continually used for every virus notification after July. These are the same design CDC CO2/light traps I discussed before. Traps are free standing and ready for immediate mobile deployment. We usually set these out on Sunday or Monday nights for Monday or Tuesday collection so these additional mosquitoes can be identified and sent for testing with the current weekly batches. We take into consideration many variables including virus type, mosquito species involved, isolations in either bird, human, animal, species habitat, topography and human population at risk when placing these traps.

These traps are also used for pre and post monitoring of adulticide efficacy, and areas with heavy mosquito complaints to determine what species is on the wing.

For equipment security and resident privacy, we do not disclose the locations of any of our traps to the public. Local boards of health can request this confidential information.

MOSQUITO HABITAT MITIGATION

Ditch Maintenance (manual and mechanized)



Fresh/Salt Wetland Management and Restoration



Mowing- Phragmites



Tire recycling program



PETITION PROCESS REQUIRED



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Another vital part of our integrated mosquito management is physical control through mosquito habitat mitigation and manipulation. We have specialized low ground pressure wetland excavation, mowing and earth moving equipment.

Every year, the district clears over 20,000 feet of impacted stormwater ditches and 50 culverts. Clearing these either by hand or mechanically keeps stormwater from backing up and creating stagnant areas where mosquitoes can breed. Larger salt marsh restoration projects can dramatically reduce mosquito habitat by providing deeper pools for birds and fish and ditch restoration provides better drainage of tidal water from upper salt marsh areas where these mosquitoes breed.

The District has removed and disposed of used tires through petitioned wetland management projects, coordinated clean-ups, resident requests, scouting and participation in Household Hazardous Waste Events. We remove approximately 700 abandoned tires from the environment each year. These practices are considered an important part of the district's integrated pest management (IPM) approach and have become a valuable vector mosquito habitat management tool.

Through our invasive plant protocol, we mow large areas of *phragmites*, which is a tall, dense aquatic fresh and brackish water plant that provides breeding habitat for several

mosquito species of viral concern. It also provides shelter for large populations of resting adults. Mosquito control efforts may be inhibited by dense stands of *Phragmites*, either by preventing the spray from aerial larval applications reaching the breeding pools or by inhibiting the ability of mosquito control personnel from accessing the breeding sites.

We ask that community officials petition NEMMC for any mosquito habitat mitigation work. Please contact our Wetlands Project Coordinator, Katelynn King, for more info.

GENERAL LARVICIDING PROGRAM

- Any areas with 5-14+ days of standing water
- Fresh and saltwater wetlands and floodplains
- Retention ponds, detention basins, ditches, containers
- Public and private property
- Regional Aerial Salt Marsh Larviciding Program
 - Ipswich to Salisbury
 - ~3,500 acres



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Larviciding is the primary chemical approach to mosquito control when habitat mitigation isn't an option. It is more efficient to reduce mosquitoes when they are in water than when hatched and flying. The district keeps a database with historic larviciding sites which include spring snowmelt areas, woodland pools, agricultural pastures, river floodplains, flooded lawns, freshwater swamps and salt marshes. Larviciding begins in March or as snowmelt allows, to September 30th and beyond if circumstances warrant and conditions allow. Melanura overwinter as larvae and treatment of crypt habitats can be done through the winter months, extending our larviciding season to year-round.

Our field teams go out to each site, they dip multiple times for larvae. Some samples are brought back to the lab for species identification. If there are numerous larvae (over 5 per dip) we treat with the appropriate larvicide. Sites may be treated by hand, backpack, mechanically or aurally. Not all these sites require treatment. If there are predators present such as fish or frogs we will not treat that site. Freshwater spring snowmelt sites and abandoned swimming pools require 1 treatment per year. Salt marsh, summer floodwater sites and ditches may require multiple treatments in a season. All data, including treatment is recorded in our FieldSeeker mapping program.

We also rely on residents and Boards of Health to notify us of new potential mosquito breeding sites through property inspection requests.

Coastal salt marshes in neighboring communities from Ipswich to Salisbury are aeri ally larviced by helicopter to control salt marsh mosquitoes. Salt marsh mosquitoes can fly 25 miles or be carried 50 miles or more inland on wind currents in search of a blood meal and then many return to the salt marsh to lay eggs. Coastal communities as well as inland cities and towns receive direct and immediate benefit from larval control of salt marsh mosquitoes. We aeri ally larvicide over 3,500 acres 3 to 5 times per year in these areas.

The dipper to the left is a pre- salt marsh larvicide treatment, on the right is a post-larvicide treatment. The mosquitoes are not eradicated but reduced to a more manageable level.

CATCH BASIN LARVICIDING PROGRAM

Integral part of our Arbovirus Control Program for WNV

- Interrupts the early season WNV amplification in birds
- We complete ~70,000 basins (includes schools) from May through August
- Excellent mosquito nurseries, especially during drought years

Begin treatments late May/early June in WNV high risk areas 1st

- Uncleaned basins- Altosid or MetaLarv (methoprene)
 - Have residents refrain from dumping lawn/leaf/pet waste into basins
- Cleaned basins- VectoMax (Bti)
- Lasts ~30-90 days (organics, temperature, precipitation dependent)



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Our catch basin program is designed to reduce the seasonal risk of West Nile Virus in urban areas. *Culex* mosquitoes are the primary vector for West Nile Virus. Catch basins, like tires and containers, are their preferred habitat. There is availability of food for larvae and adults, shelter from predators and a consistent stagnant water supply in dry, hot years.

Overwintering adult females come out in the spring to feed on birds that may be infected with virus then they lay eggs. After laying eggs, they go off to feed again passing the virus to other birds, amplifying the virus in the bird population well before August. The birds disperse to other areas and bridge vector mosquitoes that bite both birds and mammals can pass the virus to humans. Treating catch basins can help interrupt this cycle.

Each female can lay over 100 eggs in a raft shape, and each basin can harbor over 50 egg rafts at any given time. Peak hatching happens when the water temperature in the basins reaches 70 degrees, so timing the treatment of basins is critical. Annual treatments can also have a **cumulative** effect in reducing the total population into the following year by up to 80% compared to untreated basins.

First to be treated will be the basins north of Boston and the basins in the

municipalities bordering Lawrence. These cities are suspected of being the prime West Nile Virus focal points in northeast Massachusetts. Treatments of basins in these communities will begin in late May through June as conditions allow, followed by the remaining municipalities in the district.

Municipal DPWs can assist the district in efficient treatments of basins by scheduling annual cleanings before the end of May or after August. Cleaning reduces organic material in the basins and allows for greater efficacy of the bacterial larvicide treatments. If the basins cannot be cleaned early in the season, the district will use a methoprene based larvicide in lieu of the bacterial product for the entire virus season.

LARVICIDE PRODUCTS- EPA Registered (Cat 4)

Cat 4 (Low to Very low toxicity) is the lowest category accepted by the EPA. Toxicity category IV is Practically non-toxic and not an irritant.

Bacterial Biolarvicides (1st to 3rd instar larvae)

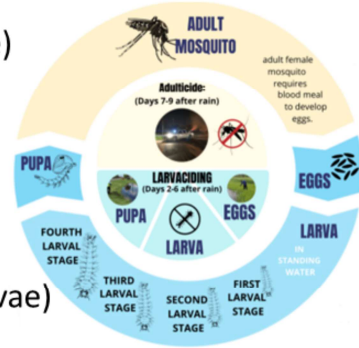
- Bti/Bs/Spinosad
- Vectomax
- Vectobac (including 12AS- liquid)
- Fourstar

Insect Growth Regulators (1st to 3rd instar larvae)

- Methoprene
- Altosid/MetaLarv

Liquid Mechanical Suffocants (4th instar, pupae, emerging adults)

- Cocobear
- BVA2



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As stated before, mosquitoes are easier to control when they are larvae, and we have a wide variety of proactive larvicide products at our disposal. All our products are Registered with the EPA as category 4 which are low to very low toxicity and the lowest category accepted by the EPA. All larvicides target specific species at a particular stage of development, in certain habitats and at different times of the year. The larvicide products we use are not known to develop resistance in mosquitoes. They are packaged in either a liquid or granular form and efficacy can be up to 85% or more.

We primarily use bacterial larvicides containing **bacillus** strains such as thurgenensis israliensis and spearicus for control of mosquito larvae in salt marsh, freshwater and cleaned catch basins. The bacteria are naturally occurring in soil and affect only mosquitoes, black flies and fungus gnats.

Mosquito larvae should be at first through third instar to be most effective. The bacterial larvicides work through ingestion. The larvae feed on the bacterium and the toxins that are created kills the larvae.

These bacterial larvicides are not toxic to people, pets, other animals, aquatic life, or other insects, including honeybees. They can be applied safely to standing water

without causing harm to food crops or water supplies.

For long-term control of mosquito larvae in high organic or polluted water conditions we use Methoprene. Methoprene is an insect growth regulator. By acting like an insect hormone, it interferes with insect growth and development. It can prevent normal development from the immature phase to the adult phase. Methoprene is of very low toxicity to humans and other vertebrates. Our Methoprene applications are primarily made to catch basins, swimming pools and other man-made container habitats.

For late fourth stage larvae and pupae, we use mechanical suffocants such as Cocobear. These work by breaking the water's surface tension needed by the larvae and pupae for breathing. They breathe surface air through appendages called a trumpet or siphon. When they can't attach to the surface of the water to breathe, they drown. These products break down in the environment within days, so timing for application is crucial.

Larvicide products are continually being produced with both increased efficacy and environmental consciousness, and as new products are introduced to us, we test them in our area before adding them to our arsenal. All our larvicide products are precisely targeted for mosquitoes, labels are followed, applied by highly trained technicians and careful consideration for each application is taken.

ADULTICIDING- ULV Truck Based

ULV (Ultra Low Volume)

- Residential Requests (11 towns)
- Can reduce mosquito populations over season
- Schools, Parks, Recreational Fields, Events
- Emergency Municipal Block Sprays (**Virus Intervention**)
 - IPVMP- Phased response to virus- Page 16

Zenivex E4

- Etofenprox 4% (pyrethroid derivative)
- No synergist- no Piperonyl Butoxide (PBO)
- High efficacy, reduced-risk adulticide
- 1 oz/acre mixed = 1 ml active/football field
- Quick but limited knockdown ~ 15 min
- No residual
- 300 ft swath
- ½ hour after sunset- label= at sunset
- Temperature/Weather/Population



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The district deploys “Ultra Low Volume” truck-based adulticiding only when coordinated with the local boards of health for virus response or when residents are allowed to call in a request. One advantage of ULV applications is that only very minute amounts of pesticides are dispersed over a large area. About 1 ounce of mixed product is applied per acre or about 1 milliliter of active product over the size of a football field.

Zenivex E4 active ingredient is the synthetic pyrethroid Etonfenprox, the same chemical that is naturally occurring in chrysanthemum flowers. It is also used as an ingredient in flea medication for cats and dogs. Our highly specialized technicians strictly adhere to product labeling. To protect bees and other pollinators, adulticiding operations are completed only at night, we start 30 minutes after sunset.

This product is a highly effective, reduced-risk adulticide that provides quick, knockdown and reliable control of flying mosquitoes at the time of application. This product contains no synergist, therefore no PBOs (Piperonyl Butoxide). Safety Data Sheets and Product Labels can be viewed on our website.

Adulticiding only knocks down flying mosquitos that are present at time of application. The treatment expands in a 300 foot swath. It is not residual, meaning the product

doesn't stay in the environment to keep working later. It is best to use adulticiding when mammal biting mosquito populations are high and when virus is present.

Salt marsh mosquitoes fly and bite during the day. They rest in thick vegetation at night, so our night-time applications won't control these mosquitoes.

Adulticide applications will not be conducted when temperatures are below 50 F, if it is raining or when wind exceeds 10 mph. We will also cancel a request if we are not able to access the property or if people are outside at the time of the application. Residential Adulticiding will be cancelled for virus response in another community.

Even if recommended by us, only the local Board of Health can authorize any truck based ULV adulticide operation. Some of our communities' boards of health do allow their residents to call in weekly to request adulticiding for their individual property.

Every year our products get evaluated for effectiveness and environmental safety. As new products become available our line-up may change and notifications will be sent out for these new additions.

ADULTICIDING- Barrier Treatments

Schools, Parks, Public Recreational Areas, Planned Events
Not used on residential properties

- **Suspend SC and Suspend Polyzone**

- Deltamethrin 4.75%
- Broad spectrum insecticide
- Quick Knockdown
- 21-day to 90-day residual barrier control
- Vegetation, indoor and outdoor structures, screens, barns, pet areas
- No phytotoxicity on wide range ornamentals
- ½ hour after sunset
- No re-entry until dry



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To reduce the need for repeated applications and provide more sustained relief from mosquitoes in high public use areas, the district may recommend a smaller scale “barrier treatment”. This application would be made to public use areas such as schools, playgrounds, parks and athletic fields. A barrier treatment is a residual micro-encapsulated product applied to a physical border such as trees, fences or outdoor structures.

We use Suspend Sc or Suspend Polyzone depending on when the request is made. Both products use the synthetic pyrethroid Deltamethrin and both are broad spectrum insecticides that are safe to use on vegetation. Safety Data Sheets and Product Labels can be viewed on our website.

The district strongly recommends member municipalities take advantage of this service when necessary and schedule applications prior to the active virus season. Please see our new Board of Health checklist in the 2022 BMP.

To protect bees and other pollinators, barrier treatments are completed only at night 30 minutes after sunset. Reentry to treated properties is when the product dries, usually by morning.

We will not conduct barrier applications when temperatures are below 50 F, when wind exceeds 10 mph or when rain is predicted within 24 hours of the scheduled barrier application. We do not apply barrier treatments to private residences. We will also cancel a barrier application if we are not able to access the property or if people are outside at the time of the application.

BOARD OF HEALTH ADULTICIDE REQUESTS

Boards of health may request adulticiding/barrier for municipal properties: parks, recreation areas, schools, public spaces or other public owned properties and for approval of virus response

Spray requests may be cancelled due to inclement weather or virus response in other communities

Barrier treatments should be scheduled prior to virus season

Please utilize BMP-BOH checklist, BMP-District Protocols for Virus Response and Integrated Pest and Vector Management Plan (IPVMP)

- BOH request preferred method
 - Website (via municipal toolbox)
 - E-mail NEMMC@mass.gov

Confirmation of completion provided upon request. Cancellations are e-mailed



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We would like to reiterate some points from the previous slides and discuss our Board of Health adulticide request procedures.

Following our phased response to virus protocol to reduce the risk of WNV and EEE human infections, the district may recommend selective and targeted adulticiding applications when virus infected mosquitoes are discovered. Only the Boards of Health in our subscribing member communities can request adulticiding and barrier treatments for schools, recreational areas and publicly owned municipal property.

Barrier treatments are not required for every town, but is a helpful preventative measure to consider in communities that have high risk mosquito virus history and expect lots of outdoor recreation during peak mosquito times.

Barrier treatments should be scheduled early and prior to the human virus transmission season with treatments scheduled for late July into August.

This year district Best Management Plans included a new checklist to guide Boards of Health for tasks that can be completed early in the season, such as scheduling barrier treatments and contacting IPM coordinators to update school IPM plans.

In communities that adulticide for virus only, district virus response protocols must be met in order to be recommended a block virus response. These protocols have also been included in the BMPs for 2022.

Boards of Health can request adulticiding through the municipal tool-box on our website or by e-mail. Many coordinated virus response treatments may be scheduled over the phone and a follow-up email will be sent to confirm the time, date, location, and back up date so public notification can be completed prior to the treatment. Confirmation of completion will be provided.

Salt marsh mosquitoes can be extremely problematic for residents outdoors during the daytime, as they are day biters. They rest in damp, thick overgrown areas of vegetation at night and our night-time applications will NOT control these mosquitoes very well.

Use of repellants and proper clothing or staying indoors is highly recommended when salt marsh mosquitoes are bothersome during the day. Coastal municipalities are encouraged to keep vegetation in public areas maintained.

SCHOOL IPM PROGRAM

- Children and Families Protection Act
- Mandatory for ANY mosquito control pesticide activity to occur
- Public and private schools (K-12), daycares over 10 children
- Annually updated by school IPM coordinator- 333 CMR 14.08
- PLEASE UPDATE before mosquito season starts

<https://massnrc.org/ipm>

- Locate a Plan by Municipality (A-Z)
- Create/Edit Plan
- OUTDOOR Plan Type
- Must be created by IPM coordinator assigned to each school/daycare
- NEMMC assistance provided to coordinator
- NEMMC provides updated pesticide list

The screenshot shows the 'School IPM Program' website interface. At the top, there is a navigation bar with 'School IPM Program' and 'Make Your IPM Plan Online' buttons. Below this is a search results section for schools in 'NEWBURYPORT'. A yellow banner indicates that users cannot find their school and must scroll down to view all facilities. The results are organized into two tables. The first table lists '1-2-3 Little Me' at 112 Parker St Unit B, Newburyport, with indoor and outdoor plan links and dates recorded and updated in 2009. The second table lists 'Bresnahan School' at 333 High Street, Newburyport, with indoor and outdoor plan links and dates recorded and updated in 2005 and 2018.

School Name	Address	Type of Plan	Date Recorded	Date Updated
1-2-3 Little Me	112 Parker St Unit B, Newburyport	Indoor - View Plan	7/2/2009	7/2/2009
		Outdoor - View Plan	7/2/2009	7/2/2009
Bresnahan School	333 High Street, Newburyport	Indoor - View Plan	2/3/2005	5/11/2018
		Outdoor - View Plan	2/14/2005	5/11/2018



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Schools may find it necessary to have their property treated to increase protection from mosquitoes. This can include catch basin treatments, larviciding, adulticiding and barrier treatments.

The School IPM Program is in accordance with the Children and Families Protection Act, which requires a school's IPM plan to list the pesticides that are going to be applied on school grounds. Schools must include mosquito control in their Outdoor IPM plans if they intend to request mosquito control services on the property. You can view all the public and private school IPM Outdoor Plans on the MassNRC website to check if they are updated.

As a reminder School Outdoor IPM plans should be up to date with our current products when considering any treatment on school grounds.

It is the responsibility of the school districts to create and maintain an IPM plan for their school. We encourage Boards of Health to follow up with the IPM Coordinators for the schools in their municipality to ensure they are receiving the proper mosquito control treatments. If the IPM plans don't list the products we use, then we can not treat the property.

Every spring we email our product line-up to the IPM coordinators and Boards of Health, and we can assist in the addition of products to the plan. The MassNRC website has a help desk available for assistance.

RESIDENT ADULTICIDE REQUESTS

If municipal BOH allows residents to request a truck ULV spray

Residents need to request their OWN property weekly as needed to control abundant mosquitoes (data collection and monitoring areas of concern)

Requests may be cancelled due to inclement weather; lack of mosquitoes present on the night scheduled, inaccessible properties or virus response in other communities

Residents will receive e-mail confirmation of the online request and confirmation of completion or cancellation

- Resident request preferred method
 - Website
 - Website via mobile device
- Other methods
 - E-mail NEMMC@mass.gov
 - Contact NEMMC office 978-352-2800 (voice mail available)



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This slide is for those residents who can request adulticiding. Some of our communities allow residents to request adulticiding for their individual property. These requests are made through our website and residents will receive confirmation upon completion or cancellation of the application.

We use ULV truck-based treatment applications. Our vehicles are NEMMC marked white trucks and will be driving slowly through requested areas. Residents and pets should remain indoors while the vehicle is operating in these designated areas. Air conditioners can remain ON. We ask that doors and windows street side are closed, these can reopen, and normal outdoor activities can resume within ½ hour after the truck passes.

We will mention this again, salt marsh mosquitoes can be extremely problematic for residents outdoors during the daytime. They fly and bite during the day. Our night-time applications will NOT control these mosquitoes very well. Use of repellants and proper clothing or staying indoors is highly recommended when salt marsh mosquitoes are bothersome during the day. Residents are encouraged to keep lawns mowed, yard and vegetation maintained, and dump water filled containers.

RESIDENTIAL PESTICIDE EXCLUSIONS

Personal Property Exclusion

- Online application (MDAR application accessible through our website)
- Private property owner only
- Property owner overrides tenant request
- Submit annually
- 14 day waiting period
- Adulticide (whole parcel)
- Larvicide (>1 acre wetland)
- 1 exclusion/property
- 333 CMR 13.03

How to Request Exclusion from Wide Area Pesticide Applications

Exclusion requests may be submitted at any time during the year, and will go into effect 14 days from the date the request is made. All requests will expire December 31st in the calendar year in which they are received.

Submit your Exclusion Request Online + Download Filable Exclusion Request Form +

THE DETAILS **CONTACT**

What you need

How to request: • Address

More info: • And/or Parcel Identification Number

Downloads:

Contact:

How to request

Online +

By mail +

Juan Carlos Gutierrez

Phone: 617-626-1723

Online: Juan.Gutierrez@mass.gov

RELATED

SRMCE Membership and Withdrawal Process +



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Residents who request exclusion of their property must comply with the legal process to do so. Private property owners may request exclusion from wide area applications of pesticides on their property by the district.

If a tenant is requesting the exclusion, the landlord contact information must be included and the landlord can override this request. Each property owned needs a separate exclusion form to be filled out. Exclusions can not be completed for public property.

This procedure excludes the entire property from adulticiding and larviciding if the area to be larvicided is one acre or more. Areas under an acre may pose a public health nuisance and larviciding can be completed.

Requests must be made to the Massachusetts Department of Agricultural Resources and will go into effect fourteen (14) days from the date the request is received.

All exclusion requests start on January 1st and expire on December 31st of the calendar year in which it was made. The exclusion request may be accessed from either our District's website or directly from the MDAR website. Exclusions may be waived in a

public health emergency by the Governor or by the State Public Health Department.

We receive the property exclusions from MDAR. When we receive the exclusion the parcel goes into our GIS mapping system and technicians automatically receive a systems warning when approaching the excluded property boundaries.

TIMELINE OF OPERATIONAL ACTIVITIES

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Spring freshwater and snowmelt larviciding												
<i>Culiseta melanura</i> larviciding												
Cattail, <i>Phragmites</i> , retention pond, ditch and floodwater larviciding												
Tire treatments and recycling												
Salt marsh larviciding (hand & aerial) and Greenhead traps												
Catch Basin larviciding and efficacy testing												
Resident larvicide and BOH requests for abandon properties/pools												
Ditch maintenance (manual and mechanized)												
Wetlands management/restoration/ <i>Phragmites</i> mowing												
Adulticiding spray requests and virus control												
Mosquito Surveillance & MA-DPH testing *												

* In virus prevalent seasons surveillance and testing can be extended until October 15

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Many people ask us what do we do for the rest of the year when not treating mosquitoes? We do control mosquitos year-round and most of our wetland, tire and ditch maintenance projects are completed through the winter. Here is a seasonal breakdown of all operational activities conducted by the District.

QUESTIONS



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Again, We would like to thank everyone for tuning in to our informational webinar. If there are any questions or concerns please e-mail us at www.nemassmosquito.org