BERKSHIRE COUNTY MOSQUITO CONTROL PROJECT

19 HARRIS ST.
PITTSFIELD, MA. 01201

SERVICES PROVIDED TO THE CITY OF PITTSFIELD SHERWOOD GREENS ROAD MANAGEMENT DISTRICT AND THE TOWNS OF CLARKSBURG, HINSDALE, LANESBOROUGH, OTIS, RICHMOND, SHEFFIELD, TYRINGHAM

2024 ANNUAL REPORT

PREFACE

The 2024 annual report of the Berkshire County Mosquito Control Project has been prepared to provide the citizens and officials of member towns with information pertaining to the project's procedures and related activities.

As you read through this report you will notice that the project is committed to an Integrated Mosquito Management Program, IMM. This approach involves intervention in each stage of the mosquito life cycle using a variety of control techniques and evaluation procedures. When these techniques are properly implemented the process is safe and scientifically proven to reduce mosquito populations before they bite humans. No control effort is undertaken before surveillance data is collected and analyzed. Control decisions are made based on the exact need that exists at each specific site. Environmental considerations are paramount when prescribing various control techniques.

The BCMCP board of commissioners is appointed to represent the interests of each community. The commissioners meet with the superintendent on a regular basis to discuss and formulate policies and to provide their expertise in the operation of the project. The commissioners welcome your input, and we encourage you to contact us or visit the project headquarters.

Copies of this report are distributed to key officials in member towns. The report is also available to the public by contacting the project offices.

Our goal is to provide effective and environmentally sound mosquito control, reducing mosquito annoyance and the potential for the transmission of mosquito borne diseases. Our staff of well- trained, competent employees are known throughout member communities as individuals who take great pride in their work.

Thank You,

Wally Terrill, Chairman

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Organizational Setup

The Berkshire County Mosquito Control Project was created under chapter 454 of the Acts of 1945 and operated under MGL chapter 252 Improvement of Lowland and Swamps.

The project is administered by the State Reclamation and Mosquito Control Board located in Boston, MA. Membership in the project is accomplished by a majority vote at either an annual or special town meeting, or by the majority vote of a city council. The project is funded by an annual assessment which is determined by a formula administered by the Division of Local Services (DOR) and is calculated by equalized valuations. An amount is withheld from the State Cherry Sheet Assessment for each member city or town each fiscal year and is placed in a trust account for the project.

The State Reclamation and Mosquito Control Board (SRMCB) is comprised of three members, one each from The Department of Environmental Protection DEP, Department of Conservation and Recreation (DCR), and the Department of Agricultural Resources (DAR). The representative appointed from the DAR is by default the chair of the SRMCB. The SRMCB is charged with the appointment of the Berkshire County Mosquito Control Project Board of Commissioners. This is a three-member board that meets quarterly at the project office. SRMCB contacts all member towns in the project area when there is an opening on the commission. Commissioners are appointed after an interview with SRMCB where qualifications are reviewed. Each commissioner is appointed to a three-year term. The composition of the board varies and represents a wide range of expertise. Current commissioners include members of boards of health, selectmen, former project superintendents, private citizens, mosquito control industry representatives, and DPW directors or commissioners. The quarterly meeting of the commission is an open public meeting. Notice of each meeting is sent to the office of the Secretary of State. The commission is charged with the appointment of the superintendent, who is charged with the day-to-day operations of the project.

At the quarterly meeting the commission approves the minutes of previous meetings, employee payrolls and all other expenditures. The superintendent outlines the status of operations at the project, and all relevant topics are brought to the attention of the commission for review, discussion and a vote if necessary. All discussions and votes are recorded in the meeting minutes and are considered the official record of the commission.

COMMONWEALTH OF MASSACHUSETTS

STATE RECLAMATION AND MOSQUITO CONTROL BOARD

251 CAUSEWAY ST. SUITE 500

BOSTON, MA 02114

SRMCB MEMBERS

ASHLEY RANDLE (DAR)

NANCY LIN (DEP)

JAMES STRAUB (DCR)

JENNIFER FORMAN-ORTH, ENVIRONMENTAL BIOLOGIST

ALEX GIANNANTONIO, PROJECTS ADMINISTRATOR

COMMISSIONERS OF BERKSHIRE COUNTY MCP

MR. RYAN GRENNAN
PITTSFIELD, MA

MR. JAMES MCGRATH
PITTSFIELD, MA

MR. WALLY TERRILL, CHAIRMAN
OTIS, MA.

PROJECT SUPERINTENDENT

CHRISTOPHER J. HORTON

EXPENDITURES 2024

ITEM	COST
PAYROLL	$ 116,730
COMMISSION	$ 1,200
RENT	$ 29,316
HEAT/ELECTRIC	$ 3,000
HEALTH INS./FRINGE BENEFITS	$ 33,900
ADMIN CHARGEBACK/INURANCE	$ 16,300
POSTAGE	$ 300
AUTO PARTS / REPAIR	$ 7,300
LAB/PROGRAM EQUIPMENT	$ 830
FUEL VEHICLES/EQUIPMENT	$ 4,000
VEHICLE (CAPITOL)	$ 8,000
PESTICIDES	$ 28,000
PROFESSIONAL ASSN.	$ 150
PESTICIDE LICENSES	$ 450
SOFTWARE / IT LICENSE	$ 9,500
OFFICE SUPPLIES/PRINTING	$ 1,000
DPH TESTING	$ 15,000

THE TARGET PEST

All mosquitoes found within the project boundaries belong to one of two groups:

-Floodwater mosquitoes lay their eggs on dry ground in areas that are subject to flooding. These eggs lay dormant until inundation when hatching is initiated. Hatching is synchronized and development from egg to blood-feeding adult can occur within 7 days when temperatures are high. Areas within the project that favor the development of floodwater mosquitoes include swamp and marsh margins, roadside ditches, vernal pools, and the floodplains of rivers and brooks. From a nuisance perspective, these are the most prolific and bothersome mosquitoes for member town residents.

-Permanent or semi-permanent water mosquitoes lay their eggs directly on the water surface, either singly or in a cluster called a raft. The developing population is continually being replenished resulting in the constant emergence of new adult mosquitoes. The most important species occurring in the project area are *Anopheles* and *Culex* mosquitoes, which are found in catch basins, stagnant polluted water areas that form the margins of lakes and ponds and in unmounted tires, discarded containers and plugged gutters. *Culex* mosquitoes are considered a major vector in the transmission of West Nile Virus.

THE TACTICS

Operations of the Berkshire County Mosquito Project are modeled on the principles of Integrated Pest Management. Primary emphasis is placed on the decimation of target pests when they are in their most vulnerable and concentrated stage of development. In the case of mosquitoes this is the larval stage. Principal focus is placed on periodic surveys of the project area to locate permanent and temporary mosquito sources and then to routinely inspect these areas, treating only those sources found to hold mosquitoes. Additional efforts are made to eliminate sources through water management practices whenever possible. Finally, temporary relief can be provided through adult control measures in those areas where surveillance shows a need.

OPERATIONAL OVERVIEW

1. Mapping

An effective mapping system to aid personnel in locating mosquito breeding sites sources is crucial to any mosquito abatement operation. BCMCP implemented an automated mapping system in 2012 which uses ARC Geographic Information System technology to identify, measure, and record surveillance and Treatment data using handheld devices in the field. To date, over 600 breeding locations and 7,962 catch basins are mapped in member towns. Since 2013 all surveillance and treatment data has been recorded using this system. A program in the system automatically calculates application rates for each site based on the size of the site, the product being used, and the terrain type. Reports of work progress and treatment data can easily be generated from the project office.

Another benefit to the use of this system is that schedules for inspection and records of treatment are available in the field through handheld GPS units. Multiple technicians can work in the same zone efficiently. The GIS system Has been upgraded in 2020 to cloud-based technology.

2. Larval Control

Once an accurate mapping system has been established a routine inspection and treatment program can be implemented to control mosquitoes while concentrated, relatively immobile and accessible in the larval stage. Larval control is a major component of the BCMCP program and requires approximately fifty percent of our manpower during the breeding season. We strive to inspect each potential breeding site on a seven-to-ten-day interval. Only those sites found to harbor mosquito larvae are treated. All sites inspected and treated are recorded each day and are on file at the project headquarters.

3. Adult Control

To determine the necessity for adult control, the project utilizes a procedure known as the “landing count” to determine the number of adult mosquitoes present at a particular location. (Adult mosquitoes are counted over a fixed interval at a specific location.) Placement of mosquito traps in areas that have the potential to produce large mosquito populations provide general population trends and are also a source of species information. Service requests from residents in member towns are also a valuable tool in determining where

adult mosquito control may be necessary. The decisions to initiate adult control measures are based on information collected from all these sources. Adult mosquito control is a vital component of Integrated Mosquito Management and accounts for approximately thirty percent of our manpower during the breeding season.

When WNV or EEE are detected in a particular area, an immediate adulticide response is recommended. Follow up surveillance measures and continued adulticide applications are used to limit virus amplification and exposure of human populations to viral agents. When virus is detected landing counts are curtailed and trapping data is used to evaluate mosquito populations.

4. Source Reduction

Source reduction involves habitat manipulation to eliminate or modify places that support adult mosquitoes. When source reduction methods are used appropriately they provide the most effective and long-lasting mosquito control of all methods of management. In addition, source reduction is the least expensive method in the long term despite higher initial costs because it need not be repeated frequently. Source reduction usually consists of maintenance of existing drainage systems to restore traditional flow patterns by removing accumulated debris and obstructions. All work performed for source reduction by the project is done in a manner designed to cause minimal disturbance to the existing environment. We use only hand tools and all work is done in compliance to established best management practices. Source reduction projects are usually carried out in the fall months after the mosquito breeding season has ended.

5. Arbovirus Surveillance

The mosquito is considered the most important disease carrying vector on earth. Until the early part of the twentieth century little was known about the existence of mosquito borne diseases and their effects on human populations. Fortunately, most of these diseases are not prevalent in our area. There are however, two diseases that have become cause for concern in Massachusetts, and more recently in Berkshire County; West Nile Virus, WNV and Eastern Equine Encephalitis, EEE. The Massachusetts Department of Public Health administers a statewide program to monitor mosquito populations for the presence of WNV and EEE, establish risk levels for local communities and disseminate information to the public and local boards of health concerning mosquito borne disease. The BCMCP participated in this program in 2024. The arbovirus surveillance season began on May 29, 2024 and continued to October 9, 2024 in Berkshire County. Each week 15 to 20 gravid mosquito traps and 10 to 12 C02 baited light traps were

deployed at locations throughout member towns to collect mosquito samples that were prepared and shipped to MDPH labs for analysis. A total of 490 samples were tested from Berkshire County in 2024. There were 16 isolations of West Nile Virus and no isolations of Eastern Equine Encephalitis in Berkshire County in 2024.

Both West Nile Virus and Eastern Equine Encephalitis follow cyclical Patterns of prevalence. Surveillance data for 2024 shows significant WNV activity as was the case in 2023. Continued vigilance in the areas of surveillance and response are necessary to ensure that when WNV comes into the community it does not amplify which can lead to human or animal infection. Additional trapping to target *Culiseta melanura* and *Coquillettidia perturbans* became a priority in 2014 after Eastern Equine Encephalitis was found in both of these species in 2013. This is of particular concern in that EEE has been found in *C. perturbans* which is considered a bridge vector for EEE and could spread the disease to mammals (humans). While EEE was not detected in Berkshire County in 2024, human and animal cases were confirmed in close proximity through regional surveillance data. Surveillance will remain a high priority for 2024 and future years to identify the presence of mosquito borne disease and to effectively target potential disease vectors.

6. Public Outreach

The goal of public outreach is to increase understanding and cooperation among constituents. The goal of Integrated Mosquito Management (IMM) is to improve the health and quality of life of our human community. It is important that as many people as possible know the basics of mosquito biology, the diseases that mosquitoes can potentially carry and transmit, and the methods and materials that we use to control them. Our challenge is to have the public understand that IMM is a unified process that is scientifically developed to ensure adequate results while simultaneously protecting the safety of humans and the natural world around us. We use every opportunity available, such as media interviews, public events, or even personal contacts made while in the field to describe our activities.

MOSQUITO MANAGEMENT AROUND THE HOME

There are several ways that homeowners can minimize the number of biting mosquitoes around the house. One of the easiest ways to manage mosquitoes is to eliminate standing water where mosquitoes can lay eggs.

Some common breeding sites are:

-Artificial containers (pails, paint cans, discarded tires, open cesspools or septic tanks, boats, pool covers, bird baths, and wading pools)

Without standing water mosquitoes cannot reproduce. Old containers should be disposed of or recycled. Swimming pool filter systems should be maintained and in good working order. Openings to water sources can be sealed as in rain barrels or septic tanks. Rotten tree holes or stumps should be filled with sand. Old tires should be disposed of or stacked and covered to prevent rainwater from collecting inside. Ornamental pools and aquatic gardens can also breed mosquitoes if the water is allowed to stagnate. Water should be changed regularly, or an aerator should be installed. Biological control can be achieved by stocking fish that will eat mosquito larvae.

There are also ways that the homeowner can minimize the annoyance of adult mosquitoes. Mosquitoes must rest in shady calm areas and will avoid breezy or sunny locations. Removing trees and mowing tall grass will reduce the number of places where mosquitoes can rest. Mosquitoes are most active in the hours around dusk and dawn. Simply avoiding outdoor activity during these times of peak activity can minimize contact with mosquitoes.

For more information on mosquito control techniques or the products used by the Berkshire County Mosquito Control Project please call or email us.

Berkshire County Mosquito Control Project
(413) 447-9808
chris@berkshiremosquito.org

2024 MOSQUITO SEASON SUMMARY

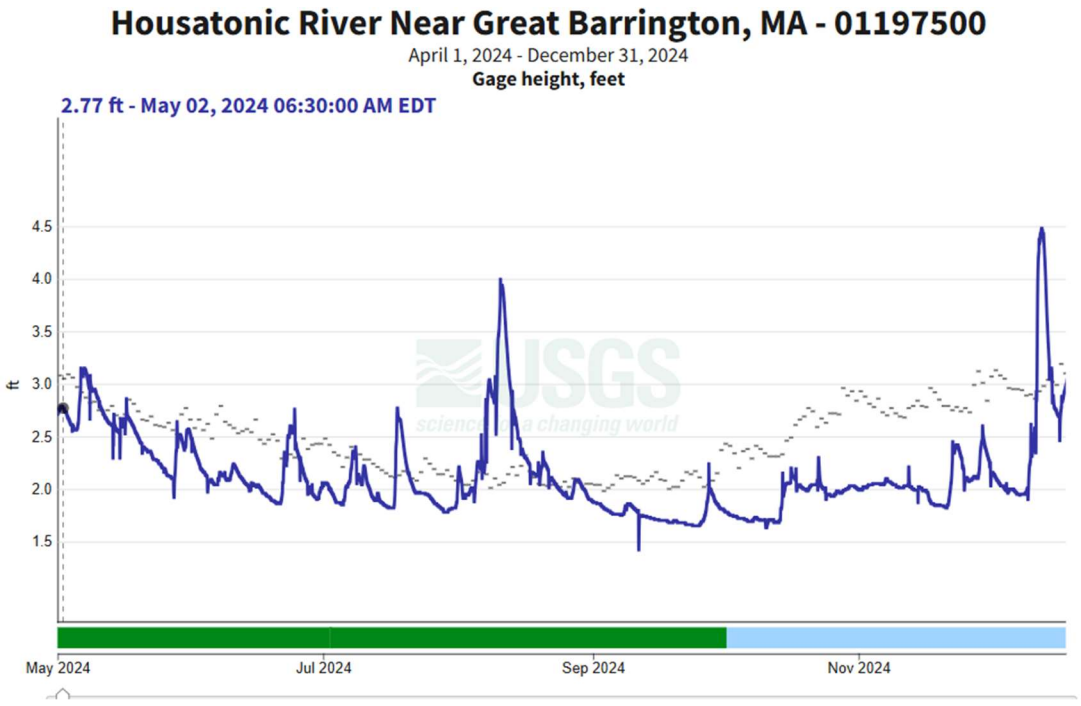

Figure 1. USGS 01197500 Housatonic River Near Great Barrington

The Berkshire County Mosquito Control Project began operations in early April 2024 with surveillance of over 500 known breeding sites in the member towns. Figure 1 clearly represents the overall pattern of precipitation for the 2024 season. This graph represents measurements of river flow on the Housatonic River at Great Barrington. (The dotted line indicates the median. When the Gage height in Figure 1 exceeds 5 ft. the Housatonic begins to flood the low fields in Great Barrington and Sheffield.) The season began with average precipitation and above average soil moisture due to above normal winter precipitation. Spring larval treatments were able to address much of an average size spring brood. High populations of *Culex* mosquitoes in early June at several locations were targeted for additional larval control measures. *Culex* populations remained average to below average for the remainder of the season. Possibly the result of a mild, wet winter, *Culiseta melanura* were more numerous than average early in the season and remained plentiful throughout the 2024 season. The seasonal emergence of *Coquillettidia perturbans* was observed in late June and was average. Precipitation was average to below average for the 2024 season without major rain events. Soil moisture, while above average over winter, was reduced as the season progressed which limited multivoltine species. *Anopheles* species were below average with *Anopheles walkeri*

observed as the dominant *Anopheline* species. Larval control continued throughout the season in wetlands, catch basins, and man-made drainage structures that are known to breed mosquitoes. Mosquito abundance decreased from mid-July until seasonal decline was noted in the second half of September.

Surveillance trapping for West Nile Virus and Eastern Equine Encephalitis began May 29th 2024. All trap locations that have a history of isolations for WNV or EEE are considered permanent trap locations with samples being tested weekly. Gravid traps which capture egg bearing mosquitoes are used to sample *Culex pipiens/restuans* which are vectors for WNV, while CO2 baited light traps are used to collect *Culiseta melanura* which is known to be the species responsible for EEE transmission in birds. These traps are also capable of capturing other species of mosquito that are known to be vectors of EEE. Following years of record levels of WNV and EEE in Massachusetts, efforts focused on collecting and testing as many possible vector mosquitoes as possible. BCMCP staff trapped and submitted 490 samples from member towns during 2024. Berkshire County saw 16 mosquito isolations of WNV in 2024 in the towns of Becket, Clarksburg, Hinsdale, Otis, Pittsfield, and Richmond. There were no isolations of EEE in Berkshire County in 2024.

The events related to the EEE outbreak of 2019 and during the 2024 season demonstrate the importance of an effective system of surveillance and control to protect populations from mosquito borne disease. In Massachusetts, the disease threat was detected early, determined to be critical and a rapid commensurate response of communication and vector control was initiated to protect public health. The 2018 mosquito season saw the highest threat levels of WNV ever seen in Massachusetts and 2019 likely saw highest threat levels of EEE ever seen. In 2024 EEE was detected in several Northeastern states that had no history of the disease. Unfortunately, in many areas without mosquito surveillance, the first indication of the presence of EEE was through animal and human infection. It is important that we remain prepared for future challenges.

Source reduction is a term used to describe work performed in wetlands and drainage systems to reduce breeding habitat for mosquitoes. The process involves cleaning and maintenance of ditches and waterways to prevent flooding and backups which would favor mosquito breeding. This process improves water quality, increasing the distribution of natural predators, (fish) which feed on larvae and provide natural and long-term control. Mosquito control districts in the state of Massachusetts have statutory authority to work in wetland environments through exemptions granted through the Wetlands Protection Act. The Berkshire County Mosquito Control Project does, however, consult with the Natural Heritage and Endangered Species Program when work is performed in high priority Natural Heritage areas. All work is performed using hand tools according to accepted “best management practices “which are designed to accomplish project goals while minimizing disturbance to the environment. BCMCP

Currently maintains over 17,000 linear feet of ditch to reduce breeding habitat. In addition, Berkshire County Mosquito Control Project worked with cities and towns in

Figure 2. Native Brook Trout (Morris)

2024 at several locations where beaver activity had caused drainage problems by restoring beaver exclusion devices, removing debris and restoring water flow.

Education and outreach are essential to the mission of mosquito control especially when mosquito borne disease is present. Employees of the Berkshire County Mosquito Control Project are always encouraged to interact with the public whenever possible to explain our work, to describe our methods, the products we use and explain how they work.

MATERIALS USED

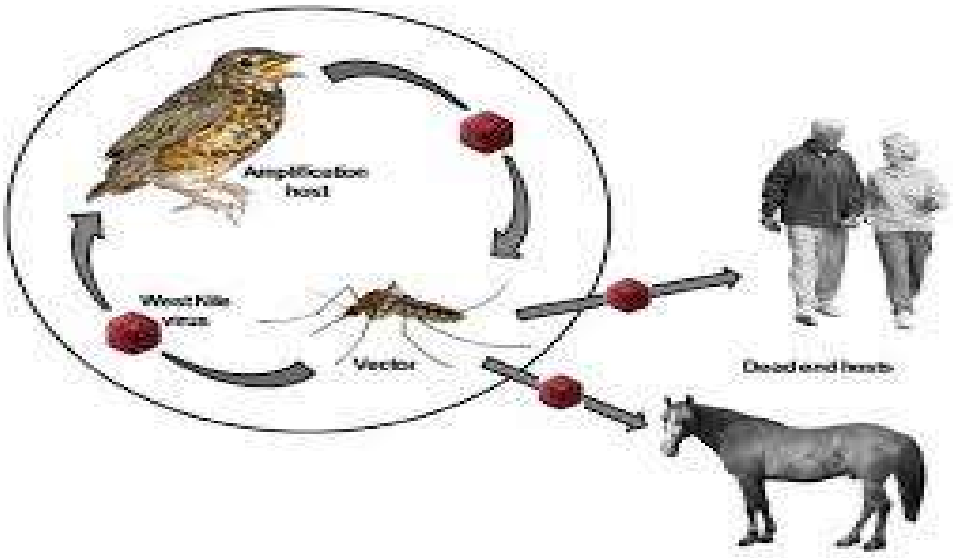

Figure 3. The Enzootic cycle of West Nile Virus

The most effective way to deal with mosquitoes is to control the population in the larval stages, before they become flying adults that cause annoyance and can possibly spread disease. For larval control the Berkshire County Mosquito Control Project uses three organic larvicides, Vectobac G, which is a *formulation* of the bacteria *Bacillus thuringiensis,* is extremely effective against larval populations. The product is introduced directly into the water column where it is ingested by mosquito larvae. The active ingredient interrupts the gut lining of the mosquito larvae causing them to stop feeding and die within hours. This product does not affect species other than mosquitoes, black flies, and midges and does not accumulate in the environment. Vectomax FG, which is a formulation of *Bacillus thuringiensis and Bacillus sphaericus,* uses a similar mode of action. The product can have a residual effect for a time when successive generations of larvae ingest toxins contained in decaying larvae from the initial treatment. Natular G30 is a formulation of *Saccharopolyspora spinosa*, a naturally occurring soil bacteria. This product uses a different mode of action which causes paralysis in the mosquito larvae. The formulation has a time release effect which provides up to thirty days of larval control. Another product which became available recently is Fourstar CRG which is a new formulation of Bti which is also effective for 30 days of larval control.

For catch basin larval treatments in 2024, BCMCP used Fourstar 90-day Bti briquets which provide a time release application of Bti. BCMCP also used Vectolex WSP packets with *Bacillus sphaericus* as the active ingredient when 90 day protection of catch basins was no longer needed.

In 2024 the Berkshire County Mosquito Control Project applied 2108.8 lbs. of Vectobac G, 40 lbs. of Vectomax FG and 97 lbs. Natular G30 to 328.8 acres of larval habitat in member towns. Larval control continues throughout the season and breeding areas are treated each time surveillance indicates larval development. BCMCP treated a total of 7,327 catch basins in the months of June, July, and August.

Unfortunately, all mosquito breeding sites are not able to be treated because of either size or accessibility issues. From time to time the populations of adult mosquitoes present a public health risk or increase above tolerable levels and adult treatments become necessary. The tolerance of individuals to mosquito annoyance varies throughout the population but research has shown that if from three to five mosquitoes land on a person at a particular location over the course of one minute intervention is warranted. When surveillance indicates this condition is present, adulticide applications are in order. For adult mosquito control the Berkshire County Mosquito Control Project uses Duet which is a formulation of Prallethrin and Sumithrin which are synthetic pyrethroids. These chemicals are synthetic versions of the natural insecticides found in chrysanthemum flowers. Duet is an advanced product that has been shown to be extremely effective at controlling adult mosquito population across the globe. The combination of Prallethrin and Sumithrin cause a condition known as “benign agitation” in which mosquitoes are drawn from their resting state allowing greater control of the population. In addition to Duet, BCMCP also used Merus 3.0 in certain areas during the 2024 season. This product is an organically certified product made from botanical extracts and is water based. Our experience with Merus 3.0 indicates that it is effective and can provide adult mosquito control in areas that require organic certification. These products kill mosquitoes by interrupting neural transmissions causing paralysis. These products are chosen because of their very low toxicity to humans and mammals and rapid breakdown in the environment. These products do have the potential, however, to impact non target organisms such as fish and honeybees. To prevent adverse effects on the environment and species other than mosquitoes, applications are made only when necessary and strictly according to label instructions prescribed by the Environmental Protection Agency. These label instructions provide wide margins of safety for humans and the environment. The project applied 50.2 gal. Duet in 2024 over an area of 11,746 acres. An additional 2,637 acres were treated with 14.5 gal. Merus 3.0.

CLARKSBURG 2024

Crews from the Berkshire County Mosquito Control Project began larval surveillance in the Town of Clarksburg on 5/2/24 on the known breeding areas in the town. A total of 168 catch basins were treated in 2024. Arbovirus surveillance began on 6/5/24 and was concluded on 10/3/24.
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The following materials were used for larval control.

VECTBAC G	6.6 POUNDS	3.2 ACRES
NATULAR G30	1.3 POUNDS	1.0 ACRES
FOURSTAR 90 BRIQUETS	168 BRIQUETS	

Larval Control:

BREEDING SITE INSPECTIONS	31	TREATMENTS	11
CATCH BASIN INSPECTIONS	168	TREATMENTS	168

DPH Arbovirus Surveillance:

POOLS SUBMITTED	51	WNV ISOLATIONS (2) 8/22/24, 9/13/24 NO EEE ISOLATIONS

HINSDALE 2024

Crews from the Berkshire County Mosquito Control Project began larval surveillance on 5/15/24. Arbovirus surveillance began on 6/3/24 and was concluded on 10/3/24.

The following materials were used for larval control.

NATULAR G30	6 LBS.	.9 ACRES
VECTOBAC G	71 LBS.	12.4 ACRES
VECTOLEX WSP (CATCH BASIN)	161 PACKETS	

Larval Control:

BREEDING SITE INSPECTIONS	37	TREATMENTS	14
CATCH BASIN INSPECTIONS	161	TREATMENTS	161

DPH Arbovirus Surveillance:

POOLS SUBMITTED	34	WNV ISOLATION 8/15/24
		NO EEE ISOLATION

The following materials were used for adult control between 7/19/24 AND 8/23/24.

DUET	4.4 GAL.	929 ACRES

LANESBOROUGH 2024

Crews from the Berkshire County Mosquito Control Project began larval surveillance on 4/26/24. A total of 487 catch basins were treated during the breeding season. Arbovirus surveillance began in the town on 6/5/24 and was concluded on 8/22/24.

The following materials were used for larval control.

VECTOBAC G (BTI)	8.3 LBS.	1 ACRE
NATULAR G30	7.1 LBS.	.8 ACRES
FOURSTAR 90 BRIQUETS (CATCH BASIN)		30 BRIQUETS
VECTOLEX WSP (CATCH BASIN)		556 PACKETS

Larval Control:

BREEDING SITE INSPECTIONS	33	TREATMENTS	8
CATCH BASIN INSPECTIONS	586	TREATMENTS	586

DPH Arbovirus Surveillance:

POOLS SUBMITTED	32	NO ISOLATIONS WNV OR EEE

OTIS 2024

Crews from the Berkshire County Mosquito Control Project began larval surveillance on 4/26/24. Arbovirus surveillance began 6/3/24 and concluded 9/12/24.

The following materials were used for larval control.

VECTOBAC G (BTI)	54.3 LBS.	6 ACRES
NATULAR G30	19.6 LBS.	2.7 ACRES
VECTOLEX WSP (CATCH BASIN)		236 PACKETS

Larval Control:

BREEDING SITE INSPECTIONS	52	TREATMENTS	13
CATCH BASIN INSPECTIONS	236	TREATMENTS	236

DPH Arbovirus Surveillance:

POOLS SUBMITTTED	37	WNV ISOLATION (2 MOSQUITO) 8/15/24, 8/22/24
		NO ISOLATION EEE

The following materials were used for adult control between 6/5/24 and 9/13/24.

DUET	16 GAL.	3,349 ACRES
MERUS 3.0	7 GAL	1,435 ACRES

PITTSFIELD 2024

Crews began surveillance on the known breeding sites in the city on 4/17/24. A total of 5,712 catch basin were treated with larvicide during the breeding season. Arbovirus surveillance began on 5/29/24 and concluded on 10/9/24.

The following materials were used for Larval Control.

VECTOBAC G (BTI)	1238 LBS.	173.3 ACRES
VECTOMAX FG	30 LBS.	4 ACRES
NATULAR G30	37 LBS.	7 ACRES
FOURSTAR 90 (CATCH BASIN)		4,697 BRIQUETS
VECTOLEX WSP (CATCH BASIN)		1,015 PACKETS

Larval Control:

BREEDING SITE INSPECTIONS	174	TREATMENTS	63
CATCH BASIN INSPECTIONS	5,712	TREATMENTS	5,712

DPH Arbovirus Surveillance:

POOLS SUBMITTED	188	WNV ISOLATIONS (MOSQUITO) 8/15, 8/22, 9/5(2), 9/19 NO ISOLATION EEE

RICHMOND 2024

Crews began larval surveillance in Richmond 4/17/24. Arbovirus surveillance began on 6/3/24 and concluded on 9/18/24.

The following materials were used for larval control.

VECTOBAC G	19.5 LBS.	2.6 ACRES
NATULAR G30	1.3 LBS.	.2 ACRES
FOURSTAR 90 BRIQUET (CATCH BASIN)	47	BRIQUETS

Larval Control:

BREEDING SITE INSPECTIONS	40	TREATMENTS	6
CATCH BASIN INSPCTION	47	TREATMENTS	47

DPH Arbovirus Surveillance:

POOLS SUBMITTED	53	WNV ISOLATIONS(MOSQUITO): 7/25, 8/29(2), 9/13 NO ISOLATION EEE

SHEFFIELD 2024

Crews from the Berkshire County Mosquito Control Project began larval surveillance in the Town of Sheffield on 4/16/24. Arbovirus surveillance began on 6/3/24 and was completed on 10/9/24.

The following materials were used for larval control:

VECTOBAC G (BTI)	654 LBS.	88.6 ACRES
VECTOMAX FG	10 LBS.	12.8 ACRES
NATULAR G30	22.5 LBS.	3.3 ACRES
VECTOLEX WSP (CATCH BASIN)	326 PACKETS	

Larval Control:

BREEDING SITE INSPECTIONS	44	TREATMENTS	23
CATCH BASIN INSPECTIONS	326	TREATMENTS	326

MAPH Arbovirus Surveillance:

POOLS SUBMITTED	48	WNV ISOLATIONS (MOSQUITO): 9/5/24 NO ISOLATION EEE

The following materials were used for adult control from 6/6/24 to 9/19/24.

DUET	30.8 GAL.	7,241.6 ACRES
MERUS 3.0	4.6 GAL.	865 ACRES

SHERWOOD GREENS ROAD MANAGEMENT DISTRICT 2024

Berkshire County Mosquito Control Project began larval surveillance at Sherwood Greens Road Management District in Becket, MA on 4/26/24. Arbovirus surveillance began on 6/6/24 and concluded on 10/9/24.

The following materials were used for larval control:

VECTOBAC G	29.8 LBS.	4.4 ACRES

Larval Control:

BREEDING SITE INSPECTIONS	44	TREATMENTS 14

DPH Arbovirus Surveillance:

POOLS SUBMITTED	28	WNV ISOLATION 9/5/24 NO ISOLATION EEE

The following materials were used for adult control on 9/13/24.

MERUS 3.0	1.1 GAL.	172.9 A

TYRINGHAM 2024

Crews from the Berkshire County Mosquito Control Project began larval surveillance in the town of Tyringham on 6/12/24. A total of 57 catch basins were treated during the breeding season. Arbovirus surveillance began on 6/6/24 and was completed on 9/18/24.

The following materials were used for larval control:

VECTOBAC G	14.2 LBS.	1.9 ACRES
NATULAR G30	2 LBS.	.4 ACRES
VECTOLEX WSP (CATCH BASIN)	57 PACKETS	

Larval Control:

BREEDING SITE INSPECTIONS	14	TREATMENTS	3
CATCH BASIN INSPECTIONS	57	TREATMENTS	57

DPH Arbovirus Surveillance:

POOLS SUBMITTED	19	NO ISOLATION WNV OR EEE

Adult Control:

The following materials were used for adult control between 6/5/24 and 7/31/24.

DUET	2.4 GAL.	221 ACRES
MERUS 3.0	2.4 GAL.	221 ACRES

REFERENCES CITED

-USGS (United States Geological Survey) 2014 National Water Information System: Web Interface, USGS water resources, USGS01197500 Housatonic River Near Great Barrington, MA.