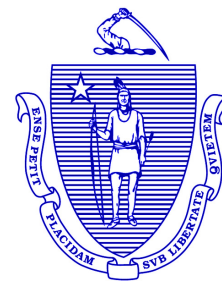


MASSACHUSETTS MOSQUITO CONTROL

ANNUAL OPERATIONS REPORT



Year Report Covers: 2022 Date of Report: 00/03/2022

Project/District Name: **Berkshire County Mosquito Control Project**

Address: 19 Harris Street

City/Town: Pittsfield, MA

Zip: 01201

Phone: 413 447 9808

Fax: 413 447 7185

E-mail: chris@berkshiremosquito.org

Report prepared by: *Christopher Horton*

NPDES permit no. **MAG87000B**

If you have a mission statement, please include it here:

ORGANIZATION SETUP:

Commissioner names:

Wally Terrill

Chairman

James McGrath

Member

Ryan Grennan

Member

Superintendent/Director name: Christopher Horton

Superintendent/Director contact phone number: 413 447 9808

Asst. Superintendent/Director name: N/A

District/Project website: <http://berkshiremosquito.org>

Twitter handle: @

Facebook page: [http://www.facebook.com/Berkshire County Mosquito Control Project](http://www.facebook.com/Berkshire-County-Mosquito-Control-Project)

Staffing levels for the year of this report:

Full time: 1

Part time:

Seasonal: 3

Other: (please describe)

Of the above, how many are:

(Please check off all that apply, and list employee name(s) next to each category)

- ☒ Administrative Christopher Horton
- ☐ Biologist
- ☒ Educator Christopher Horton
- ☐ Entomologist
- ☒ Facilities Christopher Horton
- ☒ Information technology Christopher Horton
- ☒ Laboratory Christopher Horton
- ☒ Operations Christopher Horton, Michael Healey, Heather Morris, Charles Ramsey
- ☒ Public relations Christopher Horton
- ☐ Wetland scientist
- ☐ Other (please describe)

For the year of this report, the following were maintained (enter number in the column to the left):

- Modified wetland equipment (list type)
 - 2 Larval control equipment (list type) Stihl Backpack Blowers
 - 2 ULV sprayers (list type) London Fog XKE/Clarke Smartflow, Promist 25HD/Clarke Smartflow
 - 6 Vehicles
- Other (please be specific):

Comments: _____

How many cities and towns are in your service area?* 9

Alphabetical list: Clarksburg, Hinsdale, Lanesborough, Otis, Pittsfield, Richmond, Sheffield, Sherwood Greens RMD, Tyringham

Were there any changes to your service area this year? No

Cities/towns added:

Cities/towns removed:

***Please attach a map of your service area (or a website link to that map).**

INTEGRATED PEST MANAGEMENT (IPM):

Check off all services that your district/project currently provides to member cities and towns as part of an IPM program (details will be provided in the sections below):

- ☒ Adult mosquito control
- ☒ Adult mosquito surveillance
- ☒ Ditch maintenance
- ☒ Education, Outreach & Public education
- ☒ Larval mosquito control
- ☒ Larval mosquito surveillance
- ☐ Open Marsh Water Management

- ☒ Research
☒ Source reduction (tire removals)
☐ Other (please list):

Comments: _____

LARVAL MOSQUITO CONTROL:

If you have a larval mosquito control program, please fill out the section below, else skip ahead to the next section.

Describe the purpose of this program: The larval control program is used to identify and control mosquito populations in their most concentrated and vulnerable state.

What months is this program active? April thru October

Describe the types of areas where you use this program: Larval control is used in wetlands, floodplain, catch basins, drainage structures and artificial containers.

Do you use:

- ☒ Ground application (hand, portable and/or backpack, etc.)
☐ Aerial applications
☐ Other (please list):

Comments: _____

List all products that you use for larval mosquito control in the table below (leave blank if not applicable):

Product Name	EPA #	Application Rate(s)	Application Method	Targeted life stage	Habitat Type	Total finished product applied
Fourstar 90 Briquet	83362-3	1 per basin	hand	Larvae	<input checked="" type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	4,072 briquet
Natular G30	8329-83	10 lbs. per acre	hand	Larvae	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	1 lb.
Vectobac G	73049-10	10 lbs. per acre	hand	Larvae	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	1,518 lbs.
Vectolex WSP	73049-20	1 packet per basin	hand	Larvae	<input checked="" type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	865 packet
Vectomax FG	73049-429	10 lbs. per acre	hand	Larvae	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	38 lbs.
				Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	
				Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	

List all products that you use for larval mosquito control in the table below (leave blank if not applicable):

Product Name	EPA #	Application Rate(s)	Application Method	Targeted life stage	Habitat Type	Total finished product applied
				Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	
				Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	
				Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	
				Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	
				Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	
				Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	
				Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	

What is your trigger for larviciding operations? (check all that apply)

- ☒ Best professional judgment
☒ Historical records
☒ Larval dip counts – please list trigger for application:
☐ Other (please describe):

Comments: _____

Please attach a map of your service area (or a website link to that map).

ADULT MOSQUITO CONTROL:

If you have a larval mosquito control program, please fill out the section below, else skip ahead to the next section.

Describe the purpose of this program: The purpose of the adult mosquito control program is to reduce the presence of flying mosquitoes in the target area in order to check population increase and reduce the number of vector and potential vector mosquitoes.

What is the time frame for this program? June thru October

Describe the types of areas where you use this program: Municipal roads, public and private property with appropriate access.

Do you use:

- ☐ Aerial applications
☐ Portable applications
☒ Truck applications
☐ Other (please list):

Comments: _____

For each product used, please list the name, EPA #, and application rate(s):

Product Name	EPA #	Application Rate(s)	Application Method	Total finished product applied
Duet	1021-1795-8329	.62 oz. per acre	Truck Mounted ULV	104.4

Please describe the maximum amounts or frequency used in a particular time frame such as season and areas

Maximum application for Duet is 1 application per week. Application may increase to label maximum in response to efficacy or public health concerns.

What is your trigger for adulticiding operations? (check all that apply)

- ☒ Arbovirus data

- ☒ Best professional judgment
- ☒ Complaint calls (Describe trigger for application:)
- ☒ Landing rates (Describe trigger for application)
- ☒ Light trap data (Describe trigger for application)

Comments: _____

Please attach a map of your service area (or a website link to that map).

SOURCE REDUCTION (Tire Removals)

If you practice source reduction methods, such as tire removal, please fill out the section below, else skip ahead to the next section.

Please describe your program: BCMCP collects tires for recycling at community events, neighborhood cleanup projects and locations identified during MCP operations in member communities.

What time frame during the year is this method employed? Source reduction is practiced year round as weather permits.

Comments: _____

WATER MANAGEMENT/DITCH MAINTENANCE

If you have a water management or ditch maintenance program, please fill out the section below, else skip ahead to the next section.

Please check all that apply:

- ☒ Inland/freshwater
- ☐ Saltmarsh

Please describe your program:

For inland/freshwater water management, check off all that apply.

Maintenance Type	Estimate of cumulative length of culverts, ditches, swales, etc. maintained (ft)
<input checked="" type="checkbox"/> Culvert cleaning	160 ft.
<input checked="" type="checkbox"/> Hand cleaning	6,302 ft.
<input type="checkbox"/> Mechanized cleaning	
<input type="checkbox"/> Stream flow improvement	
<input checked="" type="checkbox"/> Other (please list): Beaver Mitigation	Restoration of historical flow at five beaver mitigation sites in member towns.

Comments: _____

For saltmarsh ditch maintenance, check off all that apply:

Maintenance Type	Estimate of cumulative length of ditches maintained (ft)
<input type="checkbox"/> Hand cleaning	

<input type="checkbox"/> Mechanized cleaning	
<input type="checkbox"/> Other (please list):	

Comments: _____

What time frame during the year is this method employed?

Comments: _____

Please attach a map of ditch maintenance areas (or a website link to that map).

OPEN MARSH WATER MANAGEMENT

If you have an Open Marsh Water Management program, please fill out the section below, else skip ahead to the next section.

Describe the purpose of this program:

What months is this program active?

Please give an estimate of total square feet or acreage:

Comments: _____

Please attach a map of OMWM areas (or a website link to that map).

MONITORING (Measures of Efficacy)

Describe monitoring efforts for each of the following:

Aerial Larvicide – wetlands:

Ground ULV Adulticide: Ground ULV treatment is initiated as needed based on surveillance.

Larvicide – catch basins: Catch basins are visually inspected as product lifespan expires.

Larvicide-hand/small area Larval Surveillance is a continuous process throughout the season. Larval sites are inspected and treated as necessary several times during the course of the season.

Open Marsh Water Management:

Source Reduction: Source reduction sites are monitored throughout the year to verify function. New sites may be added based on request. The majority of ditch maintenance takes place after the end of mosquito surveillance season.

Other (please list):

Provide or list standard steps, criterion, or protocols regarding the documentation of efficacy (pre and post data), and resistance testing (if any):

Bcmcp relies on surveillance and trap data to determine efficacy. Trap counts, field observations, complaint calls and virus isolations initiate the larval and adult mosquito control response. Subsequent surveillance and trap data indicate efficacy and direct future treatment decisions.

Check the boxes below, indicating if your program has performed any of the following:

Research Project	Details
Bottle assays	
Efficacy testing	CDC efficacy testing of larval products. No resistance to Bti or L. sphaericus.
Other:	
Other:	

ADULT MOSQUITO SURVEILLANCE

If you have an adult mosquito surveillance program, please fill out the section below, else skip ahead to the next section.

Describe the purpose of this program: The adult surveillance program provides data relevant to trends in the size of the mosquito population as well as the presence and characteristics of arboviruses in the mosquito population.

What months is this program active? June thru October

Check off all trap types used this past season by your program:

Trap Type	Canopy? (check box for yes)	Number of traps (leave blank if zero)
<input type="checkbox"/> ABC light trap	<input type="checkbox"/>	
<input type="checkbox"/> ABC light trap w/CO ₂	<input type="checkbox"/>	
<input type="checkbox"/> CDC light trap	<input type="checkbox"/>	
<input checked="" type="checkbox"/> CDC light trap w/CO ₂	<input type="checkbox"/>	5
<input checked="" type="checkbox"/> Gravid trap		15
<input type="checkbox"/> Landing rate test		
<input type="checkbox"/> NJ light trap	<input type="checkbox"/>	
<input type="checkbox"/> NJ light trap w/CO ₂	<input type="checkbox"/>	
<input type="checkbox"/> Ovitrap		
<input type="checkbox"/> Resting box		
<input type="checkbox"/> Other (please describe):		
<input type="checkbox"/> Other (please describe):		
<input type="checkbox"/> Other (please describe):		

Do you maintain long-term trap sites in any of your areas? Yes

If yes, how many:

30

Please check off the species of concern in your service area:

- | | |
|--|--|
| <input checked="" type="checkbox"/> <i>Ae. albopictus</i> | <input type="checkbox"/> <i>Oc. abserratus</i> |
| <input type="checkbox"/> <i>Ae. cinereus</i> | <input checked="" type="checkbox"/> <i>Oc. canadensis</i> |
| <input checked="" type="checkbox"/> <i>Ae. vexans</i> | <input type="checkbox"/> <i>Oc. cantator</i> |
| <input checked="" type="checkbox"/> <i>An. punctipennis</i> | <input type="checkbox"/> <i>Oc. j. japonicus</i> |
| <input checked="" type="checkbox"/> <i>An. quadrimaculatus</i> | <input type="checkbox"/> <i>Oc. sollicitans</i> |
| <input checked="" type="checkbox"/> <i>Cq. perturbans</i> | <input type="checkbox"/> <i>Oc. taeniorhynchus</i> |
| <input checked="" type="checkbox"/> <i>Cx. pipiens</i> | <input checked="" type="checkbox"/> <i>Oc. triseriatus</i> |
| <input checked="" type="checkbox"/> <i>Cx. restuans</i> | <input checked="" type="checkbox"/> <i>Oc. trivittatus</i> |
| <input type="checkbox"/> <i>Cx. salinarius</i> | <input checked="" type="checkbox"/> <i>Ps. ferox</i> |
| <input checked="" type="checkbox"/> <i>Cs. melanura</i> | <input checked="" type="checkbox"/> <i>Ur. sapphirina</i> |
| <input type="checkbox"/> <i>Cs. morsitans</i> | |
| <input type="checkbox"/> Others (please list): | |

Number of adult mosquitoes collected this season (whether submitted to DPH or not): 15000+

Number of adult mosquito pools collected this season (submitted and unsubmitted): 720

Number of ovitrap collections this season, if any:

Any other trap collections of note (please describe):

Do you participate in the MDPH Arboviral Surveillance program? Yes

Total number of adult mosquito pools submitted to DPH this past season: 302

How many pools do you submit weekly on average? 20

Number of traps in your service area **placed by MDPH**: 40

Were these long-term trap sites or supplemental trapping sites? supplemental

Which arboviruses were found in your area during the previous mosquito season? Enter the number of pools/cases below:

Arbovirus	Positive Mosquito Pools	Equine Cases	Human Cases
<input type="checkbox"/> Eastern Equine Encephalitis (EEE)			
<input checked="" type="checkbox"/> West Nile Virus (WNV)	1	0	0
<input type="checkbox"/> Other (please list):			

Comments: _____

For each arbovirus listed below, please list the risk levels in your project area at both the start and end of the season (if more than one, please list all):

Arbovirus	Start of Season	End of Season
EEE	Low	Low
WNV	Low	Low

Comments: _____

EDUCATION, OUTREACH & PUBLIC RELATIONS

If you have an education/outreach program, please fill out the section below, else skip ahead to the next section.

Describe the purpose of this program: Outreach is used to increase public understanding of relevant mosquito related issues and to engage the population in measures aimed at reducing the risk of mosquito borne disease and improving the quality of life in member communities.

What time frame during the year is this method employed? Year Round

Check off all education/outreach methods that were performed by your program this year:

- ☒ Development/distribution of brochures, handouts, etc.
- ☒ Door-to-door canvassing (door hangers, speaking to property owners, etc.)
- ☒ Facebook page, Twitter, or other social media
- ☐ Mailings (Describe target audience(s):)
- ☒ Media outreach (interviews for print or online media sources, press releases, etc.)
- ☒ Presentations at meetings
- ☒ School-based programs, science fairs, etc.
- ☐ Tabling at events (local events, annual meetings, etc.)
- ☒ Website
- ☐ Other (please describe):

Estimate the audience reached this year using the education/outreach methods above: Several Thousand

Comments:

List your program's top 3 education/outreach activities for this year:

1. Berkshire Community College STEM event
2. Pittsfield Common monthly event
3. Sherwood Greens RMD Annual Meeting

Were you involved in any collaborations with the following partners this year? Provide details below, including a list of technical reports, white/grey papers, journal publications, trade magazine articles, etc:

- ☐ Academia
- ☐ Another mosquito control district/project
- ☐ Another state agency (DCR, DPH, etc.)
- ☐ Environmental groups
- ☐ Industry

List any training/education your staff received this year: NMCA Field Day continuing education credits, NMCA Annual Meeting, AMCA Annual Meeting, NEVBD Annual Meeting.

Please list the certifications and degrees held by your staff: Bachelor Biology, Bachelor Animal Science.

Comments: _____

INFORMATION TECHNOLOGY (IT)

Does your program use (check all that apply):

- ☐ Aerial Photography
- ☒ Databases
- ☒ Dataloggers (monitoring for temperature, etc.)
- ☒ GIS mapping (Describe: _____)
- ☐ GPS equipment
- ☒ Smartphones
- ☒ Tablets/Toughbooks
- ☐ Other (please describe): _____

Describe any changes/enhancements in IT from the previous year: We continue to develop a system of remote , real time, mosquito surveillance using BG Counter equipment.

Describe any difficulties your program had with IT software/equipment this year:

Comments: _____

REVENUES & EXPENDITURES

Please enter your approved budgets for the current, previous, and future fiscal years.

	Date of Fiscal Year	Approved Budget	Notes
Previous	2022	259219	
Current	2023	264573	
Future	2024	269475	

List each member municipality, along with the corresponding (cherry sheet) funding assessment dollar amount, for the current fiscal year (or provide a web link to this information):

Clarksburg	\$5,353
Hinsdale	\$12,966
Lanesborough	\$17,091
Otis	\$26,415
Pittsfield	\$153,442
Richmond	\$17,683
Sheffield	\$28,759
SGRMD	\$1,800
Tyringham	\$8,607

Total	\$272,116
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Comments: _____

SERVICE REQUESTS

How many service requests did you receive this season? 52

How many were for larviciding?

How many were for adulticiding? 52

Was this an increase or decrease over last season? Decrease

Comments: Lower mosquito numbers and breeding events. No flooding events.

EXCLUSIONS

How many exclusion requests did you receive this season? 58

Was this an increase or decrease over last season? Decrease

Do you have large areas of pesticide exclusion, such as estimated or priority habitats? No

If yes, please explain, and attach maps or a web link if possible.

SPECIAL PROJECTS

Did your program perform any of the following special projects? Check all that apply.

- ☒ Inspectional services (inspections at sewage treatment facilities, review of subdivision plans, etc.)
Describe: We work with local wastewater facilities to address mosquito issues.
- ☒ Work with DPW departments or other local or state officials to address stormwater systems, clogged culverts, or other areas identified as man-made mosquito problem areas
Describe: We address or report any issue related to drainage in member towns. We also work with DPW departments to address mosquito breeding issues.
- ☒ Work with groups as described above on long term solutions?
Describe: We coordinate with local DPW agencies to increase the efficiency and focus of mosquito control operations. Mainly related to source reduction and catch basin treatments.
- ☐ Conduct or participate in any cooperative research or restoration projects?
Describe:

- ☒ Participate in any state/regional/national workgroups or panels, or attend any meeting pertaining to the above?

Describe: AMCA Annual Meeting, NMCA Annual Meeting, NEVBD Annual Meeting and periodic research seminars.

- ☒ Work on any biological control projects, such as enhancement of habitat for native predators, release of predatory fish or invertebrates, etc.?

Describe: Source reduction and ditch maintenance projects focus on improving water quality with the goal of increasing fish access to encourage natural predation of developing mosquito larvae.

CHILDREN AND FAMILIES PROTECTION ACT (CFPA)

Is your program impacted by the CFPA? Yes

If yes, please explain: We have several listed schools and day care facilities in member towns.

If you have data on compliance rates with the CFPA within your program area, please list here:
We have two schools that file IPM plans for mosquito control.

Describe any difficulties you have had with the implementation of your program due to the CFPA, please elaborate here:

Comments:

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT PROGRAM

Did your program report any adverse incidents during this reporting period? No

If yes, please list any corrective actions here: _____

GENERAL COMMENTS

Please add any comments here for topics not covered elsewhere in this report: _____