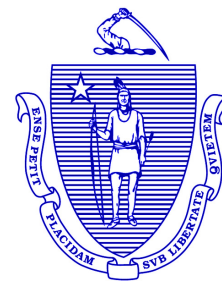


MASSACHUSETTS MOSQUITO CONTROL

ANNUAL OPERATIONS REPORT



Year Report Covers: 2020 Date of Report: 00/01/2021

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. **MAG87B219**

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

ORGANIZATION SETUP:

Commissioner names:

WallyTerrill

Chairman

James McGrath

Commissioner

Ryan Grennan

Commissioner

Superintendent/Director name: Christopher Horton

Superintendent/Director contact phone number: 4134479808

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/BerkshireCountyMosquitoControlProject)

Staffing levels for the year of this report:

Full time: 1

Part time:

Seasonal: 4

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 Chris Horton
- ☐ Biologist
- ☐ Educator
- ☒ Entomologist Nolan Fernandez
- ☒ Facilities Chris Horton
- ☒ Information technology Chris Horton
- ☒ Laboratory Chris Horton
- ☒ Operations Chris Horton
- ☒ Public relations Chris 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)
 - Larval control equipment (list type)
 - 2 ULV sprayers (list type) London Fog XKE, Promist 25HD
 - 6 Vehicles
- Other (please be specific):

Comments: _____

How many cities and towns are in your service area?* 10

Alphabetical list: Clarksburg, Hinsdale, Lanesborough, Otis, Pittsfield, Richmond, Sheffield, Sherwood Greens RMD, Stockbridge, 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 there most concentrated and vulnerable state.

What months is this program active? April through October

Describe the types of areas where you use this program: Larval control is used in wetlands, floodplain, catch basins, and artificial container environments

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
Vectobac G	73049-10	4-10 lbs. per acre	Manual	Larvae	<input checked="" type="checkbox"/> Catch basins <input checked="" type="checkbox"/> Containers <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	1,112 lbs.
Fourstar 90 Briquet	83362-3	1 briquet per basin	Manual	Larvae	<input checked="" type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	3,179 briquets
Natular G30	8329-83	5-10 lbs. per acre	Manual	Larvae	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	50 lbs.
Vectomax FG	73049-429	5-10 lbs. per acre	Manual	Choose one	<input type="checkbox"/> Catch basins <input type="checkbox"/> Containers <input type="checkbox"/> Wetland <input type="checkbox"/> Other (please list):	20 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):	
				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).

<https://www.berkshiresmosquito.org/>

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 to reduce the number of vector mosquitoes and potential vector mosquitoes.

What is the time frame for this program? June through 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	102.2 Gal.

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

Maximum frequency for Duet would be 1 application per week. Application frequency may be increased 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).

<https://www.berkshiresmosquito.org/>

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 towns.

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: BCMCP performs manual cleaning and maintenance on existing drainage systems and structures in member communities.

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	110 ft.
<input checked="" type="checkbox"/> Hand cleaning	12,510 ft.
<input type="checkbox"/> Mechanized cleaning	
<input type="checkbox"/> Stream flow improvement	
<input checked="" type="checkbox"/> Other (please list): Wetland restoration at beaver mitigation sites.	Restoration of historical flow at four 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:
based on surveillance data.

Ground ULV treatments are initiated on as needed basis

Larvicide – catch basins:
expires.

Catch basins are visually inspected as product lifespan

Larvicide-hand/small area

Larval surveillance is an ongoing process throughout the season. Larval sites are inspected several times during the course of the season.

Open Marsh Water Management:

Source Reduction:
proper function.

Source reduction sites are monitored seasonally to verify

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 mainly on trap data to determine efficacy. Trap counts, complaint calls, field observations and virus isolations initiate adult mosquito control response. Subsequent trap data indicates efficacy and directs 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. Resistance not found for Bti and 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 mosquito surveillance program provides data relevant to trends in the mosquito populations as well as the presence of arboviruses in mosquito populations.

What months is this program active? June through 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"/>	7
<input checked="" type="checkbox"/> Gravid trap		10
<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 checked="" type="checkbox"/> Ovitraps		6
<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 checked="" 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 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 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): 15,000+

Number of adult mosquito pools collected this season (submitted and unsubmitted): 1,196

Number of ovitrap collections this season, if any: 5

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: 227

How many pools do you submit weekly on average? 20

Number of traps in your service area **placed by MDPH**: 5

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 type="checkbox"/> West Nile Virus (WNV)			
<input type="checkbox"/> Other (please list):			

Comments: No Isolations 2020

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:

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: This is difficult to estimate for any media event or televised meeting.

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

1. Stockbridge BOH/Selectboard Meeting
2. Pittsfield BOH mosquito plan review
3. Dalton BOH IMM presentation

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 NEVBD resistance testing (larvicide)
- ☒ Another mosquito control district/project Combined Massachusetts Cs. melanura larvicide trials
- ☐ Another state agency (DCR, DPH, etc.)
- ☐ Environmental groups
- ☐ Industry

List any training/education your staff received this year: Continuing education meetings NEVBD, NMCA, AMCA

Please list the certifications and degrees held by your staff: BA, BS, MS

Comments: _____

INFORMATION TECHNOLOGY (IT)

Does your program use (check all that apply):

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

Describe any changes/enhancements in IT from the previous year: Migration to cloud based GIS system.

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	2020	\$275,326	
Current	2021	\$295,582	
Future	2022	\$297,582	

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):

DOR Code	Municipality	Region	Assessment	Reclamation Assessment
063	Clarksburg	BERKSHIRE	5,252	225
132	Hinsdale	BERKSHIRE	12,964	555
148	Lanesborough	BERKSHIRE	16,464	704
225	Otis	BERKSHIRE	27,253	1,166
236	Pittsfield	BERKSHIRE	146,137	6,251
249	Richmond	BERKSHIRE	17,541	750
267	Sheffield	BERKSHIRE	25,010	1,070
283	Stockbridge	BERKSHIRE	36,702	1,570
302	Tyringham	BERKSHIRE	8,259	353
			295,582	12,644

Comments: _____

SERVICE REQUESTS

How many service requests did you receive this season? 96

How many were for larviciding? 3

How many were for adulticiding? 93

Was this an increase or decrease over last season? Decrease

Comments:

EXCLUSIONS

How many exclusion requests did you receive this season? 198

Was this an increase or decrease over last season? Increase

Do you have large areas of pesticide exclusion, such as estimated or priority habitats? Yes

If yes, please explain, and attach maps or a web link if possible. Mass Audubon , Trustees of Reservations exclude properties from larvicide and adulticide.

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:
- ☒ 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: Developed a program with City of Pittsfield to identify damaged/ non-functioning drainage structures.
- ☐ Work with groups as described above on long term solutions?
Describe:
- ☒ Conduct or participate in any cooperative research or restoration projects?
Describe: Study sponsored by MDAR to investigate larval control of EEE vectors.
- ☐ Participate in any state/regional/national workgroups or panels, or attend any meeting pertaining to the above?
Describe:

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

Describe: Source reduction projects prioritize water quality improvement to promote and maintain fish access aimed at larval control.

CHILDREN AND FAMILIES PROTECTION ACT (CFPA)

Is your program impacted by the CFPA? Yes

If yes, please explain: All facilities covered under this act are treated as no spray properties unless they have filed appropriate pest management plan.

If you have data on compliance rates with the CFPA within your program area, please list here:

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: _____