MASSACHUSETTS MOSQUITO CONTROL
ANNUAL OPERATIONS REPORT

2011 Year of Report Date of Report: 12/28/11

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

Address: 19 HARRIS ST

City/Town: PITTSFIELD Zip: 01201

Phone: 413 447-9808 Fax: 413 447-7185

E-mail: bcmcp@bcn.net

Report prepared by: *Christopher Horton*

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

ORGANIZATION SETUP:

Please list your Commissioner's names:

WALLY TERRILL, CHAIRMAN
DAVID COLBURN

Please list the Supt./Director's name: Christopher Horton
Please list the Supt./Director's contact phone number: 413 447-9808
Please list your Asst. Supt./Asst. Director's name:

Do you have a website? No

If yes, please list the web address here: http://

Please list your staffing levels for the year of this report:

Full time: 1
Part time:
Seasonal: 2
Other: (please describe)

Please break these down into the following areas:

Administrative staff: 1
Field staff: 2

Please check off all that apply, and list employee name(s) next to each category:
☒ Public relations Christopher Horton
☒ Information technology Christopher Horton
☐ Entomologist
☐ Wetland Scientist
☐ Biologist
☒ Education Christopher Horton
☒ Laboratory Christopher Horton
☒ Operations Christopher Horton, George Lowe, Daniel Sala
☒ Facilities Christopher Horton
☐ Other (please list)

For the year of this report, we maintained:
5 vehicles
modified wetland equipment (list type)
2 ULV sprayers (list type) Beecomist, London-Air.
Larval control equipment (list type) 2 Backpack sprayers with granular, mist, and ULV capability.
Other (please be specific):

Comments: _____

How many cities & towns in your service area? 7
Please list: Clarksburg, Hinsdale, Otis, Pittsfield, Sheffield, Stockbridge, Tyringham.

***Please attach a link to a map of your service area if possible.**

INTEGRATED PEST MANAGEMENT (IPM):

DEFINITION: a comprehensive strategy of pest control whose major objective is to achieve desired levels of pest control in an environmentally responsible manner by combining multiple pest control measures to reduce the need for reliance on chemical pesticides; more specifically, a combination of pest controls which addresses conditions that support pests and may include, but is not limited to, the use of monitoring techniques to determine immediate and ongoing need for pest control, increased sanitation, physical barrier methods, the use of natural pest enemies and a judicious use of lowest risk pesticides when necessary.

Please check off all of the services that you currently provide to your member cities and towns as part of your IPM program; details of these services are in the next sections.

☒ **Larval mosquito control**
☒ **Adult mosquito control**

☒ **Source reduction**
☒ **Ditch maintenance**
☐ **Open Marsh Water Management**
☒ **Adult mosquito surveillance**
☒ **Education, Outreach & Public education**
☐ **Research**
☐ **Other (please list):**

Comments: _____

LARVAL MOSQUITO CONTROL:

Do you have a larval mosquito suppression program? Yes

If yes, please describe the purpose of this program: Eliminate nuisance mosquitoes in district member communities.

Please give the time frame for this program: April thru mid September

Describe the areas that this program is used: Woodland pools, marshlands, bogs, permanent water swamps, floodplains, and municipal drainage systems.

Do you use:
☒ **Ground applied (includes hand, portable and/or backpack)**
☐ **Helicopter applications**
☐ **Other (please list):**
Comments: _____

What products do you use in – (please use product name and EPA#)

Wetlands: Vectobac G #275-50
Catch basins: Altosid WSP Packets #2724-448, Vectolex Packets #73049-20
Containers: Vectobac G #275-50
Other (please list):

Please list the rates of application for the areas listed above:

Wetlands: 4 lbs per acre
Catch basins: 1 per basin
Containers: As needed
Other:

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

☒ Larval dip counts – please list trigger for application: 3-5 Larve per dip

☒ Historical records
☒ Best professional judgment

Comments: _____

***Please attach a link to maps of treatment areas if possible.**

ADULT MOSQUITO CONTROL:

Do you have an adult mosquito suppression program? Yes

If yes, please describe the purpose of this program: Reduce adult mosquito populations in district member towns.

Please give the time frame for this program: June 1st thru October 1st

Describe the areas that this program is used: Parks, Summer Camps, Campgrounds, Residential developments, District town streets, Recreational Venues

Do you use:
☒ **Truck applications**
☒ **Portable applications**
☐ **Aerial applications**
☐ **Other (please list):**
Comments: _____

Please list the names of the products used with EPA #:
1). DUET # 1021-1795-8329
2). FLIT 10EC #8329-67
3).
4).
5).
6).

Please list your application rates for each product:
1). .62 oz. per acre
2). .01lb. per acre
3).
4).
5).
6).

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

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

☒ Landing rates - please list trigger for application 3-5 Mosquitoes per minute
☐ Light trap data - please list trigger for application
☒ Complaint calls - please list trigger for application
☐ Arbovirus data
☒ Best professional judgment

Comments: Our service area is rural and we sometimes receive requests from isolated areas, therefore we use professional judgement as a trigger for applications.

***Please attach a link to maps of treatment areas if possible.**

SOURCE REDUCTION

Do you perform source reduction methods such as tire/container removal? Yes

If yes, please describe your program: When responding to a service request, if tires or containers are found in the area we will remove, treat, or explain to the individual the significance of containers as breeding habitat.

What time frame during the year is this method employed? June thru September

Comments: _____

DITCH MAINTENANCE

Do you have a ditch maintenance program? Yes

Please check all that apply:
☒ Inland/freshwater
☐ Saltmarsh

If yes, please describe:

Please check off all that apply INLAND DITCH MAINTENANCE:

☒ **Hand tools**
☐ **Mechanized equipment**
☒ **Other (please list): BRUSH SAWS, CHAIN SAWS**
Comments: _____

Please check off all that apply SALTMARSH DITCH MAINTENANCE:

☐ **Hand cleaning**
☐ **Mechanized cleaning**
☐ **Other (please list):**
Comments: _____

Please give an estimate of cumulative length of ditches maintained from the list above **INLAND**:

Hand cleaning 6,550 LINEAR FEET
Mechanized cleaning
Other (please list):

Comments: _____

Please give an estimate of cumulative length of ditches maintained from the list above **SALTMARSH**:

Hand cleaning
Mechanized cleaning
Other (please list):

What time frame during the year is this method employed?

Comments: _____

***Please attach a link to maps of ditch maintenance areas if possible.**

MONITORING (Measures of Efficacy)

Please describe monitoring efforts for each of the following:

Aerial Larvicide – wetlands:
Larvicide – catch basins: **Pre and post dipping**
Larvicide-hand/small area
Ground ULV Adulticide: **Pre and post landing rates**
Source Reduction: **Source reduction sites are monitored for larval development**
Open Marsh Water Management:
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):

OPEN MARSH WATER MANAGEMENT

Do you have an OMWM program? No

If yes, please describe:

Please give an estimate of total square feet or acreage:

What time frame during the year is this method employed?

Comments: _____

***Please attach a link to maps of OMWM areas if possible.**

ADULT MOSQUITO SURVEILLANCE

Do you have an adult mosquito surveillance program? Yes

Please list the number (not location) of MDPH traps in your service area: 0

Please check off all the types of surveillance that apply to your program:

☒ Gravid traps	
☐ Resting boxes	
☒ CDC light traps	☐ Canopy
☐ CDC light traps w/CO_2	☐ Canopy
☒ ABC light traps	☐ Canopy
☐ ABC light traps w/CO_2	☐ Canopy
☐ NJ light traps	☐ Canopy
☐ NJ light traps w/CO_2	☐ Canopy

Other (please describe):

Please describe the purpose of this program: Gravid traps are deployed in each of the member towns to monitor mosquito abundance and to detect the presence of arbovirus in the area.

Do you maintain long-term trap sites in any of your areas? No

If yes, please describe how you chose these long-term sites.

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

☐ *Ae. albopictus*
☐ *Ae. cinereus*
☒ *Ae. vexans*
☐ *An. punctipennis*
☒ *An. quadrimaculatus*
☒ *Cq. perturbans*
☒ *Cx. pipiens*
☒ *Cx. restuans*
☐ *Cx. salinarius*
☐ *Cs. melanura*
☐ *Cs. morsitans*
☒ *Oc. abserratus*
☒ *Oc. canadensis*
☒ *Oc. cantator*
☒ *Oc. excrucians*
☐ *Oc. fitchii*
☒ *Oc. j. japonicus*
☐ *Oc. punctor*
☐ *Oc. sollicitans*
☐ *Oc. stimulans*
☐ *Oc. taeniorhynchus*
☒ *Oc. triseriatus*
☒ *Oc. trivittatus*
☐ *Ps. ferox*
☐ *Ur. sapphirina*

☐ Other (please list):

Do you participate in the MDPH Arboviral Surveillance program? Yes

How many pools do you submit weekly on average? 6

Please check off the arboviruses found in your area in the past 5 years:

☒ West Nile Virus
☐ Eastern Equine Encephalitis
☐ Other Please list:

Did the above listed diseases cause human or horse illnesses? No

Please explain:

At what arbovirus risk level did the year begin in your area? (If more than one please list)

WNV: REMOTE
EEE: REMOTE

At what arbovirus risk level did the year end in your area? (If more than one please list)

WNV: REMOTE
EEE: REMOTE

What time frame during the year is this method employed? Mid June thru October

Comments: _____

***Please attach a link to maps of surveillance areas if possible.**

EDUCATION, OUTREACH & PUBLIC RELATIONS

Do you have an education/public outreach program program? Yes

If yes, please describe: The superintendent has participated in several television and radio interviews and has attended city council, board of health, and selectboard meetings to discuss mosquito related issues. We try to use each interaction with the public as an oportunity to explain our methods and the significance of our work. We plan to include school visits and a possible local access television show in our future public relations efforts.

Please check off all that apply:

☐ School based program
☐ Website
☒ PR brochures/handouts
☒ Community events
☐ Science fairs
☒ Meeting presentations
☐ Other (please describe):

Please give an estimate of attendance/participants in this program:

Please list some events you participated in for the year of this report: Town meetings, Board of Health meetings, Selectboard meetings, Radio and Television interviews.

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

Have you performed any research projects, efficacy, bottle assays, etc.? Not at this time

If yes, please elaborate on your research projects:

Are you involved in any collaboration with academia, industry, environmental groups, etc.? Not at this time

If yes, please elaborate on your collaborations this past year:

Please provide a list of technical reports, white/grey papers, publication in journal or trade magazines, etc.

Does your staff participate in educational opportunities? Yes

If yes, please list the training and education your staff received this year: Clarke mosquito workshops, NMCA Field Days, NMCA Annual Meeting

Please list the certifications and degrees held by your staff: Pesticide Licenses Certification and Applicator. Bachelors degree Natural Science.

Comments: _____

BIOLOGICAL CONTROL EFFORTS

Do you have a biological control program? No

If yes, please describe:

Is this program the introduction of mosquito predators or the enhancement of habitat for native predators?

Please check off all that apply:

☐ Predatory fish
☐ Predatory invertebrates
☐ Other (please describe):

What time frame during the year is this method employed?

Comments: _____

INFORMATION TECHNOLOGY

Does your program use (check all that applies):

☒ Computers
☒ GIS mapping
☐ GPS equipment
☐ Computer databases
☐ Aerial Photography
☐ Other (please describe):

Please describe your capabilities in these areas: Limited

Please describe your current GIS abilities: Beginner

Give details if possible on your GIS abilities: We have access to the GIS systems of certain member towns which allow us to reference land records and public works applications and also give basic aerial imagery.

Please describe any changes/enhancements in this area from the previous year:

Comments: _____

REVENUES & EXPENDITURES

Please give a concise statement of revenues & expenditures for the prior fiscal year ending June 30.

EXPENDITURES $ 188,684 REVENUES $ 204,951

List each **member municipality along with the corresponding (cherry sheet) funding assessment** dollar amount for the prior fiscal year.

Comments: Clarksburg $ 8,334 , Hinsdale $ 8,748, Otis $19,477
Pittsfield $119,224, Sheffield $19,796, Stockbridge $28,585, Tyringham $6,039.

PESTICIDE USAGE

Please total your pesticide usage with information from your Mass. Pesticide Use Report, WNV Larvicide Use records and contracted pesticide applications. Applications methods include; hand/backpack, aerial, ULV, mistblower, other (please explain)

Product Name: VECTOBAC G

EPA Reg. #: 275-50
Application method: HAND
Targeted life stage: Larvae
Total amount of concentrate applied: 3,152 LBS.
Comments: _____

Product Name: ALTOSID WSP PACKETS
EPA Reg. #: 2724-448
Application method: HAND
Targeted life stage: Larvae
Total amount of concentrate applied:
Comments: _____

Product Name: VECTOLEX WSP PACKETS
EPA Reg. #: 73049-20
Application method: HAND
Targeted life stage: Larvae
Total amount of concentrate applied: 128.6 LBS>
Comments: _____

Product Name: DUET
EPA Reg. #: 1021-1795-8329
Application method: TRUCK MOUNTED ULV SPRAYERS
Targeted life stage: Adult
Total amount of concentrate applied: 152.7 GALS.
Comments: _____

Product Name: FLIT 10EC
EPA Reg. #: 8329-67
Application method: Backpack Sprayer
Targeted life stage: Adult
Total amount of concentrate applied: 2.2GALS.
Comments: _____

Product Name:
EPA Reg. #:
Application method:
Targeted life stage: Choose one
Total amount of concentrate applied:
Comments: _____

Product Name:
EPA Reg. #:
Application method:
Targeted life stage: Choose one
Total amount of concentrate applied:
Comments: _____

Product Name:
EPA Reg. #:
Application method:
Targeted life stage: Choose one
Total amount of concentrate applied:
Comments: _____

Product Name:
EPA Reg. #:
Application method:
Targeted life stage: Choose one
Total amount of concentrate applied:
Comments: _____

LARGE AREA EXCLUSIONS

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. We do have areas of priority habitat and consult GIS maps prior to treatment.

SPECIAL PROJECTS

Do you perform any inspectional services such as inspections at sewage treatment facilities or review sub division plans? No

If yes, please elaborate

Do you work with DPW departments or other local or state officials to address stormwater systems, clogged culverts or other areas that you have identified as man-made mosquito problem areas? Yes

If yes, please elaborate: We notify DPW officials of clogged culverts, broken pipes / tubes we correct problems if possible.

Have you worked with these departments on long term solutions? Yes

If yes, please elaborate: We are now working with DPW's to maintain ditches and drainage outflows as requested.

Did you conduct or participate in any cooperative research or restoration projects?

If yes, please elaborate:

Did you or participate on any **State/Regional/National workgroups or panels or attend any meeting pertaining to the above**?

If yes, please elaborate: YES NMCA ANNUAL MEETING

CHILDREN AND FAMILIES PROTECTION ACT

Is your program impacted by the Children and Families Protection Act? Yes

If yes, please explain: We maintain a list of school properties and daycare centers and do not larvicide or adulticide at these locations.

If you have data on compliance with this Act and your program, please list here:

If you had difficulties with implementation of your program due to this law, please elaborate here:

Comments:

GENERAL COMMENTS

Please list any comments not covered in this report: BUDGET FISCAL YEAR 2011

AO1	SALERIES INCLUSIVE	$ 80,245
A08	OVERTIME PAY	$ 2,668
B02	IN STATE TRAVEL	$ 200
BO5	TRAINING, REGISTRATION + MEMBERSHIP	$ 500
D09	FRINGE BENEFITS (HEALTH INS, MEDICARE ETC)	$ 15,598
D20	RETIREMENT ASSESSMENT	$ 11,282
E01	OFFICE + ADMINISTRATIVE EXPENSES	$ 400
E02	PRINTING EXPENSES + SUPPLIES	$ 300
300	POSTAGE	$ 400
E13	ADVERTISING EXPENSE	$ 500
75		
E19	LICENSES, INS. VEHICLE/LIABILITY, TOLLS	$ 12,600
EE2	CONFERENCE TRAINING + REGISTRATION	$ 205
F09	CLOTHING + FOOTWEAR	$ 156
F11	CLEANING SUPPLIES	$ 200
78		
F24	MOTORIZED VEHICLE EQUIPMENT, REPAIR	$ 1,000
G01	SPACE RENTAL	$ 15,072
G03	ELECTRICITY	$ 2,000
G05	FUEL FOR VEHICLES	$ 8000

G11	NATURAL GAS	$ 2,000
K11	HEAVY EQUIPMENT	$ 15,190
L44	MOTORIZED VEHICLE MAINTENANCE + REPAIR	$ 2000
N50	MONITOR ALARM SYSTEM	$ 240
N52	FACILITY MAINTENANCE + REPAIR	$ 200
N64	PESTICIDES + SUPPLIES	$ 30,000
U02	TELLECOMMUNICATIONS SERVICES	$ 1,600

FY11	TOTAL EXPENSES	$ 202,800
FY 11	ORIGINAL BUDGET SUBMITTED	$ 202,800
ROLLOVER FUNDS 2010 BUDGET		$ 2,151
	FINAL FY 2011 BUDGET	$ 204,951

Berkshire County Mosquito Project Pesticide Discharge Management Plan

Berkshire County Mosquito Control Project
19 Harris Street
Pittsfield MA, 01201
Phone (413) 447-9808, Fax (413) 447-7185

A. Pesticide Discharge Management Team. All persons may be contacted at:
Berkshire County Mosquito Control Project, 19 Harris Street, Pittsfield, MA 01201
Phone (413) 447-9808, Fax (413) 447-7185

1. Person(s) responsible for managing pests in relation to the pest management area

    a. Christopher J. Horton-Superintendent

2. Person(s) responsible for developing and revising the PDMP.

    a. Christopher J. Horton-Superintendent

3. Person(s) responsible for developing, revising, and implementing corrective actions and other effluent limitation requirements.

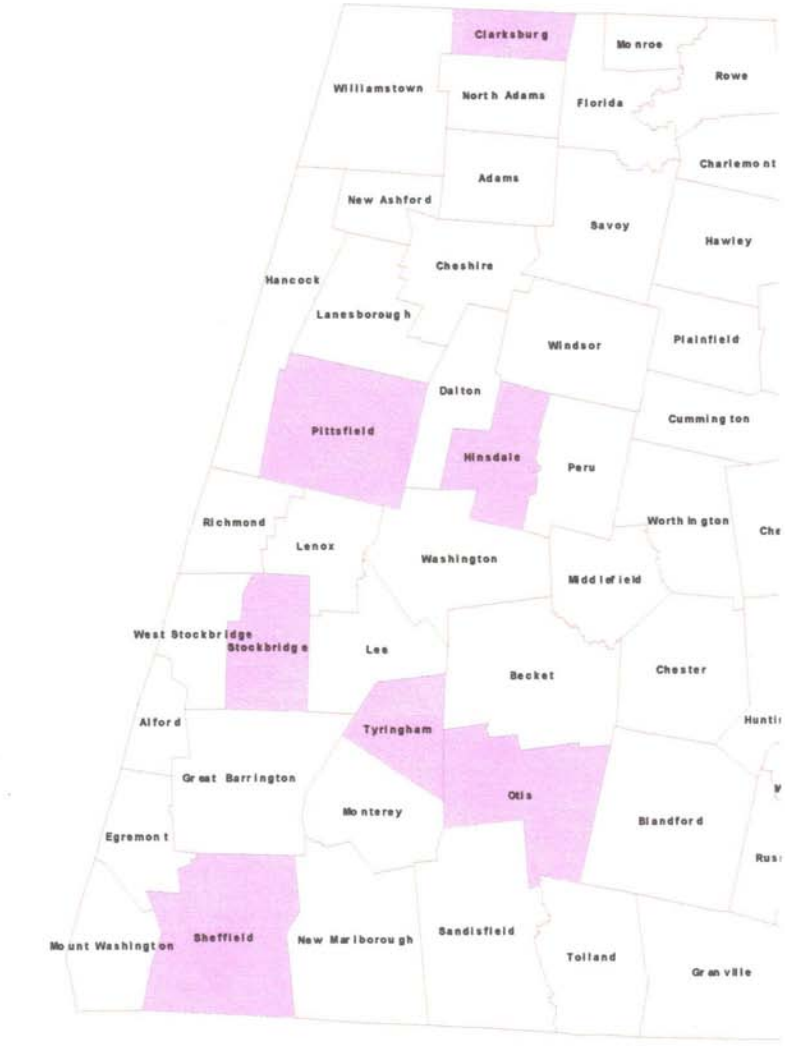
    a. Christopher J. Horton- Superintendent

4. Person(s) responsible for pesticide applications (mix, load, apply).

    a. Christopher J. Horton-Superintendent
    b. George Lowe- Field Technician
    c. Daniel Sala- Field Technician

B. Pest Management Area Description

Pest Problem Area Description: Berkshire County Mosquito Project is charged with managing mosquito populations in the Towns of Clarksburg, Hinsdale, Otis, Pittsfield, Sheffield, Stockbridge, and Tyringham. These towns are located in Berkshire County in western Massachusetts.



i. Natural Environments

1. Woodland pools , ponds, and depressions are isolated wetlands occurring throughout the BCMCP service area within forested uplands and agricultural areas Examples of these habitats include wooded or shrub swamps, fens, and river oxbows many of these sites only contain water

during wet seasons of the year and serve as excellent breeding habitat for most species of mosquito found in our region.

2. Other natural environments include springs, seeps, tree holes, tree cavities, and burrows made by various species of wildlife.

ii Man-made Environments

1. Shallow roadside ditches can contribute to mosquito populations at certain times. Such sites often remain dry throughout much of the year or because of temperature or oxygen content do not support fish life.

2. Storm drains and catch basins are found throughout the project area and provide habitat for Culex pipiens, our primary WNV vector.

3. Containers come in all shapes and sizes. They can be represented by something as small as a bottle top to something as large as a discarded or unkempt boat. Containers serve as the primary larval site for Culex pipiens which is a problem mosquito in the more urban or suburban areas of the county.

4. Other man-made sites include sediment retention and detention ponds.

2. Pest Problem Description

a. Berkshire County Mosquito Control Project is charged with managing mosquito populations in seven communities in Berkshire County. Cities and towns in our service area lie in the following watersheds: Farmington, Hudson-Hoosic, and Housatonic. The BCMCP service area encompasses 241.4 square miles. The BCMCP actively surveys and conducts control efforts on the following species:

i. *Aedes vexans* is a common woodland mosquito that has the potential to fly up to five miles. It is generally encountered in the spring, but can be found at other times of the year especially after flooding rains. This species has been identified as a vector of Eastern Equine Encephalitis (EEE), West Nile Virus (WNV), and dog heartworm.

ii. *Coquillettidia perturbans* is a fairly large mosquito that is often associated with aquatic habitats that include cattails, Typha spp. It is generally considered a bridge vector of EEE to mammals, but also has tested positive for West Nile in the United States. It commonly takes blood meals from both bird and mammal species (including humans).

iii. *Culex pipiens* the house mosquito, is our regions primary WNV vector. It prefers somewhat stagnant or polluted water conditions as larval habitat, and can be a common species in storm drain systems, especially in drainage lines equipped with sumps in the catch basins that tend to hold water on a permanent basis.

iv. *Culex restuans* is an early season mosquito. Larval habitats for this species typically include a variety of semi-permanent waterways, including roadside ditches and woodland pools. It has been reported to carry both EEE and WNV and may be an important vector in the early amplification of these viruses in bird populations as birds appear to be it's primary blood hosts.

v. *Culex salinarius* is a common Culex mosquito throughout much of the year in our region. Adults are readily attracted to light traps, and larvae are found in freshwater and somewhat saline environments. This species is recorded to carry dog heartworm, EEE, SLE, and WNV. It appears to be an opportunistic feeder of birds, mammals and even reptiles, and may serve as an important bridge vector in the southeastern United States.

vi. *Ochlerotatus canadensis* and Oc. *excrucians* are freshwater mosquitoes. Larvae develop in temporary or semi-permanent woodland pools. The females will bite in the woods any time of the day, but are most active in the evening. They are aggressive and long lived.

vii. *Oclerotatus abserratus* is a very common early spring to early summer mosquito pest of humans and other mammals. Larvae are found in temporary spring pools and margins of permanent waters in April. Readily bites in shaded areas during the day.

viii. *Anopheles punctipennis* is found occasionally in the spring and summer. This pest of humans has a mildly annoying bite. The larvae are found in a wide variety of wetlands including permanent swamps and along the edges of ponds and slow moving streams.

ix. *Anopheles quadrimaculatus* is a common summer mosquito. A pest of humans and other mammals that readily enters houses and has a mildly annoying bite. The population increases during the summer. The larvae are found in clear water amongst low vegetation or floating debris, in permanent swamps and along the edges of ponds and slow moving streams.

x. *Ochlerotatus japonicus* is a pest of humans and other mammals. Its proffered habitat is artificial containers and discarded tire casings. It is not belived at this time to be a voracious biter of man, however research has shown it can be a pest. West nile virus has been isolated from this species.

xi. *Ochlerotatus triseriatus* is also a pest of humans and other mammals. Most of these larvae are found in tire casings although some are found in other shaded artificial containers and in tree holes. When this mosquito is a pest it's breeding source is usually close by.

3. Action Threshold

a. The following action thresholds are established to trigger larvicide applications in our service area:

i. Treatments of larval mosquito habitat may be conducted in areas that contain on average at least 1 larva per dip. Actual treatments will be based on local demographics, mosquito species present, and other historic and current conditions.

ii. The storm water system (catch basins) are treated in areas where vector species have been found or there is a history of arbovirus activity.

4. Water Quality Standards

Waterways in the BCMCP service area are not impaired with any Pesticides used by BCMCP.

C. Control Measure Description

1. A description of the control measures to demonstrate how the operators specifically plan to meet the applicable technology-based or water quality-based effluent limitations.

a. Prevention, mechanical/physical methods can be as basic as emptying water from containers or as complex as repairing broken water lines or drainage systems which often require involvement of local public works departments. Interaction with the community, whether it be an individual contact, media contact, or scheduled event is always used to suggest ways that residents can assist in the prevention of mosquito problems by removing containers and articles from yards that can

provide larval habitat. The importance of tire casings as breeding habitat is also stressed.

b. Physical manipulation of environments such as maintenance of drainage systems which maintain water flow and allow access to larvae by natural predators of mosquitoes are often an effective means for Field Technicians to resolve problems on a localized level.

c. BCMCP uses biological control agents for the control of larval mosquito populations. *Bacillus sphaericus* and/or *Bacillus thuringiensis israelensis* are used to treat freshwater larval habitats and catch basin/storm drains, against our primary WNV vector species.

d. Pesticides are used to target adult mosquito populations as a control measure. Products have been chosen specifically to minimize impacts on the natural environment and non-target species. These products are applied as directed by their respective label, and all equipment used in this process is closely monitored and calibrated by staff and manufacturer representatives.

Operators consider impact on non-target species, impact on water quality, pest resistance, feasibility, and cost effectiveness when evaluating and selecting the most efficient and effective means of pest management.

2. A brief explanation of the control measures used at the site to reduce pesticide discharge, including evaluation and implementation of the six pest management tools:

    a. no action

    b. prevention

    c. mechanical/physical methods

    d. cultural methods

    e. biological control methods

    f. pesticides

    Operators consider impact to non-target species, impact on water quality, pest resistance, feasibility, and cost effectiveness when evaluating and selecting the most effective and efficient means of pest control to minimize pesticide discharge to waters of the U.S.

3. Control measures are evaluated separately based on the life stage of the

mosquito being targeted:

a. Efficacy in adult populations is determined by pre and post treatment trap counts. If the treatment area is not in the vicinity of a trap site landing rates are used to evaluate mosquito populations.

b. Larval control efficacy is assessed by post treatment dip surveys.

D. Schedules and Procedures

1. Pertaining to Control Measures Used to Comply with the Effluent Limitations in Part 2.

a. Application Rate and Frequency Procedures.

i. Application Rate Determination

1. Determine species and age of target mosquito

2. Evaluate environmental conditions

3. Consider target area flora and fauna

4. Determine appropriate application rate based on product label recommendations, previous experience and efficacy tests.

ii. Frequency Determination

1. Determine target site history with selected pesticide

2. Evaluate effect of selected pesticide use on frequency and quantity thresholds for active ingredient.

3. Consider alternative treatment options.

iii. Resistance Considerations

1. Consider documented resistance of target species to selected pesticide and/or any compounds that are in the same class or exhibit similar modes of action. Also consider the possibility of cross resistance.

2. Consider the use of alternate control options and/or product rotation.

b. Spill Prevention Procedures

i. Perform daily inspections of spray equipment and pesticide storage

areas.

ii. Applicators in the field are equipped with cell phones and a list of emergency contact numbers:

1. Police

2. Poison Control

3. Project Superintendent

4. Mass. Dept. of Environmental Protection

iii. All spray vehicles are equipped with labels, MSDS sheets and other fact sheets. This information is also available at the project headquarters. All spray vehicles are equipped with an emergency response spill kit.

iv. Chemical spill response plan:

1. Isolate contaminated area.

2. Select PPE

3. Contain spill and notify a supervisor.

4. Collect material for disposal using absorbent pads and/or absorbent granules.

5. Clean contaminated vehicles and equipment according to label Instructions.

6. Dispose of contaminated material according to label instructions.

BCMCP Chemical List and PPE requirements attached.

c. Pesticide Application Equipment Procedures

i. Backpack Sprayer

a. Application equipment must be calibrated annually to deliver pesticide application rates according to label instructions.

b. Prior to application, equipment is inspected visually for signs of leaks or wear in the tank, lines, and nozzle. Any deficiencies are corrected prior to startup.

c. Routine cleaning and maintenance of spray system is performed to insure proper function.

ii. Ground Adulticiding

a. Application equipment must be calibrated annually to confirm the Volume Median Diameter generated by the equipment is in accordance label instructions for the pesticide being used.

b. Prior to application, spray equipment is visually inspected for signs of leaks or wear in the tank, lines, and nozzle.

c. Routine cleaning and maintenance of the spray system is performed to ensure proper function of the system.

d. Annually, all belts, lines, filters, and nozzles are evaluated for serviceability and replaced as needed.

d. Pest Surveillance Procedures

i. Adult Surveillance

1. Inspection service requests are taken during normal working hours and through telephone messages and email after normal working hours. Many requests are for simple treatments, although occasionally these calls lead to the discovery of larger issues that need attention. Technicians generally evaluate larval and adult mosquito populations and determine if populations warrant treatment based on observed densities.

2. Gravid trap collections are the core of our WNV surveillance. Gravid traps are used to capture *Culex pipiens/restuans,* which is our primary WNV vector. Twelve gravid traps are currently deployed at locations throughout the BCMCP service area each week during the mosquito season.

ii. Larval Surveillance

1. BCMCP maintains a record of known breeding sites in the project area. These sites are monitored according to schedule to determine population density, species, and stage of development of larvae. Other information such as water temperature, water depth, and extended weather forecasts are used to develop specific treatment strategies for

each site.

2. Service request inspections include larval surveillance. Generally these requests stem from localized, container breeding species of mosquitoes that are often remedied by dumping water from buckets, birdbaths, and tarps or other objects that collect and hold water. Occasionally service request investigations uncover larger scale problems such as broken water lines or blocked drainage systems that may require further action by landowners or town departments.

iii. Disease Surveillance

1. Mosquito pool analysis is a most useful indicator of the presence of WNV and occasionally EEE in our service area. Up to 50 adult *Culex sp., Oc. Japonicus, Cs. Moristans* or *Culiseta Melanura* mosquitoes are grouped to form a single sample which is tested for either WNV or EEE respectively.

e. Assessing Environmental Conditions

i. Larval Mosquito Treatments

1. Two major environmental considerations are tree canopy and the amount of aquatic vegetation present within the treatment site. Tree canopy may deflect or otherwise prevent penetration of pesticide from reaching the target area. Heavy vegetation within the wetland can interfere with the migration of the larvicide agent through the water column.

ii. Adult Mosquito Treatments

Treatments for adult mosquitoes occur in both urban and rural areas of the county. Applicators are aware of listed spray exclusion areas, and turn equipment off when necessary to avoid drift into such areas. Similarly, equipment is turned off when approaching large bodies of water such as lakes or ponds to avoid impacts on non-target organisms in these environments. Exclusion areas are outlined in a binder carried by each technician in each spray vehicle. Spray exclusion areas are updated as needed.

1. Apply treatments when insects are most active and meteorological conditions are conducive to keeping spray cloud and air column close to the ground. Applications are done after astronomical sunset per State Reclamation and Mosquito Control Board policy dated August 20, 2007 but can be performed before astronomical sunrise if conditions warrant and a waiver has been granted by the SRMCB.

2. Do not apply when ambient temperature is less than 50F, unless otherwise specified on the pesticide label.

3. Apply when ground wind speeds are equal to or greater than 1 mph but less than 20 mph unless otherwise specified on the pesticide label.

4. Do not apply over bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes or estuaries) except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of applied material away from the water in order to minimize incidental deposition into the water body unless otherwise specified on the pesticide label.

5. Pesticide is highly toxic to bees exposed to direct treatment on blooming crops and weeds. Do not apply product or allow drift when bees are actively visiting the treatment area, except when applications are made to prevent or control a threat to public and/or animal health determined by a state, tribal, or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes, or the occurrence of mosquito- borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort unless otherwise specified on the pesticide label.

6. Spray exclusion areas are maintained on a list with all applicators and reviewed for each area specifically before treatment.

7. To help minimize adverse incidents, BCMCP applicators turn off spray equipment when approaching areas of high human activity, such as outdoor gatherings and sporting events. Technicians look for open windows and doors in residential areas and will turn off spray equipment to minimize exposure to residents.

2. Pertaining to Other Actions Necessary to Minimize Discharges.

   a. Spill Response Procedures.

      i. Chemical spill response training is required for all staff handling, loading, or applying pesticides.

   b. Adverse Incident Response Procedures.

      i. Procedures for responding to any incident resulting from pesticide applications

ii. Procedures for notification of an incident:

1. Operator notifies supervisor of incident.

2. Supervisor will notify town where incident occurred to coordinate any needed remediation.

c. Pesticide Monitoring Schedules and Procedures.

i. For application by, or under the supervision of , personnel certified/trained in public health pest control or mosquito control. For each application , a record must be kept of:

1. Date, time, and areas where application occurred.

2. Name and EPA registration number for the product being applied.

3. Type and size of nozzle used.

4. Dilution and application rate.

5. Employees involved in mixing, loading and applying larvicide.

6. These records are kept by the responsible public agency or their designee for a minimum of three years using storage methods that will allow the records to be easily retrieved.

Pesticides and Required PPE

Pesticide	EPA Registration Number	PPE Requirement
Vectobac G	62637-3	Dust Mask (N-95, R-95, P-95)
Vectolex WSP	73049-20	Air Purifying respirator with dust/mist filter (N-95), if needed.
Flit 10 EC	8329-67	Full face gas mask respirator with canister type recommended for general insecticide protection when using indoors as a space spray.

DUET	1021-1795-8329	Long sleeved shirt and long pants, socks and shoes

Electronic Notice of Intent
Online Application

Pesticide Permit NOI

Review PGP Permit

PERMIT NUMBER: MAG87A026

Generate PDF of NOI

Your Permit Number will be used to identify this record and the associated Pest Management Areas. Record the permit number above for use when modifying or terminating your record in the future.

Permit Status: **Pending Certification**

Operator Information

Edit this Section

Operator Name: Berkshire County Mosquito Control Project
IRS Employer Identification Number (EIN):
Operator Type: State Government
Are you a large entity as defined in Appendix A of the PGP? (check one): No

Mailing Address
19 Harris Street
Pittsfield, Massachusetts 01201

Phone: 4134479808
Fax: 4134477185
Email: berkmc@bcn.net
Contact Name: Chris Horton

Please review each Pest Management Area (PMA) before submitting or certifying the record.

Add Another Pest Management Area

PMA1

Pest Management Area

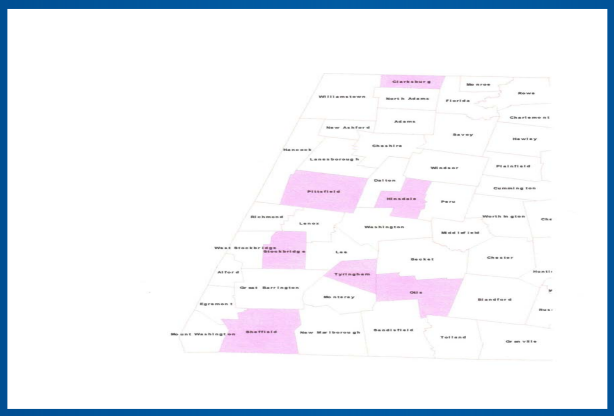
Edit this Pest Management Delete this Pest Management

Pest Management Area Name: Berkshire County Mosquito Control Project

Pest Management Area Description:
THE TOWNS OF CLARKSBURG, HINSDALE, OTIS, PITTSFIELD,SHEFFIELD,STOCKBRIDGE, AND TYRINGHAM IN BERKSHIRE C

PMA Map Images:

PROJECT AREA



Mailing Address
19 Harris Street

Certifier

Edit this Section

Printed Name: CHRISTOPHER J HORTON
Title: SUPERINTENDENT
Email: BERKMC@BCN.NET

Preparer

Preparer Name: Christopher J Horton
Organization: Berkshire County Mosquito Control
Phone: 4134479808
Email: berkmc@bcn.net

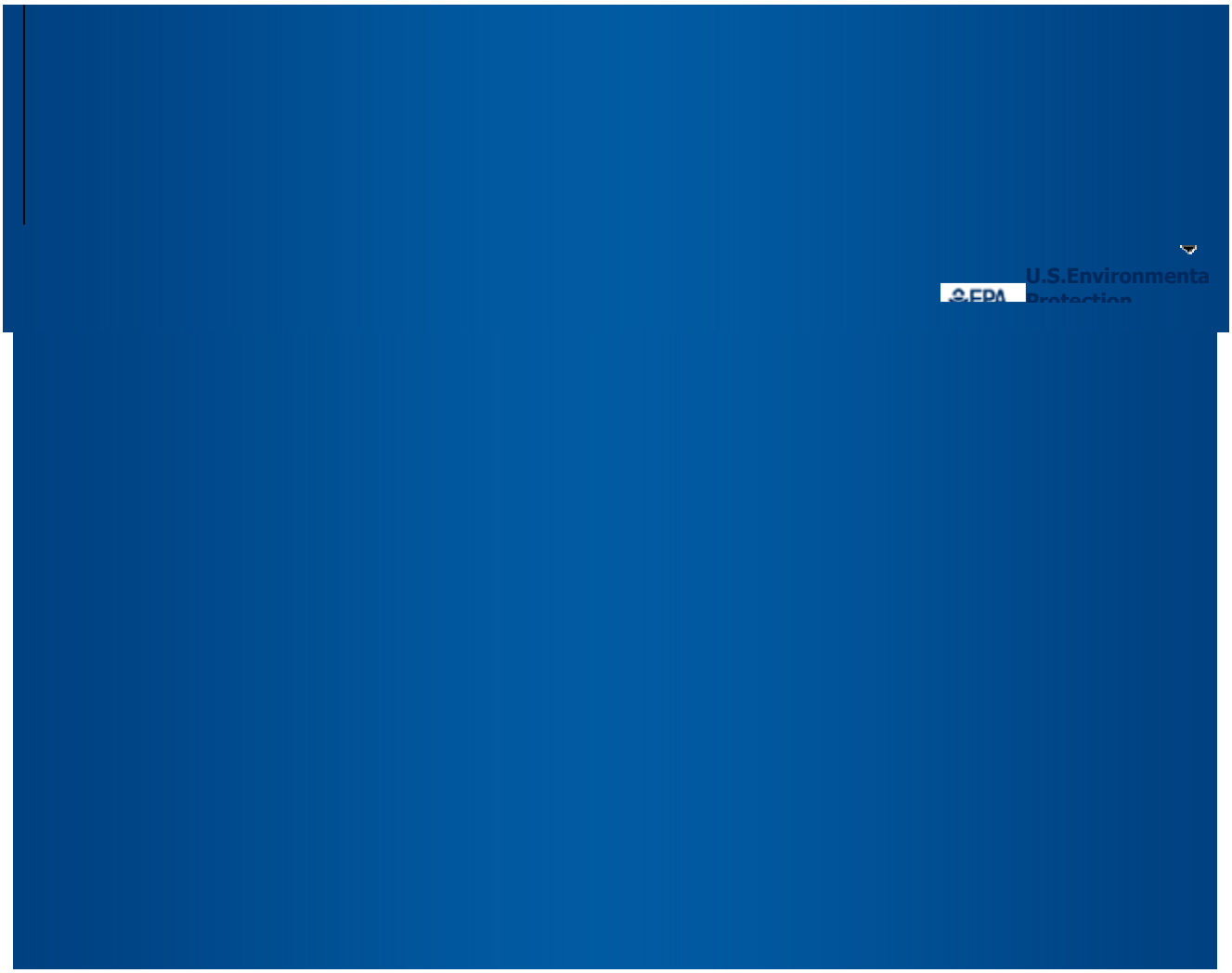
* Read the following text and select your choice

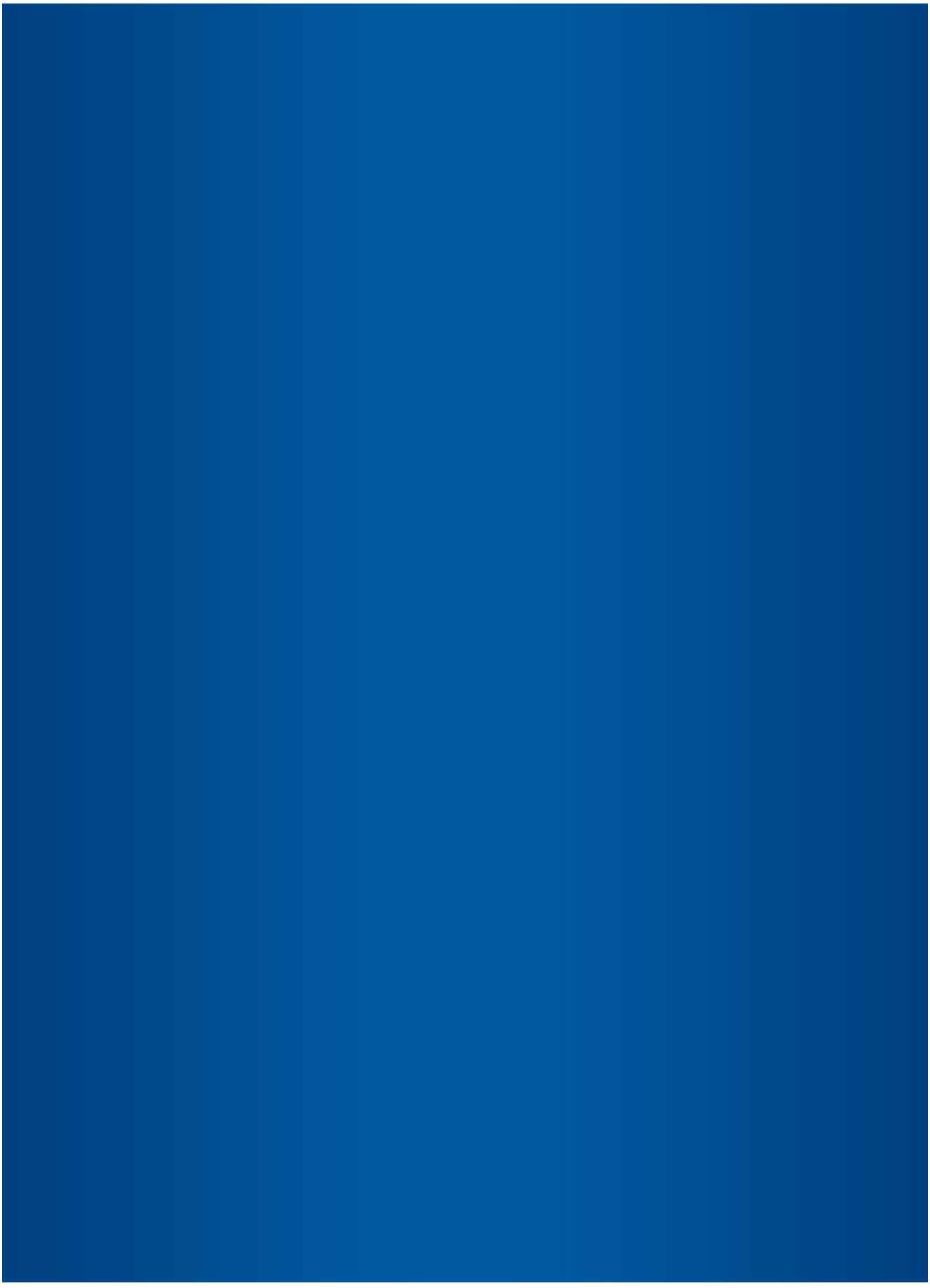
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. On the basis of my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further certify that the applicant has sufficient title, right, or interest in the property where the proposed activity occurs.

Postpone Accept Reject

Submit

Home


U.S.Environmenta



From:	noreply@epa.gov
To:	BERKMC@BCN.NET
Cc:	PGP@epamail.epa.gov; berkmc@bcn.net; john_fay@fws.gov; don_morgan@fws.gov
Subject:	Pesticide General Permit: NOI Certified and Submitted to EPA
Date:	Friday, January 13, 2012 11:50:24 AM

SUBMITTER_EPA_BODY2_BK Owner/Operator: Berkshire County Mosquito Control Project
Attn: CHRISTOPHER J HORTON
19 Harris Street
Pittsfield , Massachusetts 01201

NOI Submitted to EPA Confirmation:

Thank you for submitting your Pesticide General Permit Notice of Intent to EPA.

This email/letter acknowledges that you have submitted a complete certified Notice of Intent form to be covered under the NPDES Pesticide General Permit. Your Notice of Intent form with permit tracking number MAG87A026 has been certified and submitted to EPA. Coverage under this permit begins at the conclusion of your 10-day wait period on 2012-01-23 unless you are otherwise notified.

If you have any questions, please call the EPA NOI Processing Center at 1-866-352-7755 (toll free) or send an email to noi@avanticorporation.com .

EPA NOI Processing Center
Operated by Avanti Corporation
1200 Pennsylvania Ave., NW
Mail Code: 4203M
Washington, DC 20460