

# MASSACHUSETTS MOSQUITO CONTROL ANNUAL OPERATIONS REPORT



2007 Year of Report

Date of Report: 14 Feb 08

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

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Report prepared by: ***Ellen Bidlack, Steve Gillett, Jo Ann Fawcett and Dan Daly***

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

## ORGANIZATION SETUP:

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

Full time: 11

Part time: 1

Seasonal: 8

Other: (please describe)

Please break these down into the following areas:

Administrative staff: 2

Field staff: 9

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

- Public relations Dan Daly
- Information technology Ellen Bidlack
- Entomologist Ellen Bidlack
- Wetland Scientist Ellen Bidlack and Steve Gillett
- Biologist Ellen Bidlack
- Education Dan Daly and Ellen Bidlack
- Laboratory Ellen Bidlack
- Operations Ray Zucker, Jo Ann Fawcett and Steve Gillett
- Facilities Ray Zucker and Steve Gillett
- Other (please list) Pilot - Greg Goodband, Excavator operators - Greg Goodband and Julius Souza, Area Foreman - Brian Callahan, Ronald DeMoura, Richard Goodwin, Christopher Hanna and Anthony Texeira

For the year of this report, we maintained:

18 vehicles

1 modified wetland equipment (list type) excavator

9 ULV sprayers (list type) Becomist

14 Larval control equipment (list type) 2 hydraulic units, 2 backpack sprayers, 10 pump cans

Other (please be specific): 1 Airplane, 1 unmodified excavator, 1 trailer, 1 small boat

**Comments:** \_\_\_\_\_

## **INTEGRATED PEST MANAGEMENT (IPM):**

### **Definition TBD**

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: The goal of our program is to reduce the number of biting mosquitoes to protect human health and improve the quality of life of our residents.

Please give the time frame for this program: April - September

Describe the areas that this program is used: We target a variety of fresh water wetlands and salt marshes.

Do you use:

- Ground applied (includes hand, portable and/or backpack)**
- Helicopter applications**
- Other (please list): Airplane**

**Comments:** \_\_\_\_\_

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

**Wetlands:** Vectobac 12AS 73049-38, Vectolex CG 73049-20, BTI Briquets 6218-47, Altosid XR 2724-421

**Catch basins:** Altosid pellets wsp 2724-448

**Containers:**

**Other (please list):**

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

**Wetlands:** Vectobac 12AS 1 pint per acre by plane, 1 1/2 pint per acre by helicopter

**Catch basins:**

**Containers:**

**Other:**

**Comments:** \_\_\_\_\_

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### **ADULT MOSQUITO CONTROL:**

Do you have an adult mosquito suppression program? Yes

If yes, please describe the purpose of this program: The goal of our program is to reduce the number of biting mosquitoes to protect human health and improve the quality of life of our residents.

Please give the time frame for this program: May - October (end date depends on virus activity).

Describe the areas that this program is used: We accept requests for adult mosquito control from residents, businesses and town officials.

Do you use:

- Truck applications**
- Portable applications**
- Aerial applications**
- Other (please list):**

**Comments:** \_\_\_\_\_

Please list the names of the products used with EPA #:

- 1). anvil 1020-1688-8329
- 2). duet 1021-1795-8329
- 3).
- 4).

Please list your application rates for each product:

- 1). Fl. oz. anvil 10 + 10 ULV per Acre = 0.62
- 2). Fl. oz. duet ULV per Acre = 0.62
- 3).
- 4).

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

**Comments:** \_\_\_\_\_

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### **SOURCE REDUCTION**

Do you perform source reduction methods such as tire/container removal? No

If yes, please describe your program: Our source reduction program is comprised of our ditch maintenance program, OMWM and education. We often inspect properties and offer advice to landowners regarding actions they can take to reduce the amount of mosquito production on their property.

**Comments:** We have decided not to remove containers because of the difficulties involved in storage, disposal and cost. For example, when we looked into this issue we were told that tire recyclers will not pick up tires unless there is enough to fill an 18 wheeler. Thus, we would have to store tires over a long period of time. All towns have a way for residents to dispose of tires and other containers. In cases of large tire dumps or containers we have reported them to the appropriate town or state officials.

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### **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):**

**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 59,215 feet**  
**Mechanized cleaning 6,595 feet**  
**Other (please list): brushing 9,465**  
**Comments:** \_\_\_\_\_

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

**Hand cleaning**  
**Mechanized cleaning 17,530 feet**  
**Other (please list):**

**Comments:** \_\_\_\_\_

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## **OPEN MARSH WATER MANAGEMENT**

Do you have an OMWM program? Yes

If yes, please describe: We have had an OMWM program on and off since the late 1980's.

Please give an estimate of total square feet or acreage: In 2007 we did no OMWM projects.

**Comments:** We monitored two sites in 2007. One site was new but did not produce enough mosquitoes to justify the work. The second was an old site that was monitored as part of it's five year review.

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## **ADULT MOSQUITO SURVEILLANCE**

Do you have an adult mosquito surveillance program? Yes

Please check off all that apply:

- |   |                                 |
|---|---------------------------------|
| <input checked="" type="checkbox"/> Gravid traps                      |                                 |
| <input type="checkbox"/> Resting boxes                                |                                 |
| <input checked="" type="checkbox"/> CDC light traps                   | <input type="checkbox"/> Canopy |
| <input checked="" type="checkbox"/> CDC light traps w/CO <sub>2</sub> | <input type="checkbox"/> Canopy |
| <input checked="" type="checkbox"/> ABC light traps                   | <input type="checkbox"/> Canopy |
| <input checked="" type="checkbox"/> ABC light traps w/CO <sub>2</sub> | <input type="checkbox"/> Canopy |
| <input checked="" type="checkbox"/> NJ light traps                    | <input type="checkbox"/> Canopy |
| <input type="checkbox"/> NJ light traps w/CO <sub>2</sub>             | <input type="checkbox"/> Canopy |

Other (please describe):

Please describe the purpose of this program: The purpose of this program is three fold to monitor the mosquitoes for diseases, to determine general population levels and to decide where we can better focus our larvaciding efforts.

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

If yes, please describe how you chose these long-term sites. We maintain a system of NJ traps that have been at the same location for numerous years. In cooperation with DPH we have in recent years begun to maintain our own sites for disease surveillance. These traps have been moved around when needed.

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

- |  |   |
|--|---|
| <input type="checkbox"/> <i>Ae. albopictus</i>                 | <input checked="" type="checkbox"/> <i>Oc. cantator</i>       |
| <input checked="" type="checkbox"/> <i>Ae. cinereus</i>        | <input checked="" type="checkbox"/> <i>Oc. excrucians</i>     |
| <input checked="" type="checkbox"/> <i>Ae. vexans</i>          | <input checked="" type="checkbox"/> <i>Oc. fitchii</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. punctor</i>                   |
| <input checked="" type="checkbox"/> <i>Cq. perturbans</i>      | <input checked="" type="checkbox"/> <i>Oc. sollicitans</i>    |
| <input checked="" type="checkbox"/> <i>Cx. pipiens</i>         | <input checked="" type="checkbox"/> <i>Oc. stimulans</i>      |
| <input checked="" type="checkbox"/> <i>Cx. restuans</i>        | <input checked="" type="checkbox"/> <i>Oc. taeniorhynchus</i> |
| <input checked="" type="checkbox"/> <i>Cx. salinarius</i>      | <input checked="" type="checkbox"/> <i>Oc. triseriatus</i>    |
| <input checked="" type="checkbox"/> <i>Cs. melanura</i>        | <input checked="" type="checkbox"/> <i>Oc. trivittatus</i>    |
| <input checked="" type="checkbox"/> <i>Cs. morsitans</i>       | <input checked="" type="checkbox"/> <i>Ps. ferox</i>          |
| <input checked="" type="checkbox"/> <i>Oc. abserratus</i>      | <input checked="" type="checkbox"/> <i>Ur. sapphirina</i>     |
| <input checked="" type="checkbox"/> <i>Oc. canadensis</i>      |   |

Other (please list): **Cs. impatiens, Cs. inoranta, Cs. minnesotae, Oc. altropalpus, Oc. aurifer, Oc. sticticus, An. crucians, An. walkeri, Ps. ciliata**

Do you participate in the MDPH Arboviral Surveillance program? Yes

How many pools do you submit weekly on average? 39.5

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

- West Nile Virus
- Eastern Equine Encephalitis
- Other Please list: Dog Heartworm is in MA but not monitored.

Did the above listed diseases cause human or horse illnesses? Yes

Please explain: 2003 - 2 horses with WNV, 2004 - 2 humans and 3 horses with EEEV, 2005 - 4 humans with EEEV, 2006 - 2 humans and 2 horses with EEEV, 2007 - no disease in humans or horses

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

**WNV: 2 July 07 - all towns were at moderate risk**  
**EEE: 2 July 07 - all towns were at moderate risk**

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

**WNV: 24 Sep 07 - Brockton was at high risk and all other towns were at moderate risk**  
**EEE: 24 Sep 07 - Hingham, Cohasset, Hull, Scituate, Norwell and Marshfield were at moderate risk and all other towns were at high risk.**

Comments: \_\_\_\_\_

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## **EDUCATION, OUTREACH & PUBLIC RELATIONS**

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

If yes, please describe:

Please check off all that apply:

- School based program
- Website
- PR brochures/handouts
- Community events
- Other (please describe): We have a public relations person who acts as a liaison between PCMCP and the towns. For example, he has been working on helping schools comply with the Childrens Protection Act.

Please give an estimate of attendance/participants in this program: 500

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Please list some events you participated in for the year of this report: Plymouth County Cooperative Extension's annual spring seminar series, Gulf River Meeting, Plymouth High School, and training program for landscapers called "Protecting the landscape, protecting yourself".

Please list training events your staff attended: Northeast Mosquito Control Association's annual meeting, American Mosquito Control Association's annual meeting, "Protecting the landscape protecting yourself" March 28, 2007 sponsored by DCR and UMass Extension, Pesticide Workshops sponsored by UMass Extension and/or Clarke Mosquito Control, NAAA annual convention and trade show

**Comments:** The Children's Protection act was the focus of much of the Project's 2007 outreach/education program and was directed towards school officials and health agents/boards of health. Additional efforts were directed towards municipal clerks in terms of their responsibilities in the exemption to pesticides process.

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## **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):

**Comments:** \_\_\_\_\_

## **INFORMATION TECHNOLOGY**

Does your program use (check all that apply):

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

Please describe your capabilities in these areas: Our goal is to use computers and GIS technology to improve record keeping, efficiency and communication. As a result these tools have been used in a variety of ways to meet these goals. For almost 10 years our service requests have been put directly into a database. We are working with a contractor to improve the handling of residents requests and expect to be using this system in summer 2008. The new system will decrease data entry errors and speed handling of the requests. We have geocoded two years of service requests to help us identify areas where we can improve our larviciding. Other ways we have been using this technology includes installing PDAs and GPS units in all our trucks with ULV sprayers. This system tracks when and where the sprayer was used as well as other information. PCMCP's helicopter contractor uses similar technology as well. We also use GIS technology to map our trap sites and help determine trap placement. We are developing a system using GIS and computer databases to improve tracking of our hand larviciding sites and ditch maintainace.

Please describe your current GIS abilities: Intermediate

Give details if possible on your GIS abilities: We currently have: ArcGIS 9.1 installed on one computer, 3 hand held GPS units including 1 Trimble GeoXT. We have GPS units installed in 11 of our trucks.

**Comments:** \_\_\_\_\_

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## **REVENUES & EXPENDITURES**

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

For FY07, PCMCP had a budget assessment of \$1,275,542 plus a rollover amount from FY06 of \$338,088, a combined total of \$1,613,630. Payroll expenditure was \$640,000. Chargebacks from Group Insurance, Medicare, Work.Comp was in the vicinity of \$175,000. Retirement portion was \$100,000. Insecticides purchased was in the area of \$165,000. Auto, liability, airplane insurance totaled approximately \$65,000, the purchase of GPS units for state vehicles \$25,000. SRB's chargeback was approx. \$33,000. One (1) pick up truck was purchased for \$19,000. The balance was expended on rent for office, rent for aircraft (also maintenance on aircraft), utilities, office supplies, various shop supplies, repairs and maintenance on state vehicles, fuel for vehicles and airplane, lab equipment, mapping and aerial spray program.

**Comments:** \_\_\_\_\_

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## **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: Anvil  
EPA Reg. #: 1021-1688-8329  
Application method: ULV  
Targeted life stage: Adult  
Total amount of concentrate applied: 564 gals  
Comments: \_\_\_\_\_

Product Name: duet  
EPA Reg. #: 1021-1795-8329  
Application method: ULV  
Targeted life stage: Adult  
Total amount of concentrate applied: 75 gals  
Comments: \_\_\_\_\_

Product Name: altosid pellets wsp  
EPA Reg. #: 2724-448  
Application method: hand  
Targeted life stage: Larvae  
Total amount of concentrate applied: 979 lbs  
Comments: \_\_\_\_\_

Product Name: altosid xr briquets  
EPA Reg. #: 2724-421  
Application method: hand  
Targeted life stage: Larvae  
Total amount of concentrate applied: 35.4 lbs  
Comments: \_\_\_\_\_

Product Name: Vectobac 12 as  
EPA Reg. #: 73049-38  
Application method: hydraulic sprayer/ pump-can  
Targeted life stage: Larvae  
Total amount of concentrate applied: 40 gals  
Comments: \_\_\_\_\_

Product Name: summit b.t.i. briquets  
EPA Reg. #: 6218-47  
Application method: hand  
Targeted life stage: Larvae  
Total amount of concentrate applied: 110 lbs  
Comments: \_\_\_\_\_

Product Name: Vectobac 12 as  
EPA Reg. #: 73049-38  
Application method: aircraft  
Targeted life stage: Larvae  
Total amount of concentrate applied: 1,170 gals  
Comments: \_\_\_\_\_

Product Name: Vectobac 12 as  
EPA Reg. #: 73049-38  
Application method: helicopter  
Targeted life stage: Larvae  
Total amount of concentrate applied: 853 gals  
Comments: \_\_\_\_\_

Product Name: Vectolex cg  
EPA Reg. #: 73049-20  
Application method: hand  
Targeted life stage: Larvae  
Total amount of concentrate applied: 60 lbs  
Comments:

Product Name: Vectobac CG  
EPA Reg. # 73049-19  
Application method: aircraft  
Targeted life stage: larvae  
Total amount of concentrate applied: 1,960 lbs

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## **LARGE AREA EXCLUSIONS**

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

If yes, please explain, and include maps if possible. We did not have large exclusion areas in 2007. We expect that in 2008 there will be large areas where will not be able to use certain chemicals.

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## **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 Modern sewage treatment plants should not be creating mosquito problems.

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:

Have you worked with these departments on long term solutions? No

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### **CHILDREN AND FAMILIES PROTECTION ACT**

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

If yes, please explain: The Children's Protection Act was a main focus on the Project's outreach/education program. Due to the level of misunderstanding or misinterpreting the Act, continued education will be necessary.

If you have data on compliance with this Act and your program, please list here: The Project keeps official records of all pesticide applications to school grounds on a town and school basis. Included are signed documents by responsible school officials ensuring compliance provisions of the Act prior to any adulticiding.

If you had difficulties with implementation of your program due to this law, please elaborate here: Schools are reluctant to request spraying due to the paper burden required for the notification process.

### **GENERAL COMMENTS**

Please list any comments or concerns not covered in this report: