



Connecticut Department of
 Energy & Environmental Protection
 Bureau of Materials Management & Compliance Assurance
 Water Permitting & Enforcement Division

Approval of Registration General Permit for Point Source Discharges to Waters of the State from the Application of Pesticides

CPPU USE ONLY	
App #:	_____
Doc #:	_____
Check #:	_____
Program: Industrial General Permits	

Please complete this form in accordance with sections 22a-430b and 22a-66z CGS and the instructions (DEP-WPED-INST-026) in order to ensure the proper handling of your registration. Print or type unless otherwise noted. Complete one registration per site.

Part I: Registration Description

The registration types below identify who must apply for an approval of registration under the subject general permit. Check the appropriate box(es) identifying the registration type:

Pesticide application by a state or federal agency.

Must complete this registration and Appendix A of this registration

Pesticide application by other than a state or federal agency (and check one type from below)

Pesticide application *not* regulated under section 22a-66z CGS and treating an area equal to or greater than 80 acres. **Must complete this registration and Appendix A of this registration**

Pesticide application *not* regulated under section 22a-66z CGS and treating an area of shoreline greater than 20 miles measured linearly. **Must complete this registration and Appendix A of this registration.**

Note: *If conducting an aquatic application of pesticide(s) regulated under section 22a-66z CGS, and treating an area equal to or greater than 80 acres, do not complete this registration. Complete the "Permit Application for the Use of Pesticides in State Waters" (DEP-PEST-APP-200) and attach Appendix A of this registration to that application.*

Town where site is located: Statewide

Brief Description of Project: The DEEP Wetland Habitat and Mosquito Management (WHAMM) Program will inspect and apply mosquito pesticides (larvacides) as needed to tidal and non-tidal wetlands throughout the state where immature (larval) mosquitoes are produced during the mosquito breeding season (April-October). These areas will be monitored and, where feasible, plans for long-term source reduction and biological control of mosquitoes using habitat management will be pursued to minimize pesticide use and enhance wetland wildlife habitat.

Part II: Fee Information

A fee of **\$200.00** is to be submitted with *each* permit that you are applying for. Each site requires a separate permit. The fee for municipalities is 50% of the above listed rate. The registration will not be processed without the fee. The fee shall be non-refundable and shall be paid by check or money order to the Department of Energy and Environmental Protection.

Part III: Registrant Information

- *If a registrant is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, the registrant's name shall be stated **exactly** as it is registered with the Secretary of State. Please note, for those entities registered with the Secretary of State, the registered name will be the name used by DEEP. This information can be accessed at the Secretary of State's database (CONCORD). (www.concord-sots.ct.gov/CONCORD/index.jsp)*

- *If a registrant is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).*

1. Registrant Name: **Connecticut DEEP / Wetlands Habitat and Mosquito Management Program**

Mailing Address: **391 Route 32**

City/Town: **North Franklin**

State: **CT**

Zip Code: **06254**

Business Phone: **860-642-7630**

ext.:

Contact Person: **Roger Wolfe**

Phone:

ext.

*E-mail: roger.wolfe@ct.gov

*By providing this e-mail address you are agreeing to receive official correspondence from the department, at this electronic address, concerning the subject registration. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify the department if your e-mail address changes.

a) Registrant Type (check one):

individual federal agency state agency municipality tribal

*business entity (*If a business entity complete i through iii):

i) check type: corporation limited liability company limited partnership

limited liability partnership statutory trust Other: _____

ii) provide Secretary of the State business ID #: _____ This information can be accessed at database (CONCORD). (www.concord-sots.ct.gov/CONCORD/index.jsp)

iii) Check here if you are **NOT** registered with the Secretary of State's office.

b) Registrant's interest in property at which the proposed activity is to be located:

site owner option holder lessee

easement holder operator other (specify): wetlands where mosquitoes thrive

Check if any co-registrants. If so, attach additional sheet(s) with the required information as requested above.

2. Billing contact, if different than the registrant.

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

E-mail:

Part III: Registrant Information (continued)

3. Primary contact for departmental correspondence and inquiries, if different than the registrant.

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

*E-mail:

*By providing this e-mail address you are agreeing to receive official correspondence from the department, at this electronic address, concerning the subject registration. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify the department if your e-mail address changes.

4. List only one owner of the site to be treated.

Name: statewide sites

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

E-mail:

5. List the person or company applying the pesticides.

Name: DEEP WHAMM Program

Mailing Address: 391 Rt. 32

City/Town: N. Franklin

State: CT

Zip Code: 06254

Business Phone: 860-642-7630

ext.:

Contact Person: Roger Wolfe

Phone:

ext.

E-mail: roger.wolfe@ct.gov

Certification Number: GS-3967

Part IV: Site Information

1. SITE NAME AND LOCATION

Name of Waterbody: MULTIPLE

Street address and/or description of location: MULTIPLE

City or Town: STATEWIDE

2. INDIAN LANDS: Is or will the facility be located on federally recognized Indian lands? Yes No

Part IV: Site Information (continued)

3. COASTAL AREA: Is the pesticide application located in a municipality within the coastal area?

Yes No (check town list in the instructions)

If yes, is the water being treated subject to the ebb and flow of the tides, or inundated by saline or brackish water at least once a month? Yes No

If the water being treated is subject to the ebb and flow of the tides, or is inundated by saline or brackish water at least once a month, you must submit a Coastal Consistency Review Form (DEP-APP-004) with your registration as Attachment B.

For assistance in determining if the water being treated is affected by tidal water as described above or in completing the Coastal Consistency Review form, contact the Office of Long Island Sound Programs (OLISP) at 860-424-3034.

4. ENDANGERED OR THREATENED SPECIES: Is the project site located within an area identified as a habitat for endangered, threatened or special concern species as identified on the "State and Federal Listed Species and Natural Communities Map"? Yes No Date of Map:

If yes, complete and submit a Request for NDDDB State Listed Species Review Form (DEP-APP-007) to the address specified on the form. Please note NDDDB review generally takes 4 to 6 weeks and may require additional documentation from the registrant.

The CT NDDDB response must be submitted with this completed registration as Attachment C.

For more information visit the DEEP website at www.ct.gov/dep/nddbrequest or call the NDDDB at 860-424-3011.

5. AQUIFER PROTECTION AREAS: Is the site located within a town required to establish Aquifer Protection Areas, as defined in section 22a-354a through 354bb of the General Statutes (CGS)?

Yes No To view the applicable list of towns and maps visit the DEEP website at www.ct.gov/deep/aquiferprotection

If yes, is the site within an area identified on a Level A or Level B map? Yes No

If your site is on a Level A or Level B map, you are not required to register under the Aquifer Protection Program, *however* you must follow proper spill control measures to prevent potential contamination of drinking water. If you should have a spill, please call the emergency hotline *immediately* at 860-424-3338.

6. CONSERVATION OR PRESERVATION RESTRICTION: Is the property subject to a conservation or preservation restriction? Yes No

If Yes, proof of written notice of this registration to the holder of such restriction or a letter from the holder of such restriction verifying that this registration is in compliance with the terms of the restriction must be submitted as Attachment D.

7. Type of area to be treated: Tidal Waters Pond or Lake Stream X
WETLANDS

8 Is the waterbody located in a public water supply watershed? Yes No X VARIABLE

9. Where does the waterbody flow to? **MULTIPLE LOCATIONS**

Is the outflow usually flowing? **VARIABLE** Yes No

Can outflow be stopped? **VARIABLE** Yes No

10. Identify the size of the waterbody: **VARIABLE** Length (ft.) Width (ft.)
Acres

<1 Maximum Depth (ft.) <1 Average Depth (ft.) Volume (Ac-ft)

11. Portion of the waterbody to be treated: **VARIABLE** Acres Volume (Ac-ft.)

Part IV: Site Information (continued)

12. Does the waterbody have public access? **VARIABLE** Yes No

13. Is the waterbody stocked with fish by the state? Yes No

14. Identify use(s) of waterbody: **SITES ARE TIDAL and NON-TIDAL WETLANDS; NOT APPLICABLE**

domestic water supply irrigation watering livestock swimming fishing

15. Are there any downstream users of the water who may be affected by treatment? Yes No
If yes, please explain:

16. Within 1/2 mile of the treatment area, are there any public or private drinking water wells 50 ft. or less from the shoreline? Yes No

17. Identify all plants or animals to be controlled: **MOSQUITOES**

18. Identify all types of fish present: **VARIABLE ESTUARINE AND FRESHWATER SPECIES**

19. Identify chemicals to be used, the amount per treatment and number of times:

Chemical	Amount per Treatment	Number of Times
a) Bti	10 lbs/ac	2-12X/yr
b) Bac. sphaericus	10 lbs/ac	2-12/yr
c) methoprene	10 lbs/ac	2-12/yr

20. Projected date(s) of pesticide use: **SEASONAL – JUNE 1 THROUGH FIRST FROST**

21. List prior years in which chemicals were applied to this waterbody: **VARIABLE – BEGINNING 1902.**

Part V: Supporting Documents

Be sure to read the instructions (DEP-WPED-INST-026) to determine whether the attachments listed are applicable to your specific activity. Check the applicable box below for each attachment being submitted with this registration form. When submitting any supporting documents, please label the documents as indicated in this part (e.g., Attachment A, etc.) and be sure to include the registrant's name as indicated on this registration form.

- Attachment A: An 8-1/2" x 11" legible copy or original of a USGS Topographic Quadrangle Map (scale 1:24,000) indicating the exact location of the area to be treated. **STATEWIDE**
- Attachment B: *Coastal Consistency Review Form* (DEP-APP-004), if applicable.
- Attachment C: **Copy** of the completed *Request for NDDB State Listed Species Review Form* (DEP-APP-007) **and** the NDDB response, if applicable.
- Attachment D: Conservation or Preservation Restriction Information, if applicable. **NA**
- Attachment E: Copy of certified mail receipt verifying that this completed registration has been sent to the local inland wetlands agency. For multiple registrations submitted to the local inland wetlands agency under one certified mail receipt, please attach a copy of such receipt to each registration being submitted to the department. **A NOTICE WILL EMAILED TO TOWNS**
- Attachment F: **Appendix A: Certification that the Pesticide Application will be Conducted in Accordance With a Pesticide Discharge Management Plan that Complies with the Minimum Requirements of Appendix A of the General Permit for Point Source Discharges to Waters of the State from the Application of Pesticides (attached)**

Please note that local inland wetlands agencies may have additional requirements pertaining to the application of aquatic pesticides to waterbodies located under their jurisdiction.

Part VI: Registration Certification

The registrant *and* the individual(s) responsible for actually preparing the registration must sign this part. An registration will be considered insufficient unless *all* required signatures are provided. Please also check the box and provide the date for which you sent one copy of this completed registration to the appropriate local inland wetland agency.

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief.

I understand that a false statement in the submitted information may be punishable as a criminal offense, in accordance with section 22a-6 of the General Statutes, pursuant to section 53a-157b of the General Statutes, and in accordance with any other applicable statute.

I certify that this registration is on complete and accurate forms as prescribed by the commissioner without alteration of the text.

I also certify that I have sent one copy of this completed registration to the appropriate local inland wetland agency on _____ " _____
Date

<i>Paul Capotosto</i>	<i>6/28/12</i>
Signature of Registrant	Date
<i>PAUL CAPOTOSTO</i>	<i>Program Specialist</i>
Name of Registrant (print or type)	Title (if applicable)
<i>Roger Wolfe</i>	<i>June 5, 2012</i>
Signature of Preparer (if different than above)	Date
<i>Roger Wolfe</i>	<i>Mosquito Management Coordinator</i>
Name of Preparer (print or type)	Title (if applicable)

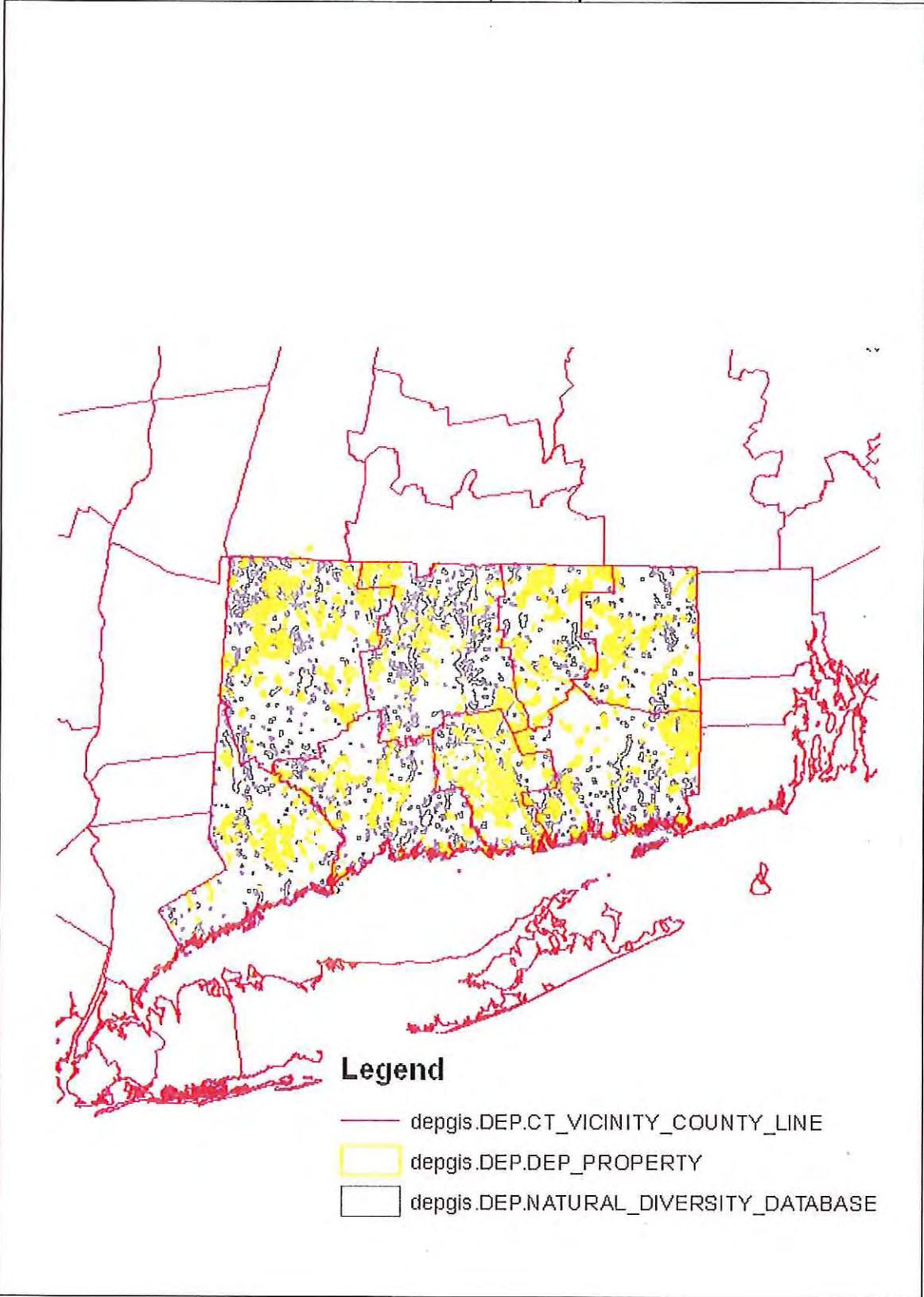
Check here if additional signatures are required. If so, please reproduce this sheet and attach signed copies to this sheet.

Note: Please submit this completed Registration Form, Fee, and all Supporting Documents to:

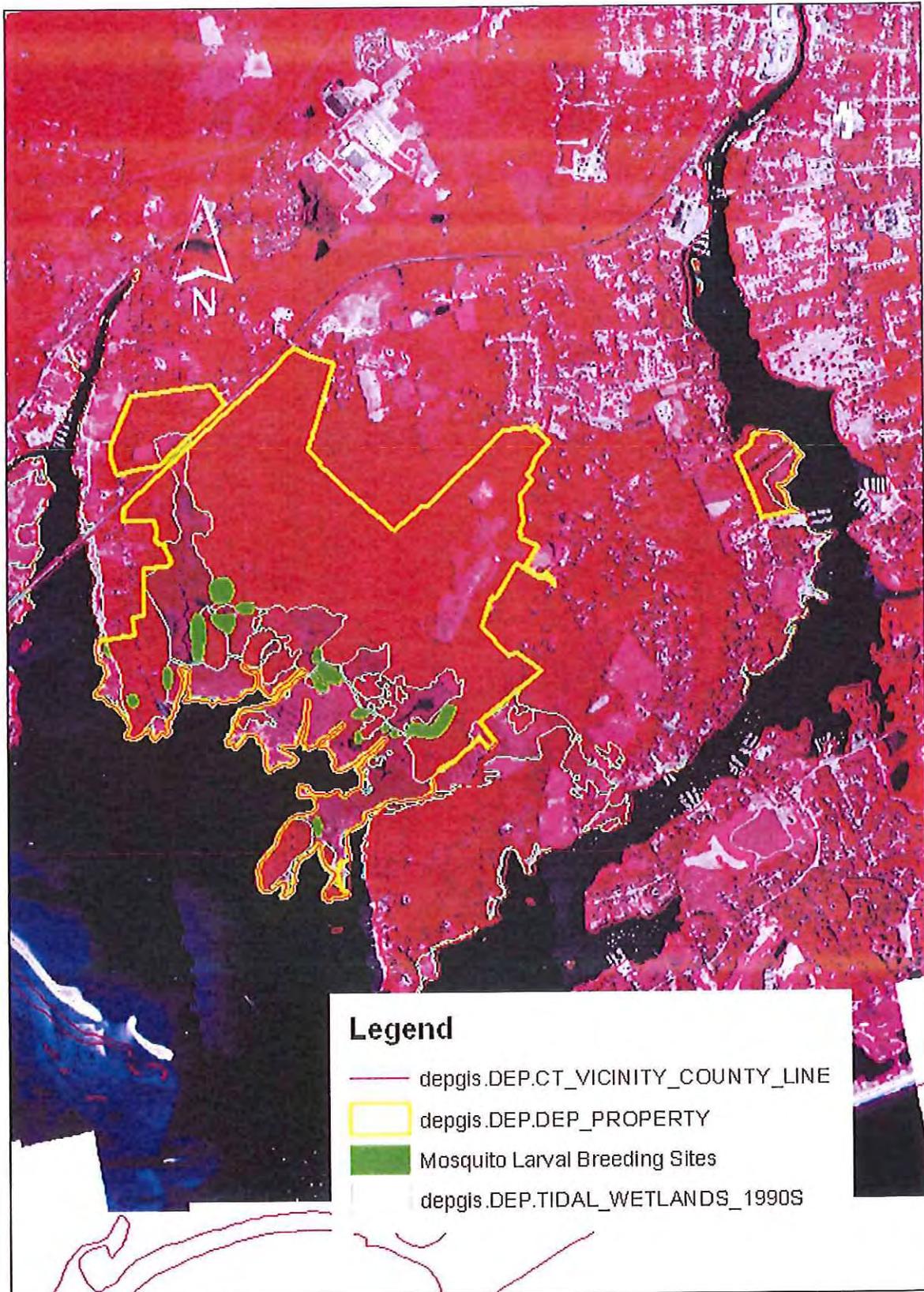
CENTRAL PERMIT PROCESSING UNIT
DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

Please also submit a copy of this completed registration to the local inland wetlands agency.

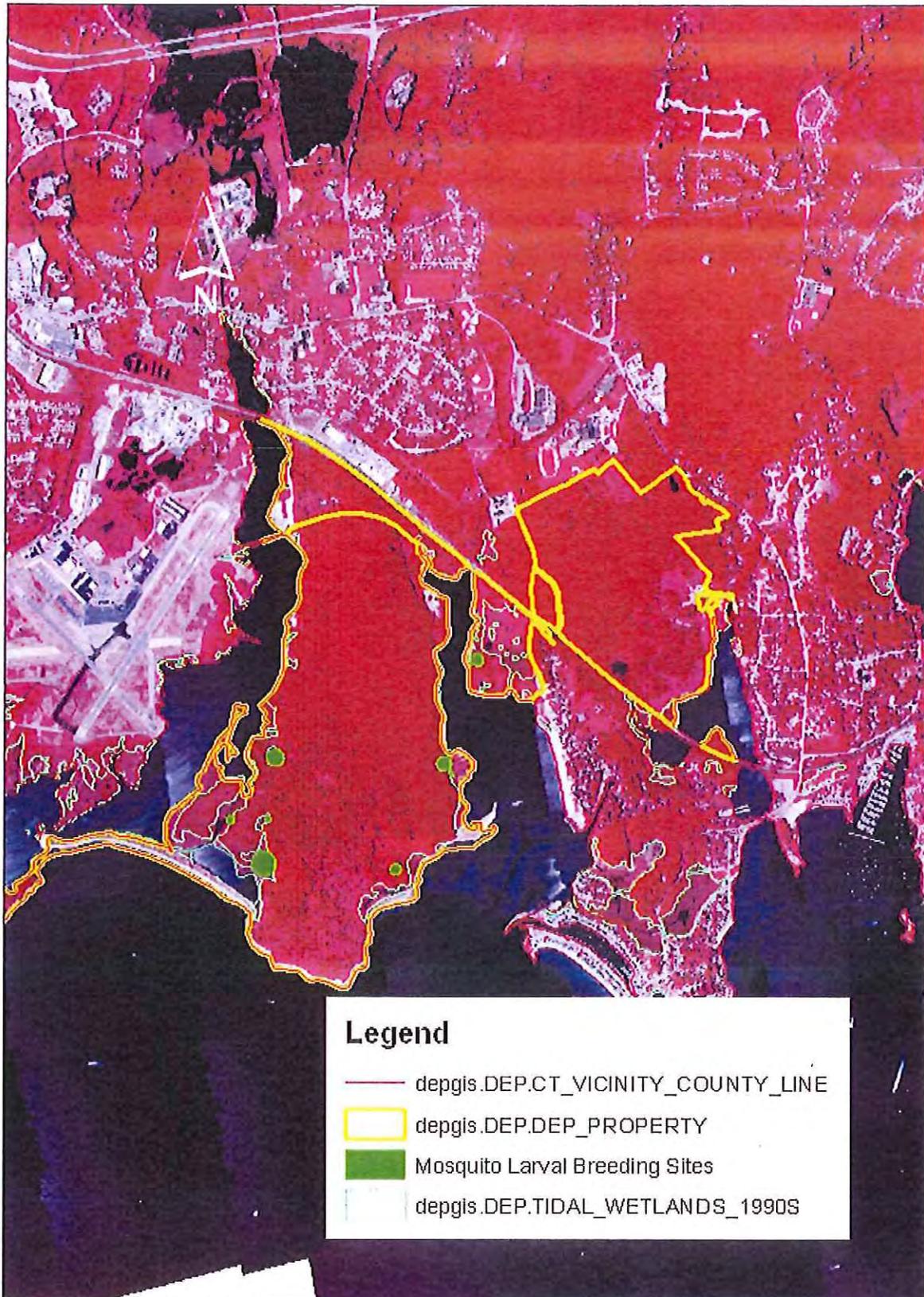
State of CT, WHAMM Program MMP Vicinity Map



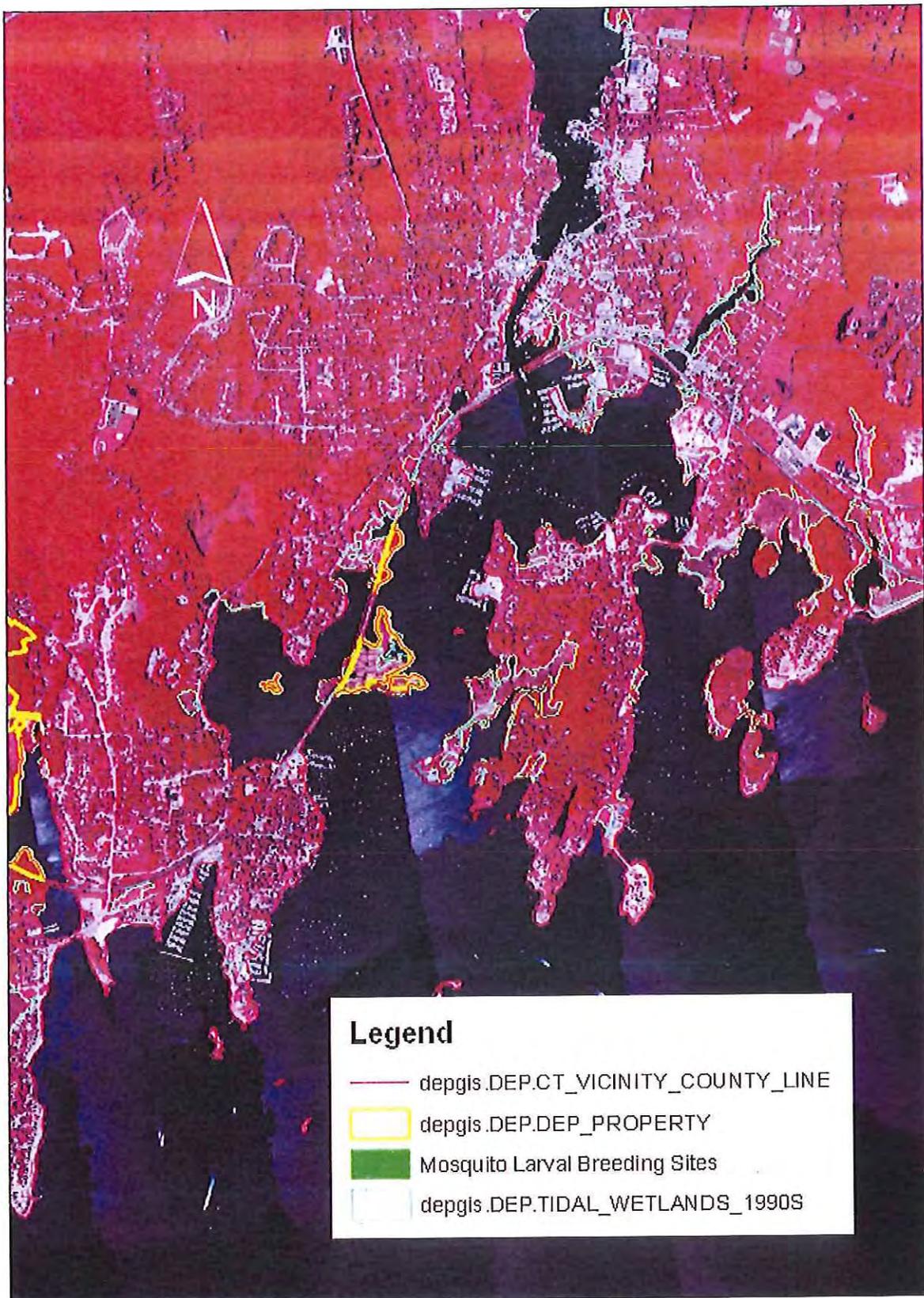
Barn Island WMA, Stonington, CT



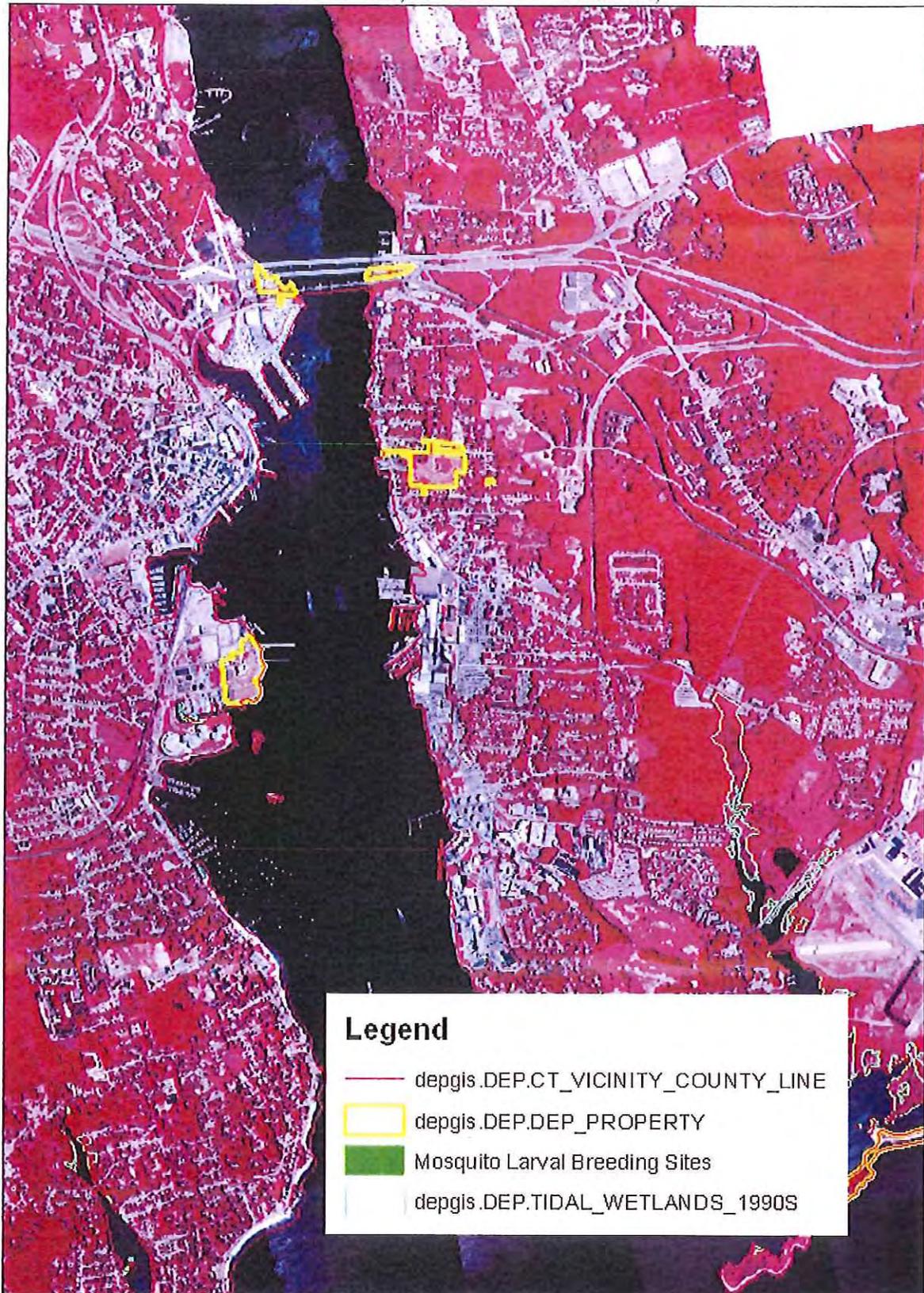
Bluff Point and Haley Farm, Groton, CT



Six Penny Island, Groton, CT



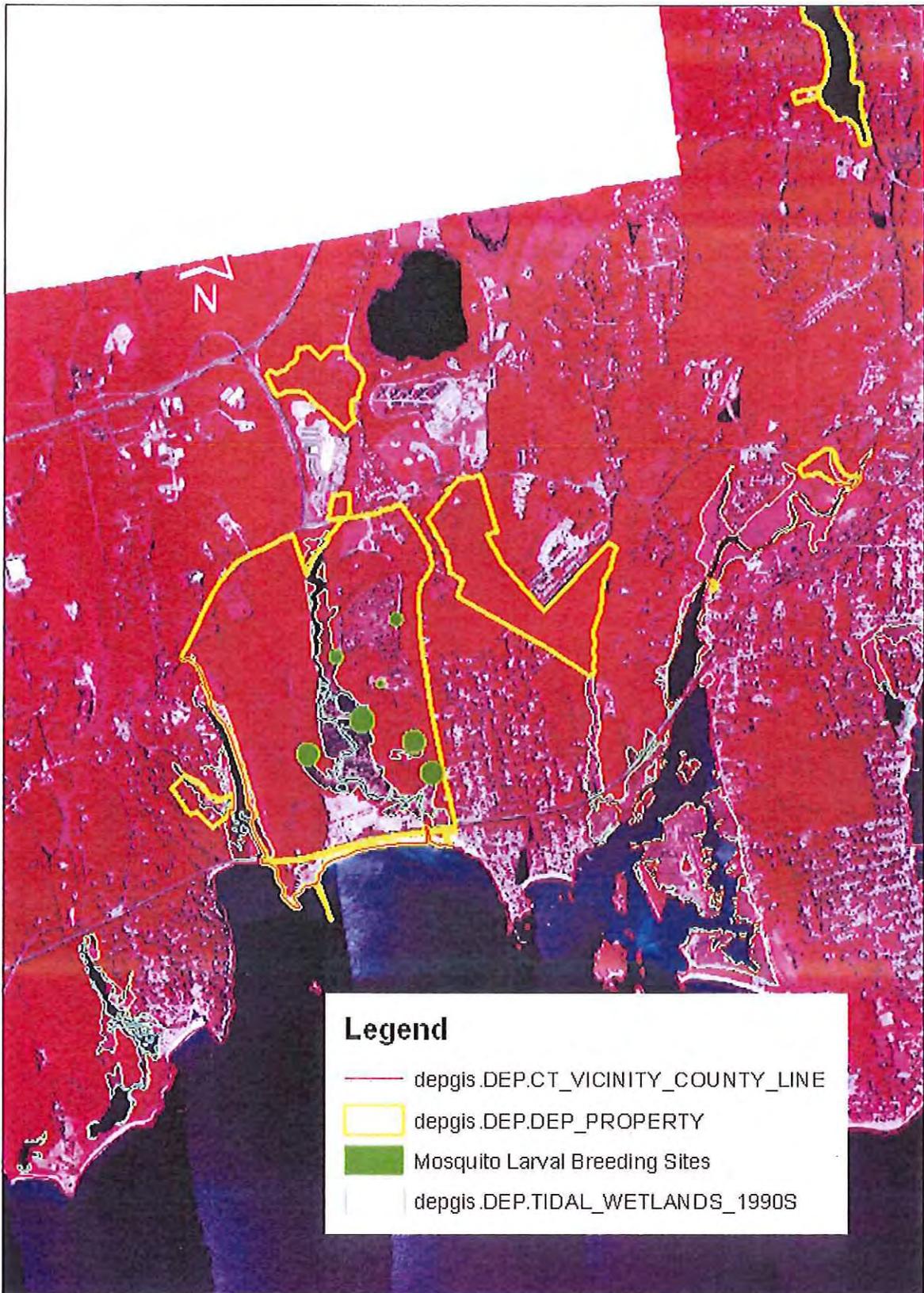
Fort Griwold, Groton, CT
Fort Trumbull, New London, CT



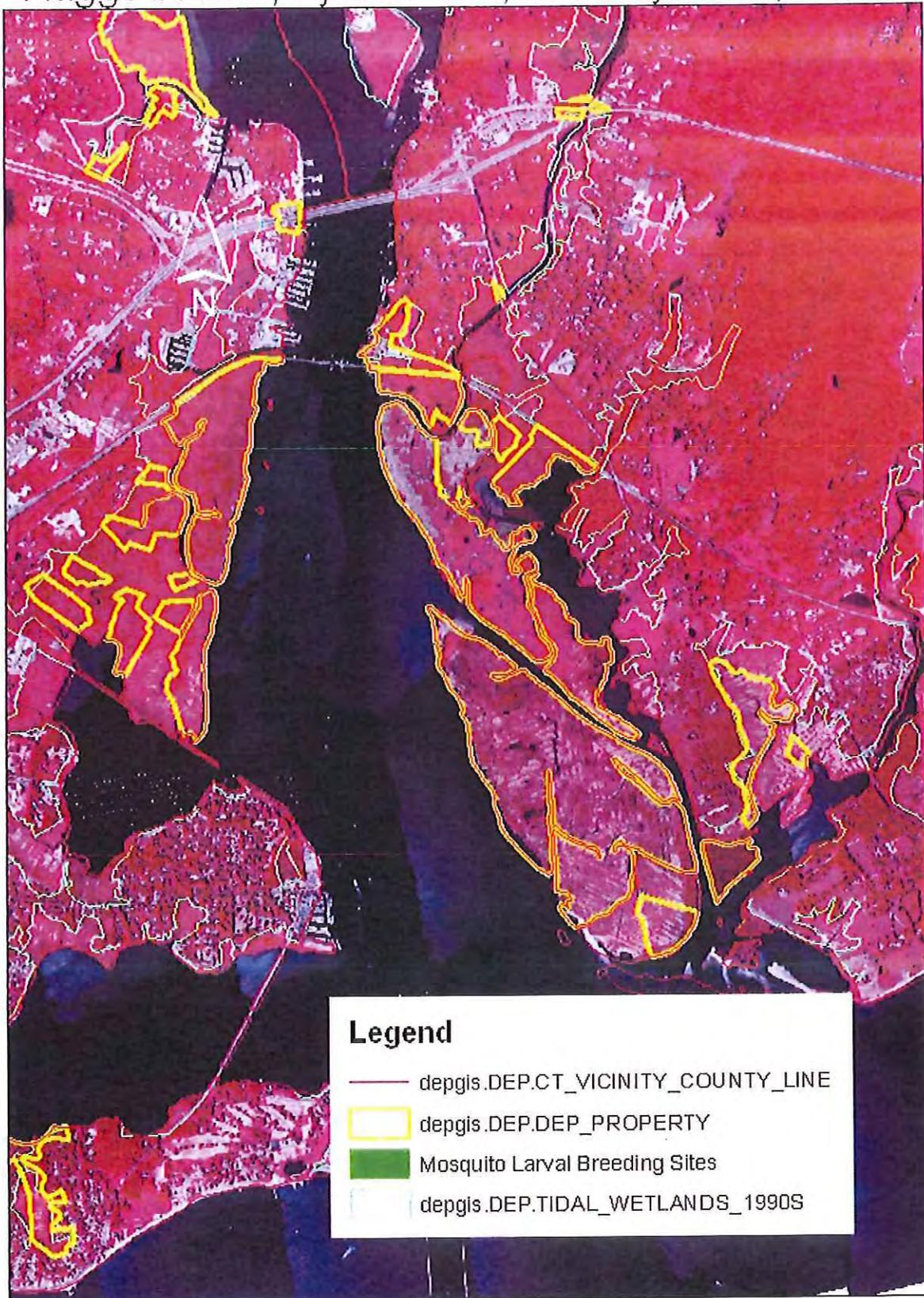
Harkness State Park, Waterford, CT



Rocky Neck State Park, East Lyme, CT



Great Island, Upper Island, Old Lyme, CT
Ragged Rock, Ayers Point, Old Saybrook, CT



South Cove, Plum Bank, Old Saybrook, CT



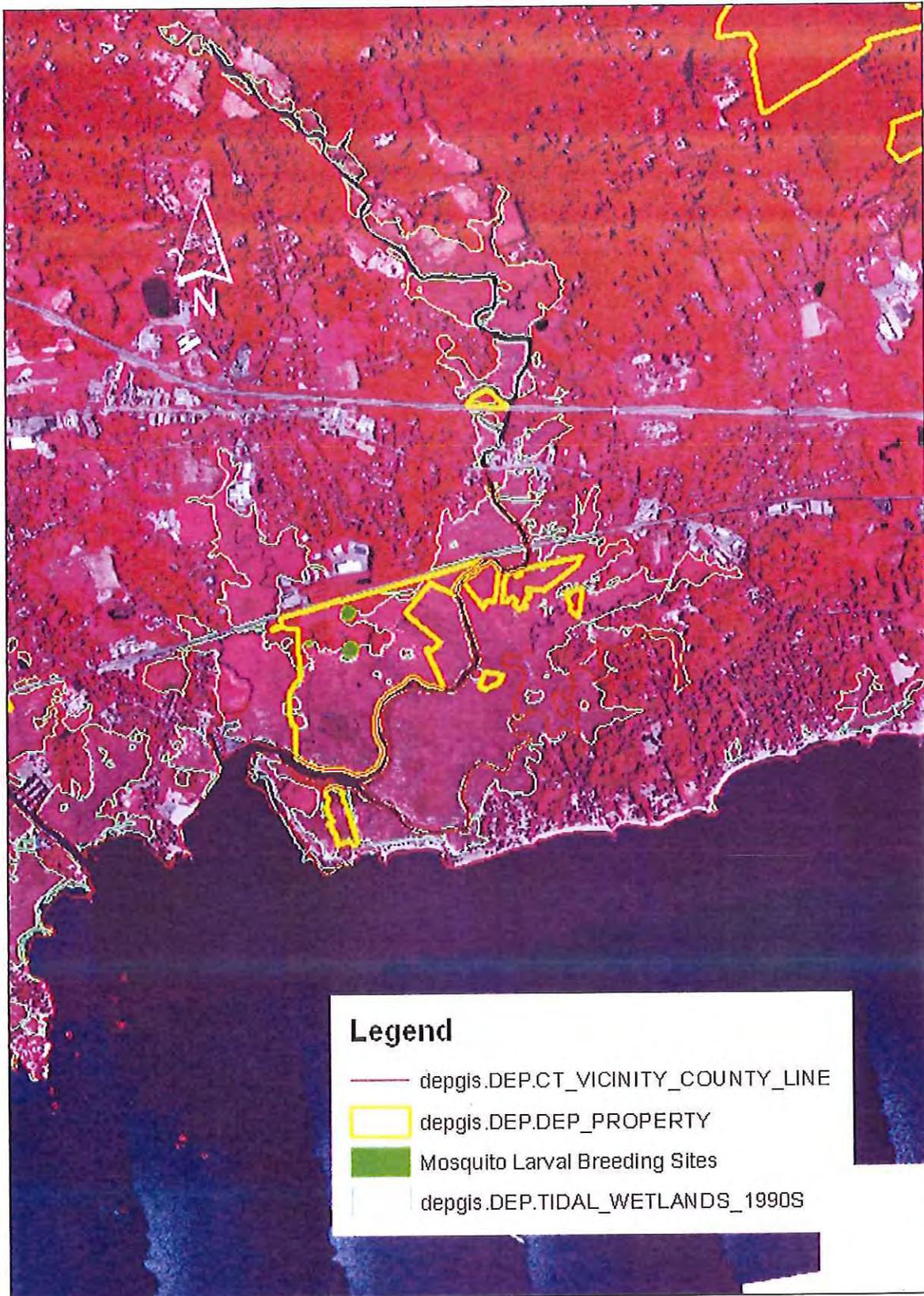
Hammock River, Clinton, CT



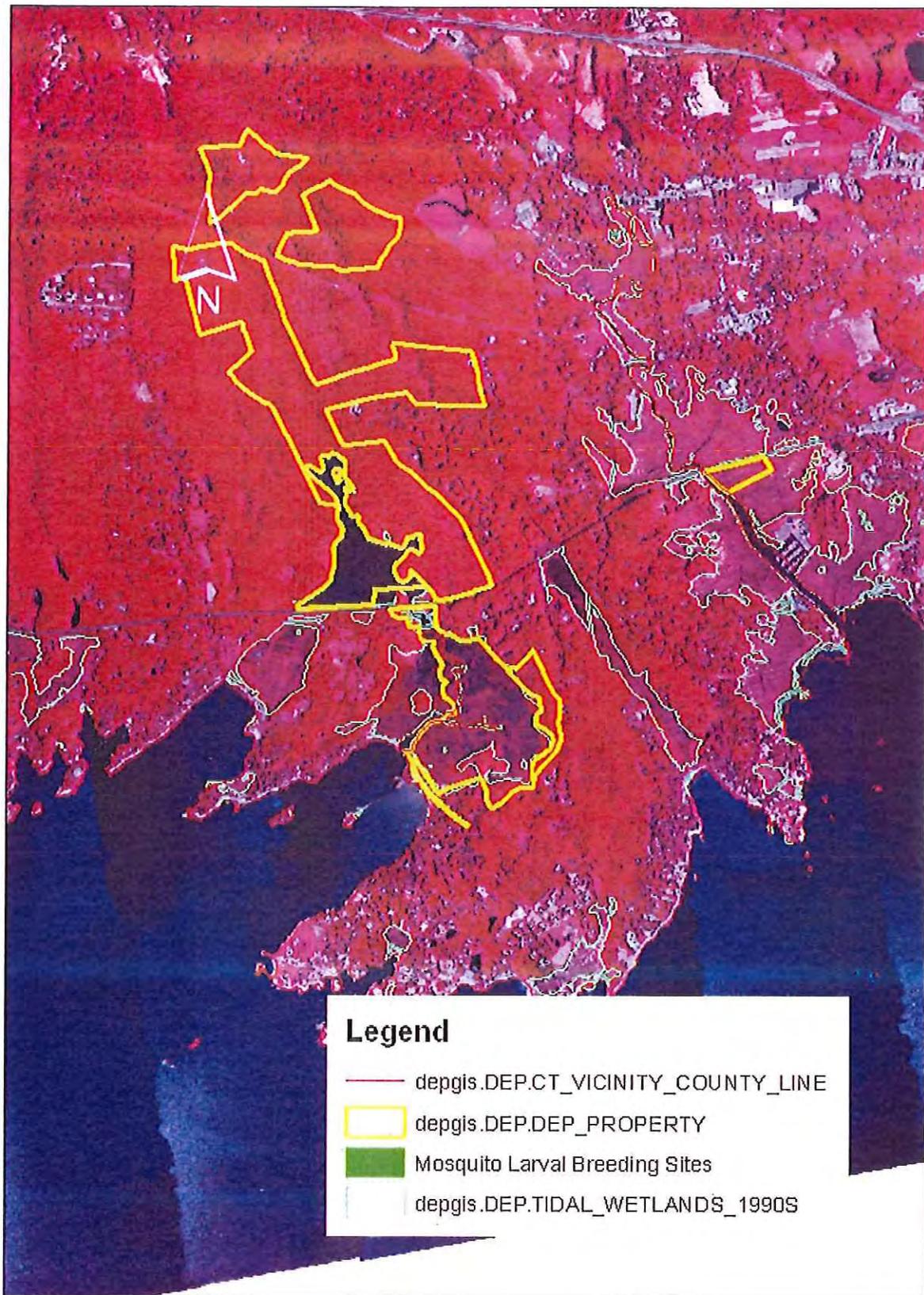
Hammonasset State Park, Madison, CT



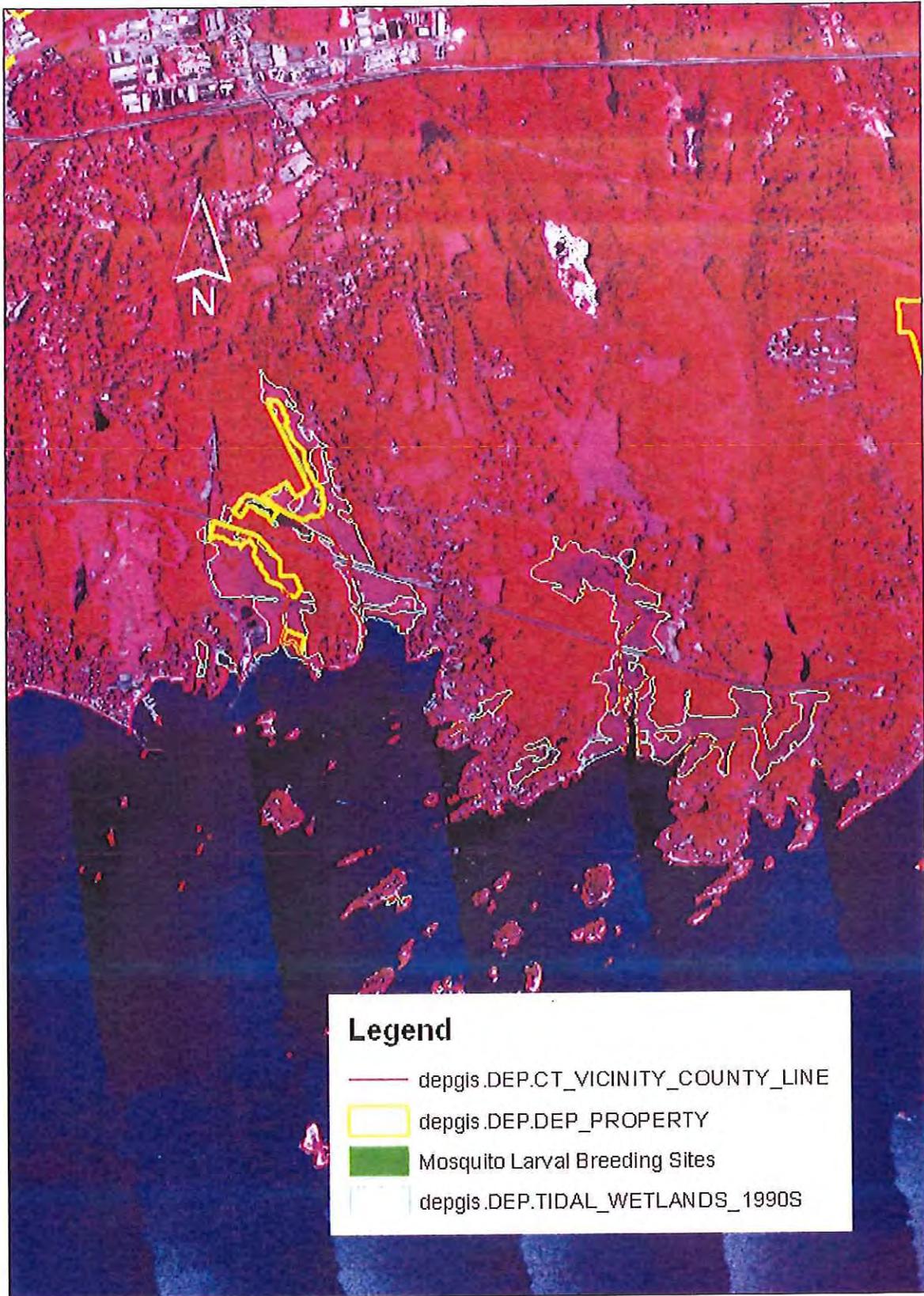
East River WMA, Madison / Guilford, CT



Great Harbor Marsh WMA, Guilford, CT



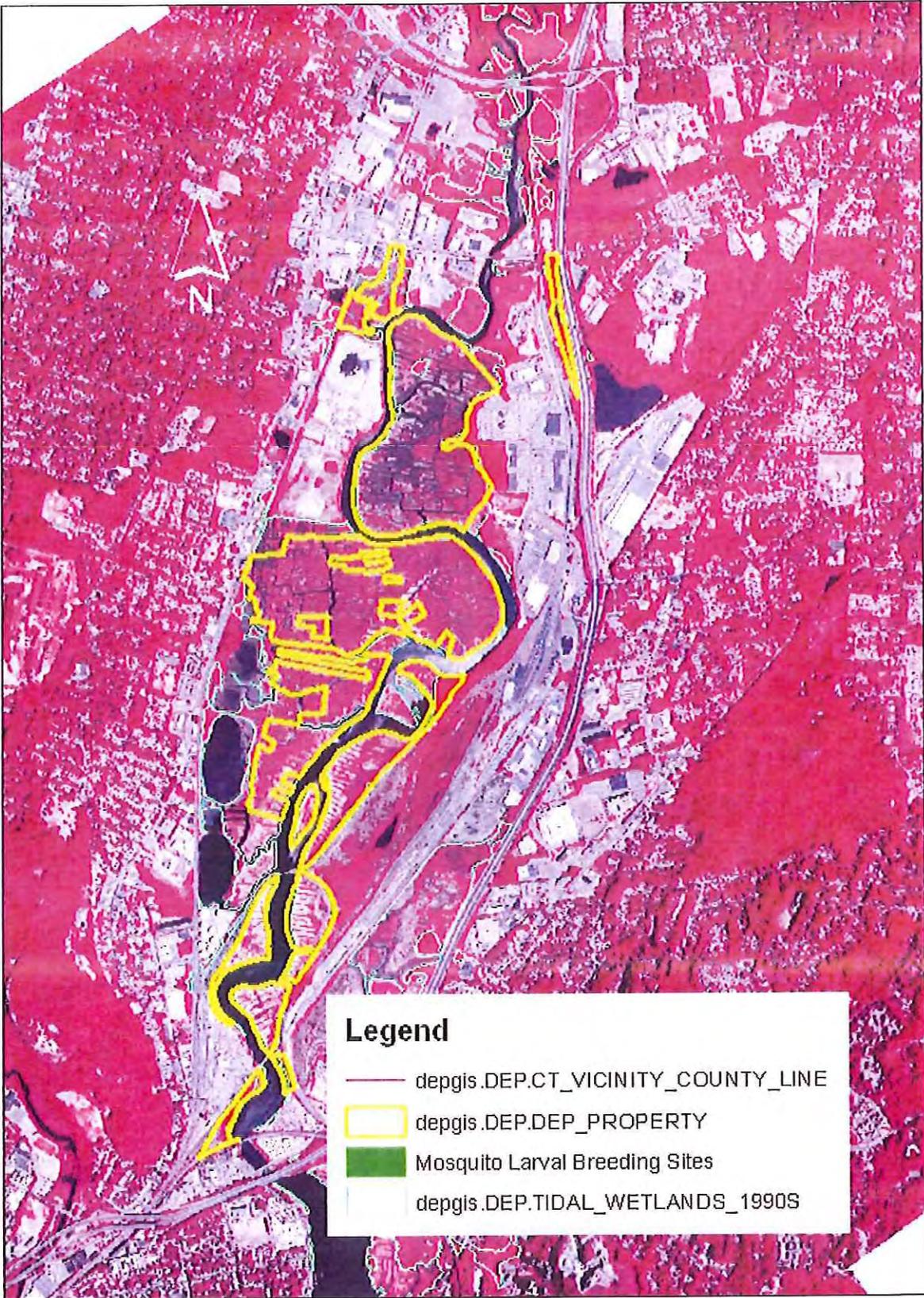
Pine Orchard Marsh, Branford, CT



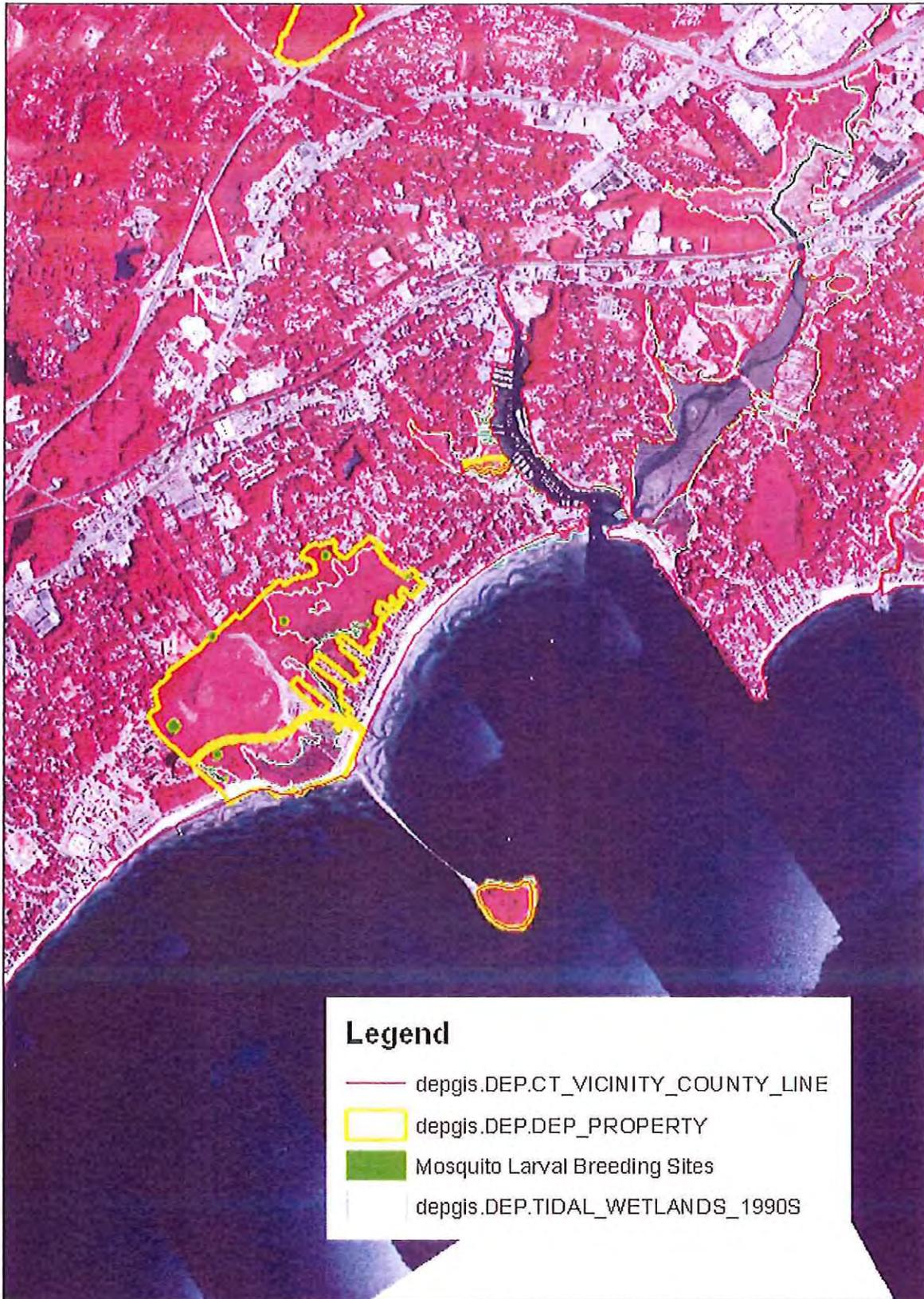
Branford River Marsh, Branford, CT



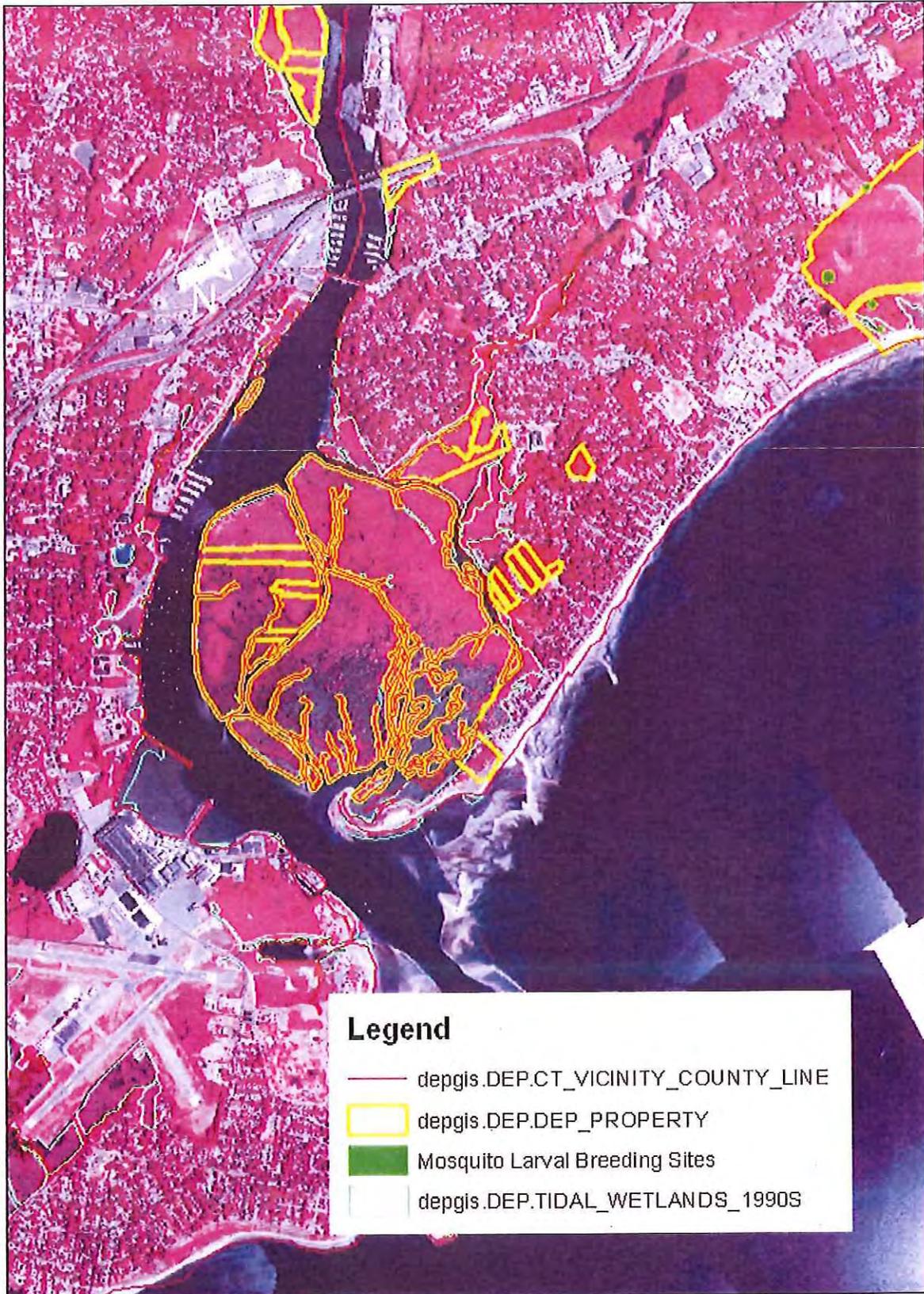
Quinnipiac River, North Haven, CT



Silver Sands State Park, Milford, CT



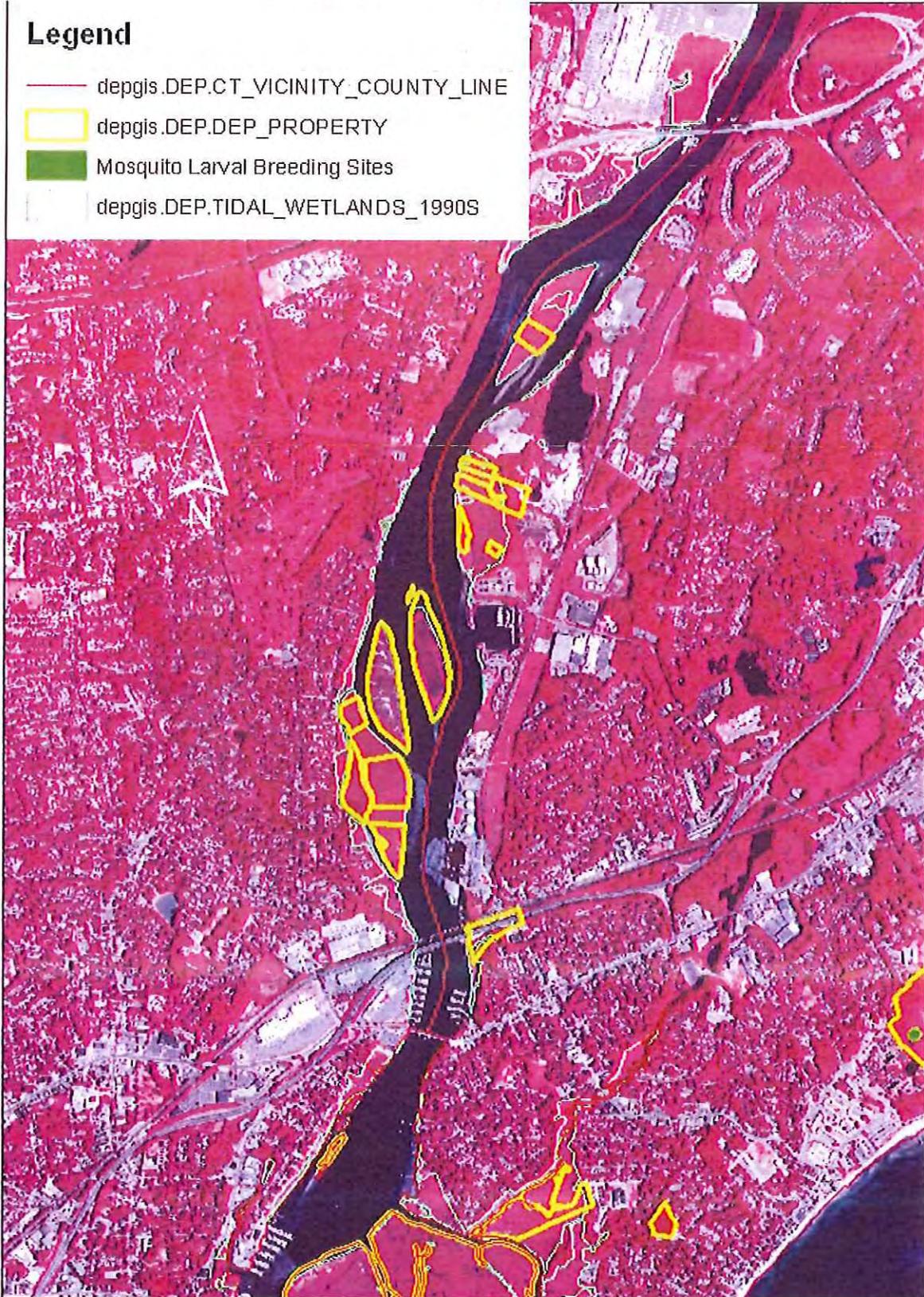
Wheeler Marsh WMA, Milford, CT



Parts of Wheeler Marsh WMA Stratford & Milford, CT

Legend

- depgis.DEP.CT_VICINITY_COUNTY_LINE
- depgis.DEP.DEF_PROPERTY
- Mosquito Larval Breeding Sites
- depgis.DEP.TIDAL_WETLANDS_1990S



Sherwood Island State Park, Westport, CT





Connecticut Department of
Energy & Environmental Protection
Bureau of Water Protection & Land Reuse
Office of Long Island Sound Programs

Coastal Consistency Review Form

Please complete this form in accordance with the instructions (DEP-INST-004). Print or type unless otherwise noted.

DEEP USE ONLY	
Application No.:	_____
Analyst Assigned:	_____
Date Received (OLISP):	_____

Part I: Project Information

1. Applicant Name: State of CT, DEEP, BNR, Wildlife Division, WHAMM Program			
Mailing Address: 391 Route 32			
City/Town: N. Franklin	State: CT	Zip Code: 06254	
Business Phone: 860-642-7630	ext.:	Fax: 860-642-7964	
Contact Person: Paul Capotosto	Phone: same	ext.	
E-mail: paul.capotosto@ct.gov			
2. Preparer Name: same			
Mailing Address:			
City/Town:	State:	Zip Code:	
Business Phone:	ext.:	Fax:	
Contact Person:	Phone:	ext.	
E-mail:			
3. Street Address or Description of Location of the Project Site:			
State wide coastal areas			
City or Town: state wide coastal areas			
4. Brief Project Description:			
Mosquito Control in coastal areas: inspection and then apply larvicide to mosquito larval breeding habitat, mark site and finish report.			
5. Is the project located within the coastal boundary as defined in CGS Section 22a-94(b)?			
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
If you answered Yes to this question, complete the entire form.			
If you answered No to this question, and your project is located in a coastal area, skip Parts II through V and complete Parts VI, VII and VIII.			

Part II: Identification of Applicable Coastal Use and Activity Policies and Standards

Identify all statutory goals and policies in or referenced by Section 22a-92 of the Coastal Management Act applicable to the proposed activities by checking the applicable boxes in the following table.

- General Development* - CGS Sections 22a-92(a)(1), 22a-92(a)(2), 22a-92(a)(9), 22a-92(a)(9)
- Water-Dependent Uses - CGS Sections 22a-92(a)(3), 22a-92(b)(1)(A)
- Ports and Harbors - CGS Section 22a-92(b)(1)(C)
- Coastal Structures and Filling - CGS Section 22a-92(b)(1)(D)
- Dredging and Navigation - CGS Sections 22a-92(c)(1)(C), 22a-92(c)(1)(D)
- Boating - CGS Section 22a-92(b)(1)(G)
- Fisheries - CGS Section 22a-92(c)(1)(I)
- Coastal Recreation And Access - CGS Sections 22a-92(a)(6), 22a-92(C)(1)(j), 22a-92(c)(1)(K)
- Sewer and Water Lines - CGS Section 22a-92(b)(1)(B)
- Fuel, Chemicals And Hazardous Materials - CGS Sections 22a-92(b)(1)(C), 22a-92(b)(1)(E), 22a-92(c)(1)(A)
- Transportation - CGS Sections 22a-92(b)(10)(F), 22a-92(c)(1)(F), 22a-92(c)(1)(G), 22a-92(c)(1)(H)
- Solid Waste - CGS Section 22a-92(a)(2)
- Dams, Dikes and Reservoirs - CGS Section 22a-92(a)(2)
- Cultural Resources - CGS Section 22a-92(b)(1)(J)
- Open Space and Agricultural Lands - CGS Section 22a-92(a)(2)

* applicable to all proposed activities

Part III: Consistency With Applicable Statutory Coastal Use and Activity Goals and Policies

Explain how the proposed activity is consistent with the applicable coastal activities goals and policies identified in Part II and describe any mitigation necessary to offset adverse impacts.

The proposed activity is consistent with the applicable coastal activities goals and policies. There is no mitigation necessary to offset adverse impacts.

Part IV: Identification of Applicable Coastal Resources and Coastal Resource Policies

Identify the coastal resources and associated statutory policies that apply to your project by checking the applicable boxes in the following table.

Coastal Resources	on-site	adjacent to work site	off-site but potentially affected by the project
General Resources* - CGS Sections 22a-93(7), 22a-92(a)(2)	X	X	X
Beaches & Dunes - CGS Sections 22a-93(7)(C), 22a-92-(b)(2)(C), 22a-92(c)(1)(K)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bluffs & Escarpments - CGS Sections 22a-93(7)(A), 22a-92(b)(2)(A)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coastal Hazard Area - CGS Sections 22a-93(7)(H), 22a-92(a)(2), 22a-92(b)(2)(F), 22a-92(b)(2)(J), 22a-92(c)(2)(B), 22a-92(a)(5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coastal Waters & Estuarine Embayments - CGS Sections 22a-93(5), 22a-93(7)(K), 22a-93(7)(L), 22a-93(7)(G), 22a-92(a)(2), 22a-92(c)(2)(A)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Developed Shorefront - CGS Sections 22a-93(7)(I), 22a-92(b)(2)(G)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Freshwater Wetlands and Watercourses - CGS Sections 22a-93(7)(F), 22a-92(a)(2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intertidal Flats - CGS Sections 22a-93(7)(D), 22a-92(b)(2)(D), 22a-92(c)(1)(K)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Islands - CGS Sections 22a-93(7)(J), 22a-92(b)(2)(H)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rocky Shorefront - CGS Sections 22a-93(7)(B), 22a-92(b)(2)(B)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shellfish Concentration Areas - CGS Sections 22a-93(7)(N), 22a-92(c)(1)(I)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shorelands - CGS Sections 22a-93(7)(M), 22a-92(b)(2)(I)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tidal Wetlands - CGS Sections 22a-93(7)(E), 22a-92(a)(2), 22a-92(b)(2)(E), 22a-92(c)(1)(B)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* applicable to all proposed activities

Part V: Consistency with Applicable Statutory Coastal Resource Goals and Policies

Explain how the proposed activity is consistent with the applicable statutory coastal resource goals and policies identified in Part IV and describe any mitigation necessary to offset adverse impacts.

Mosquito control in Tidal Wetlands is consistent with eht applicable statutory goals and there is no mitigation necessary.

Part VI: Identification of Potential Adverse Impacts

Identify the adverse impact categories that apply to the proposed activity. Check the applicable box if the proposed activity has the potential to generate any adverse impacts defined in the Coastal Management Act and referred to in the following table. If the category is applicable to the proposed activity, you may describe in Part VII project design features which may eliminate or minimize the potential for identified adverse impacts.

Potential Resource Impacts	Applicable	Not Applicable
Characteristics & Functions of Resources - CGS Section 22a-93(15)(H)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Coastal Flooding - CGS Section 22a-93(15)(E)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Coastal Waters Circulation Patterns - CGS Section 22a-93(15)(B)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Drainage Patterns - CGS Section 22a-93(15)(D)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Patterns of Shoreline Erosion and Accretion - CGS Section 22a-93(15)(C)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Visual Quality - CGS Section 22a-93(15)(F)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Water Quality - CGS Section 22a-93(15)(A)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wildlife, Finfish, Shellfish Habitat - CGS Section 22a-93(15)(G)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Potential Impacts on Water Dependent Uses	Applicable	Not Applicable
Locating a non-water-dependent use on a site suited to or planned for a water-dependent use - CGS Section 22a-93(17)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Replacing an existing water-dependent use with a non-water-dependent use - CGS Section 22a-93(17)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Siting a non-water-dependent use which reduces or eliminates public access to marine or tidal waters - CGS Section 22a-93(17)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Part VII: Consistency with Statutory Adverse Impact Policies

Explain how all potential adverse impacts identified, as applicable, in Part VI have been avoided, eliminated or minimized.

No adverse impacts identified.

Part VIII: Remaining Adverse Impacts

Identify any adverse impacts which remain after incorporating all measures to eliminate or minimize such adverse impacts, and explain why no feasible and prudent alternatives exist that would further avoid or reduce such impacts.

No adverse impacts.



Connecticut Department of
Energy & Environmental Protection
Bureau of Natural Resources
Wildlife Division

App #: _____
Doc #: _____
Check #: No fee required
Program: Natural Diversity Database
Endangered Species
Hardcopy _____ Electronic _____

Request for Natural Diversity Data Base (NDDB) State Listed Species Review

Please complete this form in accordance with the instructions (DEP-INST-007) to ensure proper handling of your request.
There are no fees associated with NDDB Reviews.

Part I: Preliminary Screening

Before submitting this request, you must review the Natural Diversity Data Base "State and Federal Listed Species and Significant Natural Communities Maps" found on the DEEP website. Follow the instructions on the map or in this form's instruction document. These maps are updated twice a year, usually in June and December.

Does your site, including all affected areas, meet the screening criteria according to the instructions:

Yes No

Enter the date of the map reviewed for pre-screening: Dec 2011

Part II: Requester Information

**If the requester is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, the company name shall be stated exactly as it is registered with the Secretary of State. This information can be accessed at CONCORD.*

If the requester is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).

1. Requester Company Name*: **CT DEEP WHAMM Program**

Name: **Paul Capotosto**

Address: **391 Route 32**

City/Town: **N. Franklin**

State: **CT**

Zip Code: **06254**

Business Phone: **860-642-7630**

ext.

Fax: **860-642-7964**

E-mail: **paul.capotosto@ct.gov**

By providing this email address you are agreeing to receive official correspondence from the department, at this electronic address, concerning this request. Please remember to check your security settings to be sure you can receive emails from "ct.gov" addresses. Also, please notify the department if your e-mail address changes.

Requester can best be described as:

Business Entity Federal Agency Municipal govt. State agency Individual

Tribe Other (specify):

Acting as (Affiliation), pick one:

Property owner Consultant Engineer Facility owner Applicant

Biologist Pesticide Applicator Other representative:

Part II. Requester Information (continued)

2. List Primary Contact to receive Natural Diversity Data Base correspondence and inquiries, if different from requester.

Company:

Contact Person:

Title:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.

Fax:

E-mail:

By providing this email address you are agreeing to receive official correspondence from the department, at this electronic address, concerning this request. Please remember to check your security settings to be sure you can receive emails from "ct.gov" addresses. Also, please notify the department if your e-mail address changes.

Part III: Site Information

This request can only be completed for one site. A separate request must be filed for each additional site.

1. SITE NAME AND LOCATION

Site Name or Project Name: **State wide**

Town(s): **State wide**

Street Address or Location Description:

Size in acres, or site dimensions:

Latitude and longitude of the center of the site in decimal degrees (e.g., 41.23456 -71.68574):

Latitude:

Longitude:

Method of coordinate determination (check one):

GPS Photo interpolation using CTECO map viewer Other (specify):

2a. Describe the current land use and land cover of the site.

Freshwater wetlands, brackish wetlands, salt marshes, any place holding standing water

b. Check all that apply and enter the size in acres or % of area in the space after each checked category.

Industrial/Commercial _____

Residential _____

Forest _____

Wetland _____

Field/grassland _____

Agricultural _____

Water _____

Utility Right-of-way _____

Transportation Right-of-way _____

Other (specify): _____

Part IV: Project Information

1. PROJECT TYPE:

Choose Project Type: Choose Type From Dropdown List , If other describe: Mosquito Control

2. Is the subject activity limited to the maintenance, repair, or improvement of an existing structure within the existing footprint? Yes No If yes, explain.

3. Give a detailed description of the activity which is the subject of this request and describe the methods and equipment that will be used.

MMP is divided into two parts: Normal pesticide application in coastal wetlands and freshwater wetlands and wet areas on state property were needed. Emergency pesticide application for public health mosquito borne disease control throughout the state declared by the Governor or by the Commisioners of Public Health and Energy and Environmental Protection. All larviciding work will be done by hand using back pack sprayer, granular sprayer or by hand application. Larvicides used are Bti and Bs products, Natular (spinosad) and Methoprene.

4. Provide a contact for questions about the project details if different from Part II primary contact.

Name: **Paul Capotosto or Roger Wolfe**

Phone: 860-642-7630

E-mail: paul.capotosto@ct.gov or roger.wolfe@ct.gov

Part V: Request Type and Associated Application Type

Check *one* box from either Group 1 or Group 2, indicating the appropriate category for this request.

Group 1. If you check one of these boxes, fill out Parts I – VII of this form and submit the required attachments A and B.

- Preliminary screening was negative but an NDDB review is still requested
- Request regards a municipally regulated or unregulated activity (no state permit/certificate needed)
- Request regards a preliminary site assessment or project feasibility study
- Request relates to land acquisition or protection
- Request is associated with a *renewal* of an existing permit, with no modifications

Group 2. If you check one of these boxes, fill out Parts I – VII of this form and submit required attachments A, B, and C.

- Request is associated with a *new* state or federal permit application
- Request is associated with modification of an existing permit
- Request is associated with a permit enforcement action
- Request regards site management or planning, requiring detailed species recommendations
- Request regards a state funded project, state agency activity, or CEPA request

If you are filing this request as part of a state or federal permit application enter the application information below.

Permitting Agency and Application Name:

State DEEP DEP-WPED-INST-026 _____

State DEEP Application Number, if known: _____

State DEEP Enforcement Action Number, if known: _____

State DEEP Permit Analyst/Engineer, if known: _____

Is this request related to a previously submitted NDDB request? Yes No

Enter the previous NDDB Request Number(s), if known: _____

Part VI: Supporting Documents

Check each attachment submitted as verification that *all* applicable attachments have been supplied with this request form. Label each attachment as indicated in this part (e.g., Attachment A, etc.) and be sure to include the requester's name, site name and the date. **Please note that Attachments A and B are required for all requesters.** Attachment C (DEP-APP-007C) is supplied at the end of this form.

<input checked="" type="checkbox"/> Attachment A:	Overview Map: an 8 1/2" X 11" print/copy of the relevant portion of a USGS Topographic Quadrangle Map clearly indicating the exact location of the site.
<input checked="" type="checkbox"/> Attachment B:	Detailed Site Map: fine scaled map showing site boundary details on aerial imagery with relevant landmarks labeled. (Site boundaries in GIS [ESRI ArcView shapefile, in NAD83, State Plane, feet] format can be substituted for detailed maps, see instruction document)
<input checked="" type="checkbox"/> Attachment C:	Supplemental Information, Group 2 requirement (attached, DEP-APP-007C) <input checked="" type="checkbox"/> Section i: Supplemental Site Information and supporting documents <input checked="" type="checkbox"/> Section ii: Supplemental Project Information and supporting documents

Part VII: Requester Certification

The requester *and* the individual(s) responsible for actually preparing the request must sign this part. A request will be considered incomplete unless all required signatures are provided.

<p>"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief."</p>	
Signature of Requester	06/05/12 Date
Paul Capotosto	Program Specialist 1
Name of Requester (print or type)	Title (if applicable)
Signature of Preparer (if different than above)	06/15/12 Date
Roger Wolfe	EA III, Mosquito Management Co
Name of Preparer (print or type)	Title (if applicable)

Note: Please submit the completed Request Form and all Supporting Documents to:

CENTRAL PERMIT PROCESSING UNIT
 DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
 79 ELM STREET
 HARTFORD, CT 06106-5127

Or email request to: dep.nddbrequest@ct.gov

Attachment C: Supplemental Information, Group 2 requirement

Section i: Supplemental Site Information

1. Existing Conditions

Describe all natural and man-made features including wetlands, watercourses, fish and wildlife habitat, floodplains and any existing structures potentially affected by the subject activity. Such features should be depicted and labeled on the site plan that must be submitted. Photographs of current site conditions may be helpful to reviewers.

Coastal salt marshes and freshwater wetlands and standing water on state property for normal operations.

- Site Photographs (optional) attached
- Site Plan/sketch of existing conditions attached

2. Biological Surveys

Has a biologist visited the site and conducted a biological survey to determine the presence of any endangered, threatened or special concern species Yes No

If yes, complete the following questions and submit any reports of biological surveys, documentation of the biologist's qualifications, and any NDDB survey forms.

Biologist(s) name:

Habitat and/or species targeted by survey:

Dates when surveys were conducted:

- Reports of biological surveys attached
- Documentation of biologist's qualifications attached
- NDDB Survey forms for any listed species observations attached

Section ii: Supplemental Project Information

1. Provide a schedule for all phases of the project including the year, the month and/or season that the proposed activity will be initiated and the duration of the activity.

April 15 to October 15

2. Describe and quantify the proposed changes to existing conditions and describe any on-site or off-site impacts. In addition, provide an annotated site plan detailing the areas of impact and proposed changes to existing conditions.

No changes to existing conditions

- Annotated Site Plan attached

Capotosto, Paul

From: McKay, Dawn
Sent: Monday, June 04, 2012 3:37 PM
To: Capotosto, Paul
Cc: Wolfe, Roger; Rothbart, Paul; Dickson, Jenny; Jacobson, Rick; Hirsch, Elaine; DeBarros, Nelson
Subject: RE: Statewide Mosquito Control NDDB Review

Hi Paul,

I think the final decision from our NDDB program is that if you are using mosquito control larvicides that are classified as stomach toxins (The chemical being used targets aquatic larvae with "alkaline guts" with the specific targets of chironomids, black flies and mosquitoes--all with alkaline guts) then no NDDB reviews are needed.

We essentially decided that a town-wide application of Bti, Bs, etc. is not likely to adversely impact the population of any state-listed species in CT and applicants can skip the NDDB review process during the Pesticide NOI.

However, that being said, we did not come into consensus about methoprene, malathion, Phenothrin, Permethrin or other chemicals that may also be used for mosquito control. I am unclear what our program requirements will be if you choose to utilize any of those chemicals.

Hopefully this email will be helpful as you move forward with the new process and permit requirement.

Take care,

Dawn

-----Original Message-----

From: Capotosto, Paul
Sent: Monday, June 04, 2012 2:08 PM
To: McKay, Dawn
Cc: Wolfe, Roger; Rothbart, Paul; Jacobson, Rick
Subject: Statewide Mosquito Control NDDB Review
Importance: Low

Dawn

Finally, we received the new Pesticide NOI Form on June 4 from Don Goynea (form dated May 16, 2012). Before I fill out the NDDB form for the entire state, I have a question: Do we need a NDDB Review or is there an exemption for mosquito control activities?

Paul Cap
860-642-7630

Attachment C Page 1
CT DEEP WHAMM Program
391 Route 32
N. Franklin, CT 06254

Appendix A: Certification that the Pesticide Application will be Conducted in Accordance With a Pesticide Discharge Management Plan that Complies with the Minimum Requirements of Appendix A of the General Permit for Point Source Discharges to Waters of the State from the Application of Pesticides

The registrant *and* the individual(s) responsible for actually preparing the registration must sign this part. An registration will be considered insufficient unless *all* required signatures are provided. Please also check the box and provide the date for which you sent one copy of this completed registration to the appropriate local inland wetland agency.

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I also certify that the pesticide application is being conducted in accordance with a Pesticide Discharge Management Plan, and is being conducted in accordance with the principles of Integrated Pest Management. I understand that a false statement in the submitted information may be punishable as a criminal offense, in accordance with Section 22a-6 of the General Statutes, pursuant to Section 53a-157b of the General Statutes, and in accordance with any other applicable statute. I certify that this registration is on complete and accurate forms as prescribed by the commissioner without alteration of the text. I also certify that I have sent one copy of this completed registration to the appropriate local inland wetland agency."

<i>Paul Capotosto</i>	<i>6/28/12</i>
Signature of Registrant	Date
<i>Paul Capotosto</i>	<i>Program Specialist I</i>
Name of Registrant (print or type)	Title (if applicable)
<i>[Signature]</i>	<i>6/28/12</i>
Signature of Preparer (if different than above)	Date
<i>Roger Wolfe</i>	<i>Mosquito Mgt. Coordinator</i>
Name of Preparer (print or type)	Title (if applicable)

Check here if additional signatures are required. If so, please reproduce this sheet and attach signed copies to this sheet.

Submit this completed Appendix form with the registration under the subject general permit, or when applicable, with the Permit Application for the Use of Pesticides in State Waters (DEP-PEST-APP-200)*.

**If conducting an aquatic application of pesticide(s) regulated under section 22a-66z CGS, and treating an area equal to or greater than 80 acres, complete the "Permit Application for the Use of Pesticides in State Waters" (DEP-PEST-APP-200) and attach Appendix A of this registration to that application.*

Attachment F Page 1
 CT DEEP WHAMM Program
 391 Route 32
 N. Franklin, CT 06254



Connecticut Department of

**ENERGY &
ENVIRONMENTAL
PROTECTION**

Pesticide Discharge Management Plan (PDMP)

Connecticut Department of Energy and Environmental Protection

Bureau of Natural Resources, Wildlife Division

Wetlands Habitat and Mosquito Management (WHAMM) Program

Developed: June 2012

I. Operator Information:

Agency performing application –

DEEP WHAMM Program

Franklin Wildlife Management Area

391 Rt. 32

N. Franklin, CT 06254

Contact: Paul Capotosto – Mosquito Management Supervisor (GS-2791)

(860) 642-7630, cell: 860-930-5028, paul.capotosto@ct.gov

Additional contacts: Roger Wolfe – Mosquito Management Coordinator (GS-3967)

(860) 642-7630, cell: 860-930-5014, roger.wolfe@ct.gov

Frank Shaw – Wetlands Restoration Supervisor (GS-2792)

(203) 318-0372, cell: 860-930-4038, frank.shaw@ct.gov

Names of applicators performing the application:

See Appendix 1.

Ia. Additional Operators

The DEEP WHAMM Program may have one or more private applicators on contract to perform mosquito control. For 2012, the WHAMM Program has the following businesses on contract:

- 1) Innovative Mosquito Management, Inc., 4 New Road, Unit #1, Madison, CT 06443
Contact: Kurt Ehrhart, (203) 245-7015, kurt@innovativemosquito.com
- 2) All Habitat Services, LLC., 2 Tipping Dr., Branford, CT 06405
Contact: David Roach (S-3538), (203) 245-1212, general@allhabitat.com
- 3) Clarke Environmental Mosquito Management, Inc., 2216 Amosland Road, Holmes, PA 19043
Contact: Clarke E. Wood, woody@clarkemosquito.com

II. Pest Management Area Description

A. Target pest: larval and adult mosquitoes.

B. Water body type: tidal salt and brackish marsh, freshwater wetlands, vernal pools, low lying areas, state/municipal catch basins, storm water basins, or any natural or artificial water-holding containers where water can collect and remain for a duration of time for mosquitoes to develop (pursuant to PA 97-289 and Sec. 22a-45 of CT Gen. Statutes).

C. Water body name/location: All water bodies throughout the State of Connecticut. The CT DEEP Mosquito Management Program has state-wide purview for monitoring and controlling mosquitoes on federal, state, municipal or private lands. The WHAMM Program routinely inspects for mosquitoes during the mosquito season (April-October) on state-owned coastal properties (i.e., state parks, wildlife areas, other state properties).

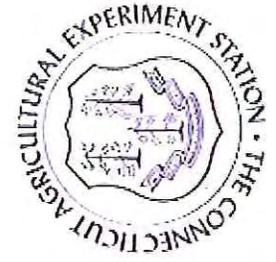
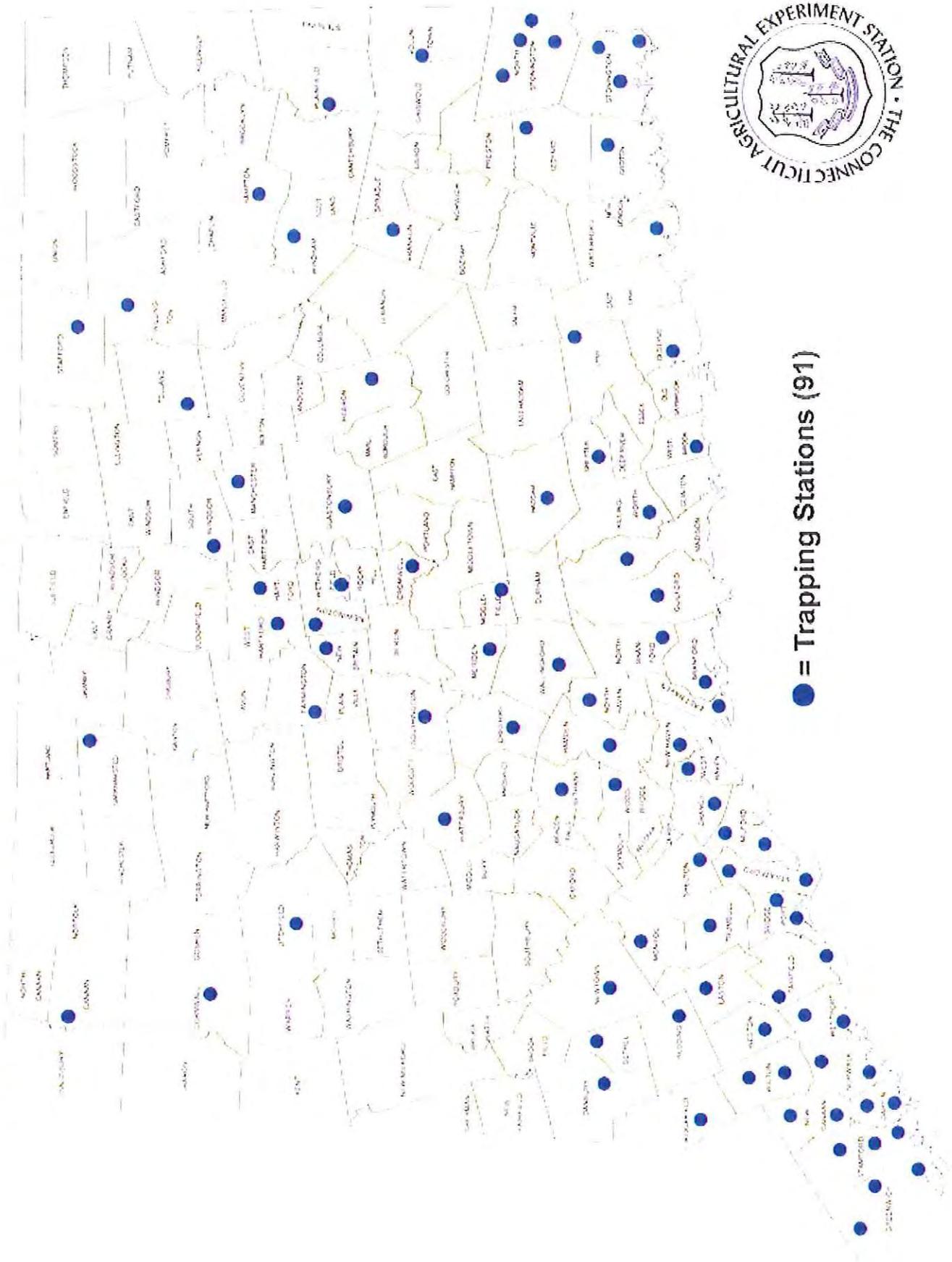
Figure 1 shows locations of adult mosquito surveillance light traps as maintained by the CT Agricultural Experiment Station.

Attachment A of the General Permit shows areas of routine larval mosquito inspection sites by the CT DEEP WHAMM Program.

III. Integrated Pest Management and Control Measures to Minimize Discharges

The WHAMM Program implements the concepts of IPM in its mosquito management program. The primary goal of the WHAMM Program is to conduct water habitat management (Open Marsh Water Management) in tidal and non-tidal wetlands wherever feasible to eliminate mosquito-breeding sites, promote biological control by natural predators and enhance or restore wetland wildlife habitat. Another important aspect of our goal is educate the public (through local health departments, various media, brochures, PSA's, providing technical assistance to individuals, groups and municipalities, and the state's web site [www.ct.gov/mosquito]) to minimize exposure to biting mosquitoes, eliminate sources of mosquitoes around the home, and to use screens, nets and repellants when appropriate. Finally from an operational standpoint, the judicious use of registered larvacides and adulticides to control mosquitoes. We also research viable alternatives and new products on the market and make appropriate, scientifically-based recommendations.

Fig. 1. Mosquito Trapping Stations



The statewide Mosquito Management Program (MMP) is a collaboration of the CT DEEP, CT Department of Public Health and the CT Agricultural Experiment Station. Based on scientific monitoring and surveillance of larval and adult mosquito populations, the goal of the MMP is to monitor for the presence of mosquito-borne pathogens, educate the public to minimize exposure to mosquitoes, and to intervene where appropriate to minimize the risk of mosquito-borne diseases in the human and domestic animal populations. The primary diseases carried by mosquitoes that the MMP monitors for are West Nile virus (WNV) and Eastern Equine Encephalitis (EEE). The MMP has prepared Response Plans for both WNV and EEE which describe the integrated nature of managing these diseases. Both plans are available on the MMP web site: www.ct.gov/mosquito and attached to this document (Appendix 2 and Appen. 3).

A. Identification of the problem or impacts that the pest is causing: Mosquitoes can be a nuisance to humans, pets and livestock when present in sufficient numbers. High numbers of mosquitoes can have significant impacts on human quality of life, local economy's and livestock (e.g., milk production, skin reactions). From a public health standpoint many people can have severe skin reactions to mosquito bites resulting in irritation, swelling, rashes and infections. Moreover, mosquitoes carry a number of human and enzootic pathogens which can result in disease, neurologic effects or death.

B. Identification of the level of pest population that can be tolerated before a pesticide application is warranted: For control of larval mosquito populations, the WHAMM program routinely inspects state-owned coastal properties (see Attachment A of Gen. Permit) for mosquito larvae or pupae following spring snow melt, flooding lunar tides and heavy rainfall. When 1 or more mosquito larvae are encountered in a majority of water samples taken using a standard 250 ml dipper (minimum of 3 dips), the applicator may decide to apply an approved larvacide based on time of year, extent, severity and age of larval populations, tidal stage and the likelihood of rain or additional tidal flooding, and other environmental factors.

C. Description of alternative methods of control, including an evaluation of alternative pest control measures that have been attempted, implemented, or rejected. These may include one or more of the following:

1. *Physical control measures used (currently or in the past, if any), to attempt to control mosquitoes, and / or minimize the discharge of pesticides.*

Physical control of mosquitoes by eliminating sources of mosquito habitat (source reduction) is strongly encouraged at the landowner level and includes practices such as removing or dumping containers that hold water, cleaning clogged gutters or drilling holes in the bottoms of garbage cans and similar containers that can hold rain water. Filling, draining or regrading of low areas that retain water and produce mosquitoes can be conducted in non-designated wetlands. Water level draw down of impoundments during part of the mosquito season can also be used for control of certain species of mosquitoes.

Traditional grid ditching and periodic maintenance of salt marsh ditches was an effective physical control method historically used in Connecticut. Routine ditch maintenance was discontinued in

the 1980's and Integrated Marsh Management (IMM) has instead been instituted as an environmentally beneficial technique to reduce mosquito breeding on the marsh and enhance wildlife. Selective cleaning or excavation of channels and pools, and restoration of tidal flow to areas of the marsh that produce mosquitoes can eliminate the oviposition habitat of floodwater mosquito species, allow predacious fish access to mosquito breeding depressions, and reduce or eliminated the need to apply mosquito pesticides. Selective cleaning (maintenance) of tidal and freshwater ditches for removal of debris occurs as needed.

2. *Biological control measures being used (currently or in the past, if any) to attempt to control the target species and / or minimize the discharge of pesticides:*

Biological controls that have been used for mosquito control include introducing predacious fish into areas that produce mosquitoes. This is one of goals of Open Marsh Water Management (OMWM) in tidal wetlands which is primary technique used by the DEEP WHAMM Program. In natural and artificial waterbodies (i.e., ponds, retention basins) that may have an outlet or connection to other water bodies, only fish species native to Connecticut can be stocked. Non-native species (e.g., *Gambusia*) may be stocked in small, closed systems (i.e., water gardens). It is best to consult the DEEP Fisheries Division if considering to stock fish for mosquito control. The WHAMM Program does not stock fish for mosquito control but can be consulted if individuals are considering this technique. Other natural predators (e.g., dragonfly nymphs) have been researched and can be stocked in small systems (e.g., water gardens) but are not feasible in a large-scale, statewide mosquito control program.

Bacterial-based pesticides are the cornerstone of the WHAMM Program's larval mosquito control program. Products that contain bacterial toxins include *Bacillus thuringiensis* var. *israelensis* (Bti), *Bacillus sphaericus* (Bs) and *spinosad* are effective for larval control when used at the appropriate stages of development. Other biological control agents using fungi and copepods are being researched and their future use will be considered once they are developed on a commercial scale and approved for use in Connecticut.

3. *Any additional control measures that are currently being used, or have been used in the past to minimize the discharge of pesticides:*

Integrated Marsh Management (IMM) techniques are being implemented and further refined for use in Connecticut's degraded tidal salt marshes. IMM not only provides long-term control of mosquitoes, with a concomitant reduction or elimination of pesticides, but enhances or restores degraded wetland habitat.

D. Identification of pest problem prevention measures that may be employed by the operator to minimize future problems and reduce the need for control through pesticide application.

Mosquitoes require standing water (>5 days) for larval development. Source reduction and biological control using water management (IMM) in coastal wetlands will be implemented by the WHAMM Program where feasible and as resources allow. In residential "backyard" habitats, efforts to eliminate standing water are implemented whenever feasible. This includes public education campaigns, site visits and working with local health departments/districts (who may issue a Public Health violation) on parcels that contain mosquito breeding habitat

(e.g., unmaintained swimming pools, clogged gutters, artificial containers or debris where water collects for extended periods of time).

IV. Control Measures – Pesticide/Treatment Information

A. List of larvacide products and labels used by the CT DEEP WHAMM Program: Appendix 5.

B. Date, location, type of pesticide used, amount and rate of pesticide applied.

This information will be added as Appendix 6 at the end of each year. An annual report of pesticide usage will also be sent as required to the CT DEEP Pesticide Division.

V. Schedules, Monitoring and Equipment Maintenance

A. Maintenance, servicing and calibration of equipment.

Operation and maintenance:

1. Prior to the beginning of every mosquito season:
 - Calibrate Ultra Low Volume (ULV) sprayers to confirm the Volume Median Diameter is according to the label of the pesticide being used. Ensure that required PPE is worn during inspection.
 - Check the flow rate calibration.
 - Change blower oil.
 - Grease blower.
 - Change engine oil and filter.
 - Clean insecticide filter.
 - Check the battery for serviceability. Test the battery with a volt-ohmmeter. (Volt reading must be between 11.5 and 12 VDC.)
 - Replace the in-line gasoline filter.
 - Clean blower air vent.
 - For ULV and motorized backpack applicators, check all gasoline hoses, insecticide lines and fittings for cracks, leaks or wear. Replace if needed.
 - Check all nozzle parts for wear or physical damage. Replace damaged parts as required.

PDMP – CT DEEP WHAMM Program (pg 6)

2. Throughout the season routine cleaning and maintenance of the equipment must be performed to ensure system is operating properly.
 - Visually check the application equipment before each use and make any necessary adjustments and /or repairs. Before making any repairs ensure that required PPE is worn.
 - Check all gasoline hoses, insecticide lines and fittings for cracks, leaks or wear. Replace if needed.
 - Check all bolts and fasteners and tighten as necessary.
 - Ensure that pesticide tanks have sufficient chemicals for assigned spray mission.
 - Check all nozzle parts for wear or physical damage. Replace damaged parts.
 - Inspect blower air filter for cleanliness and serviceability.
 - Check engine oil. Add oil as needed.
 - Check fuel level.
 - Start engine, listen for any unusual noises and watch for excessive smoke or any engine oil leaks. Repair as needed prior to use.
 - Make sure spill response kits, pesticide labels, and emergency telephone numbers are on board prior to leaving the office

3. At the end of each mosquito season proper maintenance and winterization of all equipment must be performed.
 - Empty all pesticides in sprayers into properly labeled containers.
 - With motorized equipment running, cycle appropriate flushing solution through tanks, lines and nozzles to remove any pesticide residues.
 - Check all gasoline hoses, insecticide lines and fittings for cracks, leaks or wear. Replace if needed.
 - Empty fuel tanks or add fuel stabilizer.
 - Disconnect spark plugs.
 - Lubricate necessary parts to inhibit rust and corrosion.
 - Safely store equipment in proper storage buildings.

Appendix 1.

DEP Certified Pesticide Applicators

Updated: March 2011

<u>Employee</u>	<u>License number</u>	<u>category</u>
Paul Capotosto	GS 2791	7f, 5, 8
Roger Wolfe	GS 3967	7f, 5, 8, 10
Frank Shaw	GS 2792	7f
Don Hargreaves	G 16991	
Steve Rosa	G 17351	
Don Andersen	G 18594	
Malcolm Hill	G 20263	
Steve Chowaniec	G 21104	
Adam Hendrick	G 22692	
Ryan Lewis	G 26727	
Robert McGiveron	G 27488	
Ray Syzjkowski	G 16643	
Jim Allyn	G 19456	
Craig Bein	G 19457	
Tom Gileau	G 19458	
Mike Zajac	G 19459	
Christian Wolfe	G 41778	

State of Connecticut

West Nile Virus Surveillance and Response Plan, 2009

Introduction

The West Nile Virus (WNV) Surveillance and Response Plan originally was developed in 2000 by the Mosquito Management Program (MMP), an interagency state working group led by the Department of Environmental Protection (DEP). The Department of Public Health (DPH), the Connecticut Agricultural Experiment Station (CAES), the Department of Agriculture (DoAg), the University of Connecticut Department of Pathobiology and Veterinary Science (UConn), and the Connecticut Association of Directors of Health participated in the planning process. The Plan is used as a guide for the state's mosquito-borne disease prevention activities.

Mosquito Management Program

In 1997, Public Act 97-289, "An Act Concerning Mosquito Control and Aerial Application of Pesticides," (CGS Sec 22a-45b) created the MMP to monitor mosquito breeding populations for the prevalence of infectious agents that can cause disease in humans and to determine when measures to abate a threat are necessary. The original focus of the program was to monitor the threat of Eastern equine encephalitis (EEE) virus. The Act authorizes the necessary measures to abate any pest-borne threat, including prevention and remedial measures, and allows for the application of broad spectrum chemical pesticides to address an imminent peril to the public health, safety, or welfare posed by pests, including mosquitoes that carry the EEE virus. The Mosquito Management Program is based on an integrated pest management (IPM) approach, which includes a combination of surveillance, education, source reduction, larval and adult mosquito control and personal protection measures.

Surveillance Activities

Public health surveillance is the ongoing and systematic collection, analysis, and interpretation of health data in the process of describing and monitoring a health event. This information is used for planning, implementing, and evaluating public health interventions and programs. Surveillance activities are at the core of the Plan and currently include surveillance for EEE as well as WNV in mosquitoes, domestic animals and poultry, and humans.

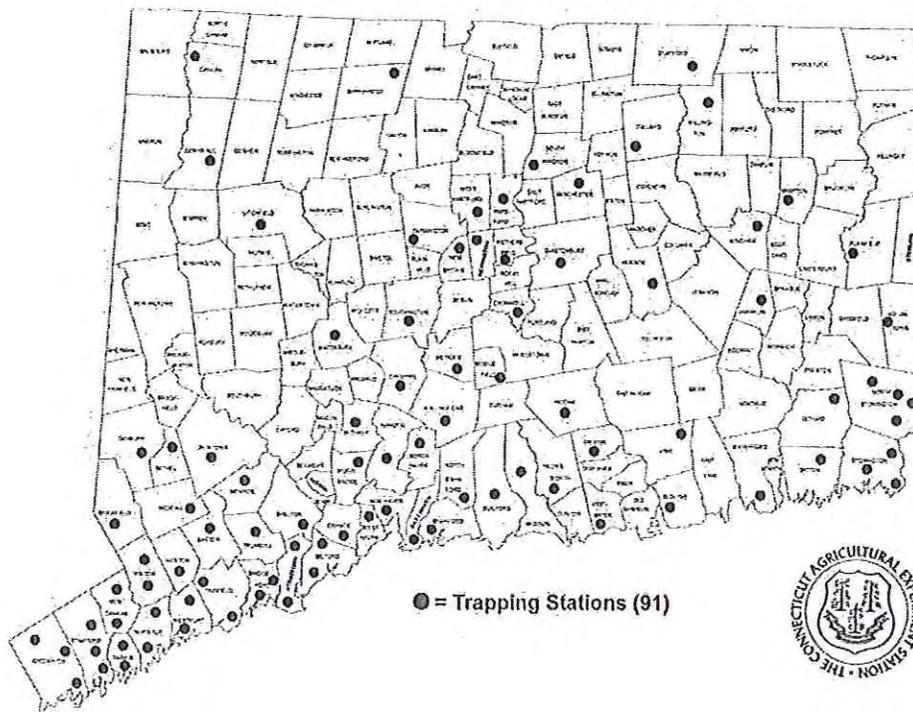
Mosquito Surveillance

Surveillance for WNV in mosquitoes is integral to the public health response to WNV in Connecticut. The CAES maintains a network of 91 fixed mosquito-trapping stations located in 72 municipalities throughout the state providing information that includes mosquito species composition and abundance in the community, seasonal and spatial distribution of mosquito vectors, and WNV infection rates in mosquitoes. One-third of the sites are located in southern Fairfield and New Haven counties where the highest levels of WNV activity in mosquitoes and humans have been detected in previous years (see Figs. 1a and b).

Traps are set and attended by CAES staff every 10 days at each site on a regular rotation from June through October. Two trap types are used at all trapping stations – a CO₂-baited CDC Light Trap, designed to trap host-seeking adult female mosquitoes (all species), and a Gravid Mosquito Trap with hay

infusion, designed to trap previously blood-fed adult female mosquitoes (principally *Culex* and container-breeding *Ochlerotatus* species). Mosquitoes are transported alive to the laboratory each morning where they are identified to species. Mosquitoes are grouped (pooled) according to species, collecting site, and date and frozen at -80°C . A maximum of 50 female mosquitoes are included in each pool. Aliquots of each mosquito pool are inoculated into Vero cell cultures for detection of WNV and other mosquito-borne arboviruses of public health importance. Virus isolates from mosquito pools are tested for WNV, Eastern equine encephalitis (EEE), Jamestown Canyon (JC), Cache Valley (CV), Trivittatus (TVT), Highlands J (HJ), LaCrosse (LAC), and Potosi (POT) viruses. Isolated viruses are identified by Real Time (TaqMan) PCR or standard RT-PCR using virus-specific primers, plaque reduction neutralization (PRNT) and/or an enzyme-linked immunosorbent assay (ELISA) with specific reference antibodies. All of the virus isolation work is conducted in a certified Bio-Safety Level 3 laboratory at the CAES. Weekly test results are reported to the CDC electronically via ArboNet and to the DPH for dissemination to other state agencies, local health departments, the media, and neighboring states.

Mosquito Trapping Stations



Domestic Animal Surveillance

The DoAg investigates potential cases involving domestic animals, poultry and pet birds with suspicious neurologic disease reported to the State Veterinarian and/or presented for necropsy and testing to the Connecticut Veterinary Medical Diagnostic Laboratory at UConn. Horses are emphasized since they are most frequently affected. Horses presenting with the following clinical signs during the mosquito season raise suspicion: apprehension, head shaking, inability to stand, depression, flaccid paralysis of lower lip, single or multiple limb paralysis, listlessness, loss of coordination, weakness of hind limbs, or acute death. This surveillance (approximately 50,000 horses in the state) provides another means to detect the

presence of WNV and assess the risk of WNV infection to the human population, especially in more rural areas where mosquito trapping is not conducted. A WNV vaccine for horses is now available.

Human Surveillance

The surveillance for disease in humans caused by WNV is coordinated by the DPH. Testing of serum and cerebrospinal fluid specimens for WNV antibodies and antibodies to other arboviruses (e.g. EEE, California encephalitis group, St. Louis encephalitis, Jamestown Canyon) is available at the DPH Laboratory and has been offered at no charge. Emphasis is on patients who require hospitalization for neurologic illness. Testing is available year round but is of particular importance for Connecticut residents who have not traveled during June through October indicating locally acquired infection. Physicians wishing to test persons suspected of having WNV infection on the basis of mild illness, such as fever or headache, and recent mosquito bites are encouraged to submit specimens to hospital or commercial laboratories since they are unlikely due to WNV infection and not necessary for prognostication. Reporting of positive test results from laboratories to DPH is required (see Fig. 2).

Should spraying of pesticides be conducted to reduce adult mosquito populations in response to WNV or EEE virus, the DPH also conducts surveillance for possible health effects of pesticide exposure. Physicians are encouraged to report to the DPH Environmental and Occupational Health Assessment Program possible pesticide-related health effects. The DPH compiles and summarizes this information and reports significant findings to the local health departments and other agencies as appropriate. This system is based on National Institute for Occupational Safety and Health classification of acute pesticide-related illness. The DPH assists local health departments monitor calls from the general public regarding health complaints and reports unusual clustering of complaints in terms of location or time to the DEP Division of Pesticides for investigation of possible misapplication of pesticide.

Wild Bird Surveillance

West Nile virus has been detected in dead birds of over 300 species. Infected mosquitoes carrying virus particles in their salivary glands infect susceptible bird species. Bird species capable of sustaining a sufficiently high level of virus circulating in the bloodstream for several days then serve as a source of infection for additional mosquitoes.

Although most birds infected with WNV do not develop serious illness some species, particularly crows and jays, can develop fatal infections. During the first several years of WNV in Connecticut reports of dead crows served as a useful sentinel for the presence of WNV and to describe seasonal variation.

From 2000 to 2003, 92% of the human WNV infections acquired in Connecticut were preceded by a dead crow sighting in their town and 87% by a bird with laboratory confirmed WNV infection. However during 2004 and 2005, the numbers of dead crow reports and submissions for testing decreased sharply resulting in reduced utility of this system for WNV monitoring purposes.

Since 2006, mosquito surveillance has been more reliable than avian surveillance in describing the level of statewide WNV activity. Dead birds are no longer being tested for WNV. Available resources are currently devoted to maintaining the statewide mosquito trapping and testing program conducted June through October.

Dead birds can be placed in a double plastic bag and placed out with the trash or brought to a municipal landfill. They can also be disposed of on-site by burying. As for all dead animals, avoid handling with birds with bare hands.

Mosquito Management Activities

Pre-emptive mosquito control is the most effective way to prevent transmission of WNV and other mosquito-borne viruses. The most effective and economical way to control mosquitoes is by larval source reduction through local abatement programs that monitor mosquito populations and initiate control before disease transmission occurs. In addition, larval control allows for the use of target-specific agents in definable areas, which is an environmental benefit over other methods. Depending on the time of year, these programs also can be used in an emergency response for mosquito control if disease is detected in humans or domestic animals.

To prevent standing water, federal, state and local governments need to maintain existing drainage structures on their properties such as sumps, recharge basins, sewage or wastewater treatment facilities, street catch basins, upland streams, ponds, and pools. The DEP Wetlands Habitat and Mosquito Management Program directly conducts mosquito control activities on state-owned property in coastal marsh areas and on contiguous land. The DEP also works with municipal officials statewide to identify mosquito-breeding habitat (e.g. tidal and inland wetlands, catch basins) and develop appropriate control strategies based on Integrated Pest Management strategies to eliminate larval mosquito breeding sites.

Municipalities are responsible for coordination of mosquito control activities on municipal and private lands in their jurisdictions, working with state agencies on behalf of residents, and enforcement of abatement requirements of mosquito breeding areas if necessary. Mosquito breeding on residential and commercial properties can be reduced significantly by reducing the amount of standing water available for mosquito breeding. Regulations relevant to mosquito control and the powers of local directors of health are addressed in the Public Health Code.

To further reduce the risk of mosquito-borne virus infections, individuals are urged to take personal protective measures to avoid mosquito bites when outdoors and mosquitoes are biting through the use of repellents and proper clothing (e.g., light-colored, loose-fitting pants and shirts, head nets). Homeowners are advised to assure that window and door screens are in good repair.

Insecticides

Larvicides can be used to control mosquitoes in the aquatic stage before they become biting adults. This type of control using insecticides generally is the most effective at controlling mosquitoes and has the least effect on non-target species and the environment. Ideally, use of larvicides is started early in the mosquito season repeated as necessary. The use of larvicides may require a permit from the DEP, and the product must be registered for use in Connecticut. Depending upon the type of product used, or for commercial applications, the applicator must be licensed by the DEP Pesticide Division to apply mosquito pesticides.

Adulticides can be used to kill adult mosquitoes when a quick reduction of mosquitoes is needed. Currently available adulticides may be applied by hand-held, backpack or truck-mounted Ultra Low Volume (ULV) foggers, or by fixed-wing or rotary aircraft. These materials have advantages and disadvantages that will influence which material is most appropriate for a given situation, and all must be applied according to regulations and label directions. Weather and logistical conditions are important factors influencing the ability to effectively control adult mosquito populations and include the following:

- Ground-level adulticiding is done when mosquitoes are most active (between dusk and dawn).
- Aerial application is done between dusk and dawn, under favorable weather conditions and at the discretion of the DEP and its aerial contractor.
- Wind speed is less than 10-12 mph.

- Wind direction and temperature inversions favor drift onto the target area.
- Air temperature is above 50 degrees F.
- Adulticide application is not made during rainfall.
- When making a ground-level application, the distribution and network of roads and access areas in the treatment zone are considered, as this affects the level of coverage.

Communication and Public Awareness Activities

Public education about mosquito-borne diseases, particularly modes of transmitting and means of preventing or reducing risk for exposure, is a critical component of a prevention and control program. Communication and public awareness activities are designed to provide pertinent information during the mosquito season to state agencies, municipal officials, health care providers, the public, and the media including:

- Disease prevention recommendations including personal protective measures and homeowner source reduction.
- The use of larvicides, adulticides and other control methods.
- The virus, clinical manifestations, and its diagnosis.
- Mosquito Management Program information.
- Recommendations in response to the identification of WNV or other mosquito-borne viruses in Connecticut.

Outreach to Municipal Officials and the General Public

- The DEP makes available brochures, flyers, and fact sheets on WNV infection, larvicides, pesticides, personal protective measures for people, and mosquito control methods targeted at homeowners. This information and surveillance results is available in electronic format on the state Mosquito Management Program website (www.ct.gov/mosquito). The website includes links to the DPH, CAES, and DoAg.
- Surveillance findings are disseminated by press release to media statewide. Each agency has designated staff to respond to media inquiries for up to date information.
- The DEP provides mosquito management information to the public through a telephone information line stating specific recorded information. The 24-hour toll-free Information Line telephone number is 1-866-WNV-LINE.
- The DPH includes a WNV update as needed at its semi-annual meetings with directors of health.
- The DPH Infectious Diseases Division newsletter, the *Connecticut Epidemiologist*, is available to hospitals, laboratories, local health departments, and physicians statewide
- Conference calls with local health directors occur as needed and are organized by the DPH Local Health Administration, and include members of the State Mosquito Management Team. Conference calls with state experts are a forum to discuss current state and national information and actions.

When WNV Activity is Identified

- Local health directors in the towns where WNV is identified in mosquitoes, domestic animals, or people are notified directly by telephone by the DPH.
- The CAES increases mosquito trapping frequency (2 to 3 times /wk) at locations where WNV has been detected in mosquitoes to better evaluate virus prevalence and risk of human exposure.
- In coordination with officials in the towns affected, the DPH issues a press release when WNV activity is first detected in mosquitoes or there is a human case. Results are generally released statewide within 24 hours.
- Based on discussions with municipal officials in the towns affected, a series of public health actions including public information and mosquito control are recommended.

- If findings suggest a possible role for spraying to kill adult mosquitoes to mitigate a heightened risk of sustained transmission to people, the DEP organizes and coordinates a conference call with the appropriate state and local officials. The purpose of this call is to develop a plan based on all available surveillance information and community sentiment.
- The state assists municipalities with key support information needed to respond to common questions from the general public.
- In the event adulticide use is recommended the state works with the municipality to:
 - Notify residents of the targeted area at least 24 hours before application.
 - Place posters and signs at key town locations as needed.
 - Address local resident's questions and concerns.
 - Coordinate application with local police.
 - Monitor health complaints.

Interagency Communication

- During the mosquito season state mosquito management team members are in contact regularly and multiple times each week by telephone and e-mail.
- Conference calls with the team occur as needed and are coordinated by the DEP.
- The DEP and DPH work together to disseminate information regarding WNV among the Mosquito Management Program agencies including surveillance results as they are available.
- Press releases are drafted by the DPH and distributed for review to DEP and CAES, and, in the event of animal cases, to the DoAg.

Public Health Action Levels

If WNV is confirmed in Connecticut, the DPH, in consultation with other state and local agencies, evaluate the potential threat to human health. Following evaluation of the data obtained from public health surveillance activities and depending on the nature of the threat, either the Commissioner of the DPH or the Commissioner of the DEP, after consulting with the Commissioner of DPH, will recommend implementation of control measures.

Recommendations reflect a graded response that is in proportion to the threat of WNV infections in people. Numerous factors contribute to the level of increased risk making each situation unique. The goal is to prevent a sustained outbreak of human infections. Sporadic cases are likely to occur each season that WNV is circulating in mosquitoes since the principal mosquito species responsible for transmission is found in high numbers in residential areas.

Factors

The following factors are important considerations in formulating an appropriate response to the identification of WNV:

- Mosquito populations and relative species abundance.
- Proportion of mosquitoes infected and number of pools previously identified.
- Local surveillance data in previous season.
- Time of the season.
- Weather conditions.
- Geographic extent.
- Nature and proximity of potential mosquito habitat.
- Proximity and nature of human residential areas.
- Number and location of infected horses.

- Number and residence of human patients with WNV related illness.
- Community concern and acceptance of mosquito control activities.
- Extent of previous larval mosquito control activities.
- Likely effectiveness of local application of larval or adult insecticides.

Activities

The following activities may be part of the response:

- Evaluation of the findings by the entire Mosquito Management Program team.
- Consultation with local directors of health and other municipal officials.
- Advice to community groups regarding outdoor activities.
- Dissemination of information on prevention and control methods locally or statewide.
- Emphasize the importance of *Culex* mosquito breeding site reduction on residential properties.
- Urge adoption of personal protective measures among high risk residents in affected areas.
- Expansion of mosquito trapping and human surveillance locally and beyond town lines.
- Identification of locations in the affected area where larviciding would be effective.
- Disseminate information on adulticide applications.
- Assessment of the need, practicality, frequency, extent and method necessary to control mosquitoes.
- Application of adulticide by the state with approval and at the request of municipal officials for assistance in the towns affected.

Public Health Emergency

The Commissioner of DPH may proclaim a Public Health Emergency, pursuant to CGS Section 22a-66l, when WNV is confirmed in a town or contiguous towns in Connecticut. The following additional actions would be taken if a Public Health Emergency is proclaimed:

- In accordance with the provisions of CGS Section 28-9, the Governor evaluates the need for declaring a civil preparedness emergency.
- The application of adulticides by the state under these circumstances does not require the approval of the municipal officials in the towns affected.
- After consultation with the Commissioner of DPH, the Commissioner of DEP has the responsibility and authority to act unilaterally if the application of chemical pesticides from the air or ground is necessary to control mosquito vectors of human disease pursuant to CGS section 22a-54(e). Concurrent with this determination, officials from the Mosquito Management Program will meet with local officials in the affected communities to inform them of the situation and to discuss the logistics of spraying.

Important State Phone Numbers and Websites

Mosquito Management Program Website

<http://www.ct.gov/mosquito>

Department of Environmental Protection

<http://www.ct.gov/dep>

- Mosquito Management Information Line (860) 424-4184
- *Latest information on test results, public information* 1-866-WNV-LINE (toll free)
- Communications Division (860) 424-4100
- *State mosquito control policy and programs, media inquiries*
- Wetlands Habitat and Mosquito Management Program (860) 642-7630
- *Technical questions regarding mosquitoes, mosquito control measures*
- Pesticide Management Program (860) 424-3369

- *Technical questions regarding safe pesticide use and chemical make-up. Also, persons who wish to be specifically notified prior to a pesticide application or those who are chemically sensitive to pesticides should contact the Pesticide Pre-Notification Registry at this number*

Department of Public Health

<http://www.ct.gov/dph>

- Epidemiology and Emerging Infections Program (860) 509-7994
- *WNV infections in people, laboratory testing of human specimens*
- Environmental and Occupational Assessment Program (860) 509-7740
- *Effects of pesticides on people*
- Virology Laboratory (860) 509-8553
- *Technical questions regarding testing of human specimens from physicians, hospitals, laboratories*

Connecticut Agricultural Experiment Station

<http://www.ct.gov/caes>

- Main Number (203) 974-8510
- *Technical questions from local health departments regarding mosquito trapping and testing*

University of Connecticut

<http://www.patho.uconn.edu>

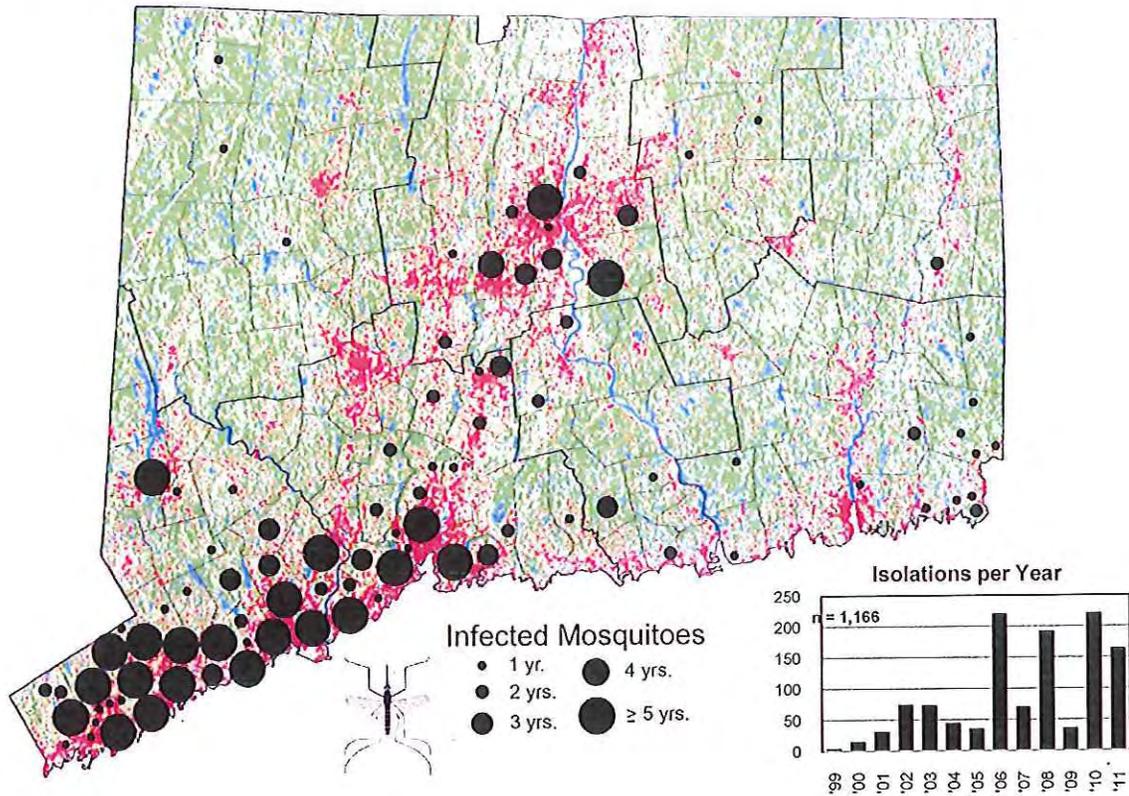
Department of Pathobiology and Veterinary Science (860) 486-4000
- *Testing and necropsy of animals*

Department of Agriculture

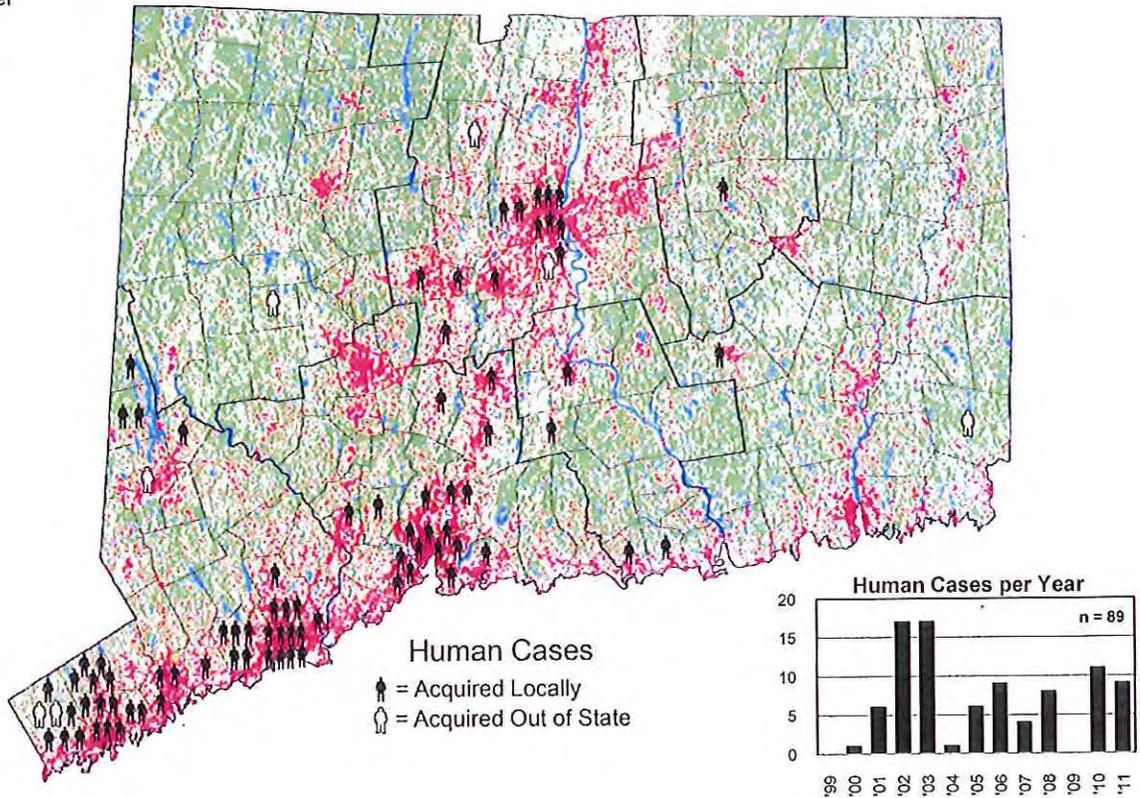
<http://www.ct.gov/doag>

- Office of the State Veterinarian (860) 713-2505
- *WNV infections in domestic animals, including livestock, poultry, and pet*

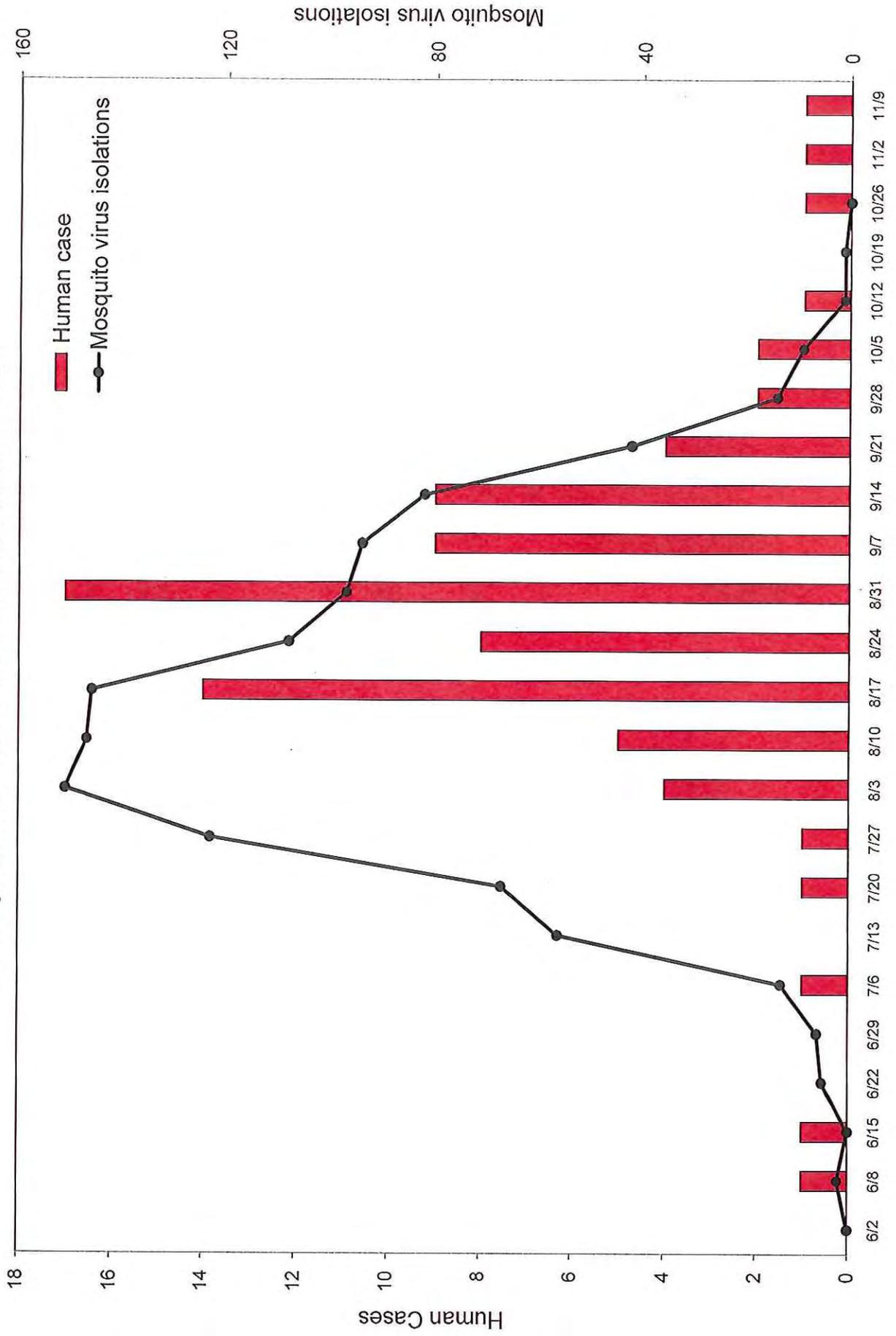
West Nile Virus Activity in Connecticut, 1999-2011



- Agric/Soil/Grass
- Forest
- Developed/Urban
- Deep Water
- Wetland



WNV Epidemic Curve Connecticut 1999 - 2011



Contingency Plan for Eastern Equine Encephalitis (EEE)

State of Connecticut Department of Environmental Protection Connecticut Agricultural Experiment Station Department of Public Health

Routine statewide surveillance of mosquito populations for Eastern Equine Encephalitis virus activity, in conjunction with a contingency plan to control mosquito populations when necessary, will enable the state to address potential health risks in areas of concern. Consistent routine testing over a period of years will provide data upon which to revise and refine the state's mosquito management efforts.

The state's mosquito monitoring and management effort is a collaboration involving the Department of Environmental Protection (DEP), the Department of Public Health (DPH), and The Connecticut Agricultural Experiment Station (CAES). The program will be coordinated by the Department of Environmental Protection. DEP is responsible for the systematic identification and monitoring of mosquito breeding sites, the provision of technical assistance to municipalities and private property owners regarding mosquito control, and the collection and communication of information and data. Long term mosquito breeding site management will continue through DEP's wetland restoration program.

The Connecticut Agricultural Experiment Station will trap, identify and submit mosquitoes for the EEE virus testing. Trapping will be conducted in areas known or suspected to support mosquito populations, which have historically tested positive for EEE, are capable of supporting such populations, or are proximate to locations where EEE-related horse deaths have occurred.

The Department of Public Health will review all mosquito test data and consult with the DEP and CAES regarding the epidemiological significance of such results. Based upon its evaluation of the potential human health risks, and in accordance with this contingency plan, DPH will advise as to appropriate personal, municipal, and state actions to reduce such risks.

Staff of DEP, DPH and CAES will form an Eastern Equine Encephalitis (EEE) Working Group to evaluate the state's management program and protocols. This group will report to and advise the Commissioner of DEP regarding implementation of the contingency plan.

The contingency plan identifies a progression of state responses based upon Connecticut mosquito testing results, test results reported from neighboring states and reports of disease in animals in Connecticut and neighboring states. Recommended actions are limited to those that are warranted by the specific source and the extent of the potential threat to human health.

Background

Eastern Equine Encephalitis (EEE) is a rare but serious disease caused by a virus that is spread by certain kinds of mosquitoes. In Connecticut, outbreaks of EEE have occurred sporadically among horses and domestic pheasants since 1938, but no human cases have ever been confirmed. The lack of verified human cases of EEE in Connecticut is not entirely understood, since human cases have repeatedly been documented in neighboring Massachusetts and Rhode Island.

EEE is spread by mosquitoes; the transfer of the virus to a mammal can only be effected by a 'cross bite' scenario. That is, the mosquito must first bite a bird carrier and then a mammal. Most sites where EEE has been identified have been in or near fresh-water swamps or swamp-forest border locations that support a wide variety of wild bird life and numerous woodland mosquito species. Salt marsh mosquitoes, while they breed in huge numbers, are not generally found near the forested swamp environments where bird reservoirs of EEE are concentrated. Therefore, while the numbers of salt marsh mosquitoes and their nuisance effect is large, the risk of EEE transmission to humans is low.

At present, EEE does not appear to be a major health risk to the general public of Connecticut. An increased risk of transmission of EEE to people depends on multiple factors: introduction of EEE into swamps where there are large numbers of bird feeding mosquitoes, build up of large numbers of infected birds, isolation of EEE from multiple species of mosquitoes, isolations during the early part of the season (mid-summer) and proximity of infected mosquitoes to residential areas.

Monitoring and Public Information Program

Findings:

Basic program with no virus isolations from mosquitoes and no human, horse or commercial exotic bird deaths reported.

Actions:

- Trapping at 37* locations throughout the state will be conducted from June through October by CAES; weekly results will be reported to the media and made available to the public through an information telephone line established by the DEP.
- Information regarding mosquito surveillance and control will be provided to municipal officials and local health departments by DEP.
- The **EEE Working Group** will establish communication with Massachusetts and Rhode Island regarding their EEE monitoring programs and obtain updated information on confirmed EEE cases and public health advisories issued in those areas.
- The DEP will conduct mosquito larval surveillance around the trap sites to determine the mosquito bridge vectors' habitat areas.

* An additional 36 traps were added to test for West Nile virus and EEE in the year 2000, bringing the total of traps to 73 statewide.

Phase I: Public Health Notification

Findings:

EEE virus isolations from *Culiseta melanura* or other bird feeding mosquitoes (*Culiseta morsitans* and *Culex* and *Culex* spp.) and with human biting mosquitoes present; and/or

Confirmation of EEE virus in mosquitoes in areas of Massachusetts or Rhode Island near Connecticut borders.

Actions:

The DEP will issue a precautionary warning to appropriate local officials and health agencies, the Department of Agriculture, veterinarians (through the Connecticut Veterinary Medicine Association (CVMA), and the media for people in affected regions to avoid mosquito bites because of the potential

for increased EEE activity in Connecticut. The mosquito testing Information Line will be updated to include recommended personal protective measures.

Recommended **personal protective measures** to reduce mosquito bites include the following:

- **Minimize** outdoor activities at dawn and dusk. If you must be outdoors wear long-sleeved shirts and long pants. Use mosquito repellent that contains DEET* and follow the directions on the label.
- **Minimize** outdoor activities at dawn and dusk. If you must be outdoors wear long-sleeved shirts and long pants. Use mosquito repellent that contains DEET* and follow the directions on the label.
- Cover up the arms and legs of children playing outdoors near swampy areas. When outdoors, cover babies' playpens or carriages with mosquito netting.
- Fix any holes in screens and make sure they are tightly attached to all doors and windows.
- Don't let stagnant water collect around your home, for example, in ditches, clogged gutters, old tires, wheelbarrows and wading pools.
- Don't camp overnight near freshwater swamps. When camping outdoors in tents in other areas, make sure that your tent is equipped with mosquito netting.

CAES will intensify trapping and testing in the region of occurrence, and testing in the region of occurrence.

* See Fact Sheet on DEET.

Phase II: Public Health Alert

Findings:

EEE virus isolations from human biting mosquitoes, and/or

Confirmed case of EEE involving a human, horse or commercial exotic bird.

Actions:

In addition to Phase I actions, the DEP will issue a **heightened public health warning** to local officials, health agencies and residents advising personal precautions in the region(s) of concern. DEP will prepare and distribute signs for posting in public places containing recommended personal precautions. In addition to the precautions recommended in Phase I, the public will be advised:

- to **avoid** outdoor activities from one hour before to one hour after dawn and dusk, and
- not to camp out.

The Information Line will be updated to include additional measures and as necessary will include recommendations regarding the cancellation of regional outdoor activities.

The DPH will notify acute care hospitals.

The DEP will notify the Department of Agriculture and state veterinarians through the CVMA.

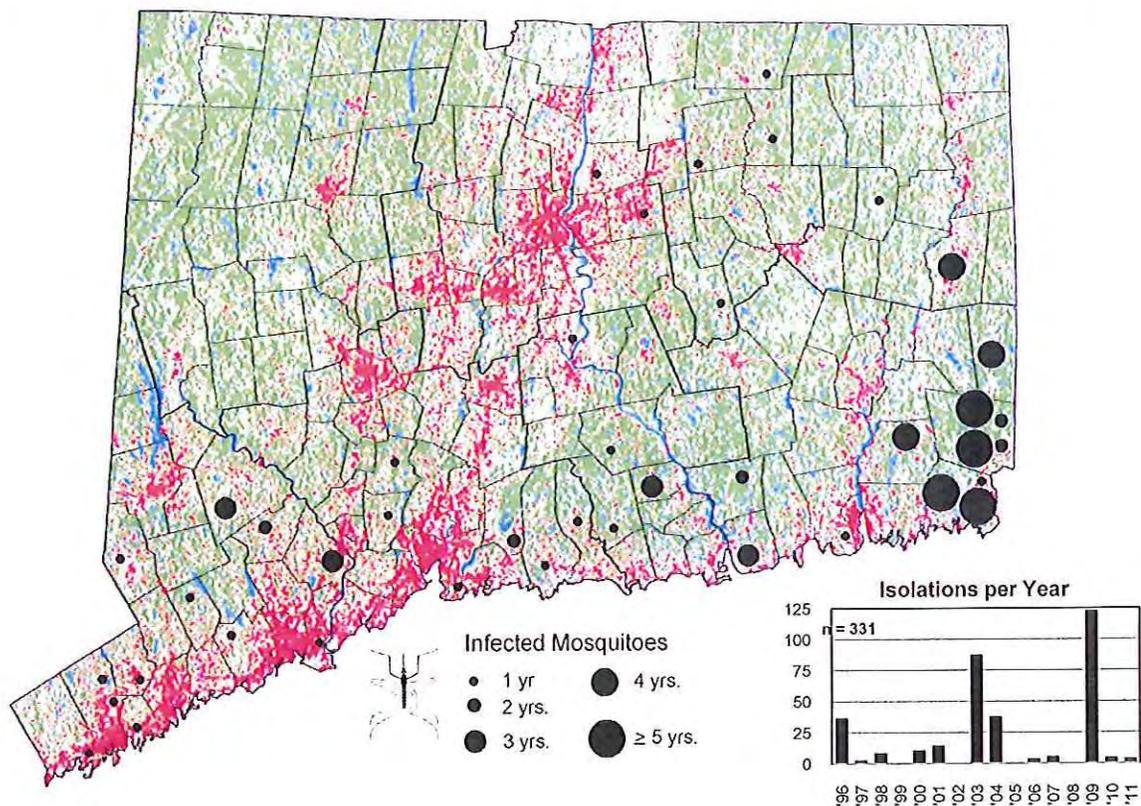
The **EEE Working Group** will evaluate the possible use of Ultra Low Volume (ULV) fogging application to knock down mosquito vectors within the region of the trap site and/or the application of larvicide to known mosquito breeding areas. **The isolation of the virus from bird feeding mosquitoes alone does not pose a significant health threat to the public that would warrant pesticide spraying.** Any recommendation to use pesticide will be determined by consideration of the

weather conditions, the number of virus isolations, mosquito species with EEE virus, mosquito population estimates, and breeding cycles.

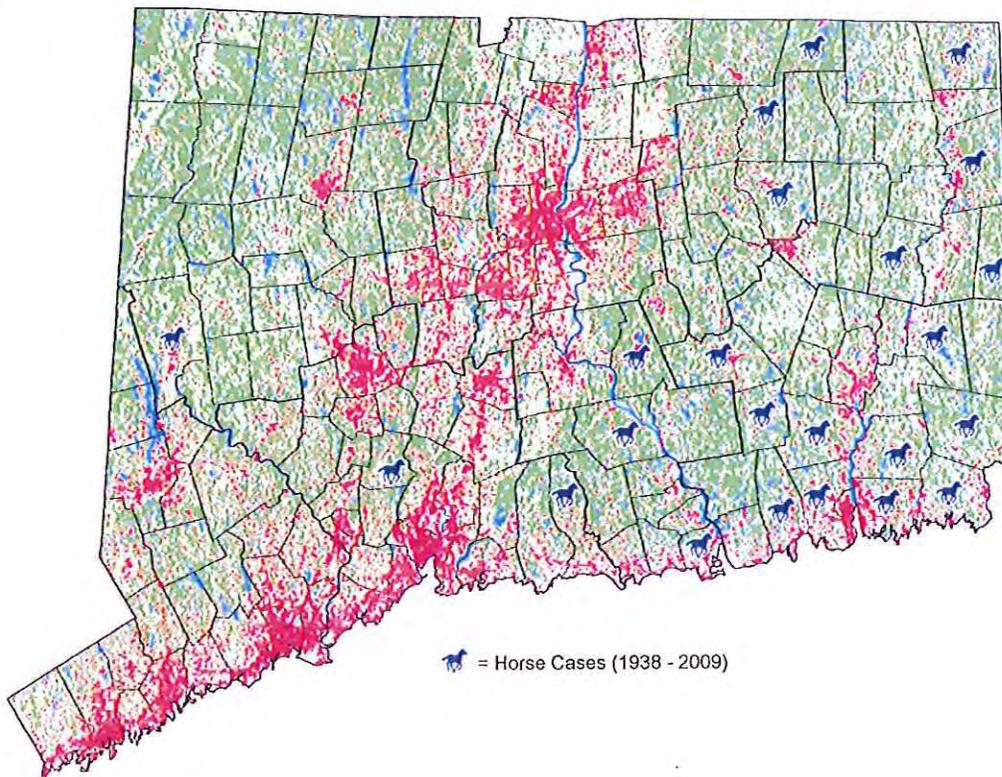
- Pesticide applications to be made by State of Connecticut staff and/or by certified commercial pest control operators.
- Affected communities, including municipal officials and the general public, shall be notified in advance of any pesticide application.

The **EEE Working Group**, if necessary, will determine the most appropriate method of adulticide application: aircraft or truck mounted adulticiding. Truck mounted application is limited by access to the intended area while aerial application can affect large areas and numbers of adult mosquitoes but is less discriminating, exposes more people and wildlife, and is more expensive and less easily repeated. **Any decision to apply pesticides from trucks or the air would be made only after evaluation of the multiple factors which contribute to risk of transmission of EEE to people and after discussion with officials from the potentially affected community.**

Eastern Equine Encephalitis Activity in Connecticut, 1996-2011



- Agric/Soil/Grass
- Forest
- Developed/Urban
- Deep Water
- Wetland



Appendix 3 : Mosquito Control Larvicides used by CT DEEP WHAMM Program

Product Name	Active Ingredient	EPA #
Agnique MMF	Poly (oxy-1,2-ethanediyl), α -Isooctadecyl- ω -hydroxyl (100%)	53263-28
Altosid Briquets	S-Methoprene (CAS # 65733-16-6)	2724-375
Altosid Pellets	(S)-Methoprene (CAS # 65733-16-6)	2724-448
Altosid XR	(S)-Methoprene (CAS # 65733-16-6)	2724-421
Altosid XR-G	(S)-Methoprene (CAS # 65733-16-6)	2724-451
Mosquito Dunks	<i>Bacillus thuringiensis var. israelensis</i>	6218-47
Natular G	Spinosad (a mixture of spinosyn A & D)	8329-80
Natular G30	Spinosad (a mixture of spinosyn A & D)	8329-83
VectoBac CG	<i>Bacillus thuringiensis var. israelensis</i>	73049-19
VectoBac G	<i>Bacillus thuringiensis</i> , subsp. <i>israelensis</i>	73049-10
VectoLex CG	<i>Bacillus sphaericus</i> Serotype H5a5b,	73049-20

AGNIQUE[®] MMF

MOSQUITO LARVICIDE & PUPICIDE

Monomolecular Surface Film for Control of Immature Mosquitoes and Midges

CAN BE USED IN: • Habitats Containing Birds, Fish, Pets and Wildlife
• Ponds • Pools • Ditches • Irrigation Water • Potable Water Containers
• Flood Water Areas • Other Areas Where Mosquitoes Breed and Develop

STOP MOSQUITOES BEFORE THEY START



ACTIVE INGREDIENT

Poly (oxy-1,2-ethanediyl), α -Isooctadecyl- ω -hydroxyl (100%)

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID (TREATMENT)

IF ON SKIN OR CLOTHING:

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

IF IN EYES:

- Hold eye open and rinse slowly and gently with plenty of water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMAN AND DOMESTIC ANIMALS

CAUTION: Avoid contact with skin, eyes or clothing.
Wash thoroughly with soap and water after handling.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage: Do not allow storage containers to rust. Rust contaminants may clog spray nozzles. Do not allow product to freeze.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Triple rinse, then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or by other procedures approved by state or local authorities.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. To be used in governmental mosquito control program, by professional pest control operators, by homeowners, or in other mosquito or midge control operations.

APPLICATION DIRECTIONS

This product may be applied by both ground and aerial applications. To use, calculate the desired rate based on water surface area. The water depth is not a factor in rate determination. Spray the desired rate of AGNIQUE[®] MMF onto the surface of the water. No dilution is required and a fan spray is recommended. The MMF will spread to cover hard to access areas. For large areas with dense vegetation it is recommended that application is made in several locations to assist in the spreading action. Do not pour or inject a stream spray directly into water. AGNIQUE[®] MMF is not visible on the surface of the water. Excess MMF on the water surface will form a white globule.

NOTICE

Cognis Corporation makes no warranty, express or implied of merchantability, fitness or otherwise concerning the use of this product other than as indicated on the label. User assumes all risks, storage or handling not in strict accordance with the label.



Cognis Corporation

4900 Este Avenue
Cincinnati, OH 45232-1419
1-800-254-1029

24 HOUR EMERGENCY PHONE
CHEMTREC 1-888-329-2626

For information on this pesticide product (including health) concerns, medical emergencies or pesticide incidents, call the National Pesticide Telecommunication Network at 1-800-858-7378.

EPA Reg. No. 53263-28 EPA Est. No. 53263-SC-01

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SPECIMEN LABEL

AGNIQUE[®] MMF

MOSQUITO LARVICIDE & PUPICIDE

Stop Mosquitoes
Before They Start



APPLICATION SITES

This product is for the control of immature mosquitoes and midges in areas where they breed and develop. This product may be used in habitats including potable water and irrigation waters, permanent and semi-permanent waters, irrigated croplands and pastures, and waters with outlets to natural water bodies. The following habitats provide examples of where the product can be applied but is not intended to be all inclusive.

Polluted Waters: Sewage lagoons, percolation ponds, animal waste effluent lagoons, septic ditches, waste treatment facility areas, etc.

Fresh and Brackish Water: fresh water and salt marshes, ponds, lakes, storm water, drainage systems and retention & detention basins, roadside ditches, grassy swales, flooded fields and pastures, potable water containers, reservoirs, irrigated croplands, temporary and semi-permanent woodland pools, tidal water, and other areas where water accumulates.

Residential Areas: Ponds, storm water basins, tree holes, rain barrels, landscape and ornamental ponds, tires, storm drains, stationary flower pots, pot holes, gutters, tarps, potable water containers and residential areas where water accumulates and provides ideal breeding habitats for mosquitoes or midges.

Application Rates	Suggested Rate Range	
	MOSQUITO HABITAT	MIDGE HABITAT
Fresh and Brackish Water*	0.2 – 1.0 gallons/acre* 2 – 10 liters/hectare*	0.5 – 1.0 gallons/acre [^] 5 – 10 liters/hectare [^]
Polluted Waters**	0.35 – 1.0 gallons/acre** 3.5 – 10 liters/hectare**	0.5 – 1.0 gallons/acre [^] 5 – 10 liters/hectare [^]

* The lower rate (0.2 gallons/acre) is recommended when only pupae control is desired and in sites with no emergent vegetation and low organic content
 * Use higher rates when emergent or surface vegetation is present, due to the wicking action of the product. The more vegetation or the drier the vegetation, the higher the required rate.
 ** Use higher rates in polluted water habitats for effective control
 ^ Reapplication is recommended every two weeks during the midge season

(Suggested application rates for the trigger applicator spray bottle)

Surface Area of Standing Water	Suggested Quantity of AGNIQUE [®] MMF
1 to 75 square feet	One full trigger application of the spray bottle containing AGNIQUE [®] MMF*
75 – 100 square feet	Two full trigger applications of the spray bottle containing AGNIQUE [®] MMF*
Every additional 100 square feet	Two to three full trigger applications of the spray bottle containing AGNIQUE [®] MMF*
1,000 square feet	20 – 25 full trigger applications (1 – 1.5 oz.)

* The application rate can vary between 1 and 3.0 oz. per 1000 sq. ft. (0.1 to 0.3 oz. /100 sq. ft.). Maximum application rate is 3.0 oz per 1000 sq. ft.

APPLICATION NOTES

Rate of Kill: The rate of kill when using MMF is dependent on the species, the life stage, the habitat and the temperature. Pupicidal action will typically result in 24 hours. Larvicidal action will usually result in 24-96 hours. If the film is present, control will be achieved.

Persistence: The AGNIQUE[®] MMF surface film typically persists on the water's surface for 5 to 22 days. Polluted waters will cause more rapid degradation of the film. Higher application rates will prolong film life and extend the interval between retreatment.

Species: Mosquitoes and midges that require little or no surface contact for breathing will be affected by the product during the pupae and emerging adult life stages.

Wind: The high end of the dosage rate is recommended when spraying habitats where multi-directional winds of 10mph (16km/hr) or greater are expected to persist. While the film will be pushed by the winds, it will re-spread quickly once the winds have subsided. If persistent unidirectional winds of 10 mph (16km/hr) or greater are expected, the displacement of the surface film may result in poor control.

Spray Tanks: Thoroughly clean and dry the spray system of contaminants such as petroleum oils, water, detergents and conventional toxicants prior to adding AGNIQUE[®] MMF. Detergents will destroy the film-forming of the AGNIQUE[®] MMF; other contaminants (water and oil) can result in the formation of an unsprayable paste.

Dilution: AGNIQUE[®] MMF is typically applied to the water's surface without dilution. However, if it is desired to spray higher volumes of liquid, AGNIQUE[®] MMF may be diluted using a high shear injection system that dilutes the MMF at the nozzle to a maximum of 10% in water. Do not add AGNIQUE[®] MMF to water in non-agitated spray systems. Conventional bypass recirculation will not provide adequate agitation to effectively mix MMF in water.

Expanding Waters: Significant expansion of the habitat's surface due to rain or tidal fluxes can be compensated for by using a dosage that is based on the largest expected surface area. This will ensure complete coverage, and eliminate the need for re-treatment of the flooded area.



Cognis Corporation
4900 Este Avenue
Cincinnati, OH 45232-1419
1-800-254-1029

SPECIMEN LABEL



Altosid[®] PELLETS

MOSQUITO GROWTH REGULATOR

A GRANULAR PRODUCT TO PREVENT ADULT MOSQUITO EMERGENCE (INCLUDING THOSE WHICH MAY TRANSMIT WEST NILE VIRUS)

Rec'd 6/29/14

SPECIMEN LABEL

ACTIVE INGREDIENT:

(S)-Methoprene (CAS #65733-16-6) 4.25%

OTHER INGREDIENTS: 95.75%

Total 100.00%

EPA Reg No. 2724-448 EPA Est. No. 39578-TX-1

KEEP OUT OF REACH OF CHILDREN
CAUTION

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS
AND DOMESTIC ANIMALS**

CAUTION

Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling.

FIRST AID	
Call a poison control center or doctor for treatment advice.	
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-248-7763 for emergency medical treatment information.	

ENVIRONMENTAL HAZARDS

Do not contaminate water when disposing of rinsate or equipment washwaters.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

INTRODUCTION

ZOËCON[®] ALTOSID[®] Pellets (ALTOSID[®] Pellets) release ALTOSID[®] Insect Growth Regulator as they erode. ALTOSID[®] Pellets prevent the emergence of adult standing water mosquitoes, including *Anopheles*, *Culex*, *Culiseta*, *Coquillettidia*, and *Mansonia* spp., as well as adults of the floodwater mosquitoes such as *Aedes*, *Ochlerotatus*, and *Psorophora* spp. from treated sites.

GENERAL DIRECTIONS

ALTOSID[®] Pellets release effective levels of ALTOSID[®] Insect Growth Regulator for up to 30 days under typical environmental conditions. Continue treatment through the last brood of the season. Treated larvae continue to develop normally to the pupal stage where they die. **NOTE:** This insect growth regulator has no effect on mosquitoes which have reached the pupal or adult stage prior to treatment.

APPLICATION SITES AND RATES

Use lower application rates when water is shallow, vegetation and/or pollution are minimal, and insect populations are low. Use higher rates when water is deep (>2 ft), vegetation, pollution, and/or organic debris or water flow are high, and insect populations are high. In instances of high organic debris and water flow, residual activity may be diminished.

MOSQUITO HABITAT**RATE (LB/ACRE)****Floodwater sites**

Pastures, meadows, rice fields, freshwater swamps and marshes, salt and tidal marshes, cattail marshes, woodland pools, floodplains, tires, other artificial water-holding containers

2.5-5

Dredging spoil sites, waste treatment and settling ponds, ditches and other manmade depressions

5-10

Permanent water sites

Ornamental ponds and fountains, fish ponds, cattail marshes, water hyacinth beds, flooded crypts, transformer vaults, abandoned swimming pools, construction and other manmade depressions, treeholes, other artificial water-holding containers

2.5-5

Storm drains, catch basins, roadside ditches, cesspools, septic tanks, waste settling ponds, vegetation-choked phosphate pits

5-10

APPLICATION METHODS

Mosquitoes: Apply **ALTOSID® Pellets** up to 15 days prior to flooding, or at any stage of larval development after flooding or in permanent water sites. Fixed wing aircraft or helicopters equipped with granular spreaders capable of applying rates from 2.5 to 10 lb/acre may be used to apply **ALTOSID® Pellets**. The pellets may also be applied using ground equipment which will achieve good, even coverage at the above rates. Apply **ALTOSID® Pellets** to artificial containers such as tires and catch basins, etc.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. Store closed containers of **ALTOSID® Pellets** in a cool, dry place.

PESTICIDE DISPOSAL

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING

Nonrefillable container. Do not reuse or refill this container. Triple rinse (or equivalent). Then offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

WARRANTY AND CONDITIONS OF SALE

Seller makes no warranty, expressed or implied, concerning the use and handling of this product other than indicated on the label. Buyer assumes all risks of use and handling of this material when such use and handling are contrary to label instructions.

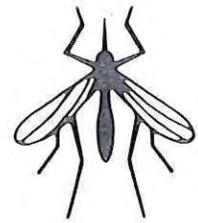
For information or in case of an emergency, call **1-800-248-7763**.

www.altosid.com

Wellmark International
1501 East Woodfield Road 200W
Schaumburg, Illinois 60173



Altosid[®] XR-G



**AN EXTENDED RESIDUAL GRANULAR PRODUCT TO PREVENT
ADULT MOSQUITO EMERGENCE
(INCLUDING THOSE MOSQUITOES WHICH MAY TRANSMIT WEST NILE VIRUS)**

SPECIMEN LABEL

ACTIVE INGREDIENT:

(S)-Methoprene (CAS #65733-16-6) 1.5%

OTHER INGREDIENTS: 98.5%

Total 100.0%

EPA Reg No. 2724-451

KEEP OUT OF REACH OF CHILDREN
CAUTION

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC
ANIMALS - CAUTION**

Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with eyes or skin. Due to the size and abrasiveness of the granule, use protective eyewear and clothing to minimize exposure during loading and handling. Wash thoroughly with soap and water after handling.

FIRST AID

If in eyes • Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.

If on skin or clothing • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes.

Call a poison control center or doctor for treatment advice. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-248-7763 for emergency medical treatment information.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

GENERAL DIRECTIONS

ALTOSID[®] XR-G releases effective levels of **ALTOSID[®]** insect growth regulator for up to 21 days after application. Applications should be continued throughout the entire season to maintain adequate control. Treated larvae continue to develop normally to the pupal stage where they die.

Rotary and fixed-wing aircraft equipped with granular spreaders capable of applying rates listed below may be used to apply **ALTOSID XR-G**. Ground equipment which will achieve even coverage at these rates may also be used. Apply **ALTOSID XR-G** uniformly and repeat application as necessary.

NOTE: **ALTOSID** insect growth regulator has no effect on mosquitoes which have reached the pupal or adult stage prior to treatment.

APPLICATION TIME

Apply **ALTOSID XR-G** at any stage of larval mosquito development. Granules may be applied prior to flooding (i.e., "pre-hatch" or "pre-flood") in areas which flood intermittently. In such areas, 1 application of **ALTOSID XR-G** can prevent adult mosquito emergence from several subsequent floodings. The actual length of control depends on the duration and frequency of flooding events.

APPLICATION RATES

Aedes, Anopheles, and Psorophora spp.: Apply **ALTOSID XR-G** at 5 - 10 lb/acre (5.6-11.2 kg/ha).
Culex, Culiseta, Coquillettidia, and Mansonia spp.: Apply **ALTOSID XR-G** at 10-20 lb/acre (11.2-22.4 kg/ha). Within these ranges, use lower rates when

water is shallow [< 2 feet (60 cm)] and vegetation and/or pollution are minimal. Use higher rates when water is deep [≥ 2 feet (60 cm)] and vegetation and/or pollution are heavy.

APPLICATION SITES

Non-Crop Areas: **ALTOSID XR-G** may be applied as directed above to temporary and permanent sites which support mosquito larval development. Examples of such sites include: snow pools, salt and tidal marshes, freshwater swamps and marshes (cattail, red cedar, white maple marshes), woodland pools and meadows, dredging spoil sites, drainage areas, ditches, wastewater treatment facilities, livestock runoff lagoons, retention ponds, harvested timber stacks, swales, storm water drainage areas, sewers, catch basins, tree holes, water-holding receptacles (e.g., tires, urns, flower pots, cans, and other containers), and other natural and manmade water-holding depressions.

Crop Areas: **ALTOSID XR-G** may be applied as directed above to temporary and permanent sites which support mosquito larval development. Examples of such sites include: irrigated croplands, pastures, rangeland, vineyards, rice fields (domestic and wild), date palm, citrus, fruit, nut orchards, berry fields and bogs.

NOTE: Application of **ALTOSID XR-G** to sites subject to water flow or exchange will diminish the product's effectiveness and may require higher application rates and/or more frequent applications.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

STORAGE

Store closed containers of **ALTOSID XR-G** in a cool, dry place.

PESTICIDE DISPOSAL

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL

Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

ENVIRONMENTAL HAZARDS

Do not contaminate water when disposing of rinsate or equipment washwaters.

WARRANTY AND CONDITIONS OF SALE

Seller makes no warranty, expressed or implied, concerning the use and handling of this product other than indicated on the label. Buyer assumes all risks of use and handling of this material when such use and handling are contrary to label instructions.

Always read the label before using this product.

For information call **1-800-248-7763** or visit our web site: **www.altosid.com**



Wellmark International
Schaumburg, Illinois U.S.A.



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Altosid[®]

BRIQUETS



**A SUSTAINED RELEASE MOSQUITO GROWTH REGULATOR
TO PREVENT ADULT MOSQUITO EMERGENCE**

SPECIMEN LABEL

ACTIVE INGREDIENT:

S-Methoprene (CAS #65733-16-6)
(Dry Weight Basis) 8.62%

OTHER INGREDIENTS: 91.38%
Total 100.00%

This product contains water, therefore the weight of the briquet and percent by weight of active ingredient will vary with hydration. The Ingredient Statement is expressed on a dry weight basis.

EPA Reg No. 2724-375
EPA Est. No. 39578-TX-1

KEEP OUT OF REACH OF CHILDREN
CAUTION

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION ENVIRONMENTAL HAZARDS

This product is toxic to aquatic dipteran. Using it in a manner other than that described by the label could result in harm to aquatic dipteran. Do not contaminate water when disposing of rinsate or equipment washwaters.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

NOTE TO USER

Do not remove **ALTOSID[®] Briquets** from container except for immediate use.

Because of the unique mode of action of **ALTOSID Briquets**, users must be familiar with special techniques for accurate evaluation of treatments. See **APPLICATION RATES AND INTERVALS** section of this label or consult local Mosquito Abatement Agency. Effective use of **ALTOSID Briquets** in sites subjected to periodic heavy flow of water requires careful attention to briquet placement and to the possible need for retreatment. Use of the product in storm drains, waste treatment and settling ponds, and similar systems should therefore be limited to experienced pesticide applicators such as personnel of Mosquito Abatement Districts and Public Health Agencies.

INTRODUCTION

The **ALTOSID Briquet** is a formulation designed to release effective levels of **ALTOSID[®] Insect Growth Regulator** over a 30 day period under typical environmental conditions. Release of **ALTOSID Insect Growth Regulator** is effected by dissolution of the **ALTOSID Briquet**. Obstructions, such as debris, vegetation, and loose sediment can cover the briquets and inhibit normal dispersion of the active ingredient. Such obstructions may occur after high rainfall or flow. The product may not be effective in those situations where the briquet can be removed from the site by flushing action. **ALTOSID Briquets** prevent the emergence of adult mosquitoes including *Anopheles*, *Culex*, *Culiseta*, *Coquillettidia*, and *Mansonia* spp., as well as those of the floodwater mosquito complex (*Aedes* and *Psorophora* spp.) from treated water. Treated larvae continue to develop normally to the pupal stage where they die.

APPLICATION TIME

Placement of **ALTOSID Briquets** should be made at the beginning of the mosquito season. Under normal conditions repeat treatment every 30 days. Renew at the recommended interval and rate (see table). Continue treatment through the last brood of the season. Placement may be made at any stage of larval development.

NOTE: This insect growth regulator has no effect on mosquitoes which have reached the pupal or adult stage prior to treatment.

APPLICATION SITES

ALTOSID Briquets are designed to control mosquitoes in small bodies of water. Examples of application sites are: storm drains, catch basins, roadside ditches, fish ponds, ornamental ponds and fountains, other artificial water-holding containers, cesspools and septic tanks, waste treatment and settling ponds, flooded crypts, transformer vaults, abandoned swimming pools, tires, construction and other manmade depressions, cattail marshes, water-hyacinth beds, vegetation-choked phosphate pits, pastures, meadows, rice fields, freshwater swamps and marshes, salt and tidal marshes, treeholes, woodland pools, floodplains, and dredging spoil sites. For application sites connected by a water system, i.e., storm drains or catch basins, all of the water holding sites in the system should be treated to maximize the efficiency of the treatment program.

APPLICATION RATES AND INTERVALS

For mosquito control in non-(or low-) flow, shallow depressions (up to 2 ft in depth), treat on the basis of surface area placing 1 **ALTOSID Briquet** per 100 sq ft. For mosquito control in water subject to flow or deeper than 2 ft, treat on the basis of volume. Apply at the rate of 1 **ALTOSID Briquet** per 10 cu ft (75 gal of water). **ALTOSID Briquets** will maintain an effective concentration throughout 4 complete volume changes per 30 day treatment interval according to the following table.

ALTOSID BRIQUETS FOR FLOWING WATER

Volume/Treatment Rate/Flow

Maximum Water VOLUME in Application Site	Basic Application Rate (ALTOSID Briquets)	Allowable FLOW for 30 Day Mosquito Control
0-10 cu ft (75 gal)	1	up to 300 gal
10-20 cu ft	2	up to 600 gal
20-30 cu ft	3	up to 900 gal
30-40 cu ft	4	up to 1200 gal

In the event of higher flow, reduce the treatment interval proportionately using the following flow formula. Do not increase the application rate.

FLOW ADJUSTMENT FORMULA

$$\frac{\text{Allowable Flow}^*}{\text{Actual Flow}} \times 30 = \text{Adjusted Treatment Interval (Days)}$$

* 4 volume changes or see above table.

Example: For a 36 cu ft catch basin of low flow (up to 1200 gal per 30 days), treat with four **ALTOSID Briquets**. For higher flow, such as 2400 gal per 30 days, the treatment interval should be reduced to 15 days ($1200/2400 \times 30 = 15$).

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

STORAGE

Store in cool, dry place.

PESTICIDE DISPOSAL

Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and handling of this material when such use and handling are contrary to label instructions.

Always read the label before using this product.

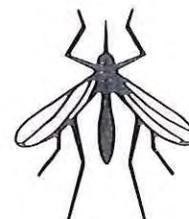
For information call **1-800-248-7763** or visit our web site: www.altosid.com



Wellmark International
Schaumburg, Illinois U.S.A.

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ZOËCON® ALTOSID® Briquets and
ALTOSID® Insect Growth Regulator, are registered
trademarks of Wellmark International.

Altosid[®] XR EXTENDED RESIDUAL BRIQUETS



**A SUSTAINED RELEASE PRODUCT TO PREVENT ADULT MOSQUITO EMERGENCE
(INCLUDING THOSE WHICH MAY TRANSMIT WEST NILE VIRUS)**

SPECIMEN LABEL

ACTIVE INGREDIENT:

(S)-Methoprene (CAS #65733-16-6) (Dry Weight Basis)	2.1%
OTHER INGREDIENTS:	97.9%
Total	100.0%

This product contains water; therefore the weight of the briquet and percent by weight of active ingredient will vary with hydration. The ingredient statement is expressed on a dry weight basis.

EPA Reg No. 2724-421

KEEP OUT OF REACH OF CHILDREN
CAUTION

INTRODUCTION

ALTOSID[®] XR BRIQUETS are designed to release effective levels of (S)-methoprene insect growth regulator over a period up to 150 days in mosquito breeding sites. Release of (S)-methoprene insect growth regulator occurs by dissolution of the briquet. Soft mud and loose sediment can cover the briquets and inhibit normal dispersion of the active ingredient. The product may not be effective in those situations where the briquet can be removed from the site by flushing action.

ALTOSID XR BRIQUETS prevent the emergence of adult mosquitoes including: *Anopheles*, *Culex*, *Culiseta*, *Coquillettidia*, and *Mansonia* spp., as well as those of the floodwater mosquito complex (*Aedes* and *Psorophora* spp.) from treated water. Treated larvae continue to develop normally to the pupal stage where they die.

NOTE: (S)-methoprene insect growth regulator has no effect on mosquitoes which have reached the pupal or adult stage prior to treatment.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION ENVIRONMENTAL HAZARDS

Do not contaminate water when disposing of rinsate or equipment washwaters.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

APPLICATION TIME

Placement of **ALTOSID XR BRIQUETS** should be at or before the beginning of the mosquito season. **ALTOSID XR BRIQUETS** can be applied prior to flooding when sites are dry, or on snow and ice in breeding sites prior to spring thaw. Under normal conditions, 1 application should last the entire mosquito season, or up to 150 days, whichever is shorter. Alternate wetting and drying will not reduce their effectiveness.

APPLICATION RATES

Aedes and *Psorophora* spp.: For control in non-(or low-) flow shallow depressions (≤ 2 feet in depth), treat on the basis of surface area, placing 1 S-methoprene briquet per 200 ft². Briquets should be placed in the lowest areas of mosquito breeding sites to maintain continuous control as the site alternately floods and dries up.

Coquillettidia and *Mansonia* spp.: For application to cattail marshes and water hyacinth beds. For control of these mosquitoes, place 1 briquet per 100 ft².

Culex, *Culiseta*, and *Anopheles* spp: Place 1 **ALTOSID XR BRIQUETS** per 100 ft².

Culex sp. in storm water drainage areas, sewers, and catch basins: For catch basins, place 1 briquet into each basin. In cases of large catch basins, follow the chart below to determine the number of briquets to use. For storm water drainage areas, place 1 briquet per 100 ft² of surface area up to 2 ft deep. In areas that are deeper than 2 feet, use 1 additional briquet per 2 feet of water depth.

Large water flows may increase the dissolution of the briquet thus reducing the residual life of the briquet. Regular inspections (visual or biological) in areas of heavy water flow may be necessary to determine if the briquet is still present. The retreatment interval may be adjusted based on the results of an inspection.

Number of Briquets	Catch Basin Size (Gallons)	Surface Area/Water Depth (ft)
1	0 – 1500	0 – 2
2	1500 – 3000	2 – 4
3	3000 – 4500	4 – 6
4	4500 – 6000	6 – 8

APPLICATION SITES

ALTOSID XR BRIQUETS are designed to control mosquitoes in treated areas. Examples of application sites are: storm drains, catch basins, roadside ditches, fish ponds, ornamental ponds and fountains, other artificial water-holding containers, cesspools and septic tanks, waste treatment and settling ponds, flooded crypts, transformer vaults, abandoned swimming pools, tires, construction and other manmade depressions, cattail marshes, water hyacinth beds, vegetation-choked phosphate pits, pastures, meadows, rice fields, freshwater swamps and marshes, salt and tidal marshes, woodland pools, floodplains, and dredging spoil sites. For application sites connected by a water system, i.e., storm drains or catch basins, all of the water-holding sites in the system should be treated to maximize the efficiency of the treatment program.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

STORAGE

Store in a cool place. Do not reuse empty container.

PESTICIDE DISPOSAL

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL

Dispose of empty bag in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

WARRANTY AND CONDITIONS OF SALE

Seller makes no warranty, expressed or implied, concerning the use and handling of this product other than indicated on the label. Buyer assumes all risks of use and handling of this material when such use and handling are contrary to label instructions.

Always read the label before using this product.

For information, or in case of an emergency, call **1-800-248-7763** or visit our web site: www.altosid.com



Wellmark International
Schaumburg, Illinois U.S.A.



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April 2003
Schaumburg, IL

Natular™ G



To be used in governmental mosquito control programs, by professional pest control operators, or in other mosquito or midge control operations.

Active Ingredient:

Spinosad (a mixture of spinosyn A and spinosyn D)*	0.5%
Other ingredients	99.5%
Total	100.0%

U.S. Patent No. 5,362,634 and 5,496,931

* Naturalyte® Insect Control

This product contains 0.2 lb of the active ingredient spinosad per 40 lb bag.

Group	5	INSECTICIDE
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Keep Out of Reach of Children CAUTION

Precautionary Statements

Hazards to Humans and Domestic Animals Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear protective eye-wear. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

FIRST AID

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-214-7753 for emergency medical treatment information.

Environmental Hazards

This product is toxic to aquatic invertebrates. Non-target aquatic invertebrates may be killed in water where this pesticide is used. Do not contaminate water when cleaning equipment or disposing of equipment washwaters. Do not apply when weather conditions favor drift from treated areas. Drift from treated areas may be hazardous to aquatic organisms in neighboring areas. Apply this product only as specified on the label.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Read all Directions for Use carefully before applying.

General Information

NATULAR G is a Naturalyte® product for killing mosquito and midge larvae. This product's active ingredient, spinosad, is biologically derived from the fermentation of *Saccharopolyspora spinosa*, a naturally occurring soil organism. NATULAR G may be applied with suitable ground or aerial application equipment.

General Use Precautions

Integrated Pest Management (IPM) Programs

NATULAR G is intended to kill mosquito and midge larvae. Mosquitoes are best controlled when an IPM program is followed. Larval control efforts should be managed through habitat mapping, active adult and larval surveillance, and integrated with other control

strategies such as source reduction, public education programs, harborage or barrier adult mosquito control applications, and targeted adulticide applications.

Insecticide Resistance Management (IRM)

NATULAR G contains a Group 5 insecticide. Insect biotypes with acquired resistance to Group 5 insecticides may eventually dominate the insect population if appropriate resistance management strategies are not followed. Currently, only spinetoram and spinosad active ingredients are classified as Group 5 insecticides. Resistance to other insecticide groups is not likely to impact the effectiveness of this product. Spinosad may be used in rotation with all other labeled products in a comprehensive IRM program.

To minimize the potential for resistance development, the following practices are recommended:

- Base insecticide use on comprehensive IPM and IRM programs.
- Routinely evaluate applications for loss of effectiveness.
- Rotate with other labeled effective mosquito larvicides that have a different mode of action.
- In dormant rice fields, standing water within agricultural/crop sites, and permanent marine and freshwater sites, do not make more than 20 applications per year.
- Use insecticides with a different mode of action (different insecticide group) on adult mosquitoes so that both larvae and adults are not exposed to products with the same mode of action.
- Contact your local extension specialist, technical advisor, and/or Clarke representative for insecticide resistance management and/or IPM recommendations for the specific site and resistant pest problems.
- For further information or to report suspected resistance, you may contact your local Clarke representative by calling 800-323-5727.

Spray Drift Management

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making decisions. Where states have more stringent regulations, they should be observed.

Application

Proper application techniques help ensure adequate coverage and correct dosage necessary to obtain optimum kill of mosquito and midge larvae. The following recommendations are provided for ground and aerial application of NATULAR G.

Ground Application

Use conventional ground application equipment and apply NATULAR G at the designated rate for the targeted site.

Spot Treatment

Apply NATULAR G as a spot treatment to areas where mosquitoes are breeding at rates appropriate for the treatment site habitat and conditions.

Aerial Application

Equipment used in the application of NATULAR G should be carefully calibrated before use and checked frequently during application to be sure it is working properly and delivering a uniform distribution pattern. Avoid overlaps that will increase NATULAR G dosage above recommended limits.

Application Sites and Rates

The rates listed are typical for efficaciously killing mosquito and midge larvae in the listed habitat sites. Within this range, use lower rates when water is shallow, vegetation and/or pollution are minimal, and mosquito populations are low. Do not use less than labeled minimum rate. NATULAR G may be applied at rates up to 20 lb per acre in waters high in organic content (such as polluted water, sewage lagoons, animal waste lagoons, and waters with high concentrations of leaf litter or other organic debris), deep-water mosquito habitats or those with dense surface cover, and where monitoring indicates a lack of kill at typical rates. Do not re-apply within 7 days of the initial application unless monitoring indicates that larval populations have reestablished or weather conditions have rendered initial treatments ineffective.

For killing mosquito larvae species in the following non-crop sites:

Non-Crop Site	NATULAR G lb/acre (lb ai/acre)
Temporary Standing Water Woodland pools, snow pools, roadside ditches, retention ponds, freshwater dredge spoils, tire tracks and other natural or man-made depressions, rock holes, pot holes and similar areas subject to holding water	3.5 – 6.5 (0.018 – 0.033)
Other Freshwater Sites Natural and manmade aquatic sites, edges of lakes, ponds, canals, stream eddies, creek edges, detention ponds	
Freshwater Swamps and Marshes Mixed hardwood swamps, cattail marsh, common reed wetland, water hyacinth ponds, and similar freshwater areas with emergent vegetation	9 (0.045)
Marine/Coastal Areas Intertidal areas above the mean high water mark, mangroves, brackish water swamps and marshes, coastal impoundments and similar areas	
Stormwater/Drainage Systems Storm sewers, catch basins, drainage ditches, and similar areas	6.5 – 9 (0.033 – 0.045)
Wastewater Sewage effluent, sewers, sewage lagoons, cesspools, oxidation ponds, septic ditches and tanks, animal waste lagoons and settling ponds, livestock runoff lagoons, wastewater impoundments associated with fruit and vegetable processing, and similar areas	
Dormant Rice Fields Impounded water in dormant rice fields (for application only during the interval between harvest and preparation of the field for the next cropping cycle)	3.5 – 6.5 (0.018 – 0.033)
Natural and Artificial Containers Tree holes, bromeliads, leaf axils, and other similar natural water holding containers Cemetery urns, bird baths, flower pots, rain barrels, buckets, single tires, tires stockpiled in dumps, landfills, recycling plants and other similar areas, abandoned swimming pools, ornamental ponds, flooded roof tops and similar water holding sites. Landfill containers, salvage yards, abandoned vehicles	3.5 – 9 (0.018 – 0.045)

Agricultural/Crop Sites Where Mosquito Breeding Occurs:

Apply Natular G at the rate of 3.5 to 9 lb per acre in standing water within agricultural/crop sites where mosquito breeding occurs: pasture/hay fields, rangelands, orchards, vineyards, and citrus groves. Do not apply to waters intended for irrigation.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Pesticide Storage: Store in original container only. In case of leak or spill, contain material with absorbent materials and dispose as waste.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site according to label use directions or at an approved waste disposal facility.

Container Disposal: Completely empty bag into application equipment. Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available.

Warranty

To the extent consistent with applicable law CLARKE MOSQUITO CONTROL PRODUCTS, INC. makes no warranty, express or implied, concerning the use of this product other than as indicated on the label. Buyer assumes all risk of use/handling of this material when use and/or handling is contrary to label instructions.

Naturalyte® is a Trademark of Dow AgroSciences LLC

Natular™ is a Trademark of Clarke Mosquito Control Products, Inc.

Manufactured For
Clarke Mosquito Control Products, Inc.
159 North Garden Avenue
Roselle, IL 60172 U.S.A.

Made in the U.S.A.

EPA Reg. No. 8329-80
Net Weight 40 lbs

EPA Est. 8329-IL-03
Lot/Batch No.

MATERIAL SAFETY DATA SHEET

Emergency Phone: 800-214-7753

PRODUCT: NATULAR™ G

Effective Date: 10/15/2010
US EPA Registration No.: 8329-80
Development Code: GF-1578

numerous federal, state or provincial, and local laws and regulations.

U.S. REGULATIONS

SARA 313 INFORMATION: This product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

None

STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

None.

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND): This product contains no chemical subject to reporting under CERCLA.

OSHA HAZARD COMMUNICATION STANDARD: This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

The information herein is given in good faith, but no warranty, express or implied, is made. Consult Clarke Mosquito Control Products, Inc. for further information.

Natular™ G30



To be used in governmental mosquito control programs, by professional pest control operators, or in other mosquito or midge control operations.

Active Ingredient (dry weight basis): spinosad (a mixture of spinosyn A and spinosyn D)*	2.5%
Other ingredients	97.5%
Total	100.00%

U.S. Patent No. 5,362,634 and 5,496,931
* A Naturalyte® Insect Control product

Natular G30 is a 2.5% extended release granule.

Group	5	INSECTICIDE
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Keep Out of Reach of Children **CAUTION**

Precautionary Statements

Hazards to Humans and Domestic Animals

Harmful if swallowed. Causes moderate eye irritation. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Avoid contact with eyes or clothing. Wear protective eyewear (such as goggles, face shield, or safety glasses).

First Aid

If swallowed:

- Call a poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by a poison control center or doctor.
- Do not give anything to an unconscious person.

If in eyes:

- Hold eye open and rinse slowly and gently with warm water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.
- Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-214-7753 for emergency medical treatment information.

Environmental Hazards

This product is toxic to aquatic organisms. Non-target aquatic invertebrates may be killed in waters where this pesticide is used. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Read all Directions for Use carefully before applying.

General Information

Natular G30 is a Naturalyte® product for killing mosquito and midge larvae. This product's active ingredient, spinosad,* is biologically derived from the fermentation of *Saccharopolyspora spinosa*, a natu-

rally occurring soil organism. Natular G30 releases effective levels of spinosad for up to 30 days under typical environmental conditions. Natular G30 may be applied with ground or aerial equipment.

General Use Precautions

Integrated Pest Management (IPM) Programs

Natular G30 is intended to kill mosquito and midge larvae. Mosquitoes are best controlled when an IPM program is followed. Larval control efforts should be managed through habitat mapping, active adult and larval surveillance, and integrated with other control strategies such as source reduction, public education programs, harborage or barrier adult mosquito control applications, and targeted adulticide applications.

Insecticide Resistance Management (IRM)

Natular G30 contains a Group 5 insecticide. Insect biotypes with acquired resistance to Group 5 insecticides may eventually dominate the insect population if appropriate resistance management strategies are not followed. Currently, only spinetoram and spinosad active ingredients are classified as Group 5 insecticides. Resistance to other insecticides is not likely to impact the effectiveness of this product. Spinosad may be used in rotation with all other labeled products in a comprehensive IRM program.

To minimize the potential for resistance development, the following practices are recommended:

- Base insecticide use on comprehensive IPM and IRM programs.
- Routinely evaluate applications for loss of effectiveness.
- Rotate with other labeled effective mosquito larvicides that have a different mode of action.
- In dormant rice fields, standing water within agricultural/crop sites, and permanent marine and freshwater sites, do not make more than 5 applications per year.
- Use insecticides with a different mode of action (different insecticide group) on adult mosquitoes so that both larvae and adults are not exposed to products with the same mode of action.
- Contact your local extension specialist, technical advisor, and/or Clarke representative for insecticide resistance management and/or IPM recommendations for the specific site and resistant pest problems.
- For further information or to report suspected resistance, you may contact your local Clarke representative by calling 800-323-5727.

Application

Proper application techniques help ensure adequate coverage and correct dosage necessary to obtain optimum kill of mosquito and midge larvae. Apply Natular G30 prior to flooding as a pre-hatch application to areas that breed mosquitoes, or at any stage of larval development after flooding in listed sites. Do not allow this product to drift onto neighboring crops or non-crop areas or use in a manner or at a time other than in accordance with label directions.

Ground Application

Use conventional ground application equipment that provides even coverage at labeled rates.

Aerial Application

Fixed wing aircraft or helicopters equipped with granular spreaders capable of applying rates from 5 to 20 lb per acre may be used to apply Natular G30. Aerial application equipment should be carefully calibrated before use to be sure it is working properly and delivering a uniform distribution pattern. Avoid overlaps that will increase the dosage of Natular G30 above labeled limits.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the treatment coordinator are responsible for considering all these factors when making application decisions.

Application Sites and Rates

Apply Natular G30 at 5 to 20 lb per acre. Rates are equivalent to 5 to 20 g per 100 sq ft of water surface for efficacious kill of mosquito and midge larvae in the listed habitat sites. Within this range, use lower rates when water is shallow, vegetation and/or pollution are minimal, and mosquito populations are low. Do not use less than the labeled minimum rate. Use higher rates when water is deep, vegetation and/or pollution are high, and mosquito populations are high. Natular G30 may be applied at rates up to 20 lb per acre in waters high in organic content, deep-water mosquito habitats or those with dense surface cover, and where monitoring indicates a lack of kill at typical rates. Reapply after 30 days. More frequent applications may be made if monitoring indicates that larval populations have reestablished or weather conditions have rendered initial treatments ineffective.

Non-Crop Sites

Apply Natular G30 in the following non-crop sites to kill mosquito larvae species:

Temporary Standing Water: Woodland pools, snow pools, roadside ditches, retention ponds, freshwater dredge spoils, tire tracks and other natural or manmade depressions, rock holes, pot holes and similar areas subject to holding water.

Other Freshwater Sites: Natural and manmade aquatic sites; edges of lakes, ponds, canals, stream eddies, creek edges, and detention ponds.

Freshwater Swamps and Marshes: Mixed hardwood swamps, cat-tail marsh, common reed wetland, water hyacinth ponds, and similar freshwater areas with emergent vegetation.

Marine/Coastal Areas: Intertidal areas above the mean high water mark, mangroves, brackish water swamps and marshes, coastal impoundments and similar areas.

Stormwater/Drainage Systems: Storm sewers, catch basins, drainage ditches, and similar areas.

Wastewater: Sewage effluent, sewers, sewage lagoons, cesspools, oxidation ponds, septic ditches and tanks, animal waste lagoons and settling ponds, livestock runoff lagoons, wastewater impoundments associated with fruit and vegetable processing, and similar areas.

Dormant Rice Fields: Impounded water in dormant rice fields (for application only during the interval between harvest and preparation of the field for the next cropping cycle).

Natural and Artificial Containers: Tree holes, bromeliads, leaf axils, and other similar natural water holding containers; cemetery urns, bird baths, flower pots, rain barrels, buckets, single tires, tires stockpiled in dumps, landfills, recycling plants and other similar areas, abandoned swimming pools, ornamental ponds, flooded roof tops and similar water holding sites; landfill containers, salvage yards, abandoned vehicles.

Agricultural/Crop Sites Where Mosquito Breeding Occurs

Apply Natular G30 at the rate of 5 to 20 lb per acre in standing water within agricultural/crop sites where mosquito breeding occurs to kill mosquito larvae species: pastures/hay fields, rangeland, orchards, vineyards, and citrus groves. Do not apply to waters intended for irrigation.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.

Pesticide Storage: Store in a cool dry place in original container only.

Pesticide Disposal: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Warranty

To the extent consistent with applicable law, CLARKE MOSQUITO CONTROL PRODUCTS, INC. makes no warranty, express or implied, concerning the use of this product other than as indicated on the label. Buyer assumes all risk of use/handling of this material when use and/or handling is contrary to label instructions.

Naturalyte® is a Trademark of Dow AgroSciences LLC

Natular™ is a Trademark of Clarke Mosquito Control Products, Inc.

Manufactured for
Clarke Mosquito Control Products, Inc.
159 North Garden Avenue
Roselle, IL 60172 U.S.A.

Made in the U.S.A. EPA Reg. No. 8329-83
EPA Est.8329-IL-03

Net Contents: 40 lbs / 18.14 kg
Lot/Batch No:



(BRAND OF SUMMIT B.t.i. BRIQUETS)

FLOATING SUSTAINED-RELEASE LARVICIDE
FOR LONG-TERM CONTROL OF MOSQUITO LARVAE
BIOLOGICAL MOSQUITO CONTROL

ACTIVE INGREDIENT: *Bacillus thuringiensis* Berliner var. *israelensis*, Serotype H-14, primary powder. 7000 *Aedes aegypti* (AA) International Toxic Units (ITU) per milligram (Dry weight basis).....10%
INERT INGREDIENTS:.....90%

Summit
CHEMICAL CO.
Baltimore, MD. 21224

EPA Registration No.
6218-47

EPA Est. No.
6218-MD-2

Net weight:
9.15 oz.
260 g.

Contains 20 Dunks
Lot No:

MOSQUITO DUNKS®
is a registered trademark
of Summit Chemical Co.

Manufactured by
Summit Chemical Co.
Baltimore, Maryland 21224

PRECAUTIONARY STATEMENTS

Keep Out Of Reach Of Children

CAUTION

Hazards to Humans: Avoid contact with eyes or open wounds.

STORAGE AND DISPOSAL

Storage: Tightly close containers of unused dunks. Store in cool dry, well-ventilated place.

Disposal: Do not reuse empty carton or packaging material. Perforate or crush and discard carton according to local trash disposal regulations.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

MOSQUITO DUNKS® are formulated to release effective levels of Bti for a period of 30 days or more under typical environmental conditions. The floating action of the dunks will ensure that the active material is released at the surface as well as gradually settle to the bottom.

These dunks may be used in all types of mosquito breeding areas near the household. To prevent dunks from being flushed out of certain treatment sites, they can be anchored using a string tied through the hole in the center or staked in place.

MOSQUITO DUNKS® can also be used for pre-flood treatment. If the dunks are applied to dry areas which are known or suspected to become breeding sites when flooded, such as abandoned swimming pools, the dunks will float to the surface when flooding occurs and start releasing the active Bti material. Alternate wetting and drying will not reduce their effectiveness.

APPLICATION RATES

Mosquito Larvae:

Flooded larvae breeding sites: Use one (1) MOSQUITO DUNK® for up to 100 sq. ft. of surface area, regardless of depth. In highly polluted water with a high organic content the application rate may have to be increased to as much as four (4) times the normal dosage based upon evaluation by the user.

When larval populations are high, aquatic vegetation dense, or the water highly polluted at the time of briquet use, pre-treatment with SUMMIT MOSQUITO BITS is recommended. Dunks will then suppress larval development for up to 30 days or more. Some larvae which hatch after dunk application may partially develop before dying. Allow a minimum of 48 hours for their control.

Pre-Flood treatment: Apply one (1) MOSQUITO DUNK® to each 100 sq. ft. of dry bed surface which is known or suspected breeding site when flooded.

Outdoor Use around the Household to kill Mosquito Larvae: MOSQUITO DUNKS® can be broken into portions for use in many outdoor applications near the household, such as standing water in bird baths, old automobile tires, rain barrels, ponds, abandoned or unused swimming pools (particularly above ground types), ditches, tree holes, roof gutters for collecting rainwater, flower pots or any other locations near the household where water collects and remains for periods of time. MOSQUITO DUNKS® can be broken and used as shown in the following table, the amount dependent upon the surface area of water in the treatment site.

Surface area of standing water	1 to 5 square ft.	5 to 25 square ft.	25 to 100 square ft.	Above 100 square ft.
Use Quantity	1/4 Dunk	1/2 Dunk	1 Dunk	1 Dunk per 100 sq. ft.

Pre-flood treatment around the Household: Apply MOSQUITO DUNKS® to any dry surface which is known to become flooded after a rain. Use the correct amount in accordance with the above dosage table.

U.S. Pat. No. 4,631,857
Patented in Canada, 1987

Biological Larvicide

VectoBac[®] CG

Granules

ACTIVE INGREDIENT:

Bacillus thuringiensis, subsp. *israelensis*, strain AM 65-52, fermentation solids and solubles 4.95%
 OTHER INGREDIENTS 95.05%
 TOTAL 100.00%

Potency: 200 International Toxic Units (ITU) per mg.
 (Equivalent to 0.091 billion ITU per pound)

The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

EPA Reg. No. 73049-19
 EPA Est. No. 33762-IA-001

List No. 05094

INDEX:

- 1.0 First Aid
- 2.0 Precautionary Statements
 - 2.1 Hazard to Humans (and Domestic Animals)
 - 2.2 Environmental Hazard
- 3.0 Directions for Use
- 4.0 Storage and Disposal
- 5.0 Application Directions
- 6.0 Notice to User

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

FIRST AID	
If in eyes	<ul style="list-style-type: none"> • Hold eyes open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. • Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-315-9819 (24 hours) for emergency medical treatment and/or transport emergency information. For all other information, call 1-800-323-9597.	

2.0 PRECAUTIONARY STATEMENTS

**2.1 HAZARD TO HUMANS (AND DOMESTIC ANIMALS)
CAUTION**

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling. Mixers/loaders and applicators not in enclosed cabs or aircraft must wear a dust/mist respirator meeting NIOSH standards

of at least N-95, R-95 or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

2.2 ENVIRONMENTAL HAZARD
 Do not contaminate water when cleaning equipment or disposing of equipment washwaters. Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles intended for human consumption.

3.0 DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

4.0 STORAGE AND DISPOSAL

Do not contaminate potable water, food or feed by storage or disposal.

STORAGE: Store in a cool, dry place.

PESTICIDE DISPOSAL: Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Offer for recycling, if available. If recycling is not available, then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

5.0 APPLICATION DIRECTIONS

VectoBac CG is an insecticide for use against mosquito larvae.

Mosquitoes Habitat	Suggested Range Rate*
(Such as the following examples):	
Irrigation ditches, roadside ditches, flood water, standing ponds, woodland pools, snow melt pools, pastures, livestock watering ponds and troughs, catch basins, storm water retention areas, tidal water, salt marshes and rice fields	2.5 - 10 lbs / acre
In addition, standing water containing mosquito larvae in fields growing alfalfa, almonds, asparagus, corn, cotton, dates, grapes, peaches and walnuts may be treated at the recommended rates.	
* Use 10-20 lbs. / acre when late 3rd and early 4th instar larvae predominate, mosquito populations are high, water is heavily polluted, (sewage lagoons, animal waste lagoons), and/or algae are abundant.	
Apply uniformly by aerial or ground conventional equipment. Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the treatment coordinator are responsible for considering all of these factors when making decisions. A 7 to 14 day interval between applications should be employed.	

6.0 NOTICE TO USER

Seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with accompanying directions.



Biological Larvicide

VectoBac® G

Granules

ACTIVE INGREDIENT:

Bacillus thuringiensis, subspecies *israelensis*, strain AM 65-52, fermentation solids and solubles ... 2.80%
OTHER INGREDIENTS 97.20%
TOTAL 100.00%

Potency: 200 International Toxic Units (ITU) per mg (Equivalent to 0.091 billion potency: ITU per pound)

The percent active ingredient does not indicate product performance and potency measurements are not Federally standardized.

EPA Reg. No. 73049-10
EPA Est. No. 33762-IA-001

List No. 5108

INDEX:

- 1.0 First Aid
- 2.0 Precautionary Statements
 - 2.1 Hazard to Humans and Domestic Animals
 - 2.2 Environmental Hazards
- 3.0 Directions for Use
- 4.0 Storage and Disposal
- 5.0 Application Directions
- 6.0 Notice to User

KEEP OUT OF REACH OF CHILDREN CAUTION

1.0

FIRST AID	
If in eyes	<ul style="list-style-type: none">• Hold eyes open and rinse slowly and gently with water for 15-20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes.• Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-315-9819 (24 hours) for emergency medical treatment and/or transport emergency information. For all other information, call 1-800-323-9597.	

2.0 PRECAUTIONARY STATEMENTS

2.1 HAZARD TO HUMANS AND DOMESTIC ANIMALS CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling. Mixers/loaders and applicators not in enclosed cabs or aircraft must wear a dust/mist respirator meeting NIOSH

standards of at least N-95, R-95 or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

2.2 ENVIRONMENTAL HAZARDS

Do not contaminate water when cleaning equipment or disposing of equipment washwaters. Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

3.0 DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

4.0 STORAGE AND DISPOSAL

Do not contaminate potable water, food or feed by storage or disposal.

Storage: Store in a cool, dry place.

Pesticide Disposal: Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

5.0 APPLICATION DIRECTIONS

VectoBac G is an insecticide for use against mosquito larvae.

Mosquitoes Habitat	Suggested Range Rate*
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(Such as the following examples):

Irrigation ditches, roadside ditches, flood water, standing ponds, woodland pools, snow melt pools, pastures, catch basins, storm water retention areas, tidal water, salt marshes and rice fields	2.5 - 10 lbs. / acre
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In addition, standing water containing mosquito larvae, in fields growing crops such as alfalfa, almonds, asparagus, corn, cotton, dates, grapes, peaches, sugar cane and walnuts may be treated at the recommended rates.

* Use 10-20 lbs. / acre when late 3rd and early 4th instar larvae predominate, mosquito populations are high, water is heavily polluted (sewage lagoons, animal waste lagoons), and/or algae are abundant.

Apply uniformly by aerial or ground conventional equipment. Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the treatment coordinator are responsible for considering all of these factors when making decisions.

A 7 to 14 day interval between applications should be employed.

6.0 NOTICE TO USER

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS OR OTHERWISE CONCERNING THE USE OF THIS PRODUCT OTHER THAN AS INDICATED ON THE LABEL. USER ASSUMES ALL RISKS OF USE, STORAGE OR HANDLING NOT IN STRICT ACCORDANCE WITH ACCOMPANYING DIRECTIONS.

VALENT BIOSCIENCES
CORPORATION

870 Technology Way
Libertyville, IL 60048 - 800-323-9597

04-4367/R3 ©Valent BioSciences Corporation March, 2003

Biological Larvicide

VectoLex[®] CG

Granules

ACTIVE INGREDIENT:

<i>Bacillus sphaericus</i> Serotype H5a5b, strain 2362 Technical Powder (670 BsITU/mg)	7.5%
OTHER INGREDIENTS	92.5%
TOTAL	100.0%

Potency: This product contains 50 BsITU/mg or 0.023 Billion BsITU/lb.

EPA Reg. No.73049-20

EPA Est. No. 33762-IA-001

List No. 5722

INDEX:

- 1.0 First Aid
- 2.0 Precautionary Statements
 - 2.1 Hazard to Humans (and Domestic Animals)
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- 5.0 Application Directions
- 6.0 Notice to User

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

1.0

FIRST AID	
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-315-9819 (24 hours) for emergency medical treatment and/or transport emergency information. For all other information, call 1-800-323-9597.	

2.0 PRECAUTIONARY STATEMENTS

**2.1 Hazards To Humans and Domestic Animals
CAUTION**

Harmful if absorbed through the skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling.

Mixers/loaders and applicators not in enclosed cabs or aircraft, must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitizations.

2.2 Environmental Hazards

Do not contaminate water when disposing of equipment washwaters or rinsate.

3.0 DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

4.0 STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Do not contaminate water when disposing of equipment washwaters.

Pesticide Storage: Store in a cool, dry place.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

5.0 APPLICATION DIRECTIONS

MOSQUITO CONTROL

I. For control of mosquito larvae species* in the following non-crop sites:

Habitat	Rate Range
Wastewater: Sewage effluent, sewage lagoons, oxidation ponds, septic ditches, animal waste lagoons, impounded wastewater associated with fruit and vegetable processing.	5-20 lbs/acre**
Stormwater/Drainage Systems: Storm sewers, catch basins, drainage ditches, retention, detention and seepage ponds.	5-20 lbs/acre**
Marine/Coastal Areas: Salt marshes, mangroves, estuaries.	5-20 lbs/acre**
Water Bodies: Natural and manmade aquatic sites such as lakes, ponds, rivers, canals and streams.	5-20 lbs/acre**
Dormant Rice Fields: Impounded water in dormant rice fields. (For application only during the interval between harvest and preparation of the field for the next cropping cycle.)	5-20 lbs/acre**
Waste Tires: Tires stockpiled in dumps, landfills, recycling plants, and other similar sites.	20-80 lbs/acre ⁽¹⁾

(1) 0.5-2 lbs/1000 sq. ft.

II. For the control of mosquito larvae species* in agricultural/ crop sites where mosquito breeding occurs:

Habitats:	Rate Range
Rice, pastures/hay fields, orchards, citrus groves, irrigated crops.	5-20 lbs/acre**

Apply uniformly by aerial or conventional ground equipment. Reapply as needed after 1 to 4 weeks.

* Mosquito species effectively controlled by VectoLex CG:

Culex spp.
Aedes vexans
Ochlerotatus melanimon (*Aedes melanimon*)
Ochlerotatus stimulans (*Aedes stimulans*)
Ochlerotatus nigromaculis (*Aedes nigromaculis*)
Psorophora columbiae
Psorophora ferox
Ochlerotatus triseriatus (*Aedes triseriatus*)
Ochlerotatus sollicitans (*Aedes sollicitans*)
Anopheles quadrimaculatus
Coquillettidia perturbans

**Use higher rates (10 to 20 lbs/acre) in areas where extended residual control is necessary, or in habitats having deep water or dense surface cover.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the treatment coordinator are responsible for considering all these factors when making decisions.

6.0 NOTICE TO USER

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