

# Atkinson, NH- Mosquito Surveillance Summary 2014

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## The NH State testing criteria for 2014:

The mosquito season was separated into two phases for mosquito submissions; phase I (early season) and phase II (mid to end season). Note that these criteria have been updated for 2014.

Phase I – July 1 through July 31, 2014 (dates pertain to date of collection):

*Cs. morsitans*, *Cs. melanura*, *Cx. pipiens*, *Cx. restuans*, *Cx. pipiens/restuans*,  
*Oc. canadensis*, and *Ae. vexans*.

Only these species will be tested. Any batch (group of mosquitoes) size may be submitted, but cannot exceed 50 mosquitoes.

Phase II – August 1 or first NH EEE or WNV detection (whichever comes first) through September 30, 2014:

In addition to the above species, *Ae. cinereus*, *An. punctipennis*, *An. walkeri*, *Cq. perturbans*, *Cx. salinarius*, *Oc. japonicus*, *Oc. triseriatus*, *Oc. sollicitans*, and *Ps. ferox* will be tested if batch size > 10 mosquitoes (but cannot exceed 50 mosquitoes). Other mosquito pools not meeting the above criteria may be tested on a case by case basis, as resources and time allow.

Please refer to the State of New Hampshire Arboviral (Mosquito-Borne) Illness Surveillance, Prevention and Response Plan for additional information. This plan can be viewed and downloaded at:

<http://www.dhhs.nh.gov/dphs/cdcs/arboviral/documents/arboviralresponse.pdf> and is updated every year. The purpose of the plan is to provide guidance on operational aspects of surveillance, prevention and response by the State and local communities to control mosquito-borne disease and encourage proactive preparations.

The NH DHHS informs the media and public of positive tests results, regions of increased disease risk, and other important up-to-date information through its website <http://www.dhhs.nh.gov/dphs/cdcs/arboviral/results.htm>. Information regarding personal protection measures, general background information, and regular updates on surveillance and laboratory analysis is available at this site.

**2014 Atkinson Adult Mosquito Summary:**

Adult mosquito surveillance was conducted from 06/5/2014 to 9/25/2014.

Although the NH State lab did not accept specimens until July 1<sup>st</sup>, we started trapping in June to track/assess annual mosquito populations for *Cq. perturbans* (cattail swamp mosquito) treatments as well as early trapping for *Cs. melanura* (primary EEE mosquito)...

5,719 total individuals collected  
20 different species identified

<u>2014 Species</u>	<u># Collected</u>	<u>% of Total Collected</u>	<u>2013 Species</u>	<u># Collected</u>	<u>% of Total Collected</u>
<i>perturbans</i>	4287	74.96%	<i>perturbans</i>	2804	61.33%
<i>canadensis</i>	328	5.74%	<i>trivittatus</i>	519	11.35%
<i>stimulans</i>	190	3.32%	<i>canadensis</i>	259	5.66%
<i>sapphirina</i>	179	3.13%	<i>vexans</i>	200	4.37%
<i>punctipennis</i>	174	3.04%	<i>abserratus</i>	188	4.11%
<i>salinarius</i>	153	2.68%	<i>ferox</i>	130	2.84%
<i>vexans</i>	113	1.98%	<i>cinerus</i>	116	2.54%
<i>abserratus</i>	109	1.91%	<i>melanura</i>	100	2.19%
<i>cinerus</i>	75	1.31%	<i>sapphirina</i>	63	1.38%
<i>quadrimaculatus</i>	26	0.45%	<i>punctipennis</i>	57	1.25%
<i>melanura</i>	21	0.37%	<i>salinarius</i>	46	1.01%
<i>punctor</i>	12	0.21%	<i>stimulans</i>	27	0.59%
<i>japonicus</i>	10	0.17%	<i>pipiens</i>	13	0.28%
<i>walkeri</i>	10	0.17%	<i>excrucians</i>	9	0.20%
<i>pipiens</i>	9	0.16%	<i>restuans/pipiens</i>	9	0.20%
<i>territans</i>	9	0.16%	<i>restuans</i>	7	0.15%
<i>triseriatus</i>	6	0.10%	<i>morsitans</i>	5	0.11%
<i>trivittatus</i>	4	0.07%	<i>quadrimaculatus</i>	5	0.11%
<i>ferox</i>	2	0.03%	<i>triseriatus</i>	4	0.09%
<i>provocans</i>	2	0.03%	<i>walkeri</i>	4	0.09%
	<u>5719</u>		<i>cantator</i>	2	0.04%
			<i>punctor</i>	2	0.04%
			<i>japonicus</i>	1	0.02%
			<i>provocans</i>	1	0.02%
			<i>territans</i>	1	0.02%
				<u>4572</u>	

2012 Species	# Collected	% of Total Collected	2011 Species	# Collected	% of Total Collected	2010 Species	# Collected	% of Total Collected
<i>perturbans</i>	4189	81.53%	<i>perturbans</i>	525	52.87%	<i>Cq. perturbans</i>	1060	73.76%
<i>canadensis</i>	178	3.46%	<i>canadensis</i>	123	12.39%	<i>Cs. melanura</i>	69	4.80%
<i>melanura</i>	153	2.98%	<i>punctor</i>	77	7.75%	<i>An. punctipennis</i>	64	4.45%
<i>vexans</i>	134	2.61%	<i>vexans</i>	58	5.84%	<i>Ae. vexans</i>	58	4.04%
<i>punctipennis</i>	133	2.59%	<i>cinerus</i>	53	5.34%	<i>Oc. canadensis</i>	41	2.85%
<i>sapphirina</i>	105	2.04%	<i>melanura</i>	51	5.14%	<i>Ur. sapphirina</i>	35	2.44%
<i>cinerus</i>	78	1.52%	<i>sapphirina</i>	22	2.22%	<i>Oc. excrucians</i>	21	1.46%
<i>salinarius</i>	57	1.11%	<i>stimulans</i>	22	2.22%	<i>Cx. restuans</i>	19	1.32%
<i>pipiens</i>	32	0.62%	<i>abserratus</i>	21	2.11%	<i>Ae. cinerus</i>	16	1.11%
<i>abserratus</i>	29	0.56%	<i>punctipennis</i>	8	0.81%	<i>Oc. punctor</i>	9	0.63%
<i>quadrimaculatus</i>	21	0.41%	<i>morsitans</i>	5	0.50%	<i>Ae. abserratus</i>	8	0.56%
<i>morsitans</i>	8	0.16%	<i>restuans</i>	5	0.50%	<i>quadrimaculatus</i>	7	0.49%
<i>restuans</i>	7	0.14%	<i>salinarius</i>	5	0.50%	<i>Cx. territans</i>	7	0.49%
<i>stimulans</i>	7	0.14%	<i>ferox</i>	4	0.40%	<i>Cx. salinarius</i>	6	0.42%
<i>triseriatus</i>	3	0.06%	<i>pipiens</i>	3	0.30%	<i>Oc. japonicus</i>	5	0.35%
<i>trivittatus</i>	3	0.06%	<i>triseriatus</i>	3	0.30%	<i>Oc. trivittatus</i>	4	0.28%
<i>japonicus</i>	1	0.02%	<i>cantator</i>	2	0.20%	<i>Oc. cantator</i>	3	0.21%
	<b>5138</b>		<i>japonicus</i>	2	0.20%	<i>Cs. morsitans</i>	2	0.14%
			<i>provocans</i>	1	0.10%	<i>Ps. ferox</i>	1	0.07%
			<i>quadrimaculatus</i>	1	0.10%	<i>Oc. triseriatus</i>	1	0.07%
			<i>territans</i>	1	0.10%	<i>An. walkeri</i>	1	0.07%
			<i>trivittatus</i>	1	0.10%			
							<b>1437</b>	

993

2 batches consisting of 4 adult *Cs. melanura* specimens collected in June 2014 were sent, as a separate company project, to Connecticut Agricultural Experimental Station for gut content analysis and EEE testing, results are pending. All batches sent from June 2013 tested negative for EEE.

13	6/5/2014	Town Hall	Atkinson	L	Cs	melanura	2	CONN
57	6/19/2014	Town Hall	Atkinson	L	Cs	melanura	2	CONN

2 CDC carbon dioxide/light traps were placed weekly at 2 locations which our surveillance team, in conjunction with the Centers for Disease Control recommendations, determined produced sufficient numbers of *Cs. melanura* to send for testing.

Community Center, Atkinson  
Town Hall, Atkinson

58 total mosquito batches\* (805 adults) were sent to Concord Lab. All batches tested **NEGATIVE** for EEE/WNV.

AK731401	7/3/2014	Community Center	Atkinson	L	Oc	<i>canadensis</i>	14	NEG
AK731402	7/3/2014	Community Center	Atkinson	L	Cs	<i>melanura</i>	2	NEG
AK731403	7/3/2014	Community Center	Atkinson	L	Ae	<i>vexans</i>	1	NEG
AK731404	7/3/2014	Community Center	Atkinson	L	Cx	<i>pipiens</i>	4	NEG
AK731405	7/3/2014	Town Hall	Atkinson	L	Oc	<i>canadensis</i>	38	NEG
AK731406	7/3/2014	Town Hall	Atkinson	L	Cs	<i>melanura</i>	2	NEG
AK7111407	7/11/2014	Town Hall	Atkinson	L	Oc	<i>canadensis</i>	33	NEG
AK7111408	7/11/2014	Community Center	Atkinson	L	Oc	<i>canadensis</i>	15	NEG
AK7171409	7/17/2014	Town Hall	Atkinson	L	Oc	<i>canadensis</i>	17	NEG
AK7171410	7/17/2014	Community Center	Atkinson	L	Ae	<i>vexans</i>	14	NEG
AK7241411	7/24/2014	Town Hall	Atkinson	L	Ae	<i>vexans</i>	12	NEG
AK7241412	7/24/2014	Town Hall	Atkinson	L	Cs	<i>melanura</i>	1	NEG
AK7241413	7/24/2014	Community Center	Atkinson	L	Ae	<i>vexans</i>	17	NEG
AK7241414	7/24/2014	Community Center	Atkinson	L	Cx	<i>pipiens</i>	5	NEG
AK7311415	7/31/2014	Town Hall	Atkinson	L	Oc	<i>canadensis</i>	6	NEG
AK871416	8/7/2014	Community Center	Atkinson	L	Cq	<i>perturbans</i>	50	NEG
AK871417	8/7/2014	Community Center	Atkinson	L	Cq	<i>perturbans</i>	52	NEG
AK871418	8/7/2014	Community Center	Atkinson	L	An	<i>punctipennis</i>	14	NEG
AK871419	8/7/2014	Community Center	Atkinson	L	Cx	<i>salinarius</i>	13	NEG
AK871420	8/7/2014	Community Center	Atkinson	L	Ae	<i>vexans</i>	4	NEG
AK871421	8/7/2014	Community Center	Atkinson	L	Cs	<i>melanura</i>	2	NEG
AK871422	8/7/2014	Town Hall	Atkinson	L	An	<i>punctipennis</i>	17	NEG
AK871423	8/7/2014	Town Hall	Atkinson	L	Ae	<i>vexans</i>	5	NEG
AK871424	8/7/2014	Town Hall	Atkinson	L	Cs	<i>melanura</i>	1	NEG
AK871425	8/7/2014	Town Hall	Atkinson	L	Cq	<i>perturbans</i>	50	NEG
AK871426	8/7/2014	Town Hall	Atkinson	L	Cq	<i>perturbans</i>	50	NEG
AK871427	8/7/2014	Town Hall	Atkinson	L	Cq	<i>perturbans</i>	50	NEG
AK871428	8/7/2014	Town Hall	Atkinson	L	Cq	<i>perturbans</i>	50	NEG
AK8141429	8/14/2014	Community Center	Atkinson	L	Cx	<i>salinarius</i>	15	NEG
AK8141430	8/14/2014	Community Center	Atkinson	L	Cq	<i>perturbans</i>	5	NEG
AK8141431	8/14/2014	Community Center	Atkinson	L	Ae	<i>vexans</i>	4	NEG
AK8141432	8/14/2014	Town Hall	Atkinson	L	Cq	<i>perturbans</i>	46	NEG
AK8141433	8/14/2014	Town Hall	Atkinson	L	Cs	<i>melanura</i>	2	NEG
AK8221434	8/22/2014	Town Hall	Atkinson	L	Cq	<i>perturbans</i>	48	NEG
AK8221435	8/22/2014	Community Center	Atkinson	L	Cq	<i>perturbans</i>	5	NEG
AK8221436	8/22/2014	Community Center	Atkinson	L	Ae	<i>vexans</i>	12	NEG
AK8221437	8/22/2014	Community Center	Atkinson	L	Cx	<i>salinarius</i>	15	NEG
AK841438	8/28/2014	Town Hall	Atkinson	L	Cq	<i>perturbans</i>	13	NEG
AK841439	8/28/2014	Town Hall	Atkinson	L	Cs	<i>melanura</i>	2	NEG
AK841440	8/28/2014	Town Hall	Atkinson	L	Ae	<i>vexans</i>	1	NEG

AK841441	8/28/2014	Community Center	Atkinson	L	Cq	<i>perturbans</i>	24	NEG
AK841442	8/28/2014	Community Center	Atkinson	L	Cx	<i>salinarius</i>	7	NEG
AK841443	8/28/2014	Community Center	Atkinson	L	An	<i>punctipennis</i>	17	NEG
AK841444	8/28/2014	Community Center	Atkinson	L	Ae	<i>vexans</i>	4	NEG
AK951443	9/5/2014	Town Hall	Atkinson	L	Cq	<i>perturbans</i>	11	NEG
AK951444	9/5/2014	Town Hall	Atkinson	L	Ae	<i>vexans</i>	3	NEG
AK951445	9/5/2014	Town Hall	Atkinson	L	Cs	<i>melanura</i>	1	NEG
AK951446	9/5/2014	Community Center	Atkinson	L	Cs	<i>melanura</i>	1	NEG
AK951447	9/5/2014	Community Center	Atkinson	L	Cq	<i>perturbans</i>	6	NEG
AK951448	9/5/2014	Community Center	Atkinson	L	Ae	<i>vexans</i>	4	NEG
AK9111449	9/11/2014	Town Hall	Atkinson	L	Cq	<i>perturbans</i>	6	NEG
AK9111450	9/11/2014	Community Center	Atkinson	L	Oc	<i>canadensis</i>	3	NEG
AK9181451	9/18/2014	Town Hall	Atkinson	L	Cq	<i>perturbans</i>	1	NEG
AK9251452	9/25/2014	Town Hall	Atkinson	L	Cs	<i>melanura</i>	1	NEG
AK9251453	9/25/2014	Community Center	Atkinson	L	Ae	<i>vexans</i>	3	NEG
AK9251454	9/25/2014	Community Center	Atkinson	L	Cs	<i>melanura</i>	1	NEG
AK9251455	9/25/2014	Community Center	Atkinson	L	Cq	<i>perturbans</i>	1	NEG
AK9251456	9/25/2014	Community Center	Atkinson	L	Cx	<i>salinarius</i>	4	NEG

**\*A batch consists of 50 or less individual adult female mosquitoes of the same genus and species.**

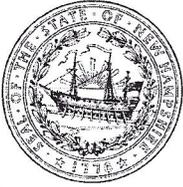
### Municipal progress report of control and other activities to Nov 7, 2014

Town of Atkinson

Date	Activity
1/4/2014	MC Permits delivered to Concord for approval
1/22/2014	Attendance at NHDHHS Annual Arboviral Illness Meeting: PP Presentation of all NH Municipal data summary for 2013
2/19/2014	Attendance of State Aerial Emergency Response meeting- assist in plan creation and implementation
4/7/2014	MC Permits received permission by Pesticide Control granted
4/14/2014	Larval Surveillance
4/27/2014	E-mail 2014 surveillance and trapping information/updates web sites etc..
5/1/2014	Attendance of Northeast EEEV meeting: update surveillance methods for submission to COnnAG and CDC for June collections
5/8/2014	Mosquito Control Legal Notices into local newspapers
5/19/2014	E-mail from Barbara, Resident request: Maple Heights Development, 10 Blackford Drive, Allison Lee
5/21/2014	Resident Requests and Larval Control town-wide
6/4/2014	Adult Mosquito traps out
6/5/2014	Adult Mosquito traps in
6/5/2014	Identify and pool adult female mosquitoes for lab testing
6/9/2014	Larvicide perturbans cattail sites
6/11/2014	Adult Mosquito traps out
6/12/2014	Adult Mosquito traps in
6/12/2014	Identify and pool adult female mosquitoes for lab testing
6/16/2014	E-mail semi-monthly Mosquito collection data to date

6/18/2014 Adult Mosquito traps out  
6/19/2014 Adult Mosquito traps in  
6/19/2014 Identify and pool adult female mosquitoes for lab testing  
6/25/2014 Adult Mosquito traps out  
6/26/2014 Adult Mosquito traps in  
6/26/2014 Identify and pool adult female mosquitoes for lab testing  
7/2/2014 E-mail semi-monthly Mosquito collection data to date and monthly progress report  
7/2/2014 Adult Mosquito traps out  
7/3/2014 Adult Mosquito traps in  
7/3/2014 Identify and pool adult female mosquitoes for lab testing  
7/4/2014 E-mail Barbara re: perturbans abundance  
7/8/2014 E-mail ChikV DHHS Press Release from NH  
7/10/2014 Fedex June Cs. melanura pools to ConnAgExSt  
7/10/2014 Adult Mosquito traps out  
7/11/2014 Adult Mosquito traps in  
7/11/2014 Identify and pool adult female mosquitoes for lab testing  
7/16/2014 Adult Mosquito traps out  
7/17/2014 Adult Mosquito traps in  
7/17/2014 Identify and pool adult female mosquitoes for lab testing  
7/23/2014 Adult Mosquito traps out  
7/24/2014 Adult Mosquito traps in  
7/24/2014 Identify and pool adult female mosquitoes for lab testing  
7/24/2014 E-mail semi-monthly Mosquito collection data to date and NH Arboviral Update  
7/31/2014 Adult Mosquito traps out  
8/1/2014 Adult Mosquito traps in  
8/1/2014 Identify and pool adult female mosquitoes for lab testing  
8/1/2014 E-mail monthly progress report to date, US Arboviral Update, NH Arboviral Update, ChikV Update  
8/6/2014 Adult Mosquito traps out  
8/7/2014 Adult Mosquito traps in  
8/7/2014 Identify and pool adult female mosquitoes for lab testing  
8/13/2014 Adult Mosquito traps out  
8/14/2014 Adult Mosquito traps in  
8/14/2014 Identify and pool adult female mosquitoes for lab testing  
8/14/2014 E-mail semi-monthly Mosquito collection data to date, NH Arboviral Update, ChikV, US Arbo update  
8/21/2014 Adult Mosquito traps out  
8/22/2014 Adult Mosquito traps in  
8/22/2014 Identify and pool adult female mosquitoes for lab testing  
8/27/2014 Adult Mosquito traps out  
8/27/2014 E-mail semi-monthly Mosquito collection data to date, NH Arboviral Update, ChikV, US Arbo update  
8/28/2014 Adult Mosquito traps in  
8/28/2014 Identify and pool adult female mosquitoes for lab testing  
9/3/2014 E-mail from B. Snicer re: request for Emergency Barrier Adulticiding  
9/7/2014 E-mail monthly progress report to date  
9/4/2014 Adult Mosquito traps out  
9/5/2014 Adult Mosquito traps in  
9/6/2014 Identify and pool adult female mosquitoes for lab testing  
9/7/2014 Emergency Adulticide Barrier Treatments  
9/10/2014 Adult Mosquito traps out  
9/10/2014 E-mail from B. Snicer re: completion Emergency Barrier Adulticiding  
9/11/2014 Adult Mosquito traps in  
9/12/2014 Identify and pool adult female mosquitoes for lab testing  
9/12/2014 E-mail semi-monthly Mosquito collection data to date, NH Arboviral Update, ChikV, US Arbo update

9/17/2014 Adult Mosquito traps out  
9/18/2014 Adult Mosquito traps in  
9/19/2014 Identify and pool adult female mosquitoes for lab testing  
9/23/2014 E-mail semi-monthly Mosquito collection data to date, NH Arboviral Update, ChikV, US Arbo update  
9/24/2014 Adult Mosquito traps out  
9/24/2014 E-mail from B. Snicer  
9/25/2014 Adult Mosquito traps in  
9/26/2014 Identify and pool adult female mosquitoes for lab testing  
10/8/2014 E-mail monthly progress report to date, final Mosquito collection results, NHArbo report  
10/27/2014 Cs. melanura treatments  
11/7/2014 E-mail 2014 Year End Summary



STATE OF NEW HAMPSHIRE  
DEPARTMENT OF HEALTH AND HUMAN SERVICES  
DIVISION OF PUBLIC HEALTH SERVICES



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## 2014 NH ARBOVIRUS TESTING RESULTS

### Eastern Equine Encephalitis & West Nile Virus

Testing results are updated on Fridays as new positives are identified so this report may not reflect the most recent results.

#### EEE Testing Results

July 1, 2014 – October 17, 2014

	Prior Year Totals					
	2014	2013	2012	2011	2010	2009
Mosquito Batches Positive*	18	24	9	0	0	73
Animals Positive	3	3	4	0	1	7
Humans Positive	3	0	0	0	0	1

\*A mosquito batch is a collection of mosquitoes sorted by species, date of collection, and trap location.

#### WNV Testing Results

July 1, 2014 – October 17, 2014

	Prior Year Totals					
	2014	2013	2012	2011	2010	2009
Mosquito Batches Positive	1	14	41	9	1	0
Animals Positive	0	1	0	0	0	0
Humans Positive	0	1	1	0	1	0

#### New Hampshire Arbovirus Testing – Mosquito Batches

Town or City	Date Collected	Species	Virus Result
Londonderry	08/07/2014	Culiseta melanura	EEE
Derry	08/14/2014	Culiseta melanura	EEE
Derry	08/14/2014	Culiseta melanura	EEE
Candia	08/14/2014	Culiseta melanura	EEE
Candia	08/14/2014	Ochlerotatus canadensis	EEE
Danville	08/21/2014	Culiseta melanura	EEE
Amherst	09/04/2014	Culiseta melanura	EEE
Londonderry	09/04/2014	Culiseta melanura	EEE
Portsmouth	09/09/2014	Culiseta melanura	EEE

*The Department of Health and Human Services' Mission is to join communities and families in providing opportunities for citizens to achieve health and independence.*

### New Hampshire Arbovirus Testing – Mosquito Batches – Continued

Town or City	Date Collected	Species	Virus Result
Hampstead	09/11/2014	Aedes cinereus	EEE
Greenland	09/16/2014	Culiseta melanura	WNV
Kingston	09/16/2014	Culiseta melanura	EEE
Kingston	09/16/2014	Culiseta melanura	EEE
Hampstead	09/18/2014	Culiseta melanura	EEE
Newton	09/23/2014	Culiseta melanura	EEE
Candia	09/25/2014	Culiseta melanura	EEE
Derry	09/25/2014	Culiseta melanura	EEE
Kingston	09/30/2014	Culiseta melanura	EEE
Raymond	09/30/2014	Culiseta melanura	EEE

### New Hampshire Arbovirus Testing – Animals

Town or City	Onset Date	Species	Virus Result
Candia	09/01/2014	Mule	EEE
Nottingham	10/01/2014	Horse	EEE
Sanbornton	10/11/2014	Horse	EEE

### New Hampshire Arbovirus Testing – Humans

Town or City	Onset Date	Age Range	Virus Result
Conway	08/13/2014	Adult	EEE
Hopkinton	09/05/2014	Adult	EEE
Manchester	09/04/2014	Adult	EEE

**Anecdotal Description of Mosquito Species Occurring in Maine and New Hampshire:**

Compiled by Richard Dearborn and Kimberly A. Foss: Maine Department of Conservation, Forest Health and Monitoring, Insect and Disease Lab 2003, from a variety of sources. Revised by Kimberly A. Foss, SWAMP, Inc/Municipal Pest Management Services, Inc. October 2013

GENUS <i>species</i>	Current Disease Associations (X)=primary vector	Estimated Flight Range	Bites Humans	Adult Host	Larval Habitat	No. Gen./ Yr.	Over- winter Stage	Common Names and Comments
AEDES								
<i>cinereus</i> (Meigen)	WNV EEE SLE	100 to 1000 feet	Yes Major pest in wooded or shaded areas	Mammals	Wooded snowmelt pools, semi-permanent bogs and swamps	2-3	Egg	Day and night biter
<i>vexans</i> (Meigen)	WNV EEE	5 to 10 miles	Yes Major pest	Mammals	Wooded temporary, permanent, semipermanent pools, open flooded areas	2-3	Egg	Day and night biter
OCHLEROTATUS								
<i>abserratus</i> (Felt & Young)			Yes Common spring pest	Mammals, birds	Snowmelt pools	1	Egg	Day and night biter
<i>atropalpus</i> (Coquillett)	WNV	100 to 1000 feet	Yes Around breeding areas	Mammals	Rock pools, some artificial containers	1	Egg	Day and night biter
<i>aurifer</i> (Coquillett)		½ mile	Yes Around breeding areas	Mammals	Snowmelt pools, swamps, bogs, open marshes	1	Egg	Day and night biter
<i>canadensis</i> (Theobald)	WNV EEE	½ mile	Yes Major late spring pest around breeding areas	Mammals, amphibians, reptiles, sometimes birds	Wooded snowmelt pools, flood waters	1-2	Egg	Day and night biter

<i>cantator</i> (Coquillett)	WNV EEE		Yes	Mammals, birds	Salt marshes, fresh or brackish water	1+	Egg	Day and night biter
<i>communis</i> (DeGeer)			Yes	Mammals, birds	Wooded snowmelt pools	1	Egg	Day and evening biter
<i>decticus</i> (Howard, Dyar and Knab)			Yes	Mammals, birds	Sphagnum, acid bogs	1	Egg	Day and night biter
<i>diantaeus</i> (Howard, Dyar and Knab)			Yes Wooded areas	Mammals, birds	Wooded snowmelt pools	1	Egg	Morning and evening biter
<i>dorsalis</i> (Meigen)	WNV SLE	10 to 20 miles	Yes	Large mammals, sometimes large birds	Temporary freshwater and brackish pools marshes and ditches	1+	Egg	“Pale marsh mosquito” <b>New record for 2003</b> (M. Holman)
<i>excrucians</i> (Walker)		½ mile	Yes Common spring- summer pest	Mammals, sometimes birds	Wooded snowmelt pools, marshes	1-2	Egg	Day and evening biter
<i>fitchii</i> (Felt & Young)	WNV	About 1 mile	Yes Common spring- summer pest in wooded areas	Mammals, birds	Snowmelt pools, bogs, grassy roadside ditches	1	Egg	Day and night biter
<i>hendersoni</i> (Cockerell)		About 1 mile	Yes	Mammals	Tree holes, occasionally tires	1-2	Egg	
<i>implicatus</i> (Vockeroth)			Yes Spring pest	Mammals	Wooded snowmelt pools	1	Egg	Day and night biter
<i>intrudens</i> (Dyar)			Yes Common spring pest	Mammals	Wooded snowmelt pools	1	Egg	Day and night biter

<i>japonicus</i> (Theobald)	WNV SLE		Yes	Mammals, birds	Tires, artificial containers, tree holes, rock pools	2+	Egg	Day biter <b>New Record Portland, Maine: June 26, 2001 (K.Foss)</b>
<i>pionips</i> (Dyar)			Rarely		Snowmelt pools	1	Egg	
<i>provocans</i> (Walker)	WNV		Yes Early spring	Mammals	Semipermanent marshes, wooded snowmelt pools	1	Egg	Evening biter
<i>punctor</i> (Kirby)			Yes Spring	Mammals	Wooded snowmelt pools	1	Egg	Day and night biter
<i>riparius</i> (Dyar and Knab)								<b>New record for 2003 (M. Holman)</b>
<i>sollicitans</i> (Walker)	WNV EEE	100 miles or more	Yes Major coastal summer pest	Mammals, birds, reptiles, amphibians	Salt marshes	4+	Egg	“Eastern salt marsh mosquito”, Day and night biter
<i>sticticus</i> (Meigen)	WNV	4 miles	Yes Major pest around breeding areas	Mammals, birds, reptiles	Flood waters, wooded snowmelt pools	1-2	Egg	Day and evening biter
<i>stimulans</i> (Walker)	WNV	2 miles	Yes Major spring pest	Mammals, birds	Snowmelt pools	1	Egg	Long lived
<i>taeniorhynchus</i> (Wiedemann)	WNV EEE		Yes Major pest around breeding areas	Birds, mammals	Salt marshes	2+	Egg	“Black salt marsh mosquito”, Day and evening biter <b>New record for 2002(M. Holman)</b>
<i>triseriatus</i> (Say)	WNV LAC (X) EEE	½ to 1 mile	Yes Common summer pest around	Mammals, birds, reptiles, amphibians	Tires, artificial containers, tree holes	1	Egg	“Tree hole mosquito” Day and evening biter

			breeding areas					
<i>trivittatus</i> (Coquillett)	WNV EEE	½ mile	Yes Common summer pest around breeding areas	Mammals, birds	Wooded snowmelt pools, floodwaters	1	Egg	Day and evening biter
ANOPHELES								
<i>barberi</i> (Coquillett)	WNV		Yes	Mammals, sometimes birds	Tree holes, artificial containers	1-2	Larva	<b>New record for 2004</b> (M. Holman)
<i>earlei</i> (Vargas)		1 to 2 miles	Yes Common spring pest	Mammals	Confined bodies of water	1-2	Adult	Day and night biter
<i>punctipennis</i> (Say)	WNV Malaria	1 to 2 miles	Yes Major summer pest	Mammals, birds	Confined and flowing bodies of water, artificial containers	2-3	Adult	“Spotted-winged Mosquito”, Day and night biter
<i>quadrimaculatus</i> (Say)	WNV Malaria (X)	1 mile	Yes Common summer pest	Mammals, sometimes birds and reptiles	Confined bodies of water	2-3	Adult	Common “Malaria Mosquito”, Day and night biter
<i>walkeri</i> (Theobald)	WNV Malaria	1 to 2 miles	Yes	Mammals	Confined bodies of water	2+	Egg	Day and night biter
COQUILLETIDIA								
<i>perturbans</i> (Walker)	WNV EEE	1 to 10 miles	Yes Major summer pest	Birds, mammals, amphibians, sometimes reptiles	Cattail marshes	1-2	Larva	Larvae attach to the base of aquatic plants Day and night biter
CULEX								
<i>pipiens</i> (Linnaeus)	WNV (X) SLE (X)	1 mile or	Rarely	Birds, rarely	Artificial containers,	1-2	Adult	“Northern house

	EEE	more		mammals	grassy roadside ditches, catch basins			mosquito"
<i>restuans</i> (Theobald)	WNV (X) SLE (X) EEE	1 mile	Yes	Birds, sometimes mammals	Tires, tree holes, artificial containers, puddles, grassy roadside ditches, catch basins	1-2	Adult	Day and night biter
<i>salinarius</i> (Coquillett)	WNV (X) SLE (X) EEE		Yes	Birds, mammals	Artificial containers, grassy roadside ditches, brackish water, catch basins	1-2	Adult	Night biter, enters homes
<i>territans</i> (Walker)	WNV EEE	1 mile	Rarely	Cold blooded vertebrates (e.g. frogs), rarely birds	Pond edges, pools, marshes, grassy roadside ditches, artificial containers	1-3	Adult	
CULISETA								
<i>impatiens</i> (Walker)	WNV		Yes Uncommon early spring species	Mammals	Semipermanent ponds, bogs, wooded ground pools	1	Adult	Long lived, rare, day and evening biter
<i>inornata</i> (Williston)	WNV EEE		Yes Uncommon early spring species	Mammals	Wooded snowmelt pools, marshes, bogs, swamps	2+	Adult	"Winter mosquito"
<i>melanura</i> (Coquillett)	WNV EEE (X)	100 to 1000 yards	Rarely	Birds	Within stumps in acidic swamps and bogs, snowmelt pools	2+	Larva	
<i>minnesotae</i> (Barr)			Rarely	Birds, small mammals, turtles	Snowmelt pools, marshes	1-2	Adult	<b>New Record for 2001</b> (M. Holman)
<i>morsitans</i> (Coquillett)	WNV EEE		Rarely	Birds	Semipermanent swamps, wooded snowmelt pools, marshes, bogs	1	Egg	

PSOROPHORA								
<i>ciliata</i> (Fabricius)	WNV EEE	5 to 10 miles	Yes, day and night biter Uncommon	Mammals	Temporary open sunlit rain filled fields and flood-water areas	1+	Egg	“Gallinipper” <b>New Record for 2006 S.</b> Berwick (K. Foss)
<i>ferox</i> (Humboldt)	WNV EEE	Up to 1 mile	Yes Within wooded areas, Uncommon species	Mammals	Wooded temporary ground pools, flood-water areas	1	Egg	“White-footed woods mosquito”, day and evening biter <b>New Record for 2001</b> (M. Holman)
URANOTAENIA								
<i>sapphirina</i> (Osten Sacken)	WNV	Up to 8 miles	Rarely Summer species	Birds	Permanent and semipermanent ponds, pools, swamps, marshes	1-2	Adult	<b>New Record Portland, Maine: July 24, 2001</b> (K. Foss)
WYEOMYIA								
<i>smithii</i> (Coquillett)			Never	Feeds as larvae on other insects in pitcher plant fluid	Sphagnum bogs	1	Larva	“Pitcher plant mosquito” spends most of the year in larval stage
ORTHOPODOMYIA								
<i>signifera</i> (Coquillett)	WNV EEE	Less than 100 ft	Rarely, uncommon species slow to develop	Birds	Deep tree rot holes and wooden containers	2+	Egg in north, larvae in south	