

**Board of Health
Meeting Minutes
September 12, 2011**

Members Present:

Tom Kinzer, Co-Chair
Bea Brunkhorst, Co-Chair
Kevin Wormstead
Lea Susan Ojamaa
Mary Seymour

Staff Present:

Heidi Porter, Director
Mary Firestone, Recording Secretary
Katherine Wang, Summer Intern

Also attending:

John Zupkus, Bedford Mosquito Commissioner
David Henley, Superintendent, East Middlesex
Mosquito Control Project
Ron Cordes (Bedford TV), 3 Jeffrey Circle
Ann Kiessling, 53 Concord Road
Steven Hagan, 2 William Street

The meeting was called to order at 7:07 P.M. Mr. Kinzer chaired.

Meeting Minutes:

Mr. Wormstead moved that the July 25, 2011 meeting minutes be accepted as amended. Ms. Seymour seconded the motion. Vote count: 4-0-1.

Mr. Kinzer asked the visitors to introduce themselves. Mr. Zupkus and Mr. Henley had been invited to the meeting by the Board. Mr. Cordes said that he will be doing a program on mosquitoes for Bedford TV. Ms. Porter said that Mr. Henley will provide an overview of the mosquito program in town. Mr. Zupkus was present to discuss current conditions and the future of the mosquito control program.

Mr. Henley said that the East Middlesex Mosquito Control Project is a Trust Agency of the state, with oversight by a 3 person Board comprised of representatives of Dept. of Environmental Protection, the Dept. of Conservation & Recreation and the Dept. of Agricultural Resources. He referred to 2 major documents that provide guidelines for the Project: The 1998 Environmental Impact Report for Mosquito Control in Massachusetts, which was updated in 2009, and Dept. of Public Health's (DPH) Arbovirus Surveillance and Response Plan. The governing body of the Project is the East Middlesex Mosquito Control Commission which is comprised of one representative from each member municipal government. The Commission selects 5 of its members to serve on an Executive Committee, which meets on a regular basis. Funding is comprised of voluntary appropriations that typically originate from the health departments of the participating communities (Note: in Bedford the funds are allocated through the Selectmen's budget). Staff members get state paychecks and benefits. The Project uses traps to conduct surveillance for (a) mammal-biting species of mosquitoes and (b) West Nile Virus (WNV). The project sprays larvicides and adulticides through the mosquito season. Ditch maintenance is also performed. The Project is also involved in public education and takes uses of media sources.

There are 3 issues with this mosquito season including a large mosquito population and risks of both Eastern Equine Encephalitis (EEE) and WNV. Bedford's mosquito population in 2011 consisted of the following:

- (1) The spring population was high due to constant water in the floodplain.
- (2) The *Coquillettidia perturbans* population, which mostly comes from Concord, was present in mid-June and July.
- (3) Summer floodwater mosquitoes: (a) 6 inches of rain during August 7-15 provided a large larval population primarily consisting of *Aedes vexans* in the flood plain areas. (b) 2-6 inches of rain from Hurricane Irene produced a second emergence of mosquitoes in the flood plain. The combination of the two storms produced an emergence of forested wetland species primarily consisting of *Ochlerotatus Canadensis*. Because of the shade, it takes mosquitoes longer to develop under the tree canopy. (c) The remnants of Tropical Storm Lee brought 2.6 inches of rain which will allow for more *Oc. Canadensis*. *Oc. Canadensis* and *A. vexans* are both primarily

mammal biters and considered bridge vectors for EEE. In the floodplain, mosquito eggs must first dry out and be wetted again before development. An entomological study, conducted in previous years, showed that 3 flooding rains in a season provide the largest populations.

Culex pipiens mosquitoes, which feed primarily on birds but occasionally bite people, are the primary vector of WNV. The larvae are found in water holding containers and in polluted waters, e.g., areas with septic system problems. The recent dry, abnormally hot weather proves the best conditions for WNV. Mosquitoes from traps have been submitted for testing and those carrying WNV are widespread. Most human cases occur in densely populated area, such as urban areas with more than 3,000 people per square mile, where standing water in containers and gutters is abundant. WNV over winters in adult mosquitoes which find more hiding spaces in urban areas, e.g., large heated garages. The DPH classifies Bedford as a low-risk area. A study in Chicago shows that it is more likely that there will be human cases of WNV during years with hot, dry weather.

EEE is mostly a risk in Southeastern Massachusetts. The 2011 outbreak was surprising; the risk had been knocked down in 2010 by a period of drought. In mid-August, EEE was found in increased levels in bridge vectors, but still produced half as many positive mosquito isolations as in bad years.

Mr. Kinzer asked for information on life cycles.

Mr. Henley responded concerning EEE. *Culiseta melanura* is a bird-feeding mosquito, which breeds in white cedar and red maple swamps. It rarely bites humans, but the virus is passed through bridge species which do bite humans. Laboratory studies have found DNA identifying strains of EEE in Southeastern Massachusetts which are different from the strains in New Hampshire. In the Project area, the largest cedar swamps are in Bedford and Sudbury. The roots of cedar trees have crypts (holes) below them which are hospitable to *C. melanura* larvae and such crypts remain even after the cedar trees die out and are replaced by maples. A prolonged dry period may end the risk, but in really wet years the larvae can survive outside the crypts. Flooding of the swamps can be seen in aerial photographs. Usually the virus is first isolated in June. DPH typically only recommends spraying if there are isolations found in a large numbers of bridge vectors. The population of *C. melanura* is low this year. The largest mosquito collection in the Project's history was found in a Bedford trap in August 1989 when there were 15,621 mosquitoes collected in a trap on Hayden Lane. The worst EEE epidemics in the U.S. occurred in Massachusetts in 1938 and in New Jersey in 1956.

Areas of Bedford, Sudbury, Wayland, etc., are included in a huge floodplain associated with the Federal Great Meadows National Wildlife Refuge. Refuge policies against spraying larvicide and adulticide have often been very strictly enforced, with no permits issued. Two Minnesota studies in a refuge found that spraying larvicide in higher amounts and frequency than would be used under normal conditions controlled the mosquitoes but also halved the population of midges. Mr. Henley observed that droughts in comparison would have a catastrophic effect on midge populations. Larvicide application is by helicopter, but the federal authorities won't allow application unless there is an imminent risk of disease. In areas where there is an historical risk, as determined by Massachusetts DPH, early intervention may be permitted by the Refuge Manager. Additionally, the refuge management will not allow spraying on the basis of WNV risk because *Culex* species do not breed in the floodplain. EEE, formerly sporadic, has been isolated more frequently in recent years. The late season rain in 2011 has increased the *Cs. melanura* populations, which increases the expected EEE risk in 2012.

Mr. Kinzer asked whether there is anything that the Board can do to improve the mosquito situation in Bedford. Mr. Henley suggested testing more mosquitoes near the Refuge to convince the Refuge Manager that there is a disease risk. Dr. Brunkhorst suggested drafting a letter from the Board to request early intervention in 2012.

Climate change has made more areas hospitable to the Asian tiger mosquito, *Aedes albopictus*, which would be a real nuisance in city situations. Ms. Seymour reported seeing larger mosquitoes lately; Mr. Cordes said that he sees both the smaller and the large species.

Mr. Zupkus, an aquatic entomologist, wonders if it would be possible to do a study which might refute the Minnesota study, counting midges, etc., after spraying. He suggested that it might be possible to work out a compromise with refuge management with the help of Senators Kerry and Brown.

Dr. Kiessling said that the Audubon Society opposes spraying. She also said that New Jersey doesn't consider only disease risk, but also considers mosquitoes as a 'nuisance'; that's why the New Jersey boardwalk has no mosquitoes. Mr. Henley said that the Fish and Wildlife Service is more likely to allow spraying in a saltwater environment than in a freshwater environment because the Minnesota study showed an impact to midges in freshwater areas. Mr. Wormstead pointed out that 'nuisance' mosquitoes also impact human health by keeping people indoors, affecting the Safe-Route-to-School Program, etc. Mr. Zupkus said that what's missing is what ecologists call dynamic equilibrium; there is an absence of science.

Dr. Kiessling asked, what would it take to get data? Mr. Henley said that it would take some time. Ms. Zupkus said that a project on purple loosestrife is just wrapping up and people are looking for a project. Mr. Cordes said that his tool is politics; get politicians to promote the study. Mr. Henley said that Harvard and UMass no longer have entomology departments that do mosquito research. Mr. Cordes recommended the University of Rhode Island and the University of New Hampshire. Locations for a study were discussed, including the Great Meadows Refuge and the Pantry Brook Wildlife Management Area in Sudbury and Concord. Mr. Kinzer asked, what would be the goal? Control for EEE or WNV? Mr. Henley said, not WNV. It should be EEE, including bridge vectors which are also nuisance species. Dr. Kiessling said that state public health law can be interpreted to include nuisances. Mr. Cordes said that his neighbors use stronger insecticides than Bti. Mr. Henley said that helicopters now have guidance systems which allow more accurate spraying of insecticides.

Mr. Kinzer said that what he's concerned about is that this is beyond the scope of the Bedford Board of Health; perhaps a group of health boards could be effective. He said that writing a letter from the Bedford Board may not be the most effective next step. Dr. Brunkhorst asked Mr. Henley to draft a letter summarizing this year's mosquito population and weather and discussing its potential predictive impact on mosquito-borne risk in 2012. The letter could be signed by all 26 towns that make up the East Middlesex Mosquito Control Project; copies could be sent to representatives. Dr. Kiessling said that it would be necessary to get DPH participation. Mr. Zupkus said that there should be a concerted effort to repeatedly approach people in power. Dr. Kiessling suggested filing a nuisance petition. Mr. Kinzer said that nuisance would be a parallel path. Mr. Wormstead said that economic impacts such as on property values should be mentioned. Mr. Cordes said, put some language together and he will be the proponent.

Mr. Kinzer asked Mr. Henley what the Board of Health can do to help him. Mr. Henley replied that the Board could write a letter about the risk in 2012 and ask the Fish and Wildlife Service to permit early intervention. Ms. Porter asked about the cost of the intervention. Dr. Brunkhorst asked Mr. Henley to provide cost information before the Town Meeting in March. Mr. Cordes said that funds authorized in March cannot be spent until July 1; a Reserve Fund Transfer would be needed for earlier use. Dr. Kiessling said that the letter should describe the nuisance; she said that the Board of Health has power. A change in the law is not needed; get an interpretation, a definition. Ms. Porter asked whether it would affect the way the Mosquito Control Project does its job. Mr. Wormstead asked whether the Project can work on federal property. Dr. Brunkhorst said that counsel is needed, a specialist in the issues, not town counsel. Mr. Zupkus suggested getting advice from the Conservation Law Foundation or call the hotline at the Boston Bar Association. He said, go to the court of public opinion, which has more sway with politicians.

Mr. Wormstead asked about treatment of retention ponds, e.g., at the Avalon Bay development; Mr. Henley says that Bti briquettes are provided by Avalon Bay.

Mr. Cordes asked: What would it take for more adulticide spraying? And what would it take to get it in the budget? Mr. Henley said that spraying this week is already more than was budgeted. He said that adulticides are sprayed by the Project, using trucks. Aerial adult mosquito control is only done by the State. Larvicides are sprayed by the Mosquito Control Project, using helicopters. Mr. Zupkus said that he, as a Commissioner, is just a conduit; an accumulation of peoples' calls to the Board of Health is needed. Ms. Porter said that the Board

keeps a log of complaints. Mr. Henley said that spraying is most needed in Bedford, Sudbury, Reading, and North Reading, but other communities are calling for spraying. Mr. Cordes said that he has lived in his house for 40 years and has never seen a mosquito situation like this.

The Board thanked those who attended to discuss the mosquito issue.

Summer Intern

Ms. Wang gave a presentation on a Bedford Community Health Survey which she conducted this summer using the Change tool from the Centers for Disease Control. She highlighted community strengths and needs. The identified needs included more sidewalks and connectivity for walking and biking and health eating programs. Ms. Wang's presentation is available on the Board of Health website.

Board Issues

Dr. Brunkhorst moved that the Board of Health request a Reserve Fund Transfer, not to exceed \$6,150, of the Finance Committee of Bedford at their next meeting --- September 15, 2011. This Reserve Fund Transfer request is to account for the unforeseen need to purchase flu vaccine doses in FY12 due to the decrease in flu vaccine doses provided by the state. Ms. Seymour seconded the motion. Vote count: 5-0.

Mr. Kinzer said that he will represent the Board at the meeting of the Financial Committee to request a Reserve Fund Transfer for the purchase of influenza vaccine. Dr. Brunkhorst asked Ms. Porter to email her a list of flu clinics.

Due to the lateness of the hour, further business was postponed to the next meeting.

Ms. Ojamaa moved to adjourn the meeting; Mr. Wormstead seconded the motion. Vote count: 5-0. The meeting was adjourned at 10:11 P.M.

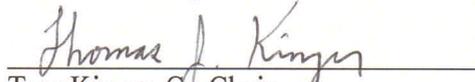
The next meetings of the Board will take place on October 3, November 7, and December 5, 2011.



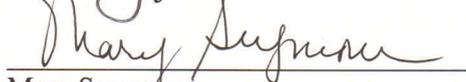
Bea Brunkhorst, Co-Chair



Lea Susan Ojamaa



Tom Kinzer, Co-Chair



Mary Seymour



Kevin Wormstead

References:

East Middlesex Mosquito Control Project, <http://www.sudbury.ma.us/services/health/emmcpl/>