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Town of Kittery, Maine

Model Mosquito- borne and Tick- borne Disease Program

Fiscal Year 2009- 2010

Recent occurrences of mosquito- borne and tick- borne diseases in southern Maine have prompted a need for community- based programs for reducing human disease potential. Kittery is an ideal community for a program due to the presence of mosquito- borne diseases (West Nile Virus and Eastern Equine Encephalitis) and tick- borne disease (Lyme disease) in the immediate area. Human cases of Eastern Equine Encephalitis (EEE) occurred in 2007 within ten miles of Kittery (Newfields and Hampton, New Hampshire). York has had EEE positive mosquitoes and an EEE horse death in recent years. In 2008, an elderly man contracted EEE while vacationing in Naples, Maine. An EEE positive mosquito was collected in Arundel in October 2009. Lyme disease is endemic to southern Maine and very prevalent. According to recent Maine CDC statistics, human Lyme disease cases is increasing over 50% per year. The Maine Medical Center tick experts report that there are periods when most of the larval deer ticks sampled have the Lyme parasite.

The program will not solely rely on pesticide controls. The program will also include the integration of physical and landscape based methods of reducing vectors (mosquitoes and ticks) to minimize human risk. The program will include an outreach component stressing the importance of personal protection and prevention.

The following is a chronological sequence of proposed activities and associated costs for fiscal year 2008-9:

July 2009

- Larviciding of mosquito breeding areas and species determination
- Monthly catch basin larviciding and species determination
- Weekly mosquito trapping program. Specimens tested for West Nile ZVirus and EEE by the state health lab in Augusta.
- Estimated Cost: \$6,930.00 (includes 220 labor hours, transportation and materials)

August 2009

- Larviciding of mosquito breeding areas and species determination
- Monthly catch basin larviciding and species determination
- Weekly mosquito trapping and testing program
- Tick control applications for "tick free zones"
- Estimates cost: \$6,930.00 (includes 220 labor hours, transportation and materials)

September 2009

- Larviciding of mosquito breeding areas and species determination
- Monthly catch basin larviciding and species determination
- Weekly mosquito trapping and testing program
- Estimated cost: \$6,340.00 (includes 190 labor hours, transportation and materials)

October 2009

- Weekly mosquito trapping until killer frost
- Document and control melanura (EEE) mosquito breeding areas
- Estimated cost: \$4,930.00 (includes 150 labor hours, transportation and materials)

November 2009

- Document and control melanura (EEE) mosquito breeding areas
- Estimated cost: \$2,720.00 (includes 75 labor hours, transportation and materials)

December 2009

- Document and control melanura (EEE) mosquito breeding areas
- Provide year end summary to town officials
- Estimated cost: \$2,720.00 (includes 75 labor hours, transportation and materials)

February 2010

- Documentation of specific wetland habitats of melanura (EEE) mosquitoes.
- Contact landowners for permission to treat properties (larviciding)
- Document specific larviciding habitats- street catch basins, stormwater basins, cattail marshes, invasive plant habitats (Purple Loosestrife and Phragmites).
- Update GIS maps of mosquito breeding habitats.
- Estimated cost: \$2,410.00 (includes 80 labor hours, transportation and materials)

March 2010

- Document specific larval habitats of "spring" mosquitoes
- Contact landowners for permission to larvicide.
- Investigate grants for water management (restoration, ditch clearing, invasive plant control) projects that promote minnow habitat and/ or stormwater flow.
- Identify specific sites for potential water management projects and notify appropriate town agencies for partnering
- Contact the Maine DEP regarding water management permitting and potential funding sources.
- Submit Maine DEP permit application for larviciding
- Estimated cost: \$3,250.00 (includes 100 labor hours, transportation and materials)

April 2010

- Begin larval mosquito control applications (larviciding) and species determination. Provide species specific larviciding applications targeting disease vector species.
- Notify public regarding reporting of potential mosquito breeding areas. Answer requests for surveying properties for mosquito breeding.

- Initiate public outreach programs– schools, elderly housing, town website. Contact media and provide interviews and data.
- Develop specific tick management plans for town properties including recommendations for appropriate landscape practices
- Apply preventative tick control applications to designated town properties.
- Estimated cost: \$7,930.00 (includes 285 labor hours, transportation and materials)

May 2010

- Larviciding of mosquito breeding areas and species determination
- Initiate monthly catch basin larviciding and species determination. There are approximately four hundred catch basins.
- Estimated cost: \$6,120.00 (includes 175 labor hours, transportation and materials)

June 2010

- Larviciding of mosquito breeding areas and species determination
- Monthly catch basin larviciding and species determination
- Initiate weekly mosquito trapping program for disease testing. Specimens identified to species and transported to Augusta for testing (West Nile Virus and Eastern Equine Encephalitis). Weekly reporting to Town Manager with results.
- Estimated cost: \$6,920.00 (includes 220 labor hours, transportation and materials)

Total 2009– 2010 proposed budget: \$57,200.00*

*represent decrease of \$3,500.00 (5.8%) from 2008–9 budget

Michael Morrison, Entomologist

March 2, 2009