ITEM # ___17__
DATE: 12-17-13

COUNCIL ACTION FORM

SUBJECT: MOSQUITO CONTROL PROGRAM

BACKGROUND:

The City Council referred to staff a correspondence sent by Iowa State Agronomy Professor Matthew Liebman that expressed his concerns regarding the City's mosquito control program. His two points of concern were the time of day that the City begins mosquito fogging and the chemical being used.

According to former City Sanitarian, Kevin Anderson, the City of Ames has had a mosquito control program for over forty years. The City established this program in order to control mosquito populations since they are a carrier of several diseases including the West Nile Virus. Since its inception, the City has worked with the Iowa State University Entomology Department to ensure the program was effective in controlling mosquitoes, yet safe to the environment and the residents of Ames. The current program is focused on disease prevention to hopefully avoid entering a disease response mode.

PROGRAM DETAIL:

The City's current mosquito control program is designed to implement the use of pesticides only when mosquito population numbers determine it will be most effective. The ISU Entomology Department distributes and monitors mosquito traps in strategic areas of the City. Once the data is collected, the Entomology Department then recommends implementing control procedures. Historically, our application program begins the third week of June and lasts until Labor Day weekend in September. However, due to a very dry summer in 2012, the City did not fog.

The City relies on the following two methods to control mosquitoes:

1) **Larvicide**
   This method is used to neutralize larvae found in pooling water. The larvicide is in the form of a solid dry briquette which is placed where standing water remains. Examples of application sites are storm drains, catch basins, settling basins and other low lying areas. We use a target-specific larvicide (Altosid) which is engineered to target mosquito larvae (specifically those known to carry the West Nile Virus) only and will not affect fish, waterfowl, mammals or other insects.

2) **Fogging**

This method targets adult mosquitoes in our most frequently used park spaces. The insecticide used is called Mosquitomist One (Chlorpyrifos). It is distributed through an ultra low volume fogger-type sprayer mounted in the rear of a pickup truck at the rate of 2/3 of an ounce per acre. The mist is designed to be suspended in air so that an adult mosquito flying into it would be controlled.

These applications are performed by staff who are licensed pesticide applicators through the Iowa Department of Agriculture Pesticide Bureau. **Mosquito control is only done on City owned property.**

INSECTICIDE IMPACT:

One of the concerns expressed in Mr. Liebman's e-mail is the use of the insecticide Mosquitomist One and its potential impact on humans, animals and the environment. **According to the ISU Entomology Department, Mosquitomist One has the least residual effect but optimum efficacy as any product currently on the market.**

According to the Material Safety Data Sheet (MSDS) for Mosquitomist One, the health hazard data, which is written for the applicator, is as follows:

Toxicity: Single dose oral toxicity is moderate. Amounts ingested incidental to industrial handling are not likely to cause injury. Contains a petroleum distillate. Vomiting may cause aspiration pneumonia.

Eye: Mildly irritating to the eye.

Skin Contact: Moderately irritating to the skin. Prolonged or repeated exposure may cause skin irritation. Repeated contact may cause drying or flaking of skin.

Teratogenicity: Chloropyrifos did not cause birth defects in laboratory animals.

Carcinogenicity: Chloripyrifos did not cause cancer in long-term animal studies.

Systemic & Other Effects: Excessive exposure may produce organophosphate type cholinesterase inhibition. Signs and symptoms of excessive exposure to active ingredient may be headache, dizziness, incoordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhea, sweating, pinpoint pupils, blurred vision, salivation, tearing, tightness in chest, excessive urination, convulsions. Repeated excessive exposures to high concentrations of solvent may cause liver and kidney injury and effects on blood cells.

Although Chlorpyrifos has been banned for household use, the Environmental Protection Agency (EPA) has registered it for use in mosquito control. ***The EPA has determined it will not cause unreasonable risk to human health or the environment.***

APPLICATION SCHEDULE (fogging & larviciding):

Studies conducted by the ISU Entomology Department have determined that the optimum time to begin fogging is at dusk. This time was discovered to be the height of mosquito activity, but low activity of non-target insects.

The following parks are fogged 8:00 – 10:00 pm., weather permitting (no rain or winds over 10 miles per hour):

Mondays: Country Gables Park, Ames Dog Park, and Hunziker Youth sports Complex

Tuesdays: Homewood Golf Course, Inis Grove Park, Brookside Park, and River Valley Park

Wednesdays: Bandshell Park, Moore Memorial Park, Emma McCarthy Lee Park, and Daley Park

In the event of inclement weather or for special requests, fogging would be scheduled for Fridays at 6:00 – 8:00 am or 8:00 – 10:00 pm.

SURROUNDING COMMUNITIES WITH MOSQUITO CONTROL PROGRAMS:

City of Des Moines: Fog city-wide throughout the summer, dependent on counts in mosquito traps, city divided into 8 zones, weekday evenings after 8:00 pm.

City of West Des Moines: Fog (Mosquitomist One) city-wide, averages twice per month, uses mosquito traps, Tuesday & Wednesday evenings after 7:00 pm. They also use a ground spray called Mosquito, Fly, and Gnat Kontrol 30-30 with a twenty day residual.

City of Clive: Fog (Anvil 2 + 2) city-wide, weekly, uses mosquito traps, half the city on Wednesday nights, the other half on Thursday nights. No earlier than 10:30 pm in city parks.

City of Clear Lake: Fog (Kontrol 4-4) city-wide, weekday evenings after 7:30 pm and some Saturday mornings, 4:00-7:00 am, uses mosquito traps.

City of Urbandale: Fog (Kontrol 4-4) city-wide, weekday evenings after 10:00 pm, uses mosquito traps

BUDGET:

The FY 14/15 budget for the mosquito control program is $10,103 (staffing - $3,044; equipment - $5,059; equipment calibration - $500; and chemicals - $1,500)

ALTERNATIVES:

1) Continue the mosquito control program as it is currently performed and initiate a public education campaign to inform residents.

2) Continue the mosquito control program using larvicide applications and fogging; however, conduct all fogging after 10:30 pm and initiate a public education campaign to inform residents.

3) Alter the mosquito control program to apply only larvicides.

4) Alter the mosquito control program to only fog.

5) Eliminate the mosquito control program.

6) Delay a decision regarding the mosquito control program and request additional information from the staff.

7) Refer to Parks & Recreation Commission to gather citizen feedback and make a recommendation to City Council.

MANAGER'S RECOMMENDED ACTION:

For many years, the City of Ames has conducted a well-informed mosquito control program by partnering with the ISU Entomology Department and using mosquito trap counts to initiate the fogging. The City parks are heavily used and comments have been received in support and in opposition of the mosquito control program. Certainly, the safety and well-being of our citizens should be a paramount factor in making a decision regarding this program. Having a preventative program helps reduce the risk of disease (e.g., West Nile Virus) and increase the comfort of those using our parks. Furthermore, the EPA has sanctioned the use of the chemical that is currently being used in the fogging operations. **Therefore, it is the recommendation of the City Manager that the City Council approve Alternative #1 and continue the mosquito control program as it is currently performed and initiate a public education campaign to inform residents.**