



2008

## West Nile Virus Mosquito Control Program

### **\*FACT SHEET\***

City of Boulder, Office of Environmental Affairs

#### **Mosquito Control Plan – An overview**

The city of Boulder adopted a West Nile Virus (WNV) Mosquito Control Plan in 2003 in response to the public health threat of WNV. The plan focuses on **controlling the larvae of the three mosquito species that can carry WNV, *Culex tarsalis*, *Culex pipiens* and *Culex erythrothorax***. It also includes **emergency adult mosquito spraying if the threshold for spraying is met**. Sixteen **adult mosquito traps will be placed around the city** and monitored weekly from late May through mid-September to determine the numbers of *Culex* mosquitoes. In addition, **community education** is essential to preventing the disease and reducing the numbers of the disease-carrying mosquitoes.

#### **Mosquito Larval Control**

The city **identifies** areas where the *Culex* larvae are found, **monitors** those sites for the larvae and then **treats** with a biological insecticide, *Bacillus thuringiensis israeliensis*, (*Bti*) to kill them when they are found. The *Bti* product is made from a naturally-occurring bacterium and has the least impacts to the environment. It is not toxic to fish or animals, but does kill some other aquatic insects, such as midges and black flies. The city is treating areas of standing water where we find the potential disease-carrying mosquito larvae. All city-owned lands are being monitored and treated if necessary, and we can evaluate private property at the owner's request on a case by case basis.

#### **Adult Mosquito Control**

The presence of mosquito-borne pathogens in Boulder, if detected, will prompt one or more responses or interventions. These interventions can range from continuing existing routine monitoring to, in worst-case scenarios, large-scale application of adulticides. Monitoring data will be used to assess the risk of an outbreak of human disease and the need to apply pesticides in a limited and targeted area to control adult mosquitoes. The control response will depend on a combination of thresholds being met that include, but are not limited to:

- the overall intensity and persistence of the WNV activity in adult *Culex* mosquitoes, humans, birds, and non-avian vertebrates;
- the proximity of WNV activity to human populations within the city;
- the time of year;
- vector index level (index of 0.75); and
- seasonal climate.

If spraying is deemed to be necessary (worst-case scenario) it will be done twice, three nights apart. Residents will be notified 48 hours in advance by 911 call back, ads in the newspapers, on the city's Web site ([www.bouldercolorado.gov](http://www.bouldercolorado.gov)) and on Municipal Channel 8. **Residents can opt out of spraying** by calling the city's WNV Hotline at 303-441-4004 and leaving their name, address and phone number. The city will provide information on the adult mosquito traps to residents and work with neighborhood and volunteer groups to raise awareness as the season progresses.

## **Nuisance Mosquito Control Pilot Program (NMCPP)**

The city of Boulder has launched a pilot program aimed at reducing the number of nuisance mosquitoes around several popular recreational areas. One goal of this project, a cooperative effort between the city and Boulder County, is to make outdoor recreation more comfortable by reducing adult mosquito populations. This will be achieved by applying a non-toxic mosquito larvicide (*Bti*) to Sombrero Marsh, Burke II and the Kentucky Property, in addition to wetland areas within Flatirons Golf Course, Boulder Reservoir, Stazio Ball Fields, East Boulder Community Park, Pleasantview Soccer Fields, Valmont City Park and Christensen Park.

The Nuisance Mosquito Control Pilot Program (NMCPP) will use Bti (*Bacillus thuringiensis israelensis*), an effective, non-toxic bacterium which kills mosquito larva when applied to wetland breeding areas. Bti is made from a naturally-occurring bacterium and has the least environmental impact of known mosquito controls. The city currently uses Bti as part of the [West Nile Virus Mosquito Program](#) for mosquito species known to carry the virus. The NMCPP expands the city's ability to use Bti for larval control around specific Parks & Recreation and Open Space and Mountain Parks (OSMP) properties.

While an aim of this program is to reduce the adult mosquito population to a more tolerable level at these popular recreation facilities, the goal is not the complete elimination of mosquitoes (which play an important role in both the aquatic and terrestrial food chains). Ultimately, the goal of this pilot program is to establish appropriate thresholds for applying larvicide to selected city wetlands while balancing the environmental, social, and economic goals of the city.

The city will not be spraying pesticides to control adult nuisance mosquitoes as part of this program. However, Parks and Recreation will continue to employ other controls, including mosquito magnets and mowing at Stazio Ball Fields and Flatirons Golf Course to further improve player comfort at these sites.

The NMCPP was approved by City Council on Tuesday, April 9, 2007 and is intended to be a two-year pilot program with the expectation that staff will provide City Council with quarterly reports on progress and effects.

Additionally, Parks and Recreation staff will participate in a "mosquito working group" to develop best management practices for mosquito control. They will be examining the management of specific properties to ensure all cultural and mechanical measures for mosquito control are being taken.

## **Education**

The city is cooperating with the Boulder County Public Health Department on educational messages and outreach materials. The primary message remains the same from previous years – the four Ds are the best prevention measures:

- Use insect repellent that contains **DEET**, or two percent soybean-oil products,
- **Dress** in long-sleeves and pants
- Avoid the outdoors at **Dawn and Dusk**
- **Drain** standing water around homes

**Information** is available at city buildings, trailheads and Parks and Recreation facilities. Information is also available on **Municipal Channel 8 and the city's Web site** ([www.bouldercolorado.gov](http://www.bouldercolorado.gov) which also links to Boulder County). This site has **updated adult mosquito trap information**. The city's contractor can conduct **wetland evaluations** for private property owners on a case by case basis.

**Residents can request a property evaluation** by calling 303-441-4004.

## **For more information:**

- [www.bouldercolorado.gov](http://www.bouldercolorado.gov), click on "West Nile Virus"
- 303-441-4004 the city's WNV hotline and phone information resource
- Jonathan Koehn, city of Boulder, environmental affairs manager, 303-441-1915, [koehnj@bouldercolorado.gov](mailto:koehnj@bouldercolorado.gov).