

OUTCOME STUDIES: control efforts for West Nile Virus and mosquito populations

WINNIPEG

	Positive avian cases	human cases	pesticides
2001	0/100 tested	0	adulticides, larvicides
2002	88/493 tested	0	adulticides, larvicides: cost: \$3 million

<http://www.gov.mb.ca/health/wnv/newsreleases.html>.

NYC

Hospitalized cases of WNV, Deaths		Pesticides
1999	44 4	Adulticides, Larvicides
2000	14 1	Adulticides, Larvicides
2001	7 0	" "
2002	28 3	" "

<http://www.ci.nyc.ny.us/html/doh/html/wnv/wnvhome.html>

Greenwich, Stamford CONNECTICUT

Sept. '02 Greenwich: **34% mosquito reduction** 5 days after spraying
Stamford : **"slightly increased populations"** 6 days after spraying

-Christine Woodside, No Big Fall in Mosquitoes After Communities Spray,
Connecticut Weekly Desk, NYT
<http://query.nytimes.com/search/abstract?res=F30A10FC3A5C0C758CDDA90994DA404482>

FLORIDA, TEXAS:

Trap experiments in residential areas in Florida, the state with the most extensive mosquito-control experience, generally show a (short term population) **reduction of about 30 percent** after a spraying, "and that's also about what we get in Houston," Parsons said.

-Fagin, Dan. Newsday, Doubts about spraying. 11/8/2000

After eleven years of spraying adulticides to control for eastern equine encephalitis in Cicero Swamp, Florida, populations of the disease -carrying species of mosquito had **INCREASED FIFTEEN FOLD.**

- Howard J, and Oliver J. Impact of naled (Dibrom 14) on the mosquito vectors of eastern equine encephalitis virus.

Journal of the Am Mosquito Control Assoc. 13(4):315-25, 1997.

MAINE:

17,000 dragonflies released in Wells Maine in 2001, as for past 26 years, **citizens note successful control of mosquitoes.**

Monday, July 9, 2001, Dragonflies unleashed to fight mosquitoes

<http://www.centralmaine.com/news/stories/010709dragonfl.shtml>

Note: Maine is the only state in the Eastern 2/3 of the US with **no human cases** of WNV as of 2003 April 30.

"Like antibiotics, pesticides should only be used when necessary and **where indications are clear**"

-Ottawa Medical Officer of Health, April 03 WNV report

The following quotes are excerpted from "Guidelines for the prevention of West Nile virus infection in Canada using chemical insecticides to control adult mosquitoes" Health Canada Insecticide National Steering Evaluation Committee Team (I.N.S.E.C.T.), Final Version, May 2001
http://www.hc-sc.gc.ca/pphb-dgspsp/wnv-vwn/mosq_e.html :

-"Clearly, in the midst of an outbreak of disease, with a high probability of human cases and perhaps fatalities, public health officials will feel pressure to "do everything possible to minimize human cases", even if the **efficacy of the control strategy is difficult to definitively establish....**

-Few studies have been performed that clearly demonstrate that the application of adulticides decreases the incidence of human infection with mosquito-borne pathogens, though many have shown that spraying of adulticides kills adult mosquitoes

- Nearly all studies have shown that post-treatment reductions in the abundance of adult mosquitoes have been transitory. Thus Mitchell et al. (1969, 1970) and Hayes (1971) found that control of *Culex tarsalis* in Hale County, Texas, lasted for only 3 days after treatment with ULV malathion from aircraft, and **failed to demonstrate a significant reduction in: minimum infection rates in vector mosquitoes, infection rates in wild birds, rates of seroconversion in sentinel chickens, or subclinical infection rates in children.**

Similar results have been obtained in Manitoba during epidemics of WEE in 1975, 1977, and 1981 (Brust and Ellis 1976, Ellis 1976, 1977, Ellis and Brust 1982).....

-In one study, it took 2-3 times more insecticide to kill 90% of the mosquitoes in residential settings versus open areas. Such a **high saturation is not permitted under current labeling safety guidelines;** they would have to be increased to allow the higher application rates necessary for 90% control of mosquitoes in residential and/or highly vegetated areas.

- Gary Mount. 1998. A Critical Review of Ultralow-Volume Aerosols of Insecticide. Journal of the American Mosquito Control Association 14(3):305-334:

-Resistance to adulticides will have a detrimental effect on overall efficacy and can be partially responsible for treatment failures".

And from Alberta: "In Alberta we have gained knowledge about the West Nile virus from incidences in eastern Canada and the United States. The best line of defence against the virus remains with personal protective measures. **The use of pesticides to control adult mosquitoes has questionable benefits and has a greater potential to adversely impact non-target species."**

Lorne Taylor PhD, Minister of Environment, Province of Alberta , Tues. April 15, 2003.

