

**Leeds Grenville and Lanark District Health Unit
Board Report**

**Mosquito Control Budget
June 12, 2003**

Introduction:

Since 2001 staff of the Health Unit have conducted West Nile Virus surveillance through the recording of dead bird sightings, submission of some dead birds to the laboratory for analysis, identification of mosquito species, identification of mosquito breeding sites in and near urban centers. In conjunction with these activities that Health Unit has provided key information to the general public on mosquito source reduction around private residences, personal protection and communication on the risk to West Nile virus. We also established protocols on the surveillance of human cases of West Nile virus disease. The protocols have been delivered to local physicians and hospitals.

Earlier this year, the Health Unit struck the West Nile Virus Stakeholders Advisory Committee to support the Medical Officer of Health in decision-making on issues pertaining to the prevention and control of West Nile virus within our geographical area. The Committee was comprised of representatives from each sponsoring municipality, Ministry of Natural Resources, Ministry of the Environment, Conservation Authorities, local environmental groups, the Canadian Food Inspection Agency and other interest groups.

Staff, with input and consultation from selected representatives of the Stakeholders Advisory Committee developed a report titled: "*West Nile Virus Prevention and Control Plan – 2003*". The report has been completed and was couriered to all municipalities in Leeds, Grenville and Lanark. Members of the Board of Health and members of the West Nile Virus Stakeholders Advisory Committee received a complimentary copy of the Report.

New Provincial Initiative:

In mid May 2003, the Premier of Ontario announced that an additional \$20,000,000 would be made available to municipalities for larviciding or adulticiding of mosquitoes. This funding together with the already provided funds, amount to a total of \$33,000,000. The announcement included that the cost of the pesticides would be 100% provincially funded and that the cost for the services would be 50/50 cost-share with the municipalities.

On May 19, 2003, a new regulation titled Ontario Regulation 199/03 - Control of West Nile Virus was enacted to provide the following mandate:

The medical officer of health shall make a determination of action required by a municipality to decrease the risk of West Nile virus to persons, based upon local risk assessment and the Ministry of Health and Long-Term Care document entitled *West Nile Virus Preparedness and Prevention Plan for Ontario*.

The medical officer of health may require a municipality to comply with the following:

- Reduce sources of mosquito breeding areas
- Conduct surveillance
- Conduct public awareness campaigns about personal protection
- Provide control measures for larviciding and adulticiding
- Carry activities within a given schedule

In order to meet these new mandatory requirements, staff of the Health Unit intends on obtaining the services of a qualified pest control agency that may be ready to provide such services to designated urban centers of the health unit area.

Designated Urban Areas:

Regulation 199/03 does not specify the size of the urban area where mosquito controls are required. Staff have however, determined that the population at highest risk would be those living in larger urban centers of approximately 4,000 citizens. This formulae indicates that the following urban centers should be considered for preemptive mosquito larviciding: Brockville, Gananoque, Prescott, Kemptonville, Perth, Smiths Falls, Carleton Place and Almonte.

Areas to be Larvicided:

It is felt that since our data indicates that storm water catch basins are very productive environments for the mosquito that presents the highest risk of transmission to humans of the virus, the *Culex* species, that these areas within the designated urban centers should be preemptively larvicided.

Within the selected urban centers and encompassing a buffer zone of approximately 1.5 kilometers there are certain low lying areas (primarily ditches and ponding areas) where larvicides should also be preemptively applied.

Depending of the time of the season and proximity to human population, there may also exist certain areas outside the designated urban centers, where based on risk assessment, may be classified as hot zones. These hot zone areas may also be entitled for larviciding on a site-by-site specific assessment.

Areas to be Adulticided:

It is staff’s contention that adulticiding should only be carried out where other lower risk interventions have not been successful and only in hot zones where risk factors present an unacceptable risk to humans.

Contracted Services:

In order to coordinate with municipalities and facilitate the process of providing mosquito chemical controls, it is necessary to obtain the services of a qualified pest control agency that would be able to provide the following services:

- Pre-planning and consultation.
- Obtain the required mosquito larvae and adult control permits.
- Determine appropriate sites and develop appropriate timetables for applying larvicide and adulticide
- Holder of appropriate pesticide application licenses.
- Have sufficient resources to provide all required pesticing services.
- Mapping all sites to be treated.
- Conduct pre and post treatment evaluations.
- Provide a summary report of mosquito control measures taken.
- Assist in the communication to the general public on strategies and requirements before any treatment is conducted.
- Able to respond immediately to conduct treatment of various areas when so required.
- Able to provide an accurate financial account of actual costs before any treatment is conducted.

Budget and Management

Table 1 below indicates the estimated costs to provide both larviciding and adulticiding services to the selected eight urban centers.

Table 1

Activities – Resources – Supplies	Estimated Cost
WNV Monitoring Students (4) -Salary	24,539.00
Benefits	2,626.00
Mileage	10,000.00
Training	1,000.00
General - Supplies	5,000.00
GPS Units (2)	12,000.00
Advertising and public Education	10,000.00
Larviciding – Catch basins	150,636.00
Larviciding – Low lying areas	75,000.00
Contractual preparatory work and retention for adulticiding	55,000.00
Adulticiding – Based on area eight municipalities	41,000.00
Total	386,801.00

There are essentially two options for managing the available provincial mosquito control funds:

Option 1:

In this option, the Medical Officer of Health determines risk and requires individual municipalities to take appropriate action. Fifty percent of service cost for the pesticing incurred by the individual municipality will be reimbursed through the provincially available funding. The cost of the pesticide will be reimbursed to the municipality at 100% cost. The cost of the pesticide is estimated at 12% the total cost of the service.

Option 2:

In this option, the Medical Officer of Health determines the risk and provides the required pesticing service through an appropriate pesticide company. The costs for the service will be reimbursed at the usual 50/50 formulae as for general mandated programs. The Ministry will absorb the cost of the actual pesticide used.

In considering the above two options, staff feel that option 2 is better suited for the task-at-hand. It provides for more equitable service delivery, based on population densities, reduces the requirements of each municipality to seek appropriate services delivery and it would be more effective to have a centralized administrative process.

Cost per Selected Urban Center:

Table 2 below is an estimate of costs to larvicide each catch basin within the selected urban center. It includes the approximate cost for the service and for the chemical.

Table 2

Selected Urban Centre	Total Catch Basins per Urban Centre	Cost of Chemical (Larvicide)	Total Cost
Almonte	500	72.00	9,310.00
Perth	790	114.00	14,710.00
Smiths Falls	1600	231.00	29,792.00
Carleton Place	1600	231.00	29,792.00
Brockville	2300	332.00	42,826.00
Gananoque	600	87.00	11,172.00
Kemptville	350	51.00	6,517.00
Prescott	350	51.00	6,517.00
TOTAL	8090	1169.00	150,636.00

Recommendations:

That the Board of Health approve a budget of total amount of \$ 386,801 to be used for activities related to the use of pesticides for mosquito control in relation to the protection of the tri-county population against West Nile virus.

That the Board of Health approve that these expenses be carried by the Health Unit and be financially allocated in accordance with current municipal levy formula.

Respectfully submitted.

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