

Corporate Report

NO: R093

COUNCIL DATE: April 26, 2004



REGULAR COUNCIL

TO: **Mayor &
Council** DATE: **April 21,
2004**

FROM: **General Manager,
Engineering** SUBJECT **5280-23**
FILE:

SUBJECT: **West Nile Virus and Nuisance Mosquito Control
Programs for 2004**

RECOMMENDATIONS

1. That Council approve the proposed West Nile Virus (WNV) Control Program as outlined in this report and the attachment.
2. That Council appoint a Councillor to serve on the Mosquito Control Local Advisory Committee.
3. That a copy of this report be sent to the Greater Vancouver Regional District, Medical Health Officer and Fraser Health Authority (South Fraser Area).

PURPOSE OF REPORT

The purpose of this report is to apprise Council of the proposed WNV control program and the continuing nuisance mosquito control program for 2004.

BACKGROUND

The City of Surrey is proposing to undertake two separate mosquito control programs in 2004. The first is the ongoing nuisance mosquito control program carried out under a contract administered by the Greater Vancouver Regional District (GVRD) on behalf of four municipalities (the others being the District of Maple Ridge, the Township of Langley, and the District of Pitt Meadows). Surrey has participated in this program since the 1990's. The goal of the control program is to reduce the potential for widespread adult mosquito annoyance.

The second mosquito control program that is being proposed by staff for this year is the WNV control program. The goal of this program is to ensure a sufficient level of preparedness in advance of the eventual arrival of WNV in B.C. The driving force behind this program is risk to human health. In 2003 Surrey implemented some proactive measures in this regard. The City partnered with the Fraser Health Authority (FHA) and the SPCA in a dead bird collection program and also implemented a public education program that consisted of placing information on WNV

on the City website, distributing pamphlets at City Hall, and utilizing the “mosquito hotline” run by the mosquito program control contractor, Morrow BioScience Ltd., for the City to answer questions and concerns from Surrey residents about WNV.

There are essentially three basic methods for controlling mosquito populations: larviciding, adulticiding, and source control. Larval mosquito control, or larviciding, targets immature mosquitoes in their aquatic habitat before they become flying, biting adults. In general, larval control is the most effective methods of controlling mosquito populations, has the least effect on non-target species, and has the smallest “footprint” in terms of environmental impacts. Adult mosquito control targets adult mosquitoes using insecticides that are applied using “foggers” that produce clouds of tiny droplets to kill mosquitoes upon contact. Adulticiding has limited effectiveness, is non-selective (i.e., kills other insects including mosquitoes) and can create other problems. Source control consists of modifying potential mosquito breeding habitat so that it no longer functions as breeding habitat. Examples include agitation of stagnant water bodies (e.g., golf course water features) and elimination of areas of pooled water on private properties (e.g., birdbaths, ornamental ponds, old tires, etc.).

Nuisance Control Program

Summary of 2003 Activities

The 2003 season was moderate in terms of mosquito populations due to moderate to low water levels and dry weather throughout the summer. The total area treated with larvicide (both aerial and ground applications) within the four municipalities was 458 hectares. Of the four municipalities, Surrey had the smallest amount of larviciding conducted (1.2 percent of the total). No aerial larviciding was conducted in Surrey in 2003. No adulticiding was required in any of the four municipalities in 2003.

Pest Management Plan Development

Since 1996 the GVRD mosquito control program has been operating under a Pesticide Use Permit issued by the Ministry of Water, Land and Air Protection (MWLAP). This permit expires on December 31, 2004. Morrow is currently working with the GVRD and municipal staff to develop our Pest Management Plan (PMP), that will replace the existing Pesticide Use Permit. This plan, once approved, will be valid until December 31, 2010.

Adult Mosquito Control

Adulticiding has been conducted in the past as part of the mosquito control program contract. However, recent discussions between the contractor, Morrow, and the Senior Pesticide Officer of MWLAP with regards to development of the Pest Management Plan (PMP) have indicated that restrictions on adult control measures will be increased for the PMP. Development of an adulticiding policy for the City is currently underway. At a minimum, the policy will include the following:

Determination of when and where to undertake adult control for nuisance purposes will be based on:

- Threshold limits for adult mosquito light traps; and

- Standard biting count thresholds.

If the threshold limits for one or both of these conditions are not met, adult control will not be conducted. If the threshold limits for both conditions are exceeded, adult control may be carried out once permission from the property owner(s) has been granted and all pesticide-free zones (i.e., wells, water intakes, watercourses, non-participating households, etc.) have been identified and adequately buffered.

The biting count threshold utilized in 2003 was three bites per minute. This threshold is under review as part of the development of the PMP and will be determined in consultation with MWLAP.

WNV Strategy

In 2003, the Provincial Government announced a comprehensive Provincial strategy to address WNV. As part of the Province's coordinated WNV strategy, the Minister of Health Services has obtained a Pesticide Use Permit under the ***Pesticide Control Act*** to control mosquitoes should they pose a public health risk due to the virus. The permit ensures health officials can respond quickly to protect residents of B.C. It provides a legal mechanism to allow pesticide application if health officials determine the virus poses a public health threat.

WNV Response Plan

With the expected arrival of WNV in British Columbia this year, the FHA has asked municipalities within its area to prepare a WNV response plan that addresses public communication, surveillance, and control relating to mosquitoes and WNV.

The City has received a one-time Provincial grant of \$50,000 to assist in development of the WNV response plan requested by the FHA. However, additional funds may be required for the treatment phase of the plan.

Standardized Approach for Mosquito Control

To aid municipalities in preparing their WNV response plans, and to ensure a coordinated approach across the region, the Regional Engineers' Advisory Committee (REAC) of the GVRD set up a Mosquito Technical Work Group in January 2004. This Working Group developed a policy for both the preparedness and management of mosquitoes for health purposes (see attachment). The GVRD Board of Directors approved this policy on March 26, 2004. The policy is based on the local governments assuming responsibility for the management of mosquitoes on their lands. Mosquito management on private lands is the property owner's responsibility and will be managed by the Regional Health Authorities under the provisions of the ***Health Act***.

Staff is proposing that Council adopt the attached policy as the basis of Surrey's WNV response plan. The attached appendix outlines all the various tasks for which the municipality is either the lead or plays a support role. All of the identified actions are currently underway either by staff or the City's contractor.

Adult Mosquito Control

Adult control should be considered only when there is a significant human health risk and only implemented when ordered by a Regional Health Authority. Planning for adult mosquito control will be led by the Regional Health Authorities with the participation of their member municipalities and the GVRD. This process is anticipated to commence in June, 2004.

Local Advisory Committee

The Fraser Health Authority is establishing in each municipality a WNV Adult Mosquito Control Local Advisory Committee to provide consultation for the Medical Health Officer regarding the advisability and feasibility of adult mosquito control in a specific situation or situations in order to mitigate a human health hazard. The members of the committee are:

- Two to three regional health staff including the Manager, Health Protection (Communicable Disease) or designate and an MHO;
- The City Manager, Drainage & Environment Manager, and Manager of Parks;
- Mosquito Control Contractor representative;
- A MWLAP Pesticide Officer; and
- A B.C. Centre for Disease Control representative.

The FHA has also requested that an elected official from Surrey serve on this Committee.

CONCLUSION

Development of the Pest Management Plan (PMP) for the nuisance mosquito control program is currently underway by the mosquito control contractor in conjunction with City staff. A comprehensive adulticiding policy for nuisance control will be developed as part of the PMP. Staff are recommending that the attached policy for WNV Mosquito Control be approved by Council as the basis for Surrey's WNV response plan.

Paul Ham, P.Eng.
General Manager, Engineering

PH/VL/REJ/brb
Attachment

c.c. - Fire Chief / Emergency Program Coordinator

**Regional Policy for a Standardized Preparedness and Management Approach
for West Nile Virus for Health Purposes:
Mosquito Surveillance, Education and Larval Control**

Scope

In 2003, the Province of British Columbia announced a comprehensive provincial strategy to address West Nile Virus (WNV). The Province, with leadership provided by the BC Centre for Disease Control, is currently at response level IIa indicating that arbovirus activity is evident in Alberta. The Province expects WNV to arrive in British Columbia in 2004.

In an effort to support the Province in its strategy, the GVRD, through a Working Group of the Regional Engineers Advisory Committee, has developed a standardized approach for both the preparedness and management of mosquitoes for health purposes. The Working Group, representing 12 municipalities as well as the Vancouver Coastal and Fraser Health Authorities, and the University of British Columbia Plant Operations, has prepared the following table outlining the approach, the tasks involved, the jurisdictional responsibilities and the timing required.

This policy is based on the regional/local governments, as land owners, assuming responsibility for the management of mosquitoes on their lands. Mosquito management on private lands is the property owner's responsibility and will be managed by the Regional Health Authorities under the provision of the *Health Act*.

This policy represents the minimal standard for management of larval mosquitoes for health purposes on public land^[1]. Adult control should be considered only when there is a significant human health risk and only implemented when ordered by a Regional Health Authority. Planning for adult mosquito control will be led by the Regional Health Authorities with the participation of their member municipalities and the GVRD.

This policy can only be effective with significant, continued financial support from the Province.

Task	Responsibility				Timing
	Municipal	GVRD	RHAs	Prov/Fed	
A. Sustainable Response Planning					
1. Each jurisdiction ^[2] should prepare a sustainable WNV response plan for their lands based on this policy.	lead ^[3]	lead	support ^[4]	lead	complete by July 2004
2. Each jurisdiction should regularly monitor and evaluate its response plan.	lead	lead	support	lead	ongoing

Task	Responsibility				Timing
	Municipal	GVRD	RHAs	Prov/Fed	
3. The Federal and Provincial governments should be encouraged to provide ongoing financial assistance to local governments in	support	lead	support	support	ongoing

implementing WNV response plans.					
B. Mapping & Inventory					
1. Each jurisdiction, using <i>Municipal Mosquito Control Guidelines</i> (Ellis, 2001) as a standard, should map and classify mosquito breeding habitat on their lands in a GIS format, as “high, medium, low risk” as appropriate to the vector target, with notes describing the criteria such as natural features, human influences, fisheries values.	lead	lead	support	lead	complete in 2004
2. Mapping of habitat, hot spots, sensitive areas ^[5] , and monitoring & surveillance results by individual jurisdictions should be rolled up and made available to all jurisdictions to assist in providing a larger sub-regional or regional context.	support	lead	support	support	complete in 2004
3. Each jurisdiction should evaluate mosquito breeding habitat on their	lead	lead	support	lead	complete by July 2004

lands and identify hotspots (areas with high ratings for the target vector) and identify areas that are sensitive to management measures.					
4. Where applicable, each jurisdiction should evaluate catch basins for vector species on their lands.	lead	lead	support	lead	complete by July 2004
C. Surveillance					
1. The Regional Health Authorities are responsible for surveillance activities for detection of WNV in adult mosquitoes and sentinel and Corvid species and humans with assistance from each jurisdiction,	support	support	lead (jointly with PHSA and province)	lead (jointly with RHA); fed support	ongoing

Task	Responsibility				Timing
	Municipal	GVRD	RHAs	Prov/Fed	
D. Integrated Management for Larval Control					
1. Each jurisdiction should make adequate preparations for larval control of vector mosquitoes.	lead	lead	order or recommend	lead	ongoing
2. On the order or recommendation of the Regional Health Authority, each jurisdiction should undertake a program of larval control at designated hotspots, including catch basins.	lead	lead	order or recommend	lead	ongoing
3. Each jurisdiction should, over time,	lead	lead	support	lead	ongoing

consider modification of hot spots by physical or mechanical means to reduce their viability as mosquito breeding habitat (with caution to avoid disruption of sensitive habitats.)					
4. The Regional Health Authorities should facilitate the use of the provincial pest control permit in managing hot spots including catch basins.	support	support	lead	support	complete in April 2004
5. The Regional Health Authorities should ensure that there are appropriate protocols in place to facilitate access for inspection, surveillance, monitoring and control of mosquitoes for health purposes, including private lands.	support	support	lead	support	complete in 2004

E. Communications

1. The Regional Health Authorities/Province should prepare public messages on: <ul style="list-style-type: none"> private land owners responsibilities general WNV information; strategies for provincial parks; surveillance results; treatment including personal protection, source reduction and adaptive management. 	support	support	lead (jointly with PHSA and Province)	lead (jointly with RHAs); fed support	complete in 2004
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Task	Responsibility				Timing
	Municipal	GVRD	RHAs	Prov/Fed	

2. The GVRD should be requested to utilize its communication and education channels to assist the Regional Health Authorities to deliver the public messages across the Lower Mainland.	support	support and request the FVRD to participate	lead	support	complete in 2004
3. Each jurisdiction may supplement the general regional and provincial communication messages with messaging specific to their needs including, where applicable, private land owners.	support	support	lead	support	ongoing
4. The Mosquito Technical Work Group of REAC (including the Regional Health Authorities) should continue to act as a focus for information sharing and regional policy review.	support	lead	support	support	ongoing
F. Data Management					
1. All jurisdictions should standardize the collection of mosquito management data so that it is complete, current and useful for	lead	lead	support	lead	complete in 2004

management and reporting purposes.					
G. Training & Technology					
1. Each jurisdiction should ensure that it is informed and trained on standards for data collection and recording.	support	support	support	province lead; fed support	ongoing
2. Each jurisdiction should support the development of a predictive model that will facilitate the efficient management of mosquitoes for WNV.	support	support	lead	support	complete by 2006

Approved at GVRD Board Meeting March 26th, 2004

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[1] 'Public land' means any lands owned by a municipality or the GVRD.

[2] 'Jurisdiction' means municipality, the GVRD, the Fraser and Vancouver Coastal Health Authorities, the Crown Provincial and the Crown Federal or their groupings.

[3] 'Lead' means to take responsibility for implementing the task described.

[4] 'Support' means to provide assistance or input to the lead jurisdiction responsible for implementing the task.

[5] 'Sensitive areas' include environmentally sensitive locations (eg. wells, apiaries, registered organic farms, watercourses and fish habitat) and/or community areas (eg. schools, permitted adult and child care facilities, hospitals and seniors group homes.)