

CITY OF BURNABY
ENVIRONMENT COMMITTEE

D

HIS WORSHIP, THE MAYOR
AND COUNCILLORS

RE: INTERIM MOSQUITO CONTROL STRATEGY FOR PUBLIC LANDS

RECOMMENDATION:

1. **THAT** Council request the Greater Vancouver Regional District to develop a comprehensive mosquito control strategy to coordinate a consistent approach in the region for the possible occurrence of West Nile virus.
2. **THAT** Council approve an interim mosquito control strategy for public lands as outlined in Section 2 of this report.
3. **THAT** Council authorize staff to acquire appropriate permits and initiate the larvicide treatment on public lands should the Medical Health Officer, Fraser Health Authority, order such an action to be taken.
4. **THAT** Council approve a maximum of \$75,000 for undertaking of a larvicide treatment on public lands in 2003 should such action be warranted.
5. **THAT** Council request the Fraser Health Authority to develop a mosquito control strategy to deal with private properties.
6. **THAT** a copy of this report be forwarded to Greater Vancouver Regional District, 4330 Kingsway, Burnaby, B.C. V5H 4G8; Medical Health Officer, Fraser Health Authority, Suite 400, 4946 Canada Way, Burnaby, B.C. V5G 4H7; and Parks, Recreation and Culture Commission.

R E P O R T

The Environment Committee, at its 'Open' meeting held on 2003 June 10, received and adopted the attached report seeking approval for an interim mosquito control strategy for public lands in the event of a possible occurrence of West Nile Virus in Burnaby. The proposed strategy embraces Integrated Pest Management and adaptive management principles and ensures that pesticides will only be used when ordered by the Medical Health Officer, Fraser Health Authority.

Respectfully submitted,

Councillor D. Johnston
Chair

Councillor P. Calendino
Vice Chair

COPY - CITY MANAGER
- DIRECTOR PARKS, RECREATION & CULTURAL SERVICES
- DIRECTOR FINANCE
- DIRECTOR ENGINEERING

Councillor C. Redman
Member

TO: CHAIRPERSON & MEMBERS
ENVIRONMENT COMMITTEE

DATE: 2003 06 02

FROM: DIRECTOR ENGINEERING

FILE: 33000-05

SUBJECT: INTERIM MOSQUITO CONTROL STRATEGY FOR PUBLIC LANDS

PURPOSE: To seek approval for the interim mosquito control strategy for public lands in the event of a possible occurrence of West Nile virus in Burnaby.

RECOMMENDATION:

1. **THAT** the Committee recommend that Council request the Greater Vancouver Regional District develop a comprehensive mosquito control strategy to coordinate a consistent approach in the region for the possible occurrence of West Nile virus.
2. **THAT** the Committee recommend Council to:
 - a) approve an interim mosquito control strategy for public lands as outlined in Section 2 of this report.
 - b) authorize staff to acquire appropriate permits and initiate the larvicide treatment on public lands should the Medical Health Officer, Fraser Health Authority, order such an action to be taken.
 - c) approve a maximum of \$75,000 for undertaking of a larvicide treatment on public lands in 2003 should such action be warranted.
 - d) request the Fraser Health Authority to develop a mosquito control strategy to deal with private properties.
4. **THAT** a copy of this report be forwarded to:
 - a) Greater Vancouver Regional District, 4330 Kingsway, Burnaby, B.C., V5H 4G8;
 - b) Medical Health Officer, Fraser Health Authority, Suite 400, 4946 Canada Way, Burnaby, B.C., V5G 4H7;
 - c) Parks, Recreation and Cultural Commission.

REPORT

1.0 BACKGROUND

West Nile Virus (WNV) is a mosquito-borne virus named after the West Nile region of Uganda where it was first identified in 1937. The virus is normally spread between mosquitoes and birds, but humans and animals can get WNV through the bite of an infected mosquito. Birds are reservoir hosts and most of them develop immunity after exposure to WNV although many are killed directly by the disease. Most documented cases in birds are in the family *Corvidae* or corvids (crows, jays, nutcrackers, magpies, ravens). Mosquitoes become infected when they feed on the blood of a bird that carries the virus. Approximately two weeks later, the infected mosquito becomes capable of spreading the virus. It is to be noted that even in the areas where mosquitoes do carry the virus, less than 1% are infected.

According to the BC Centre for Disease Control (BCCDC), most people who become infected will experience no symptoms at all. About 20% of those will develop mild flu-like symptoms such as fever, headaches and body aches lasting about one week or less. In rare cases (less than 1%) WNV can result in serious health effects such as meningitis (inflammation of the lining of the brain) or encephalitis (inflammation of the brain). There is no evidence to suggest that WNV can spread by direct person-to-person contact. There is no human vaccine for WNV at present.

The spread of WNV into British Columbia is likely. The virus was isolated from two dead crows in Washington State (Snohomish and Pend Oreille Counties) in 2002. In addition, there were two horses diagnosed in Washington State - one in Whidbey Island and one 20 km south of Langley.

The BCCDC and the various health regions across the province have begun working on a response plan against WNV. According to the WNV response levels created by the Canadian National WNV Steering Committee, British Columbia is at Level IIa as of May 2003 (based on assessment of risk following WNV detection in a jurisdiction in the previous year or in a neighbouring jurisdiction in the current year).

2.0 INTERIM MOSQUITO CONTROL STRATEGY FOR PUBLIC LANDS - WEST NILE VIRUS

Given the possible occurrence of WNV in the Lower Mainland, it is prudent to develop a comprehensive mosquito response strategy which ensures that there is a consistent and coordinated effort across the region. As such, staff recommend that the Greater Vancouver Regional District be requested to develop a regional mosquito strategy to coordinate a

consistent approach to address the possible occurrence of WNV in the region and to develop specific mosquito control strategy for all regional parks and facilities. In the interim, in the event of a possible occurrence of West Nile virus staff propose the following mosquito control strategy for public lands within Burnaby.

PHASE	ACTIVITY	TIMING	COMMENTS
Prevention	Public Education	Completed Completed	Pamphlet on City Web Site; Distribution of Fraser Health Authority (FHR) pamphlets at all Civic facilities; Joint City and FHA information article on WNV in local newspapers. Article in August issue of Information Burnaby.
		Mid June/ Mid July	
		August	
	Staff Education	Currently	Distribution of pamphlets and information sessions with staff.
Surveillance	Identification of Potential Mosquito Breeding Sites	Currently	Mapping of stagnant or slow moving ditches on public lands.
	Bird (crow) Collection and Testing	Underway	Co-ordination through BCCDC. Collection of dead crows by Burnaby SPCA. Analysis undertaken at B.C. Animal Health Center (Abbotsford). Results available through BCCDC web site (www.bccdc.org). Positive results reported to the Medical Health Officer.
	Adult Mosquito Collection, Identification and Trapping	Mid June	Fraser Health Authority will place one mosquito trap in the Big Bend area. Samples will be obtained once a week and submitted to the laboratory for

PHASE	ACTIVITY	TIMING	COMMENTS
			genus identification. A representative number of mosquito carcasses will be sent for WNV testing.
Treatment	Natural Predators	June - July	Review the efficacy of natural predators on mosquito larvae and pupa such as threespine stickleback, juvenile ducks, larvae of dragonflies and damselflies, tadpoles of salamanders and newts (polyps) and caddis flies.
	Larvicide Treatment -Ditches/ Ponds/Swales on Public Lands	If Necessary	<p>Only when ordered by the Medical Health Officer, Fraser Health Authority based on their evaluation of indicators - human cases, positive results in bird(s) and or mosquitoes. Will require Permit from the Ministry of Water, Lands and Air Protection.</p> <p>Ditches on public lands would be evaluated for larvae presence and only those areas would be treated (spot treatment). Consultant would be retained to undertake the work.</p> <p>Most commonly used larvicide is Bti (Bacillus thuringiensis israelensis, a bacterium found naturally in soils).</p> <p>Estimated cost for 2003 will range between \$30,000 to \$75,000 depending on treatment area.</p>

PHASE	ACTIVITY	TIMING	COMMENTS
	Larvicide Treatment - Catch Basins	If Necessary	Determine significance of these sites as breeding areas. Determine efficacy of flushing catchbasins. Application of larvicide to be undertaken only when ordered by the Medical Health Officer, Fraser Health Authority. Will require Permit from the Ministry of Water, Lands and Air Protection. Consultant would be retained to undertake the work.
	Adult Mosquito Treatment	If Necessary	Application of adulticide to be undertaken only when ordered by the Medical Health Officer, Fraser Health Authority and upon receiving specific approval from Council.

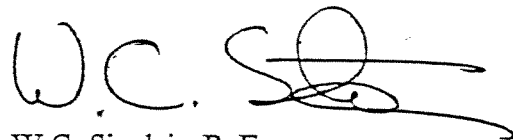
The Director Finance recommends that funding, if required, for the 2003 program be provided from the Stabilization Reserve.

While the City will focus on the lands and infrastructure under City's control, it is recommended that the Fraser Health Authority develop a mosquito control strategy to deal with private properties. At present, the Fraser Health Authority staff in Burnaby do respond to standing water complaints from private properties using an educational approach. However, clarity is required regarding enforcement or treatment on private properties should the City be ordered to larvicide.

3.0 CONCLUSION

Given the possible occurrence of WNV in the Lower Mainland, it is recommended that the GVRD develop a comprehensive mosquito response strategy which ensures that there is a consistent and coordinated effort across the region. In the interim, staff have proposed and seek approval on a mosquito control strategy for public lands in the event of a possible occurrence of West Nile virus in Burnaby. The proposed

strategy embraces Integrated Pest Management and adaptive management principles and ensures that pesticides will only be used when ordered by the Medical Health Officer, Fraser Health Authority. In order to ensure that potential concerns from private lands owners are addressed, staff recommend that the Fraser Health Authority develop a mosquito control strategy to deal with private properties.



W.C. Sinclair, P. Eng.
DIRECTOR ENGINEERING

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cc: City Manager
Director Parks, Recreation and Cultural Services
Director Finance

