MINISTRY OF ENVIRONMENT

Consolidated and Unofficial Version of:
PESTICIDE USE PERMIT No. 776-001-2003/2008

for Controlling Mosquitoes for reducing the risk of West Nile Virus Transmission

Under the Provisions of the Pesticide Control Act
and the Integrated Pest Management Act
To:
British Columbia Minister of Health Services

The permit holder and authorized agents may use pesticides subject to the permit conditions as amended. This unofficial consolidated version of the permit includes the three issued amendments and is intended to make it easier to read and follow. Please access the original conditions for legal purposes. Contravention of a permit condition may result in prosecution. The permit is in effect until December 31, 2008.

1. Purpose

The pesticide use shall be for the purpose of controlling mosquito species on public or private land (including water bodies) in areas of British Columbia where there is a risk to human health from West Nile Virus.

2. Pesticides and Application Methods Authorized

The following pesticide active ingredients and application methods are authorized for use:

Active Ingredient	Mosquito Stage	Application Method(s)
Bacillus thuringiensis subsp. Israelensis (Bti)	Mosquito Larvae	Ground or aerial
methoprene	Mosquito Larvae	Ground
Bacillus sphaericus Strain 2362	Mosquito Larvae	Ground or aerial
malathion	Mosquito Adults	Ground or aerial
Synergized pyrethrins or synthetic pyrethroids	Mosquito Adults	Ground

Note: The selection of pesticide active ingredients and application methods shall be determined by the permit holder.

3. Access to Project Information

3.1. A copy of the permit and a description of actual or potential locations of pesticide use shall be made available for viewing to anyone within 48 hours of such a request.

4. Certification and Licensing Requirements

4.1. Pesticide use shall be carried out by or under the direct supervision of an individual with a valid British Columbia Pesticide Applicator Certificate in the mosquito and biting fly category.

4.2. Any pilot conducting aerial applications shall possess a valid British Columbia Pesticide Applicator Certificate in the mosquito and biting fly category.

4.3. Each contracting firm hired to conduct the project shall possess a current British Columbia Pest Control Service Licence.

5. Notification

5.1. The permittee shall ensure that prior to the start of each project conducted under this permit (e.g. within each municipality or Regional District) in each year of the permit, that local residents have been notified of this permit and where it may be viewed, by a placement of a notice in a local newspaper or by some other method of notification.

5.2. The permittee shall ensure that prior to the start of each project conducted under this permit (e.g. within each municipality or Regional District) in each year of the permit, that notification is provided to the Administrator of the *Pesticide Control Act.* Notification shall include a description of the treatment area, and the pesticides and application methods to be used.

Ac 13. Prior to the start of the initial adulticiding activities within each jurisdiction under this permit, (i.e. within each municipality or Regional District) in each year of the permit, notification shall be provided to Environment Canada, Environmental Stewardship Branch (J. Pasternak, (604) 666-8077) and the appropriate Regional IPM Officer of the Ministry of Environment in Surrey, Prince George or Penticton.

5.3. All personnel applying pesticides under this permit are to be provided copies of the conditions of pesticide use.

5.4. Prior to ground based adulticiding applications, signs advising of the pesticide use shall be posted at the main access points to the treatment area, at least 24 hours prior to the pesticide use.

6. Monitoring

6.1. Continuing efforts are to be made during the mosquito breeding season to identify breeding sites and to update maps to clearly delineate the breeding habitat.

6.2. Efforts shall be made to identify the mosquito species breeding at each habitat type or site.

6.3. The density of larvae present before and after larvicide applications, determined using dip samples, shall be recorded. This condition does not apply to storm drains.

7. Pesticide Use Restrictions

7.1. All pesticides shall be applied in a manner that protects domestic water sources.

7.2. Any spraying for adult mosquito control shall maintain a 10 metre (measured horizontally) pesticide-free zone along all waterbodies. Appropriate sized buffer zones must be established to protect the 10 metre pesticide-free zone during mosquito adulticide applications, and the boundaries of the buffer zone must be clearly visible during applications.

7.3. Larvicides may only be applied to water bodies where water dip samples have confirmed the presence of mosquito larvae. This condition does not apply to storm drains.

Ac 11. Products containing *mosquito larvicides* may not be used in fish bearing waters unless WNV vector species are verified as being present. A local representative of Fisheries and Oceans Canada or Environment Canada must be consulted to determine potential fisheries impacts prior to undertaking treatments to fish bearing waters.

7.5. Deleted

7.6. Products containing methoprene may only be used in storm water catch basins or human made self-contained water bodies.

7.7. The effectiveness of methoprene in preventing mosquitoes from developing to the adult stage shall be monitored.

7.8. Pesticides must only be applied at times and under-circumstances that minimize the exposure of the public.

7.9. Registered beekeepers in the area of proposed spraying of mosquito adulticides must be contacted to determine whether bee colonies may be affected and methods for minimizing any impacts.

Ac 7. No treatments of adulticides shall be conducted during daylight hours (i.e. adulticides may only be applied between the official times of sunset and sunrise). This amendment to the permit was made by the April 8, 2004, decision of the Environmental Appeal Board.

8. Authority or Permission Required to Treat Private Land and Public Lands

8.1. No pesticides may be applied to private or public lands (including water bodies) without appropriate authority or permission of the land owner or the responsible occupant, agency or manager.

9. Reporting

9.1. The permittee shall provide to the Administrator, *Pesticide Control Act*, (PO Box 932 Stn Prov Govt, Victoria BC V8W 9Ml, Fax 250 387-8897) the following information by December 31 of each year in which the permit was in effect:

(a) Pesticide(s) applied, including their PCP registration numbers;
(b) Application methods used;
(c) Total area treated (ha);
(d) Quantity of each active ingredient applied (kg), and
(e) The total area treated with each pesticide (ha)

9.2. The permittee shall ensure that all treatment records are kept current for a minimum of 3 years from the date of the use of the pesticide and shall make the records available for inspection by the Ministry of Environment.

9.3. The permittee shall report immediately pesticide spills that may result in environmental impacts to the Provincial Emergency Program at 1-800-663-3456 or, where bystander health is threatened, to the local police or nearest detachment of the R.C.M.P. Spill affected areas shall be immediately cleaned-up and decontaminated. The permittee must provide the Administrator with reports on the spill, clean-up activities and decontamination actions as soon as practicable.

9.4. The permittee shall report immediately to the Administrator, any breech of a standard or violation of the *Pesticide Control Act* or Regulation, including:

a) Description and location of event,
b) Date and time event occurred,
c) Persons present during event occurrence, and
d) Actions taken by proponent in response to event.

The appendices on the following pages were submitted by the permit holder and form part of the permit.

Trade Name	Active Ingredient	PCP No.	Application Rate	Application Method
Pesticides Targeting Mosquito Larvae Stage				
Vectobac 200g granules or equivalent	*Bacillus Thuringiensis israelensis* (Bti)	18158	3-10kg/ha	Ground or Aerial
Vectobac 1200L liquid or Equivalent	*Bacillus Thuringiensis israelensis* (Bti)	21062	Apply 0.25 to 1.0L/ha.	Ground or Aerial
Vectobac 600L or equivalent	*Bacillus Thuringiensis israelensis* (Bti)	19455	0.5-20L/ha	Ground or Aerial
Teknar HP-D or equivalent	*Bacillus Thuringiensis berliner*	19241	0.3-1.2l/ha	Ground or Aerial
Teknar Granules or equivalent	*Bacillus Thuringiensis berliner*	19239	4.5-6.7kg/ha	Ground or Aerial
Aquabac XT or equivalent	*Bacillus Thuringiensis israelensis* (Bti)	26860	300-2400ml/ha	Ground or Aerial
Aquabac 200g or equivalent	*Bacillus Thuringiensis israelensis* (Bti)	26863	2.5-20 kg/ha	Ground or Aerial
Aquabac II XT or equivalent	*Bacillus Thuringiensis israelensis* (Bti)	27376	300-2400ml/ha	Ground or Aerial
Aquabac 200g or equivalent	*Bacillus Thuringiensis israelensis* (Bti)	27374	0.5ml/sq m	Ground or Aerial
Altosid (R) Pellets Mosquito Growth Regulator or equiv.	methoprene	21809	5.6-11.2 kg/ha	Ground
Altosid xr briquets	methoprene	27694	For catch basins up to 5500 L, place 1 briquette per basin, for larger catch basins refer to table on product label	Ground
VECTOLEX WSP	*Bacillus sphaericus* Strain 2362, 50 BsITU/mg	28009	1 pouch (10g) /catch basin.	ground
VECTOLEX CG	*Bacillus sphaericus* Strain 2362, 50 BsITU/mg	28008	Water bodies: 5.6 -16.8 kg product /ha Waste tires: 0.56-1.68 g product / m2 of water surface area.	aerial or ground
VECTOLEX WDG	*Bacillus sphaericus* Strain 2362, 650 BsITU/mg	28007	0.56-1.68 kg/ha in water.	aerial or ground
Pesticides Targeting Mosquito Adult Stage				
Wilson Malathion ULV Commercial Insecticide concentrate or equivalent	malathion	14597	*Aerial application in residential areas, not to exceed 260g a.i./ha.** *Ground application in residential areas, not to exceed 60.8g a.i./ha.** Other areas 425-550 mL/ha (403g a.i./ha) and per application instructions on label	ULV Ground or aerial
Fyfanon ULV Concentrate or equivalent	malathion	9337	*Aerial application in residential areas, not to exceed 260g a.i./ha.** *Ground application in residential areas, not to exceed 60.8g a.i./ha.** Other areas 425-550 mL/ha (403g a.i./ha) and per application instructions on label	ULV Ground or aerial
Gardex Malathion ULV Concentrate or equivalent	malathion	16198	*Aerial application in residential areas, not to exceed 260g a.i./ha.** *Ground application in residential areas, not to exceed 60.8g a.i./ha.** Other areas 425-550 mL/ha (403g a.i./ha) and per application instructions on label	ULV Ground or aerial
Malathion 95 ULV Insecticide or equivalent	malathion	25638	*Aerial application in residential areas, not to exceed 260g a.i./ha.** *Ground application in residential areas, not to exceed 60.8g a.i./ha.** Other areas 425-550 mL/ha (403g a.i./ha) and per application instructions on label	ULV Ground or aerial
GARDEX COMMERCIAL Industrial micro spray concentrate or equivalent	Pyrethrins3.0% Piperonyl Butoxide6.0% N-Octyl bicycloheptene dicarboximide...10.0%	11855	2.5-3g pyrethrin/ha	ground
Pyronene 25-5 M.A.G. Liquid Insecticide concentrate or equivalent	Pyrethrin 5% Piperonyl Butoxide 25%	14632	2.25 ml-2.75 ml pyrethrin/ha 11-15 ml Piperonyl Butoxide /ha	ULV ground
Pyrocide Fogging formula 7067 for ULV Mosquito Adulticiding or equivalent	Pyrethrin 5% Piperonyl Butoxide 25%	13378	2.5 g-3 g pyrethrin/ha 25-30g Piperonyl Butoxide /ha	ULV ground

**refer to "Re-evaluation of Malathion: Assessment of Use in Mosquito Abatement Programs", Health Canada, June 4, 2003*

Revised Appendix B - Response Levels to Trigger Pesticide Application

The decision as to whether mosquito control using pesticides will be initiated, and to what extent control will be done will be based on the protocol described in the document "Arbovirus Surveillance and Response Guidelines for British Columbia", produced by the BC Centre for Disease Control. These protocols are based on guidelines developed by the Canadian National West Nile Virus Steering committee, which are meant to help decide what surveillance and control activities should take place in an area.

As outlined in "Arbovirus Surveillance and Response Guidelines for British Columbia", progressive control measures would be considered depending on the arbovirus response level (0-III). These levels are determined though surveillance of animals, meteorological conditions, mosquitoes and humans by the BCCDC. Details of these levels are described in "Arbovirus Surveillance and Response Guidelines for British Columbia", and are outlined briefly below:

Level 0. *Absence of confirmed arbovirus infection in a bird, animal or mosquito pool, AND arbovirus activity is unlikely.*

Level I. *Absence of confirmed arbovirus infection in a bird, animal or mosquito pool, AND arbovirus activity is possible or the risk us unknown.*

For Levels 0-I, only non-pesticide control measures will be considered, and therefore would not require the implementation of this permit

Level IIa. *Detection of arbovirus* ***activity in a jurisdiction during the previous year****, or in a* <u>*neighboring*</u> *jurisdiction in Canada or the United States* ***in the current or previous year****, based on laboratory-confirmed identification in a bird, mammal, mosquito pool or human.*

If this response level is reached, Mosquito control activity may be warranted and initiated where there is proximity of vector species habitat to areas of population density or considerable recreation use, the extent of which would be limited to section C.2.2. - Larvicide

Level IIb. *Detection of arbovirus activity* <u>*within*</u> *a jurisdiction,* ***in the current year****, based on laboratory confirmed identification in a bird, mammal, or mosquito pool.*

If this response level is reached, Mosquito control activity may be warranted and initiated where there is proximity of vector species habitat to areas of population density or considerable recreation use as per section C.2.2. - Adulticide and/or C.2.2. - Larvicide

Level III. *Detection of a single or multiple laboratory-confirmed human case(s) of arbovirus infection (with no history of travel to an area with confirmed activity of the arbovirus within 21 days of onset of symptoms),* ***in the current year****, within a jurisdiction.*

If this response level is reached, Mosquito control activity may be warranted and initiated where there is proximity of vector species habitat to areas of population density or considerable recreation use as per section C.2.2. - Larvicide and if other indicators (e.g. high vector infection rates, high corvid mortality rates, infections in horses or other mammals) provide evidence that an outbreak is imminent C.2.2. – Adulticide may be considered.

Any decision made as to commence a pesticide control program would be done on recommendation by the local Medical Health Officer in consultation with the PHO, the local community, MOE, Senior IPM Officer (Surrey, Prince George or Penticton) and local governments based on information provided by BCCDC. In the case of the need to use pesticides as per protocol described, local governments or other interests may be called upon to act as an agent for the Minister of Health in carrying out control programs described in the permit.

Appendix C Aquatic Information

A. Larvicides

In order for larvicides listed in Appendix A to be effective, they must be applied to water. Therefore there will be no 10m Pesticide Free Zone from water bodies for the applications of larvicides only. However, larvicides must not be applied to water where:

- A domestic water intake or well is within 30 m
- There is no evidence of the presence of mosquito larvae

B. Adulticide

For adulticides listed in Appendix A:

- A pesticide free zone shall be maintained from all water bodies.
- No application shall be done where a domestic water intake or well is within 30 m