

***City of Hines, Oregon***

***2021***

***Pesticide Use Plan***

## VECTOR CONTROL PESTICIDE USE PLAN

This is a multi-part form. Page three is a **Target Pest Information** worksheet that must be filled out for each pest for which a treatment is planned during the season. Page four is a **Control Agent Worksheet**. This information must be supplied for each pesticide product or biological control agent that the district intends to use. Attach additional sheets as needed. A form containing the specified information in another format may be substituted, but, please include all information indicated on these forms.

<b>District Name:</b> Hines Area Mosquito Control Program	<b>Date:</b> January 20, 2021
<b>APPLICATOR INFORMATION</b>	
<b>Name:</b>	Horvath, Edward Stephen (Three Rivers Mosquito and Vector Control)
<b>Address:</b>	651 Market Street
<b>City/Zip:</b>	Klamath Falls, Oregon 97601-6252
<b>Telephone:</b>	(541) 238-2272
<b>E-Mail:</b>	<a href="mailto:info@trmvc.com">info@trmvc.com</a>
<b>Pesticide Operator License#:</b>	AG-L1021442CPO
<b>Aerial Pesticide Applicator License#:</b>	AG-L1056549APA
CVCD is approximately 2.11 square mile, directly south of Burns, Oregon and 116 miles west of Bend, Oregon.	

**ADDITIONAL DISTRICT INFORMATION** (complete only if there is a contact person who should receive official correspondence in addition to pesticide applicator):

**District Contact Name/Title:** Letham, Kirby  
**District Address:** 651 Market Street  
**District City/Zip:** Klamath Falls, Oregon 97601-6252  
**District Phone:** (541) 238-2272      **FAX:** ( )

**PUBLIC NOTIFICATION METHOD** (check all that apply):

- Newspaper      Television      Radio      Mailer  
Newsletter      Bulletin Board Notices      Recorded Telephone Message  
Other Facebook Page and District website

**PUBLIC NOTIFICATION INFORMATION** (provide a short description of notification plan, i.e., timing, frequency, languages other than English, etc.):

TRMVC provides public notices and educational information through posting on bulletins and through the community email based newsletter, along with postings on a Hines Specific Facebook page <https://www.facebook.com/HinesMosquitoControl/>. TRMVC has also established a website for public information and education ([www.trmvc.com/hines.html](http://www.trmvc.com/hines.html)).

**TARGET PEST INFORMATION**

**IMPORTANT: COMPLETE ONE SHEET FOR EACH TARGET PEST**

**Target Pest:** Check only one target pest per worksheet.

<input checked="" type="checkbox"/> Mosquito Larvae	<input type="checkbox"/> Domestic Rat	<input type="checkbox"/> Domestic Fly
<input type="checkbox"/> Mosquito Adult	<input type="checkbox"/> Other Pest (specify)	

**MONITORING METHOD/TREATMENT THRESHOLD**

*(Indicate the monitoring method and threshold for treatment)*

**Monitoring Method:** Monitoring method most used for mosquito larvae is the handheld dipper. Type of source, size and location, number found in each dip will determine what, if any, control method is to be used.

**Treatment Threshold:** Mosquito larvae counts exceeding five (5) mosquito larvae per dip will justify pesticide applications. Ridding the area of containers collecting water, drainage of small areas, soliciting public and property owners' assistance to abate a source whenever necessary to reduce the need for larvicides. Stage of larval development and density, organic content of source water, types of non-target species present, proximity to sensitive areas and weather conditions are some of the criteria also used to determine the appropriateness of materials used.

**EFFICACY SAMPLING**

*(Indicate which treatments will be followed by an evaluation of efficacy, and what method will be used for the evaluation)*

Checking of larvicide treatments for appropriateness of material used, completeness of application of material and the efficiency in reducing the number of mosquito larvae in the source area will be conducted within the following seven (7) days post application. Monitoring of service requests complaints near the source area will also be used to make judgments of effectiveness of applications of larvicide.

Bioassays are conducted for pesticide effectiveness, efficacy, and resistance monitoring.

**SURVEILLANCE FOR IMPACTS ON NON-TARGET SPECIES**

*(List methods used to determine impacts on non-target species.)*

Routine visual inspections are made to evaluate applications and to determine if there has been any non-target impact.

**TOTAL NUMBER OF AGENTS (PESTICIDES AND BIOLOGICAL CONTROLS) TO BE USED FOR CONTROL:** From 1 to 8

**TARGET PEST INFORMATION**

**IMPORTANT: COMPLETE ONE SHEET FOR EACH TARGET PEST**

**Target Pest:** Check only one target pest per worksheet.

<input type="checkbox"/> Mosquito Larvae	<input type="checkbox"/> Domestic Rat	<input type="checkbox"/> Domestic Fly
<input checked="" type="checkbox"/> Mosquito Adult	<input type="checkbox"/> Other Pest (specify)	

**MONITORING METHOD/TREATMENT THRESHOLD**

*(Indicate the monitoring method and threshold for treatment)*

**Monitoring Method:** Method used to determine if treatment is necessary is by landing rate counts on humans and by CDC Light traps being monitored weekly. A technician enters a source area and the number of mosquitoes landing on him from the waist down for a period of 15 to 30 seconds is noted. Moving to another location approximately 100 feet further into the source area an additional count is observed. An average number of mosquitoes landing on the inspector over 60 seconds is used for threshold counts.

**Treatment Threshold:** Should a count of three (3) adult mosquitoes per minute, present at any location, some type of control is warranted and/or CDC light trap counts will equal or exceed five (5) mosquitoes per trapping hour to justify adulticiding. These threshold justifications for treatments are in accordance with NPDES General Permit 2300A.

**EFFICACY SAMPLING**

*(Indicate which treatments will be followed by an evaluation of efficacy, and what method will be used for the evaluation)*

Service requests and/or comments from land-users, City Staff and Council are used for efficacy of materials used, as well as a check by the applicator/inspector, through another landing count and follow-up CDC light trap counts. Weather and environmental changes; wind, rain, smoke from area forest fires and untreated properties outside the City often bring on an influx of adult mosquitoes into our area. CDC light traps are used to monitor populations and evaluate the effectiveness of the program by trained volunteers and TRMVC staff. Bioassays are conducted for pesticide effectiveness and resistance monitoring/evaluation.

**SURVEILLANCE FOR IMPACTS ON NON-TARGET SPECIES**

*(List methods used to determine impacts on non-target species.)*

Generally, adulticides are not species specific, however at the label rates and time applied, non-target species are at lesser risk. Applications are normally made in early evening-late night and very early morning hours before bees are active and foraging. Whenever applications are to be made in potentially sensitive areas, Oregon Department of Fish and Wildlife will be consulted. A buffer zone of 100-meters from stream edge is maintained to and monitored using liquid/chemical sensitive paper when adulticiding.

**TOTAL NUMBER OF AGENTS (PESTICIDES AND BIOLOGICAL CONTROLS) TO BE USED FOR CONTROL:** From 1 to 1

# *Larval*

## CONTROL AGENT WORKSHEETS

1. *Gambusia affinis*
2. Agnique™ MMF
3. Altosid® XR Briquettes
4. Altosid® Liquid Larvicide
  5. VectoLex® FG
  6. VectoLex® WDG
  7. Sustain MBG
  8. Natular™ XRT

**CONTROL AGENT WORKSHEET**

**IMPORTANT:** Complete One Worksheet for each Control Agent

**PRODUCT NAME:** *Gambusia affinis* (Western Mosquitofish)

**EPA REGISTRATION#:** N/A

**ACTIVE INGREDIENTS:**

<b>Fish</b>	<b>100 %</b>
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**TARGET PEST:**

Mosquito Larva

**RATE OF APPLICATION:** (Give in units of pounds of active ingredient per acre and/or pounds of product per acre)

1.0 lb/A

**APPLICATION METHOD:** (Describe the application apparatus, product diluent, mixture, if any, and application process)

Fish Transport tanks, water.

**APPLICATION SITE:** (Describe the types of pest habitat where the product will be applied)

Ponds, Ditches, irrigation sumps and pools. Will only be placed in self-contained water bodies that are not connected to natural water bodies. Because mosquito fish are non-native fish, state law restricts their use to self-contained water bodies that are not fed or drained by natural waterways and where no other natural mosquito controls are present. These self-contained systems, which are called "aquaria," include ornamental ponds and livestock troughs, among others. Natural waterways include creeks, streams, sloughs, ponds, lakes, ditches connected to natural waterways, and ponds located in floodplain areas where flooding could allow the fish to enter natural waterways.

*Gambusia affinis* may be made available to residents requesting them for ornamental ponds, troughs or other self contained, small systems.

**POUNDS OF COPEPODS TO BE USED: 2.50 lbs**

**ACRES TO BE TREATED: 2.50 A**

**POUNDS OF FISH USED LAST YEAR: 0.00 lbs**

**ACRES TREATED LAST YEAR: 0.00 A**

Vector Control Pesticide Use Plan: District:

City of Hines, Oregon

Date:

January 15, 2021

### CONTROL AGENT WORKSHEET

**IMPORTANT: Complete One Worksheet for each Control Agent**

PRODUCT NAME: Aqnique® MMF

EPA REGISTRATION#: 53263-28

ACTIVE INGREDIENTS:

Poly(oxy-1,2-ethanediyl), $\alpha$ -isooctadecyl- $\omega$ -hydroyl  8.5 lb-ai/Gallon	<b>100%</b>
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**TARGET PEST:**

**Mosquito, Larvae**

**RATE OF APPLICATION:** (Give in units of pounds of active ingredient per acre and/or pounds of product per acre)

0.2-1.0 gallons/acre

**APPLICATION METHOD:** (Describe the application apparatus, product diluent, mixture, if any, and application process)

Spray bottle, power sprayer and pressurized hand can.

LABEL

**APPLICATION SITE:** (Describe the types of pest habitat where the product will be applied)

Freshwater swamps and marshes, pastures, woodland pools and meadows, drainage areas, ditches and other man-made depressions where pupae and late 4<sup>th</sup> in-star larvae are to be eliminated.

POUNDS OF ACTIVE INGREDIENT TO BE USED: **175.00 lb-ai**

ACRES TO BE TREATED: **65.00 A**

POUNDS OF ACTIVE INGREDIENT USED LAST YEAR: **0.00 lb-ai**

ACRES TREATED LAST YEAR: **0.00 A**

Vector Control Pesticide Use Plan: District Name **City of Hines, Oregon**

Date: **January 15, 2021**

### CONTROL AGENT WORKSHEET

**IMPORTANT:** Complete One Worksheet for each Control Agent

**PRODUCT NAME:** Altosid® XR Briquettes

**EPA REGISTRATION#:** 2724-421

**ACTIVE INGREDIENTS:**

Methoprene  0.00145 lb-ai/briquette	<b>2.1 %</b>
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**TARGET PEST:**

Mosquito Larvae

**RATE OF APPLICATION:** (Give in units of pounds of active ingredient per acre and/or pounds of product per acre)

1 per catch-basin or 1 per 100-200 square feet

**APPLICATION METHOD:** (Describe the application apparatus, product diluent, mixture, if any, and application process)

Hand Toss

LABEL

**APPLICATION SITE:** (Describe the types of pest habitat where the product will be applied)

Catch Basins, sumps, large troughs, small ponds.

POUNDS OF ACTIVE INGREDIENT TO BE USED: Approximately **20 ea**

ACRES TO BE TREATED: **0.0459 A**

POUNDS OF ACTIVE INGREDIENT USED LAST YEAR: **0.00 lb-ai**

ACRES TREATED LAST YEAR: **0.00 A**



Vector Control Pesticide Use Plan: District  
Date:

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### CONTROL AGENT WORKSHEET

**IMPORTANT: Complete One Worksheet for each Control Agent**

PRODUCT NAME: Altosid® Liquid Larvicide

EPA REGISTRATION#: 2724-446-50809

ACTIVE INGREDIENTS:

Methoprene  0.43 lb-ai/Gallon	<b>5.00 %</b>
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**TARGET PEST:**

**Mosquito Larvae**

**RATE OF APPLICATION:** (Give in units of pounds of active ingredient per acre and/or pounds of product per acre)

.027 - .05 lbs/A

**APPLICATION METHOD:** (Describe the application apparatus, product diluent, mixture, if any, and application process)

Power sprayer, pressurized truck mounted sprayer, and powered backpack sprayer.

Altosid® ALL may be mixed with VectoLex®WDG at a ratio of 1:6 and applied at a mixture rate of 2-16 oz/A.

LABEL

**APPLICATION SITE:** (Describe the types of pest habitat where the product will be applied)

Freshwater swamps and marshes, pastures, woodland pools and meadows, drainage areas, ditches and other man-made depressions.

POUNDS OF ACTIVE INGREDIENT TO BE USED: **0.15 lb-ai**

ACRES TO BE TREATED: **77.00 A**

POUNDS OF ACTIVE INGREDIENT USED LAST YEAR: **0.00 lb-ai**

ACRES TREATED LAST YEAR: **0.00 A**

Vector Control Pesticide Use Plan: District:  
Date:

City of Hines, Oregon  
January 15, 2021

### CONTROL AGENT WORKSHEET

**IMPORTANT: Complete One Worksheet for each Control Agent**

PRODUCT NAME: VectoLex® FG

EPA REGISTRATION#: 73049-20

ACTIVE INGREDIENTS:

<i>Bacillus sphaericus</i>  0.023B ITU/lb material	<b>7.50%</b>
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**TARGET PEST:**

**Mosquito, Larvae**

**RATE OF APPLICATION:** (Give in units of pounds of active ingredient per acre and/or pounds of product per acre)

5.0-20.0 lbs/acre

**APPLICATION METHOD:** (Describe the application apparatus, product diluent, mixture, if any, and application process)

Applied by hand, Maruyama -style Belly Grinder, Maruyama backpack blower, horn seeder and/or sUAV.

[LABEL](#)

**APPLICATION SITE:** (Describe the types of pest habitat where the product will be applied)

Freshwater swamps and marshes, pastures, woodland pools and meadows, drainage areas, ditches and other man-made depressions where 1<sup>st</sup> through early 4<sup>th</sup> in-star larvae are to be eliminated.

POUNDS OF ACTIVE INGREDIENT TO BE USED: **5.75 B ITU**

ACRES TO BE TREATED: **25.00 A**

POUNDS OF ACTIVE INGREDIENT USED LAST YEAR: **0.00 lb ai**

ACRES TREATED LAST YEAR: **0.00 A**

Vector Control Pesticide Use Plan: District:

City of Hines, Oregon

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### CONTROL AGENT WORKSHEET

**IMPORTANT: Complete One Worksheet for each Control Agent**

PRODUCT NAME: VectoLex® WDG

EPA REGISTRATION#: 73049-57

ACTIVE INGREDIENTS:

<i>Bacillus sphaericus</i>  0.299B ITU/lb-material	<b>51.2%</b>
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**TARGET PEST:**

**Mosquito, Larvae**

**RATE OF APPLICATION:** *(Give in units of pounds of active ingredient per acre and/or pounds of product per acre)*

0.5 – 1.5 lbs/Acre<sup>2</sup>

**APPLICATION METHOD:** *(Describe the application apparatus, product diluent, mixture, if any, and application process)*

Power sprayer, pressurized truck/ATV mounted sprayer, powered backpack sprayer and/or sUAVs..

[LABEL](#)

**APPLICATION SITE:** *(Describe the types of pest habitat where the product will be applied)*

Freshwater swamps and marshes, pastures, woodland pools and meadows, drainage areas, ditches and other man-made depressions where 1<sup>st</sup> through early 4<sup>th</sup> in-star larvae are to be eliminated.

POUNDS OF ACTIVE INGREDIENT TO BE USED: **10.00 lbs**

ACRES TO BE TREATED: **10 A**

POUNDS OF ACTIVE INGREDIENT USED LAST YEAR: **0.00 lbs-ai**

ACRES TREATED LAST YEAR: **0.00 A**

Vector Control Pesticide Use Plan: District:

City of Hines, Oregon

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### CONTROL AGENT WORKSHEET

**IMPORTANT: Complete One Worksheet for each Control Agent**

PRODUCT NAME: Sustain MBG

EPA REGISTRATION#: 769-992

ACTIVE INGREDIENTS:

<i>Bacillus thuringiensis</i> subspecies <i>israelensis</i> Strain BMP 144 solids, spores and insecticidal toxins  0.182 Billion ITU/pound	<b>5.71%</b>
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**TARGET PEST:**

**Mosquito, Larvae**

**RATE OF APPLICATION:** (Give in units of pounds of active ingredient per acre and/or pounds of product per acre)

5.0-20.0 lbs/acre

**APPLICATION METHOD:** (Describe the application apparatus, product diluent, mixture, if any, and application process)

Applied by hand, Maruyama Belly Grinder, Maruyama backpack blower, horn seeder and/or sUAV.

[LABEL](#)

**APPLICATION SITE:** (Describe the types of pest habitat where the product will be applied)

Freshwater swamps and marshes, pastures, woodland pools and meadows, drainage areas, ditches and other man-made depressions where 1<sup>st</sup> through early 4<sup>th</sup> in-star larvae are to be eliminated.

POUNDS OF ACTIVE INGREDIENT TO BE USED: **14.56B ITU**

ACRES TO BE TREATED: **8.00 A**

POUNDS OF ACTIVE INGREDIENT USED LAST YEAR: **0.00 lb ai**

ACRES TREATED LAST YEAR: **0.00 A**

Vector Control Pesticide Use Plan: District:

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### CONTROL AGENT WORKSHEET

**IMPORTANT: Complete One Worksheet for each Control Agent**

PRODUCT NAME: Natular™ XRT

EPA REGISTRATION#: 8329-84

ACTIVE INGREDIENTS:

<i>Spinosad</i>  0.0055 lb ai/each	<b>6.25%</b>
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**TARGET PEST:**

**Mosquito, Larvae**

**RATE OF APPLICATION:** (Give in units of pounds of active ingredient per acre and/or pounds of product per acre)

1 each per 100 ft<sup>2</sup>

**APPLICATION METHOD:** (Describe the application apparatus, product diluent, mixture, if any, and application process)

Applied by hand, in areas where small pockets of water produce mosquito larvae.

LABEL

**APPLICATION SITE:** (Describe the types of pest habitat where the product will be applied)

Catch basins, containers, troughs, secludes ponds.

POUNDS OF ACTIVE INGREDIENT TO BE USED: **25 ea**

ACRES TO BE TREATED: **0.0006 A**

POUNDS OF ACTIVE INGREDIENT USED LAST YEAR: **0.00 lb ai**

ACRES TREATED LAST YEAR: **0.00 A**

# ***Adulticide***

## **CONTROL AGENT WORKSHEETS**

1. Aqualuer® 20-20

**CONTROL AGENT WORKSHEET**

**IMPORTANT:** Complete One Worksheet for each Control Agent

**PRODUCT NAME:** Aqualuer® 20-20

**EPA REGISTRATION#:** 769-985

**ACTIVE INGREDIENTS:**

Permethrin	<b>20.6 %</b>
Piperonyl Butoxide Technical	<b>20.6%</b>
Inert Ingredients	<b>58.8%</b>
1.75 lb-ai/Gallon	

**TARGET PEST:**

Mosquito, Adult

**RATE OF APPLICATION:** (Give in units of pounds of active ingredient per acre and/or pounds of product per acre)

0.0035 lbs/A

**APPLICATION METHOD:** (Describe the application apparatus, product diluent, mixture, if any, and application process)

Ultra-Low-Volume Aerosol, Clarke Cougar with variable Smart Flow. Diluted with water and applied at a mixed rate of 0.83 oz/acre.

ULTA-Low-Volume Aerosol, Curtis Dyna-Fog, Mini Light fogger mounted on an ATV, to treat hard to reach areas.

[LABEL](#)

**APPLICATION SITE:** (Describe the types of pest habitat where the product will be applied)

Pastures, Hay Fields, Residential Areas

POUNDS OF ACTIVE INGREDIENT TO BE USED: **22.26 lbs-ai**

ACRES TO BE TREATED: **Up to approximately 6,360 A**

POUNDS OF ACTIVE INGREDIENT USED LAST YEAR: **0.00 lbs-ai**

ACRES TREATED LAST YEAR: **0.00 A**

Vector Control Pesticide Use Plan: District Name: **City of Hines, Oregon**

Date: **January 15, 2021**

### **SENSITIVE AREAS AND SPECIES**

*(Provide a description of sensitive areas. Map(s) that show sensitive areas, areas to be treated by larvaciding and areas to be treated by adulticiding should be on file with ODFW. If new sensitive areas are identified include new maps with this application.)*

The Oregon Department of Fish and Wildlife (ODFW) has statutory authority under ORS 452.140 and ORS 452.245 to annually approve Pesticide Use Plans. ODFW recommends the treatment protocols outlined in the “Oregon Department of Fish and Wildlife’s Vector Control Guidance for Sensitive Areas” (attached) as a means to protect fish, wildlife, and their habitats while allowing for efficient and effective control of vector species to protect human health. The “Oregon Department of Fish and Wildlife’s Vector Control Guidance for Sensitive Areas” document provides ODFW’s recommendations only. Should the City of Hines, Oregon choose to implement an IPM plan that varies from ODFW’s recommendations, our authority comes from another source, such as label restrictions (EPA and FIFRA), NOAA and USFWS rules, ODA’s pesticide rules, DEQ’s Pesticide General Permit, and OHA’s annual PUP approval. Variation from ODFW’s recommendations does not constitute a violation of the PUP approval as long as all other State and Federal regulations are followed. The City of Hines, Oregon understands, however, that ODFW reserves the ability to more strictly implement their statutory authority at any time new research reveals threats to fish, wildlife, or their habitats or new products become available for use. In addition, ODFW requires prior communication with local staff concerning surveillance, issues or treatment on ODFW-owned or managed Wildlife Areas.

For adulticides with aquatic restrictions, CVCD will maintain and monitor a 100-meter buffer from all fish bearing waters.

### **EDUCATIONAL ACTIVITIES OF DISTRICT**

*(Provide a brief description of educational outreach, including programs for source control in the community.)*

TRMVC educates the public through fliers, news releases and social media (i.e.facebook.com). This information includes how to help with mosquito reduction, general mosquito and disease information and updates of mosquito borne disease updates and news from the region. If needed in an emergency, we have access to television news and radio.

We have put together educational coloring and activity books for the school aged children of the district and are available as PDF files.

Games and puzzles to help educate and entertain the younger community are also available.