

PESTICIDE DISCHARGE MANAGEMENT PLAN

for:

Chiloquin Vector Control District

(Mosquito Control)

Chiloquin, Oregon

Decision-Maker(s):

Chiloquin Vector Control District

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Three Rivers Mosquito and Vector Control

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Operator Information

Notes:

Definitions and instructions are provided in the Oregon Department of Environmental Qualities General Permit 2300A (Attachment B).

1. Provide a brief description of the Pest Management Area(s).

The control of mosquitoes will be within the political boundaries of the Chiloquin Vector Control District, Oregon.

2. Identify the Pesticide Use Patterns for this Pest Management Area that trigger the requirement to develop a Pesticide Discharge Management Plan. (check all that apply). Note: Decision-makers, that are a large entity, are required to develop a PDMP if they are required to submit an NOI. See Part 5.0 of the PGP for exceptions.

- | | |
|---|---|
| a. <input checked="" type="checkbox"/> Mosquitoes and Other Flying Insect Pests | c. <input type="checkbox"/> Animal Pests |
| b. <input type="checkbox"/> Weeds and Algae | d. <input type="checkbox"/> Forest Canopy Pests |

3. Operator Type (check one):

- | |
|---|
| a. <input type="checkbox"/> Federal Government |
| b. <input type="checkbox"/> State Government |
| c. <input type="checkbox"/> Local Government |
| d. <input checked="" type="checkbox"/> Mosquito control district (or similar) |
| e. <input type="checkbox"/> Irrigation control district (or similar) |
| f. <input type="checkbox"/> Weed control district (or similar) |

- g. Other: If other, provide brief description of type of Operator:

The Chiloquin Vector Control District outsources the application operations to a Three Rivers Mosquito and Vector Control, a private company..

SECTION A: PDMP Team

- 1. Decision-maker:** *Any entity with control over the decision to perform pesticide applications including the ability to modify those decisions.*
Organization Name: [Chiloquin Vector Control District, Oregon](#)
Name: [Theresa Shelby](#)
Address: [P.O. Box 860](#)
City, State, Zip Code: [Chiloquin, Oregon 97624](#)
Telephone Number: [\(541\) 783-3307](#)
Email address: info@chiloquinmosquito.org
Fax number:
Area of Control (if more than one Operator at site): [The control of mosquitoes is performed within the boundaries of the Chiloquin Vector Control District, Klamath County, Oregon.](#)
- 2. PDMP Contact:** *Person(s) who is managing pest management area.*
Company Name: [Three Rivers Mosquito and Vector Control](#)
Name: [Edward S. Horvath](#)
Address: [651 Market Street](#)
City, State, Zip Code: [Klamath Falls, Oregon 97601-6252](#)
Telephone Number: [\(541\) 238-2272](#)
Email address: ehorvath@trmvc.com
Fax number: [N/A](#)
Area of Control (if more than one Operator at site): [The control of mosquitoes is performed within the boundaries of the Chiloquin Vector Control District, Klamath County, Oregon.](#)
- 3. PDMP Prepared by:** *Person(s) responsible for developing and revising the PDMP.*
Company Name: [Three Rivers Mosquito and Vector Control](#)
Name: [Edward S. Horvath](#)
Address: [651 Market Street](#)
City, State, Zip Code: [Klamath Falls, Oregon 97601-6252](#)
Telephone Number: [\(541\) 238-2272](#)
Email address: ehorvath@trmvc.com
Fax number: [N/A](#)
Area of Control (if more than one Operator at site): [The control of mosquitoes is performed within the boundaries of the Chiloquin Vector Control District, Klamath County, Oregon.](#)
- 4. Please include any additional team members and their responsibilities.**

Team Member Name(s)	Individual Responsibilities
Danta M. Smith	Office Manager, TRMVC

SECTION B: Pest Problem Identification

B.1 Pest Problem Description

1. Provide a brief summary of the pest problem in the table.

Summary of Pest Problem

Target Pest(s) <i>Note: Use common name</i>	Source of the pest problem	Data Source
Adult Mosquitoes	Standing water in and near the Chiloquin Vector Control District	Complaints from Residents and visitors
Mosquito Larvae	Large and small areas of standing water, largely created by flood irrigation and snowmelt	Surveys conducted in 2001 - present

2. Provide a brief description of the pest problem.

Mosquitoes have been a major nuisance for residents and visitor of Chiloquin, Oregon for many years. As the population of the area has increased, mosquitoes have become more of an issue. The Chiloquin Vector Control District began adult mosquito control in 1969. Larval control started being phased in in 2002. In 2012, the District outsourced mosquito control operations to reduce the liability of employees of the District.

Most of the mosquito sources are from outside the Chiloquin Vector Control District's jurisdiction. Sources will continue to be added and deleted as needed.

B.2 Action Threshold(s)

1. Provide a brief summary of the action threshold(s) in the table.

Summary of Action Threshold(s)

Target Pests	Action Thresholds
Adult Mosquitoes	<p>Monitoring Method</p> <p>The District determines the need for adult mosquito control through routine adult mosquito surveillance using standardized landing rate counts and CDC light trap monitoring. These methods provide complementary data on adult mosquito abundance, biting pressure, and nuisance conditions in areas of known or suspected adult activity. Adult surveillance is conducted on a weekly basis during the mosquito season and may be increased in frequency in response to rising mosquito populations, environmental conditions favorable to adult emergence, or increased nuisance complaints.</p> <p>Landing rate counts are conducted by a trained technician at representative locations within a source area to estimate human–mosquito contact and biting activity. The technician enters the target area and records the number of mosquitoes landing on exposed lower extremities during a standardized</p>

<p>Adult Mosquitoes (Cont)</p>	<p>observation period (typically 15–30 seconds). The technician then relocates approximately 100 feet and repeats the procedure at additional points to account for spatial variability. Observations are averaged and converted to a standardized rate expressed as mosquitoes per minute, which is used to compare activity levels to operational thresholds.</p> <p>CDC light traps are deployed at fixed or rotating surveillance sites and are monitored on a weekly schedule. Trap collections are used to estimate adult abundance and species composition, and results are standardized as mosquitoes per trapping hour to support consistent threshold evaluation and trend analysis. These surveillance data are documented and used to guide operational decisions in accordance with the District’s Integrated Vector Management framework.</p> <p>Treatment Threshold</p> <p>Adult mosquito control measures, including ULV adulticide applications, may be initiated when surveillance indicates that adult mosquito abundance or biting pressure exceeds operational thresholds and that intervention is necessary to reduce nuisance impacts or potential public health risk. Control actions may be warranted when landing rate counts document five (5) to ten (10) adult mosquitoes per minute at any monitored location, and/or when CDC light trap counts equal or exceed five (5) mosquitoes per trapping hour.</p> <p>Threshold determinations are made in conjunction with additional operational and environmental considerations, including population trends, species composition (including vector species), proximity to populated areas, reported nuisance complaints, and site-specific conditions affecting application feasibility and effectiveness. Prior to adulticide use, the District evaluates whether larval control measures are feasible and likely to reduce adult emergence; adult control is typically considered when adult populations are already established or when rapid suppression is needed. All adulticide applications are conducted in accordance with pesticide labeling and NPDES General Permit 2300-A requirements, with equipment calibration and environmental condition assessment (e.g., wind direction and speed, temperature, and precipitation potential) performed to maximize effectiveness while minimizing off-target drift and non-target exposure.</p>
<p>Mosquito Larvae</p>	<p>Monitoring Method</p> <p style="text-align: center;">T</p> <p>The primary monitoring method used to assess mosquito larval production is standardized larval dip sampling using a handheld dipper. Technicians routinely inspect standing or slow-moving water sources, including wetlands, floodwater pools, ditches, irrigation features, stormwater infrastructure, and artificial containers when encountered. Dip samples are collected systematically based on habitat type and accessibility, and larval presence is quantified as larvae per dip to estimate density and production potential.</p> <p style="text-align: center;">T</p>

Mosquito Larvae (Cont)	<p>During inspections, staff document key habitat characteristics that influence mosquito development and treatment selection, including source type, size, depth, water permanence, vegetation structure, organic content, and evidence of natural predation. Larval developmental stage (instar distribution), presence of pupae, and mosquito species composition (when identifiable) are also evaluated to determine the likelihood of adult emergence and the urgency of intervention. Surveillance results are used to select the most appropriate control action under an Integrated Vector Management framework, prioritizing prevention and larval control before adulticiding.</p> <p>Treatment Threshold</p> <p>Larval mosquito control actions may be initiated when dip sampling indicates an average density exceeding five (5) mosquito larvae per dip within a defined habitat. This treatment threshold is applied in conjunction with additional operational criteria, including larval stage and density trends, habitat stability and persistence, pupal occurrence, and proximity to human or animal populations.</p> <p>When feasible, the District prioritizes non-chemical and preventive measures to reduce larval habitat and limit reliance on larvicides. These actions may include removal of containers or debris that accumulate water, drainage or modification of small standing water sources, and coordination with property owners or residents to eliminate or maintain breeding sites (e.g., birdbaths, troughs, ornamental ponds, barrels).</p> <p>When pesticide treatment is warranted, product selection and application timing are based on site-specific conditions, including water quality and organic load, presence of non-target organisms, proximity to sensitive areas, and weather conditions (wind, precipitation, temperature). Larvicides are applied at label-directed rates and in accordance with permit conditions to maximize efficacy while minimizing potential non-target impacts.</p>
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2. Provide a brief description of the action threshold(s).

Pest Management Objective: Reducing mosquito populations to a point that residents are not significantly affected.

Target Pest: Adult mosquitoes (nuisance and potential vector species)

Action Threshold: Adult mosquito control actions may be initiated when surveillance indicates that adult mosquito abundance or biting pressure exceeds operational thresholds, including:

- Landing rate counts: 5–10 adult mosquitoes per minute at any monitored location, and/or
- CDC light trap collections: ≥ 5 mosquitoes per trapping hour

Basis for the action threshold: These thresholds are designed to ensure that adult mosquito control measures are implemented only when surveillance confirms mosquito activity sufficient to cause

significant nuisance conditions or potential exposure risk. Thresholds are informed by historical surveillance data, complaint trends, operational experience, and the District's responsibility to maintain mosquito levels consistent with community tolerance and effective public service. The threshold framework also supports Integrated Vector Management principles by promoting targeted interventions and minimizing unnecessary pesticide applications.

Method to determine when the action threshold has been met: The District determines when adult mosquito thresholds have been met through a combination of verified nuisance complaints and quantitative surveillance results. Complaints are investigated by technicians and confirmed using standardized landing rate counts and/or CDC light trap data. Threshold exceedance is documented in operational records and used to justify adult control actions when warranted.

B.3 General Location Map

See Attachment A.

B.4 Water Quality Limited Water

Oregon waters identified as water quality limited are documented and periodically updated by the Oregon Department of Environmental Quality (DEQ) through the Integrated Report on Surface Water Quality and the Section 303(d) List of Water Quality Limited Waters. This report includes surface waters determined to be impaired for one or more pollutants or conditions and may require development of a Total Maximum Daily Load (TMDL). DEQ updates these assessment conclusions through recurring reporting cycles, and the most current information is available through DEQ's Integrated Report resources and interactive mapping tools.

To protect impaired or potentially impaired waters within the Chiloquin Vector Control District, the District implements enhanced protective measures for adult mosquito pesticide applications. Specifically, when adult mosquito control is conducted in proximity to water bodies identified on the DEQ 303(d) list, the District will maintain a minimum 100-foot buffer from listed waters unless the pesticide label requires a larger setback. This buffer is intended to reduce the likelihood of pesticide drift, deposition, or discharge into water quality limited waters and to protect designated beneficial uses such as aquatic life, recreation, and municipal water supply.

A current map identifying water quality limited waters within or adjacent to the District is provided as Attachment A. Each spring, prior to seasonal operations, the District or its contractor will review the most current DEQ Integrated Report/303(d) list information, including any newly added assessment units, using DEQ's published materials and interactive GIS mapping tools. Because DEQ notes that the 2022 Integrated Report remains in effect until the 2024 Integrated Report receives final U.S. EPA approval, the District will verify which report is legally effective at the time of review and incorporate the applicable listings into operational planning for the upcoming season. If a proposed treatment area overlaps or occurs adjacent to a 303(d)-listed assessment unit, the District will further reduce drift potential by adjusting route planning, timing, and application conditions (e.g., wind speed/direction criteria) to ensure applications remain consistent with label requirements and protective buffers.

SECTION C: Pest Management Options Evaluation

C.1 Brief Description of Pest Management Options

Provide a brief description of the pest management options

The Chiloquin Vector Control District (CVCD) implements an Integrated Vector Management (IVM) framework to suppress mosquito populations, minimize mosquito-borne disease risk, and reduce nuisance impacts while protecting environmental quality and non-target species. Control actions are surveillance-driven and are selected based on habitat type, mosquito life stage, proximity to sensitive areas, and operational feasibility. When possible, CVCD prioritizes prevention, source reduction, and larval control to prevent adult emergence and reduce the need for adulticide applications.

1. Surveillance and Monitoring (Decision Support)

Mosquito management is guided by systematic monitoring of both larval and adult mosquito populations. Larval habitats are assessed using handheld dip sampling, and adult mosquito activity is evaluated using landing rate counts and weekly CDC light trap surveillance. Surveillance data are used to identify production sites, quantify population density, evaluate trends, and determine when operational thresholds are exceeded.

2. Prevention and Source Reduction

When feasible, CVCD reduces mosquito production by implementing source reduction and habitat management strategies, including elimination of containers that accumulate water, drainage or modification of small standing-water sources, and landowner/public cooperation to reduce larval habitat. These preventive approaches reduce reliance on pesticides and are encouraged as a foundational component of mosquito management.

3. Larval Control (Primary Operational Strategy)

Larval control is the District's preferred pesticide-based strategy because it prevents adult emergence and typically reduces off-target risk compared with adult control. Larval treatments are initiated when dip sampling indicates larval production sufficient to justify intervention (e.g., >5 larvae per dip, evaluated alongside site conditions such as larval stage, habitat persistence, organic content, and non-target presence). CVCD uses biological and reduced-risk larvicides and controls including:

- Microbial larvicides (e.g., *Bacillus sphaericus* products such as VectoLex FG/WDG)
- Insect growth regulators (methoprene products such as Altosid XR briquettes and Altosid liquid)
- Spinosad formulations (Natular XRT for small or contained habitats)
- Surface films/oils (e.g., mineral oil where appropriate and label-compliant)
- Biological agents in isolated contained systems (e.g., *Gambusia affinis* and *Macrocyclus albidus*, restricted to self-contained water bodies not connected to natural waterways)

Larvicides are applied by hand, backpack, truck/ATV sprayers, blower spreaders, and specialized equipment (including sUAV where appropriate) using label-directed rates and best management practices.

4. Adult Mosquito Control (Targeted ULV and Barrier Treatments)

Adult mosquito control is used selectively when surveillance confirms adult mosquito abundance or biting pressure exceeds thresholds (e.g., 5–10 mosquitoes per minute and/or ≥ 5 mosquitoes per trapping hour) and when nuisance or exposure risk warrants rapid reduction. Adult control is conducted using ULV ground-based equipment (e.g., Clarke Cougar and other ULV foggers) and limited barrier-style treatments in resting/harborage vegetation when appropriate. Adulticide use is conducted in accordance with pesticide label requirements and is supported by calibration, operational planning, and surveillance-driven justification.

Adult mosquito products include Aqua-Reslin™ (permethrin + piperonyl butoxide) and Essentria™ IC3 (FIFRA 25(b) essential oil formulation, used particularly in sensitive areas due to low aquatic toxicity).

5. Protection of Sensitive Areas and Non-Target Species

CVCD incorporates safeguards to minimize non-target impacts and protect aquatic resources. Routine visual inspections are performed to evaluate treatment effects and identify any evidence of unintended impacts. Applications are timed to reduce exposure to pollinators (e.g., conducted early morning or evening/night), and consultation with ODFW may occur when work is planned in potentially sensitive habitats. For adulticides with aquatic restrictions, CVCD maintains and monitors a 100-meter buffer from fish-bearing waters, and uses drift monitoring tools (e.g., sensitive paper) when required.

6. Evaluation, Efficacy Sampling, and Resistance Monitoring

Control activities are evaluated through post-treatment surveillance. Larval control efficacy is assessed within 7 days post-application, focusing on product suitability, application coverage, and reduction in larval density. Adult control efficacy is evaluated using follow-up landing rates, trap counts, and service request trends, with consideration of environmental factors such as wind, smoke, precipitation, and immigration of mosquitoes from untreated areas. Bioassays are used to evaluate pesticide effectiveness and support resistance monitoring.

7. Public Education and Community Engagement

CVCD supports mosquito prevention through educational outreach, including flyers, news releases, community bulletin postings, social media, the District website, and public messaging about mosquito reduction and disease awareness. Educational materials for youth (activity and coloring books) are also available to support community participation in source reduction and prevention.

C.2 Summary of Pest Management Measures

Provide a summary of Pest Management Measures that will be or are implemented to meet the technology-based effluent limitations.

To meet the technology-based effluent limitations under the NPDES General Permit, the Chiloquin Vector Control District (CVCD) implements an Integrated Vector Management (IVM) program that prioritizes surveillance-based decision-making, targeted control actions, and best management practices to minimize pesticide discharge to waters of the state while maintaining effective mosquito abatement. Control measures are selected based on mosquito life stage, habitat type, proximity to sensitive resources, and operational feasibility, with emphasis on applying the lowest effective amount of pesticide necessary to achieve control.

Because a substantial portion of mosquito larval production occurs in areas outside CVCD jurisdiction, direct larval habitat modification and larviciding are not always feasible across the full production landscape. As a result, when adult mosquito abundance or biting pressure exceeds operational thresholds within the District, CVCD may implement targeted adult mosquito control using ULV adulticide applications, including permethrin-based formulations, applied in accordance with pesticide labeling, permit conditions, and equipment calibration requirements to reduce off-target drift and minimize environmental exposure.

Within CVCD jurisdiction, larval sources identified through routine surveillance and complaint investigations are assessed for control feasibility. When warranted, CVCD prioritizes source reduction and habitat modification (e.g., eliminating container habitats, draining or modifying small standing-water sources, improving water movement) to prevent mosquito development and reduce reliance on chemical controls. When non-chemical measures are not sufficient or feasible, CVCD applies appropriate larvicides at label-directed rates, selected based on larval stage, site conditions (organic content, water permanence), and the presence of non-target organisms. Post-treatment monitoring is conducted as needed to evaluate efficacy and guide follow-up actions.

SECTION D: Schedules and Procedures

D.1 List of proposed Pesticides to be applied.

Outlined in the Pesticide Use Plan (PUP) (*Attachment I*)

D.2 Application Rate and Frequency Procedures.

Outlined in the Pesticide Use Plan (PUP) (*Attachment I*)

D.3 Spill Prevention

TRMVC and CVCD have formally adopted the Armed Forces Pest Management Board (AFPMB) Technical Guide No. 15, Pesticide Spill Prevention and Management as the District's spill prevention and spill response standard. All pesticide storage, transport, mixing/loading, and application activities will follow AFPMB spill prevention procedures, including use of appropriate containment materials, secure handling practices, and immediate response protocols to minimize environmental exposure and prevent discharge to waters of the state.

D.3 Pesticide Application Equipment

The Chiloquin Vector Control District (CVCD) conducts pesticide applications using equipment owned, operated, and maintained by Three Rivers Mosquito and Vector Control District (TRMVC) under the District's service and operational support agreement. CVCD does not own pesticide application equipment. All pesticide application equipment used to support CVCD mosquito abatement activities—including larviciding and adult mosquito control—is supplied by TRMVC and is selected to ensure accurate delivery, compliance with pesticide labeling requirements, and adherence to NPDES General Permit conditions.

Equipment Types Used for CVCD Operations

TRMVC provides and may deploy the following equipment types, depending on habitat characteristics, site accessibility, and operational objectives within the CVCD jurisdiction:

- Hand-held and backpack applicators (sprayers and granular spreaders) for targeted larval habitat treatments and small or localized sites.
- Vehicle-mounted or trailer-mounted application systems for ground-based larvicide applications to accessible wetlands, ditches, stormwater infrastructure, and other standing-water habitats.
- Truck-mounted ULV adulticide equipment (cold foggers) for adult mosquito control when surveillance indicates adult mosquito action thresholds are exceeded and rapid reduction of adult abundance or biting pressure is warranted.
- Specialized equipment (e.g., blower spreaders, ATV-mounted systems, and other TRMVC operational tools) may be utilized when needed to improve treatment coverage, reduce worker exposure, and enhance operational efficiency in specific habitat types.

Calibration, Maintenance, and Operational Readiness

All pesticide application equipment used in CVCD operations is maintained in proper working condition by TRMVC and is routinely inspected and calibrated to verify accurate output rates and ensure label-compliant application. Calibration is conducted on a scheduled basis and whenever equipment is serviced, repaired, modified, or when a change in pesticide formulation or application method occurs.

Prior to use, TRMVC personnel inspect equipment components including pumps, tanks, hoses, valves, fittings, and nozzles to ensure proper function and to prevent leaks or unintended discharges. Malfunctioning equipment is removed from service until repaired. Maintenance and calibration activities are documented in TRMVC operational records and retained consistent with PDMP recordkeeping requirements.

Drift and Discharge Minimization

TRMVC operates all equipment used in CVCD operations in a manner intended to minimize off-target drift, reduce unnecessary pesticide discharge, and protect waters of the state. Application parameters (e.g., nozzle type, pressure settings, flow rate, droplet size when applicable) are selected to achieve effective control while limiting deposition outside target areas. ULV adulticide applications are conducted only under suitable environmental conditions (including appropriate wind speed/direction and temperature criteria) to maximize adult mosquito contact and minimize drift into sensitive areas or water bodies.

All pesticide applications are performed by trained TRMVC staff in accordance with product labeling, CVCD operational protocols, and applicable NPDES permit requirements.

D.5 Pesticide Monitoring

The Chiloquin Vector Control District (CVCD), with operational support from Three Rivers Mosquito and Vector Control District (TRMVC), conducts pesticide monitoring to ensure that mosquito control activities are surveillance-driven, effective, and implemented in a manner that minimizes potential impacts to non-target species and waters of the state. Monitoring is conducted before, during, and after pesticide applications, and includes evaluation of treatment need, application conditions, equipment performance, efficacy outcomes, and observation for any adverse incidents, consistent with NPDES General Permit and PDMP requirements.

1. Pre-Application Monitoring and Decision Support

Prior to initiating pesticide applications, TRMVC staff verify that treatment is warranted based on mosquito surveillance data (larval dip sampling, landing rate counts, CDC light trap data), complaint verification, and operational thresholds. Site evaluations include documentation of habitat type, water conditions, access, proximity to sensitive areas, and the presence of non-target organisms. For adult mosquito control, staff evaluate ambient conditions (wind speed/direction, temperature, and precipitation potential) to confirm that ULV operations can be conducted effectively and in compliance with pesticide label requirements and District drift-minimization standards.

2. Monitoring During Application

During pesticide applications, TRMVC personnel monitor key operational parameters to ensure accurate, label-compliant delivery and to reduce off-target drift or unintended discharge. Monitoring includes:

- Equipment performance checks (flow rate, nozzle function, pressure settings, leaks, and calibration validation as appropriate)
- Verification of application rate and coverage, consistent with product label and operational plan
- Meteorological condition monitoring for adulticide applications (wind direction/speed, temperature conditions, precipitation onset)

- Operational boundary compliance, including adherence to buffers and label-specified setbacks, particularly near water bodies and sensitive areas

If conditions become unsuitable for effective application (e.g., shifts in wind direction toward sensitive areas, precipitation, excessive wind speed), the application is modified or suspended until conditions are appropriate.

3. Post-Application Efficacy Monitoring

CVCD/TRMVC evaluates treatment effectiveness using post-application surveillance, as appropriate to the target life stage and site conditions. Efficacy monitoring supports confirmation of control, informs retreatment needs, and improves future operational decision-making.

Larval control efficacy:

Larval sites treated with larvicides may be re-evaluated within an operationally appropriate timeframe (typically within several days to one week, depending on product type and habitat persistence). Monitoring includes dip sampling to document changes in larval density and developmental stage. If larvae persist at levels indicating continued production, staff evaluate potential causes such as insufficient coverage, habitat complexity, organic content, product selection, and reinfestation from adjacent sources, and may implement follow-up treatment or alternate control measures.

Adult control efficacy:

Adulticide applications are evaluated through follow-up landing rate counts, trap trends, and complaint resolution patterns, when feasible. Effectiveness is interpreted in context with environmental factors such as wind, smoke, precipitation, temperature conditions, and potential immigration from untreated areas.

4. Visual Assessments for Adverse Impacts

The District conducts visual assessments during and/or following pesticide applications when feasible, consistent with permit requirements, to identify any observable adverse impacts potentially associated with a pesticide discharge. Visual assessments focus on detection of conditions such as:

- Unanticipated distress or mortality of fish or other aquatic organisms
- Observable impacts to non-target wildlife or pollinators
- Evidence of contamination or disruption of recreational or municipal water use

Any observation that may constitute an adverse incident is evaluated against the permit definition and is documented and reported according to the District's adverse incident reporting procedures.

5. Documentation and Recordkeeping

Monitoring activities are documented as part of the District's operational records, including:

- Surveillance results supporting the treatment decision
- Date/time and location of application
- Product(s) used and EPA registration number(s)
- Application method and equipment used

- Application rate, acreage/linear footage, and volume applied
- Weather conditions for adulticide applications
- Notes on sensitive areas, buffers, and any operational constraints
- Post-treatment monitoring observations and efficacy results
- Any observed adverse impacts and corresponding response actions

Records are retained in accordance with PDMP and permit recordkeeping requirements and are used to support annual review, continuous improvement, and regulatory compliance.

SECTION E: Response Procedures

E.1 Spill Response Procedures

TRMVC and CVCD implement spill response procedures consistent with the Armed Forces Pest Management Board (AFPMB) Technical Guide No. 15, Pesticide Spill Prevention and Management. All personnel involved in pesticide handling and application receive annual training in spill prevention, spill containment, cleanup, and reporting requirements. In the event of a spill, the immediate priority is protection of human health, prevention of pesticide migration into storm drains or waters of the state, and rapid containment to the smallest practicable area.

Initial Response (All Spills)

Upon discovery of a pesticide spill, staff will implement the following steps in accordance with TG 15 spill emergency procedures:

1. Identify the pesticide involved using the product label and/or Safety Data Sheet (SDS), including formulation and hazards.
2. Protect personnel and provide first aid as needed; don required PPE before entering the spill area and obtain medical assistance for exposed or injured individuals.
3. Secure the site by isolating the area, preventing public access, and keeping unauthorized personnel away.
4. Contain and control the spill at the source, preventing migration to storm drains, ditches, wells, waterways, and soil by using absorbent socks/booms, diking materials, and other spill kit supplies. Staff will stop the release (e.g., reposition or upright containers) when it can be done safely.

Large (Reportable) Spills

Large spills are considered accidental releases that meet or exceed applicable Reportable Quantities (RQ) or present a potential threat to human health or the environment (e.g., spills occurring outdoors, near water, or in public areas). For a reportable spill, staff will:

- Immediately isolate and secure the spill area and prevent the pesticide from entering any drainage system or waterbody using containment measures.
- Contact emergency response resources (911 / Hazmat) and notify the District chain-of-command (e.g., District Chair/authorized contact).
- Don PPE as specified by the pesticide label/SDS and remain upwind of the spill area while awaiting response personnel when the spill exceeds staff capability.
- In Oregon, report qualifying spills to the Oregon Emergency Response System (OERS) at 800-452-0311.

These actions reflect TG 15 guidance that spills meeting RQ thresholds or occurring under uncontrolled conditions must be reported through the appropriate emergency coordination channels.

Small (Non-Reportable) Spills

Small spills are generally considered accidental releases in non-reportable quantities that can be contained immediately and do not result in pesticide entering the environment (e.g., contained on concrete or sealed surfaces with no outlet). For these spills, trained personnel will complete cleanup in accordance with TG 15 procedures:

- Don appropriate PPE and do not work alone if conditions require additional safety precautions.
- Stop the release, contain the spill, and prevent tracking or spreading.
- For liquid spills, apply an appropriate inert absorbent material (e.g., vermiculite, sand, clay granules), work into the spill, and collect all contaminated absorbent into labeled, leakproof containers.
- For dry/granular spills, cover to prevent airborne movement (as needed), sweep carefully, and collect into labeled containers.
- After removal of the bulk material, decontaminate the affected surface using detergent and water and, when appropriate, approved decontamination solutions per TG 15 guidance.
- Collect and containerize all contaminated cleanup materials, wash water, and disposable PPE for proper disposal consistent with applicable hazardous waste requirements.

Post-Spill Actions

Following spill response and cleanup, staff will document the incident and corrective actions taken. When warranted, the District/contractor may collect representative samples of affected media (soil, sediment, water) to confirm decontamination effectiveness. Spill causes will be evaluated to prevent recurrence, and waste materials will be disposed of through proper disposal channels as required.

E.2 Spill Response Actions

TRMVC and CVCD implement spill response actions consistent with the Armed Forces Pest Management Board (AFPMB) Technical Guide No. 15, Pesticide Spill Prevention and Management. The primary goals of spill response are to protect human health, prevent pesticide migration into storm drains or waters of the state, contain the release to the smallest practicable area, and complete cleanup and disposal in accordance with applicable regulatory requirements.

1. Risk Assessment / Identification

Immediately evaluate the spill to determine the type of pesticide/material, source of the release, and potential hazards. Identify the product using the pesticide label and/or Safety Data Sheet (SDS) to determine required PPE, health risks, flammability, and environmental hazards. Assess the magnitude of the spill and whether there is a threat to human health, soil, stormwater systems, or surface waters. If the spill involves flammable materials, ensure that all ignition sources are turned off and maintain a safe perimeter. Safety is the highest priority.

2. Inform / Notification

The Contracting Manager must be contacted for all spill incidents.

- For small, non-reportable spills, trained staff may respond using the spill kit located in the vehicle and follow the cleanup procedures in this PDMP and TG15 guidance.

- For large spills, or any spill that threatens water, public safety, or exceeds staff capability, management personnel will respond and initiate notification of emergency services and regulatory agencies as required.
- All spills will be reported to the Contracting Manager: (541) 880-4791. The Contracting Manager will either report the spill to appropriate agencies personally or direct the on-site supervisor to do so.

3. Site Security / Containment

Secure the spill area by restricting access and keeping unauthorized personnel and the public away. Implement containment immediately to prevent spread and protect drains and surface waters. For liquid spills, use spill kit containment supplies (absorbent socks, booms, pads, soil/sand diking materials) to dike and isolate the spill. Prevent migration into storm drains, ditches, culverts, and waterways.

4. Stop the Source

If it is safe to do so, stop the release at the source by closing valves, uprighting containers, plugging small leaks, shutting off pumps, or placing the leaking container into secondary containment. Do not attempt response actions that increase risk to personnel.

5. Begin Cleanup / Recovery

Use appropriate absorbent materials to recover the spilled pesticide and contain all residues. Collect absorbed material promptly and estimate the volume and area affected for documentation and reporting purposes.

- Liquid spills: apply inert absorbent (e.g., vermiculite), allow absorption, and collect into containers.
- Granular/dry spills: carefully sweep or shovel material, minimizing airborne movement, and containerize.

Cleanup continues until free liquid and contaminated absorbent are removed and the area is stable.

6. Disposal of Used Materials

All absorbent materials, PPE, cleaning products, and recovered pesticide contain the substances they absorb and may be considered hazardous waste. Dispose of all cleanup materials in accordance with product labeling, SDS guidance, and local/state disposal requirements. This may include bagging material, placing it into a drum, labeling the waste, and transporting it to an authorized disposal facility.

7. Decontamination

After spill recovery, clean and decontaminate the spill area and any tools, equipment, and reusable materials that contacted pesticide. Wash the affected surface using detergent and water, and collect any wash water and residues for proper disposal if required. Contaminated clothing must be handled and laundered/disposed of according to SDS and label requirements prior to reuse.

8. Restock Spill Response Materials

After the spill response is complete, restock all absorbent materials, PPE, and spill kit supplies used during cleanup to ensure readiness for future incidents.

Spill Documentation Requirements

The following information should be documented for all spill incidents, consistent with TG15 and permit recordkeeping expectations:

- Date, time, and exact location of spill
- Responsible party/personnel involved
- Pesticide/product name and EPA registration number (if available)
- Amount released and area affected
- Cause of release
- Environmental impact observed (if any)
- Cleanup and corrective actions taken
- Disposition of cleanup wastes
- Measures taken to prevent recurrence

Permit 2300-A Corrective Action Documentation

In Oregon, within 5 days of becoming aware of a spill, leak, or other unpermitted discharge of pesticides to waters of the state, the operator will document and retain the following information in accordance with NPDES General Permit 2300-A, Schedule A, Condition 3.a.1:

- a. Information provided to the Oregon Emergency Response System (OERS), if applicable
- b. Summary of corrective actions taken or planned, including start and completion dates
- c. Measures taken to prevent recurrence of the spill/leak/unpermitted discharge
- d. Whether PDMP modifications are required, if applicable

Emergency Contact Numbers

- Emergency / Fire Department: 911
- Oregon Emergency Response System (OERS): 800-452-0311 (for reportable spills)
- Oregon State Patrol: (541) 523-5867
- Klamath County Sheriff's Department: (541) 883-5130

Additionally, Safety Data Sheets (SDS/MSDS) for each pesticide product include emergency contact numbers and spill response guidance specific to the chemical formulation.

E.3 Adverse Incident Response Procedures

If an adverse incident is observed or becomes known during or following a pesticide application conducted on behalf of the Chiloquin Vector Control District (CVCD), Three Rivers Mosquito and Vector Control District (TRMVC) will initiate immediate response actions to protect human health and the environment and ensure regulatory compliance. An adverse incident may include, but is not limited to, unanticipated death or distress of non-target organisms, disruption of fish or wildlife habitat, contamination of waters of the state, or disruption of recreational or municipal water use.

Immediate Response Actions

Upon discovery or notification of a potential adverse incident, TRMVC personnel will take the following actions as appropriate:

1. Stabilize and Secure the Area

- Suspend or modify pesticide application activities, as needed, to prevent additional exposure.
- Establish a safe perimeter and restrict public access to the affected area.
- Prevent further migration of pesticides or contaminated water into storm drains, ditches, or surface waters when feasible and safe.

2. Conduct an Initial Assessment and Documentation

- Document the date, time, and exact location of the observation.
- Record observations including species affected (if known), number and condition of organisms, and extent/area of impact.
- Document pesticide product(s) applied, EPA registration number(s), application rate, method, and timing.
- Record environmental conditions (weather, wind direction, temperature, precipitation, and water conditions).
- Obtain photographs and additional field notes as appropriate.
- If feasible, preserve evidence and avoid disturbing affected organisms or habitat until guidance is received from responding agencies.

3. Notification and Reporting (Initial)

TRMVC will immediately notify the appropriate agencies consistent with permit requirements and the nature of the incident. Notifications will be made as soon as practicable and no later than 24 hours after becoming aware of the adverse incident, when required. At a minimum, TRMVC will notify:

- The Oregon Emergency Response System (OERS): 800-452-0311
- The CVCD District Chairman (or designated District contact)
- Additional agencies as appropriate based on location and incident type (e.g., DEQ, ODFW, local emergency response, or HazMat)

The initial report will include available information such as incident location, time observed, pesticide product(s) used, description of impacts, and any immediate corrective actions implemented.

Corrective Actions and Assistance with Investigation

TRMVC will assist with any investigation and implement corrective actions as appropriate, which may include:

- Ceasing or modifying operations in the affected area
- Implementing containment or mitigation measures to prevent further exposure
- Adjusting application practices or buffers
- Reviewing equipment function and calibration records
- Coordinating with agencies regarding sampling, carcass handling, or site access
- Implementing additional best management practices to prevent recurrence

TRMVC will cooperate with agency personnel and provide access to all relevant operational and application records.

Written Follow-Up Reporting

When required by the NPDES General Permit, TRMVC will prepare and submit a written adverse incident report to DEQ within the permit timeframe (typically within 30 days of the incident). The written report will include:

- All information provided in the initial notification
- A detailed description of the adverse incident and affected organisms/habitat
- Pesticide application details (product, EPA registration number(s), rate, method, location relative to water)
- Environmental conditions and circumstances of the incident
- Corrective actions taken and measures implemented to prevent recurrence
- Any available laboratory results or sampling data (if collected)
- Whether PDMP revisions are warranted based on findings

Record Retention and Program Review

All adverse incident response actions, communications, and corrective measures will be documented and retained consistent with PDMP recordkeeping requirements. Following an adverse incident, TRMVC and CVCD will review operational practices to determine whether changes to procedures, training, product selection, or application strategies are needed to reduce the likelihood of recurrence and improve environmental protection.

SECTION F: Supporting Documentation

Include a copy of the documentation in Attachment C

Pesticide Use Plans (PUP) are submitted to the ODFW and ODHS for review, comment and approval. (Attachment C)

No pesticide applications will be made to Native Lands without their approval.

SECTION G: PDMP Plan Modifications

Plan modifications will be documented in Attachment F.

SECTION H: PDMP Availability

This plan will be made available for inspection in hard copy at the office of TRMVC and online at www.chiloquinmosquito.org

SECTION I: Signature Requirements

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the application of pesticides, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Edward S. Horvath, MPH Title: Owner, TRMVC
Signature: _____ Date: _____

Name: Theresa Shelby Title: Chairman, Chiloquin Vector Control District
Signature: _____ Date: _____

ATTACHMENTS

Attach the following documentation to the PDMP:

Attachment A – General Location Maps

Attachment B – Pesticide General Permit 2300A

Attachment C – Documentation

Attachment D – Adverse Incident Reports

Attachment E – Corrective Action Logs

Attachment F – PDMP Amendment Logs

Attachment G – Subcontractor Certifications/Agreements

Attachment H – Annual Reports and Other Record Keeping

Attachment I – Annual Pesticide Use Plans (PUP)

Attachment A – General Location Maps

Attachment B – Pesticide General Permit 2300A

Attachment C – Documentation

Attachment D – Adverse Incident Reports

Attachment E – Corrective Action Logs

Attachment F – PDMP Amendment Logs

Amendment No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]
1	Change of Address for Contractor	10/15/2017	Edward S. Horvath, Director
2023-001	Add 2300A Permit Exp May 31, 2023, Contact info edits	01/09/2023	Edward S. Horvath, Director
2026-001	Removed former Chairman and replaced with TS. Edited phone numbers and email address. Updated Section B, C, D and E to reflect a new PUP format needing the PUP info being moved to this PDMP.	01/28/2026	Edward S. Horvath, Director

Attachment G – Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION PESTICIDE DISCHARGE MANAGEMENT PLAN

Project Number: Chiloquin Vector Control District, Oregon

Project Name: Chiloquin Vector Control District, Oregon

Decision-maker(s): Theresa Shelby, Chairman, Chiloquin Vector Control District, Oregon

As a subcontractor, you are required to comply with the Pesticide Discharge Management Plan (PDMP) for any work that you perform for the above designated project. Any person or group who violates any condition of the PDMP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the PDMP. A copy of the PDMP is available for your review.

Each subcontractor engaged in pesticide activities in the pest management area that could impact Waters of the United States must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the PDMP for the above designated project.

This certification is hereby signed in reference to the above named project:

Company: Three Rivers Mosquito and Vector Control

Address: 651 Market Street, Klamath Falls, Oregon 98701-6252

Telephone Number: Office: (541) 238-2272 - Cellular: (541) 880-4791

Type of pesticide application service to be provided:

Adult mosquito Control fogging utilizing a truck mounted, ULV fogger. Larval control if needed using a Maruyama Back Pack blower, ATV sprayers, Drones, truck mounted and other power and manual applicators

Signature:  _____

Title: Owner, Vector Ecologist/Program Manager

Date: 07 January 2026

Attachment H – Annual Reports and Other Record Keeping

All operators must keep the following records:

- A copy of the permit (either electronic copy or hardcopy);
- A copy of the documentation required for Schedule B, Conditions 3, 6 and 7 above;
- Rationale for not reporting an adverse incident as allowed in Schedule B, Condition 3.b. above;
- Up-to-date records on the amount of acres or linear miles treated for the pesticide applications covered under this permit on an annual basis;
- If licensed as a pesticide applicator or pesticide consultant in Oregon, pesticide application records as required by ORS 634.146 and OAR 603-057-0130;
- Records must be kept for a period of at least 3 years.

Attachment I – Annual Pesticide Use Plans (PUP)