BOARD OF COMMISSIONERS

BOARD OF COUNTY COMMISSIONERS MEETING

1:00 PM, MONDAY, MARCH 16, 2026
Allen Room - Deschutes Services Building - 1300 NW Wall Street – Bend
(541) 388-6570 | www.deschutes.org

AGENDA

MEETING FORMAT: In accordance with Oregon state law, this meeting is open to the public and can be accessed and attended in person or remotely, with the exception of any executive session.

Members of the public may view the meeting in real time via YouTube using this link: http://bit.ly/3mmlnzy. ***To attend the meeting virtually via Zoom, see below.***

Citizen Input: The Board of Commissioners provides time during its public meetings for Citizen Input. Alternatively, comments may be submitted on any topic at any time by emailing or leaving a voice message at 541-385-1734.

When in-person comment from the public is allowed at the meeting, public comment will also be allowed via computer, phone or other virtual means.

Zoom Meeting Information: This meeting may be accessed via Zoom using a phone or computer.

- To join the meeting via Zoom from a computer, use this link: http://bit.ly/3h3oqdD.
- To join by phone, call 253-215-8782 and enter webinar ID # 899 4635 9970 followed by the passcode 013510.
- If joining by a browser, use the raise hand icon to indicate you would like to provide public comment, if and when allowed. If using a phone, press *9 to indicate you would like to speak and *6 to unmute yourself when you are called on.
- When it is your turn to provide testimony, you will be promoted from an attendee to a panelist. You may experience a brief pause as your meeting status changes. Once you have joined as a panelist, you will be able to turn on your camera, if you would like to.

***Time estimates**: The times listed on agenda items are estimates only. Generally, items will be heard in sequential order and items, including public hearings, may be heard before or after their listed times.*

CALL TO ORDER

CITIZEN INPUT

The Board of Commissioners provides time during its public meetings for Citizen Input. This is an opportunity for citizens to communicate to the Commissioners. Citizen Input is not available for matters that have closed records, are presently scheduled for a quasi-judicial public hearing, or are anticipated or likely to come before the Commissioners as a future quasi-judicial public hearing. Time is limited to 3 minutes.

The Citizen Input platform is not available for and may not be utilized to communicate obscene or defamatory material.

Note: *In addition to the option of providing in-person comments at the meeting, citizen input comments may be emailed to citizeninput@deschutes.org or you may leave a brief voicemail at 541.385.1734.*

COMMISSIONER ANNOUNCEMENTS

ACTION ITEMS

1. Presentation: Four Rivers Vector Control District 2025 Annual Report

OTHER ITEMS

These can be any items not included on the agenda that the Commissioners wish to discuss as part of the meeting, pursuant to ORS 192.640.

EXECUTIVE SESSIONS

At any time during the meeting, an executive session could be called to address issues relating to ORS 192.660(2)(e), real property negotiations; ORS 192.660(2)(h), litigation; ORS 192.660(2)(d), labor negotiations; ORS 192.660(2)(b), personnel issues; or other executive session categories.

Executive sessions are closed to the public; however, with few exceptions and under specific guidelines, are open to the media.

Convening as the Governing Body of the 9-1-1 Service District

2. Executive Session under ORS 192.660 (2) (d) Labor Negotiations

Reconvening as the Governing Body for Deschutes County

3. Executive Session under ORS 192.660 (2) (i) Employment Evaluation

Continued ACTION ITEMS

4. Consideration of Salary Adjustment for County Legal Counsel

ADJOURN

Deschutes County encourages persons with disabilities to participate in all programs and activities. This meeting/event is accessible. Accommodations including sign and other language interpreter services, assistive listening devices, materials in alternate formats such as Braille, large print, electronic formats, or language translations are available upon advance request at no cost. Please make a request at least 24 hours in advance of the meeting/event by calling Brenda Fritsvold at (541) 388-6572 or send an email to brenda.fritsvold@deschutes.org.

El condado de Deschutes anima a las personas con discapacidad a participar en todos los programas y actividades. Esta reunión/evento es accesible. Hay disponibles servicios de intérprete de lengua de señas y de otros idiomas, dispositivos de escucha asistida, materiales en formatos alternativos como braille, letra grande, formatos electrónicos, traducciones o cualquier otra adaptación, con solicitud previa y sin ningún costo. Haga su solicitud al menos 24 horas antes de la reunión/el evento llamando a Brenda Fritsvold al (541) 388-6572 o envíe un correo electrónico a brenda.fritsvold@deschutes.org.

BOARD OF COMMISSIONERS

AGENDA REQUEST & STAFF REPORT

MEETING DATE: March 16, 2026

SUBJECT: Presentation: Four Rivers Vector Control District 2025 Annual Report

RECOMMENDED MOTION:
N/A; information only.

BACKGROUND AND POLICY IMPLICATIONS:
Representatives from the Four Rivers Vector Control District will present the District's 2025 Annual Report and related updates to the Board.

BUDGET IMPACTS:
None

ATTENDANCE:
Edward Horvath, Interim District Manager
District Board Member Eva Wild Crain
District Board Member Rich Parker
District Board Member Joe Tucker
District Board Member Steven Emerson
District Board Member Shawn Hill

2025 ANNUAL REPORT

OF THE

FOUR RIVERS VECTOR CONTROL DISTRICT

In compliance with:
Oregon Revised Statutes
452.120(3) & (5)

and

General Permit 2300A (Schedule B, 10.)

Prepared by:

Edward S. Horvath
Contracted Interim District Manager

Danta M. Smith
Office Manager-TRMVC, Licensed Applicator

Three Rivers Mosquito and Vector Control
January 14, 2026

District Name
Four Rivers Vector Control District

Permit Number:
2300A
File Number:
121570

Operator Name/License
Four Rivers Vector Control District

Applicator(s) Name(s)/License(s)
Myles Bowlin,
Ryan
Cory
Pete

Timeframe this Annual Report covers
January 1, 2025 – December 31, 2025

Mailing address
56478 Solar Drive
Bend, Oregon 97707

Email
ehorvath@trmvc.com

Phone number
(541) 593-1689

GOALS:

The goals of the District are to prevent new vector sources from developing, to abate existing vector populations and their sources in order to protect public health and comfort, to reduce the level of vector populations throughout the District, as well as reduce vector and human interaction. Additionally, the District's environmental goals are to reduce mosquitoes with increased larviciding and incorporation of biological control measures, while being environmentally responsible by reducing adulticiding. Water soluble and non/petroleum-based products are the first choice of the District. Overall reduction of pesticides while maintaining minimal mosquito populations is the long-term goal of the District.

DISTRICT STAFF

In 2025, the District employed two full time employees, and multiple seasonal/part time employees. By the end of 2025, all employees had resigned after Board members left the Board and the new Board brought in outside help to clean up the District Operations. Currently, the District outsources all District Management activities within the District. There are no paid employees of the District; all hiring is currently conducted by the contractor, Three Rivers Mosquito & Vector Control.

2025 Full Time Staff

Myles Bowlin
District Manager
56478 Solar Drive
Bend, Oregon 97707

Sierra Dieckhoff
Office Manager
56478 Solar Drive
Bend, Oregon 97707

2026 Full Time Contracted Staff

Edward S. Horvath, MPH
Contracted Interim District Manager
651 Market Street
Klamath Falls, Oregon 97601-6252

SUMMARY

In 2025 FRVCD experienced a difficult operational season driven by governance turnover, heavy staff attrition, and long-standing recordkeeping, financial and customer service weaknesses. Three Board seats turned over during the year and the County (Board of Commissioners) filled at least two vacancies as allowed by ORS 452; the Board and staff struggled with day-to-day supervision and basic finance and operational duties from unqualified Management. By late summer / early autumn the District had effectively lost routine supervisory capacity, many required State/Federal reports were missing or incomplete, pesticide and service-request recordkeeping was inadequate, and the budget was materially out of balance. In October 2025, the Board contracted with Edward Horvath / Three Rivers Mosquito & Vector Control (TRMVC) for interim management to evaluate the problems, consolidate and reconstruct records, bring the District into regulatory and fiscal compliance, and produce a strategic plan for 2026. The remaining staff resigned upon contracting with Mr. Horvath, leaving no legacy defense of complaints or lack of records, documents or justification. Mr. Horvath and his team stepped in to catch the District up with reports and evaluations of the District's operations and records. The summary below describes the main findings, actions taken to date, and priority recommendations. This is by far, not all inclusive to the ongoing findings.

GOVERNANCE / BOARD

During 2025 multiple Board members left or were otherwise no longer serving; the District had open board positions and the County Commission (per ORS 452) was asked to appoint new members — the County appointment process was used to fill at least two seats. The departures and appointments coincided with rest of the Boards' concerns about District finances and operations.
The District is currently with one vacant seat on the Board.

STAFF / SUPERVISION

By mid-/late-season the District lacked stable on-site supervision. In late summer, the District Manager resigned and within a month, the Office Manager resigned during the catch-up payroll/record process. In short, the District was operating with minimal or no functional supervisory staff late in the season.

BUDGET AND FINANCES

Multiple community members and Board members brought up concerns of the Budget and budget process, including un balanced budget and lack of transparency or effort to utilize a Budget Committee. Research into District records including minutes, meeting recordings and look into the books, bank statements and budget was conducted. It is obvious that the District's budget was out of balance, budgeting to spend far more than revenue generated. The Board took immediate action to stop spending and promote recruiting of Budget committee members. The FY 2025-2026 budget is being evaluated and a budget amendment is being proposed to balance the budget. A committee is already being formed in order to create a transparent, effective, efficient and balanced budget for FY 2026-2027.

To complicate the process of balancing the budget, District staff was extremely late and negligent with payroll taxes. Some payroll tax reports were more than 2 years delinquent. The District has had to pay in the six (6) figure numbers for past due payroll fees, fines and penalties. Additionally, the District Staff failed to complete annual audits for multiple years; at resignation, staff had not started the past two delinquent financial audits.

NPDES REQUIREMENT

This report contains all information required under the DEQ NPDES General Permit 2300A (Schedule B, Section 10). Oregon DEQ has activated its planned electronic reporting system, and the required information will be submitted through the DEQ reporting portal once the system is fully operational and available for permittee submissions.

TRMVC submitted the required submittals for Oregon DEQ report on January 3, 2026, via: https://ordeq-edms-public.govonlinesaas.com

USFS REQUIREMENT

Upon investigation of District records and communication, it was uncovered that the District's USFS permit was revoked in early Spring. The reasoning provided by the USFS was the lack of the District providing reports and lack of submitting required documents for several years in addition to the hostile interaction by District staff. The permit is essential in order to conduct any mosquito control pesticide applications on USFS lands. The lack of these applications justifies the reported mosquito population increases in the District over the past few years.

PROPOSED ANNUAL WORK PROGRAM FOR 2026

IAW ORS 452.120 (3)

THE

VECTOR PROBLEM

Definition

A vector is any insect, arthropod, rodent, or other animal of public-health significance capable of causing injury or transmitting disease to humans or domestic animals. In FRVCD the vector problem is dominated by *mosquitoes* — both because some species can transmit pathogens and because high mosquito densities produce severe nuisance conditions that materially reduce resident and visitor quality of life.

Landscape and climatic vulnerability

Four Rivers contains long, meandering river corridors with numerous **oxbows, backwaters and low-energy side channels**. These geomorphologies produce abundant, dispersed larval habitat when riverbanks overtop, when spring runoff fills side channels, or when ephemeral pools persist after snowmelt. The District's hydrology therefore produces many small, short-lived pools that are ideal for larval development but are often patchy and difficult to access by conventional ground vehicles.

Seasonal **snowmelt and flood pulses**, and occasional irrigation or water-release events, create synchronized pulses of standing water in spring. These pulses drive **rapid, synchronous larval development;** without timely intervention a single spring pulse can generate multiple, large adult emergences later in the season. Because the District supports heavy recreational use, riverfront residences, marshy public lands and adjacent irrigated agriculture, human exposure to mosquitoes is high at precisely the times when adults are active and nuisance/disease risk is greatest.

Dense riparian vegetation, unmanaged vacant lots and remote oxbows provide refugia for larvae and adults and limit the effectiveness of later adulticidal (fogging) control. These hidden or complex sources reduce the reach and efficiency of adult control measures and therefore increase the value of early, targeted larval suppression.

Drivers and trends

Key drivers that amplify early-season mosquito production in FRVCD include:

- **Human land-use practices** (irrigation, modified drainage, unplanned water releases).
- **Climate variability and change** (earlier or more rapid snowmelt, altered spring flows).
- **Recreation and population exposure**, which concentrate people in mosquito-prone areas during peak adult activity.
- **Operational gaps** — in recent years, inconsistent customer service and fractured communications reduced the District's ability to identify and treat early larval sources proactively.

Biological and operational implication

Mosquito population dynamics are strongly front-loaded: the spring larval period largely determines adult abundance during the warm season. If the District suppresses larvae during pre- and early emergence (snowmelt), adult hatches are smaller and fewer in number — often limited to "only a couple of hatches"

rather than repeated, large emergences. Conversely, delayed larval control forces reliance on adulticiding, which is less efficient, less protective of public health, and more environmentally impactful.

Access and technology are pivotal: many early-season sources are unreachable by standard trucks. Rapid access by drone, boat, and ATV/Argo, and precise mapping using GPS/GIS, are therefore essential for early, safe and effective larval control. Manned helicopter application should be held as a contingency tool — deployed only when absolutely necessary and supported by validated "as-applied" GIS records — because drones and small craft provide quicker, lower-cost, and higher-resolution access to transient pools.

STRATEGY: PREVENTION FIRST — REDUCE LARVAE, LIMIT ADULT HATCHES

Core tactical approach

1. Prioritize early, aggressive larval control at snowmelt.
    - Initiate inspections and pre-treatment as soon as snowmelt and floodwater form. Prioritize historically high-producing oxbows, river overflow zones and documented hotspots.
    - Use larval surveillance (dipping, larval indices) to confirm treatment necessity and guide operations.
2. Drone-first access for spring operations.
    - Deploy District drones under TRMVC-licensed pilots (outsourced if District is not licensed) and use boats/ATVs/Argo for site access. Drones permit safe, precise larval applications into small, transient pools formed during flood pulses and reduce reliance on manned aircraft.
3. Helicopter reserved as contingency.
    - Maintain helicopter availability as a backup for exceptional, large or inaccessible infestations, but do not rely on it as the spring primary tactic. Any helicopter work must be planned in advance, the contractor must provide validated shapefiles/GIS as-applied, and aerial use should be minimized for environmental stewardship and cost control.
4. Leverage TRMVC partnership and District assets.
    - Outsource specialized or surge operations to TRMVC, using TRMVC staff, ATVs and Argo for fieldwork and TRMVC's licensing and operational expertise for drone and contractor activities. Continue to use the District's own equipment and boat where feasible, with TRMVC providing trained operators as required.
5. Boat readiness & ground access.
    - Stage and prepare District boats before spring operations so teams can reach riverine and backwater sources immediately when conditions allow.
6. Source reduction & habitat modification.

- Coordinate with landowners, water managers and recreation stewards to reduce standing water persistence (drain maintenance, targeted modifications, and urban design measures). Promote structural fixes and land management practices that reduce breeding habitat.

7. Integrated Mosquito Management (IMMs).
    - Favor biological larvicides (e.g., Bti), ecological source reduction, and targeted treatments informed by surveillance. Reserve broad adulticiding for verified, data-driven events only.

CUSTOMER SERVICE & PUBLIC ENGAGEMENT — ESSENTIAL PRINCIPLES

FRVCD will shift from reactive complaint handling to proactive, transparent service. Core commitments:

- Consolidated, automated service requests. Implement a single, integrated service-request platform (web + automated phone + email + SMS) that immediately generates a ticket, maps the location, and issues automated acknowledgements within three business days.
- Rapid field validation. Commit to field confirmation for verified, high-priority public-health or severe nuisance requests within 48 hours (95% target), with frequent SMS/email updates (opt-in) and public closure notifications.
- Modern telephony and message capture. Deploy a new phone system with voicemail transcription, centralized call logging/archiving, and a 24-hour seasonal hotline (outsourced as needed). All voice and text records are to be integrated into the ticketing system for transparency and public-records compliance.
- Transparent, accessible information. Publish treatment maps, monthly operational summaries, PUP/PDMP documents, and Board meeting minutes on an improved District website. Provide pre-treatment advisories and clear, practical guidance for property owners on reducing local breeding.
- Restore community trust. Move from uneven response to consistent, measurable service standards and public reporting that show progress and responsiveness.

MONITORING, SURVEILLANCE & TECHNICAL STANDARDS

- Surveillance methods. Use larval dipping, landing-rate surveys, CDC light traps, and targeted adult trapping to quantify populations and justify interventions. Establish clear treatment thresholds to trigger larval or adult control.
- GIS & as-applied documentation. Require GPS/GIS mapping of all inspection points and treatments. For every drone, truck, ATV or helicopter application, the contractor must submit validated "as-applied" shapefiles and daily spray logs before invoice approval.
- Environmental safeguards. Maintain a Pesticide Use Plan (PUP) and Pesticide Discharge Management Plan (PDMP). Prioritize non-persistent and targeted products; limit broad adulticides; and comply with DEQ/ODA/OHA and USFS conditions.

Conduct routine surveillance of all known mosquito sources; investigate new sources as they arise; use surveillance to prioritize resource allocation and to justify treatments.

7. Follow-up & documentation

Perform follow-up inspections and surveys to evaluate treatment effectiveness. Retain complete pesticide application records, surveillance data, and cost tracking consistent with regulatory obligations.

8. Integrated Mosquito Management (advancement)

Continue evaluating and integrating new technologies (drones, GPS/GIS tracking) and best practices. Favor biological and targeted methods and phase in drone-assisted applications where permitted.

9. Biological and source-reduction emphasis

Prioritize source reduction and biological controls (Bti, copepods, selective use of mosquitofish where ecologically appropriate). Support landowner assistance and habitat modification projects to reduce persistent breeding habitat.

10. Public & interagency cooperation

Coordinate proactively with irrigation districts, water managers, USFS and other agencies to reduce problematic flood irrigation and to ensure required permits and reporting are current. Maintain cooperative, transparent relationships with partner agencies.

11. Public information & education

Sustain an active public education program: timely news releases, pre-treatment advisories, guidance for property owners, and open reporting on operational performance.

Implementation priorities and early timeline

- **Pre-season (Winter → Early Spring):** finalize TRMVC contract, prepare boats/ATVs/Argo, verify drone/operator readiness, validate helicopter contingency, publish pre-season outreach and operational calendar, confirm PUP/PDMP and USFS permit status.
- **Spring (Snowmelt):** initiate immediate inspections and pre-treatments; deploy drone-first operations to flood pools and oxbows; submit as-applied GIS files daily.
- **Summer (Maintenance):** continue surveillance and targeted treatment, customer service metrics tracking, public reporting, and interagency coordination.
- **Autumn/Winter:** winterize equipment, reconcile pesticide inventory, complete post-season reports, evaluate program performance and prepare next year's operational plan.

Final note

FRVCD's path forward is straightforward in principle: **stay ahead of larvae in the spring, use precise access and mapping tools, minimize broad adulticiding, and restore trusted customer service.** If the District maintains timely, data-driven suppression at snowmelt, the summer mosquito burden will be materially lower than in prior years — fewer hatches, less nuisance, and substantially reduced public-health and recreational impacts.

Four Rivers VCD

Budget vs. Actuals: Budget FY2024-2025 - FY25 P&L

July 2024 - June 2025

	TOTAL			
	ACTUAL	BUDGET	OVER BUDGET	% OF BUDGET
Revenue				
Deschutes County Health Dept.		6,000.00	-6,000.00	
Interest Income	13,661.41	5,000.00	8,661.41	273.23 %
Land Sales	7.45		7.45	
Local Option Levy-Past	6.68		6.68	
Other Tax Dist	251.43		251.43	
Previously Levied Taxes	2,810.27	5,000.00	-2,189.73	56.21 %
Property Taxes	387,102.12	347,484.00	39,618.12	111.40 %
PTNL REFUND CRT	-553.29		-553.29	
Sunriver Homeowners	40,021.00	72,765.00	-32,744.00	55.00 %
Uncategorized Income		235,000.00	-235,000.00	
Uncategorized Income (65)	30.58	0.00	30.58	
Total Revenue	**$443,337.65**	**$671,249.00**	**$ -227,911.35**	**66.05 %**
GROSS PROFIT	**$443,337.65**	**$671,249.00**	**$ -227,911.35**	**66.05 %**
Expenditures				
Depreciation Expense	13,215.00		13,215.00	
General Operating Contingency		18,000.00	-18,000.00	
Material Services & Supplies	1,151.58		1,151.58	
Ads, Dues, Licence	1,978.75	10,000.00	-8,021.25	19.79 %
Aerial Application	33,764.37	40,000.00	-6,235.63	84.41 %
Insurance & Bonds	12,619.00	20,000.00	-7,381.00	63.10 %
General Liability and Pollution Ins	5,917.83		5,917.83	
Total Insurance & Bonds	**18,536.83**	**20,000.00**	**-1,463.17**	**92.68 %**
Interest & Finance Charges		1,000.00	-1,000.00	
Office Expense		15,000.00	-15,000.00	
Bank Service Charges	154.26		154.26	
Postage	498.00		498.00	
Supplies	8,233.31		8,233.31	
Telephone	2,822.56		2,822.56	
Utilities	2,446.03		2,446.03	
Total Office Expense	**14,154.16**	**15,000.00**	**-845.84**	**94.36 %**
Pesticides & Source Reduction	40,950.50	40,000.00	950.50	102.38 %
Professional Services	5,150.00	20,000.00	-14,850.00	25.75 %
Rent & Leasing	86.45	1,000.00	-913.55	8.65 %
Supplies, Equipment, Repairs	4,812.49	10,000.00	-5,187.51	48.12 %
Training		12,249.00	-12,249.00	
Fees	325.43		325.43	
Total Training	**325.43**	**12,249.00**	**-11,923.57**	**2.66 %**
Transportation		30,000.00	-30,000.00	
Fuel	7,698.83		7,698.83	
Miscellaneous	245.64		245.64	
Parts & Repairs	499.23		499.23	

Four Rivers VCD

Budget vs. Actuals: Budget FY2024-2025 - FY25 P&L

July 2024 - June 2025

	TOTAL			
	ACTUAL	BUDGET	OVER BUDGET	% OF BUDGET
Total Transportation	**8,443.70**	**30,000.00**	**-21,556.30**	**28.15 %**
WNV surveillance		5,000.00	-5,000.00	
Total Material Services & Supplies	**129,354.26**	**204,249.00**	**-74,894.74**	**63.33 %**
Personnel Services				
Part Time Employees	55,682.70	115,000.00	-59,317.30	48.42 %
Personnel Overhead Cost	55,154.12	130,000.00	-74,845.88	42.43 %
Payroll Expenses	23,227.19		23,227.19	
Total Personnel Overhead Cost	**78,381.31**	**130,000.00**	**-51,618.69**	**60.29 %**
Salaried Employees	126,646.73	131,000.00	-4,353.27	96.68 %
Total Personnel Services	**260,710.74**	**376,000.00**	**-115,289.26**	**69.34 %**
Reconciliation Discrepancies	-67.67		-67.67	
Unapplied Cash Bill Payment Expense	0.00		0.00	
Total Expenditures	**$403,212.33**	**$598,249.00**	**$ -195,036.67**	**67.40 %**
NET OPERATING REVENUE	**$40,125.32**	**$73,000.00**	**$ -32,874.68**	**54.97 %**
Other Expenditures				
Capital Outlay Expense		68,000.00	-68,000.00	
Unappropriated Ending Fund Balance Account		5,000.00	-5,000.00	
Total Other Expenditures	**$0.00**	**$73,000.00**	**$ -73,000.00**	**0.00%**
NET OTHER REVENUE	**$0.00**	**$ -73,000.00**	**$73,000.00**	**0.00 %**
NET REVENUE	**$40,125.32**	**$0.00**	**$40,125.32**	**0.00%**

INTEGRATED MOSQUITO MANAGEMENT (IMM)

Mosquito Control Policy:

Three Rivers Mosquito and Vector Control and the Chiloquin Vector Control District advocates management of mosquito populations when and where necessary by means of integrated programs designed to benefit or to have minimal adverse effects on people, wildlife, and the environment. This Integrated Mosquito Management (IMM) policy recognizes that mosquito populations cannot always be eliminated but often must be suppressed to tolerable levels for the well-being of humans, domestic animals, and wildlife and that selection of scientifically sound suppression methods must be based on consideration of what is ecologically and economically in the long-term best interest of mankind.

The following principles are advocated:

- Mosquito control measures should be undertaken only when there is adequate justification based upon surveillance data.
- IPM programs should be tailored to the needs and requirements of the local situation. The combination of methods for mosquito control should be chosen after careful consideration of the efficacy, ecological effects, and costs versus benefits of the various options, including public education, legal action, natural and biological control, elimination of breeding sources, and insecticide applications.
- Mosquito breeding sources, whether natural or created by human activity should be altered in such a manner as to cause the least undesirable impact on the environment.
- Insecticides and application methods should be used in the most efficient and least hazardous manner, in accordance with all applicable laws and regulations and available scientific data. The registered label requirements for insecticide should be followed. When choices are available among effective insecticides, those offering the least hazard to non-target organisms should be used. Insecticides should be chosen and used in a manner that will minimize the development of resistance in the mosquito population.
- Personnel involved in mosquito management programs should be properly trained and supervised, and certified in accordance with relevant laws and regulation and should keep current with improvements in management techniques through continuing education and/or training programs.

All methods and materials used by TRMVC for the Chiloquin Vector Control District are based on these principles. An annual Pesticide Use Plan is prepared before every season and sent to the Health Division of the Oregon Department of Human Resources and the Habitat Conservation Division of the Oregon Department of Fish and Wildlife. These two agencies must give approval on a yearly basis to any agencies, such as the CVCD, intending to use chemicals for Vector Control.

MOSQUITOES OF DESCHUTES/KLAMATH COUNTIES

The list below are some of the common species of mosquitoes that Three Rivers Mosquito and Vector Control has identified in the region, and many of these affect the areas within the FRVCD.

1.	*Aedes aboriginis*	9.	*Aedes Increpitus*	17.	*Culex peus*
2.	*Aedes campestris*	10.	*Aedes intrudens*	18.	*Culex pipiens*
3.	*Aedes cataphylla*	11.	*Aedes melanimon*	19.	*Culex tarsalis*
4.	*Aedes cinereus*	12.	*Aedes nigromaculis*	20.	*Culex territans*
5.	*Aedes communis*	13.	*Aedes niphadopsis*	21.	*Culiseta impatiens*
6.	*Aedes dorsalis*	14.	*Aedes sierrensis*	22.	*Culiseta incidens*
7.	*Aedes exrucians*	15.	*Aedes vexans*	23.	*Culiseta inornata*
8.	*Aedes fitchii*	16.	*Anopheles freeborni*	24.	*Culiseta minnesotae*

(These lists were comprised during the Southern Deschutes/Northern Klamath County mosquito surveys from 2002-2007 and 2012-2025).

MOSQUITO INFORMATION

I. Anopheles

Anopheles freeborni

An. freeborni (the western malaria mosquito) enters homes and animal shelters readily biting at dusk and dawn. In the fall, generally beginning in early September, the females seek shelter in buildings, culverts, cellars, and other protected places. On warm days in March and April females sometimes leave their shelters to feed and bite viciously. They are also a pest in the summer months with their peak period of biting activity during July and August.

Rain pools, river seepage areas, marshes, swamps, semi-permanent or permanent ponds in irrigated pastures and drainage ditches are sources commonly found to be breeding sites for this mosquito. Clear, sunlit water with emergent vegetation and floating algae is preferred. Other Anopheles of lesser importance found in Chiloquin are:

- *An. punctipennis*
- *An. occidentalis*
- *An. Pseudopunctipennis*

II. Aedes

Aedes vexans

Ae. vexans(the irrigated pasture mosquito) is associated with intermittently irrigated crops, primarily with irrigated pastures and alfalfa. A brood is usually produced in sequence with each irrigation cycle, which can occur every 7 to 14 days.

The irrigation season usually extends from May to October. This is a major pest mosquito in Chiloquin readily attacking humans and animals during the day, and is most active at dusk. Large populations can be an annoyance to domestic animals and to persons engaged in recreation and labor.

Ae. vexans larvae are vigorous swimmers and are usually found in open fields where water remains stagnant following an irrigation. The length of the aquatic stage is influenced by temperature and can vary from five days at 86 degrees F to 16 days at 50 degrees F. During midsummer the larvae grow rapidly and pupate in three days. Peak production is reached in July and August. This combination of rapid growth rate, adult populations of up to 15 million per

acre, and a flight range of up to 20 miles makes this mosquito one of the toughest problems to control.
Other flood water mosquitoes that occur in Chiloquin are:

- *Ae. melanimon*
- *Ae. nigromaculis*
- *Ae. Melanimon*
- *Ae. dorsalis*
- *Ae. Sierrensis*

Aedes increpitus

In Chiloquin the larvae of *Ae. increpitus* are found in pools along streams left when spring floodwaters subside and in brush or tree covered depressions filled by heavy rains. The adult mosquitoes become active in late spring and early summer, sometimes flying several miles in search of a blood meal. *Ae. increpitus* are persistent biters and continue to be a problem in some areas of the County where housing developments have been built close to existing seasonal creeks and streams.

Aedes communis

Ae. communis (the snow water mosquito) is generally a mountain mosquito, associated with pools of water from melted snow. The females are often serious pests in the forests where they may be encountered in swarms in the spring, biting mostly in the shade or after sundown.
Other mosquitoes found in Chiloquin that are associated with pools of melted snow water are:

- *Ae. Fitchii*

III. Culiseta

Culiseta incidens

Cs. incidens (the cool weather mosquito) are found throughout Klamath County in natural depressions filled with rain or irrigation water and in artificial containers. Examples include troughs, hoof prints, ground pools, rock pools, and log ponds. In our area where the winter climate is moderate, breeding may take place throughout the entire year.

Cs. incidens is a large mosquito and extremely annoying in some areas. Adult mosquitoes have been observed biting on sunny days in mid winter but have a peak activity period between May and August.

Other cool weather mosquitoes found in Chiloquin are:

- *Cs. impatiens*
- *Cs. inornata*
- *Cs. Minnesotae*

IV. Culex

Culex tarsalis

Cx. tarsalis (the western encephalitis mosquito) is the most common of the *Culex* in Chiloquin. The larvae develop in nearly any conceivable containers holding water such as tires, rain gutters, bird baths, rooting buckets, discarded containers, standing pasture water, etc. The females are painful and persistent biters, attacking at dusk and after dark, and readily enter dwellings for blood meals. The adults hide in sheltered places during the day. Mosquitoes of this species can fly considerable distances (up to 16 miles) and when a large untreated source hatches off it can provide a community with several months of biting pests. *Culex* mosquito species are the species of mosquitoes known for the transmission of West Nile Virus.

Culex peus

This species is found in most types of moderately polluted types of water, such as mill ponds but are also found in road culverts, ornamental pools, and other semi-permanent sites.

Culex pipiens (Northern House Mosquito)

The larvae of this mosquito are found in the polluted water of open septic drains and cesspools. They may be associated with *Cx. peus* past mid-summer in semi-polluted environments such as rain barrels or other artificial containers.

Other Culex mosquitoes found in Chiloquin are:

- *Cx. Territan*

Attachment:
Report in accordance with the State of Oregon DEQ 2300A, Schedule B, Section 10

Annual Report Form

State of Oregon
DEQ Department of Environmental Quality

2300A Annual Report Form

NPDES Pesticide General Permit

PERMIT AND REPORT INFORMATION

Provide the following permit and report information. First column indicates the applicable permit condition.

B.10.e.ii	DEQ file number:	121570
B.10.e.iii	Reporting Period: Start (mm/dd/yy)	01/01/2025
B.10.e.iii	Reporting Period: End (mm/dd/yy)	12/31/2025
B.10.e.i.	Operator's name:	Four Rivers Vector Control District

PERMIT CONTACT INFORMATION

Provide the following information for the permit contact person.

B.10.e.iv.	Contact person name:	Edward Horvath
	Contact person title:	Interim District Manager
	Contact person mailing address:	56478 Solar Dr, Bend, OR 97701
	Contact person email address:	ehorvath@trmvc.com
	Contact person phone number:	(541) 593-1689

PEST TREATMENT AREA INFORMATION

Provide the following information for pesticides applied in each pest treatment area.

B.10.e.v.1	Did a pesticide application occur this year?	☑ Yes ☐ No		
	Size of treatment area: (acres or linear miles)	68,728.4 Acres		
	Where was the pesticide applied? Provide name or location of water(s) or identify treatment area that includes water:	Within the boundaries of the FRVCD		
B.10.e.v.2	Type of pest control: (Check one)	☑ Mosquito and other flying insect pest control ☐ Weed and algae control ☐ Nuisance animal control ☐ Forest canopy pest control ☑ Area-wide pest control		
	Target Pest(s) (Space provided to list up to three)	Adult Mosquitoes		
B.10.e.v.4	EPA Registration # of each pesticide product	86291-3-96263		
	Application Method (e.g. fixed-wing or rotary aircraft, broadcast spray, etc.)	Truck mounted ULV fogger		
	Annual Application Amount (e.g. gals, lbs.)	204.60 lbs ai		
B.10.e.v.5	In Pesticide Discharge Management Plan prior to application?	☑ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

2300A ANNUAL REPORT FORM
(Add additional pages as necessary)

PEST TREATMENT AREA INFORMATION
Provide the following information for pesticides applied in each pest treatment area.

B.10.e.v.1	Size of treatment area: (acres or linear miles)	435.93 acres		
	Where was the pesticide applied? Provide name or location of water(s) or identify treatment area that includes water:	Isolated storm-water catch basins and isolated snow-melt water sumps		
B.10.e.v.2	Type of pest control: (Check one)	☑ Mosquito and other flying insect pest control ☐ Weed and algae control ☐ Nuisance animal control ☐ Forest canopy pest control ☐ Area-wide pest control		
	Target Pest(s) (Space provided to list up to three)	Larval Mosquitoes	Larval Mosquitoes	Larval Mosquitoes
B.10.e.v.4	EPA Registration # of each pesticide product	73049-10	73049-38	2724-421
	Application Method (e.g. fixed-wing or rotary aircraft, broadcast spray, etc.)	Backpack blower	Liquid Pressure Sprayer	Hand toss
	Annual Application Amount (e.g. gals, lbs)	2,890.25 lbs	8.97 gals	4 ea
B.10.e.v.5	In PDMP prior to application?	■ Yes ☐ No	■ Yes ☐ No	■ Yes ☐ No

PESTICIDE APPLICATOR INFORMATION
Provide the following information for each pesticide applicator that applied pesticide in this treatment area.

B.10.e.v.3	Did the registrant apply the pesticide? If No, provide applicator information below.	■ Yes ☐ No

B.10.e.v.3	Applicator company name:	
	Applicator name:	
	Applicator mailing address:	
	Applicator email address:	
	Applicator phone number:	

ADVERSE INCIDENT INFORMATION
Provide the following information regarding each adverse incident that occurred during the report period. Identification of adverse incidents must be consistent with the definition of adverse incidents in the permit.
Attach additional sheets as necessary.

B.10.e.vi.	Was an adverse incident observed? See Schedule B.3. through 6 in permit. If Yes, provide more information below.	☐ Yes ■ No
	Provide a brief description including area. No adverse incidents reported in 2025.	
	Oregon Emergency Response Notified?	☐ Yes ■ No
	Date of report submitted to DEQ (mm\dd\yyyy)	N/A

wqp2300AannualRepF 2025

Final Audit Report 2026-01-05

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