



Illinois Valley Soil and Water Conservation District

331 E Cottage Park Dr Suite 1 - P.O. Box 352

Cave Junction, OR 97523 Phone: 541-592-3731

Monthly Meeting Agenda June 25, 2026 - IVSWCD Office/ZOOM

Topic: Illinois Valley Soil & Water Conservation District Meeting

Time: June 25, 2026 - 6:00 pm

Join Zoom Meeting: IVSWCD is inviting you to a scheduled Zoom meeting.

Topic: Illinois Valley SWCD Monthly Meeting

Time: June 25, 2026 6:00 PM

Join Zoom Meeting

<https://us06web.zoom.us/j/83068803901?pwd=ndUiakpPGOA33OmTmbBvi82JDzzAPK.1>

Meeting ID: 830 6880 3901

Passcode: 972185

- I. 6:00 PM: Call to Order**
- II. 6:01 PM: Acceptance of Minutes**
- III. 6:05 PM: Acceptance of Financial Reports**
- IV. 6:10 PM: Old Business**
 - a. Hiring Update**
- V. 6:15 PM: New Business**
 - a. Oregon State Petiole Analysis for Crop Nutrition**
 - b. Virtual-Fence—Assisted Prescriptive Grazing**

7:00 PM: Staff and Partnering Agency Reports

 - a. John's report**
 - b. Partnering Agency Reports**
- VI. 7:30 PM Public comments**



Illinois Valley Soil & Water Conservation District

Monthly Meeting Minutes

331 E Cottage Park Drive Suite 1/ZOOM

May 28, 2026

The meeting was called to order by Chairman Bob Webb at 6:00 p.m.

Meeting attendance Roster:

In-Person	Via Zoom Teleconference	Absent
Robert Webb		
Katrina Poydack		
Zachary Robinson		.
Matthew Robinson		
Kathy Mechling		
Rhett Nelsen		
Janice Denney		
Lydia Robinson, Guest		
Heather Gilinsky		
Arlyse DeLoyola		
John Bellville, Staff		
Kevin O'Brien		
W. Reid		
Lydia Robinson		
Bill Joerger		
Chris Hall		
	Austin Roseberry	
Craig Harper		
Jill Smedstad		

Notes were taken by: Heather Gilinsky

- **Minutes:** The minutes of the previous meeting were presented to the board for review.
 - **Rhett Nelsen moved to approve the minutes as corrected.**
 - **Katrina Poydack seconded the motion.**
 - **The motion passed unanimously, with Webb, Nelsen, Z Robinson, M Robinson, Mechling, Poydack, Denney voting in favor.**
- **Financial Reports:** The financial reports for April 2026 were presented to the board for review.
 - **Katherine Mechling made a motion to approve the Financial Reports as presented.**
 - **Matthew Robinson seconded the motion.**
 - **The motion passed unanimously, with Webb, Nelsen, Z Robinson, M Robinsonson, Mechling, Poydack, Denney voting in favor.**

- Jill Smedstad and Craig Harper did a presentation on Place-Based Planning
- **Old Business**
 - **Hiring Update:**

John Bellville discussed upcoming interviews with three candidates and encouraged board members to attend.

- **New Business**

Arlyse DeLoyota was presented with a gift of appreciation for her great work and time with the District and Council.

- **Staff Reports:**
 - John reviewed his report and answered questions regarding projects.

- **Partnering Agency Reports:**

- Kevin O'Brien gave a report for the Watershed Council.

- **Public Comment:** No public comment.

- **NEXT MEETING:** The next regular meeting will be held June 25, 2026 at 6:00 pm

Adjournment: The meeting was adjourned at 7:47 p.m.

- **Approved Minutes:** _____ **Date:** _____

Illinois Valley Soil & Water Conservation District

Profit & Loss

06/17/26

July 2025 through May 2026

Cash Basis

	Jul '25 - May 26
Ordinary Income/Expense	
Income	
Grants Received	152,652.00
Other Revenue	9,908.03
Service Contracts	
OSU SONDE	3,703.61
Service Contracts - Other	296.63
Total Service Contracts	4,000.24
Total Income	166,560.27
Gross Profit	166,560.27
Expense	
Accounting Fees	13,000.00
Bank Fees	30.00
Contracted Services	
Mileage SONDE	98.33
Contracted Services - Other	1,710.00
Total Contracted Services	1,808.33
Insurance	
General Liability Insurance	8,998.89
Total Insurance	8,998.89
Meeting Expense	
Food and water	568.78
Meeting Expense - Other	162.40
Total Meeting Expense	731.18
Mileage	1,135.72
Other	
Advertising	44.28
Copier lease	887.28
Dues & Subscriptions	
Membership Dues	640.00
Dues & Subscriptions - Other	260.00
Total Dues & Subscriptions	900.00
Payroll Fees	2,350.00
PO Box Rent	122.00
Postage/Mailing fees	25.00
Power and Electric	568.03
Printing & Copying	290.36
Reimbursable Expense	-4,353.97
Rent Expense	6,502.00
Taxes	
Government Ethics Assessment	935.78
Secretary of State Annual Fee	300.00
Taxes - Other	62.79
Total Taxes	1,298.57
Telephone	1,581.02
Website/Internet fees	804.43
Total Other	11,019.00
Return of Grant Funds	35,065.79
Software Subscription	2,923.72
Supplies & Materials	6,614.56

3:53 PM

06/17/26

Cash Basis

Illinois Valley Soil & Water Conservation District

Profit & Loss

July 2025 through May 2026

	Jul '25 - May 26
Training and associated travel	
Lodging	633.34
Training and associated travel - Other	29.60
Total Training and associated travel	662.94
Wages and Salaries	128,149.69
Water Quality Monitoring	
Contract Water Quality Staff	3,199.57
Contracted Laboratory Analysis	31,395.00
Mileage Reimbursement /Sampling	683.20
Shipping Samples	753.53
Water Quality Monitoring - Other	105.90
Total Water Quality Monitoring	36,137.20
Total Expense	246,277.02
Net Ordinary Income	-79,716.75
Other Income/Expense	
Other Income	
Interest Income	0.02
Refunds	1,069.47
Reimbursement	29,049.72
Total Other Income	30,119.21
Net Other Income	30,119.21
Net Income	-49,597.54

12:20 PM

06/18/26

Cash Basis

Illinois Valley Soil & Water Conservation District

Balance Sheet

As of May 31, 2026

	May 31, 26
ASSETS	
Current Assets	
Checking/Savings	
Checking Account	76,590.84
Savings Account - Thompson Crk	231.72
Total Checking/Savings	76,822.56
Total Current Assets	76,822.56
TOTAL ASSETS	76,822.56
LIABILITIES & EQUITY	
Equity	
Unrestricted Net Assets	126,420.10
Net Income	-49,597.54
Total Equity	76,822.56
TOTAL LIABILITIES & EQUITY	76,822.56

Illinois Valley Soil & Water Conservation District

6/17/2026 3:58 PM

Register: Checking Account

From 05/01/2026 through 05/31/2026

Sorted by: Date, Type, Number/Ref

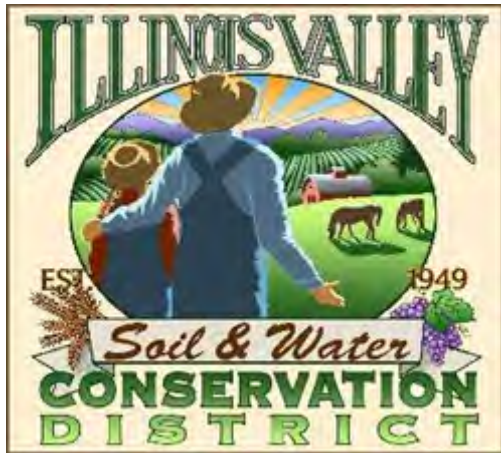
Date	Number	Payee	Account	Memo	Payment	C	Deposit	Balance
05/26/2026	21807	Amazon Business	Accounts Payable		59.85	X		89,402.81
05/26/2026	21808	Crystal Fresh	Accounts Payable	123731	19.00			89,383.81
05/26/2026	21809	Fed-Ex	Accounts Payable	ALSO 2-554-2...	135.99			89,247.82
05/26/2026	21810	GRANT WELL LLC	Accounts Payable		1,000.00			88,247.82
05/26/2026	21811	IEH Laboratories & ...	Accounts Payable		600.50			87,647.32
05/26/2026	21812	IV DATA CENTER	Accounts Payable		540.00			87,107.32
05/26/2026	21813	Pacific Office Autom...	Accounts Payable	717-8257679-0...	25.33			87,081.99
05/26/2026	21814	Pacific Source Healt...	Accounts Payable		25.00			87,056.99
05/26/2026	21815	Pacific Source Healt...	Accounts Payable		596.00			86,460.99
05/26/2026	21816	IEH Laboratories & ...	Accounts Payable		49.50			86,411.49
05/27/2026	ACH	Adobe Suite	Accounts Payable		133.95	X		86,277.54
05/27/2026	ACH	Cardinal Business Se...	Accounts Payable	784581	100.00	X		86,177.54
05/27/2026	ACH	Cardinal Net-To-Bank	Accounts Payable		3,807.12	X		82,370.42
05/27/2026	ACH	Cardinal Tax Impound	Accounts Payable		1,742.85	X		80,627.57
05/27/2026	ACH	Confident Staffing	Accounts Payable		948.02	X		79,679.55
05/27/2026	ACH	Cardinal Tax Impound	Accounts Payable		28.76	X		79,650.79
05/27/2026	DEBIT	Hanna Instruments	Accounts Payable		924.95	X		78,725.84
05/27/2026	DEBIT	Monday.com	Accounts Payable		684.00	X		78,041.84
05/27/2026	DEBIT	Onset Computer	Accounts Payable		901.00	X		77,140.84
05/27/2026	21817	Grants Pass Water Lab	Accounts Payable		550.00			76,590.84

June 2026 - District Manager Staff Report

- **Illinois Valley SWCD Administration**
 - Bryce Porter, our new Watershed Technical Specialist, started work on 6/16. He is quickly gaining experience in on-the-ground project work, grant writing, and project management.
- **Projects**
 - North Illinois Valley SIA
 - Carolyn and David have finished June water sampling at our SIA sites and have deployed continuous temperature monitors.
 - Bryce Porter has begun work on two SIA grants.
 - I have an End of Phase 1 meeting with the ODA team on 6/22, followed by a site visit with Beth (ODA) to a priority property within the SIA.
 - OSU FEWS Wildfire and Water Security Project
 - Our team continues to maintain the two sondes in the field and send data to OSU.
 - The OSU FEWS team is going to provide a synopsis of Wildfire and Water Security Project findings for our first 2022-2025 Integrated Water Quality Report.
 - USFS EDRR/NPR
 - The project is well underway with our team pulling invasives and collecting native seeds in the Smith River Complex burn area.
 - We now have a rental truck. This was delivered on 6/15.
 - I have been busy coordinating with Kevin (IVWC), Heather, Arlyse, Adam (USFS), and our Conservation Technicians to make sure that everything is on track.
 - Illinois Valley Priority Noxious Weeds Project
 - Our team has been continuing to do a great job mechanically controlling (hand pulling) invasive alyssum species and barbed goatgrass.
 - Special kudos to our very own Dr. Kathy Mechling, who has been active as both a volunteer and a volunteer recruiter in this project effort.
 - Check out this article in the Illinois Valley News written as part of our fledgling Riverbound Notes column:
<https://www.theivnews.com/2026/06/04/collaboration-is-key-to-manage-invasive-yellow-tuft-alyssum/>
 - IV WQM 2024-6
 - I have attached the 2025 Illinois Valley SWCD Annual Water Quality Technical Report and public mailer.
 - Artificial Mussels (AM) Pilot Project
 - No new news.
 - Irrigation Modernization Projects
 - Waiting for permits to process on the Sweet Cron Irrigation Modernization Project.
 - Waterways Consulting, Inc. is set to begin the feasibility study for the Jimmy Little Ditch later this summer.
- **Homeland Nickel Laterite Mining**
 - I have established that the IVSWCD is currently maintaining a non-advocacy stance in official communications relating to the mining. However, we are actively engaging on the issue.
- **OWEB Small Grant Team Region 6**
 - The next review team meeting is scheduled for October 13, 2026
 - We are actively recruiting new members for the OWEB SGT 06 via the IVSWCD website, Facebook, and word of mouth.

Respectfully, John Bellville

2025 Illinois Valley SWCD Annual Water Quality Technical Report



Prepared for:

Illinois Valley Soil and Water Conservation District

Prepared by

John Bellville, Illinois Valley SWCD

Reporting Period

April - December 2025

Watershed

Illinois River Basin (HUC 17100311)

June 2026

2025 Illinois Valley SWCD Annual Water Quality Technical Report

Prepared for:

Illinois Valley Soil and Water Conservation District
Cave Junction, OR, USA

By

John Bellville
District Manager
Illinois Valley and Two Rivers SWCDs
541-592-3731
conservation@ivstreamteam.org

June 2026

Background

Purpose and Intended Use

This report is intended primarily for use by the Illinois Valley Soil and Water Conservation District (IVSWCD) to guide restoration planning, project development, and adaptive management within the watershed. The analyses, interpretations, and recommendations presented here are designed to support locally led conservation by helping IVSWCD identify priority areas, understand current water-quality conditions, and align restoration actions with state standards and community goals. While the information may be useful to partner agencies and stakeholders, its primary purpose is to inform IVSWCD's strategic restoration efforts.

Executive Summary

The Illinois River is one of the most ecologically significant rivers in the Pacific Northwest. Rising in the Siskiyou Mountains and flowing seventy-five miles to its confluence with the Rogue River, the Illinois Basin comprises roughly one-fifth of the Rogue River watershed but contributes 25 percent of its flow. The lower 50.4 miles of the river are designated as a National Wild and Scenic River, and the basin is currently nominated for Outstanding Resource Waters (ORW) status by the Oregon Department of Environmental Quality (DEQ).

The Illinois Valley Soil and Water Conservation District (IVSWCD), in a management partnership with the Illinois Valley Watershed Council, conducts systematic water quality monitoring to inform restoration management decisions regarding this exceptional resource. The most recent iterations of the program have been funded by the Oregon Watershed Enhancement Board (OWEB), the Oregon Department of Agriculture (ODA), and Oregon State University (OSU). Both the Oregon Department of Agriculture (ODA) and Illinois Valley community members have funded previous iterations. The 2025 water quality monitoring activities tracked surface water quality at 19 sites through grab sampling, focusing on the agricultural and residential valley floor, where human impacts are most concentrated. This data was supplemented by continuous temperature measurements captured by dataloggers deployed at various sites throughout the watershed.

The 2025 monitoring efforts also included a pilot passive water quality monitoring study in partnership with the USGS Columbia Environmental Research Center. The passive samplers are currently in analysis. A separate report detailing the findings of the passive samplers will be developed and published at a later date.

In 2025, IVSWCD collected 2,186 individual water quality measurements across nineteen sites. The data reveals a watershed that remains fundamentally healthy while facing specific, localized pressures. Here are some key takeaways from the 2025 water quality monitoring season:

- **E. coli levels are generally excellent**, with a median of 16.5 cfu/100mL (well *below* the 126 cfu/100 mL geometric mean state standard for surface waters used for freshwater contact recreation). However, 12.3% of samples (37 of 302) exceeded the standard (406 cfu/100 mL single-sample maximum), primarily in late summer at specific valley floor sites, with the highest value recorded at Site 425 (Althouse Creek) at 1,986.3 cfu/100mL on September 9.
- **Summer water temperatures are the primary environmental stressor** for the federally threatened Southern Oregon/Northern California Coast (SONCC) coho salmon. Across the April–December season, 39% of grab-sample readings exceeded the 18°C (64.4°F) salmonid rearing threshold; during the summer months specifically, continuous temperature loggers recorded a 52% exceedance rate.
- **Nutrient pollution (nitrate and phosphorus) is minimal**, with medians of 0.011 mg/L and 0.004 mg/L, respectively, indicating that agricultural runoff is not currently driving systemic eutrophication.
- **Turbidity and Total Suspended Solids (TSS) remain exceptionally low**, confirming the visual clarity that defines the Illinois River, with basin medians of 0.88 NTU and .53 mg/L, respectively.

This report summarizes the 2025 findings, providing the data necessary to help guide future IVSWCD restoration projects and inform landowners.

Table 1. 2025 Water Quality Summary

Parameter	Measured Value	Standard/Reference	Status
E. coli Median	16.5 cfu/100mL	126 cfu/100mL	Excellent
E. coli Exceedances	37/302 (12.3%)	< 5%	Attention
Peak Temperature	26.1°C (Aug 12)	18°C threshold	Exceedance
Temp. Exceedance Rate	39% of readings	18°C 7DADM std	Concern
pH Median	7.60	6.5–8.5	Excellent
Turbidity Median	0.88 NTU	10.0 NTU	Excellent
Nitrate Median	0.011 mg/L	10.0 mg/L	Excellent
Total Phosphorus Median	0.004 mg/L	-	Very Low
Total Coliform >200	237/301 (78.7%)	-	Elevated
TSS Median	0.53 mg/L	-	Very Low
Conductivity Median	99.0 µS/cm	700 µS/cm	Very Low

Program Background and Watershed Context

The Illinois River Watershed

The IVSWCD service area covers 524,000 acres of the Illinois River watershed in Josephine County, Oregon. The landscape is dominated by public forestland (80%), with the remaining 20% in private ownership, primarily concentrated on the valley floor around Cave Junction, Selma, and O'Brien.

Ecological Significance

The Illinois River watershed in Josephine County is one of the most ecologically significant basins in the Pacific Northwest, defined by its extraordinary biodiversity, rare geology, and intact cold-water habitats. Anchored by serpentine and peridotite formations that create nutrient-poor yet botanically rich soils, the watershed supports one of the highest concentrations of endemic plant species in Oregon. Its Wild & Scenic mainstem and tributaries provide critical habitat for salmon, steelhead, lamprey, and a suite of sensitive aquatic species that depend on the basin's exceptionally clean, cold, and free-flowing waters. Rugged canyons, old-growth forests, and fire-adapted shrublands form a mosaic of habitats that sustain wildlife from northern spotted owls to Pacific fishers. Because the Illinois River watershed remains one of the least-developed, least-fragmented watersheds in the state, it functions as an ecological stronghold whose integrity underpins regional biodiversity, watershed health, and long-term conservation priorities.

The Monitoring Program

Because the Wild and Scenic designation applies primarily to the rugged lower canyon, the water quality of the Illinois River and its tributaries depend heavily on land use practices in the upper valley. The IVSWCD water quality monitoring program is designed to detect water quality changes, with a primary focus on agricultural water quality, as streams flow through the populated valley floor.

The 2025 monitoring season (April–December 2025) was supported by a \$148,429 grant from OWEB. Volunteers and staff collected grab samples and field meter readings at 19 established sites, measuring temperature, pH, conductivity, turbidity, E. coli, total coliform, nitrate, and total phosphorus.

Program Background and Watershed Context

Methodology

The 2025 monitoring network consisted of 19 active sites distributed across four major drainages: Deer Creek, the East Fork Illinois River (including Sucker Creek and Althouse Creek), the West Fork Illinois River, and the Illinois River Mainstem. Sites were selected to capture

water quality conditions above, within, and below the primary agricultural and residential zones of the valley floor.

Monitoring Sites By Drainage

- **Deer Creek (Sites 210, 215, 220, 225, 230):** Upper watershed, spanning the Selma area from White Creek downstream to Siskiyou Field Institute.
- **East Fork Illinois River (Sites 405, 410, 420, 425, 435, 445):** Valley floor agricultural corridor from Takilma downstream to Illinois River Forks State Park.
- **West Fork Illinois River (Sites 620, 625, 630, 635, 640):** O'Brien and Rough & Ready Creek corridor.
- **Illinois River Mainstem (Sites 805, 810, 825):** Lower valley from Finch Road downstream to the \$8 Mountain Green Bridge.

Figure 1. Deer Creek sampling sites map

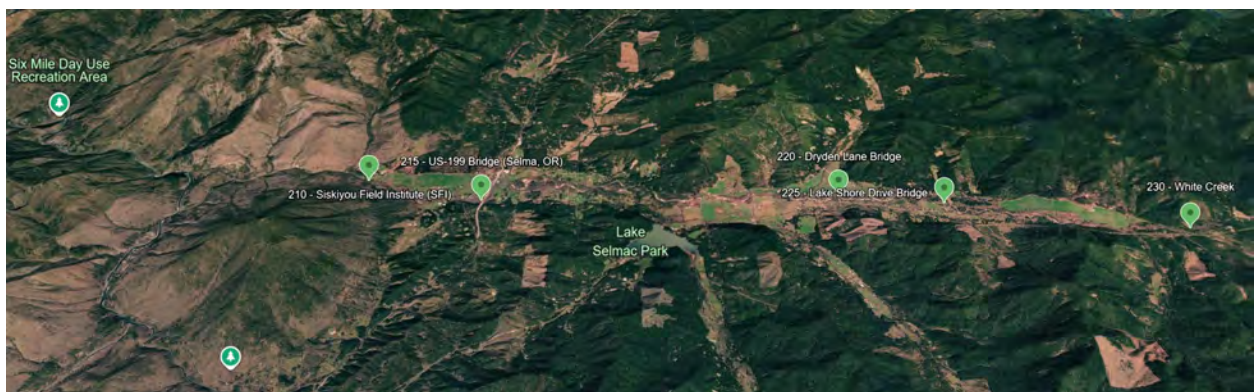


Figure 2. East Fork Illinois River sampling sites map

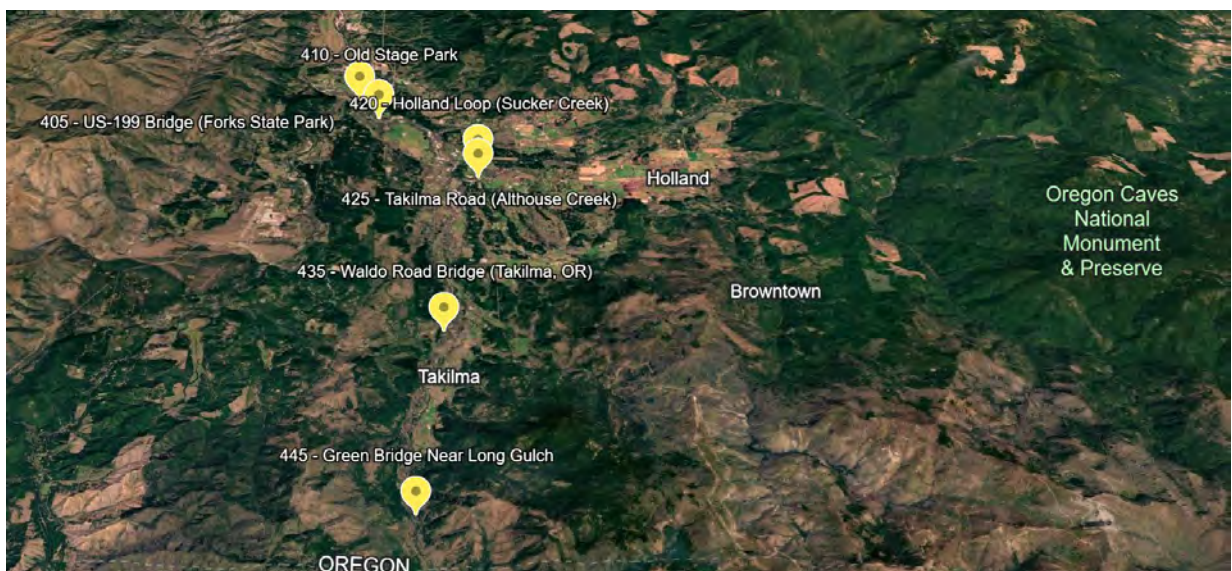


Figure 3. West Fork Illinois River sampling site map

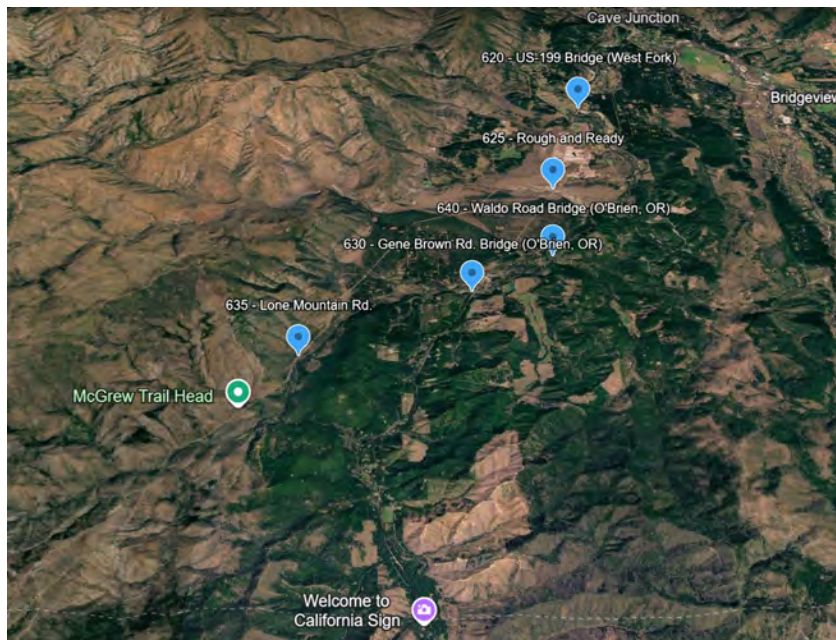


Figure 4. Illinois River Mainstem sampling site map

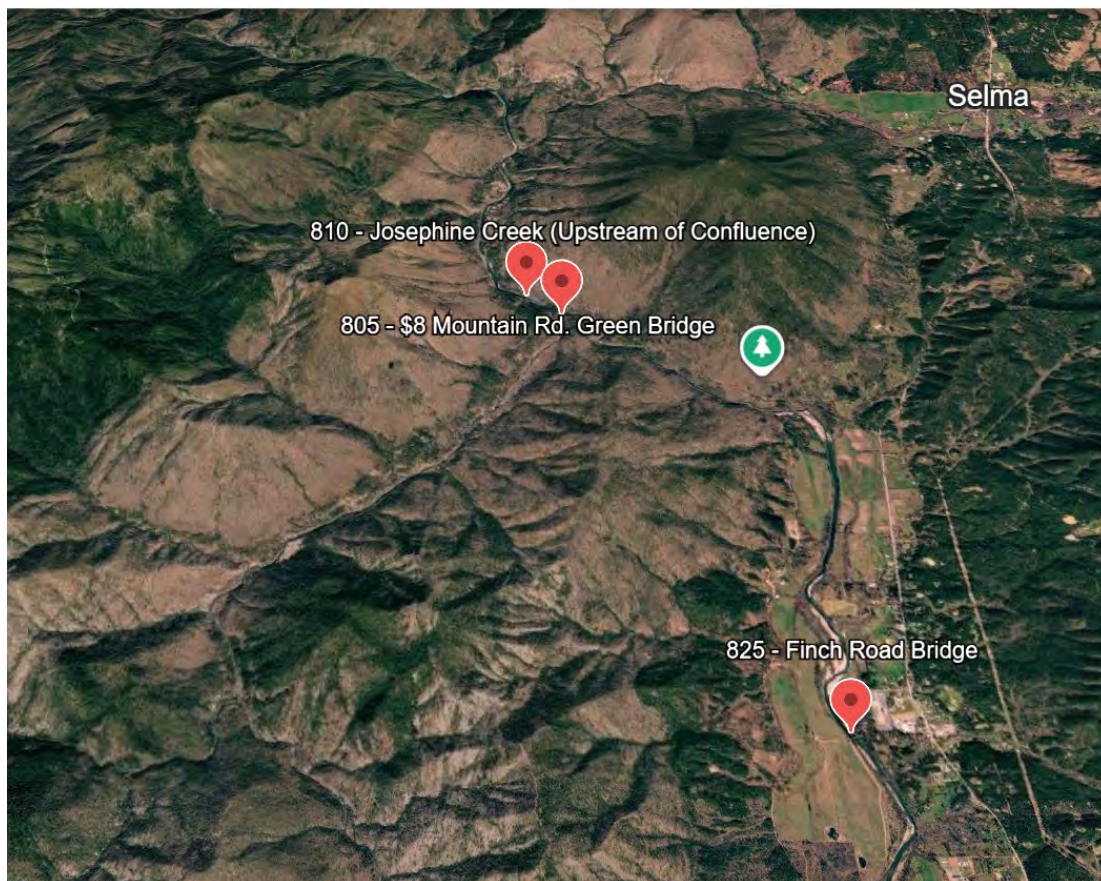
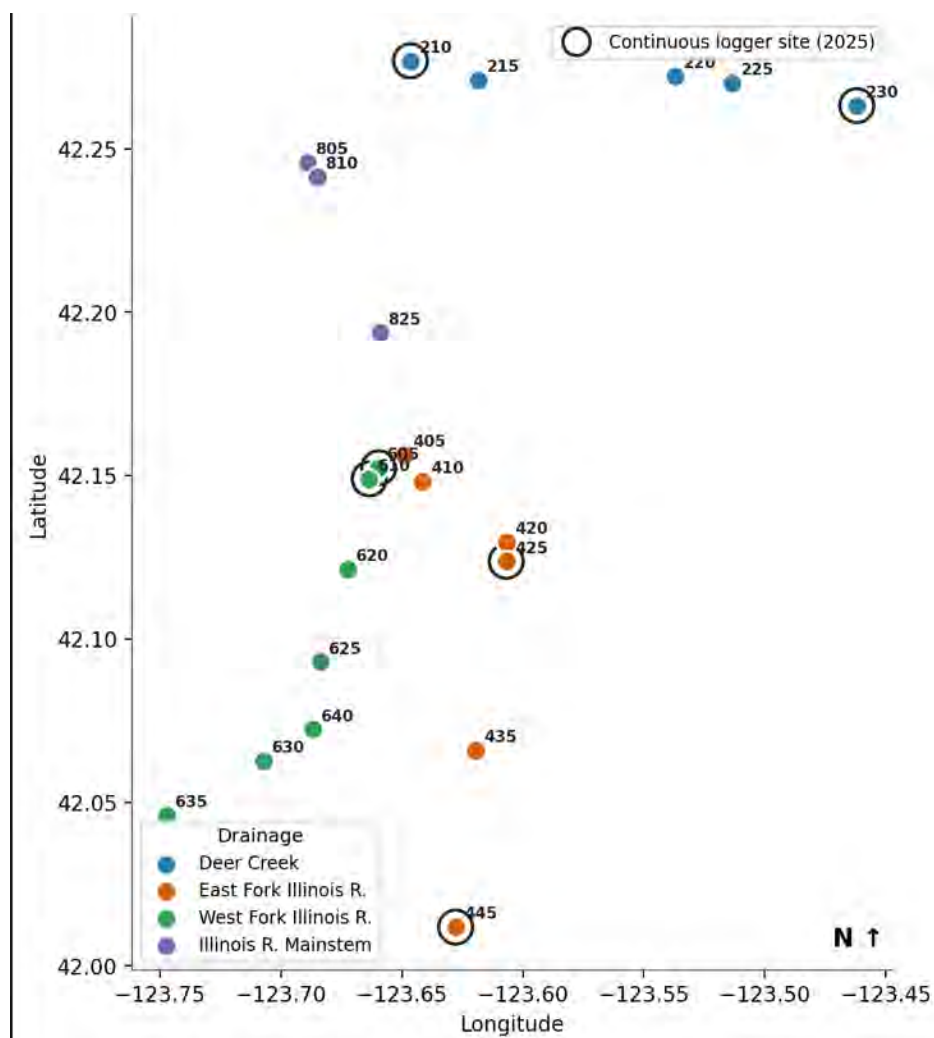


Figure 5. XY scatter plot of grab sampling site coordinates



Field Protocols

Field data collection followed DEQ-approved volunteer monitoring protocols (SAP reference: DEQ25-VOL-0022-SAP). At each site, trained staff and volunteers recorded: Water Temperature ($^{\circ}\text{C}$), pH, Conductivity ($\mu\text{S}/\text{cm}$), and Turbidity (NTU). Instruments were calibrated daily before and after sampling events to ensure data accuracy.

Laboratory Analysis

Grab samples were collected in sterile containers, stored on ice, and transported to certified laboratories (Grants Pass Water Laboratory and IEH Analytical Laboratories) within required holding times. Laboratory analysis included: *E. coli* (cfu/100mL), Total Coliform (cfu/100mL), Nitrate + Nitrite (mg/L), Total Phosphorus (mg/L), and Total Suspended Solids (TSS).

Data Quality Assurance

All 2025 data underwent a rigorous quality assurance process before inclusion in this report. This included physical range validity checks (e.g., flagging impossible pH or temperature values caused by meter calibration errors or equipment malfunctions), cross-referencing against original laboratory reports, and deduplication across data sources. The final verified dataset contains 5,095 result records dated 2022–2025 (out of 5,193 total grab-sample records in the database).

Continuous Temperature Monitoring

To complement the twice-monthly grab-sample network, IVSWCD deployed continuous temperature data loggers at 14 sites during the peak summer period (July–October 2025) and, due to ground-level project realities, managed to recover continuous temperature data from eight of the fourteen loggers. Whereas grab sampling provides a point-in-time field reading roughly twice per month, the loggers recorded water temperature at 30-minute intervals around the clock, yielding 28,845 verified readings for the season. This continuous record captures the daily maximum temperatures and diel (full 24-hour day/night cycle) fluctuations that drive acute thermal stress for salmonids, but that intermittent grab sampling cannot resolve.

The logger network is reported separately from, and partially overlaps, the 19-site grab-sample network described earlier in the report. Numerous logger locations are continuous-monitoring sites that are not part of the grab-sample network. Furthermore, certain sites adjacent to private properties have been de-identified to preserve the privacy of collaborating landowners. Logger sites referenced in the findings include deployments in all four monitored drainages (Deer Creek, East Fork Illinois River, West Fork Illinois River, and Illinois River mainstem). Logger-derived statistics cited in this report, including the summer temperature exceedance rate, the seasonal peak temperature, and the per-site temperature exceedance percentages, are drawn from this continuous dataset rather than the grab-sample database.

Continuous temperature loggers were not calibrated before deployment. However, post-deployment calibration checks showed the instruments were performing within acceptable accuracy.

2025 Water Quality Findings

Temperature: The Primary Limiting Factor

Water temperature is the most critical parameter for salmonid survival. Oregon DEQ establishes an 18°C (64.4°F) 7-day average daily maximum (7DADM) threshold for salmon and trout rearing and migration.

Grab sample field meter readings collected at 19 sites across the April–December season show that 39% of all temperature readings exceeded the 18°C threshold. Continuous temperature

loggers deployed at 8 sites during the peak summer period (July through October 2025) recorded 52% exceedance. This is a higher rate reflecting that loggers captured only the warmest months of the year. Together, both datasets confirm that thermal stress is widespread and sustained throughout summer. Exceedances were entirely seasonal, beginning in late June and peaking in August:

- **Peak Temperature:** 26.1°C (79.0°F) recorded at Site 805 (\$8 Mountain Green Bridge, Illinois River Mainstem) on August 12, 2025, based on grab sample field measurements. Continuous loggers recorded a higher peak of 28.4°C at White Creek (Site 230, Deer Creek) on September 25, 2025, confirming that late-season temperatures remain critically elevated.
- **Spatial Pattern:** All four drainages showed exceedances during July and August. Deer Creek sites (210, 215, 220, 225, 230) and Illinois River Mainstem sites (805, 810, 825) consistently exceeded the threshold from July through early September. Continuous monitoring revealed the most severe and persistent thermal stress in the West Fork drainage: the Power Pole & Fire Pump site (Site 610) exceeded 18°C in 100% of all summer readings. The Waldo Road BED site exceeded the threshold in 98% of readings. It is worth noting that the Waldo Road BED site is located in a non-navigable wetland adjacent to the West Fork of the Illinois River (it was unclear at the beginning of the study whether there was connectivity between this site and the West Fork of the Illinois River), and so could skew results.
- **Riparian Influence:** Tributary sites with intact riparian shading remained measurably cooler. Althouse Creek (Site 425, East Fork) recorded a maximum of just 16.6°C in continuous monitoring (the coolest summer profile of any monitored site) despite being surrounded by sites exceeding 24°C. This substantiates the value of existing riparian canopy on that tributary and highlights riparian canopy restoration as the highest-impact intervention available.

Continuous temperature monitoring is a critical complement to grab-sample field readings. While grab samples provide a point-in-time snapshot approximately twice per month, loggers record every 30 minutes around the clock, capturing daily maximum temperatures that drive acute thermal stress events. The 2025 logger dataset covers 8 sites with 28,845 verified readings from July through October.

Bacteria: E. coli and Total Coliform

E. coli is the standard indicator for fecal contamination from warm-blooded animals (wildlife, livestock, failing septic systems). The Oregon DEQ standard for recreational contact is a geometric mean of 126 cfu/100mL.

The 2025 data shows that while baseline water quality is generally good, there were notable exceedances concentrated in late summer and fall:

- **Overall Median:** 16.5 cfu/100mL (Excellent)
- **Exceedance Rate:** 37 out of 302 samples (12.3%) exceeded 126 cfu/100mL.
- **Hotspots:** Exceedances were concentrated in late summer and early fall (July-October) when water levels were lowest. Site 425 (Takilma Road / Althouse Creek, East Fork Illinois River) recorded the highest value of the year at 1,986.3 cfu/100mL on September 9. Additional high readings were recorded at Sites 635, 410, 640, and 435 in September.

Total Coliform, a broader indicator of environmental bacteria (including soil and plant material), was frequently elevated, with 78.7% of samples (237 of 301) exceeding 200 cfu/100mL. While not a direct human health risk, these elevated levels indicate general biological activity and runoff entering the waterways.

pH, Conductivity, Turbidity, and Total Suspended Solids

pH: The DEQ standard for pH is 6.5 to 8.5. The basin median in 2025 was 7.60, squarely within the healthy range. On April 9, 2025, five Deer Creek sites (210, 215, 220, 225, 230) recorded anomalous pH values between 11.0 and 12.0. These readings were flagged during quality assurance review as almost certainly the result of a meter calibration error: no other sites sampled on the same date showed unusual pH, and values this high (>11) are physiologically incompatible with living aquatic communities. These data points were excluded from analysis. A separate impossible reading (a recorded pH of 815 at Site 810 (Josephine Creek) on April 23, 2025) was similarly identified as a meter or data-entry error and excluded; because the median is robust to extreme outliers, neither this value nor the April 9 anomalies altered the reported basin median.

Conductivity: Conductivity across the monitoring network in 2025 showed a clear seasonal progression, rising from a median of approximately 54 $\mu\text{S}/\text{cm}$ during spring snowmelt (April) to a late-summer peak exceeding 150 $\mu\text{S}/\text{cm}$ in August and September as baseflows concentrated and dilution declined. The 2025 basin-wide annual median conductivity of 99.0 $\mu\text{S}/\text{cm}$ remains well below Oregon's freshwater conductivity criterion of 700 $\mu\text{S}/\text{cm}$ (OAR 340-041-0021), consistent with the watershed's characteristically low ionic strength and the dominant influence of serpentinite and ultramafic geology on water chemistry in the upper Illinois Valley.

Turbidity: The Illinois River watershed is renowned for its clarity, and the 2025 data confirms this. The median turbidity across all sites was just 0.88 NTU (Nephelometric Turbidity Units), with a maximum recorded value of 20.2 NTU during a spring rain event at Site 425. This exceptional clarity is vital for salmonid sight-feeding and overall aquatic health.

Total Suspended Solids: Total suspended solids (TSS) concentrations across the Illinois River Basin monitoring network were consistently low throughout the sampling period, with a basin-wide median of 0.53 mg/L. This amount is well below Oregon's narrative

turbidity standard and any applicable numeric benchmarks for salmonid-bearing waters. These values are characteristic of the Illinois River's naturally oligotrophic, low-turbidity baseflow conditions, reflecting the watershed's predominantly undeveloped upper reaches and limited fine sediment inputs during non-storm periods. A modest seasonal signal is apparent, with spring sampling events (April) yielding the highest median TSS values (0.80 mg/L), consistent with elevated fine particle transport during snowmelt and early runoff pulses. Nearly half of all observations (47%) fell below IEH Analytical Laboratories' method detection limit of 0.50 mg/L, underscoring the generally exceptional clarity of Illinois River mainstem and tributary waters under baseflow conditions.

Nutrients: Nitrate and Phosphorus

Nutrient pollution from agricultural fertilizers or septic systems can trigger harmful algae blooms. The 2025 data indicates that nutrient loading is not currently a systemic problem in the Illinois Valley:

- **Nitrate + Nitrite:** Median 0.011 mg/L (well below the 10.0 mg/L drinking water standard and the 1.0 mg/L level of ecological concern).
- **Total Phosphorus:** Median 0.004 mg/L (exceptionally low, confirming an oligotrophic system with minimal external nutrient loading).

These results indicate that the watershed's natural nutrient buffering capacity remains intact, and that agricultural practices in the valley are not currently contributing to eutrophication.

Multi-Year Trends: 2022-2025

With four years of baseline data, IVSWCD can now begin to assess multi-year trends. The data shows remarkable stability in the watershed's core characteristics:

- **Temperature:** Summer peaks remain consistently high across all four years, driven by regional climate patterns and legacy loss of riparian shade. 2024 and 2025 showed slightly higher peak temperatures than 2022–2023.
- **E. coli:** The basin maintains good baseline water quality, with exceedances concentrated at the same late-summer tributary sites year over year (particularly the East Fork drainage (Site 425) and West Fork sites). The 12.3% exceedance rate in 2025 warrants continued monitoring.
- **Conductivity:** A measure of dissolved ions, conductivity remains highly stable, with distinct signatures for different sub-basins based on their underlying geology.
- **Nutrients:** Nitrate and phosphorus remain consistently low across all four years, confirming the watershed's oligotrophic character and the effectiveness of current land management practices.

Conclusions and Recommendations

The 2025 water quality data confirms that the Illinois River watershed retains its exceptional clarity and generally good water quality. However, the data clearly identifies two primary concerns: summer water temperatures and late-summer E. coli exceedances at specific sites.

To protect the federally threatened coho salmon and maintain the river's outstanding and remarkable values, IVSWCD recommends the following actions:

1. **Prioritize Riparian Planting:** High summer temperatures remain the most significant water quality impairment. IVSWCD should continue to prioritize OWEB funding for riparian canopy restoration, particularly on Deer Creek, Sucker Creek, and Althouse Creek, to increase shading and reduce thermal loading.
2. **Investigate Late-Summer Bacteria Sources:** Repeated E. coli exceedances at Sites 425, 635, and 410 in September-October warrant targeted investigation. IVSWCD should collaborate with landowners in these specific sub-basins to assess septic system health and livestock exclusion fencing.
3. **Maintain the Baseline Monitoring Network:** The current 19-site network provides a robust, high-resolution picture of the valley floor. This network should be maintained, if possible, to track the long-term effectiveness of restoration projects and climate change impacts on the watershed.

Acknowledgements

This monitoring program is made possible by the dedicated staff and volunteers of the Illinois Valley SWCD, Illinois Valley Watershed Council, Oregon Department of Agriculture, Oregon Department of Environmental Quality, Siskiyou Field Institute, the Oregon State University Forest Ecohydrology and Watershed Science Lab, USGS Columbia Environmental Research Center, partnering Illinois Valley landowners, and funding from the Oregon Watershed Enhancement Board (OWEB) through the Oregon Lottery and the Pacific Coast Salmon Recovery Fund.