Hinkson Science Team Meeting Minutes

A meeting of the Hinkson Creek Science Team occurred on April 7, 2026, starting at 3:00 PM via Microsoft Teams call.

Science Team Members

Name	Organization	Area of Interest or Role	Present/Absent for Meeting
Dane Boring	U.S. Environmental Protection Agency	Water Chemistry/Water Quality/ CWA Section 303d	Present
Paul Blanchard	Retired	Hydrology/ Water Quality	Present
Robert Voss	Missouri Department of Natural Resources	Water Chemistry/Water Quality/CWA Section 303d	Present
John Holmes	Allstate Consultants	Civil/Environmental/Water Resources Engineer	Present
Robb Jacobson	University of Missouri Columbia, Adjunct Professor	Potamologist	Present
Dave Michaelson	Missouri Department of Natural Resources	Aquatic Macroinvertebrate Biologist/ Water Quality	Present
Chris Schmitt	Retired/Emeritus U.S. Geological Survey	Aquatic Toxicology	Present
VACANT	VACANT	Modeling/BMP related?	VACANT
Alba Argerich	University of Missouri Columbia	Water Quality/Stream Ecology	Present

Other People in Attendance: Michele Woolbright, Lynne Hooper, Nicki Rineheart, Josh Horne, Tom Wellman

Minutes

The minutes for January 2026 were approved. No meetings were held in February or March.

Discussion Items

1. Geosyntec/Boone County Specific Conductance Monitoring Update
    a. Josh Horne with Geosyntec provided an update on the Hinkson specific conductance monitoring over the past winter.
    b. Is continued WQ sampling through November 2026 still cost effective given that it's unlikely to encounter elevated levels of chloride again?

i. A quorum of the Science team agrees that continued sampling through the project period end date of November 2026 will not be helpful for continued development of the regression model. Additional data points above the chronic criterion (230 mg/l) would be helpful to supplement and strengthen the regression development.

2. Open Topics
    a. John Homes mentioned partnering on development of a digital twin model of Hinkson Creek over past flooding/high flow events.
    b. MU Synoptic sampling will include a subset of sites for *e.coli*.
    c. DNR Macroinvertebrate study delayed due to drought, currently planned for Fall of 2026/Spring of 2027

Excerpts from the Geosyntec presentation:

Specific Conductivity Data Summary

Geosyntec consultants

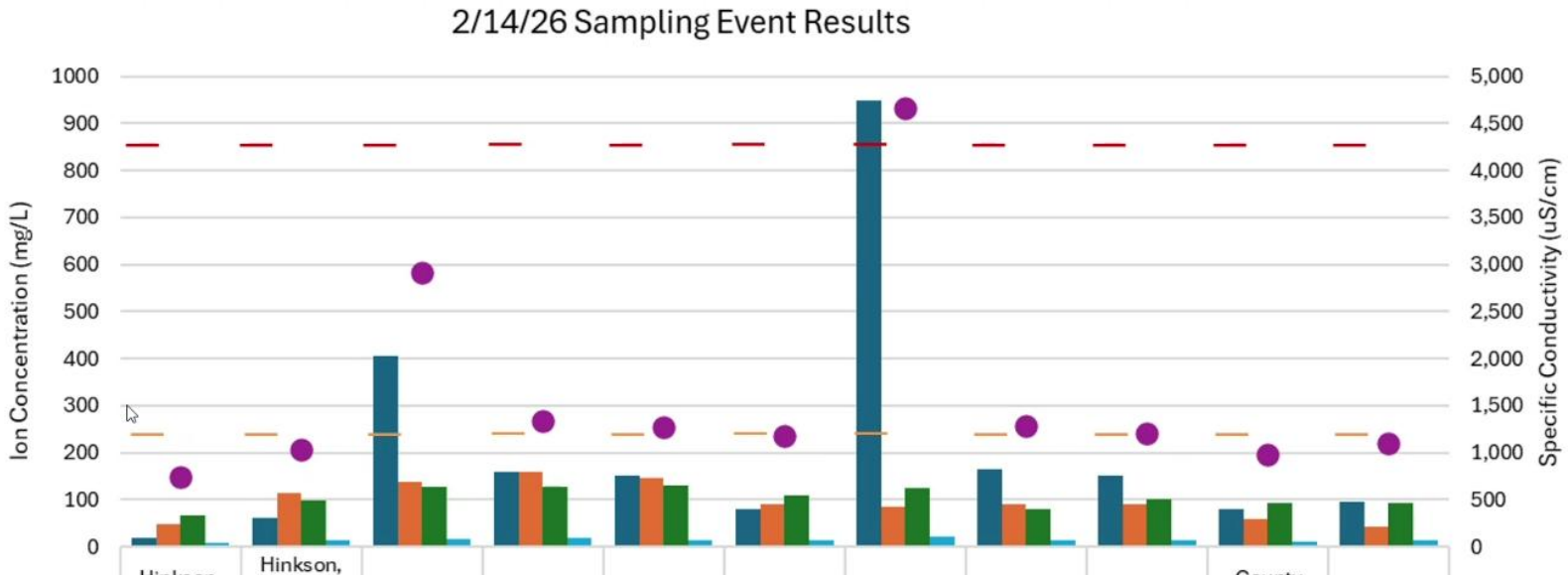
- 626,981 specific conductivity measurements collected as of March 2026

Water Year	Statistic	Specific Conductivity (µS/cm)										
		Hinkson, Rogers Rd	Hinkson, Mexico Gravel Rd	Hinkson, I-70	Hinkson, Walnut St	Hominy Branch	Grindstone Creek	Hinkson, Providence Rd	Flat Branch	Hinkson, Forum Blvd	County House	Mill Creek
2024	Maximum	--	--	4,464	--	4,326	3,707	--	12,573	--	1,987	2,561
	Median	--	--	649	--	710	641	--	885	--	667	587
	Minimum	--	--	91	--	94	122	--	60	--	94	35
2025	Maximum	673	787	3,438	1,418	3,379	1,868	3,325	6,530	2,854	1,434	2,666
	Median	355	576	670	615	769	658	713	962	558	702	599
	Minimum	89	92	117	79	70	133	138	73	115	95	85
2026	Maximum	859	1,976	2,625	1,814	2,134	973	3,127	4,246	1,676	1,030	1,213
	Median	474	846	792	945	1,084	745	958	1,017	815	760	622
	Minimum	249	198	216	287	303	251	180	107	190	146	152

Note: 2026 is ongoing, minimum and median values expected to decrease throughout the summer months.

2/14/26 Storm Event - Analytical Samples

Geosyntec consultants

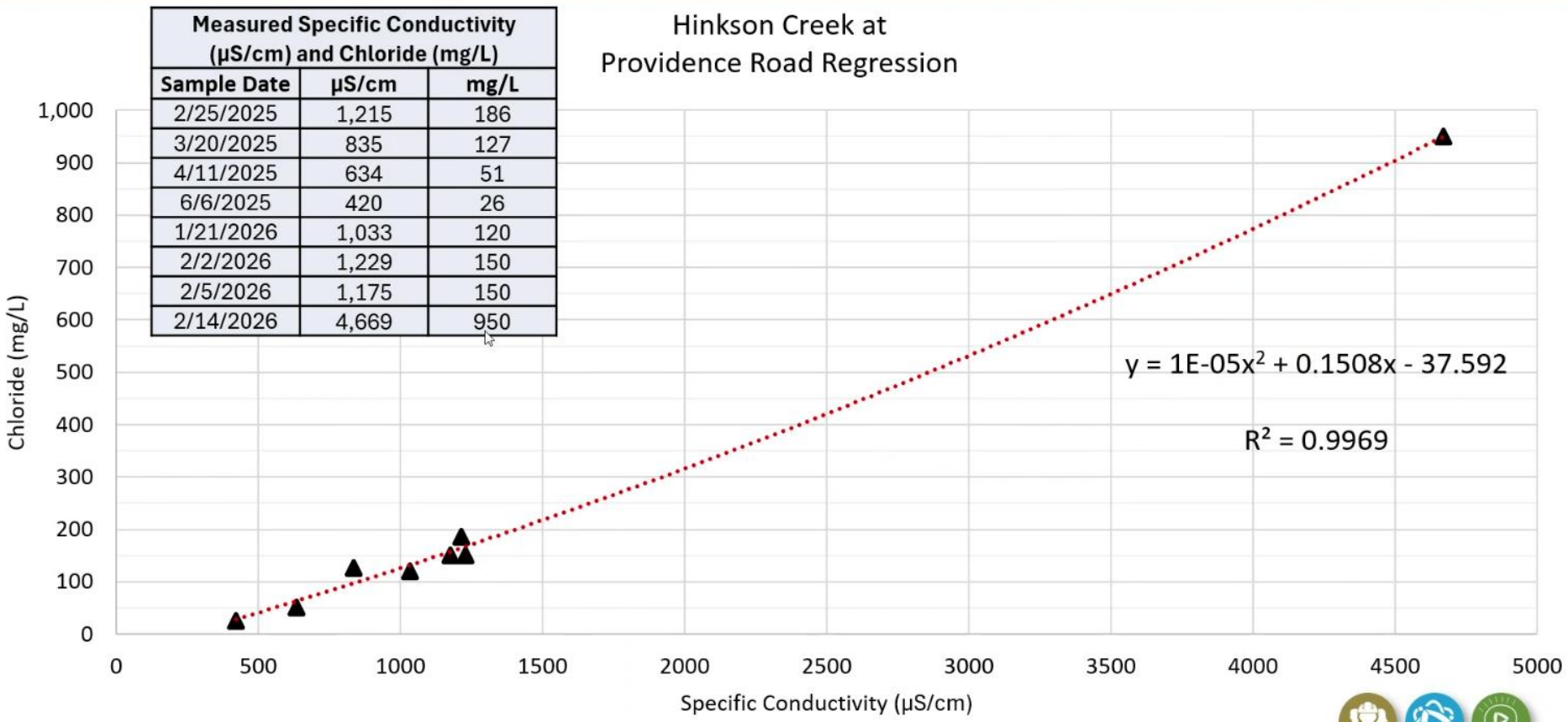


	Hinkson, Rogers Road	Hinkson, Mexico Gravel Road	Hinkson, I-70	Hinkson, Walnut	Hominy Branch	Grindstone Creek	Hinkson, Providence	Flat Branch	Hinkson, Forum Blvd	County House Branch	Mill Creek
Chloride (mg/L)	18	60	405	158	150	80	950	165	150	80	95
Sulfate (mg/L)	46.6	115	137	159	145	91.4	84.5	91	91	58.4	43.7
Calcium (mg/L)	67.6	99.3	127	126	129	110	124	80.4	101	92.8	94.1
Magnesium (mg/L)	8.36	13.2	16.8	18.4	14.1	13.7	22.3	14.5	14.5	10.6	12.7
Specific Conductivity (uS/cm)	746	1,031	2,913	1,332	1,278	1,175	4,669	1,285	1,206	979	1,100

Data Summary – Hinkson Creek at Providence Rd

Geosyntec consultants

Measured Specific Conductivity (µS/cm) and Chloride (mg/L)		
Sample Date	µS/cm	mg/L
2/25/2025	1,215	186
3/20/2025	835	127
4/11/2025	634	51
6/6/2025	420	26
1/21/2026	1,033	120
2/2/2026	1,229	150
2/5/2026	1,175	150
2/14/2026	4,669	950



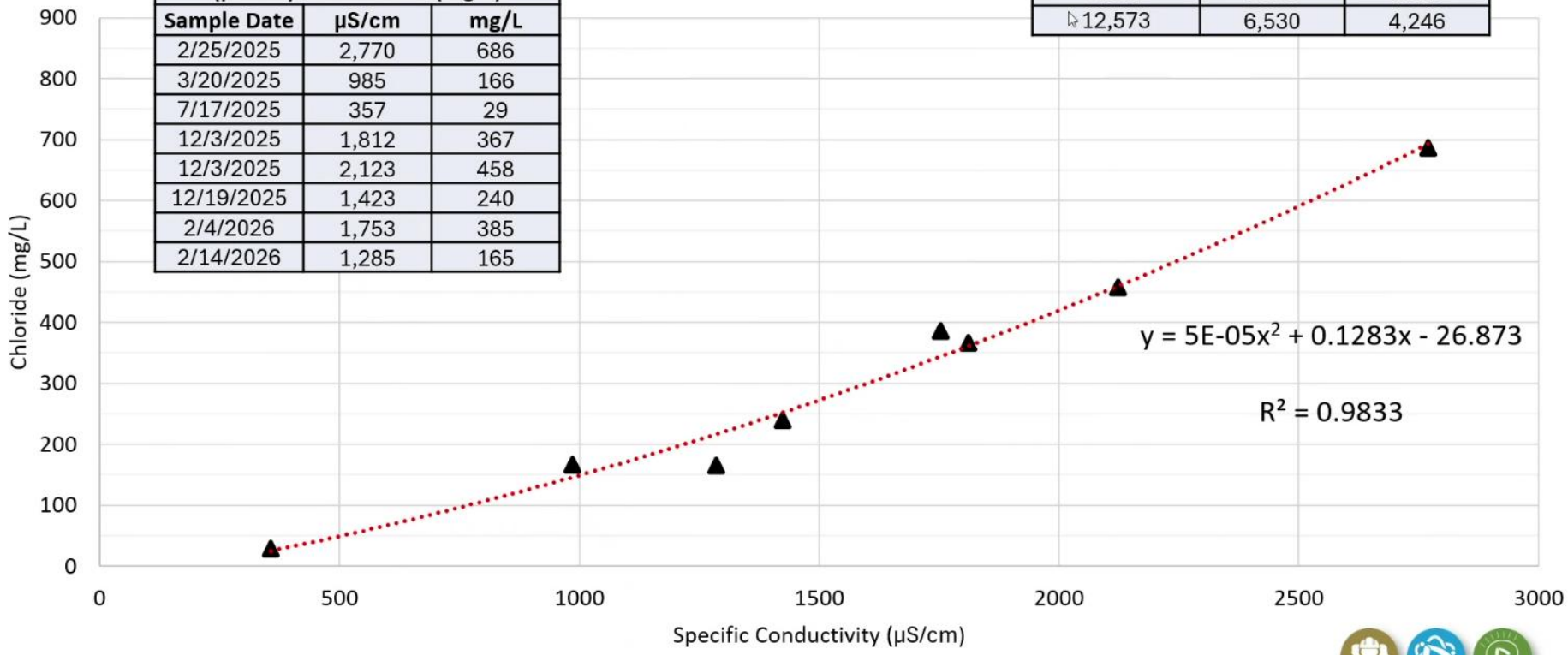
Data Summary – Flat Branch

Geosyntec consultants

Measured Specific Conductivity (µS/cm) and Chloride (mg/L)		
Sample Date	**µS/cm**	**mg/L**
2/25/2025	2,770	686
3/20/2025	985	166
7/17/2025	357	29
12/3/2025	1,812	367
12/3/2025	2,123	458
12/19/2025	1,423	240
2/4/2026	1,753	385
2/14/2026	1,285	165

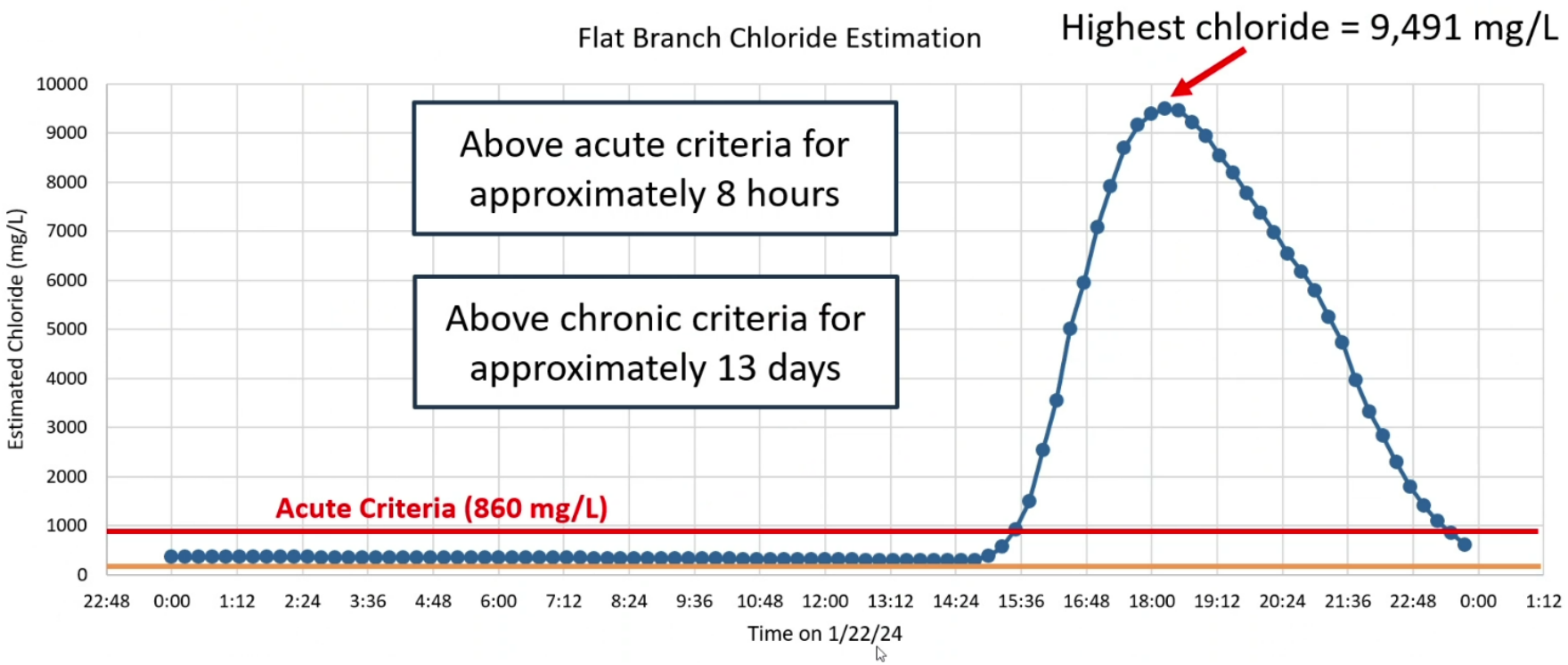
Flat Branch Regression

Max Specific Conductivity (µS/cm) per Year		
2024	**2025**	**2026**
12,573	6,530	4,246



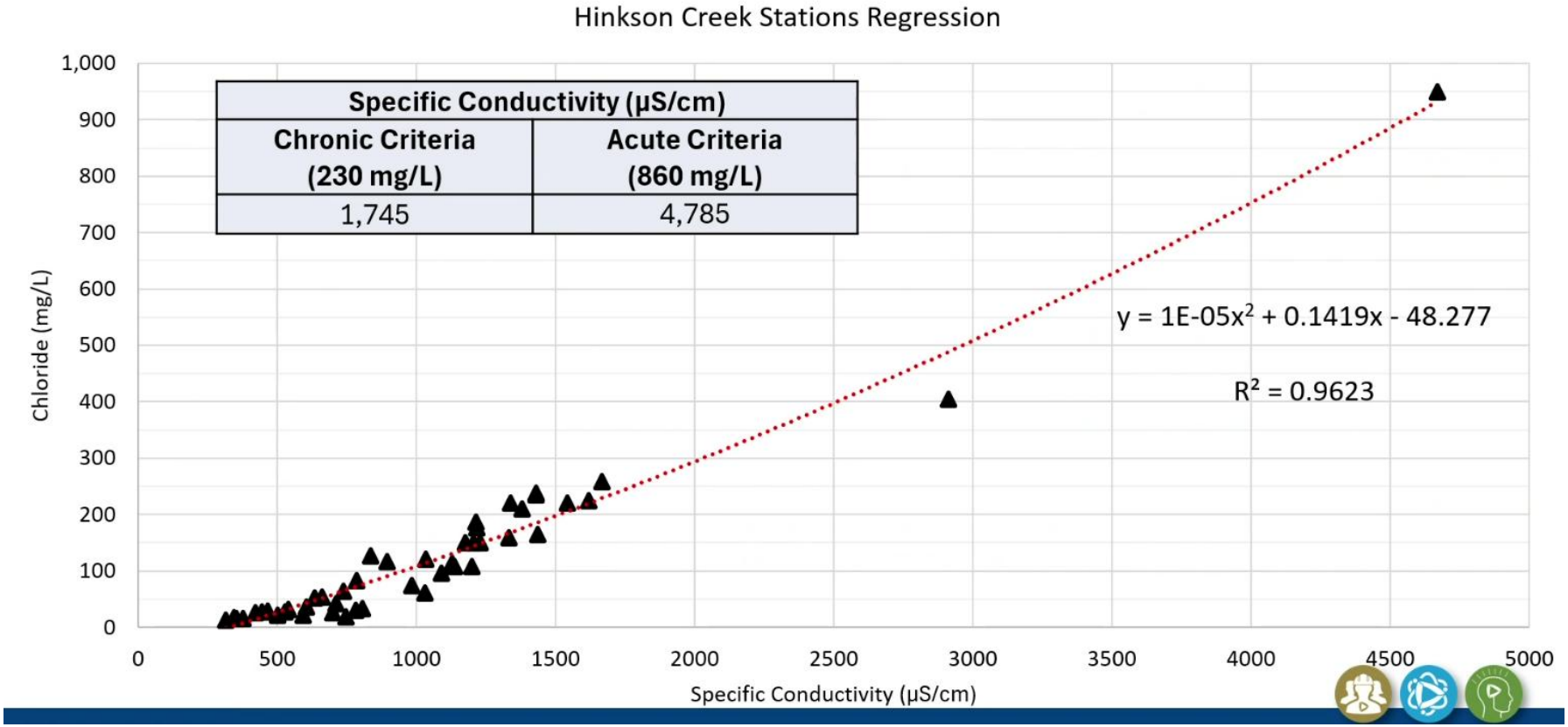
1/22/24 Storm Event - Chloride Projections

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Data Summary – All Hinkson Creek Stations

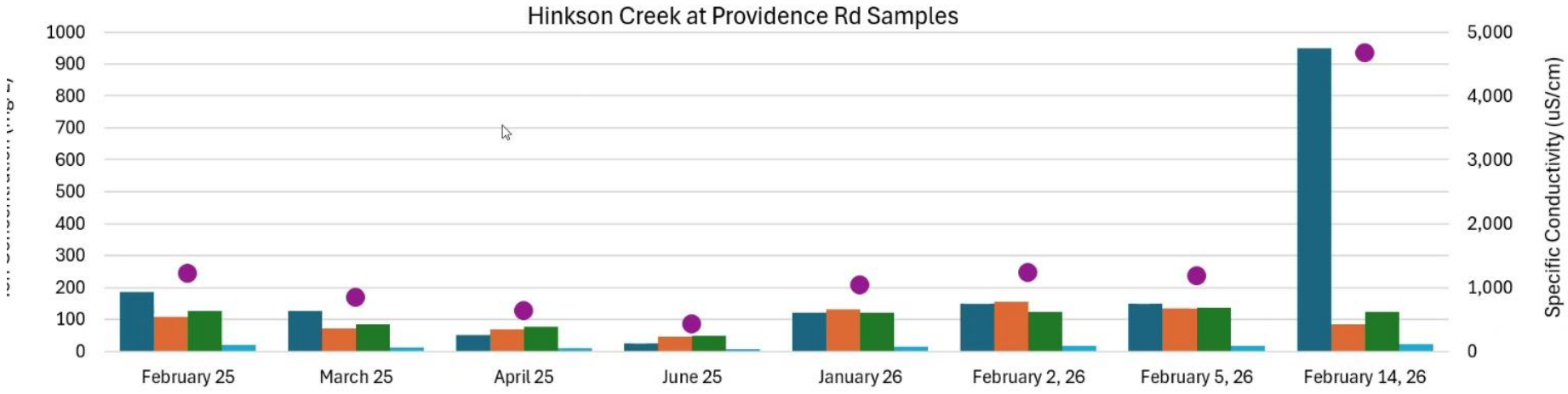
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Regression Models – Other Ions

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- Other ions (sulfate, calcium, magnesium) fluctuate minimally relative to chloride. Expected to have a nominal impact on changes in conductivity compared to chloride.



	February 25	March 25	April 25	June 25	January 26	February 2, 26	February 5, 26	February 14, 26
Chloride (mg/L)	186	127	51.3	26	120	150	150	950
Sulfate (mg/L)	107	70.6	68.6	45.6	131	156	135	84.5
Calcium (mg/L)	127	85.2	78	49	122	123	136	124
Magnesium (mg/L)	18.5	11.8	10.3	6.58	15.7	15.9	17.7	22.3
Specific Conductivity (uS/cm)	1,215	835	634	420	1,033	1,229	1,175	4,669

Data Summary

Geosyntec consultants

- Acute and chronic criteria excursions have been projected to occur in Hinkson Creek and its tributaries
  - Based on conductivity data, chloride criteria excursion are likely reoccurring

- Mild winter in 2026, less road salt was likely applied than in 2025 and 2024
  - However, conductivity at Hinkson Creek at Rogers Rd and Mexico Gravel Rd have been higher in 2026 compared to 2025
    - Background chloride concentrations may be increasing in the watershed

