



CLFLWD
WATERSHED DISTRICT

2022 DIY & CAT Monitoring Programs

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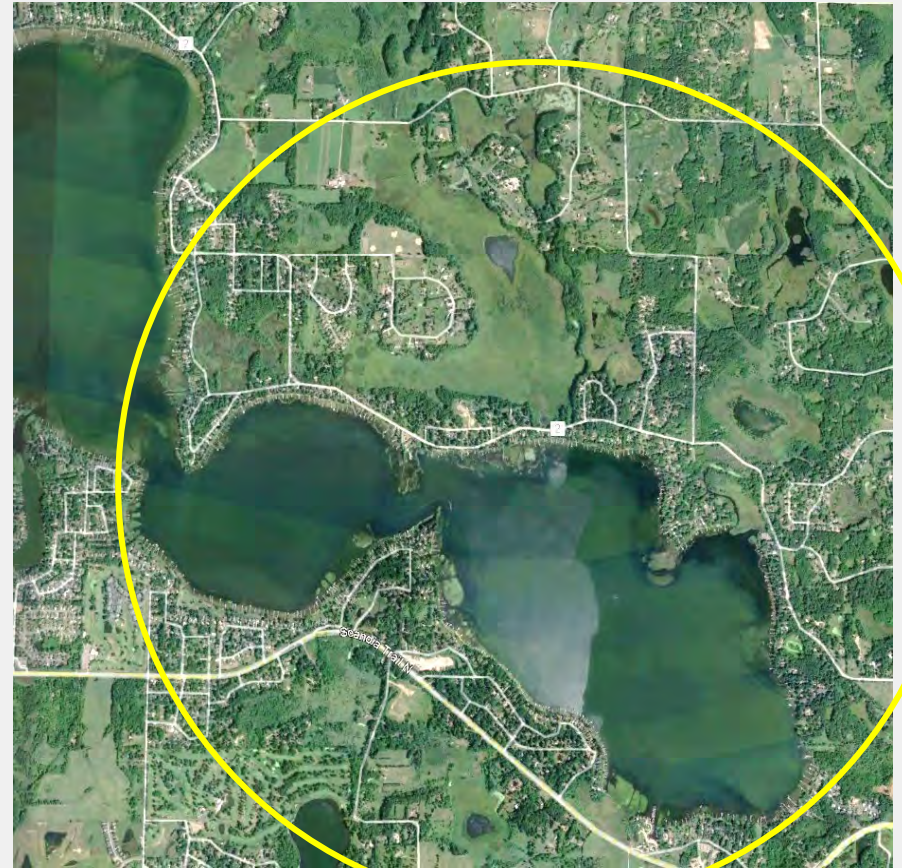




DIY Diagnostic and CAT Programs – Monitoring Locations



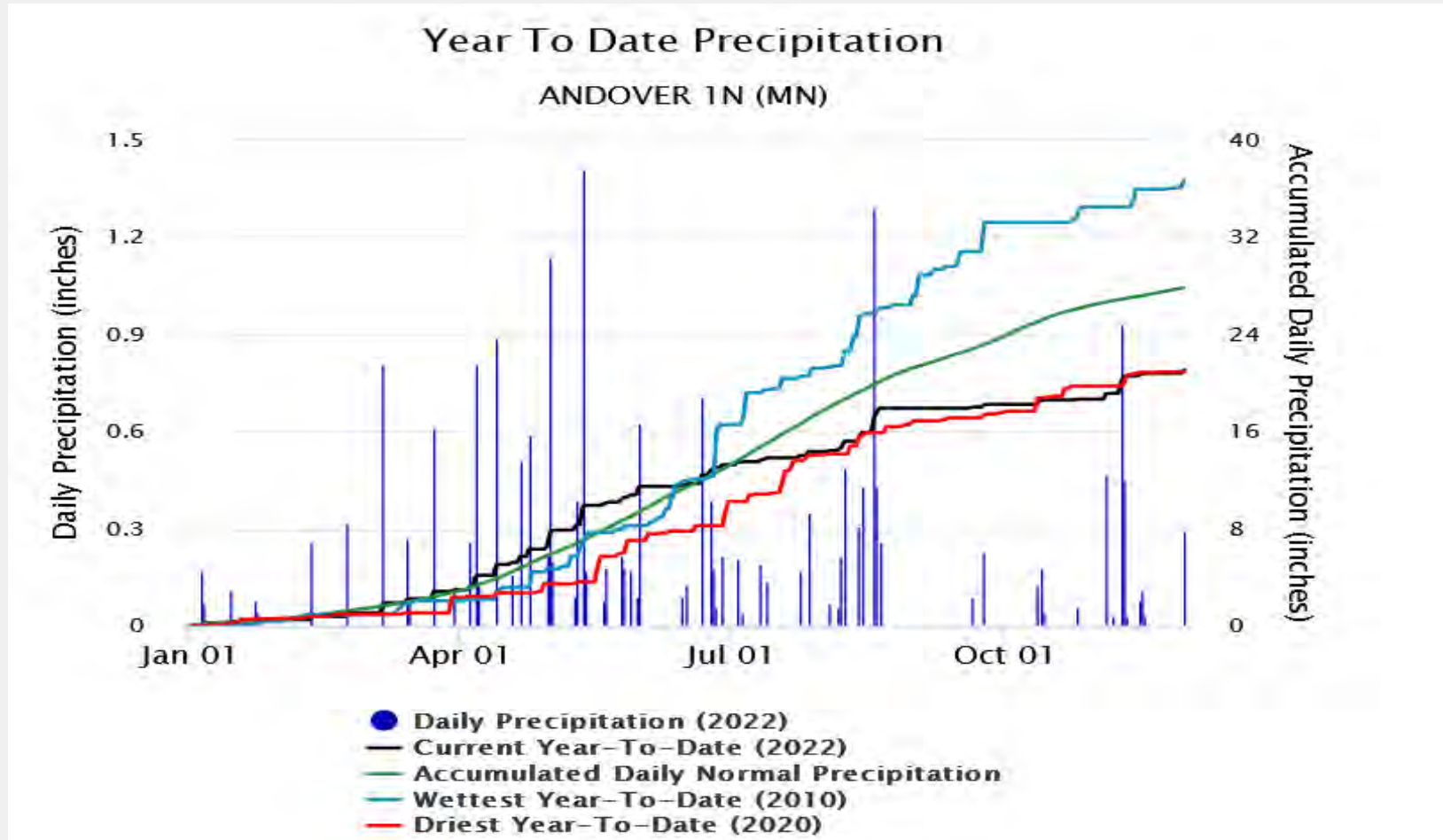
Do-It-Yourself Diagnostic Monitoring
Sunrise River



Citizen Assisted Tributary Monitoring
Forest Lake 2nd & 3rd basins



2022 Climate Conditions

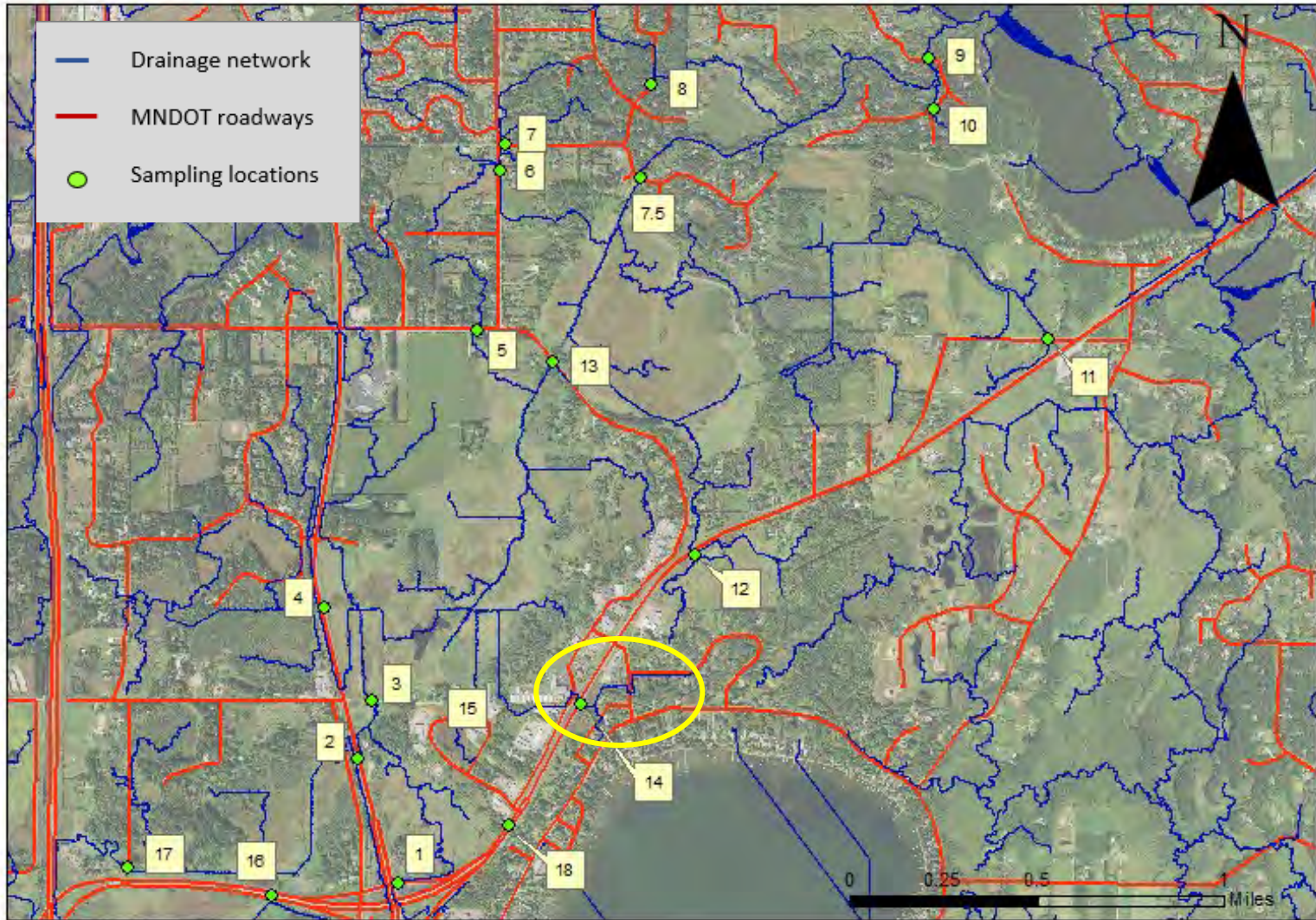


https://www.dnr.state.mn.us/climate/climate_monitor/precipcharts.html

2022 precipitation summary for the closest MNDNR monitoring station to the CLFLWD

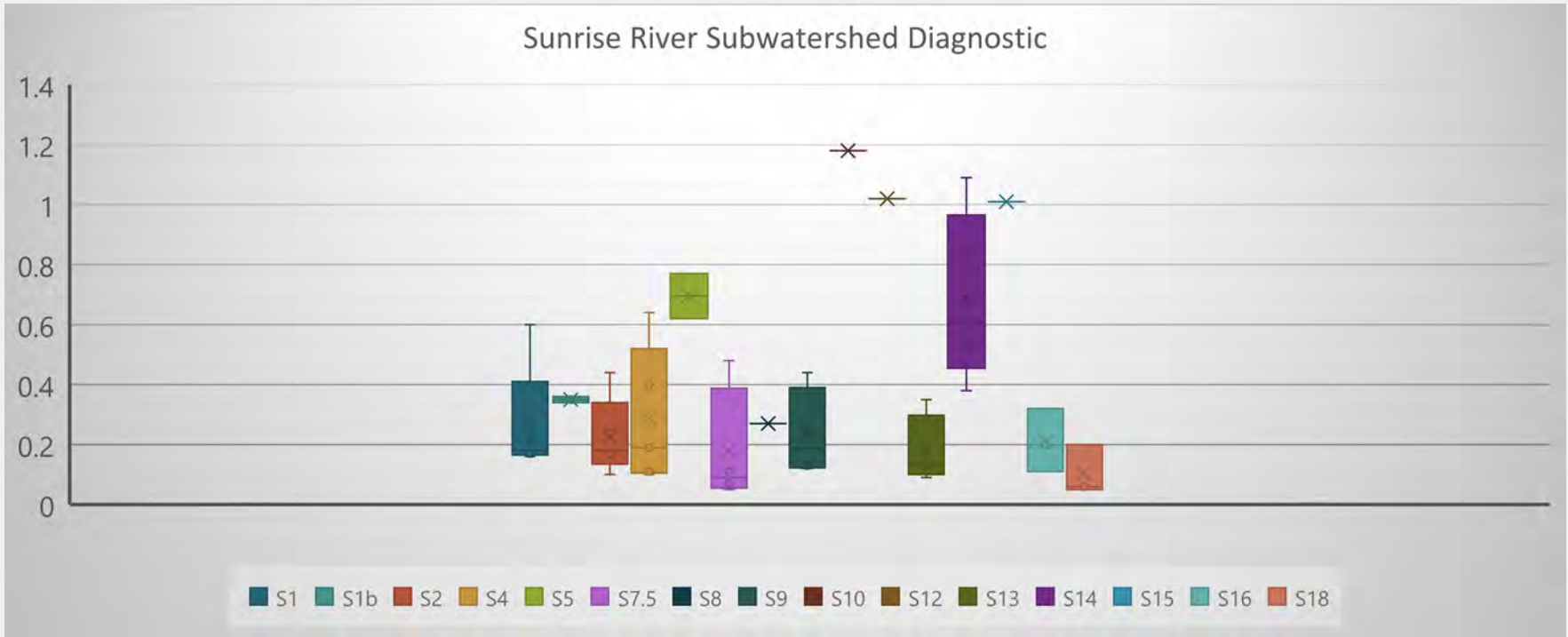


DIY Diagnostic – Sunrise River Subwatershed





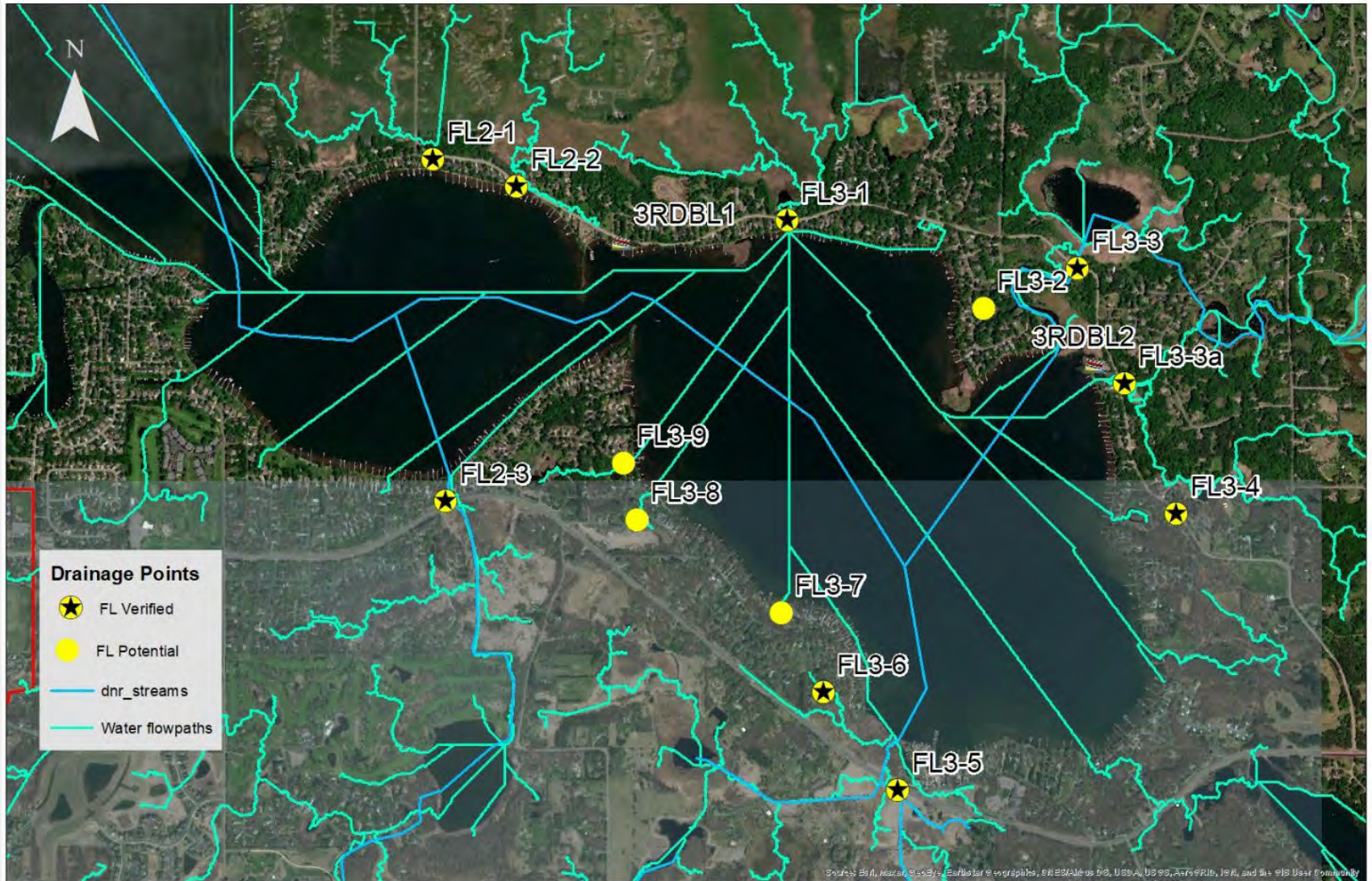
DIY Diagnostic – Sunrise River



Date	S1	S1b	S2	S4	S5	S7.5	S8	S9	S10	S12	S13	S14	S15	S16	S18
22-Mar	0.6	.	0.44	0.64	0.77	0.48	.	0.44	1.18	.	0.35	1.09	1.01	0.2	0.2
12-May	0.18	0.34	0.18	0.19	.	0.05	.	0.24	.	1.02	0.09	0.61	.	0.11	0.06
24-Jun	0.17	0.35	0.24	0.4	.	0.11	.	0.12	.	.	0.13	0.53	.	0.32	0.05
8-Aug	0.22	0.36	0.1	0.1	.	0.07	.	0.13	.	.	0.14	0.84	.	.	.
12-Aug	0.16	.	0.17	0.11	0.62	.	0.27	.	.	.	.	0.38	.	.	.



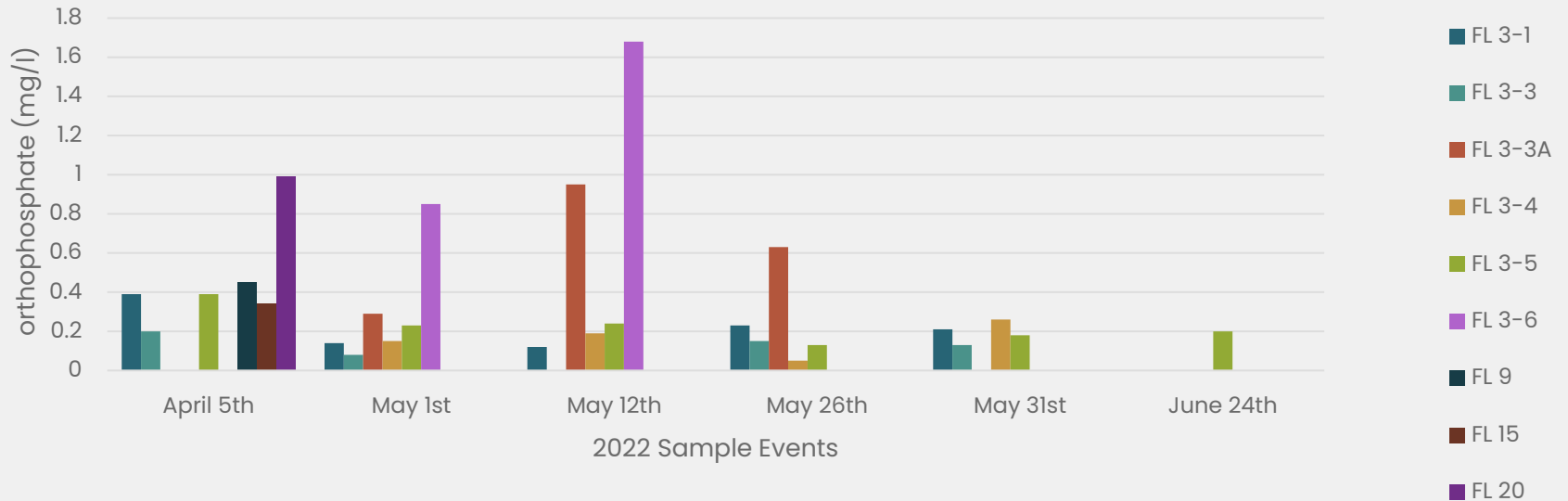
CAT Program – Forest Lake Second & Third Basins





CAT Program – Forest Lake

Forest Lake – CAT Monitoring Effort



Date	FL3-1	FL3-3	FL3-3a	FL3-4	FL3-5	FL3-6	FL-9	FL-15	FL - 20
5 - April	0.38	0.2	.	.	0.39	.	0.45	0.34	0.99
1 - May	0.14	0.08	0.29	0.15	0.23	0.85	.	.	.
12-May	0.12	0	0.95	0.19	0.24	1.68	.	.	.
26-May	0.23	0.15	0.63	0.05	0.13	.	.	.	.
31-May	0.21	0.13	.	0.26	0.18	.	.	.	.
24 - June	.	.	.	.	0.2	.	.	.	.



Duplicate Water Quality Sample Comparison

EOR staff collected duplicate water samples at several locations during their diagnostic monitoring efforts within the Comfort Lake Basin

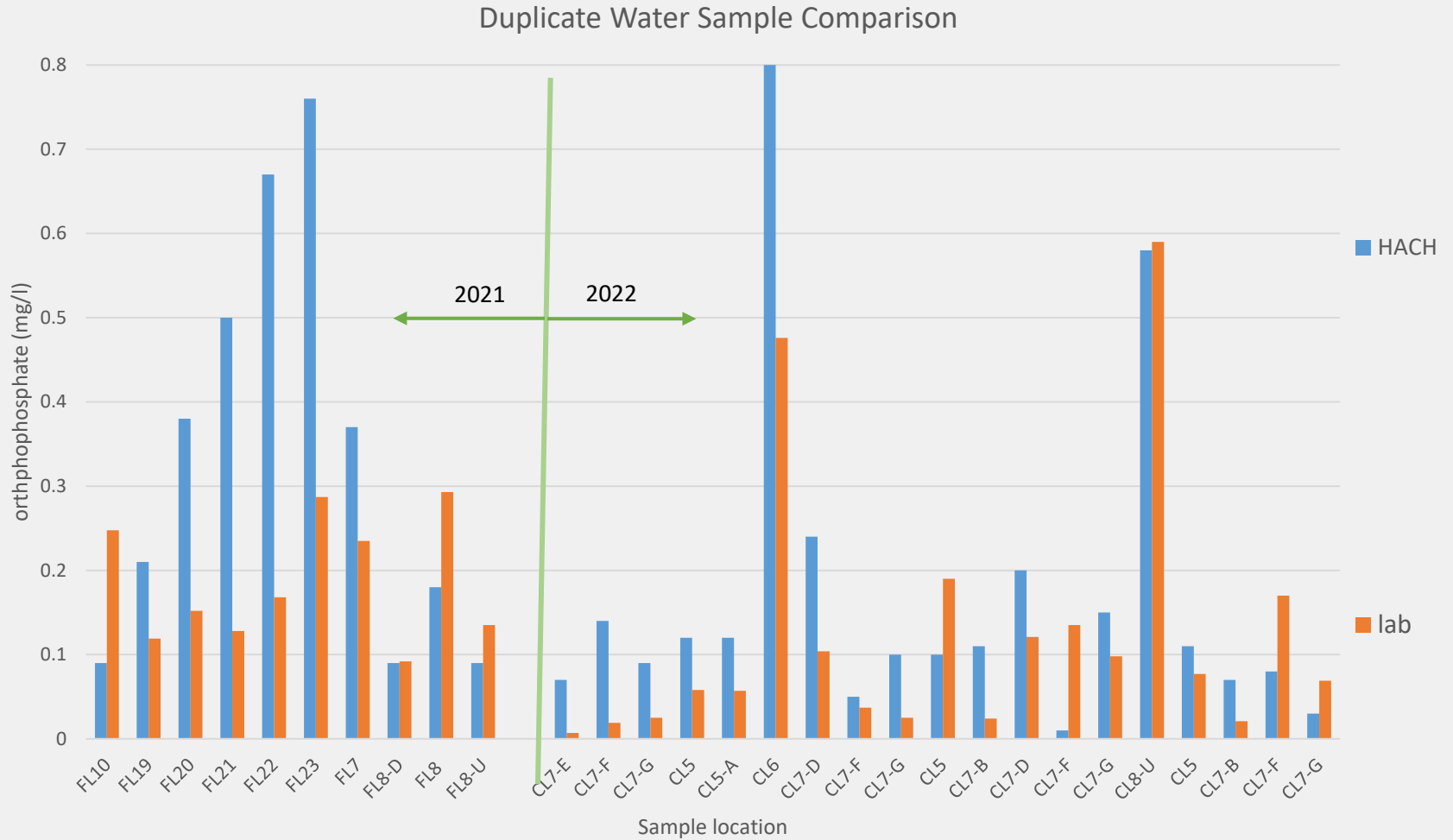
Allows for direct comparison of EOR's contracted lab (Instrumental Labs) result to those of the DIY HACH colorimeter.

A continuation of the study started in 2021.





Duplicate Water Quality Sample Comparison



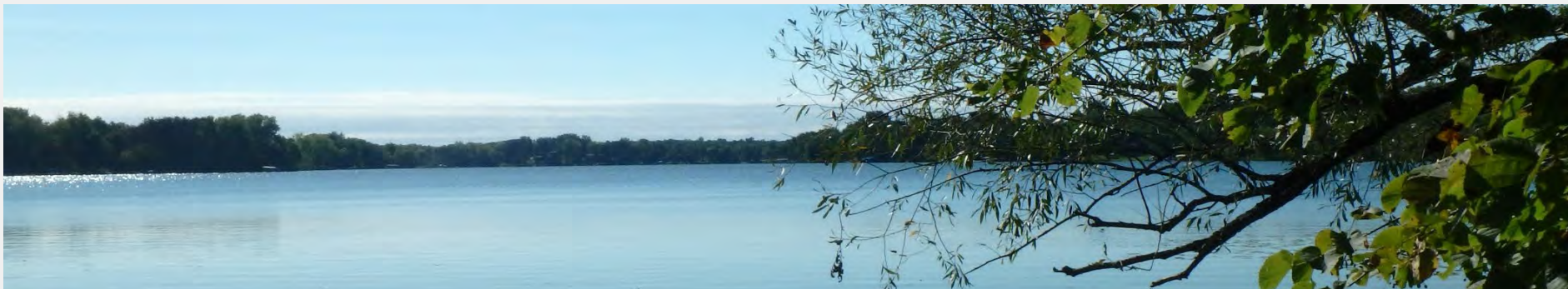


Duplicate Water Quality Sample Comparison

Wilcoxon Signed Ranked Test: compared the difference between the means of the data set (average difference between values for DIY vs commercial laboratory data).

95% probability level, there was a statistical difference between the mean values of the results from the HACH colorimeter as compared to the commercial laboratory

Counter to the results from 2021. Larger sample size, more appropriate statistics used for analysis





DIY Diagnostic and CAT Programs - Conclusion



- 2021 and 2022 were challenging monitoring years due to drought
- Few conclusions can be drawn from the dataset

- Recommendations
- Focus on areas identified in the 2021/22 efforts as potential nutrient sources – DIY County Line area
- Continue and expand the CAT effort in Forest Lake
- Shift the DIY effort into the Comfort Lake Direct drainages
- Continue the Duplicate Sample Comparison Study



Acknowledgments

The Comfort Lake-Forest Lake Watershed District would like to thank the volunteers who participated in the 2022 Citizen Assisted Tributary Monitoring program. Primarily Randy Schumacher.

Thank You!

