

West Fork of the White River Stream Restoration Monitoring



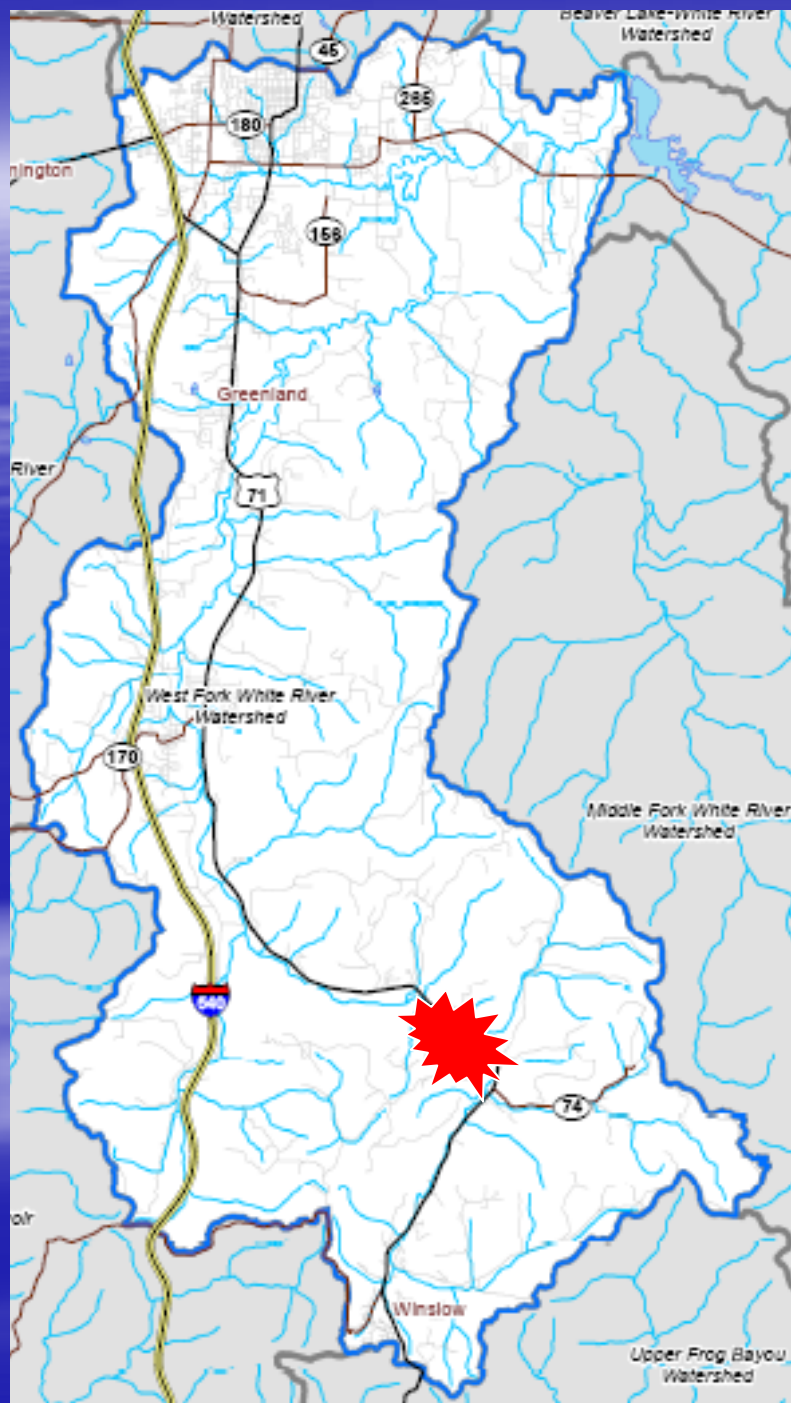
Dan DeVun
Ecological Conservation Organization
devun@ecoconservation.org
(501) 372-7895

Introduction

Stream restoration activities are planned to be conducted in the WFWR.

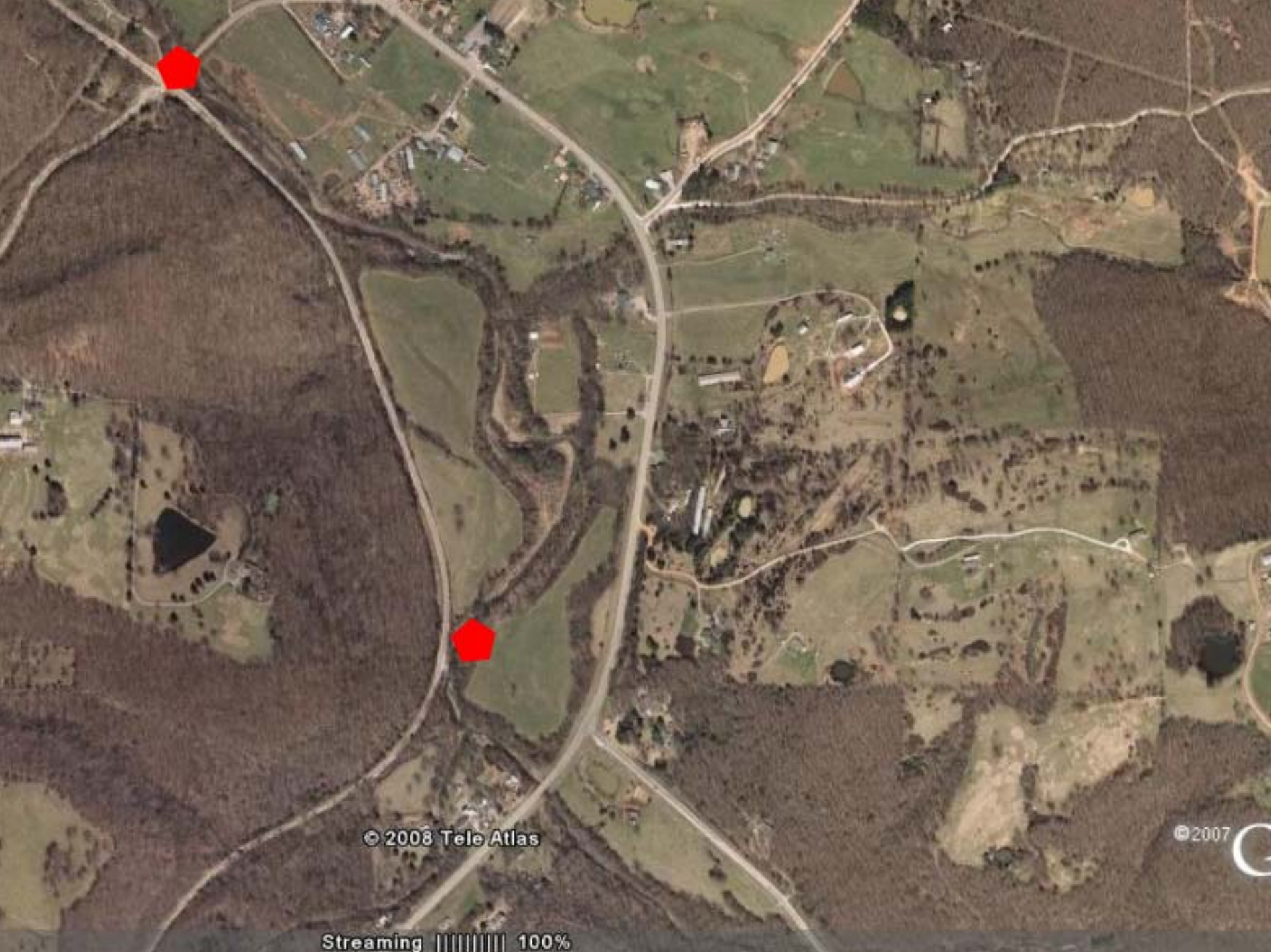
Collect water quality samples before, during, and after the implementation of the restoration project at locations upstream and downstream of the restoration site.





Goals/Objectives

- establish two water quality monitoring stations that are representative of the area and the restoration project
- accurately determine nutrient and sediment loading at the monitoring stations
- determine the effects of the restoration project on water quality
- gain a better understanding for the chemical and physical dynamics of project area in the watershed



© 2008 Tele Atlas

© 2007

Streaming ||||| 100%



APA
MADE IN U.S.A.

MADE IN U.S.A.





ESCO
Environmental
Solutions
A WATCO COMPANY

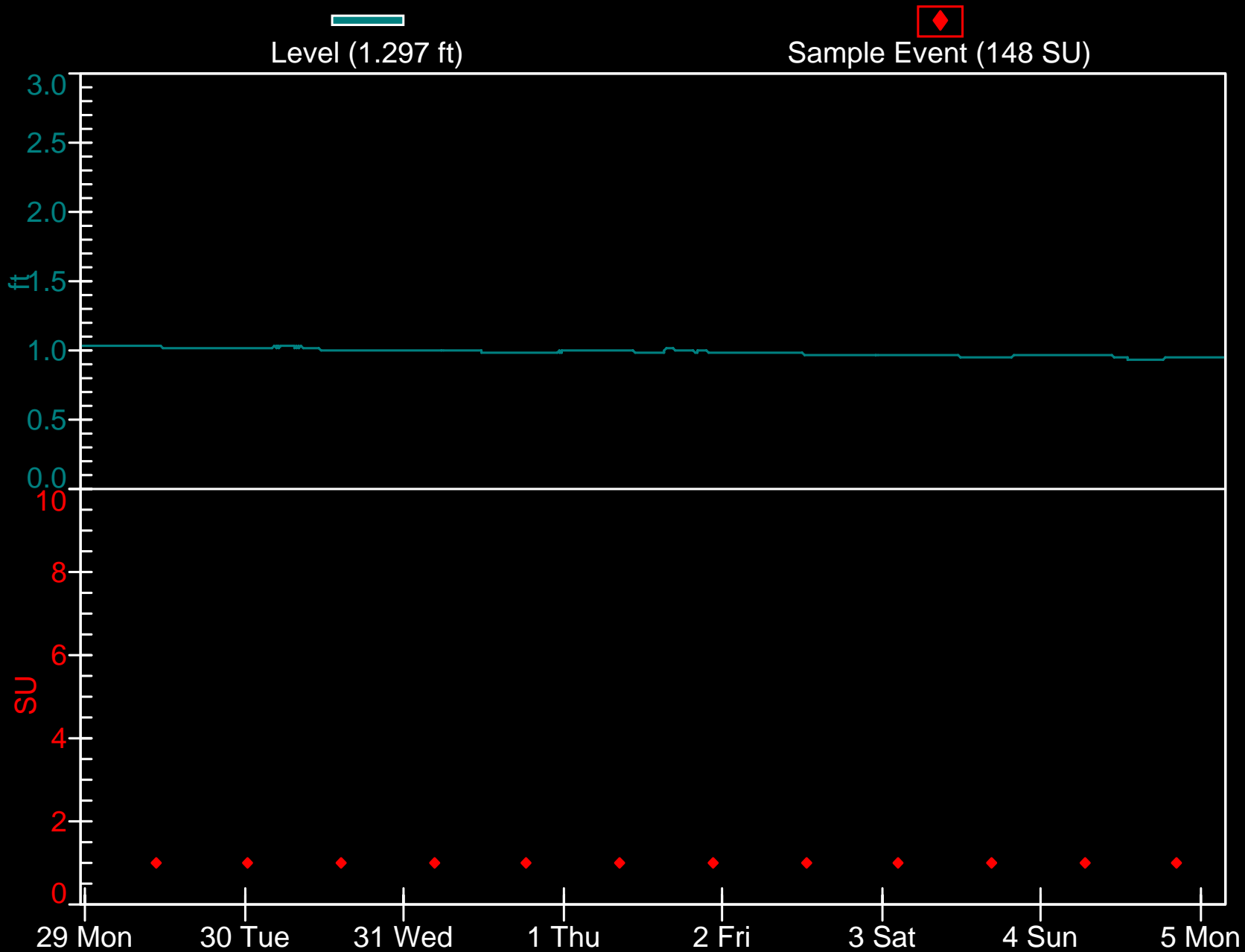


Methods



- Routine Sampling
 - Composite samples
 - One sample every 14 hours
- Storm Sampling
 - Composite samples
 - One sample every two hours
 - Triggers 0.5 ft rise in 3 hours
- Grab sampling
 - ~ 1 every 7 days
- Continuously Monitor Stage
- Develop Discharge Rating Curve

Flowlink 5

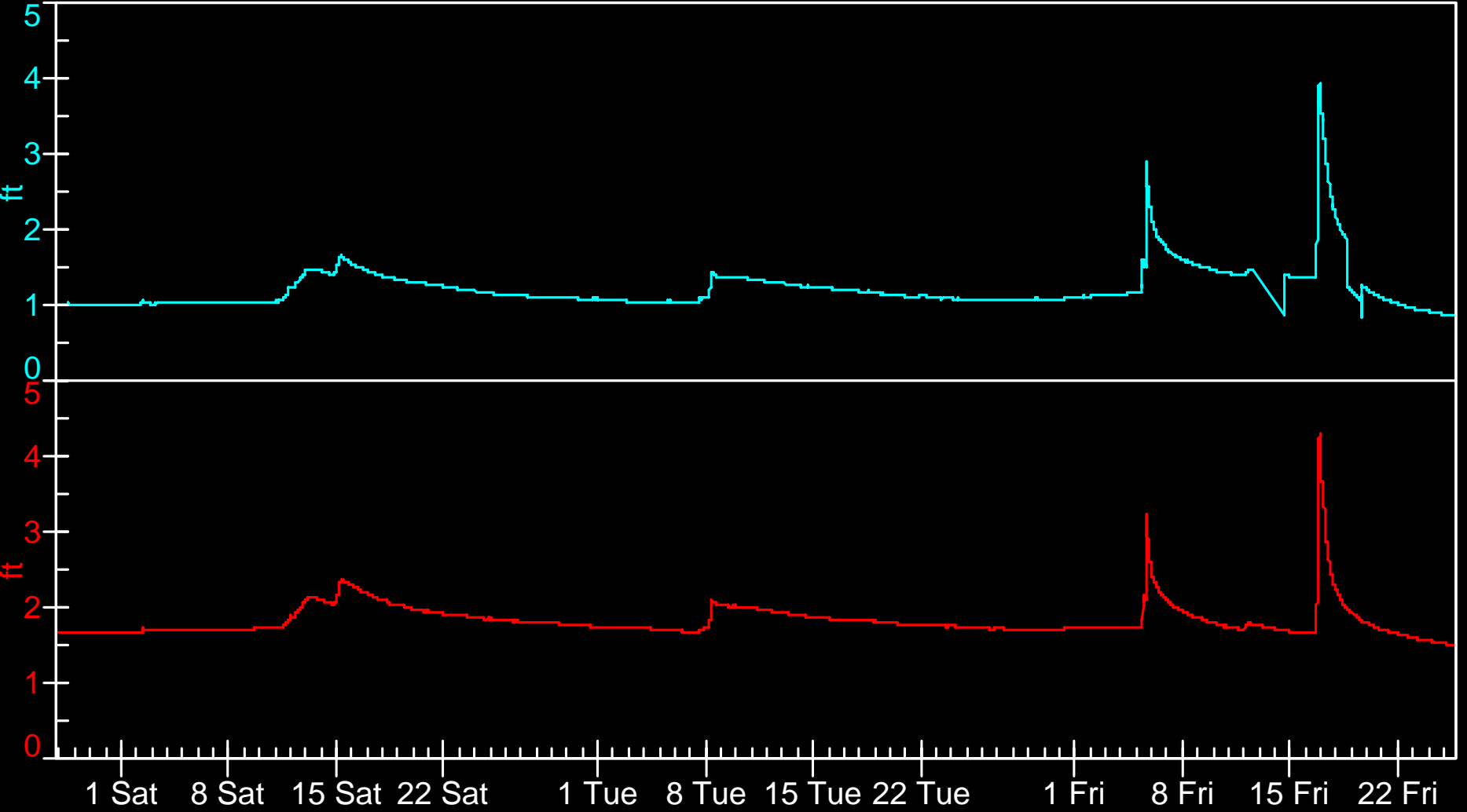




Flowlink 5

Level (1.451 ft)

Level (1.230 ft)



*Preliminary
Results*

Mean Concentrations at Both Stations

Station Name	Parameter	Routine and Grab Samples Mean (mg/L)	Storm Samples Mean (mg/L)
WF1	ORP	0.01	0.03
WF2	ORP	0.01	0.04
WF1	NO3	0.44	0.51
WF2	NO3	0.42	0.42
WF1	TSS	6.3	341.8
WF2	TSS	9.5	372.0
WF1	Turbidity	4.5 NTU	227.1 NTU
WF2	Turbidity	6.0 NTU	301.4 NTU

Mean Concentrations at Both Stations

Station Name	Parameter	Routine and Grab Samples Mean (mg/L)	Storm Samples Mean (mg/L)
WF1	TP	0.05	0.52
WF2	TP	0.05	0.75
WF1	TKN	0.11	1.20
WF2	TKN	0.13	1.40
WF1	NH3	0.02	0.03
WF2	NH3	0.02	0.04
WF1	Sulfate	4.63	4.04
WF2	Sulfate	4.81	4.16
WF1	Chloride	3.96	2.97
WF2	Chloride	3.91	2.14









Summary and the Next Steps

Sample results are representative of the stream's chemical composition.

Pre restoration results indicate that 7 of 9 parameters are experiencing slightly higher concentrations at WF2 then at WF1.

Additional work is required to capture storm velocity data

Creation of stage rating curve

Verify the stage rating curve

Continue water quality monitoring

Thank You



eco

Ecological Conservation Organization
www.ecoconservation.org

Dan DeVun
Ecological Conservation Organization
devun@ecoconservation.org
(501) 372-7895