Watershed Outlet Monitoring Program

Eagle Creek Station

Savage, MN

2nd Quarterly Report

April - June, 2009

Preliminary Data

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Prepared For:

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Introduction

The Eagle Creek WOMP site is located in Savage near Hwy 13 and Hwy 101. This report summarizes the results of flow, precipitation, and water quality for the 2nd quarter of 2009. This data is preliminary and is subject to change until the Metropolitan Council submits the final report for this period.

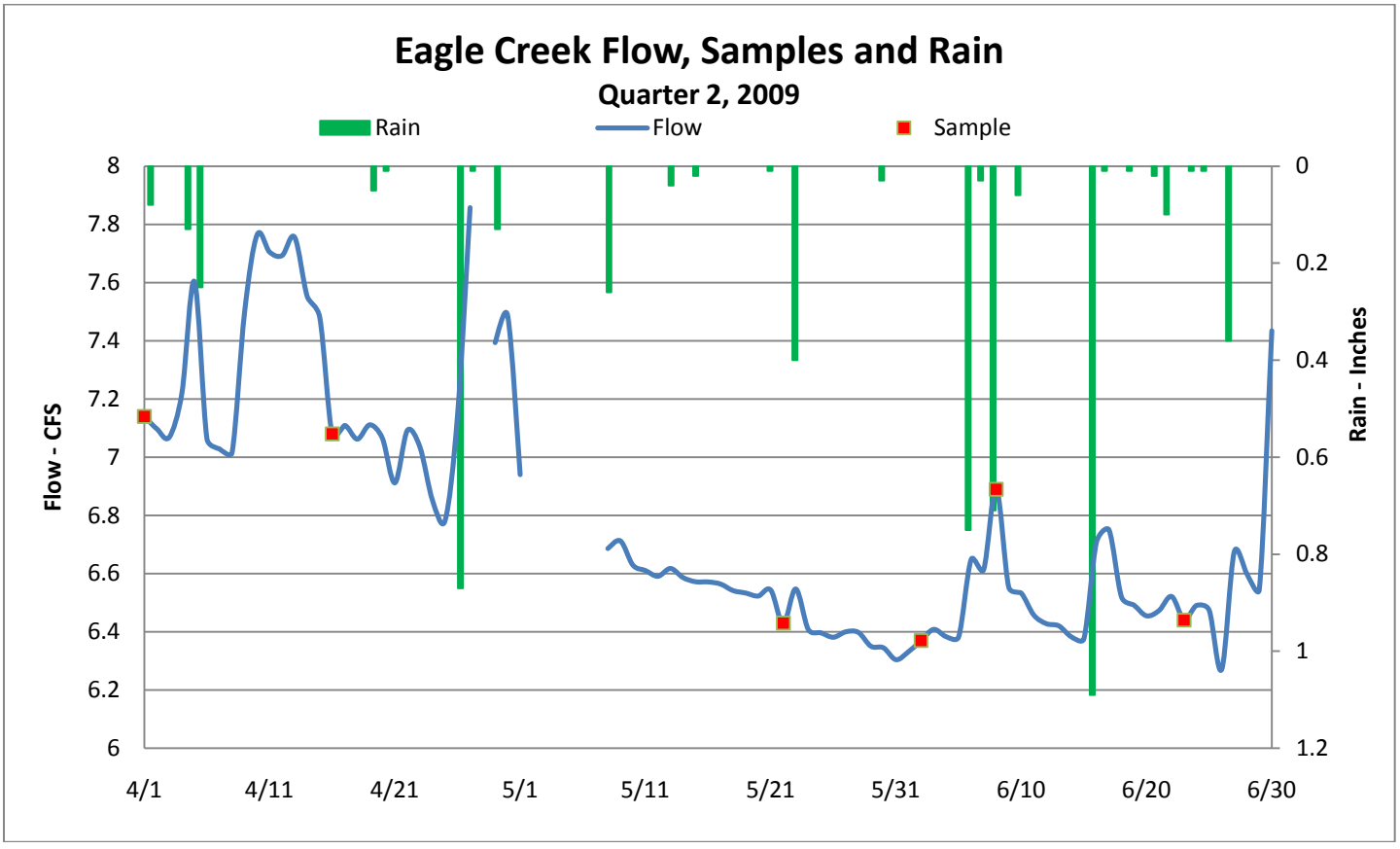
6 samples were taken during quarter 2, 2009; five base flows and one storm event. The monthly base flow sample was not able to be taken in March, but was taken on April 1st instead and is included in this 2nd quarterly report. Additionally, the base flow sample taken on 5/22 was mistakenly not analyzed at the lab for 5 days, so another sample was taken on 6/2 to represent the May base flow sample. That is the reason for 5 base flows instead of the usual monthly base flow sample. Because of the dry conditions and flashiness of the stream, only one storm event grab sample was captured this quarter on 6/8. No composite samples were taken because the sample line was getting buried in sand from the shifting stream bed. The sample line will be moved in the future.

Flow and Precipitation

Table 1. Average flow and total precipitation at Eagle Creek WOMP station.

Period	Average Monthly Flow (cfs)	*Precipitation (inches)	30 year precipitation average from state climatology office
Apr	7.26	1.53	2.13
May	6.53	.76	3.68
Jun	6.53	3.16	4.76

*Precipitation data was obtained from rain gauge at Eagle Creek WOMP station



Some missing flow data due to gaps in data when changing programs

Table 2. Average concentrations at Eagle Creek WOMP Station (2008 Values in grey text)

Parameter	1st quarter 2009	2nd Quarter 2009	3rd Quarter 2008	4th Quarter 2008	Unit	Notes – 2nd Quarter Results
BOD5	1.25	1	1	1	mg/L	Ecoregion mean = 2.7 mg/L.
Cadmium		.5	.5	.5	ug/L	State standard = 2.0 ug/L.
Chloride	28.5	32.7	29.5	29.7	mg/L	State standard = 230 mg/L.
Chlorophyll-a	78.5	72.75	54	86	ug/L	% Pheo-Corrected Average Of Result
Chromium		6	4	3	ug/L	State standard = 365 ug/L.
COD	13.33	8.8	9.25	6.25	mg/L	
Conductivity	580	601	599	602	mMHOs	
Copper		.5	.5	.5	ug/L	State standard = 15 ug/L.
Dissolved Oxygen	9.24	8.87	8.25	8.55	mg/L	State standared = 7 mg/L.
*Escherichia coli (E Coli)*Bacteria	919	94.6	111	350	CFU/100 mL	State Standard = 126 organisms/100 ml as a geometric mean of not < 5 samples within any calendar month (Apr 1 – Oct 31)
Fecal Coliform Bacteria	301	77.6	101	101	CFU/100 mL	State standard = 200 CFU/100 ml water as geomean of at least 5 samples/month Apr – Oct.
Hardness	314	315	267	310	mg/L	No state standard. Water above 180 mg/L considered very hard water.
Lead		.1	.1	.1	ug/L	State standard = 7.7 ug/L.
Nickel		2.9	2.5	3.1	ug/L	State standard = 283 ug/L.
Nitrogen Ammonia	.04	.04	.04	.03	mg/L	State standard of unionized Ammonia as N = .016 mg/L. Need to calculate N Ammonia to get unionized Ammonia as N.
Nitrate + Nitrite	.22	.14	.13	.13	mg/L	
pH	8.00	8.02	7.99	7.81	su	State standard = not less than 6.5 nor greater than 8.5.
Phosphorus, Total	.05	.02	.01	.01	mg/L	Ecoregion mean = 0.13 mg/L. EPA recommends less than 0.1 mg/L. These results are the unfiltered average of result.
Suspended Solids	16.7	5.25	3.25	7.5	mg/L	Ecoregion mean = 13.7.
Total Alkalinity	261	263	227	256	mg/L	No state standard. 20 – 200 mg/L typical. Less than 10 mg/L indicate poor buffer.
Total Kjeldahl Nitrogen	.17	.28	.20	.19	mg/L	
Total Organic Carbon	3.2	2.87	2.65	2.7	mg/L	
Turbidity (NTRU)	13	6	4.25	8.75 (Max 18)	NTU	State standard for trout waters = 10 NTU, however lab reports in NTRU. Not quite comparable.
Volatile Suspended Solids	4.7	2.25	1	2.5	mg/L	
Zinc		1.7	1	1	ug/L	State standard = 191 ug/L

mg/L = milligrams per liter
mMHO = micromhos or micorseimens
NTU = nephelometric turbidity units
su = standard units
ug/L = micrograms per liter
CFU = colony forming units
Highlighted areas indicate areas of concern.
State standard = state standard for Class 2A waters, hardness greater than 200