Watershed Outlet Monitoring Program

Eagle Creek Station

Savage, MN

Quarterly Report

Preliminary Data

July-September 2007

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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 3rd quarter of 2007. This data is preliminary and is subject to change until the Metropolitan Council submits the final report for this period.

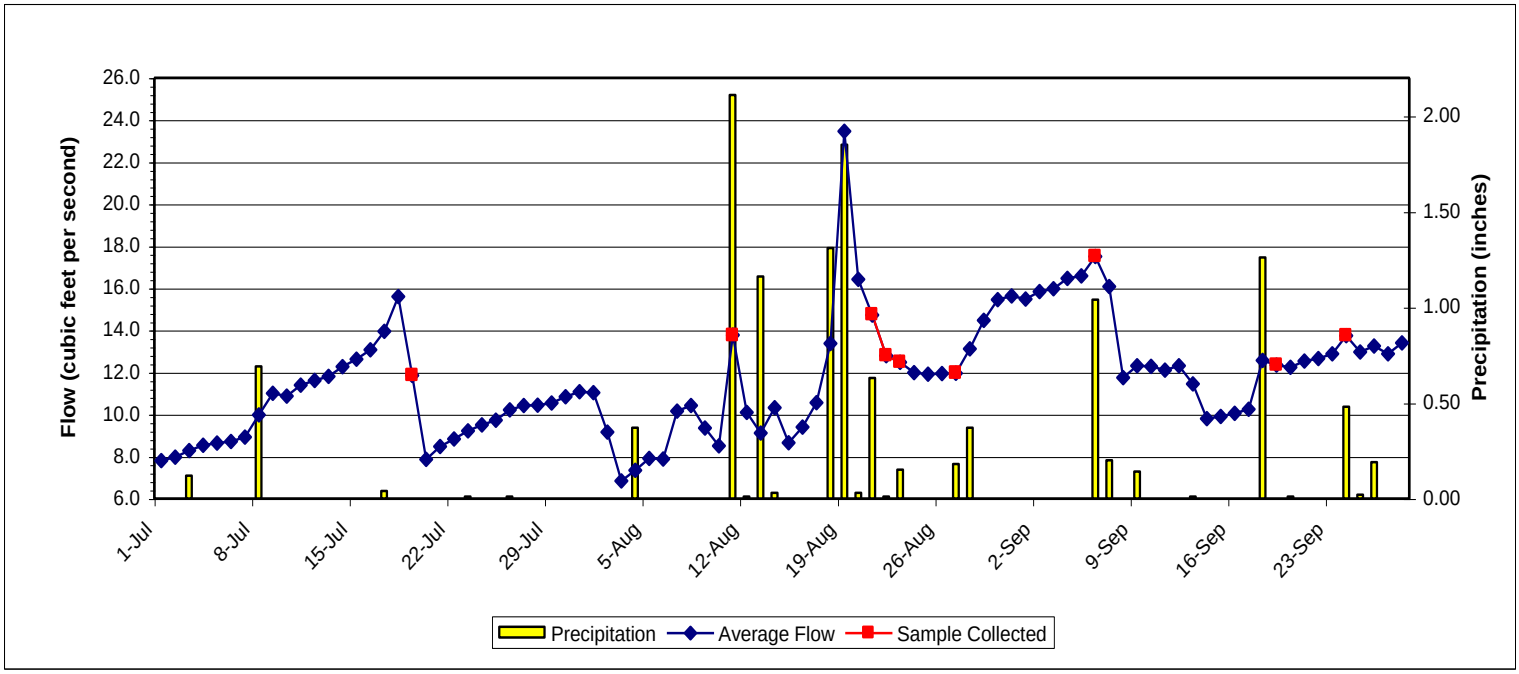
Flow and Precipitation

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

Period	Average Flow (cfs)	*Precipitation (inches)	30 year precipitation average from state climatology office
July	10.38	.87	4.09
August	11.62	8.21	4.01
September	13.29	4.17	2.67
TOTAL QUARTER		13.25	10.77

*Precipitation data obtained from WOMP station rain gauge

Figure 1. Flow, precipitation, and sample collection at Eagle Creek WOMP Station.*



*Beaver dams downstream of the station are affecting flow and stage values. The flow is actually lower than represented in this graph because the beaver dams are backing up the water, making stage and flow appear higher than normal. The dams will be removed in spring by DNR to return the stream back to normal conditions. By waiting until spring to remove the dams, it will avoid the negative effect sedimentation and debris cause to the trout eggs nested on the stream bed.

Water Quality - Three composite samples and five grab samples were collected at the Eagle Creek WOMP Station during the 3rd quarter in 2007. Overall, water quality was excellent with all parameters in compliance with state standards or near the ecoregion mean (Table 2).

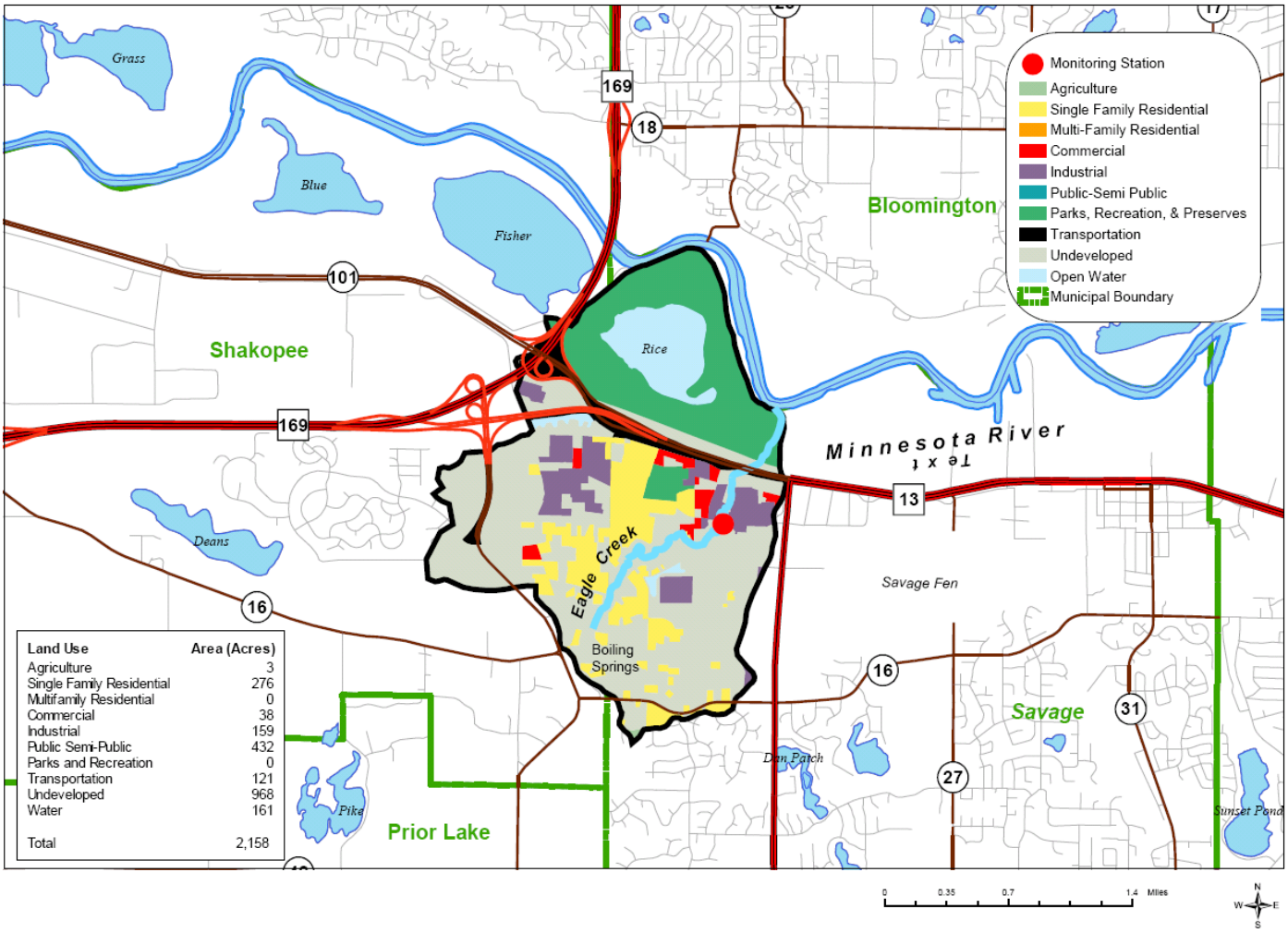
Table 2. Average concentrations at Eagle Creek WOMP Station

Parameter	1st quarter Ave. Concentration	2nd Quarter Ave Concentration	3rd Quarter Ave. Concentration	Unit	Notes – 2nd Quarter Results
Alkalinity	253	259	244	mg/L	No state standard. 20 – 200 mg/L typical. Less than 10 mg/L indicate poor buffer.
Biological Oxygen Demand (BOD5)	1.05	1.0	1.0	mg/L	Ecoregion mean = 2.7 mg/L.
Cadmium	.04	.04	.05	ug/L	State standard = 2.0 ug/L.
Chloride	23.2	25.5	27	mg/L	State standard = 230 mg/L.
Chlorophyll-a	83.5	67.3	64	ug/L	
Chromium	.4	.2	.5	ug/L	State standard = 365 ug/L.
COD	13.8	8.7	13.1	mg/L	
Conductivity	569	588	581	mMHOs	
Copper	.5	.5	.7	ug/L	State standard = 15 ug/L.
Dissolved Oxygen	8.89	8.3	7.67	mg/L	State standared = 7 mg/L.
Fecal Coliform Bacteria	102	43.7	151.5	CFU/100mL	State standard = 200 CFU/100 ml water as geomean of at least 5 samples per month Apr – Oct.
Hardness	286	291	285	mg/L	No state standard. Water above 180 mg/L considered very hard water.
Lead	.3	.1	.1	ug/L	State standard = 7.7 ug/L.
Nickel	3	2.7	2.8	ug/L	State standard = 283 ug/L.
Nitrogen Ammonia	.05	.05	.043	mg/L	State standard = .016 mg/L.
Nitrate + Nitrite	.32	.12	.15	mg/L	Ecoregion mean = .16 mg/L.
pH	7.75	7.61		su	State standard = not less than 6.5 nor greater than 8.5.
Phosphorus, Total	.08	.04	.06	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	11	4	9.9	mg/L	Ecoregion mean = 13.7.
Total Kjeldahl Nitrogen	.34	.32	.30	mg/L	
Total Organic Carbon	2.84	2.8	3.23	mg/L	
Turbidity	10.11	4.02	5.2	NTU	State standard = 10 NTU
Volatile Suspended Solids	3.4	1.6	3.1	mg/L	
Zinc	.9	3.0	3.4	ug/L	State standard = 191 ug/L

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

Appendix A - Watershed and land use information provided by Metropolitan Council Environmental Services.

Figure 1.EA. Eagle Creek Monitoring Station Location and Watershed Characteristics



Land Use	Area (Acres)
Agriculture	3
Single Family Residential	276
Multifamily Residential	0
Commercial	38
Industrial	159
Public Semi-Public	432
Parks and Recreation	0
Transportation	121
Undeveloped	968
Water	161
Total	2,158

Figure 3 and 4 below taken from the MN DNR, Division of Fish and Wildlife, Section of Fisheries "Stream Survey Report, Eagle Creek 2005."

Figure 3. Eagle Creek, Scott County, Minnesota - Historic Watershed (Land Cover data source: MLCCS 1999-2003).

Land Cover	Sum Acres	% Total
Unclassified	28.3497	1.31
Artificial Surfaces	852.1656	39.50
Planted or Cultivated Veg	204.9884	9.50
Forests	352.8935	16.36
Woodland	60.5463	2.81
Shrubland	3.9502	0.18
Herbaceous	543.9638	25.21
Water	110.7137	5.13

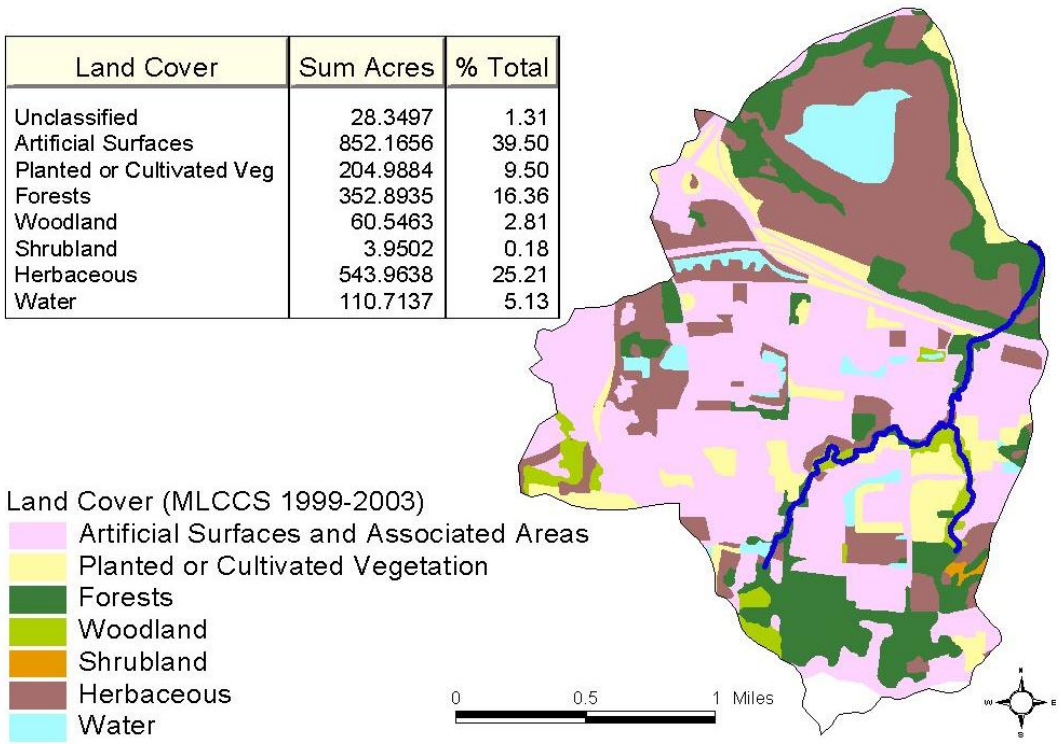


Figure 4. Estimated land cover, Eagle Creek functional watershed (Land Cover data source: MLCCS 1999-2003).

Land Cover	Sum Acres	% Total
Artificial Surfaces	54.8893	7.25
Planted or Cultivated Veg	67.9305	8.97
Forests	189.2233	25.00
Woodland	25.4945	3.37
Shrubland	3.9502	0.52
Herbaceous	348.3519	46.02
Water	67.1899	8.88