

**Table 1.FC. Fish Creek Monitoring Station Information**



**Station Address:** Fish Creek near Point Douglas Road, St. Paul, MN  
**County:** Ramsey  
**Major Basin:** Mississippi River Basin  
**Watershed:** Carver Lake  
**Drainage Area:** 5.09 square miles

**Station Operator:** Ramsey-Washington-Metro Watershed District

**Metropolitan Council Environmental Services Contact Information:**

**Contact Person:** Casandra Champion  
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**Watershed District or Watershed Management Organization:**

Ramsey-Washington-Metro Watershed District

**Station Overview:** MCES has supported water quality monitoring of Fish Creek since 1995. The monitoring station is located in St. Paul, Minnesota, 0.2 mile upstream from the creek confluence with the Mississippi River. There is no rain gage at this station.

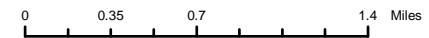
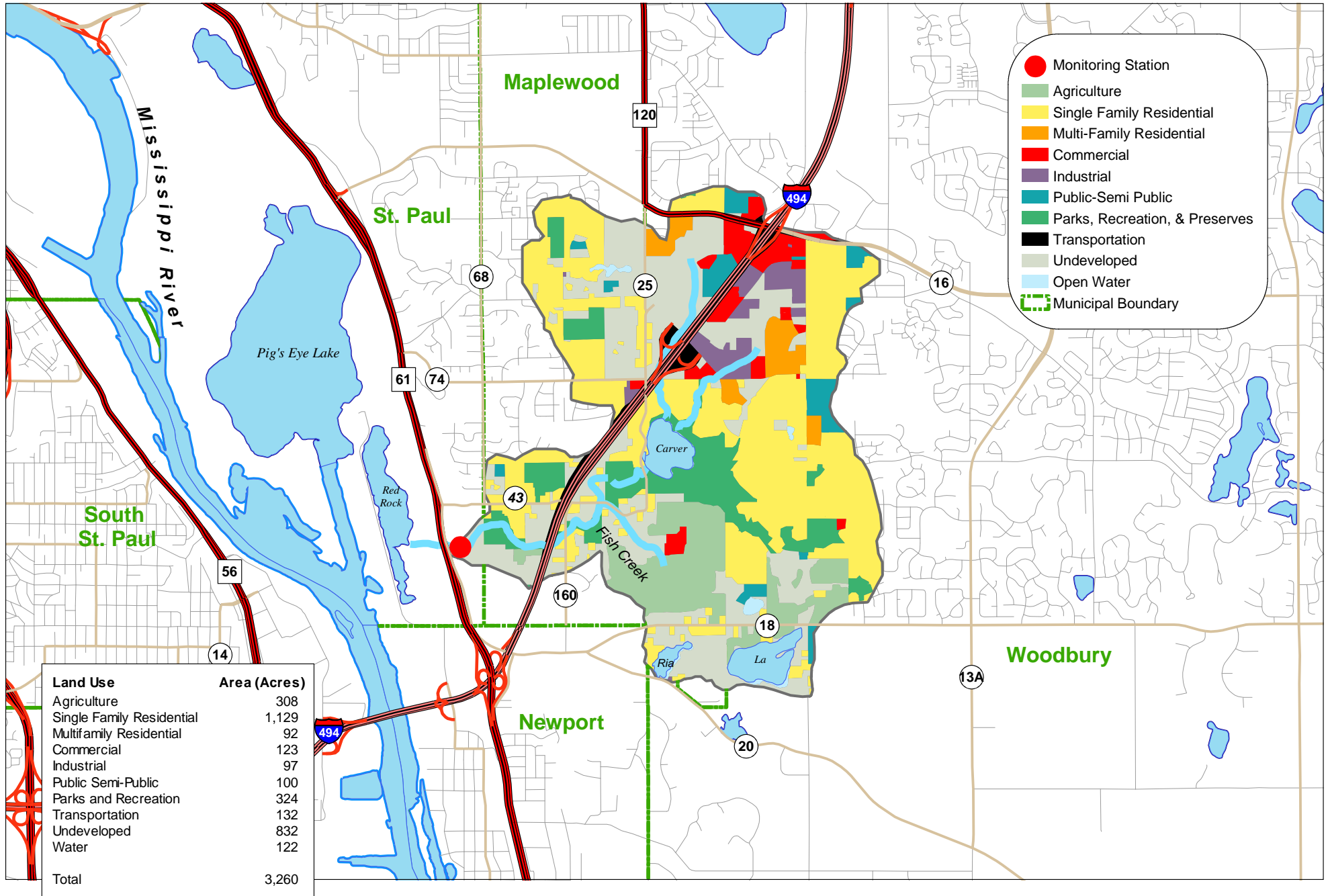
**2001 Monitoring Year:** Snowmelt began during the last week of March 2001. Daily average flows were estimated prior to April 26 and after December 6. The peak daily average flow of 15 cfs occurred on April 26 and June 14, 2001. Monitoring equipment was installed on April 26 and removed on December 6.

A significant runoff event occurred during the July 20-August 1, 2001 period. A composite sample collected on July 22-23 had the highest total suspended solids (TSS) concentration (117 mg/L) of all 2001 samples.

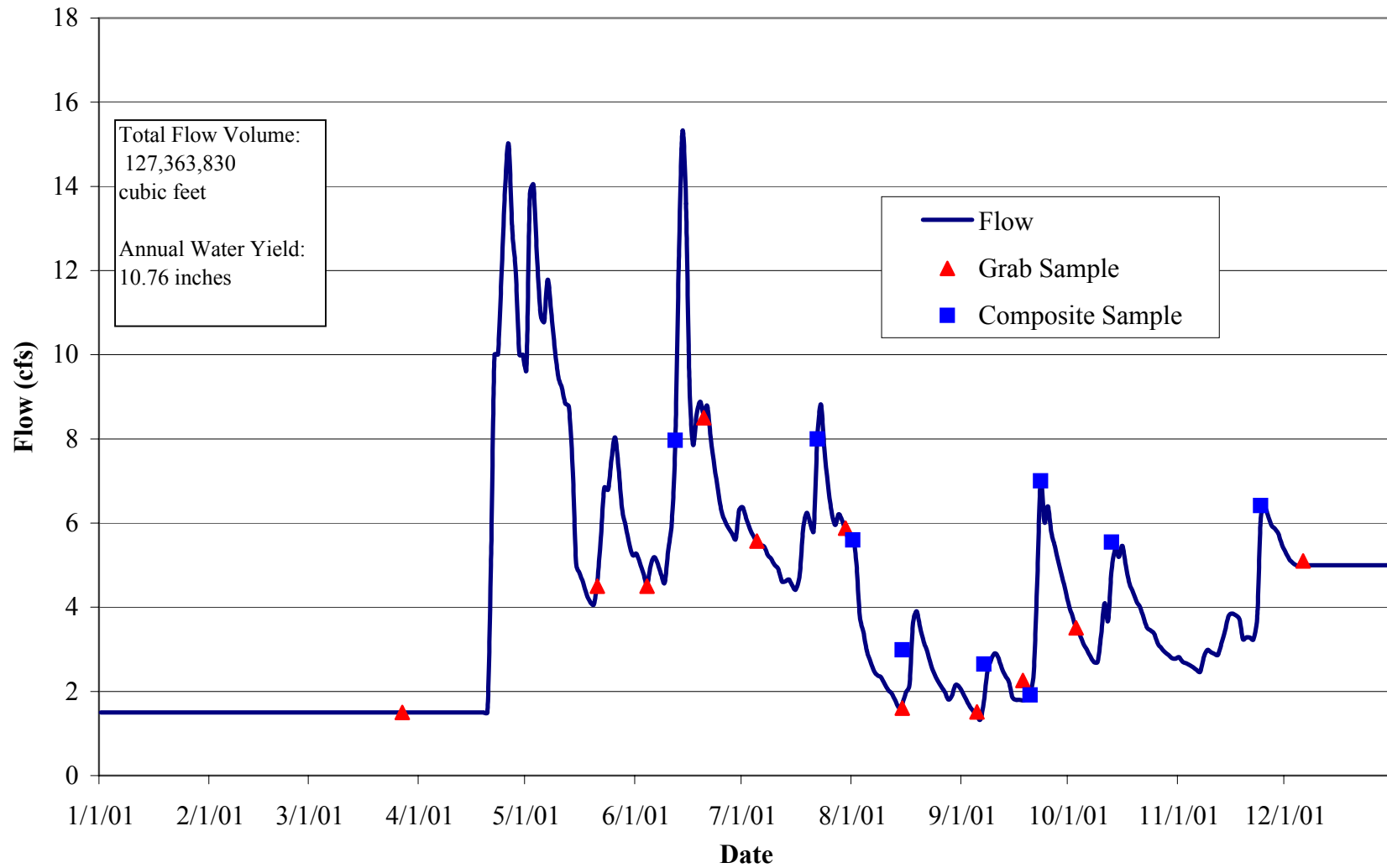
Twenty samples were collected for water quality analysis during 2001, including nine composite samples and 11 grab samples. The MCES annual water quality monitoring plan includes 12 monthly baseflow (“non-event”) grab samples and approximately 10 to 15 flow-weighted composite samples collected during all runoff events in the open-water season (March-November). The 2001 sampling scheme did not meet the goals of the MCES monitoring work plan. January and February baseflow conditions were not characterized with baseflow grab samples, and the 2001 snowmelt period was not sampled.

**For additional stream monitoring information and monitoring methods regarding this site, see [www.metrocouncil.org/environment/RiversLakes](http://www.metrocouncil.org/environment/RiversLakes).**

**Figure 1.FC. Fish Creek Monitoring Station Location and Watershed Characteristics**



**Figure 2.FC. Fish Creek 2001 Hydrograph with Sampling Information**



**Table 2.FC. Fish Creek 2001 Water Chemistry Information**

Variable	N	Mean	Median	Minimum	Maximum	25%	75%	STD
Chloride, mg/L	3	99	na	67	125	na	na	na
Hardness, mg/L	19	199	198	160	266	176	208	28
Cadmium, ug/L	19	0.1	0.1	0.1	0.3	0.1	0.1	0.0
Chromium, ug/L	19	1.0	0.5	0.5	3.1	0.5	1.1	0.9
Copper, ug/L	19	3.4	2.7	1.0	7.6	1.9	4.8	2.0
Lead, ug/L	19	1.1	0.5	0.5	3.5	0.5	1.6	1.1
Nickel, ug/L	19	2.6	2.3	1.8	4.6	2.0	2.7	0.9
Zinc, ug/L	19	5.0	3.0	1.0	15.0	2.0	9.0	4.0
Nitrogen, Total Kjeldahl, mg/L	19	0.70	0.60	0.20	1.70	0.30	1.00	0.40
Nitrogen, Total Nitrate, mg/L	20	0.87	0.83	0.13	3.34	0.33	1.19	0.74
Phosphorus, Total, mg/L	19	0.13	0.09	0.05	0.43	0.06	0.18	0.11
Phosphorus, Total Dissolved, mg/L	20	0.07	0.05	0.02	0.24	0.04	0.10	0.06
Solids, Total Suspended, mg/L	19	26	6	2	117	2	46	36
Solids, Volatile Suspended, mg/L	19	5	2	1	19	2	7	5
Turbidity, NTU	17	6	2	1	30	1	6	9

na: Data are insufficient to calculate these statistics.

**Table 3.FC. Fish Creek 2001 Annual Loading Information\* for Suspended Solids and Nutrients**

Variable	Annual Load (tons)	Annual Yield (lbs/acre)	Annual Normalized Yield (lbs/acre/in of water)	Flow Weighted Mean Concentration (mg/L)
Solids, Total Suspended	92	56	5	23
Phosphorus, Total	0.60	0.37	0.03	0.15
Phosphorus, Total Dissolved	0.30	0.18	0.02	0.08
Nitrogen, Total Nitrate	3.39	2.08	0.19	0.85

\* 2001 Annual Loading Information is provisional and may be subject to minor revisions.

**Table 4.FC. Fish Creek 2001 Macroinvertebrate Monitoring Results and Metrics**

**Monitoring Date 10/23/01**

<b>Class</b>	<b>Order</b>	<b>Family</b>	<b>Common Name</b>	<b>Life Stage</b>	<b>Organism Count</b>
Hirudinea			Leeches		4
Insecta	Coleoptera	Dytiscidae	Predaceous Diving Beetles	Adult	1
Insecta	Coleoptera	Elmidae	Riffle Beetles	Adult	1
Insecta	Coleoptera	Elmidae	Riffle Beetles	Larvae	22
Insecta	Diptera	Chironomidae	Midges	Larvae	1
Insecta	Diptera	Simuliidae	Black Flies	Larvae	1
Insecta	Diptera	Stratiomyidae	Aquatic Soldier Flies	Larvae	1
Insecta	Diptera	Tipulidae	Crane Flies	Larvae	2
Insecta	Ephemeroptera	Baetidae	Small Minnow Mayflies	Larvae	5
Insecta	Odonata	Calopterygidae	Broadwinged Damselflies	Larvae	2
Insecta	Trichoptera	Hydropsychidae	Common Netspinners	Larvae	5

**Macroinvertebrate Taxa Metrics**

Total Taxa	10
EPT Taxa	2
% EPT Taxa	20
Diptera Taxa	4
% Diptera Taxa	40
Mean Tolerance Value	5.36

**Macroinvertebrate Organism Metrics**

Total Organisms	45
EPT Individuals	10
% EPT Individuals	22
Diptera Individuals	5
% Diptera Individuals	11
Chironomidae Individuals	1
% Chironomidae Individuals	2