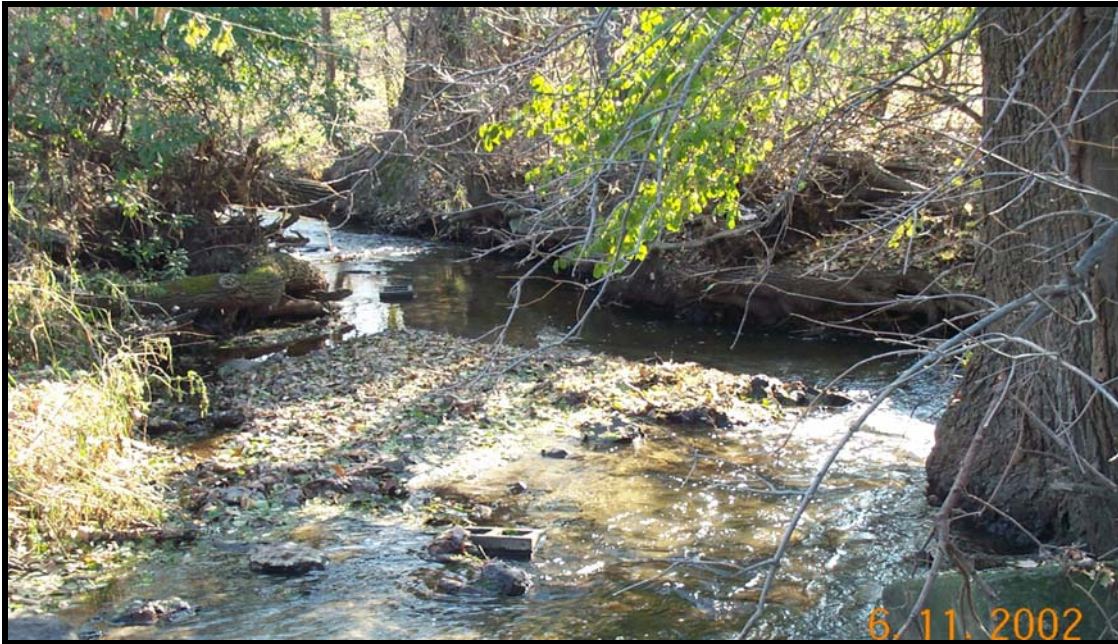


Table 1.RI. Riley Creek Monitoring Station Information



Station Address: 15995 Flying Cloud Drive, Eden Prairie, MN
County: Hennepin
Major Basin: Minnesota River Basin
Watershed: Riley Creek
Drainage Area: 13 square miles

Station Operator: Riley-Purgatory-Bluff Creek Watershed District /
Barr Engineering, Inc.

Metropolitan Council Environmental Services Contact Information:

Contact Person: Leigh Harrod, P.G.
Address: 2400 Childs Road
St Paul, MN 55106
Phone: 651-602-8085
E-mail: leigh.harrod@metc.state.mn.us

Watershed District or Watershed Management Organization:
Riley-Purgatory-Bluff Creek Watershed District

Station Overview: MCES, with funding provided by the Minnesota Legislature via a grant from the Minnesota Pollution Control Agency (MPCA), has supported water quality monitoring of Riley Creek since 1999. The monitoring station is located in Eden Prairie, Minnesota, 1.3 miles upstream from the creek confluence with the Minnesota River. MCES formerly operated a monitoring station on Riley Creek at this location (Mile 1.3) during the 1989-1991 period. Riley Creek generally flows southeast from its

headwaters in Lake Lucy and Lake Ann through Lake Susan, Rice Marsh Lake, and Riley Lake before it reaches the monitoring station. Below the station, Riley Creek flows into Grass Lake before reaching its confluence with the Minnesota River. During the 1989-1990 period, MCES also operated a second monitoring station on Riley Creek immediately upstream from the creek confluence with the Minnesota River (Mile 0.0).

MCES partners with the Riley-Purgatory-Bluff Creek Watershed District to operate the monitoring station and maintain the rating curve through the district's consulting engineering company, Barr Engineering, Inc.

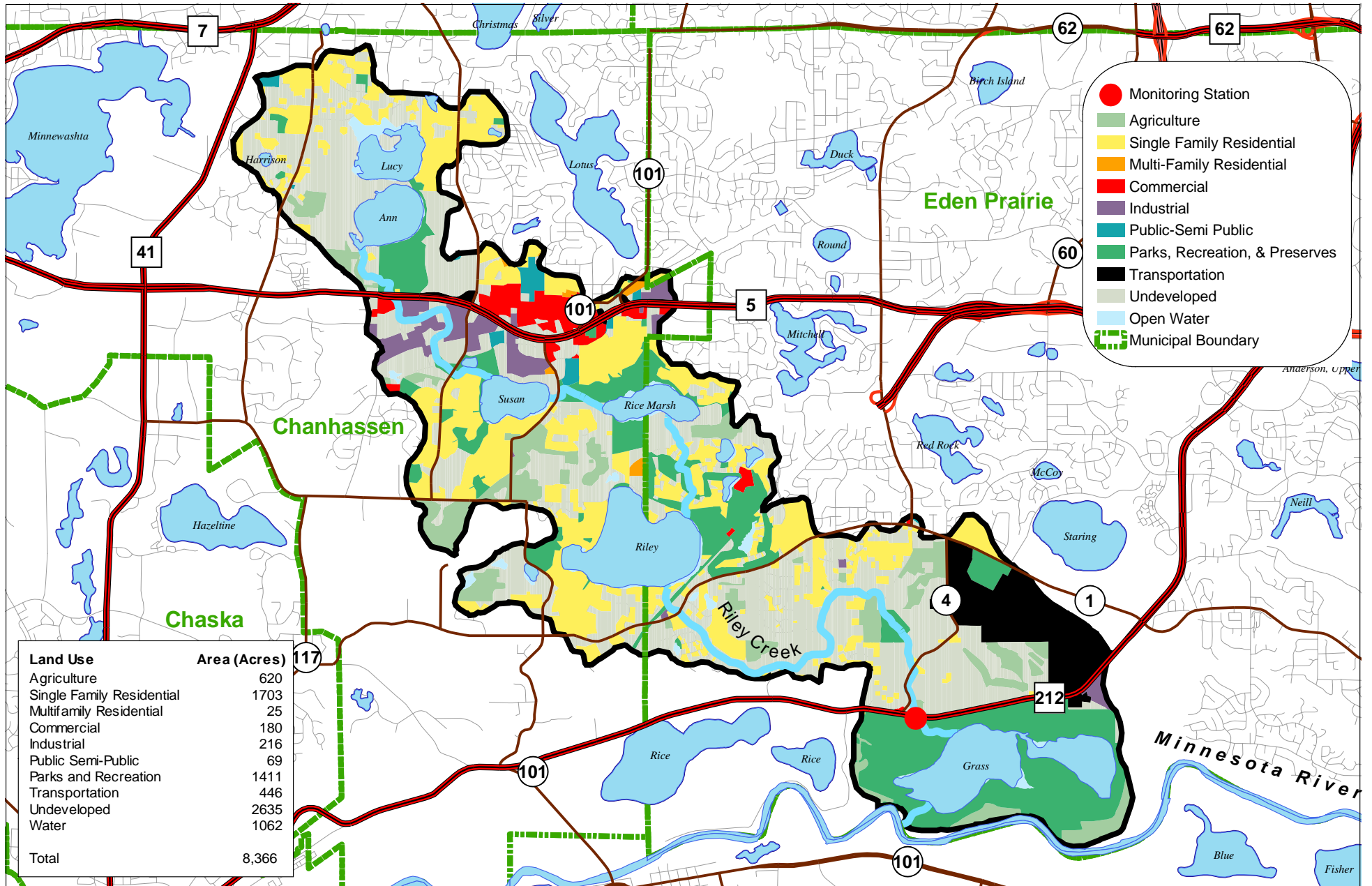
2001 Monitoring Year: Snowmelt began during the last week of February 2001. Daily average flows were estimated prior to the ice out date, which occurred on approximately February 28, 2001. Daily average flows were also estimated during the April 17-May 29, 2001 period, when flood waters from the Minnesota River backed up beyond the elevation of the station. Monitoring equipment had to be temporarily removed from the station during this period. The peak daily average flow of 422.1 cfs, with a stage of 2.94 feet, occurred on April 16, 2001. While the stream had not yet breached its banks on this date and was still flowing freely, a subtle resistance created by rising flood waters from the Minnesota River may have been a factor contributing to these high flow and stage measurements.

Three significant runoff events occurred between August 18 and September 22, 2001. Each of these events was characterized by a high-intensity rainfall that generated more than 1.5 inches of precipitation at the monitoring station. The hydrology of the Riley Creek Watershed is characterized by a short return time from such events. A high-intensity rainfall anywhere within the watershed will frequently cause the stream flow to very rapidly triple in magnitude, and then subsequently return to steady state within a matter of 24 hours. The highest total suspended solids (TSS) concentration (3,090 mg/L) observed in 2001 was measured in a water sample collected during the September 7, 2001 storm event, when 1.6 inches of rain fell within a 5-hour period.

Twenty-five samples were collected for water quality analysis during 2001, including 14 composite samples and 10 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 met the goals of the MCES monitoring work plan.

For additional stream monitoring information and monitoring methods regarding this site, see www.metrocouncil.org/environment/RiversLakes.

Figure 1.RI. Riley Creek Monitoring Station Location and Watershed Characteristics



0 0.4 0.8 1.6 Miles



Figure 2.RI. Riley Creek 2001 Hydrograph with Rainfall and Sampling Information

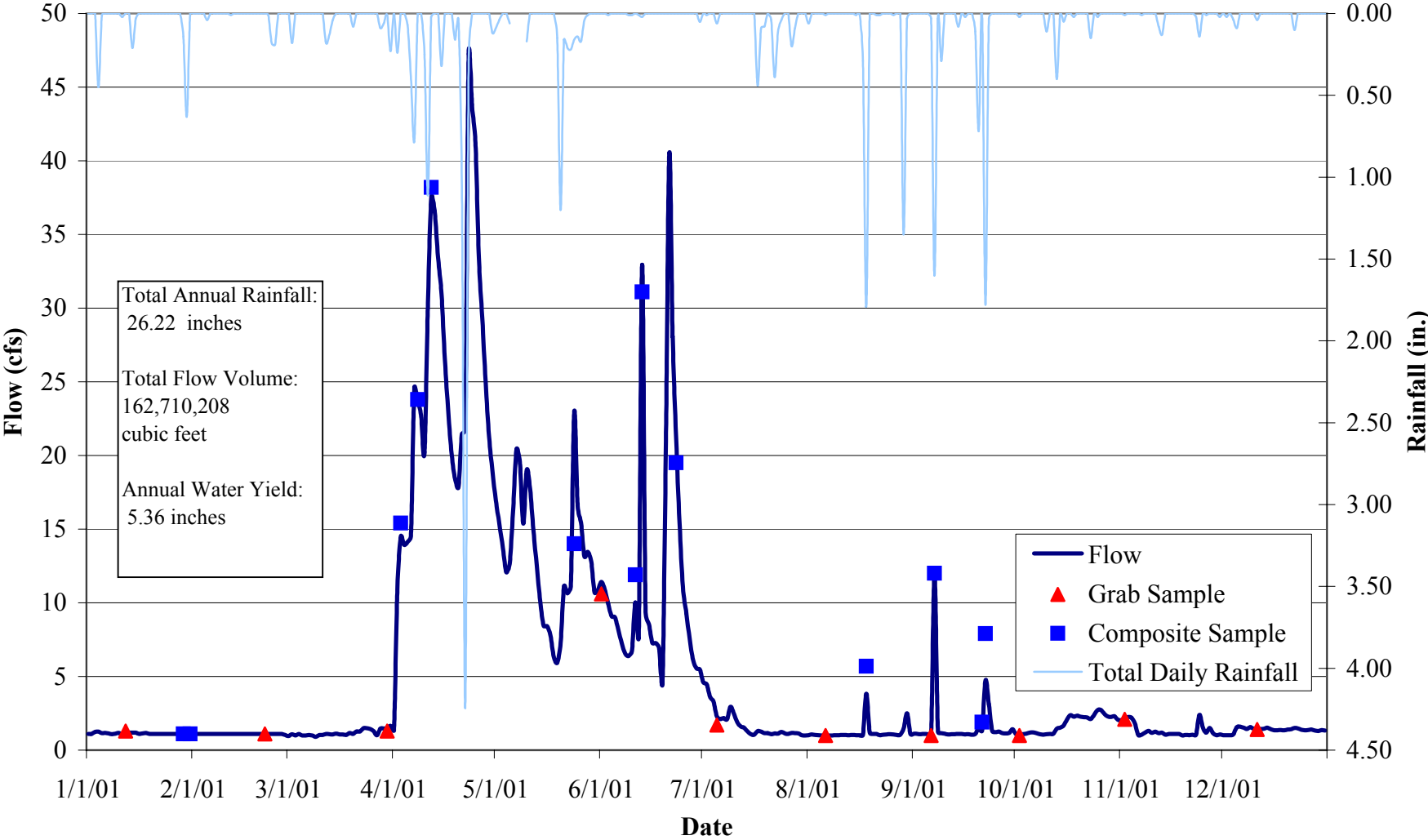


Table 2.RI. Riley Creek 2001 Water Chemistry Information

Variable	N	Mean	Median	Minimum	Maximum	25%	75%	STD
Chloride, mg/L	23	51	48	17	148	36	66	26
Hardness, mg/L	24	236	194	134	352	156	340	89
Cadmium, ug/L	24	0.2	0.1	0.1	1.3	0.1	0.3	0.3
Chromium, ug/L	24	6.8	1.9	0.5	39.0	0.5	10.4	9.1
Copper, ug/L	24	10.2	5.3	0.8	62.0	2.4	14.8	13.3
Lead, ug/L	24	8.3	2.1	0.5	59.0	0.5	13.3	13.6
Nickel, ug/L	24	12.0	5.2	2.5	72.0	3.3	17.2	15.3
Zinc, ug/L	24	29.0	9.0	1.0	213.0	2.0	48.0	47.0
Nitrogen, Total Kjeldahl, mg/L	24	1.70	0.80	0.20	7.80	0.20	3.00	1.90
Nitrogen, Total Nitrate, mg/L	24	1.27	0.89	0.22	2.51	0.59	2.13	0.82
Phosphorus, Total, mg/L	24	0.47	0.16	0.02	3.00	0.07	0.78	0.69
Phosphorus, Total Dissolved, mg/L	21	0.08	0.06	0.01	0.37	0.04	0.09	0.07
Solids, Total Suspended, mg/L	24	409	108	3	3,090	5	671	691
Solids, Volatile Suspended, mg/L	24	40	10	2	280	2	65	64
Turbidity, NTU	10	4	3	2	14	2	7	4

Table 3.RI. Riley 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	2,696	644	90	531
Phosphorus, Total	2.47	0.59	0.11	0.49
Phosphorus, Total Dissolved	0.33	0.08	0.01	0.06
Nitrogen, Total Nitrate	4.08	0.98	0.18	0.80

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