

**Table 1.CWS. South Fork Crow River Monitoring Station Information**



**Station Address:** 1420 State Highway 7, Mayer, MN  
**County:** Carver  
**Major Basin:** Mississippi River Basin  
**Watershed:** Crow River  
**Drainage Area:** 1,136.62 square miles

**Station Operator:** Carver County Environmental Services

**Metropolitan Council Environmental Services Contact Information:**

**Contact Person:** Casandra Champion  
**Address:** 2400 Childs Road  
St. Paul, MN 55106  
**Phone:** 651-602-8745  
**E-mail:** casandra.champion@metc.state.mn.us

**Watershed District or Watershed Management Organization:**  
Crow River Organization of Water (CROW)

**Station Overview:** MCES has supported water quality monitoring of the South Fork of the Crow River since 2001. The monitoring station is located in Mayer, Minnesota, 20.3 miles upstream from the South Fork confluence with the North Fork of the Crow River. Downstream from this confluence, the river is called the Crow River. The South Fork of the Crow River flows from Ottertail Lake in Hutchinson and drains most of McLeod County and part of western Carver County before it reaches the station near Mayer.

MCES partners with the Minnesota Department of Natural Resources (MDNR) to maintain the station's stage measurement equipment, rating curve, and rain gauge. This station (MDNR Waters Station Number 19082001) is part of the MDNR's statewide flood-forecasting network. Flow has been measured at this location since 1999. While the new MCES monitoring station was being built in 2001, the Minnesota Pollution Control Agency (MPCA), the Crow River Organization of Water (CROW) and MCES collected grab samples for water quality analysis. Installation of the MCES monitoring station was completed in November 2001.

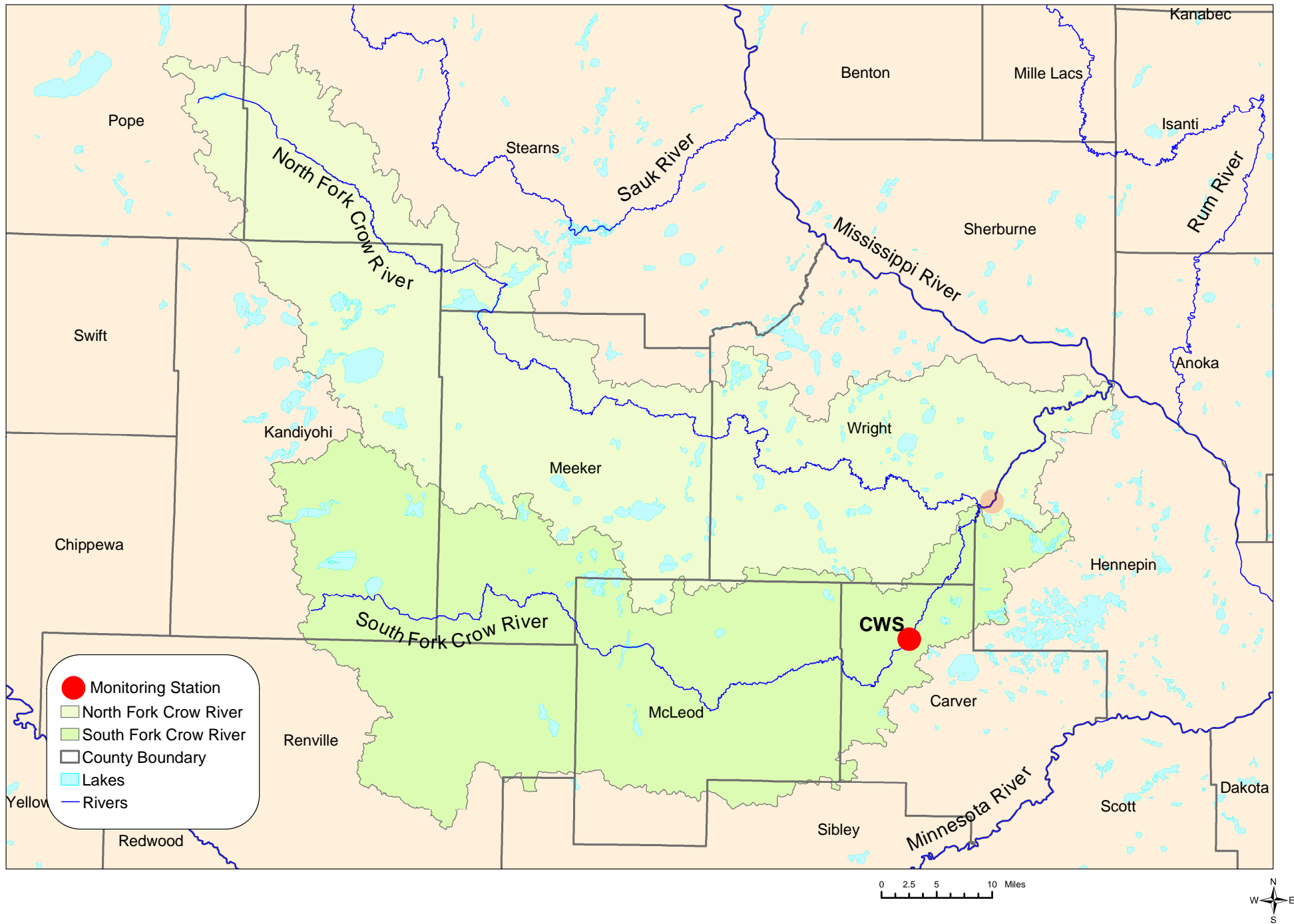
**2002 Monitoring Year:** Daily average flows were estimated prior to March 26 and after November 25, 2002. Snowmelt began during the last week of March 2002. The peak daily average flow of 5,590 cfs occurred on June 29, 2002.

Runoff event-based composite sampling began in mid-April 2002 and continued through late August. A significant runoff event occurred during the June 17 – July 22, 2002 period. A composite sample collected during this event (June 20 – 21) had the highest total suspended solids (TSS) concentration (264 mg/L) of all 2002 samples.

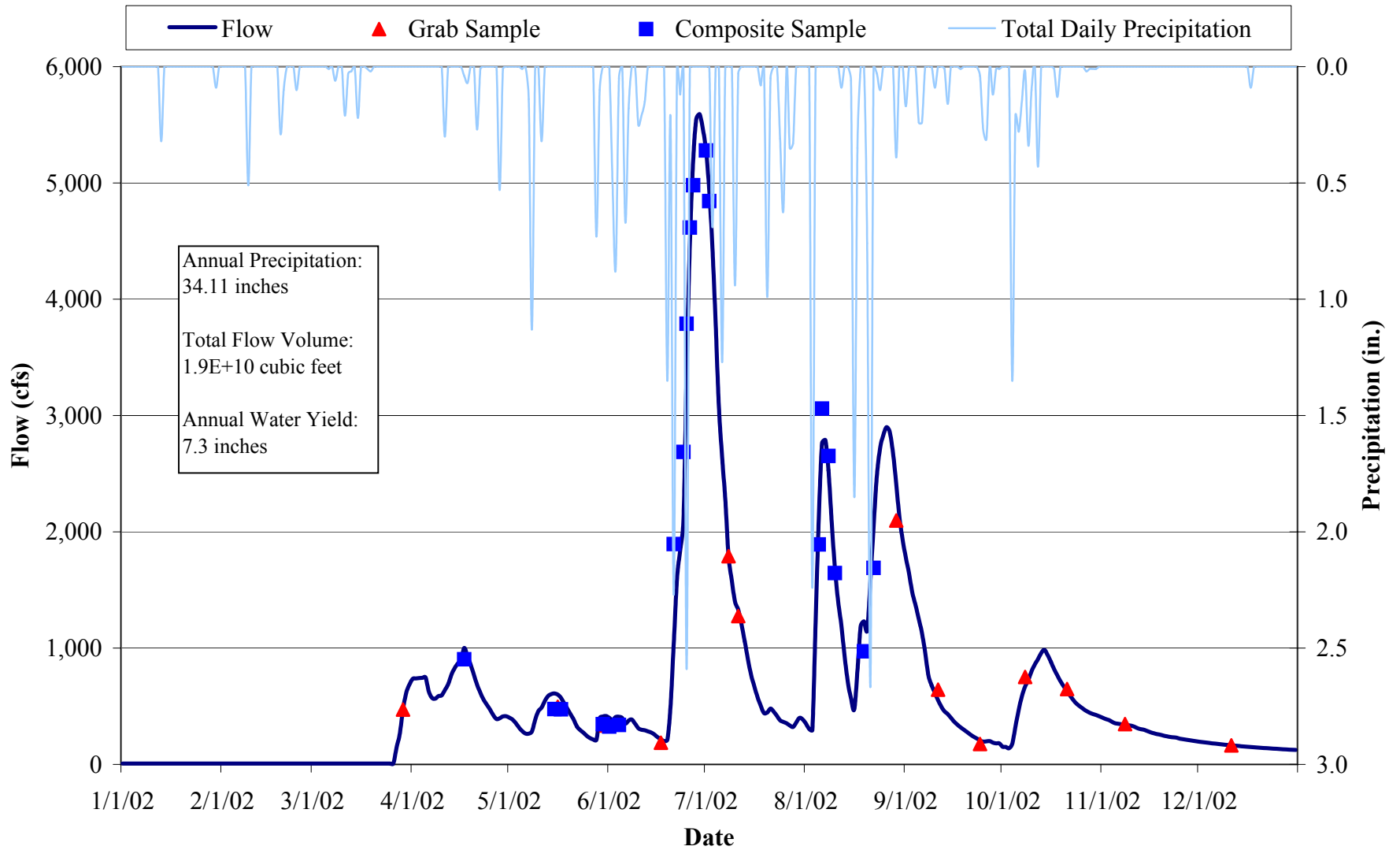
Thirty samples were collected for water quality analysis during 2002, including 18 composite samples and 12 grab samples. The MCES annual water quality monitoring plan includes 12 monthly baseflow (“non-event”) grab samples and approximately 10 to 15 flow-weighted composite samples collected during all runoff events in the open-water season (March-November). The 2002 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](http://www.metrocouncil.org/environment/RiversLakes).**

**Figure 1.CWS. South Fork Crow River Monitoring Station Location and Watershed**



**Figure 2.CWS. South Fork Crow River 2002 Hydrograph, Precipitation and Sampling Information**



**Table 2.CWS. South Fork Crow River 2002 Water Chemistry Information**

Variable	N	Mean	Median	Minimum	Maximum	25%	75%	STD
Chloride, mg/L	29	24	20	9	49	15	36	12
Hardness, mg/L	30	281	283	142	488	204	354	89
Cadmium, ug/L	28	0.1	0.1	<0.1	1.3	<0.1	0.1	0.2
Chromium, ug/L	28	1.2	1.0	0.2	5.4	0.6	1.6	1.1
Copper, ug/L	28	3.9	3.7	1.9	7.8	2.9	4.7	1.4
Lead, ug/L	28	1.1	0.9	0.1	4.9	0.5	1.7	1.0
Nickel, ug/L	28	5.1	4.9	3.7	8.9	4.3	5.7	1.1
Zinc, ug/L	28	8.6	6.7	3.4	24.0	5.4	11.7	4.7
Total Kjeldahl Nitrogen, mg/L	30	1.72	1.60	0.98	2.60	1.38	2.10	0.43
Total Nitrate Nitrogen, mg/L	29	4.96	5.23	1.38	8.39	2.95	7.22	2.27
Total Phosphorus, mg/L	30	0.41	0.41	0.13	0.78	0.34	0.49	0.13
Total Dissolved Phosphorus, mg/L	29	0.27	0.28	0.03	0.61	0.20	0.33	0.12
Total Suspended Solids, mg/L	30	60	43	3	264	24	85	54
Volatile Suspended Solids, mg/L	30	12	11	2	38	6	16	8
Turbidity, NTU	30	19	17	3	85	6	28	16

N: Sample Count

25%, 75%: 25th and 75th Percentiles

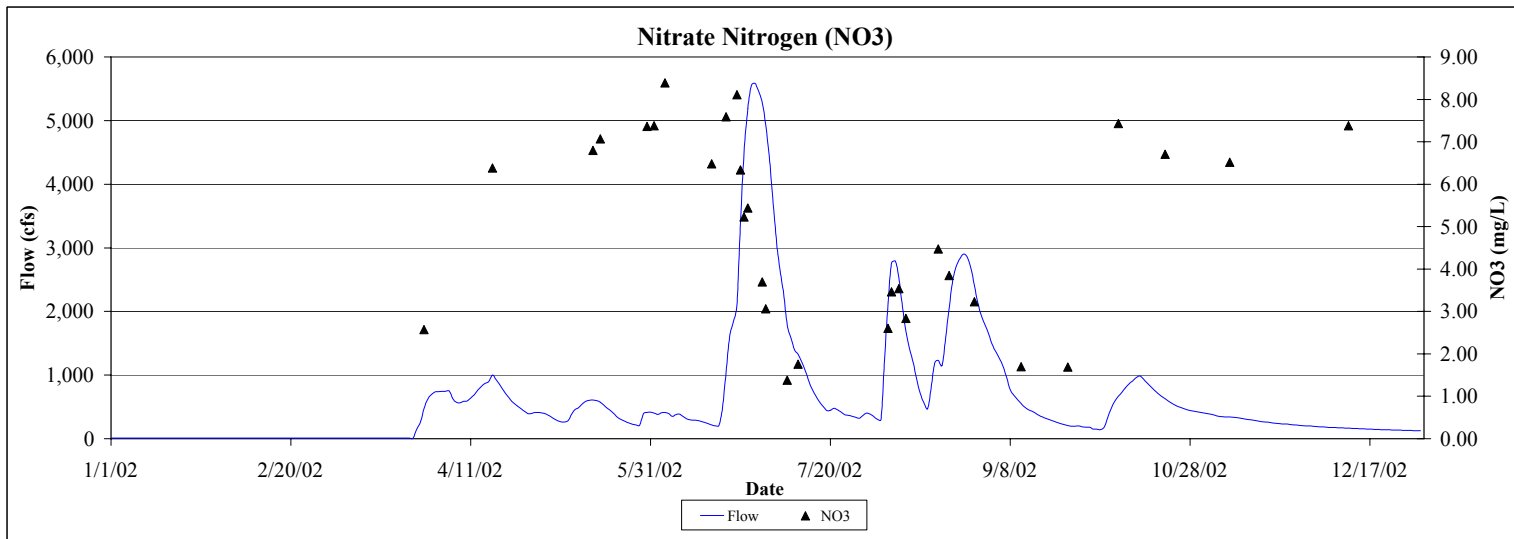
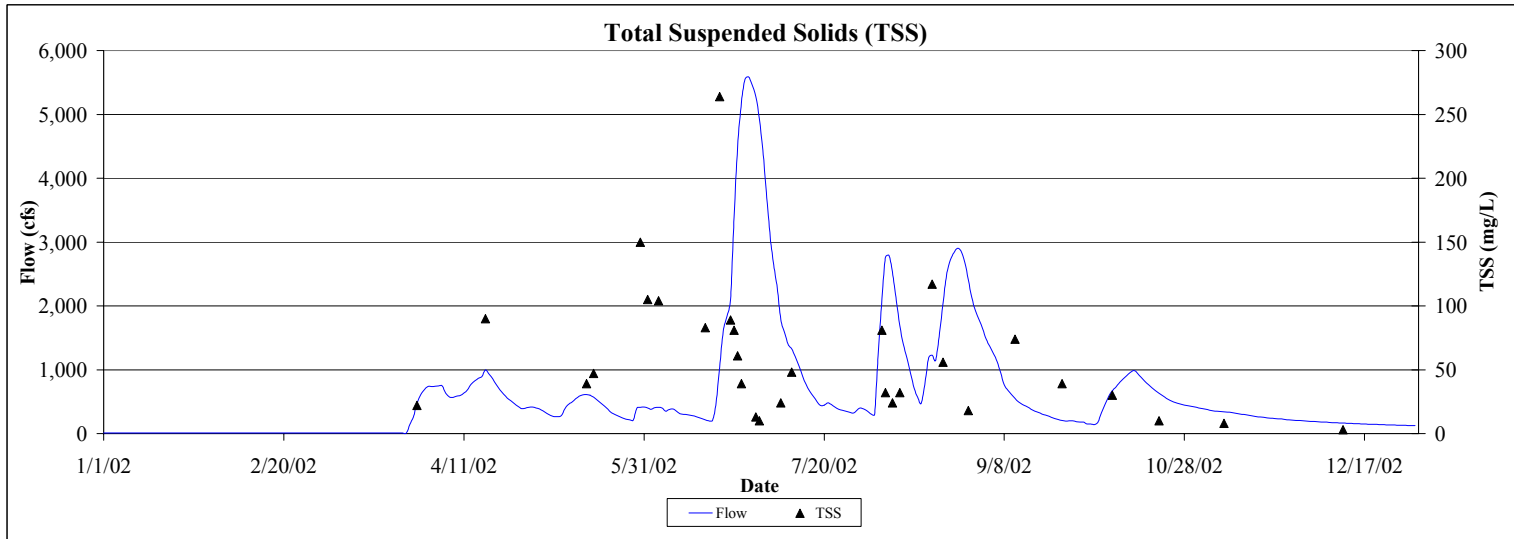
STD: Standard Deviation

**Table 3.CWS. South Fork Crow River 2002 Annual Loading Information\* for Suspended Solids and Nutrients**

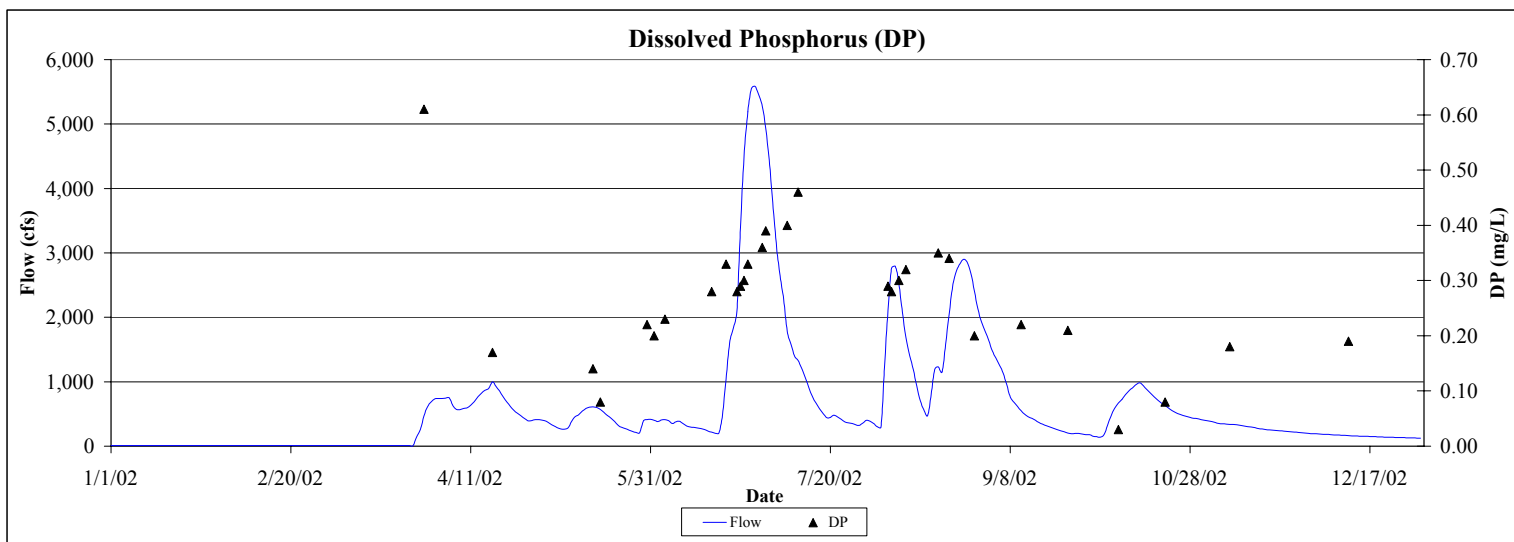
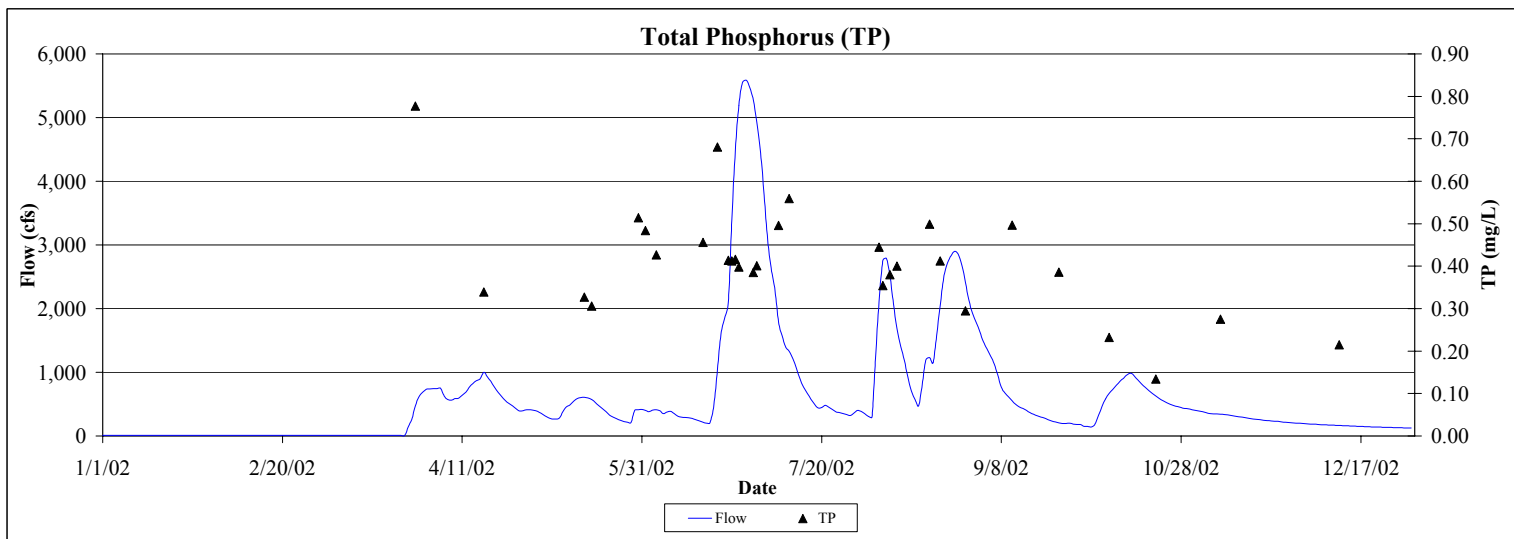
Variable	Annual Load (tons)	Annual Yield (lbs/acre)	Annual Normalized Yield (lbs/acre/in of water)	Flow Weighted Mean Concentration (mg/L)
Total Suspended Solids	27,100	75	10	45
Total Phosphorus	233	0.64	0.09	0.39
Total Dissolved Phosphorus	163	0.45	0.06	0.27
Total Nitrate Nitrogen	2,760	7.59	1.04	4.59

\* 2002 Annual Loading Information is provisional and may be subject to minor revisions.

**Figure 3.CWS. South Fork Crow River 2002 Hydrograph with Total Suspended Solids and Nitrate Nitrogen Concentrations**



**Figure 4.CWS. South Fork Crow River 2002 Hydrograph with Total and Dissolved Phosphorus Concentrations**



**Table 4.CWS. South Fork Crow River: Comparison of 2001-2002 Hydrology and Water Chemistry**

	<b>2001</b>	<b>2002</b>
<b>Hydrology</b>		
<b>Total Precipitation (in)</b>	27.66	34.11
<b>Water Yield (in)</b>	7.6	7.3
<b>Total Volume (cf)</b>	2.0E+10	1.9E+10
<b>Annual Load (tons)</b>		
<b>Total Suspended Solids</b>	13,900	27,100
<b>Total Phosphorus</b>	226	233
<b>Total Dissolved Phosphorus</b>	insufficient data	163
<b>Total Nitrate Nitrogen</b>	3,080	2,760
<b>Annual Yield (lbs/acre)</b>		
<b>Total Suspended Solids</b>	38	75
<b>Total Phosphorus</b>	0.62	0.64
<b>Total Dissolved Phosphorus</b>	insufficient data	0.45
<b>Total Nitrate Nitrogen</b>	8.47	7.59
<b>Annual Normalized Yield (lbs/acre/in of water)</b>		
<b>Total Suspended Solids</b>	5	10
<b>Total Phosphorus</b>	0.08	0.09
<b>Total Dissolved Phosphorus</b>	insufficient data	0.06
<b>Total Nitrate Nitrogen</b>	1.12	1.04
<b>Flow-Weighted Mean Concentration (mg/L)</b>		
<b>Total Suspended Solids</b>	22	45
<b>Total Phosphorus</b>	0.36	0.39
<b>Total Dissolved Phosphorus</b>	insufficient data	0.27
<b>Total Nitrate Nitrogen</b>	4.93	4.59