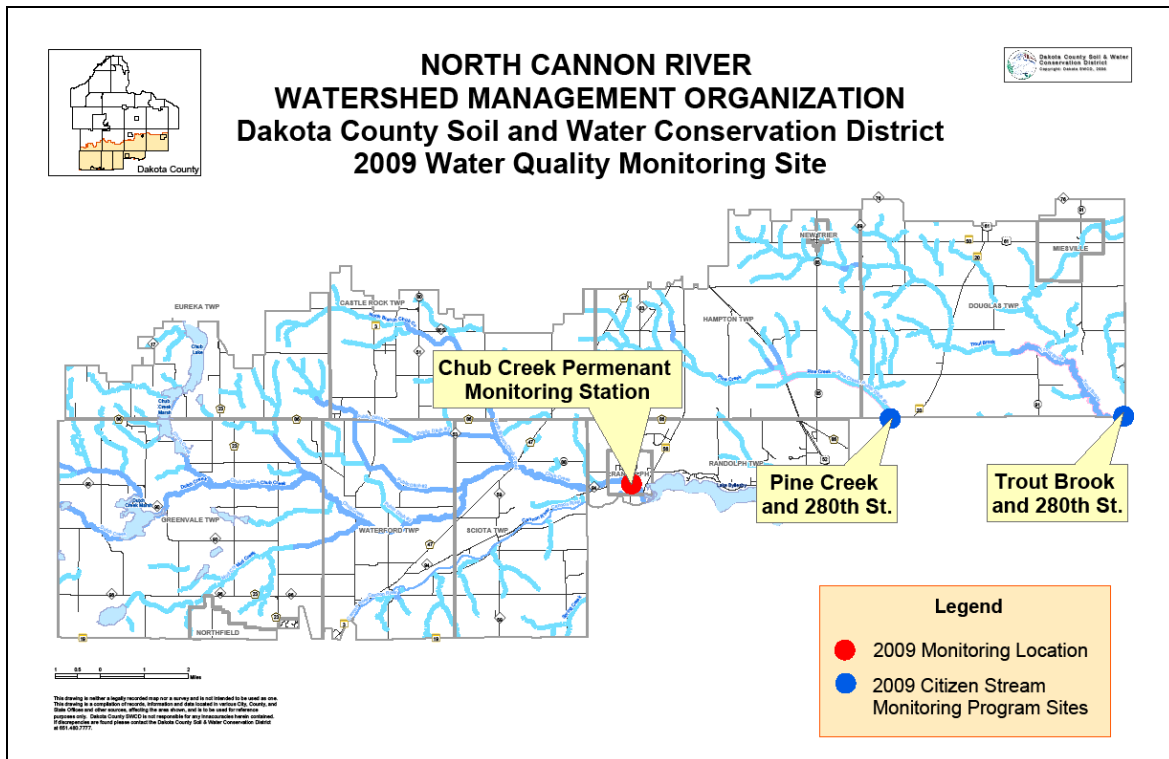


2009 North Cannon River Watershed Management Organization Water Quality Monitoring Report

1. 2009 Water Quality Monitoring Activities:

- SWCD staff installed automated stage (depth) monitoring equipment at the Chub Creek Permanent Monitoring Station
- Staff measured flow six times at the Chub Creek Permanent Monitoring Station. Annual goal is typically four to seven measurements over a wide range of flow conditions.
- Staff continue to recruit citizen volunteers for the Minnesota Pollution Control Agency's Citizen Stream Monitoring Program.
- Staff maintained staff gauges to assist citizen volunteers on Pine Creek and Trout Brook

2. Sample Locations:



3. Monitoring Results:

- Continuous flow data were collected, without interruption, at the Chub Creek Permanent Monitoring station (Figure 1). Flow was measured six times throughout the year (quality assurance duplicate on 8/12/09). Average flow in 2009 was dramatically lower than observed in the NCRWMO historical record (Table 1). The total 2009 precipitation (23.6 inches) was approximately 20% lower than historical, 50-year averages (28.9 inches) and very low during the summer months, which likely accounts for reduced flow. Flow monitoring is essential for completing load calculations. Load calculations are sometimes required for grant applications and ALWAYS used in Total Maximum Daily Load (TMDL) studies.

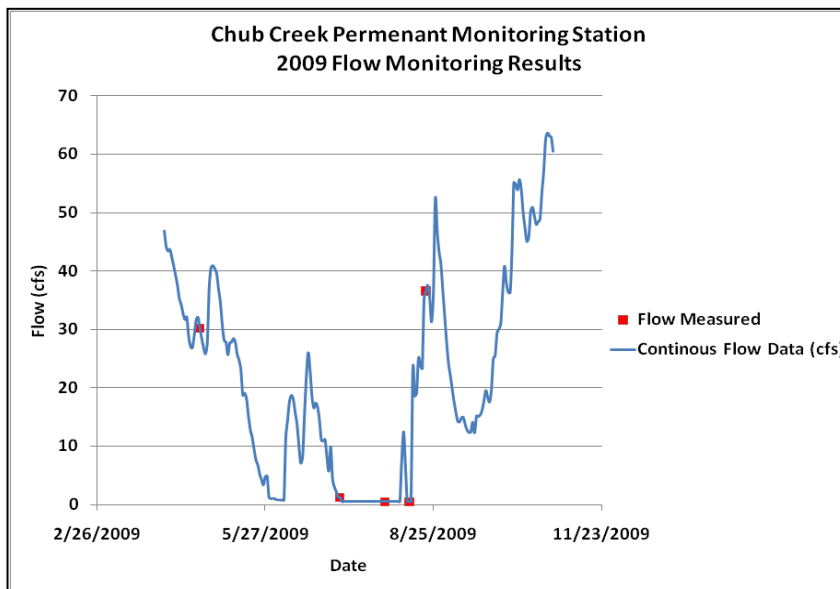


Figure 1. 2009 Flow Monitoring Results

Table 1. Historical Flow Monitoring Results for the Chub Creek Permanent Monitoring Station

<i>Monitoring Year</i>	<i>Average Flow (cfs)</i>
1999	44.3
2000	38.8
2008	39.7
2009	18.2

4. Updates:

- New 2010 MPCA Impairments: Based on NCRWMO water quality monitoring data, the MPCA has designated Pine Creek and Trout Brook as impaired for nitrates. The professional judgment group strongly recommended additional monitoring on Trout Brook (borderline nitrate impairment).
- 2010 Monitoring plan includes continuous flow monitoring on Chub Creek, Pine Creek, and Trout Brook and grab sample water quality sample collection on Pine Creek and Trout Brook (as described in watershed management plan). Replace monitoring equipment at Chub Creek Permanent Monitoring Station.