

**Stream Status**

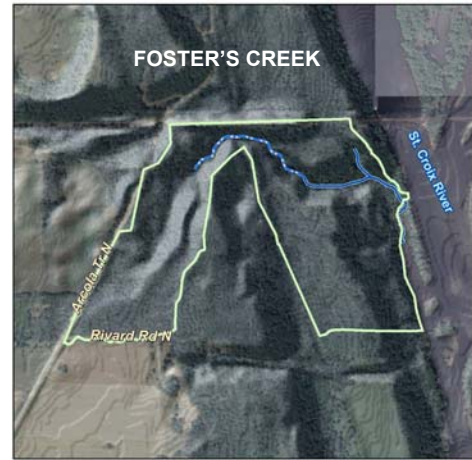
**Overall Strategy:** Routine Watershed Management

**Water Quality Rating:** A-

**Stream Class:** Groundwater Small Watershed Nonurban (GWS)

**Stream Type:** Slightly entrenched, meandering, gravel dominated, riffle/pool channel.

**Subwatershed Land Cover:** 4% developed, 88% forests and woodlands, 7% planted or cultivated.



**Macroinvertebrate Data (2002-2003)\***

Metric	Score	Mean of Spring Creeks
Chironomidae Species Richness		21
Invertebrate Taxa Richness	27	31.75
HBI	4.8	4.4
% EPT	30.3	36.9
% Dominance	56.1	35.5
Most Common Families	Scuds, Small Minnow Mayfly, and Midges	

**Water Chemistry (2000-2002)\***

Parameter	Site Mean	Site $\sigma$	MPCA NCHF Benchmark MIS/St. Croix River	Mean of Spring Creeks
TP [ $\mu\text{g/L}$ ]	32.94	8.18	90	42.47
NO <sub>2</sub> +NO <sub>3</sub> [ $\text{mg/L}$ ]	4.08	0.18	0.1	2.15
TSS [ $\text{mg/L}$ ]	25.48	29.71	8.8	15.96
Temperature [C]	9.7	3.05	13.0	9.95

\*Refer to 2010 Watershed Management Plan Section V, Stream Management Plans for definitions of macroinvertebrate metrics and water chemistry parameters.

**BASIC FACTS**

<b>Section</b>	1
<b>Township</b>	30
<b>Range</b>	20
<b>Stream Length</b>	0.27 miles
<b>Subwatershed Area</b>	51 acres
<b>Baseflow</b>	0.56 cfs
<b>Bankfull Flow</b>	4.03 cfs
<b>Entrenchment Ratio</b>	0.74
<b>Width:Depth Ratio</b>	17.40
<b>Sinuosity</b>	1.60
<b>Slope</b>	0.05
<b>Rosgen Class</b>	F4b
<b>DNR Trout Stream</b>	No

**Fish Species:**

Brook Trout, Gilt Darter

**CMSCWD References:**

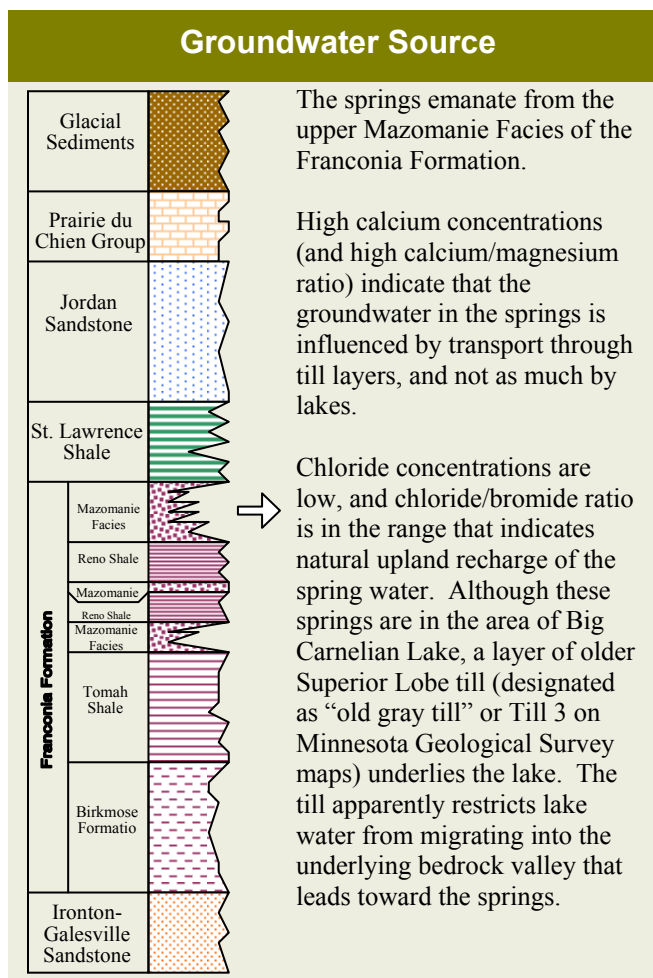
Lower St. Croix River Spring Creek Stewardship Plan ('03)

## Overall Assessment: Foster's Creek

Foster's Creek is located just south of the High Bridge and adjacent to the St. Croix River on National Park Service property. The 53 acres draining to Foster's Creek is almost entirely forested and largely undeveloped. Prior to construction of the Wisconsin-Central Rail, it is likely that the watershed was somewhat larger since the fill from the railroad grade probably diverted some of the historical flows.

Foster's Creek is fed by two small, spring fed tributaries, each of which issues from bedrock outcrops at the back of two box canyon-like ravines. From the confluence of these two tributaries, Foster's Creek flows for approximately 200 feet within a deep valley to the lower terrace of the St. Croix River. In this last reach, there are two earthen berms that probably at one time impounded the stream and created two small ponds.

Foster's Creek contains naturally reproducing populations of brook trout (*Salvelinus fontinalis*) and gilt darter (*Percina evides*), a Special Concern Species in Minnesota. This site also frequently contains bald eagles (*Haliaeetus leucocephalus*), which likely nest in the vicinity.



Based on macroinvertebrate data from the 2003 *Lower St. Croix River Spring Creek Stewardship Plan*, Foster's Creek has a very good water quality rating of 'A-.' Hilsenhoff's biotic index (HBI) is good, and the data show an excellent percent EPT (percent of pollutant intolerant mayflies, stoneflies and caddisflies in the sample) with other values also indicating good stream health.

The Blanding's turtle (*Emydoidea blandingii*) is a state-listed threatened species that may be encountered throughout the watershed.

## Key Management Recommendations

- The Foster's Creek watershed is mostly contained within an NPS parcel. Trails within this parcel cross the creek at several points resulting in minor erosion. These trails should be monitored to ensure that erosion problems do not increase.
- Stormwater runoff discharges towards Foster's Creek from Arcola Trail near the rail road track crossing, resulting in erosion and sediment discharge to Foster's Creek. The Township should regrade this section of road to contain runoff on the west side and should install an infiltration swale sized to accommodate, at minimum, the 2-year storm event.

\* See 2010 *Watershed Management Plan* Section V, *Stream Management Plans* for additional information on District stream management activities.