

Stream Status

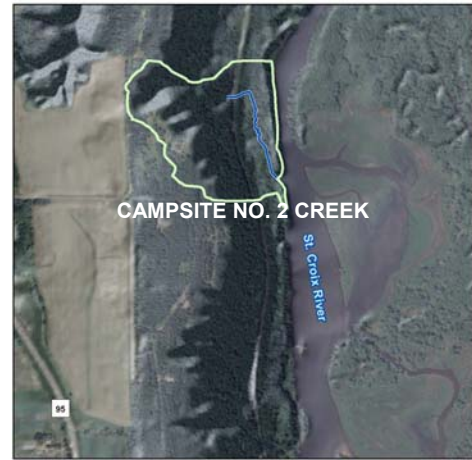
Overall Strategy: Routine Watershed Management

Water Quality Grade: A

Stream Class: Groundwater Small Watershed Nonurban (GWS)

Stream Type: Low sinuosity, gravel and sand dominated, gently graded channel with very low width to depth ratio. This stream is relatively stable and will likely remain so as long as stream banks are not disturbed.

Subwatershed Land Cover: 15% developed, 84% forests and woodlands, 0.5% grassland/shrubland/sparse vegetation.



BASIC FACTS

Section	7
Township	32
Range	19
Stream Length	0.22 miles
Subwatershed Area	30 acres
Baseflow	0.79 cfs
Bankfull Flow	4.75 cfs
Entrenchment Ratio	2.12
Width:Depth Ratio	4.40
Sinuosity	1.20
Slope	0.03
Rosgen Class	E4b
DNR Trout Stream	No

Fish Species:
Brook Trout

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

Macroinvertebrate Data (2002-2003)*

Metric	Score	Mean of Spring Creeks
Chironomidae Species Richness	33	21
Invertebrate Taxa Richness	33	31.75
HBI	4.13	4.4
% EPT	33.23	36.9
% Dominance	32.62	35.5
Most Common Families	Scuds, Black Flies and Small Minnow Mayfly	

Water Chemistry (2000-2002)*

Parameter	Site Mean	Site σ	MPCA NCHF Benchmark MIS/St. Croix River		Mean of Spring Creeks
TP [$\mu\text{g/L}$]	30.73	4.89	90	55	42.47
NO ₂ +NO ₃ [mg/L]	2.44	0.05	0.1	0.203	2.15
TSS [mg/L]	6.27	4.08	8.8	7.5	15.96
Temperature [C]	10.02	1.33	13.0	10.3	9.95

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

Overall Assessment

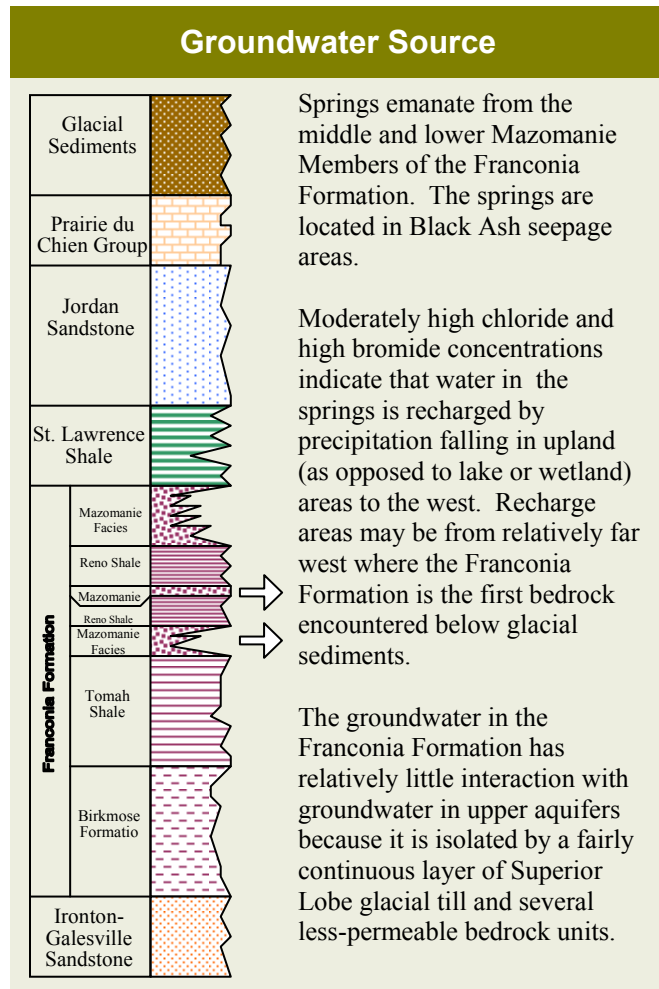
Campsite No. 2 Creek is located to the south of the swing bridge. This creek receives groundwater inputs from a black ash and mixed hardwood seepage swamp along the west side of the Wisconsin Central Rail Tracks.

Campsite No. 2 flows east from the railroad grade to a bedrock outcrop ridge bordering the St. Croix River and then flows south along the edge of this ridge for about 1000 feet before discharging over a rock ledge into the St. Croix River.

The 27 acre watershed contains some old field/conifer plantation in its upper reaches with the remaining majority of the watershed forested. There are several large-lot residential homes in the upper reaches of this watershed.

A naturally reproducing population of brook trout (*Salvelinus fontinalis*) is also present in this stream. This stream flows entirely through an Minnesota County Biological Survey-mapped black ash seepage swamp and contains records for bog bluegrass (*Poa paludigena*), Red-shouldered hawk (*Buteo lineatus*), and Louisiana water thrush (*Seiurus motacilla*).

Campsite No. 2 is noteworthy in that, based on macroinvertebrate data collected for the 2003 *Lower St. Croix River Spring Creek Stewardship Plan*, it has the highest diversity index score of any of the spring creeks sampled in the study area. This creek also ranked as the second highest stream in the study area with respect to overall macroinvertebrate species richness. Hilsenhoff's biotic index (HBI) is very good with good percent EPT (percent of pollutant intolerant mayflies, stoneflies and caddisflies in the sample). Organic enrichment is likely natural from wetlands. Therefore, Campsite No. 2 has a very good water quality rating of 'A'.



Key Management Recommendations

- The National Park Service should monitor campsite use to ensure that bank erosion or other campsite-use related impacts do not occur.
- Maintain setbacks on bluff line above seepage swamp source of creek with buffer of native vegetation. Should roads or other impervious surfaces be created upslope of seepage swamp, maintain predevelopment stormwater rate and volume.

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