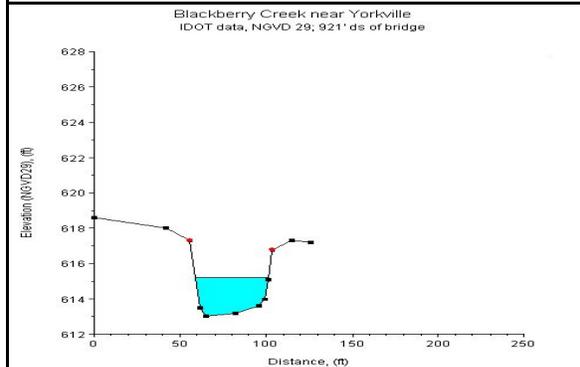
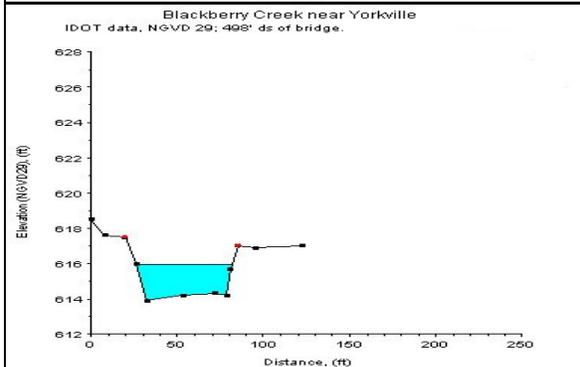
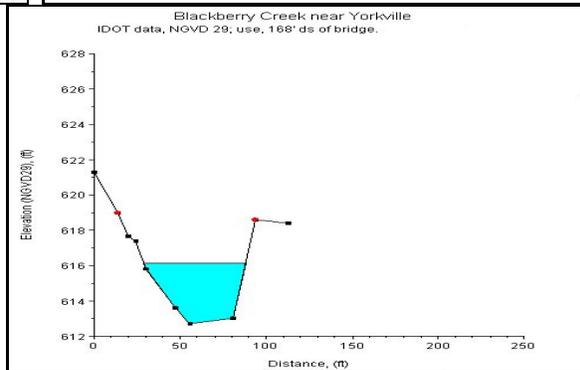
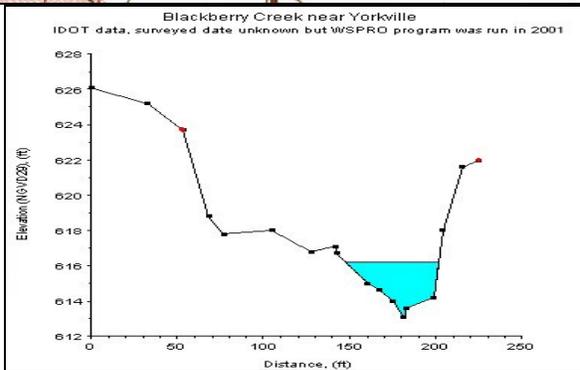
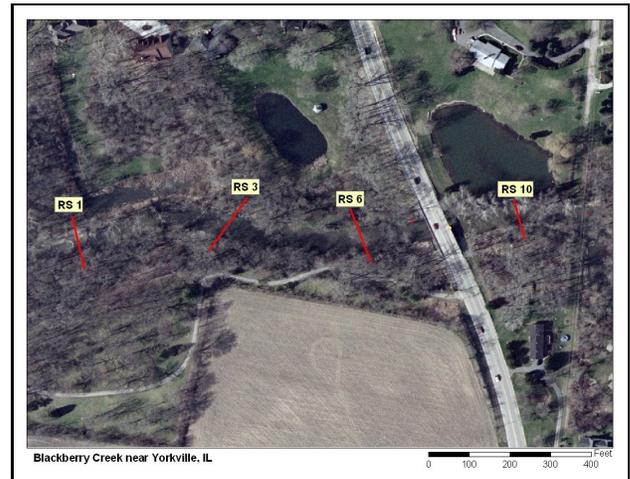
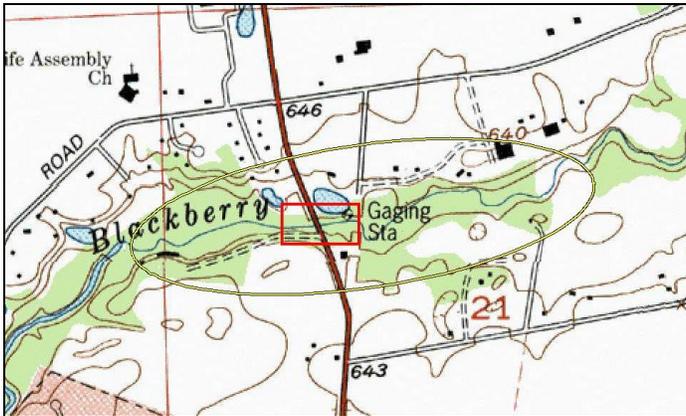


Blackberry Creek near Yorkville, IL



Study Reach.--The channel reach is a relatively straight and natural channel in a wooded area, as shown in quadrangle map on the top left. The study reach, approximately 1,400 ft long, extends from the USGS gage, located about 300 ft upstream from the Route 47 bridge, to about 1270 ft downstream of the Route 47 bridge. Four surveyed cross sections (surveyed by the U.S. Geological Survey, Illinois Department of Natural Resources, and Smith Engineering in 2001 and the Illinois Department of Transportation, in April 2003) are available for describing geometries of the study reach. The channel alignment, approximate variations in channel width and bank conditions, and locations of the cross sections are shown in the aerial photograph on the top right. Cross-sectional geometries, as described in four cross sections (see plots above), vary continuously from upstream to downstream.

Gage Location.--Lat 41°40'18", long 88°26'29", in SE1/4 NW1/4 sec.21, T.37N., R.7E., Kendall County, Hydrologic Unit 07120007, on the right bank 300 feet upstream from the bridge on State Highway 47, 2.0 mi north of Yorkville, and

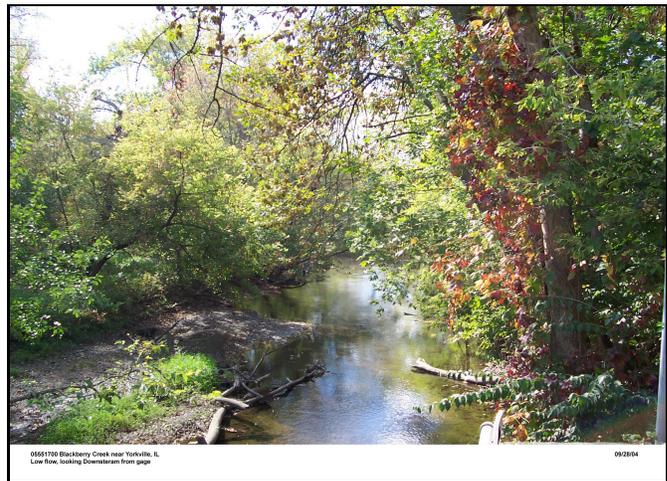
at river mi 3.3. The USGS streamgage station number is 05551700.

Drainage Area.--70.2 sq mi.

Gage Datum and Elevations of Reference Points.--Datum of the gage is 612.34 ft. A wire-weight gage (WWG) is located on the abandoned bridge abutment at the right edge of water. Reference point, RP-RT47, is a line on the right pier under the State Highway 47 bridge, elevation=620.212 ft. Reference point for the n-value study, RP-N4, is a nail in an overhanging tree on the right edge of water located 40 ft downstream of State Highway 47 bridge, elevation=621.406 ft. RP-N7 is a nail in a tree on the right bank located 300 ft downstream from the State Highway 47 bridge, elevation=617.982 ft. All elevations are referenced to NGVD29.

Stage, Discharge Measurements, and Computed n-Values.--Water-surface elevations were measured at the WWG and at all RP-Ns along the channel before and after each discharge measurement. Discharge measurements were made using the conventional current-meter method. The computed n-values are listed in the following table. Whenever possible, the computed n-values are associated with a photograph taken at the time of the measurement. The photographs are arranged from low to high discharge in order to illustrate the contributing factors of n-values at a particular discharge.

Date of Observation	Discharge (ft ³ /s)	Average Cross Section Area (ft ²)	Hydraulic Radius (ft)	Mean Velocity (ft/s)	Slope (ft/ft)	Coefficient of Roughness <i>n</i>
8/5/1998	80.1	101.3	1.85	0.86	0.001800	0.064
6/1/2000	115.0	150.1	2.46	0.79	0.000300	0.058





0661700 Blackberry Creek near Yorkville, IL
Low flow, looking upstream from bridge

09/28/04



0661700 Blackberry Creek near Yorkville, IL
Looking Downstream

01/14/02

Description of Channel.--This channel is natural with trapezoidal cross sections in a fairly straight reach. The bed materials consist of shifting sand and gravel. The bottom width of the channel varies from approximately 20 to 30 ft. Bank materials consist of bare earth with exposed tree roots. Dense underbrush and medium trees (from 6 to 12 inches in diameter) are found on top of the bank and on the floodplains. The bank heights are about 10 ft at the upstream end and gradually drop to about 3 ft at the downstream end. The left bank is gradually sloped. The right bank of the channel, downstream from the gage, is fairly steep. The top width of the channel is approximately 70 ft. The channel banks begin to overflow at a stage of about 6.5 ft. Large debris jams are common in the channel.

Floods.--The maximum discharge for the period of record was 5,510 ft³/s occurring on July 18, 1996; gage height, 13.16 ft from rating curve extended above 3,900 ft³/s, and was affected by backwater from debris jams.