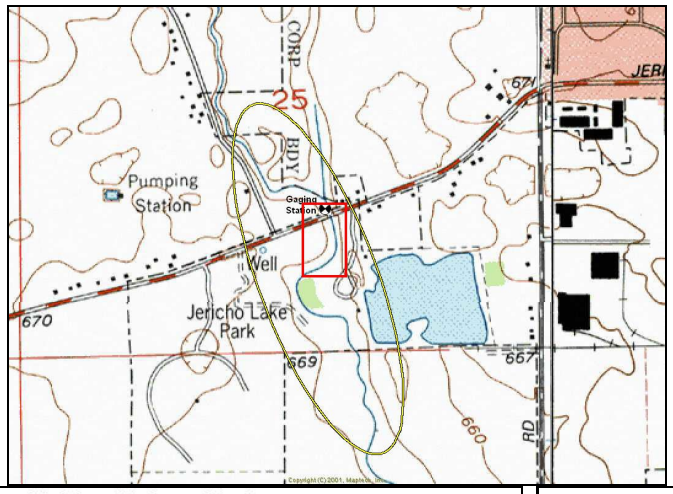
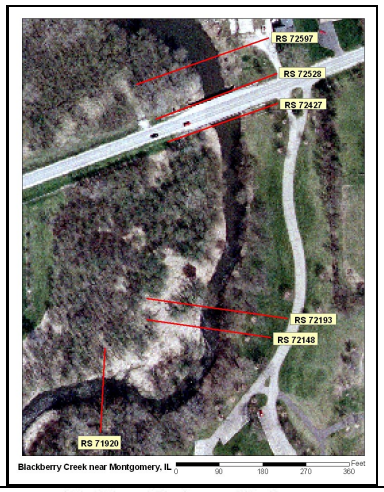
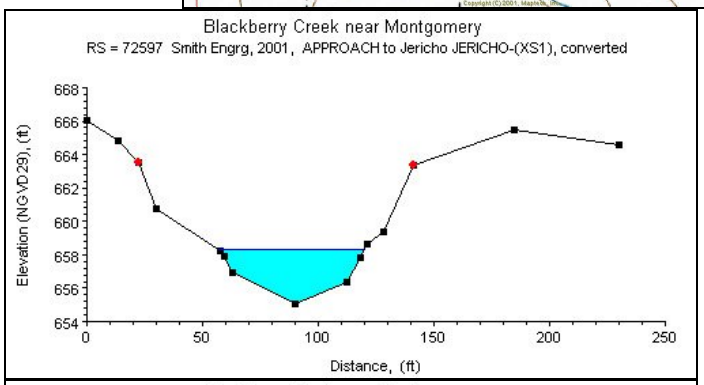
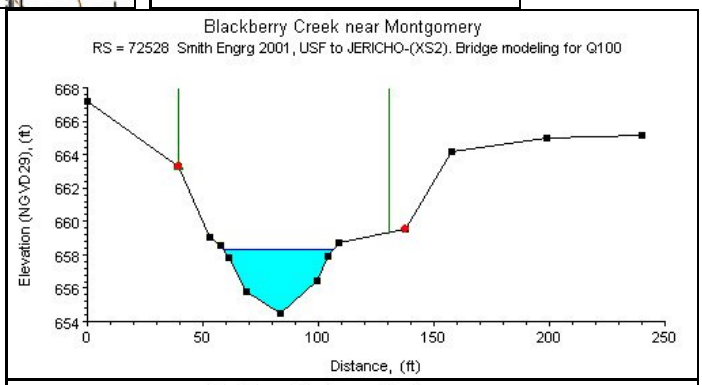
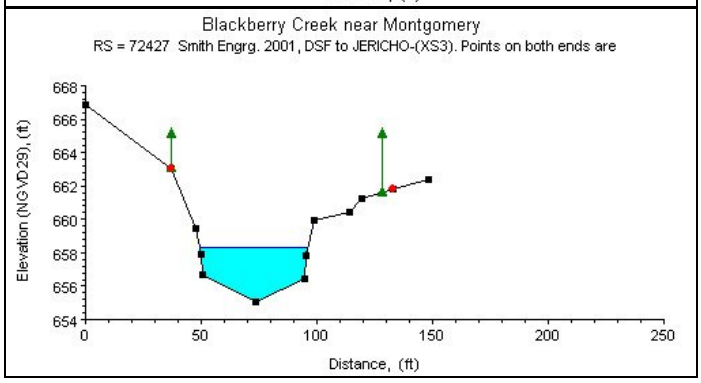
Blackberry Creek near Montgomery, IL

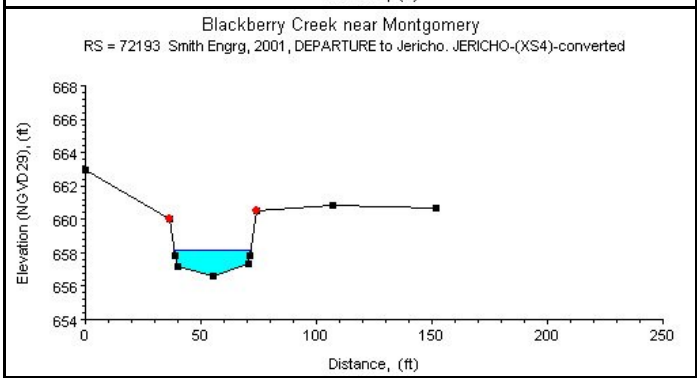












Study Reach.--The channel under consideration is natural with wooded banks, as shown in quadrangle map on the top left. The study reach, approximately 700 ft long, is located from the upstream side of Jericho Road bridge and extends downstream. Six surveyed cross sections (surveyed by the U.S. Geological Survey, Illinois Department of Natural Resources, and Smith Engineering in 2001 and the Illinois Department of Transportation, in April 2003) are available for describing the characteristics of channel geometry. The alignment of the study reach, approximate variations in channel width and bank conditions, and locations of surveyed cross sections are shown in the aerial photo on the top right. Changes in cross-sectional geometries are illustrated with the cross-sectional plots at four river stations (RS) as shown above.

Gage Location.--Lat 41°44 27 , long 88°23 00 , in NW1/4 SE1/4 sec.25, T.38N., R.7E., Kane County, Hydrologic Unit 07120007, on right bank at bridge on Jericho Road, 1.0 mi west of Montgomery, and at river mile 13.0. The USGS

streamgage-station number is 05551675.

Drainage Area.--55.0 sq mi.

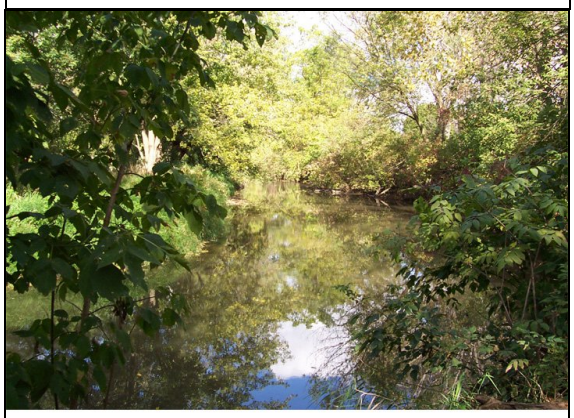
Gage Datum and Elevations of Reference Points.--Datum of gage is 654.00 ft; a wire-weight gage (WWG) is attached to the upstream side of Jericho Road bridge; reference point for n-value study, RP-N1 is a nail in tree about 250 ft downstream of the bridge on the left bank, elevation = 622.627 ft; RP-N2 is a nail in tree about 200 ft downstream of RP-N1 on the right bank, elevation = 621.168 ft; RP-N3 is a nail in tree about 100 ft downstream of RP-N2 on the left bank, elevation = 622.021 ft. All elevations are in NGVD 1929 convention.

Stage, Discharge Measurements, and Computed n-Values.--Water-surface elevations were measured at the wire-weight gage (WWG) and at all RP-Ns before and after the 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 photo taken at the time of the measurement. The photos are arranged from low stage to high stage in order to illustrate contributing factors of n-value at a particular stage.

Date of Observation	Discharge (ft^3/s)	Average Cross Section Area (ft^2)	Hydraulic Radius (ft)	Mean Velocity (ft/s)	Slope	Coefficient of Roughness *n*
10/28/1998	80.3	78.6	1.68	1.35	0.000410	0.032

05551675 Blackberry Creek near Montgomery, IL 09/28/04
Low flow, looking Downstream from bridge

05551675 Blackberry Creek near Montgomery, IL
Looking Downstream



05551675 Blackberry Creek near Montgomery, IL 09/28/04
Low flow, looking Upstream

05551675 Blackberry Creek near Montgomery, IL
Looking Upstream

Description of Channel.--This channel is natural with heavily wooded banks. The bed materials consist of shifting sand, silt and gravels. The banks are lined with sparse trees, dense grass, and brush. The channel cross section is approximately trapezoid with low, mildly sloped banks. The bottom width of the channel is approximately 25 ft. The bank height varies around 6 ft. The top width of the channel is about 50 ft. The slope of the left bank of the study reach (downstream from the gage) is steeper than the right bank. The study reach can be described as a bend with sharp bends directly upstream and downstream. Debris jams accumulate and dissipate in the channel. At times, the low-water control becomes the foundation for beaver dams. Within the study reach, overflow from the Creek to Jericho Lake can occur at the downstream end of the study reach when stages are higher than 6.5 ft by way of a small open ditch. The overflow may affect the stage reading at RP-Ns downstream from the ditch. Therefore, high flood events were not used for study at this site.

Floods.--Maximum discharge, 1,040 ft^3/s, Apr.23, 1999, gage height, 8.61 ft.

Estimated n-Values using Cowan s Approach.--0.048 - 0.07