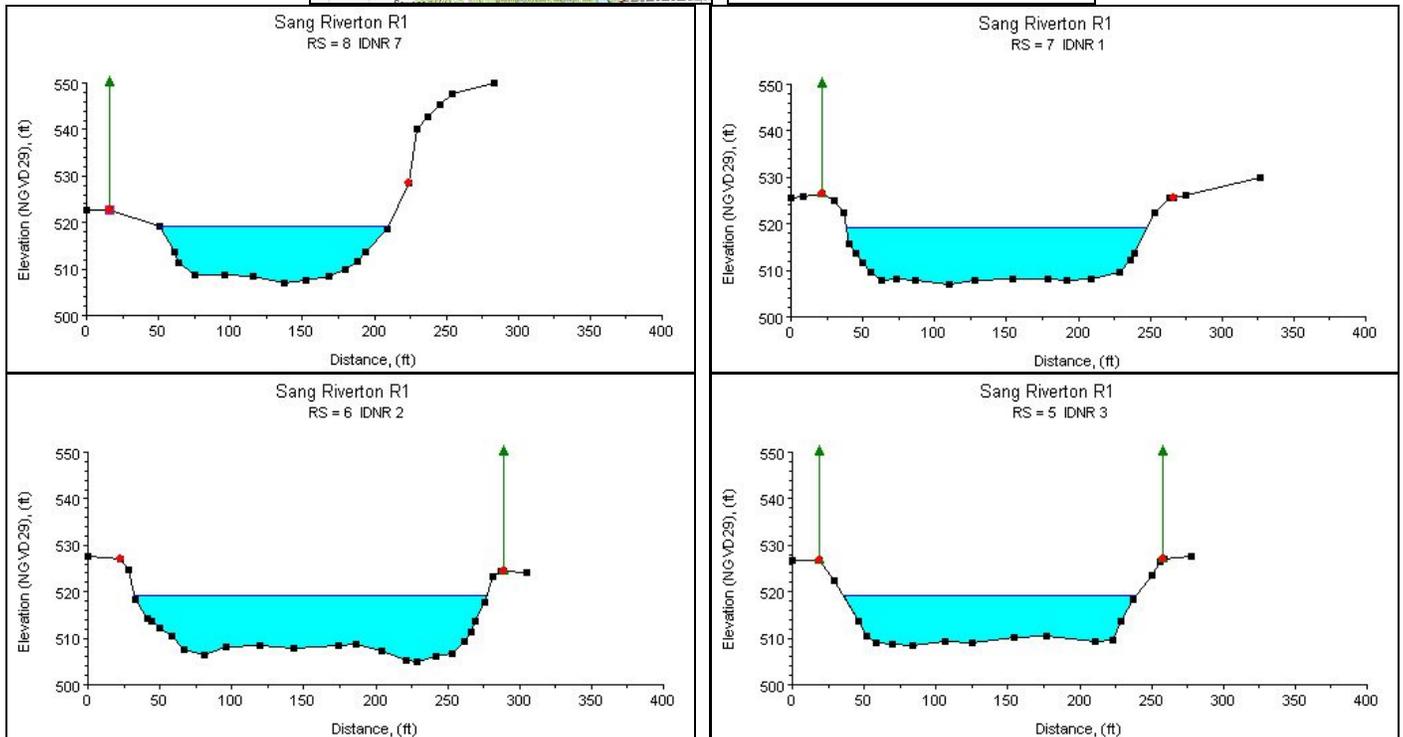
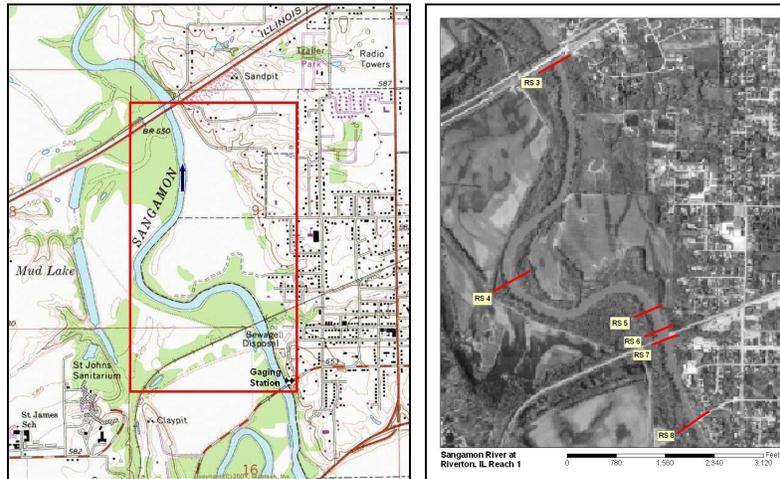


# Sangamon River at Riverton Reach 1, IL



**Study Reach.**--The reach under consideration is the meandering, natural river. A study reach, approximately 8600 ft long, extends from the abandoned Old River Road bridge to the upstream side of State Highway 54 bridge, as shown in the quadrangle map on the top left. Six surveyed cross sections (surveyed by the Illinois Department of Natural Resources, in December 2003) are available for evaluating the channel geometries in the study reach. The channel alignment, approximate variations in channel width and bank conditions, and locations of surveyed cross sections are shown in the aerial photo on the top right. Cross-sectional geometries vary gradually from upstream to downstream (see plots above). The alignment of the study reach, approximate variations in channel width and bank conditions, and locations of the surveyed cross sections are shown in the aerial photo on the top right.

**Gage Location.**--Lat 39°50'35", long 89°32'50" (revised WY2000), NW1/4 NE1/4 sec.16, T.16N., R.4W., Sangamon County, Hydrologic Unit 07130008, at right abutment on former U.S. Highway 36 bridge in Riverton, 2.2 mi downstream

from Sugar Creek, 5.6 mi upstream from Fancy Creek, and at river mi 83.1. The USGS streamgage-station number is 05576500.

**Drainage Area.**--2,618 sq mi.

**Gage Datum and Elevations of Reference Points.**--Datum of gage is 508.38 ft. A wire-weight gage (WWG) is attached to the downstream, streamward side of the bridge abutment of the Old River Road abandoned bridge; a reference point for n-value study (RP-N1) is established at the top of the nut on the concrete anchor on the upstream side of Highway 54 bridge, elevation=551.769 ft. All elevations are in NGVD 1929 convention.

**Stage, Discharge Measurements and Computed n-Values.**--Water-surface elevations are measured from the WWG and from RP-N1 before, during, and after a discharge measurement. Discharge measurements are 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-values at a particular stage.

Date of Observation	Discharge (ft <sup>3</sup> /s)	Average Cross Section Area (ft <sup>2</sup> )	Hydraulic Radius (ft)	Mean Velocity (ft/s)	Slope	Coefficient of Roughness <i>n</i>
7/20/2004	676.0	688.5	4.43	1.13	0.000132	0.034
3/23/2004	1100.0	897.2	5.43	1.40	0.000137	0.031
9/1/2004	1680.0	1080.4	6.01	1.75	0.000135	0.025
10/19/2004	2580.0	1427.5	7.41	1.98	0.000149	0.027
3/27/2002	3590.0	1738.6	8.55	2.22	0.000149	0.027
5/28/2004	5060.0	2334.4	10.18	2.29	0.000149	0.030



05576500 Sangamon River at Riverton, IL Reach 1  
Looking Downstream from gage house



05576500 Sangamon River at Riverton, IL Reach 1  
Looking Downstream from WWG2

03/23/04



05576500 Sangamon River at Riverton, IL Reach 1  
Looking Upstream from Rte 54 bridge

03/23/04



05576500 Sangamon River at Riverton, IL Reach 1  
Looking Downstream towards old bridge pier site



05576500 Sangamon River at Riverton, IL Reach 1  
Looking Upstream toward railroad trestle



05576500 Sangamon River at Riverton, IL Reach 1  
Looking Upstream from Rte 54 bridge

03/27/02

**Description of Channel.**--This channel is natural and meandering. Bed material consists of sand and gravel. The banks are bare earth, shales, clay and sand. The cross sectional shape is generally trapezoidal except for the upstream meandering reach. Channel widens in downstream direction. In the downstream straight reach, bottom width about 150 ft and top width is about 200 ft, with a bank height around 15 ft. Sandbars were observed on the relatively flat streambed

**Floods.**--Maximum discharge, 68,700 ft<sup>3</sup>/s, May 19, 1943, gage height, 31.52 ft, from graph based on gage readings.

**Estimated n-Values using Cowan's Approach.**--0.039 ~ 0.044