Water-Data Report 2011

03359000 MILL CREEK NEAR MANHATTAN, IN

White River Basin

LOCATION.--Lat 39°29′15″, long 86°55′29″ referenced to North American Datum of 1927, in SE ¼ SE ¼ sec.11, T.12 N., R.5 W., Putnam County, IN, Hydrologic Unit 05120203, on left bank 0.3 mi upstream from Cagles Mill Dam, 0.4 mi downstream from Cagles Mill Lake, 1.3 mi upstream from Deer Creek, 5.0 mi south of Manhattan, and at mile 2.3.

DRAINAGE AREA.--294.00 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May to September 1931 (fragmentary). October 1938 to September 1976 (discharge). October 1976 to September 2001 (discharge provided by U.S. Army Corps of Engineers). October 2001 to current year (gage height only). Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 1335: 1940-41. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 581.83 ft above National Geodetic Vertical Datum of 1929. May 12, 1941 to Sept. 30, 1974, water-stage recorder at site 0.3 mi downstream. See WSP 1725 for history of changes prior to May 12, 1941.

COOPERATION.--Records of daily discharge provided by U.S. Army Corps of Engineers September 1976 to September 2001.

REMARKS.--Flow regulated by U.S. Army Corps of Engineers from Cagles Mill Lake since July 1953.

EXTREMES FOR PERIOD OF RECORD.--(October 2001 to current year) maximum gage height, 15.77 ft, June 7, 2008, minimum gage height, 8.05 ft, March 10, 2011. (October 1938 to September 1976) maximum discharge, 8,960 ft^3/s, Jan. 5, 1950, gage height 18.38 ft; no flow Aug. 7, 1953.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 14.87 ft, April 20; minimum gage height, 8.05 ft, March 10.

DISCHARGE MEASUREMENTS
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Date	Discharge, in ft^3/s	Gage height, in ft
Feb 23, 2011	140	8.64
Aug 3, 2011	5.75	8.34

Suggested citation: U.S. Geological Survey, 2012, Water-resources data for the United States, Water Year 2011: U.S. Geological Survey Water-Data Report WDR-US-2011, site 03359000, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/03359000.2011.pdf

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GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY OBSERVATION AT 2400 HOURS

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	8.27	8.34	8.38	8.36	8.34	8.70	10.90	8.61	10.85	10.98	8.46	8.23
2	8.27	8.34	8.38	9.79	8.54	8.70	10.89	8.67	11.19	10.97	8.46	8.23
3	8.27	8.34	8.26	9.78	8.54	8.71	10.87	8.62	11.17	10.95	8.44	8.22
4	8.27	8.34	8.26	8.97	8.54	8.73	9.95	8.61	11.16	10.94	8.34	8.22
5	8.27	8.34	8.26	8.97	8.54	11.68	8.51	9.80	10.49	10.92	8.23	8.22
6	8.27	8.34	8.26	8.35	8.55	8.74	8.51	10.65	10.49	10.91	8.23	8.22
7	8.25	8.34	8.26	8.35	8.34	8.75	9.67	10.65	11.14	10.90	8.23	8.22
8	8.26	8.34	8.26	8.35	8.34	8.74	10.61	10.64	11.13	10.88	8.23	8.22
9	8.26	8.34	8.21	8.74	8.34	8.74	10.61	10.64	11.12	10.86	8.23	8.22
10	8.26	8.34	8.20	8.41	8.34	8.74	10.60	10.64	11.11	10.84	8.23	8.23
11	8.26	8.34	8.21	8.41	8.34	8.74	9.96	10.91	11.10	10.83	8.23	8.23
12	8.26	8.34	8.33	8.41	8.20	8.75	9.96	10.91	11.08	10.81	8.24	8.23
13	8.26	8.35	8.33	8.41	8.20	8.71	9.96	10.90	11.07	10.79	8.24	8.21
14	8.25	8.35	8.33	8.27	8.43	8.71	9.95	10.89	11.06	10.77	8.24	8.21
15	8.25	8.35	8.33	8.27	8.90	9.11	9.95	10.89	9.61	10.75	8.24	8.20
16	8.25	8.35	8.32	8.27	9.74	9.65	9.95	10.88	11.03	10.73	8.24	8.20
17	8.25	8.72	8.25	8.26	9.74	10.13	9.94	10.88	11.01	10.71	8.24	8.20
18	8.25	8.72	8.25	8.26	9.74	10.47	9.94	10.87	11.00	10.68	8.24	8.21
19	8.25	8.72	8.25	8.26	9.74	10.46	11.99	10.86	10.00	10.66	8.24	8.21
20	8.25	8.72	8.24	8.36	9.73	10.46	11.35	10.86	10.00	10.64	8.23	8.20
21	8.25	8.47	8.24	8.36	9.40	10.45	8.55	10.85	8.54	10.61	8.23	8.21
22	8.23	8.47	8.24	8.55	8.64	10.71	8.55	10.84	8.54	10.06	8.23	8.21
23	8.23	8.47	8.24	8.40	8.64	10.71	8.56	10.84	8.54	9.71	8.23	8.21
24	8.26	8.47	8.24	8.40	8.71	10.69	8.56	10.84	8.54	9.34	8.23	8.22
25	8.26	8.48	8.24	8.40	8.66	10.68	8.58	10.85	9.60	9.34	8.23	8.25
26	8.27	8.72	8.24	8.40	8.66	10.67	8.57	9.69	9.60	8.92	8.24	8.21
27	8.28	8.72	8.24	8.40	8.67	10.66	10.55	9.70	8.58	8.92	8.22	8.49
28	8.28	8.72	8.24	8.28	11.14	10.65	11.43	9.70	8.58	8.46	8.22	8.49
29	8.26	8.72	8.24	8.33	---	10.95	8.61	9.70	10.43	8.46	8.22	8.49
30	8.36	8.72	8.24	8.33	---	10.93	8.60	9.70	10.42	8.46	8.22	8.49
31	8.35	---	8.25	---	---	10.92	---	10.54	---	8.46	8.22	---
Mean	8.26	8.48	8.27	---	8.85	9.79	9.82	10.31	10.27	10.23	8.26	8.25
Max	8.36	8.72	8.38	---	11.14	11.68	11.99	10.91	11.19	10.98	8.46	8.49
Min	8.23	8.34	8.20	---	8.20	8.70	8.51	8.61	8.54	8.46	8.22	8.20

03359000 MILL CREEK NEAR MANHATTAN, IN—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.-- WATER TEMPERATURE:May 1993 to February 1996, July 1999 to current year.

INSTRUMENTATION.--Temperature recorder.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 30.1°C, July 31, 1999; minimum, 1.1°C, Feb. 1-10, 12-14, 1994; Dec. 10, 1995; Dec. 23, 24, and 25, 2009.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 27.7°C, Aug. 9, minimum, 2.4°C, Jan. 4.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
[e, estimated]

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			November			December			January	
1	22.0	21.0	21.4	15.4	14.9	15.2	8.9	8.5	8.7	5.0	4.5	4.7
2	21.5	20.5	20.8	14.9	14.5	14.6	8.5	8.3	8.3	4.5	3.0	3.8
3	20.5	19.9	20.2	14.6	14.1	14.3	8.3	8.1	8.2	3.0	2.6	2.8
4	20.0	19.2	19.6	14.2	13.9	14.0	8.2	7.5	7.7	2.6	2.4	2.5
5	19.8	18.8	19.2	13.9	13.3	13.6	7.6	7.3	7.5	2.6	2.5	2.6
6	19.6	18.6	19.1	13.3	12.8	13.0	7.3	6.5	6.8	3.0	2.6	2.7
7	19.6	18.9	19.3	13.0	12.5	12.7	6.6	6.2	6.5	3.1	3.0	3.1
8	19.6	18.9	19.3	13.0	12.4	12.7	6.4	6.1	6.2	3.3	3.1	3.2
9	19.6	18.9	19.2	13.0	12.4	12.7	6.3	5.9	6.1	3.2	2.6	2.9
10	19.8	19.2	19.5	13.0	12.5	12.7	6.1	5.7	5.8	3.0	2.5	2.7
11	20.2	19.5	19.8	13.0	12.4	12.7	5.9	5.8	5.9	3.1	3.0	3.0
12	20.1	19.6	19.8	12.9	12.5	12.7	6.0	5.6	5.8	3.0	2.8	2.9
13	19.9	19.3	19.5	12.9	12.6	12.7	5.6	5.0	5.3	2.9	2.8	2.8
14	19.6	18.7	19.0	12.8	12.2	12.4	5.4	5.1	5.2	3.1	2.8	2.9
15	19.0	18.2	18.5	12.2	11.5	11.8	5.2	4.7	5.0	3.2	3.0	3.1
16	18.7	17.8	18.2	11.9	11.3	11.5	4.7	4.2	4.4	3.2	3.1	3.2
17	18.5	17.9	18.2	11.5	11.1	11.3	4.2	3.8	4.0	3.3	2.9	3.1
18	18.5	18.0	18.2	11.5	11.3	11.4	4.1	3.9	4.0	3.5	3.3	3.4
19	18.2	17.6	17.9	11.3	11.1	11.2	4.1	4.0	4.1	3.6	3.4	3.5
20	18.1	17.2	17.6	11.1	10.9	11.0	4.1	3.8	4.0	3.5	3.4	3.5
21	17.7	17.0	17.3	11.0	10.8	10.9	4.2	3.9	4.1	3.5	3.3	3.4
22	17.2	16.3	16.8	11.2	11.0	11.1	4.2	4.2	4.2	3.5	3.2	3.4
23	17.4	16.8	17.1	11.3	10.8	11.1	4.3	4.2	4.2	3.5	3.2	3.3
24	17.9	17.3	17.5	10.8	10.1	10.4	4.3	4.2	4.3	3.5	3.1	3.4
25	18.1	17.9	17.9	10.5	10.1	10.3	4.3	4.2	4.2	3.6	3.5	3.5
26	18.2	18.0	18.1	10.3	9.6	9.8	4.3	4.1	4.2	3.6	3.5	3.6
27	18.0	17.1	17.4	9.6	9.3	9.5	4.2	4.0	4.1	3.6	3.4	3.5
28	17.1	15.6	16.2	9.4	9.1	9.2	4.1	4.0	4.0	3.7	3.5	3.6
29	15.6	15.1	15.4	9.4	9.1	9.3	4.1	4.0	4.0	3.8	3.6	3.7
30	15.7	14.7	15.2	9.4	8.9	9.3	4.3	4.0	4.1	3.8	3.7	3.7
31	15.6	15.2	15.4	---	---	---	5.2	4.3	4.8	---	---	e4.4
Month	22.0	14.7	18.3	15.4	8.9	11.8	8.9	3.8	5.3	---	---	3.3

03359000 MILL CREEK NEAR MANHATTAN, IN—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
[e, estimated]

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	---	---	e4.3	5.3	5.0	5.1	8.1	8.0	8.1	11.4	11.0	11.2
2	3.7	3.3	3.4	5.7	5.1	5.3	8.1	8.0	8.0	11.2	11.0	11.1
3	3.5	3.4	3.4	5.7	5.4	5.6	8.8	8.0	8.4	11.3	10.9	11.1
4	3.7	3.4	3.5	5.8	5.5	5.7	9.1	8.8	9.0	11.2	10.9	11.1
5	3.7	3.6	3.7	6.4	5.8	6.2	9.0	8.7	8.8	12.4	11.0	11.6
6	3.7	3.6	3.7	6.0	5.9	5.9	9.3	8.6	8.9	12.5	11.9	12.2
7	4.0	3.7	3.8	6.0	5.8	5.9	9.6	8.9	9.3	12.6	12.4	12.5
8	4.1	3.9	4.0	6.4	6.0	6.2	9.8	9.4	9.6	12.6	12.4	12.5
9	4.0	3.8	3.9	6.6	6.4	6.5	10.3	9.6	10	12.7	12.4	12.6
10	4.0	3.8	3.9	6.5	6.2	6.3	11.3	9.8	10.4	12.6	12.4	12.5
11	4.1	3.8	3.9	6.4	6.1	6.2	11.2	9.9	10.5	12.7	12.4	12.5
12	4.3	4.1	4.1	6.5	6.2	6.3	10.1	9.7	9.9	12.8	12.5	12.7
13	4.4	4.3	4.3	6.6	6.3	6.4	10.5	10.1	10.3	12.7	12.6	12.7
14	4.5	4.2	4.3	6.7	6.4	6.5	11.0	10.1	10.5	12.7	12.5	12.6
15	4.6	3.8	4.2	6.8	6.7	6.7	12.4	10.2	11.1	12.7	12.6	12.6
16	3.9	3.8	3.8	6.8	6.6	6.7	12.2	10.8	11.3	12.7	12.6	12.7
17	3.8	3.7	3.8	7.2	6.6	6.9	11.4	10.8	11.1	12.8	12.6	12.7
18	4.0	3.7	3.9	7.4	7.2	7.3	11.4	11.2	11.3	12.8	12.7	12.8
19	4.1	3.9	4.0	7.6	7.1	7.3	11.4	10.8	11.0	12.9	12.7	12.8
20	4.3	4.1	4.2	8.1	7.5	7.9	11.2	10.5	10.8	13.0	12.8	12.9
21	4.7	4.2	4.5	8.1	7.7	7.8	10.5	10.3	10.4	13.1	12.9	13.0
22	4.7	4.5	4.6	8.4	7.6	7.9	10.5	10.3	10.4	13.2	13.0	13.1
23	e4.6	e4.4	e4.5	8.3	7.3	8.0	10.5	10.3	10.5	13.4	13.2	13.3
24	e4.8	e4.6	e4.7	7.9	7.2	7.5	10.4	10.4	10.4	13.4	13.2	13.3
25	4.7	4.5	4.6	8.2	7.9	8.1	10.7	10.4	10.5	13.7	13.3	13.5
26	4.7	4.6	4.6	8.3	8.1	8.2	10.9	10.5	10.7	13.8	13.2	13.5
27	5.0	4.6	4.8	8.3	8.0	8.2	11.6	10.6	10.9	13.4	13.1	13.3
28	6.0	5.0	5.4	8.4	8.0	8.2	11.7	10.9	11.1	13.5	13.2	13.3
29	---	---	---	8.3	8.2	8.3	11.2	10.7	10.9	13.7	13.4	13.5
30	---	---	---	8.3	8.1	8.2	11.5	10.9	11.1	13.9	13.4	13.7
31	---	---	---	8.3	8.0	8.1	---	---	---	14.1	13.5	13.9
Month	---	---	4.1	8.4	5.0	6.9	12.4	8.0	10.2	14.1	10.9	12.7

03359000 MILL CREEK NEAR MANHATTAN, IN—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
[e, estimated]

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	14.4	13.8	14.1	---	---	---	25.0	23.9	24.5	26.2	25.5	25.8
2	14.4	14.1	14.3	---	---	---	25.0	24.1	24.6	26.4	25.6	26.0
3	14.7	14.4	14.6	---	---	---	24.8	23.6	24.5	26.4	25.7	26.1
4	14.9	14.6	14.7	---	---	---	23.7	22.9	23.3	26.4	25.4	25.9
5	15.1	14.6	14.8	---	---	---	23.0	22.5	22.7	25.4	24.1	24.5
6	14.8	14.6	14.7	---	---	---	25.3	23.0	23.9	24.1	23.1	23.5
7	15.4	14.7	15.0	---	---	---	27.2	25.3	26.4	23.6	22.9	23.3
8	15.5	15.1	15.3	---	---	---	27.6	27.2	27.4	23.4	22.8	23.0
9	15.7	15.2	15.5	---	---	---	27.7	27.3	27.5	22.8	22.6	22.7
10	16.0	15.4	15.7	---	---	---	27.5	26.7	27.1	22.9	22.5	22.7
11	16.1	15.5	15.8	---	---	---	27.2	26.0	26.5	23.1	22.5	22.8
12	16.2	15.7	16.0	---	---	---	26.7	25.9	26.3	23.1	22.4	22.8
13	16.3	16.0	16.2	23.2	22.6	23.0	27.0	26.1	26.5	23.6	22.5	23.0
14	16.6	16.2	16.4	23.5	23.1	23.3	27.0	26.1	26.4	23.5	22.4	22.9
15	16.6	15.6	16.2	23.8	23.4	23.7	26.3	25.6	26.0	22.4	21.5	21.9
16	16.9	15.6	16.2	24.3	23.8	24.1	26.2	25.3	25.7	21.7	21.0	21.3
17	e17.3	e16.7	e17.0	24.8	24.3	24.5	26.2	25.3	25.8	21.6	20.9	21.3
18	---	---	---	25.2	24.7	24.9	26.5	26.0	26.2	21.8	21.1	21.4
19	---	---	---	25.7	25.1	25.4	26.5	25.8	26.1	21.9	21.8	21.9
20	---	---	---	26.1	25.5	25.8	26.4	25.9	26.1	22.0	21.5	21.7
21	---	---	---	26.6	26.0	26.3	26.7	26.0	26.4	22.4	21.7	22.0
22	---	---	---	26.6	25.8	26.1	26.6	25.5	26.0	22.1	21.0	21.3
23	---	---	---	26.0	25.2	25.5	26.2	25.4	25.8	21.6	20.8	21.1
24	---	---	---	25.4	24.4	25.0	26.3	25.6	25.9	21.1	20.6	20.8
25	---	---	---	25.2	24.6	24.9	26.5	25.9	26.3	20.7	20.2	20.4
26	---	---	---	25.3	24.5	25.0	26.4	25.4	25.9	20.6	19.7	20.2
27	---	---	---	25.3	24.5	24.9	26.1	25.1	25.5	20.6	19.9	20.3
28	---	---	---	25.2	24.6	24.9	25.9	25.1	25.5	20.4	20.0	20.1
29	---	---	---	24.6	24.2	24.4	25.6	24.7	25.1	20.5	19.7	20.0
30	---	---	---	24.7	24.0	24.4	25.4	24.6	24.9	19.7	19.3	19.6
31	---	---	---	24.8	24.1	24.5	25.5	24.9	25.2	---	---	---
Month	---	---	---	---	---	---	27.7	22.5	25.7	26.4	19.3	22.3