

03357330 BIG WALNUT CREEK NEAR ROACHDALE, IN

LOCATION.--Lat 39°48'58", long 86°45'12", in SE¹/₄NW¹/₄ sec.21, T.16 N., R.3 W., Putnam County, Hydrologic Unit 05120203, (ROACHDALE, IN quadrangle), on right upstream bank at County Road 1100 South bridge, 3.4 mi southeast of Roachdale, 9.06 mi upstream from confluence with Plum Creek, and at mile 29.16.

DRAINAGE AREA.--131 mi².

PERIOD OF RECORD.--October 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is 800 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	e36	e36	e500	e40	e78	143	53	88	21	51	6,490
2	e19	e30	e33	e330	e44	e72	117	55	70	23	47	3,980
3	e18	e26	e32	e280	e60	e68	101	50	70	22	45	1,310
4	e18	e24	e28	e240	e300	69	94	47	64	19	90	653
5	e20	e25	e27	e200	e220	e420	92	777	56	472	63	423
6	e19	e27	e26	e180	e140	e310	74	500	52	1,720	47	312
7	e18	e30	e27	e160	e100	e210	77	322	53	793	41	253
8	e17	e34	e26	e190	e80	736	71	225	52	506	36	210
9	e16	e31	e24	e480	e60	1,170	65	244	46	1,350	35	181
10	e15	e140	e23	e330	e47	443	62	1,260	42	1,670	96	160
11	e14	e470	e22	e240	e39	272	61	3,110	44	667	73	146
12	e14	e190	e22	e190	e34	284	57	1,150	54	370	46	135
13	e13	e130	e23	e150	e28	543	52	527	63	244	36	126
14	e12	e94	e23	e120	e30	508	49	339	135	171	e31	119
15	e12	e80	e22	e100	e40	356	49	602	88	139	e27	114
16	e13	e70	e22	e84	e33	312	49	334	65	120	e25	106
17	e11	e64	e24	e74	e30	261	57	234	55	90	e23	100
18	e11	e58	e29	e66	e28	209	54	186	49	89	e21	95
19	e17	e52	e70	e58	e27	185	48	153	45	78	21	93
20	e14	e46	e360	e52	e40	174	54	131	40	65	23	93
21	e13	e46	e270	e48	e160	213	58	112	35	745	20	91
22	e12	e56	e200	e46	e600	204	51	99	33	802	19	256
23	e12	e60	e150	e42	e320	156	47	89	32	282	19	344
24	e11	e55	e120	e40	e210	130	43	81	29	180	19	242
25	e16	e50	e110	e39	e160	122	64	75	27	126	19	224
26	e27	e44	e86	e39	e130	166	91	e67	28	97	19	225
27	e29	e42	e70	e38	e110	147	71	e63	29	83	23	759
28	e28	e40	e64	e38	e100	135	61	62	25	103	26	491
29	e35	e40	e74	e39	---	324	57	100	24	88	54	346
30	e80	e42	e190	e38	---	228	53	79	23	68	162	285
31	e49	---	e640	e39	---	169	---	126	---	58	71	---
TOTAL	625	2,132	2,873	4,470	3,210	8,674	2,022	11,252	1,516	11,261	1,328	18,362
MEAN	20.2	71.1	92.7	144	115	280	67.4	363	50.5	363	42.8	612
MAX	80	470	640	500	600	1,170	143	3,110	135	1,720	162	6,490
MIN	11	24	22	38	27	68	43	47	23	19	19	91
CFSM	0.15	0.54	0.71	1.10	0.88	2.14	0.51	2.77	0.39	2.77	0.33	4.67
IN.	0.18	0.61	0.82	1.27	0.91	2.46	0.57	3.20	0.43	3.20	0.38	5.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
MEAN	20.2	86.1	204	95.8	177	321	236	526	129	206	41.5	320
MAX	20.2	101	315	144	239	363	406	688	207	363	42.8	612
(WY)	(2003)	(2002)	(2002)	(2003)	(2002)	(2002)	(2002)	(2002)	(2002)	(2003)	(2003)	(2003)
MIN	20.2	71.1	92.7	47.4	115	280	67.4	363	50.5	48.5	40.2	28.0
(WY)	(2003)	(2003)	(2003)	(2002)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)	(2002)

SUMMARY STATISTICS

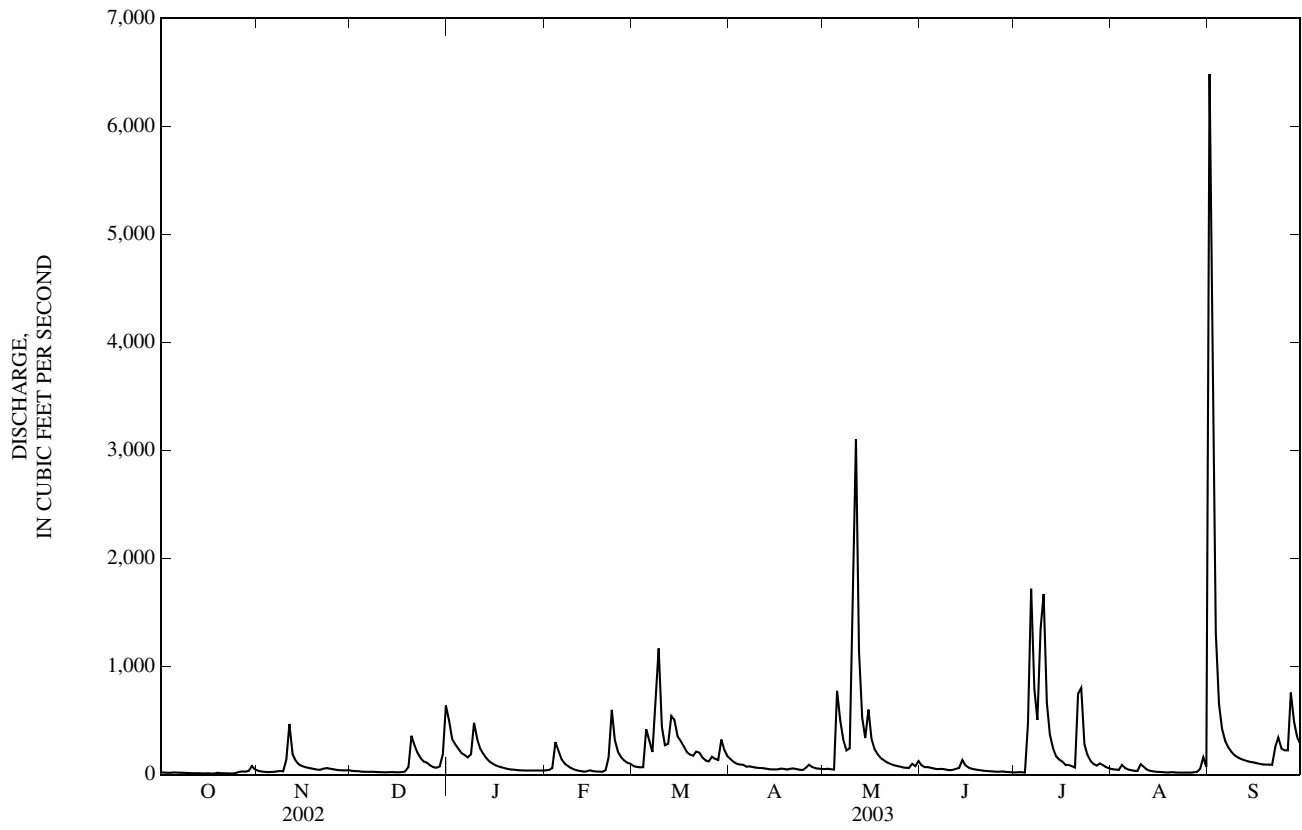
FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 2002 - 2003

ANNUAL TOTAL	68,331.3	67,725	
ANNUAL MEAN	187	186	186
HIGHEST ANNUAL MEAN			186
LOWEST ANNUAL MEAN			186
HIGHEST DAILY MEAN	4,890	May 13	6,490
LOWEST DAILY MEAN	5.2	Sep 12	11
ANNUAL SEVEN-DAY MINIMUM	5.5	Sep 12	12
MAXIMUM PEAK FLOW			11,300
MAXIMUM PEAK STAGE			19.86
ANNUAL RUNOFF (CFSM)	1.43		1.42
ANNUAL RUNOFF (INCHES)	19.40		19.23
10 PERCENT EXCEEDS	465		358
50 PERCENT EXCEEDS	64		65
90 PERCENT EXCEEDS	13		22

e Estimated



DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	12.0	---	---	---	---	---	---	---	---	---	e7.5
2	8.3	12.9	---	---	---	---	---	---	---	---	---	6.9
3	7.4	12.8	---	---	---	---	---	---	---	---	---	7.9
4	6.0	12.7	---	---	---	---	---	---	---	---	---	8.5
5	---	11.9	---	---	---	---	---	---	---	---	---	9.0
6	---	11.9	---	---	---	---	---	---	---	---	---	9.0
7	---	---	---	---	---	---	---	---	---	---	---	9.1
8	---	e15.5	---	---	---	---	---	---	---	---	---	9.0
9	---	e13.0	---	---	---	---	---	---	---	---	---	e8.8
10	e11.0	e10.2	---	---	---	---	---	---	---	---	---	---
11	10.0	8.0	---	---	---	---	---	---	---	---	---	---
12	8.9	---	---	---	---	---	---	---	---	---	e9.5	---
13	9.5	---	---	---	---	---	---	---	---	---	8.7	---
14	10.5	---	---	---	---	---	---	---	---	---	8.2	---
15	11.1	---	---	---	---	---	---	---	---	---	7.7	---
16	11.0	---	---	---	---	---	---	---	---	---	7.4	---
17	11.2	---	---	---	---	---	---	---	---	---	7.4	---
18	11.6	---	---	---	---	---	---	---	---	---	7.6	---
19	10.6	---	---	---	---	---	---	---	---	---	7.9	---
20	11.0	---	---	---	---	---	---	---	---	---	7.9	---
21	11.5	---	---	---	---	---	---	---	---	---	7.8	---
22	11.8	---	---	---	---	---	---	---	---	---	7.2	---
23	12.1	---	---	---	---	---	---	---	---	---	7.5	---
24	11.8	---	---	---	---	---	---	---	---	---	7.9	---
25	10.9	---	---	---	---	---	---	---	---	---	7.2	---
26	e10.7	---	---	---	---	---	---	---	---	---	6.7	---
27	11.3	---	---	---	---	---	---	---	---	---	5.8	---
28	11.3	---	---	---	---	---	---	---	---	---	5.9	---
29	10.9	---	---	---	---	---	---	---	---	---	e5.1	---
30	11.2	---	---	---	---	---	---	---	---	---	---	---
31	11.5	---	---	---	---	---	---	---	---	---	---	---

e Estimated

03357330 BIG WALNUT CREEK NR ROACHDALE, IN—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.3	9.1	2.5	6.4	---	3.9	12.5	20.8	16.4	26.8	25.2	22.1
2	23.6	7.2	2.6	5.1	---	4.3	15.6	18.2	16.2	27.3	25.1	22.0
3	23.9	6.9	2.5	4.4	1.8	3.4	17.4	17.1	e15.4	27.9	24.9	21.5
4	23.2	7.8	1.8	3.5	1.6	4.6	17.8	15.5	15.8	28.9	24.6	21.3
5	20.0	8.3	1.9	4.3	1.6	4.2	13.1	14.8	18.0	25.1	24.2	20.4
6	18.0	8.1	1.8	5.1	1.6	3.1	8.8	16.2	18.0	23.3	24.5	20.3
7	16.7	---	1.8	e4.0	1.7	4.0	8.3	16.7	20.5	24.1	25.3	20.4
8	15.0	e10.2	1.9	---	1.7	4.8	8.6	e16.9	20.1	25.1	25.2	21.1
9	15.5	e11.5	1.8	---	1.7	2.9	8.2	18.7	e21.0	23.0	24.5	e21.0
10	16.0	e14.0	1.8	---	1.7	2.6	10.2	19.5	20.8	22.3	23.6	---
11	17.2	12.6	1.9	---	1.7	4.0	12.7	18.1	22.0	22.0	23.8	---
12	17.9	10.8	2.0	---	1.7	5.8	14.4	15.3	22.8	22.0	23.8	---
13	16.2	9.7	2.0	---	1.7	5.9	14.7	16.2	22.2	22.4	24.4	---
14	12.8	e10.5	2.3	---	1.7	5.5	16.1	16.6	21.0	23.2	26.1	---
15	12.4	e10.6	3.2	---	1.7	7.6	18.5	15.7	22.6	22.5	27.2	---
16	12.3	8.1	3.8	---	1.6	9.7	19.0	16.8	23.1	23.4	27.7	---
17	11.5	6.9	3.8	---	1.7	11.0	17.7	17.3	24.0	24.3	27.3	---
18	11.7	e5.6	6.5	---	1.7	12.0	16.6	17.9	24.5	24.4	26.0	---
19	13.5	---	9.2	---	1.7	12.1	17.7	18.8	24.0	25.0	25.3	---
20	11.5	8.7	7.7	---	1.8	13.0	19.1	18.1	22.8	24.9	25.8	---
21	11.0	8.6	6.1	---	1.7	12.5	16.1	16.8	22.9	23.5	26.7	---
22	11.1	7.1	6.1	---	1.7	10.6	13.6	16.9	23.7	22.1	28.2	---
23	10.9	6.1	4.3	---	2.0	11.0	13.8	16.8	24.5	21.6	26.5	---
24	11.2	6.2	3.7	---	2.2	12.9	13.7	17.1	25.8	21.9	25.5	---
25	10.6	6.3	2.0	---	2.2	13.2	12.8	17.0	26.8	22.4	26.2	---
26	e11.0	4.9	2.2	---	2.2	11.9	14.3	e17.0	25.9	23.1	27.1	---
27	11.7	4.6	2.2	---	2.3	12.4	16.4	---	24.2	24.1	28.3	---
28	11.9	3.8	3.1	---	2.7	13.3	17.5	17.9	23.7	23.3	28.0	---
29	10.5	4.2	3.5	---	---	10.0	19.4	17.8	24.9	e23.1	26.8	---
30	9.6	5.0	6.2	---	---	7.8	20.8	17.0	26.2	23.8	24.6	---
31	10.2	---	8.2	---	---	8.8	---	17.0	---	24.4	23.0	---

e Estimated

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	658	671	---	---	---	---	---	---	592	e625	557	191
2	650	681	---	---	---	---	---	---	608	619	540	202
3	641	685	---	---	---	---	---	---	e640	616	553	300
4	635	690	---	---	---	---	---	---	619	604	514	376
5	640	688	---	---	---	---	---	---	605	403	512	416
6	655	686	---	---	---	---	---	---	606	290	512	445
7	663	---	---	---	---	---	---	---	598	355	502	466
8	661	e673	---	---	---	---	---	---	596	391	500	488
9	654	e680	---	---	---	---	---	578	e589	315	494	e498
10	644	e615	---	---	---	---	---	447	590	331	512	---
11	628	475	---	---	---	---	---	246	591	431	496	---
12	618	554	---	---	---	---	---	331	584	491	552	---
13	631	607	---	---	---	---	---	405	580	527	591	---
14	653	e640	---	---	---	---	---	448	521	553	608	---
15	661	e660	---	---	---	---	---	400	558	569	619	---
16	657	671	---	---	---	---	---	472	583	568	626	---
17	654	682	---	---	---	---	---	512	583	574	629	---
18	650	e685	---	---	---	---	---	536	581	568	632	---
19	615	---	---	---	---	---	---	552	584	585	638	---
20	627	---	---	---	---	---	---	565	586	582	641	---
21	637	---	---	---	---	---	---	576	589	386	642	---
22	650	---	---	---	---	---	---	584	592	331	637	---
23	648	---	---	---	---	---	---	589	596	406	636	---
24	666	---	---	---	---	---	---	591	599	456	634	---
25	643	---	---	---	---	---	---	587	599	571	634	---
26	e645	---	---	---	---	---	---	e585	e598	569	633	---
27	665	---	---	---	---	---	---	---	---	510	625	---
28	659	---	---	---	---	---	---	566	---	505	613	---
29	647	---	---	---	---	---	---	569	---	e560	600	---
30	630	---	---	---	---	---	---	583	---	572	423	---
31	647	---	---	---	---	---	---	589	---	561	454	---

e Estimated

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unfltrd 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Alkalinity, wat flt fxd end field, mg/L as CaCO3 (39036)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., mg/L (00453)	Carbonate, wat flt incrm. titr., mg/L (00452)	Chloride, water, fltrd, mg/L (00940)
OCT 10...	1430	29	744	14.3	8.5	630	21.0	15.0	230	228	275	1	34.0
NOV 07...	1240	173	751	15.9	8.1	698	14.0	5.5	270	269	E324	E2	30.2
DEC 10...	1430	87	750	15.8	8.1	728	3.0	0.5	270	268	E324	E1	31.0
JAN 22...	1100	89	758	--	8.0	731	<-5.0	0.0	280	275	332	2	27.7
FEB 10...	1240	74	739	--	8.2	688	0.0	0.0	--	--	--	--	29.0
MAR 04...	1130	62	740	15.2	8.3	603	8.0	3.0	280	272	E330	E1	37.4
APR 02...	1220	117	736	13.9	8.5	608	29.0	13.5	240	239	E285	E3	27.0
MAY 08...	1320	222	738	10.3	8.2	623	21.0	15.0	230	224	E273	E1	26.5
JUN 03...	1430	71	732	9.1	8.3	634	14.0	14.0	250	250	E305	<1	26.7
JUL 01...	1230	21	731	10.7	8.3	652	30.0	25.5	250	253	E308	<1	31.4
AUG 12...	1100	46	736	9.6	8.2	573	29.0	21.5	230	233	284	<1	24.2
SEP 09...	1000	184	739	9.0	8.0	570	26.0	19.5	240	246	300	<1	19.1

03357330 BIG WALNUT CREEK NR ROACHDALE, IN—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Sulfate water, fltrd, mg/L (00945)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Partic- ulate nitro- gen, susp, water, mg/L (49570)	Phos- phorus, water, unfltrd mg/L (00665)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inor- ganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)
OCT 10...	49.9	0.43	<0.04	0.59	0.010	<0.02	0.19	0.034	1.7	<0.1	1.6	4.0	38
NOV 07...	46.9	0.48	<0.04	2.25	0.012	<0.02	0.17	0.051	0.8	<0.1	0.8	3.7	36
DEC 10...	55.8	0.18	<0.04	1.95	0.008	<0.02	<0.02	0.014	0.1	<0.1	0.1	3.2	7
JAN 22...	50.4	0.21	<0.04	3.82	0.009	E0.01	0.07	0.012	0.1	<0.1	<0.1	2.7	38
FEB 10...	46.1	<0.50	<0.04	3.46	0.021	<0.09	0.03	0.029	0.3	<0.1	0.3	3.4	15
MAR 04...	45.3	0.25	<0.04	2.57	0.095	<0.02	0.03	0.043	0.2	<0.1	0.2	4.2	71
APR 02...	37.9	0.27	<0.04	3.89	0.023	<0.02	0.12	0.024	0.6	<0.1	0.6	2.5	70
MAY 08...	32.5	0.63	<0.04	7.21	0.126	<0.02	0.16	0.088	1.3	<0.1	1.3	3.2	83
JUN 03...	39.1	0.35	<0.04	4.26	0.032	<0.02	0.08	0.025	0.7	<0.1	0.7	2.3	61
JUL 01...	44.9	0.37	<0.04	1.20	0.025	<0.02	0.09	0.058	0.6	<0.1	0.6	3.5	69
AUG 12...	29.4	0.84	<0.04	1.92	0.052	<0.02	0.09	0.068	0.6	<0.1	0.6	3.7	61
SEP 09...	30.6	0.44	<0.04	1.51	0.052	<0.02	0.06	0.117	0.4	<0.1	0.3	3.6	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Sus- pended sedi- ment concen- tration mg/L (80154)
OCT 10...	3
NOV 07...	10
DEC 10...	22
JAN 22...	14
FEB 10...	38
MAR 04...	3
APR 02...	17
MAY 08...	49
JUN 03...	22
JUL 01...	12
AUG 12...	20
SEP 09...	9

03357350 PLUM CREEK NEAR BAINBRIDGE, IN

LOCATION.--Lat 39°45'42", long 86°43'46", in SW¼SE¼ sec.3, T.15 N., R.3 W., Putnam County, Hydrologic Unit 05120203, (NORTH SALEM, IN quadrangle), on right upstream wingwall of bridge on U.S. Highway 36, 0.5 mi west of Groveland, and 4.5 mi east of Bainbridge.

DRAINAGE AREA.--3.00 mi².

PERIOD OF RECORD.--July 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 828.44 ft above National Geodetic Vertical Datum of 1929 (Indiana Department of Highways bench mark).

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.21	0.60	0.56	13	e0.71	2.1	4.3	1.1	1.5	0.29	0.26	279
2	0.20	0.48	e0.49	8.0	e0.73	2.5	3.7	1.0	1.2	0.28	0.24	22
3	0.20	0.46	e0.45	6.0	6.8	1.9	3.3	0.90	1.4	0.24	0.22	10
4	0.26	0.46	e0.44	5.1	6.7	5.0	3.0	0.97	1.2	0.23	0.21	5.1
5	0.27	0.61	e0.44	4.7	3.7	21	2.5	14	1.2	91	0.18	2.7
6	0.26	1.1	e0.43	4.2	e1.9	7.5	2.0	6.3	1.6	51	0.17	1.4
7	0.24	0.75	e0.43	4.3	e1.5	8.3	2.2	6.5	1.7	7.3	0.15	0.87
8	0.24	0.65	e0.42	6.9	e1.3	20	1.8	4.8	1.2	24	0.14	0.68
9	0.24	0.62	e0.42	8.7	e1.2	11	1.7	6.2	0.52	59	0.13	0.57
10	0.23	9.6	0.49	5.6	e1.0	6.0	1.5	30	0.48	51	0.13	0.48
11	0.23	7.8	0.49	3.9	e0.98	4.5	1.5	50	0.54	9.0	0.13	0.42
12	0.24	3.9	0.49	e3.0	e0.94	4.1	1.3	12	0.80	5.6	0.13	0.38
13	0.25	2.7	0.49	e2.3	e0.91	8.0	1.1	7.4	20	3.3	0.11	0.35
14	0.25	2.1	0.49	e1.7	e0.99	7.0	1.0	6.3	12	2.2	0.10	0.35
15	0.25	1.7	0.47	e1.4	10	6.0	0.99	9.3	5.4	7.1	0.09	0.32
16	0.25	1.4	0.44	e1.2	3.5	5.7	0.99	6.1	3.3	4.5	0.07	0.28
17	0.25	1.2	0.41	e1.1	e1.9	5.1	1.3	4.9	2.0	2.1	0.07	0.26
18	0.24	0.98	0.98	e1.0	e1.5	4.3	1.1	4.4	1.3	2.1	0.07	0.26
19	0.32	1.1	16	e0.94	e1.4	4.2	0.95	3.9	1.0	1.0	0.07	0.37
20	0.26	0.99	12	e0.90	e4.0	4.0	1.3	3.4	0.80	0.61	0.07	0.48
21	0.25	1.1	6.4	e0.84	8.1	6.2	1.1	2.7	0.72	67	0.07	0.49
22	0.25	1.5	4.7	e0.81	27	5.2	0.97	2.3	0.64	29	0.07	2.7
23	0.25	1.4	3.7	e0.79	7.8	4.2	0.84	2.0	0.58	8.4	0.07	1.1
24	0.25	1.2	e2.7	e0.75	e3.5	3.7	0.83	1.8	0.53	4.6	0.07	0.68
25	0.41	0.96	e2.4	e0.75	e2.6	4.4	3.1	1.6	0.48	2.6	0.06	0.72
26	0.60	0.88	e2.1	e0.74	e2.3	5.6	3.2	1.4	0.48	1.4	0.02	1.9
27	0.34	0.81	e2.0	e0.73	e2.0	4.6	1.9	1.2	0.45	0.83	0.00	11
28	0.31	0.80	e1.9	e0.73	2.0	4.8	1.5	1.4	0.38	0.81	0.00	4.2
29	3.4	0.86	e1.9	e0.72	---	9.1	1.3	2.2	0.34	0.60	0.06	2.1
30	2.7	0.74	10	e0.72	---	6.1	1.1	1.4	0.31	0.37	0.02	1.1
31	0.97	---	32	e0.71	---	5.0	---	3.1	---	0.31	0.11	---
TOTAL	14.62	49.45	106.63	92.23	106.96	197.1	53.37	200.57	64.05	437.77	3.29	352.26
MEAN	0.47	1.65	3.44	2.98	3.82	6.36	1.78	6.47	2.13	14.1	0.11	11.7
MAX	3.4	9.6	32	13	27	21	4.3	50	20	91	0.26	279
MIN	0.20	0.46	0.41	0.71	0.71	1.9	0.83	0.90	0.31	0.23	0.00	0.26
CFSM	0.16	0.55	1.15	0.99	1.27	2.12	0.59	2.16	0.71	4.71	0.04	3.91
IN.	0.18	0.61	1.32	1.14	1.33	2.44	0.66	2.49	0.79	5.43	0.04	4.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2003, BY WATER YEAR (WY)

MEAN	1.44	3.59	4.52	3.72	5.57	6.49	5.46	4.43	2.80	2.48	1.08	1.35
MAX	12.5	20.6	18.4	13.5	17.1	19.1	12.7	16.7	13.7	14.1	7.90	12.8
(WY)	(2002)	(1986)	(1991)	(1974)	(1971)	(1978)	(1996)	(2002)	(1998)	(2003)	(1979)	(1989)
MIN	0.000	0.000	0.000	0.000	0.55	1.46	0.92	0.14	0.007	0.019	0.001	0.000
(WY)	(1997)	(1998)	(1998)	(1977)	(1998)	(1981)	(1971)	(1976)	(1988)	(1988)	(1991)	(1988)

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

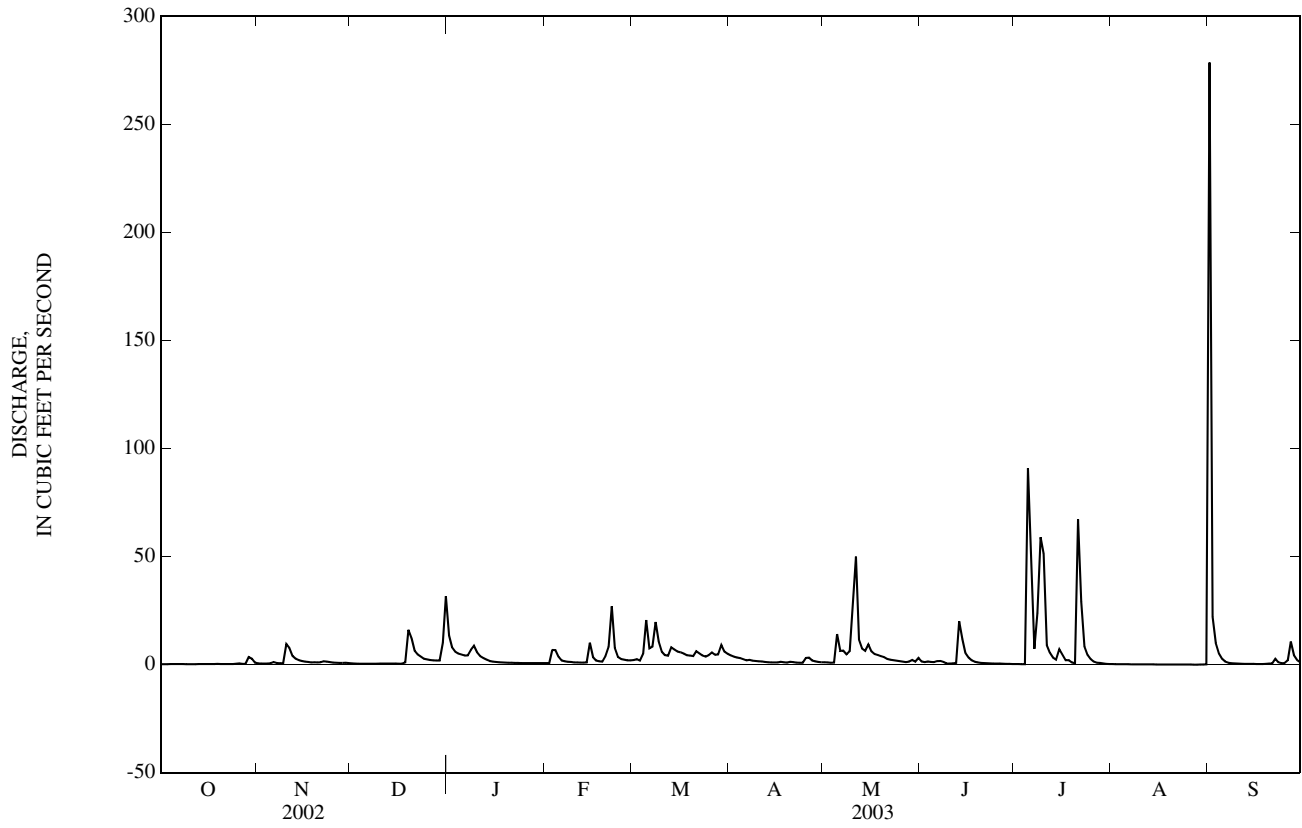
FOR 2003 WATER YEAR

WATER YEARS 1969 - 2003

ANNUAL TOTAL	1,611.49	1,678.30	
ANNUAL MEAN	4.42	4.60	3.56
HIGHEST ANNUAL MEAN			5.83
LOWEST ANNUAL MEAN			1.49
HIGHEST DAILY MEAN	196	May 7	279
LOWEST DAILY MEAN	0.00	Sep 11	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Sep 11	0.03
MAXIMUM PEAK FLOW			456
MAXIMUM PEAK STAGE			4.58
ANNUAL RUNOFF (CFSM)	1.47		1.53
ANNUAL RUNOFF (INCHES)	19.98		20.81
10 PERCENT EXCEEDS	8.2		8.0
50 PERCENT EXCEEDS	0.98		1.2
90 PERCENT EXCEEDS	0.10		0.24
			0.01

e Estimated

03357350 PLUM CREEK NEAR BAINBRIDGE, IN—Continued



03357500 BIG WALNUT CREEK NEAR REELSVILLE, IN

LOCATION.--Lat 39°32'11", long 86°58'35", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.28, T.13 N., R.5 W., Putnam County, Hydrologic Unit 05120203, (REELSVILLE, IN quadrangle), on left bank at downstream side of county highway bridge, 1.5 mi southwest of Reelsville, 3.8 mi southwest of Manhattan, and 4.1 mi upstream from Mill Creek.

DRAINAGE AREA.--326 mi².

PERIOD OF RECORD.--July 1949 to September 2002 (discharge). October 2002 to current year (stage only). Published as Eel River near Reelsville, October 1952 to September 1956.

REVISED RECORDS.--WSP 1335: 1950. WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 588.24 ft above National Geodetic Vertical Datum of 1929 (levels by State of Indiana, Department of Natural Resources). Prior to Dec. 10, 1949, nonrecording gage at same site and datum.

REMARKS.--Flow partly regulated by Soil Conservation Service control structures on tributaries to Little Walnut Creek beginning in 1971.

EXTREMES FOR PERIOD OF RECORD.--(October 2002 to current year) maximum gage height, 18.63 ft, June 28, 1957; minimum gage height unknown prior to 1988; (since 1988), minimum gage height, 1.62 ft, Oct. 5, 1991. (July 1949 to September 2002) maximum discharge, 30,700 ft³/s, June 28, 1957, gage height, 18.63 ft; minimum discharge, 1.4 ft³/s, Sept. 8, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 16.63 ft, Sept. 3; minimum gage height, 2.87 ft, Aug. 28.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.10	3.42	3.34	6.78	3.67	4.09	4.55	3.80	3.98	3.06	3.68	15.14
2	3.04	3.31	3.28	5.71	3.70	4.12	4.38	3.76	3.80	3.04	3.62	16.58
3	3.01	3.25	3.26	5.15	4.83	4.06	4.25	3.67	3.80	3.04	3.58	9.00
4	3.04	3.22	3.18	4.86	4.89	4.45	4.22	3.70	3.74	3.01	3.56	6.89
5	3.03	3.26	3.25	4.73	4.65	6.38	4.14	7.45	3.65	5.76	3.64	6.02
6	3.02	3.30	3.23	4.61	4.20	5.51	4.02	5.79	3.58	9.42	3.51	5.51
7	3.01	3.46	3.22	4.51	4.02	4.95	4.02	5.61	3.54	6.67	3.45	5.18
8	2.98	3.39	3.20	4.56	4.07	5.48	3.95	5.06	3.50	5.83	3.40	4.94
9	2.97	3.34	3.10	5.42	3.85	6.74	3.88	5.11	3.46	12.38	3.34	4.75
10	2.95	5.98	3.13	5.01	3.72	5.54	3.82	12.03	3.42	11.44	3.30	4.60
11	2.94	5.53	3.18	4.50	3.80	5.04	3.78	13.44	3.41	8.00	3.54	4.48
12	2.92	4.65	3.18	4.52	3.80	4.97	3.73	8.34	3.82	6.35	3.42	4.38
13	2.90	4.25	3.19	4.30	3.82	5.71	3.67	6.62	6.17	5.55	3.34	4.30
14	2.89	4.02	3.18	4.09	3.70	5.66	3.63	5.86	5.42	5.10	3.28	4.25
15	2.89	3.89	3.17	4.24	4.88	5.28	3.59	6.26	4.70	8.38	3.22	4.18
16	2.90	3.76	3.16	4.16	4.40	5.11	3.56	5.46	4.25	5.63	3.18	4.11
17	2.88	3.66	3.15	4.25	4.09	4.93	3.72	5.08	4.00	4.98	3.14	4.06
18	2.89	3.61	3.66	4.02	3.89	4.71	3.62	4.84	3.82	4.88	3.09	4.01
19	3.08	3.56	6.31	4.00	3.83	4.66	3.56	4.62	3.70	4.58	3.06	3.95
20	3.00	3.52	6.22	3.92	4.48	4.55	4.05	4.46	3.59	4.37	3.04	3.92
21	2.99	3.52	5.19	3.82	4.88	5.18	3.81	4.29	3.50	6.61	3.02	3.93
22	2.98	3.54	4.71	3.92	7.92	4.88	3.68	4.16	3.43	6.99	2.99	4.30
23	2.94	3.60	4.38	3.72	5.66	4.61	3.58	4.06	3.38	5.58	2.95	4.80
24	2.92	3.58	4.25	3.70	4.95	4.43	3.54	3.97	3.33	4.96	2.93	4.47
25	3.29	3.52	4.23	3.65	4.60	4.78	5.48	3.89	3.28	4.57	2.91	4.32
26	3.21	3.46	4.01	3.64	4.36	4.79	4.62	3.83	3.25	4.31	2.90	4.94
27	3.35	3.42	3.86	3.70	4.19	4.58	4.24	3.75	3.23	4.14	2.89	6.41
28	3.23	3.39	3.84	3.66	4.12	5.06	4.05	3.78	3.18	4.09	2.87	5.46
29	3.51	3.37	3.84	3.67	---	5.65	3.92	3.95	3.14	4.03	3.10	4.94
30	3.72	3.36	4.85	3.65	---	5.05	3.83	3.88	3.10	3.87	3.66	4.65
31	3.57	---	8.67	3.65	---	4.74	---	4.16	---	3.76	3.85	---
MEAN	3.07	3.70	3.95	4.33	4.39	5.02	3.96	5.31	3.74	5.63	3.27	5.62
MAX	3.72	5.98	8.67	6.78	7.92	6.74	5.48	13.44	6.17	12.38	3.85	16.58
MIN	2.88	3.22	3.10	3.64	3.67	4.06	3.54	3.67	3.10	3.01	2.87	3.92

WTR YR 2003 MEAN 4.33 MAX 16.58 MIN 2.87

03358000 MILL CREEK NEAR CATARACT, IN

LOCATION.--Lat 39°26'00", long 86°45'48", in NE¼SE¼ sec.32, T.12 N., R.3 W., Owen County, Hydrologic Unit 05120203, (CATARACT, IN quadrangle), on right bank at downstream side of bridge on U.S. Highway 231, 3 mi east of Cataract, 5.7 mi south of Cloverdale, and at mile 17.5.

DRAINAGE AREA.--245 mi².

PERIOD OF RECORD.--July 1949 to current year.

REVISED RECORDS.--WSP 1505: 1956(P). WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 706.40 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 8, 1949, nonrecording gage, and Nov. 8, 1949, to Sept. 22, 1968, water-stage recorder at site 100 ft upstream at same datum.

REMARKS.--Records good except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum instantaneous gage height may have occurred Dec. 30, 1990, during period of no gage height record.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

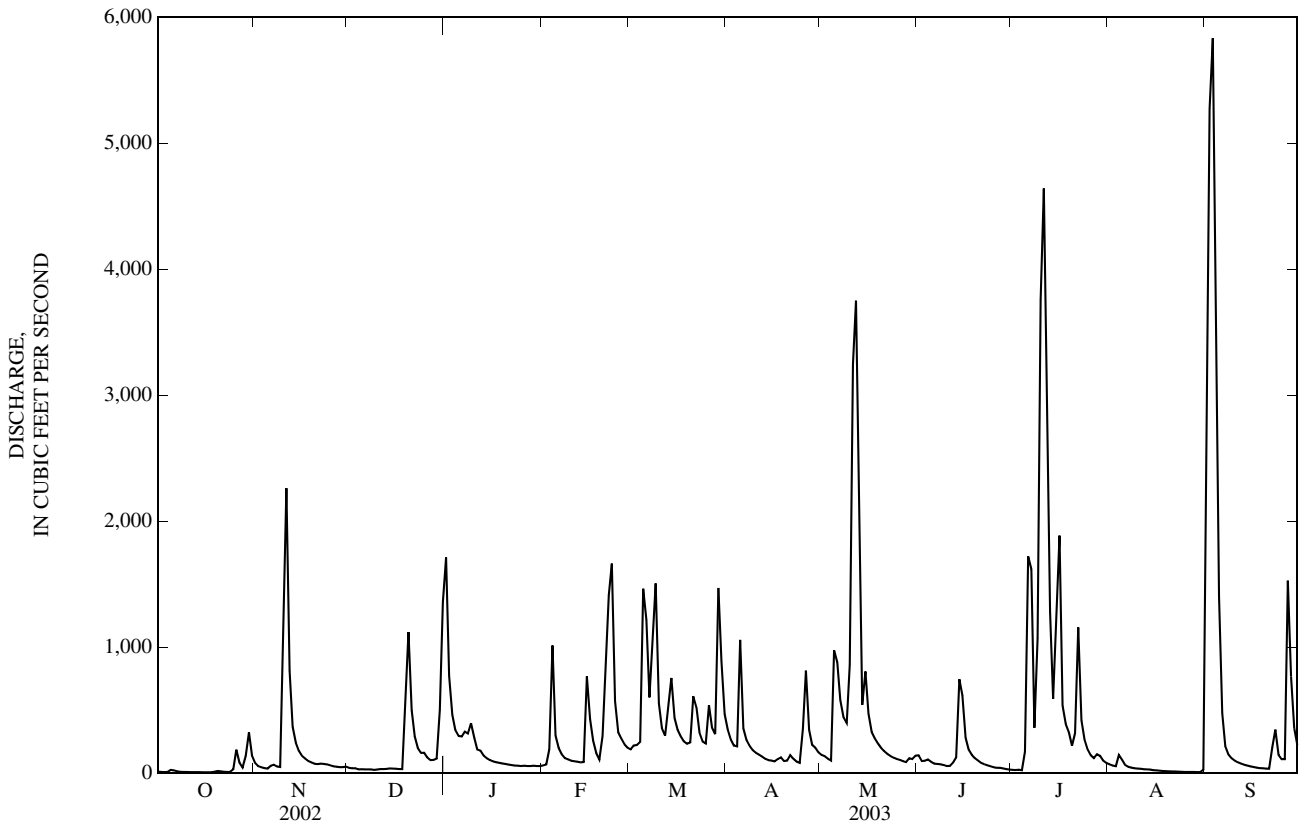
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	82	44	1,710	e62	191	350	146	143	27	70	2,610
2	12	57	40	774	e70	221	267	135	98	27	62	5,270
3	10	48	40	465	190	225	220	116	100	29	57	5,830
4	11	42	e31	342	1,010	250	214	101	110	24	146	4,250
5	27	38	e33	297	e300	1,460	1,060	976	91	171	108	1,400
6	23	59	e32	292	e200	1,220	356	882	76	1,720	66	478
7	17	68	e31	331	e150	602	262	579	74	1,620	52	217
8	13	55	e31	316	e120	1,020	218	444	72	362	45	150
9	11	50	e28	397	e110	1,510	184	399	65	1,070	40	120
10	10	1,450	31	284	e100	554	163	861	58	3,760	38	101
11	10	2,260	34	188	e96	359	149	3,240	59	4,640	36	87
12	10	814	35	e180	e92	299	134	3,750	86	3,470	33	77
13	9.5	370	35	e140	e87	551	115	1,650	126	1,280	31	69
14	9.2	243	39	e120	e90	756	105	544	745	590	30	62
15	8.7	179	38	e105	769	439	101	808	618	1,360	26	56
16	9.0	138	36	e95	e430	346	95	473	282	1,890	23	50
17	8.9	116	33	e88	e260	293	113	328	189	537	22	45
18	8.8	97	34	e84	e160	254	127	277	146	392	19	41
19	12	86	687	e78	e110	235	97	237	120	328	17	40
20	18	76	1,120	e74	296	245	102	201	101	220	16	38
21	16	74	500	e69	817	611	144	176	82	319	15	36
22	13	77	294	e66	1,410	523	115	154	72	1,160	14	208
23	11	75	200	e62	1,660	321	93	138	63	422	13	347
24	11	70	163	e60	573	253	82	124	55	270	12	146
25	31	63	163	e58	325	237	351	114	48	189	12	113
26	188	56	127	e60	276	540	814	106	44	143	11	113
27	84	52	105	e58	231	365	345	96	44	121	11	1,530
28	46	50	107	e58	205	311	225	88	39	151	11	768
29	139	49	116	e60	---	1,470	203	119	34	139	9.7	357
30	325	53	505	e58	---	892	168	114	30	102	10	226
31	141	---	1,360	e58	---	471	---	141	---	82	28	---
TOTAL	1,257.1	6,947	6,072	7,027	10,199	17,024	6,972	17,517	3,870	26,615	1,083.7	24,835
MEAN	40.6	232	196	227	364	549	232	565	129	859	35.0	828
MAX	325	2,260	1,360	1,710	1,660	1,510	1,060	3,750	745	4,640	146	5,830
MIN	8.7	38	28	58	62	191	82	88	30	24	9.7	36
CFSM	0.17	0.95	0.80	0.93	1.49	2.24	0.95	2.31	0.53	3.50	0.14	3.38
IN.	0.19	1.05	0.92	1.07	1.55	2.58	1.06	2.66	0.59	4.04	0.16	3.77

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2003, BY WATER YEAR (WY)

MEAN	80.6	228	308	342	409	493	420	351	241	194	102	94.5
MAX	878	1,576	1,135	2,214	1,088	1,425	1,064	1,522	1,120	1,694	1,092	918
(WY)	(2002)	(1994)	(1958)	(1950)	(1971)	(1963)	(1964)	(1981)	(1957)	(1979)	(1993)	(1989)
MIN	2.88	4.19	4.05	6.55	41.1	108	74.5	35.1	11.2	6.84	3.72	0.91
(WY)	(1965)	(2000)	(1964)	(1977)	(1954)	(1994)	(1971)	(1954)	(1988)	(1954)	(1954)	(1954)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1950 - 2003	
ANNUAL TOTAL	118,162.5		129,418.8			
ANNUAL MEAN	324		355		271	
HIGHEST ANNUAL MEAN					528	1979
LOWEST ANNUAL MEAN					37.3	1954
HIGHEST DAILY MEAN	6,050	May 14	5,830	Sep 3	11,500	Dec 30, 1990
LOWEST DAILY MEAN	3.8	Sep 12	8.7	Oct 15	0.10	Sep 7, 1954
ANNUAL SEVEN-DAY MINIMUM	4.1	Sep 9	9.2	Oct 12	0.20	Sep 2, 1954
MAXIMUM PEAK FLOW			5,950	Sep 3	12,200	Dec 30, 1990
MAXIMUM PEAK STAGE			17.62	Sep 3	22.58	Jun 24, 1960
ANNUAL RUNOFF (CF5M)	1.32		1.45		1.11	
ANNUAL RUNOFF (INCHES)	17.94		19.65		15.04	
10 PERCENT EXCEEDS	760		869		587	
50 PERCENT EXCEEDS	85		115		82	
90 PERCENT EXCEEDS	10		23		8.0	

e Estimated



03359000 MILL CREEK NEAR MANHATTAN, IN—Continued

WATER-QUALITY RECORDS

INSTRUMENTATION.--Temperature recorder.

PERIOD OF RECORD.--

WATER TEMPERATURE.--May 1993 to February 1996, July 1999 to current year.

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 and Dec. 10, 1995.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 27.8°C, Aug. 28, minimum, 2.0°C, Feb. 26-28, Mar. 2-3.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	23.4	22.0	22.5	13.7	12.7	13.3	6.5	5.9	6.2	4.0	3.7	3.8
2	23.5	22.7	22.9	13.0	12.3	12.6	6.5	5.9	6.1	3.7	3.2	3.5
3	23.2	22.7	22.9	12.4	12.1	12.3	6.1	5.2	5.5	3.9	3.5	3.7
4	23.6	22.7	23.2	12.4	12.2	12.3	5.2	4.8	5.0	3.7	3.4	3.6
5	22.7	21.5	22.0	12.3	12.0	12.1	5.2	4.6	4.8	3.6	3.5	3.5
6	22.2	21.6	21.9	12.0	11.5	11.7	4.8	4.3	4.5	3.8	3.5	3.6
7	21.9	21.3	21.5	11.8	11.1	11.4	4.8	4.1	4.4	3.7	3.5	3.6
8	21.3	20.9	21.1	11.8	11.3	11.5	4.6	4.2	4.3	3.5	3.4	3.4
9	20.9	20.6	20.8	11.8	11.4	11.6	4.2	3.8	4.0	3.6	3.5	3.6
10	20.7	20.4	20.6	12.1	11.8	11.9	4.2	3.9	4.1	3.6	3.4	3.6
11	21.1	20.2	20.6	11.9	11.3	11.6	4.3	3.9	4.1	3.4	3.1	3.3
12	20.6	20.2	20.5	11.3	11.0	11.2	4.4	3.9	4.1	3.1	3.0	3.1
13	20.2	18.9	19.6	11.0	10.8	10.9	4.2	4.0	4.1	3.1	3.0	3.1
14	19.1	18.1	18.6	11.0	10.8	10.9	4.2	3.9	4.0	3.0	2.7	2.9
15	19.2	18.3	18.7	10.8	10.6	10.8	4.2	3.8	4.0	3.1	2.7	2.8
16	18.5	17.8	18.2	10.6	10.2	10.4	4.0	3.7	3.9	2.9	2.7	2.8
17	18.0	17.5	17.7	10.2	9.8	10.0	4.0	3.6	3.8	2.9	2.5	2.7
18	18.0	17.1	17.5	9.8	9.6	9.7	5.1	4.0	4.6	2.9	2.6	2.7
19	17.9	17.2	17.5	9.7	9.5	9.6	5.6	4.5	5.0	3.0	2.7	2.8
20	17.4	16.6	17.0	9.7	9.5	9.6	4.7	4.5	4.6	3.4	2.8	3.0
21	17.2	16.4	16.8	9.7	9.2	9.5	4.6	4.4	4.5	3.2	2.7	2.9
22	17.1	16.3	16.6	9.3	8.9	9.1	4.6	4.4	4.5	3.1	2.7	2.8
23	16.6	15.8	16.2	9.0	8.7	8.9	4.4	4.3	4.3	3.0	2.6	2.7
24	16.2	15.9	16.0	9.1	8.5	8.7	4.3	3.8	4.1	3.0	2.6	2.7
25	15.9	15.0	15.2	8.8	8.3	8.6	4.0	3.6	3.8	3.0	2.6	2.8
26	15.6	15.1	15.4	8.3	8.0	8.2	3.6	3.4	3.5	3.0	2.6	2.8
27	15.5	15.2	15.3	8.0	7.7	7.9	3.6	3.3	3.4	2.8	2.4	2.6
28	15.6	15.2	15.3	7.7	7.3	7.5	3.6	3.3	3.4	3.1	2.6	2.8
29	15.2	14.4	14.7	7.7	7.1	7.3	3.5	3.1	3.3	3.2	2.9	3.0
30	14.4	14.1	14.2	7.3	6.3	6.8	3.9	3.3	3.7	3.1	2.8	2.9
31	14.2	13.7	14.0	---	---	---	4.1	3.8	3.9	3.1	2.8	2.9
MONTH	23.6	13.7	18.5	13.7	6.3	10.3	6.5	3.1	4.3	4.0	2.4	3.1

03360000 EEL RIVER AT BOWLING GREEN, IN

LOCATION.--Lat 39°22'58", long 87°01'14", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.24, T.11 N., R.6 W., Clay County, Hydrologic Unit 05120203,(CENTER POINT, IN quadrangle), on left bank 500 ft downstream from bridge on State Highway 46 at Bowling Green, 0.2 mi downstream from Jordan Creek, 15 mi northwest of Spencer, and at mile 38.4.

DRAINAGE AREA.--830 mi².

PERIOD OF RECORD.--January 1931 to current year. Prior to October 1934, published as "near Centerpoint".

REVISED RECORDS.--WSP 893: 1935, 1937-39. WSP 973: 1937-38, 1939(M). WSP 1335: 1931(M). WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 548.02 ft above National Geodetic Vertical Datum of 1929, (levels by U.S. Army Corps of Engineers). See WSP 1725 for history of changes prior to Dec. 1, 1949.

REMARKS.--Records fair. Flow regulated by Cagles Mill Lake.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, about 30.0 ft in 1875, present datum, from information by U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	119	508	186	3,310	553	1,270	1,160	551	1,720	157	1,780	4,030
2	117	206	191	1,880	328	1,320	1,210	533	1,650	153	1,740	13,300
3	119	175	184	1,220	356	1,290	1,650	485	1,580	148	1,710	13,500
4	117	169	179	984	1,020	1,310	1,710	399	1,420	145	1,710	7,180
5	118	230	174	1,090	1,010	2,150	1,780	1,490	698	142	1,690	1,920
6	120	240	169	1,140	1,260	2,290	1,340	2,170	488	1,980	1,650	1,300
7	169	186	160	1,290	1,150	1,760	1,250	1,660	386	2,560	1,650	986
8	225	239	159	1,430	713	1,870	1,210	1,300	358	1,250	1,780	798
9	230	234	151	1,630	372	2,670	1,050	1,140	295	1,620	1,740	828
10	198	939	147	1,860	367	2,570	593	2,020	272	5,460	1,700	898
11	165	2,140	150	1,640	396	1,880	558	7,460	267	8,430	1,690	1,350
12	139	1,210	152	1,400	394	1,630	533	8,500	335	2,960	1,680	1,710
13	114	1,230	163	1,000	388	1,770	468	3,440	392	1,550	1,590	1,870
14	100	e1,240	167	980	393	2,260	441	1,900	1,400	1,050	1,250	1,830
15	93	e1,230	223	530	860	2,020	427	1,540	1,120	1,890	609	1,790
16	92	e1,220	166	393	1,060	1,780	413	1,540	810	4,140	479	1,740
17	91	e1,210	150	429	751	1,680	429	1,150	1,040	1,400	245	1,700
18	90	e1,200	158	523	701	1,510	486	964	962	984	211	1,660
19	89	e1,190	912	881	919	900	433	908	778	869	207	1,630
20	95	e800	2,110	929	993	874	466	1,150	427	953	196	1,590
21	103	520	1,580	381	1,490	1,470	566	1,170	288	1,230	188	1,550
22	105	275	1,280	477	2,360	1,360	481	1,520	260	2,530	181	1,680
23	102	320	1,330	727	3,470	1,360	432	1,630	240	1,950	172	1,780
24	97	316	1,190	589	1,570	1,550	403	1,620	236	1,280	166	1,800
25	123	308	1,130	531	1,310	1,700	807	1,790	223	1,660	159	1,680
26	227	e300	824	453	1,430	2,120	1,560	1,760	211	1,860	154	1,640
27	338	286	480	381	1,350	1,730	935	1,710	203	1,740	150	2,630
28	208	278	389	420	1,280	1,260	973	1,670	195	1,220	146	2,490
29	307	254	377	432	---	2,170	1,200	1,700	171	1,300	142	2,100
30	384	195	568	446	---	1,760	747	1,710	162	1,690	154	1,490
31	591	---	1,770	597	---	1,350	---	1,690	---	1,820	215	---
TOTAL	5,185	18,848	16,969	29,973	28,244	52,634	25,711	58,270	18,587	56,121	27,134	80,450
MEAN	167	628	547	967	1,009	1,698	857	1,880	620	1,810	875	2,682
MAX	591	2,140	2,110	3,310	3,470	2,670	1,780	8,500	1,720	8,430	1,780	13,500
MIN	89	169	147	381	328	874	403	399	162	142	142	798
CFSM	0.20	0.76	0.66	1.16	1.22	2.05	1.03	2.26	0.75	2.18	1.05	3.23
IN.	0.23	0.84	0.76	1.34	1.27	2.36	1.15	2.61	0.83	2.52	1.22	3.61

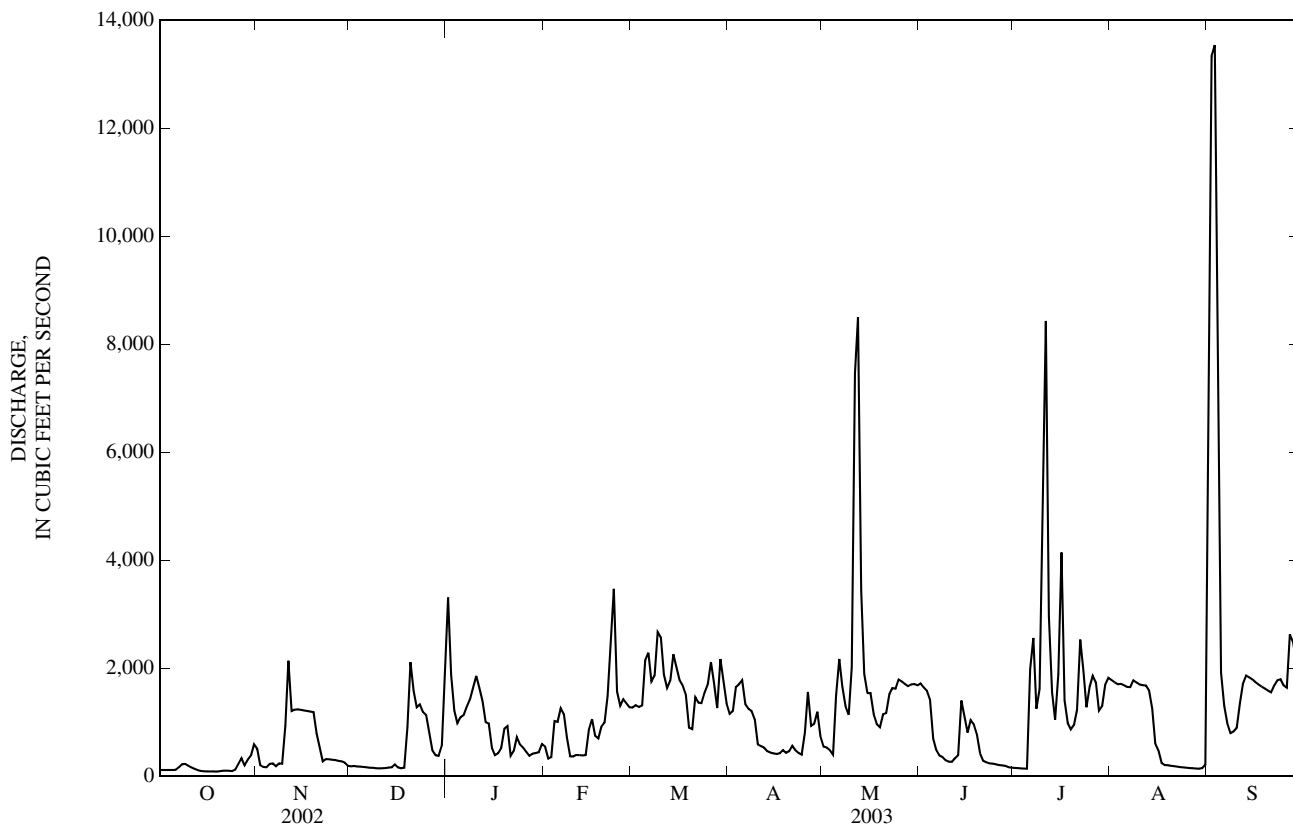
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2003, BY WATER YEAR (WY)

MEAN	302	588	894	1,213	1,299	1,547	1,597	1,250	889	611	328	330
MAX	1,838	3,076	2,960	7,212	3,249	3,843	4,120	5,090	4,077	2,746	2,656	2,682
(WY)	(2002)	(1986)	(1991)	(1950)	(1950)	(1938)	(1944)	(1943)	(1957)	(1987)	(1979)	(2003)
MIN	22.5	29.7	29.0	27.5	107	125	285	129	66.9	39.4	24.1	13.9
(WY)	(1941)	(1965)	(1964)	(1977)	(1934)	(1941)	(1971)	(1934)	(1988)	(1954)	(1936)	(1954)

03360000 EEL RIVER AT BOWLING GREEN, IN—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1931 - 2003	
ANNUAL TOTAL	445,771		418,126			
ANNUAL MEAN	1,221		1,146		905	
HIGHEST ANNUAL MEAN					1,551	1950
LOWEST ANNUAL MEAN					161	1954
HIGHEST DAILY MEAN	12,600	May 14	13,500	Sep 3	28,700	Jun 29, 1957
LOWEST DAILY MEAN	65	Sep 18	89	Oct 19	11	Oct 7, 1954
ANNUAL SEVEN-DAY MINIMUM	67	Sep 13	93	Oct 14	12	Oct 2, 1954
MAXIMUM PEAK FLOW			15,700	Sep 2	34,000	Jan 4, 1950
MAXIMUM PEAK STAGE			20.77	Sep 2	23.53	Jan 4, 1950
ANNUAL RUNOFF (CFSM)	1.47		1.38		1.09	
ANNUAL RUNOFF (INCHES)	19.98		18.74		14.81	
10 PERCENT EXCEEDS	2,290		1,880		2,190	
50 PERCENT EXCEEDS	1,130		964		374	
90 PERCENT EXCEEDS	105		159		57	

e Estimated



03360500 WHITE RIVER AT NEWBERRY, IN

LOCATION.--Lat 38°55'39", long 87°00'41", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.30, T.6 N., R.5 W., Greene County, Hydrologic Unit 05120202, (LYONS, IN quadrangle), on left bank, 0.4 mi upstream from bridge on State Highway 57 at Newberry, 2.0 mi downstream from Doans Creek, and at mile 112.4.

DRAINAGE AREA.--4,688 mi².

PERIOD OF RECORD.--September 1928 to current year. Prior to October 1948, published as West Fork White River at Newberry.

REVISED RECORDS.--WSP 873: 1937(M). WSP 2109: Drainage area. WDR IN-02-1: 1998, 1999 (P).

GAGE.--Water-stage recorder. Datum of gage is 465.59 ft above National Geodetic Vertical Datum of 1929. Nonrecording gage prior to Oct. 21, 1928. Prior to Aug. 5, 1982, recording gage 0.3 mi downstream at same datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated by upstream reservoirs.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1875, 27.5 ft Mar. 27, 1913, from floodmarks by Indiana Department of Highways, discharge, 130,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,310	1,980	1,260	10,700	1,610	5,160	12,400	3,850	4,200	1,510	4,300	4,980
2	1,190	1,730	1,200	13,300	1,680	5,190	9,900	3,410	4,320	1,480	4,070	13,700
3	1,100	1,420	1,160	13,800	1,780	5,210	7,590	3,220	4,130	1,500	3,890	18,900
4	1,090	1,220	1,130	12,200	2,350	5,130	6,840	3,460	3,910	1,530	3,770	23,800
5	1,110	1,160	1,120	9,240	3,230	7,160	6,490	9,020	3,780	1,430	4,000	35,500
6	1,060	1,190	1,100	7,270	3,750	9,540	7,370	14,900	3,160	1,460	4,800	47,500
7	1,180	1,220	1,060	6,220	4,080	10,200	6,610	14,500	2,750	7,060	4,630	45,900
8	1,120	1,250	1,070	5,670	3,880	9,490	5,690	14,400	2,520	12,100	4,370	36,800
9	1,120	1,210	1,050	5,310	3,310	9,900	5,290	14,800	2,360	13,400	4,140	22,800
10	1,070	1,870	1,020	5,020	2,680	11,000	5,000	12,900	2,220	17,800	3,870	9,790
11	998	4,910	1,030	5,250	2,360	12,700	4,470	16,300	2,290	21,800	3,680	6,730
12	926	7,030	1,040	5,450	2,230	13,000	4,030	19,300	3,040	24,500	3,750	6,030
13	896	5,190	1,110	5,200	2,120	12,200	3,710	21,600	3,080	28,500	4,000	5,670
14	835	4,040	1,610	4,400	2,060	11,500	3,450	24,700	5,040	32,700	3,860	5,340
15	806	3,580	1,550	3,740	3,060	12,600	3,230	27,300	7,200	34,300	3,470	4,950
16	782	3,130	1,440	3,220	5,190	14,000	3,040	27,700	7,300	33,300	2,860	4,650
17	762	2,810	1,420	2,690	4,560	14,500	2,910	25,100	6,260	28,000	2,610	4,370
18	747	2,590	1,340	2,340	3,490	13,600	2,990	17,700	5,650	18,500	2,350	4,130
19	796	2,440	3,320	e2,160	3,120	10,900	3,310	10,900	4,910	10,400	2,260	3,940
20	801	2,280	6,840	e2,000	3,240	9,010	3,180	8,320	4,110	8,000	2,230	3,750
21	799	2,080	7,590	e1,900	4,390	8,220	3,490	7,240	3,260	7,070	2,040	3,600
22	862	1,890	6,670	e1,800	8,240	9,200	3,520	6,390	2,710	10,500	1,900	3,720
23	856	1,660	5,610	e1,660	15,500	9,190	3,180	6,000	2,370	10,200	1,790	4,070
24	823	1,570	4,880	e1,500	15,900	8,970	2,870	5,590	2,150	8,580	1,700	4,780
25	928	1,550	4,210	e1,450	11,600	8,470	3,620	5,180	1,980	6,470	1,630	4,790
26	1,290	1,490	3,750	e1,550	7,780	7,860	7,150	4,970	1,850	5,710	1,570	4,620
27	1,330	1,480	3,320	e1,460	6,480	8,000	7,530	4,660	1,740	5,400	1,530	6,830
28	1,490	1,430	2,800	e1,350	5,630	7,410	5,760	4,420	1,670	5,400	1,490	9,960
29	1,940	1,380	2,620	e1,500	---	10,700	4,940	4,280	1,650	5,120	1,530	10,500
30	2,460	1,350	2,860	e1,630	---	12,600	4,610	4,330	1,570	4,640	1,730	11,200
31	2,070	---	4,970	1,570	---	13,200	---	4,490	---	4,460	2,380	---
TOTAL	34,547	68,130	81,150	142,550	135,300	305,810	154,170	350,930	103,180	372,820	92,200	373,300
MEAN	1,114	2,271	2,618	4,598	4,832	9,865	5,139	11,320	3,439	12,030	2,974	12,440
MAX	2,460	7,030	7,590	13,800	15,900	14,500	12,400	27,700	7,300	34,300	4,800	47,500
MIN	747	1,160	1,020	1,350	1,610	5,130	2,870	3,220	1,570	1,430	1,490	3,600
CFSM	0.24	0.48	0.56	0.98	1.03	2.10	1.10	2.41	0.73	2.57	0.63	2.65
IN.	0.27	0.54	0.64	1.13	1.07	2.43	1.22	2.78	0.82	2.96	0.73	2.96

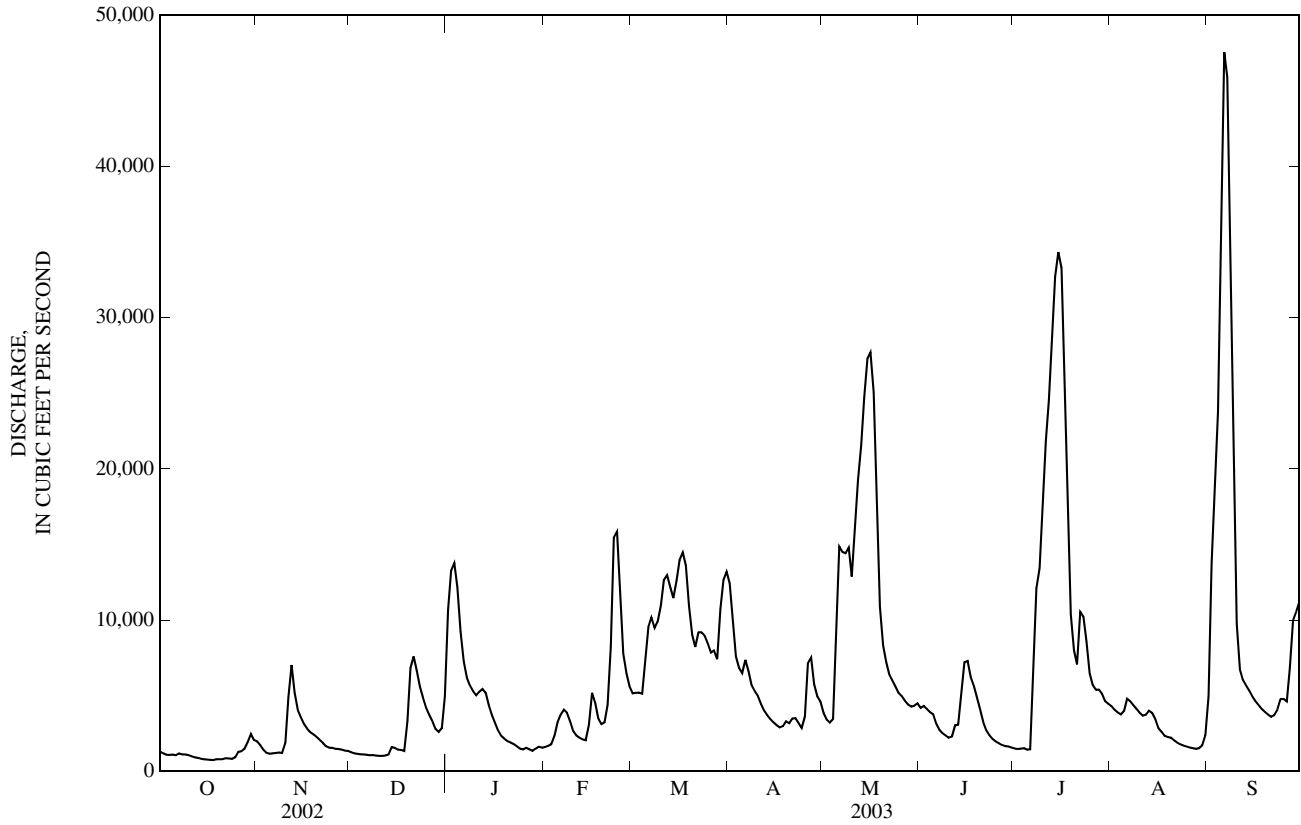
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2003, BY WATER YEAR (WY)

MEAN	1,628	3,058	4,596	6,673	6,966	8,635	8,831	7,112	4,707	3,357	1,970	1,740
MAX	11,310	24,180	16,780	36,920	21,870	19,150	20,340	25,090	19,350	13,270	15,900	13,510
(WY)	(2002)	(1994)	(1958)	(1950)	(1950)	(1963)	(1944)	(1943)	(1998)	(1979)	(1979)	(1989)
MIN	259	408	386	405	705	686	1,539	677	771	536	308	317
(WY)	(1941)	(1945)	(1945)	(1945)	(1931)	(1941)	(1941)	(1941)	(1988)	(1936)	(1941)	(1940)

03360500 WHITE RIVER AT NEWBERRY, IN—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1929 - 2003	
ANNUAL TOTAL	2,375,546		2,214,087		4,928	
ANNUAL MEAN	6,508		6,066		8,752	
HIGHEST ANNUAL MEAN					958	
LOWEST ANNUAL MEAN					1941	
HIGHEST DAILY MEAN	58,600	May 17	47,500	Sep 6	103,000	Nov 18, 1993
LOWEST DAILY MEAN	537	Sep 14	747	Oct 18	200	Oct 1, 1941
ANNUAL SEVEN-DAY MINIMUM	574	Sep 8	785	Oct 15	211	Sep 26, 1941
MAXIMUM PEAK FLOW			49,400	Sep 6	105,000	Nov 18, 1993
MAXIMUM PEAK STAGE			22.93	Sep 6	25.87	Nov 18, 1993
ANNUAL RUNOFF (CFSM)	1.39		1.29		1.05	
ANNUAL RUNOFF (INCHES)	18.85		17.57		14.28	
10 PERCENT EXCEEDS	16,600		13,300		11,600	
50 PERCENT EXCEEDS	3,570		3,890		2,580	
90 PERCENT EXCEEDS	836		1,190		634	

e Estimated



03361000 BIG BLUE RIVER AT CARTHAGE, IN

LOCATION.--Lat 39°44'38", long 85°34'33", in SW¹/₄SW¹/₄ sec.18, T.15 N., R.9 E., Rush County, Hydrologic Unit 05120204, (CARTHAGE, IN quadrangle), on right bank 300 ft upstream from highway bridge, 0.5 mi northwest of Carthage, 2.2 mi downstream from Three Mile Creek, and at mile 50.7.

DRAINAGE AREA.--184 mi².

PERIOD OF RECORD.--October 1950 to current year. Prior to October 1961, published as Blue River at Carthage.

REVISED RECORDS.--WSP 2109: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 859.33 ft above National Geodetic Vertical Datum of 1929. Prior to July 19, 1951, nonrecording gage at site 300 ft downstream at same datum.

REMARKS.--Records good. Flow partly regulated by Big Blue River Conservancy District control structures on tributaries to Big Blue River beginning in 1969.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	74	65	607	78	126	260	102	120	78	114	1,550
2	61	69	65	554	78	129	222	134	111	78	128	3,870
3	58	68	62	349	89	124	197	114	125	75	128	1,740
4	63	68	61	260	272	125	185	105	124	72	117	672
5	74	71	62	215	183	329	344	404	113	1,580	109	475
6	61	81	60	183	137	452	263	352	105	1,040	100	388
7	59	72	59	160	119	303	248	456	105	845	94	332
8	57	71	60	159	106	362	257	336	103	594	90	285
9	57	68	59	266	101	1,050	219	285	101	1,660	101	245
10	57	127	59	238	98	568	201	769	96	2,100	169	208
11	56	211	64	165	93	404	183	2,060	102	859	139	177
12	56	125	63	145	89	392	166	1,100	122	594	145	153
13	56	105	63	130	e88	786	151	564	191	450	142	139
14	55	93	70	122	85	820	144	392	571	369	109	131
15	55	87	69	116	90	563	141	443	374	336	99	133
16	56	84	67	e114	80	485	136	349	247	317	92	122
17	56	79	67	e108	83	416	137	291	183	263	94	112
18	55	75	81	e104	83	351	130	251	155	247	87	107
19	68	73	249	e98	81	320	122	221	140	221	83	105
20	62	71	430	e96	79	320	121	201	126	198	79	101
21	60	72	270	94	81	468	125	181	115	306	76	97
22	60	81	177	93	171	429	118	166	108	378	74	188
23	57	79	136	93	483	322	111	156	104	310	72	203
24	57	76	119	e92	340	267	108	148	98	216	68	147
25	89	75	118	e90	217	244	117	141	95	172	67	129
26	102	73	103	e84	177	324	122	134	92	156	66	120
27	76	71	93	e84	152	267	107	127	91	149	81	571
28	70	69	90	e83	137	233	104	126	86	154	75	426
29	83	68	89	e81	---	506	108	137	84	141	75	300
30	89	67	148	e78	---	406	103	122	81	126	165	225
31	79	---	435	77	---	309	---	136	---	116	124	---
TOTAL	2,008	2,503	3,613	5,138	3,870	12,200	4,950	10,503	4,268	14,200	3,162	13,451
MEAN	64.8	83.4	117	166	138	394	165	339	142	458	102	448
MAX	102	211	435	607	483	1,050	344	2,060	571	2,100	169	3,870
MIN	55	67	59	77	78	124	103	102	81	72	66	97
CFSM	0.35	0.45	0.63	0.90	0.75	2.14	0.90	1.84	0.77	2.49	0.55	2.44
IN.	0.41	0.51	0.73	1.04	0.78	2.47	1.00	2.12	0.86	2.87	0.64	2.72

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)	(WY)
MEAN	98.2	162	211	227	282	326	326	265	213	157	102	84.0
MAX	579	925	702	619	741	967	829	916	848	581	649	448
(WY)	(1987)	(1994)	(1991)	(1959)	(1951)	(1963)	(1964)	(1996)	(1958)	(1979)	(1979)	(2003)
MIN	34.2	38.6	33.2	27.9	59.6	84.2	97.8	81.5	48.1	32.5	30.5	24.4
(WY)	(1964)	(1977)	(1977)	(1977)	(1964)	(1981)	(1971)	(1976)	(1988)	(1977)	(1988)	(1954)

SUMMARY STATISTICS

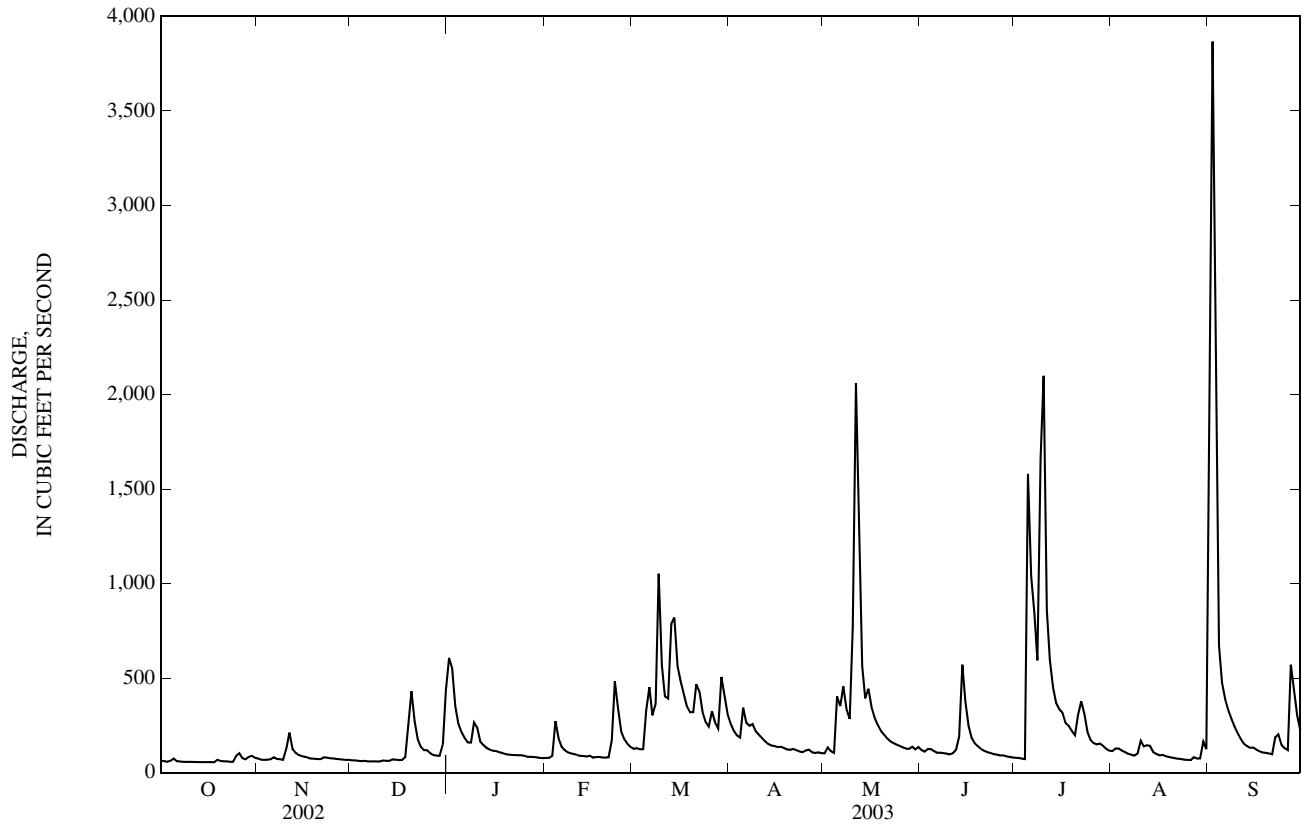
FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1951 - 2003

ANNUAL TOTAL	81,731	79,866	
ANNUAL MEAN	224	219	204
HIGHEST ANNUAL MEAN			324
LOWEST ANNUAL MEAN			78.8
HIGHEST DAILY MEAN	3,540	May 13	6,900
LOWEST DAILY MEAN	43	Sep 10	17
ANNUAL SEVEN-DAY MINIMUM	44	Sep 8	19
MAXIMUM PEAK FLOW			12,900
MAXIMUM PEAK STAGE			14.62
ANNUAL RUNOFF (CFSM)	1.22	1.19	1.11
ANNUAL RUNOFF (INCHES)	16.52	16.15	15.06
10 PERCENT EXCEEDS	451	429	406
50 PERCENT EXCEEDS	127	122	116
90 PERCENT EXCEEDS	58	67	51

03361000 BIG BLUE RIVER AT CARTHAGE, IN—Continued



03361500 BIG BLUE RIVER AT SHELBYVILLE, IN

LOCATION.--Lat 39°31'45", long 85°46'55", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.31, T.13 N., R.7 E., Shelby County, Hydrologic Unit 05120204, (SHELBYVILLE, IN quadrangle), on left bank 0.2 mi downstream from bridge on State Highway 9 in Shelbyville, 0.6 mi downstream from Little Blue River, and at mile 23.9.

DRAINAGE AREA.--421 mi².

PERIOD OF RECORD.--September 1943 to current year. Prior to October 1961, published as Blue River at Shelbyville.

REVISED RECORDS.--WSP 1505: 1944. WSP 1909: 1959(M). WSP 2109: Drainage area. WDR IN-79-1: 1975.

GAGE.--Water-stage recorder. Datum of gage is 737.67 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1953, nonrecording gage at bridge 0.2 mi upstream at datum 3.5 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of about 20.2 ft from floodmarks.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90	122	113	1,560	e170	392	632	274	316	186	243	1,080
2	89	113	109	1,750	e173	410	548	331	282	182	238	4,460
3	87	108	108	1,120	e174	421	488	348	285	175	296	6,270
4	94	106	105	787	444	416	459	308	298	167	274	3,220
5	99	109	104	630	506	862	657	1,260	280	2,070	261	1,140
6	98	110	105	546	395	1,370	657	1,470	259	4,570	248	803
7	89	114	96	490	341	1,010	549	1,090	252	2,440	226	624
8	86	108	107	473	285	1,020	547	1,090	249	1,550	206	514
9	85	105	99	581	e270	2,720	499	798	243	1,710	195	439
10	85	183	101	630	e260	1,930	463	1,080	232	3,410	230	384
11	85	450	103	494	252	1,210	434	3,760	237	3,440	265	337
12	83	323	105	382	235	1,010	407	3,860	338	1,520	278	299
13	82	240	108	e340	230	1,260	374	1,780	524	1,060	252	272
14	81	200	114	e312	244	2,230	351	1,070	2,080	785	224	252
15	81	175	124	e281	286	1,420	342	1,110	1,640	634	198	246
16	81	160	124	e268	227	1,160	335	1,010	1,000	605	186	233
17	81	150	123	e256	204	985	356	820	737	499	177	217
18	81	138	129	e243	248	821	359	678	549	444	174	203
19	87	132	403	e236	237	731	326	586	451	402	162	195
20	92	128	1,070	e230	224	766	316	526	383	353	156	190
21	88	126	792	e220	232	857	317	475	333	488	151	183
22	86	129	506	e212	598	1,040	306	433	301	797	146	217
23	86	133	368	e203	1,540	779	288	405	279	615	141	339
24	84	132	302	e197	1,130	643	276	380	259	487	135	292
25	107	127	281	e193	736	570	301	360	241	392	131	247
26	155	125	242	e190	577	590	362	342	230	339	128	235
27	139	121	209	e187	492	590	318	321	224	311	129	731
28	114	122	195	e180	432	534	291	314	211	354	145	1,000
29	127	e120	192	e180	---	967	287	334	199	317	140	645
30	143	115	314	e178	---	1,070	282	313	189	283	165	473
31	137	---	880	e173	---	764	---	332	---	260	225	---
TOTAL	3,002	4,524	7,731	13,722	11,142	30,548	12,127	27,258	13,101	30,845	6,125	25,740
MEAN	96.8	151	249	443	398	985	404	879	437	995	198	858
MAX	155	450	1,070	1,750	1,540	2,720	657	3,860	2,080	4,570	296	6,270
MIN	81	105	96	173	170	392	276	274	189	167	128	183
CFSM	0.23	0.36	0.59	1.05	0.95	2.34	0.96	2.09	1.04	2.36	0.47	2.04
IN.	0.27	0.40	0.68	1.21	0.98	2.70	1.07	2.41	1.16	2.73	0.54	2.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 2003, BY WATER YEAR (WY)

MEAN	180	345	478	620	694	793	782	620	474	331	195	156
MAX	1,199	2,114	1,575	4,319	2,208	1,970	1,973	2,605	1,729	1,363	1,404	953
(WY)	(1987)	(1994)	(1967)	(1950)	(1950)	(1963)	(1964)	(1996)	(1998)	(1979)	(1979)	(1989)
MIN	41.7	52.5	52.3	38.3	92.0	204	183	149	81.2	56.1	46.4	43.1
(WY)	(1964)	(1954)	(1964)	(1977)	(1964)	(1957)	(1971)	(1976)	(1988)	(1954)	(1988)	(1999)

03361500 BIG BLUE RIVER AT SHELBYVILLE, IN—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1944 - 2003	
ANNUAL TOTAL	188,698		185,865		471	
ANNUAL MEAN	517		509		166	
HIGHEST ANNUAL MEAN					908	1950
LOWEST ANNUAL MEAN					166	1954
HIGHEST DAILY MEAN	8,320	May 14	6,270	Sep 3	13,800	Mar 5, 1963
LOWEST DAILY MEAN	67	Sep 14	81	Oct 14	27	Jan 18, 1977
ANNUAL SEVEN-DAY MINIMUM	69	Sep 12	81	Oct 12	32	Jan 16, 1977
MAXIMUM PEAK FLOW			6,590	Sep 3	13,800	Nov 15, 1993
MAXIMUM PEAK STAGE			13.77	Sep 3	18.41	Nov 15, 1993
ANNUAL RUNOFF (CFSM)	1.23		1.21		1.12	
ANNUAL RUNOFF (INCHES)	16.67		16.42		15.20	
10 PERCENT EXCEEDS	1,090		1,080		1,010	
50 PERCENT EXCEEDS	274		285		241	
90 PERCENT EXCEEDS	89		108		75	

e Estimated

