

Water-Data Report 2008

07077000 WHITE RIVER AT DEVALLS BLUFF, AR

White Basin
Lower White-Bayou Des Arc Subbasin

LOCATION.--Lat 34°47'25", long 91°26'45" referenced to North American Datum of 1983, in SE ¼ sec.17, T.2 N., R.4 W., Prairie County, AR, Hydrologic Unit 08020301, near center of span on downstream side of bridge on U.S. Hwy 70, 1.0 mi northeast of DeValls Bluff, 7.5 mi downstream from Wattensaw Bayou, 24.1 mi upstream from Cache River, and at mile 125.3.

DRAINAGE AREA.—23,400 mi², from report "Drainage Area Data, Arkansas, White, and Red River Basins".

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Oct 1927 to Sep 1945 (large part of floodflow above station overflowed into Cache River and was not included in the records), Oct 1949 to Sep 1970, Oct 1988 to current year. Monthly discharge only for some periods, published in WSP 1311. Daily stages for the period Oct 1970 to date published in reports of U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 152.93 ft above NGVD of 1929. Prior to Dec 22, 1933, nonrecording gage at same site and datum.

COOPERATION.—Gage height record was provided by the U.S. Army Corps of Engineers.

REMARKS.--Water-discharge records fair except estimated daily discharges, which are poor. Some regulation since 1943 by Norfolk Lake, capacity, 1,983,000 acre-ft, since 1948 by Clearwater Lake (Missouri), capacity, 413,700 acre-ft, since Jul 24, 1951, by Bull Shoals Lake, capacity, 5,408,000 acre-ft, since Sep 9, 1956, by Table Rock Lake (Missouri), capacity, 3,567,500 acre-ft, since Mar 30, 1962, by Greers Ferry Lake, capacity, 2,926,500 acre-ft, and since Dec 26, 1963, by Beaver Lake, capacity, 1,951,500 acre-ft. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr 23, 1927, reached a stage of 34.6 ft. Flood of Feb 3, 1949, reached a stage of 31.35 ft, discharge, 220,000 ft³/s by current-meter measurement, furnished by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 189,000 ft³/s, Apr 17, gage height, 31.41 ft; minimum discharge, 4,440 ft³/s, Nov 25, gage height, 0.84 ft.

07077000 WHITE RIVER AT DEVALLS BLUFF, AR—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	8,070	10,200	9,340	26,300	13,600	42,300	141,000	84,900	38,800	38,200	37,600	29,700
2	7,700	10,100	8,970	25,200	13,600	41,100	135,000	84,600	39,100	38,100	36,500	29,300
3	8,080	9,710	8,770	24,100	14,200	40,000	128,000	86,700	38,800	38,300	35,200	29,600
4	8,610	8,980	8,090	22,600	14,200	41,400	129,000	85,700	38,800	38,600	34,100	32,700
5	9,180	7,920	7,660	21,800	13,800	42,700	130,000	83,800	38,800	39,000	33,100	37,800
6	9,440	7,080	7,630	21,600	14,000	44,000	132,000	81,000	39,000	39,200	32,300	41,300
7	9,510	6,460	7,730	20,900	14,000	45,300	137,000	77,900	39,100	39,300	31,700	43,400
8	9,300	6,480	7,970	20,100	13,900	46,800	140,000	76,400	38,800	39,400	30,800	45,000
9	8,980	6,940	8,550	19,100	14,500	47,700	145,000	73,700	38,400	39,800	29,700	46,200
10	9,230	7,270	9,090	17,700	16,400	48,900	143,000	71,400	38,300	39,800	29,400	46,400
11	9,660	7,300	8,830	17,100	17,800	50,000	142,000	70,000	37,800	39,700	29,600	45,500
12	9,870	7,390	9,470	17,600	18,400	50,800	139,000	68,200	37,400	39,500	30,200	43,700
13	10,200	7,100	11,300	18,300	21,100	51,900	137,000	64,800	37,400	39,500	30,800	41,300
14	10,300	6,980	13,200	18,400	25,100	54,500	143,000	63,100	37,600	39,500	31,100	39,200
15	9,860	6,750	15,400	18,200	28,000	57,400	164,000	61,100	37,800	39,500	31,000	36,900
16	9,360	6,380	19,800	17,900	30,200	60,800	181,000	59,200	37,800	39,600	31,000	33,300
17	9,060	6,380	25,300	17,200	e32,300	63,200	187,000	56,900	37,800	39,800	30,900	29,700
18	12,100	6,810	28,700	16,200	e34,200	65,200	186,000	55,000	37,800	39,700	30,800	29,000
19	13,700	6,590	31,200	15,300	e36,000	72,800	181,000	53,100	38,000	39,200	31,000	29,700
20	12,900	5,990	33,500	14,800	e38,000	78,300	172,000	51,400	38,100	38,600	31,300	30,100
21	11,700	5,470	35,900	14,200	38,000	81,300	161,000	49,800	38,200	38,100	32,000	30,300
22	10,500	5,250	36,200	14,100	39,400	90,800	150,000	48,000	38,300	37,600	33,100	30,300
23	9,230	4,850	36,400	13,600	40,600	117,000	139,000	46,500	38,300	37,300	34,200	30,300
24	8,340	4,570	36,100	13,200	41,400	150,000	128,000	45,000	38,000	37,000	34,600	30,300
25	8,410	4,740	35,100	13,000	41,700	168,000	118,000	43,500	37,600	36,900	34,400	30,200
26	9,450	6,500	33,700	12,600	42,000	177,000	110,000	41,800	37,500	37,000	33,900	30,400
27	10,200	8,430	32,300	12,800	42,500	175,000	103,000	40,800	37,300	37,300	33,100	30,500
28	10,500	9,260	31,100	13,100	42,300	171,000	96,500	40,000	37,800	37,600	32,300	30,400
29	10,600	9,510	30,000	13,000	42,500	163,000	92,100	39,400	38,000	37,700	31,500	30,300
30	10,300	9,640	28,700	13,400	---	154,000	87,700	38,700	38,100	37,800	30,800	30,200
31	10,100	---	27,400	13,600	---	145,000	---	38,700	---	37,800	30,300	---
Total	304,440	217,030	643,400	537,000	793,700	2,637,200	4,177,300	1,881,100	1,144,500	1,196,400	998,300	1,043,000
Mean	9,821	7,234	20,750	17,320	27,370	85,070	139,200	60,680	38,150	38,590	32,200	34,770
Max	13,700	10,200	36,400	26,300	42,500	177,000	187,000	86,700	39,100	39,800	37,600	46,400
Min	7,700	4,570	7,630	12,600	13,600	40,000	87,700	38,700	37,300	36,900	29,400	29,000
Ac-ft	603,900	430,500	1,276,000	1,065,000	1,574,000	5,231,000	8,286,000	3,731,000	2,270,000	2,373,000	1,980,000	2,069,000

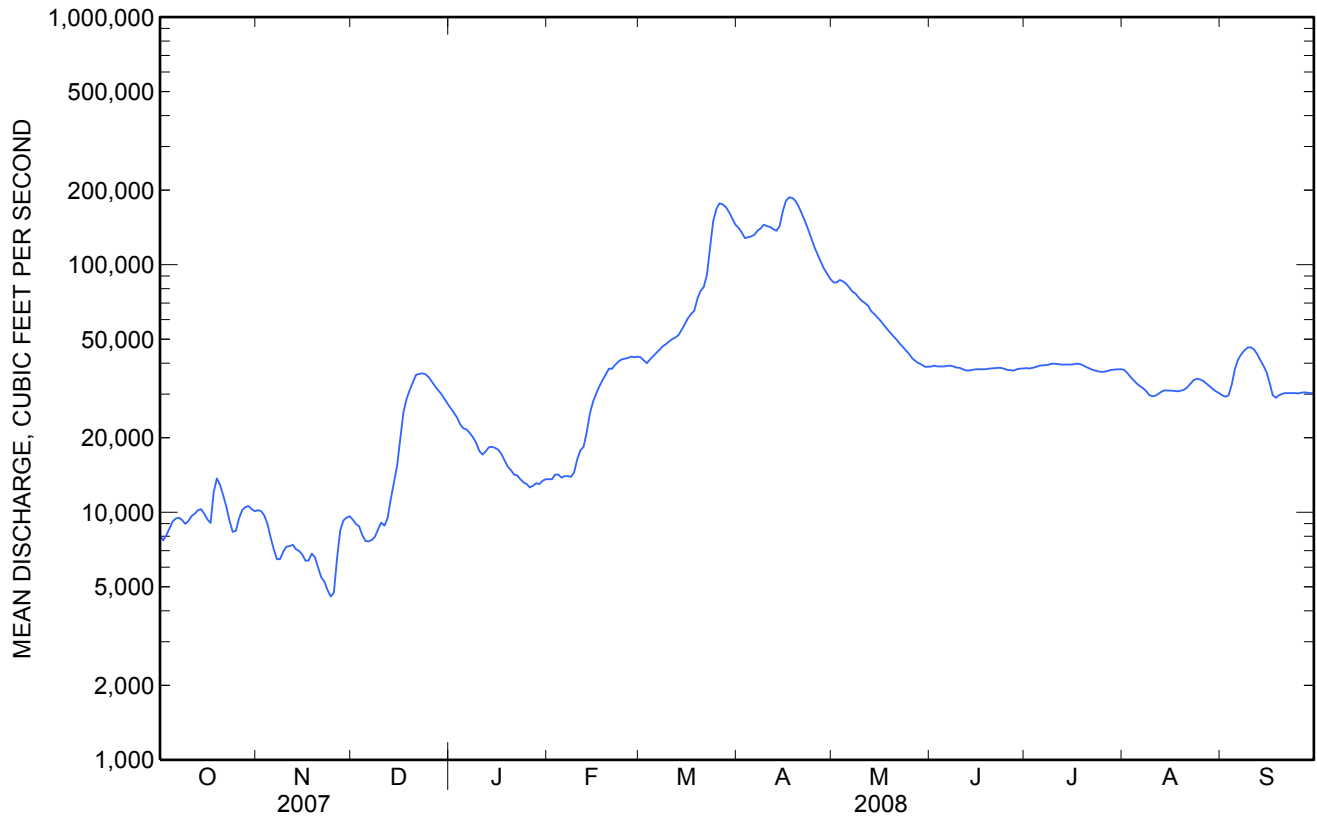
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	11,640	15,510	24,430	30,700	35,950	40,140	42,460	40,170	25,580	19,670	16,270	13,380
Max	30,100	48,890	67,180	110,000	107,100	85,070	139,200	90,730	73,590	48,560	48,900	36,450
(WY)	(1950)	(1958)	(1952)	(1950)	(1950)	(2008)	(2008)	(1957)	(1957)	(1951)	(1957)	(1950)
Min	3,715	3,831	5,260	6,042	7,974	13,240	13,230	7,448	6,676	7,822	7,112	4,276
(WY)	(1955)	(1955)	(1955)	(1964)	(1964)	(1996)	(1963)	(2001)	(2001)	(1954)	(1954)	(1954)

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SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1950 - 2008	
Annual total	9,101,240		15,573,370			
Annual mean	24,930		42,550		26,270	
Highest annual mean					51,270	1950
Lowest annual mean					11,900	2006
Highest daily mean	93,400	Jan 24	187,000	Apr 17	187,000	Apr 17, 2008
Lowest daily mean	4,570	Nov 24	4,570	Nov 24	2,830	Nov 12, 2005
Annual seven-day minimum	5,340	Nov 20	5,340	Nov 20	3,290	Sep 26, 1954
Maximum peak flow			189,000	Apr 17	189,000	Apr 17, 2008
Maximum peak stage			31.41	Apr 17	31.41	Apr 17, 2008
Instantaneous low flow			4,440	Nov 25	2,620	Nov 12, 2005
Annual runoff (ac-ft)	18,050,000		30,890,000		19,040,000	
10 percent exceeds	53,000		98,400		53,500	
50 percent exceeds	17,400		34,800		19,000	
90 percent exceeds	8,810		8,810		7,920	



07077000 WHITE RIVER AT DEVALLS BLUFF, AR—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1946-60, 1968-70, 1974-95, and 2001 to current year.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 1 of 4

[Remark codes: <, less than; E, estimated.]

Date	Time	Instantaneous discharge, ft ³ /s (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, μ S/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
Oct 18...	0915	11,700	750	7.8	88	8.1	257	20.3	110	26.8	11.3	2.06	.2
Dec 06...	1035	7,620	772	11.6	98	8.2	292	8.5	140	32.0	14.5	1.95	.2
Feb 21...	1000	37,900	768	11.3	93	7.6	192	7.0	80	19.8	7.35	1.47	.1
May 21...	1245	49,800	765	8.0	88	7.8	242	20.0	110	28.1	10.6	1.59	.1
Jun 12...	1030	37,400	763	8.2	95	7.3	236	22.8	110	26.5	10.0	1.60	.1
Aug 14...	1000	30,900	762	8.8	97	8.2	266	20.1	120	31.2	10.8	1.84	.1

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 2 of 4

[Remark codes: <, less than; E, estimated.]

Date	Sodium fraction of cations percent (00932)	Sodium, water, fltrd, mg/L (00930)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate, water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia, water, fltrd, mg/L as N (71846)	Ammonia, water, fltrd, mg/L as N (00608)	Nitrate + nitrite, water, fltrd, mg/L as N (00631)	Nitrate, water, fltrd, mg/L as N (71851)	Nitrate, water, fltrd, mg/L as N (00618)	Nitrite, water, fltrd, mg/L (71856)
Oct 18...	8	4.64	7.08	E.07	6.16	147	.82	.03	.023	.17	.731	.17	.013
Dec 06...	6	4.26	6.51	E.08	7.88	159	.27	--	<.020	.12	E.543	E.12	E.004
Feb 21...	6	2.23	3.65	<.12	6.13	111	.50	E.02	E.014	.33	1.46	.33	.008
May 21...	4	2.44	3.74	<.12	4.99	133	.36	--	<.020	.21	.915	.21	.014
Jun 12...	5	2.77	4.67	E.07	5.66	140	.31	--	<.020	.24	E1.08	E.24	E.006
Aug 14...	6	3.49	5.82	<.12	6.19	151	.25	--	<.020	.47	2.06	.46	.011

07077000 WHITE RIVER AT DEVALLS BLUFF, AR—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 3 of 4

[Remark codes: <, less than; E, estimated.]

Date	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro- gen, water, unfltrd mg/L (00605)	Total nitro- gen, water, unfltrd mg/L (00600)	Ortho- phos- phate, water, fltrd, mg/L (00660)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, fltrd, mg/L as P (00666)	Phos- phorus, water, unfltrd mg/L as P (00665)	E coli, modif. m-TEC, water, col/ 100 mL (90902)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli- form, M-FC col/ 100 mL (31625)	Suspnd. sedi- ment, sieve diametr percent <62.5um (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Oct 18...	.004	.80	.99	.052	.017	E.03	.21	--	2,000	2,200	96	274	8,660
Dec 06...	E.001	--	.40	.057	.019	E.02	.06	--	20	21	88	21	432
Feb 21...	.002	E.50	.83	.076	.025	E.03	.14	--	110	E360	88	139	14,200
May 21...	.004	--	.57	.045	.015	E.02	.07	--	E3	E3	90	51	6,860
Jun 12...	E.002	--	.56	.045	.015	E.03	.07	--	E30	E10	96	55	5,550
Aug 14...	.003	--	.72	.034	.011	<.04	.05	E11	--	21	90	55	4,590

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007
TO SEPTEMBER 2008

Part 4 of 4

[Remark codes: <, less than;
E, estimated.]

Date	Sampler type, code (84164)	Sam- pling method, code (82398)
Oct 18...	3054	10
Dec 06...	3060	40
Feb 21...	3052	10
May 21...	3058	10
Jun 12...	3052	10
Aug 14...	3052	10