

Water-Data Report 2009

**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 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 river mile 125.3.

DRAINAGE AREA.--23,400 mi<sup>2</sup>.

**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, and 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 ft<sup>3</sup>/s, furnished by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 75,400 ft<sup>3</sup>/s, May 9, 10, gage height, 24.35 ft; minimum discharge, 8,010 ft<sup>3</sup>/s, Sep 9, gage height, 4.56 ft.

## 07077000 WHITE RIVER AT DEVALLS BLUFF, AR—Continued

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**  
**DAILY MEAN VALUES**  
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	30,300	26,100	25,200	22,500	31,400	52,000	42,400	44,200	52,200	29,600	33,100	11,500
2	30,300	25,500	24,800	25,100	33,700	50,900	44,500	49,000	50,700	29,500	33,700	10,800
3	30,300	25,300	24,300	25,100	34,200	49,100	46,300	55,700	49,300	29,500	33,600	10,200
4	29,900	25,000	24,700	25,200	33,700	46,300	46,800	59,200	48,100	29,400	33,100	9,550
5	29,400	24,600	24,600	25,100	32,500	42,200	47,000	61,800	46,500	30,000	34,100	9,350
6	29,000	24,800	23,400	24,800	31,900	39,000	47,500	69,400	45,200	30,700	36,700	9,160
7	29,100	24,900	22,200	24,600	31,300	36,000	48,100	74,400	43,500	30,700	36,900	8,740
8	29,300	24,700	20,700	24,200	31,000	33,500	48,300	74,200	41,800	30,300	35,800	8,320
9	29,500	24,600	19,800	23,600	29,700	31,300	48,200	74,700	40,100	29,700	34,600	8,130
10	29,700	24,700	19,300	22,500	27,700	28,300	48,000	75,100	38,300	29,000	33,100	8,820
11	29,600	24,800	18,400	21,100	28,000	26,300	47,900	74,400	36,700	28,500	31,300	9,810
12	29,400	25,200	17,900	19,500	31,300	24,900	47,400	73,100	35,600	28,100	29,300	10,500
13	29,000	25,500	17,400	18,400	35,500	25,200	47,400	70,600	34,800	27,300	27,300	11,500
14	28,700	25,800	17,200	17,400	38,900	27,600	46,700	70,600	34,100	27,100	26,100	12,000
15	28,600	25,900	16,800	17,100	41,800	29,900	46,000	69,800	34,000	28,000	25,000	12,000
16	28,700	25,900	16,400	17,700	44,000	29,800	45,400	68,700	34,900	29,200	23,500	14,300
17	28,900	25,800	15,600	18,500	45,100	28,500	45,200	67,400	35,800	29,600	22,300	22,500
18	29,200	25,500	15,100	19,800	46,400	27,200	45,200	66,000	36,200	29,200	21,100	31,100
19	29,400	25,200	14,700	19,800	47,700	26,300	45,800	64,000	36,000	28,300	20,100	36,400
20	29,200	25,100	15,300	19,000	48,300	25,100	46,100	62,000	35,400	27,800	20,000	40,200
21	29,100	25,100	15,700	17,800	49,200	23,700	45,800	60,300	34,500	27,400	19,400	41,900
22	28,900	25,100	16,200	16,500	50,200	22,200	45,200	58,700	33,500	28,200	18,000	42,400
23	29,200	25,200	16,400	15,200	50,900	20,800	44,000	57,300	32,700	30,300	16,500	41,900
24	28,700	25,500	16,900	14,100	51,400	19,800	43,200	56,700	32,100	32,100	15,300	41,100
25	28,100	25,700	17,600	13,900	51,800	19,800	42,500	55,900	31,500	33,100	14,300	41,500
26	27,400	25,500	17,500	14,400	51,600	21,000	41,300	56,200	30,900	33,100	13,700	42,200
27	27,300	25,600	17,600	14,500	52,700	23,500	40,000	55,600	30,500	32,100	13,500	42,400
28	27,600	25,500	18,200	15,100	52,800	27,400	40,100	55,500	30,200	31,100	13,300	42,600
29	27,200	25,500	18,500	17,100	---	32,400	41,200	e55,300	30,000	30,100	13,200	42,000
30	26,700	25,300	18,300	20,700	---	36,700	42,400	e54,400	29,700	30,300	12,800	40,800
31	26,700	---	19,600	26,500	---	39,900	---	53,400	---	32,100	12,200	---
<b>Total</b>	894,400	758,900	586,300	616,800	1,134,700	966,600	1,355,900	1,943,600	1,124,800	921,400	752,900	713,680
<b>Mean</b>	28,850	25,300	18,910	19,900	40,520	31,180	45,200	62,700	37,490	29,720	24,290	23,790
<b>Max</b>	30,300	26,100	25,200	26,500	52,800	52,000	48,300	75,100	52,200	33,100	36,900	42,600
<b>Min</b>	26,700	24,600	14,700	13,900	27,700	19,800	40,000	44,200	29,700	27,100	12,200	8,130
<b>Ac-ft</b>	1,774,000	1,505,000	1,163,000	1,223,000	2,251,000	1,917,000	2,689,000	3,855,000	2,231,000	1,828,000	1,493,000	1,416,000

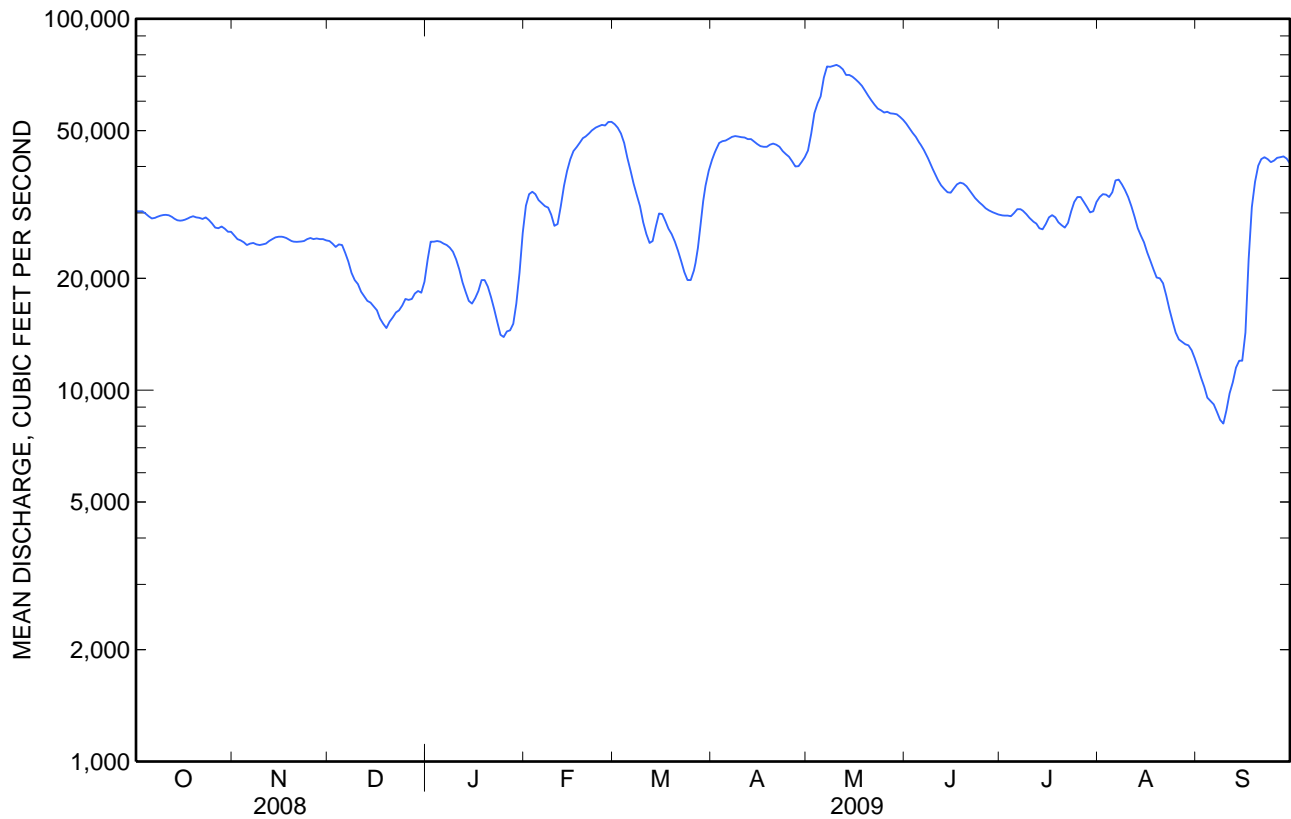
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	12,050	15,740	24,300	30,440	36,060	39,920	42,530	40,710	25,860	19,910	16,460	13,630
<b>Max</b>	30,100	48,890	67,180	110,000	107,100	85,070	139,200	90,730	73,590	48,560	48,900	36,450
<b>(WY)</b>	(1950)	(1958)	(1952)	(1950)	(1950)	(2008)	(2008)	(1957)	(1957)	(1951)	(1957)	(1950)
<b>Min</b>	3,715	3,831	5,260	6,042	7,974	13,240	13,230	7,448	6,676	7,822	7,112	4,276
<b>(WY)</b>	(1955)	(1955)	(1955)	(1964)	(1964)	(1996)	(1963)	(2001)	(2001)	(1954)	(1954)	(1954)

## 07077000 WHITE RIVER AT DEVALLS BLUFF, AR—Continued

## SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1950 - 2009	
<b>Annual total</b>	16,648,100		11,769,980			
<b>Annual mean</b>	45,490		32,250		26,420	
<b>Highest annual mean</b>					51,270	
<b>Lowest annual mean</b>					11,900	
<b>Highest daily mean</b>	187,000	Apr 17	75,100	May 10	187,000	Apr 17, 2008
<b>Lowest daily mean</b>	12,600	Jan 26	8,130	Sep 9	2,830	Nov 12, 2005
<b>Annual seven-day minimum</b>	13,000	Jan 24	8,870	Sep 4	3,290	Sep 26, 1954
<b>Maximum peak flow</b>			75,400	May 9 <sup>a</sup>	189,000	Apr 17, 2008
<b>Maximum peak stage</b>			24.35	May 9 <sup>a</sup>	31.41	Apr 17, 2008
<b>Instantaneous low flow</b>			8,010	Sep 9	2,620	Nov 12, 2005
<b>Annual runoff (ac-ft)</b>	33,020,000		23,350,000		19,140,000	
<b>10 percent exceeds</b>	98,400		51,100		53,400	
<b>50 percent exceeds</b>	34,000		29,400		19,500	
<b>90 percent exceeds</b>	17,200		16,300		7,990	

<sup>a</sup> Also May 10

## 07077000 WHITE RIVER AT DEVALLS BLUFF, AR—Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1946 to 1960, 1968 to 1970, 1974 to 1995, and 2001 to current year.

WATER-QUALITY DATA  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 1 of 4

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

Date	Time	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd std units (00400)	Specif- ic conduc- tance, wat unf μS/cm @ 25 degC (00095)	Temper- ature, deg C (00010)	Stream width, feet (00004)	Vel- city at point in stream, ft/s (81904)	Sampler type, code (84164)
Oct 16...	1145	761	9.1	97	7.3	241	18.7	800	2.00	US DH-95 plastic
Dec 11...	0920	765	10.7	89	7.8	278	7.8	800	<1.50	Grab sample
Jan 08...	1015	766	11.7	96	6.9	223	7.3	800	<1.50	Grab sample
Mar 05...	0915	763	11.7	99	7.8	231	7.9	800	2.00	US DH-95 plastic
May 13...	1145	761	6.5	64	7.2	174	14.1	800	3.50	US DH-2 Bag Sampler
Aug 25...	0915	760	8.0	98	7.8	304	25.3	550	2.00	US DH-95 plastic

WATER-QUALITY DATA  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 2 of 4

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

Date	Sam- pling method, code (82398)	Dis- solved solids dried @ 180degC wat flt mg/L (70300)	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Potas- sium, water, fltrd, mg/L (00935)	Sodium adsorp- tion ratio (00931)	Sodium frac- tion of cations percent (00932)	Sodium, water, fltrd, mg/L (00930)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)
Oct 16...	EWI	136	110	29.9	8.67	1.73	.1	5	2.98	4.86	E.05
Dec 11...	Multiple verticals	153	120	30.3	11.8	2.01	.1	5	3.23	5.35	E.08
Jan 08...	Grab sample(dip)	125	110	27.8	10.5	1.95	.1	5	3.06	4.60	<.08
Mar 05...	EWI	128	110	27.6	10.0	1.97	.1	5	2.84	4.36	E.05
May 13...	EWI	127	73	19.6	5.97	1.61	.1	4	1.59	2.38	<.08
Aug 25...	EWI	170	160	40.0	14.3	1.90	.1	5	4.06	5.89	E.07

## 07077000 WHITE RIVER AT DEVALLS BLUFF, AR—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

Part 3 of 4

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

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)			Ammonia water, fltrd, mg/L as N (00608)			Nitrate + nitrite water, fltrd, mg/L as N (00631)		Nitrate water, fltrd, mg/L as N (00618)		Nitrite water, fltrd, mg/L as N (00613)		Organic nitro-gen, water, unfltrd mg/L (00605)	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)
	Sulfate water, fltrd, mg/L (00945)	Ammonia water, fltrd, mg/L (00625)	Ammonia water, fltrd, mg/L (00608)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00631)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Nitrite water, fltrd, mg/L as N (00613)	Nitrite water, fltrd, mg/L as N (00613)	Nitrite water, fltrd, mg/L as N (00613)	Nitrite water, fltrd, mg/L as N (00613)	Nitrite water, fltrd, mg/L as N (00613)	Nitrite water, fltrd, mg/L as N (00613)	Nitrite water, fltrd, mg/L as N (00613)	Nitrite water, fltrd, mg/L as N (00613)	Nitrite water, fltrd, mg/L as N (00613)
Oct 16...	5.89	.24	--	<.020	.46	2.05	.46	.008	.002	--	.041	.013	<.04			
Dec 11...	5.25	.38	E.02	E.012	.26	1.13	.26	.010	.003	E.37	.044	.014	<.04			
Jan 08...	5.92	.27	--	<.020	.27	E1.19	E.27	E.004	E.001	--	.052	.017	<.04			
Mar 05...	6.14	.31	--	<.020	.17	E.733	E.17	E.005	E.001	--	E.024	E.008	E.02			
May 13...	4.06	.38	.03	.024	.16	.694	.16	.020	.006	.36	.087	.028	E.04			
Aug 25...	5.92	.56	--	<.020	.10	.435	.10	.019	.006	--	E.017	E.005	<.04			

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

Part 4 of 4

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

Date	Phos-phorus, water, unfltrd mg/L as P (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	E coli, modif. m-TEC, water, col/ 100 mL (90902)	Fecal coli-form, M-FC 0.7u MF col/ 100 mL (31625)	Suspd. sieve diametr percent <0.0625 mm (70331)	Suspended sediment concentration mg/L (80154)
	Phos-phorus, water, unfltrd mg/L as P (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	E coli, modif. m-TEC, water, col/ 100 mL (90902)	Fecal coli-form, M-FC 0.7u MF col/ 100 mL (31625)	Suspd. sieve diametr percent <0.0625 mm (70331)	Suspended sediment concentration mg/L (80154)
<b>Oct 16...</b>	.05	.70	45	47	89	48
<b>Dec 11...</b>	.10	.64	56	48	96	225
<b>Jan 08...</b>	.06	.54	140	120	88	44
<b>Mar 05...</b>	.05	.47	21	22	81	41
<b>May 13...</b>	.08	.55	85	69	69	36
<b>Aug 25...</b>	.10	.67	E11	E14	97	17