

07077000 WHITE RIVER AT DEVALLS BLUFF, AR

White Basin
Lower White-Bayou Des Arc Subbasin

LOCATION.--Lat 34°47'40", long 91°26'41" 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 mi².

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. No estimated daily discharges. 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, furnished by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 113,000 ft³/s, Dec. 28, gage height, 27.20 ft; minimum discharge, 7,600 ft³/s, Sept. 10, gage height, 3.69 ft.

07077000 WHITE RIVER AT DEVALLS BLUFF, AR—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	38,600	69,700	39,700	95,500	60,900	53,000	43,800	41,600	43,900	26,300	20,300	9,490
2	36,600	77,800	38,600	91,400	60,800	51,500	44,400	44,700	42,000	25,500	19,400	9,440
3	34,700	84,100	39,000	86,900	60,800	50,300	46,000	46,400	40,100	24,300	18,500	9,500
4	33,600	87,800	40,300	82,600	61,200	48,900	46,400	47,100	38,300	22,900	18,100	9,910
5	32,400	90,900	41,800	78,400	62,300	47,300	46,900	47,600	36,700	20,500	17,800	10,500
6	30,800	93,400	43,200	74,600	62,800	45,200	47,300	48,000	35,500	17,600	18,000	10,700
7	29,700	95,200	44,800	71,000	63,100	42,400	48,000	47,200	34,500	14,900	18,500	10,500
8	28,800	96,300	46,100	68,500	63,600	39,500	49,100	46,600	33,700	13,300	18,500	10,000
9	29,800	95,400	47,800	66,600	64,600	36,800	49,600	45,200	33,200	12,300	17,800	8,890
10	34,200	92,800	49,100	64,900	65,200	34,500	49,900	43,300	32,600	11,500	16,700	7,970
11	37,400	89,500	50,100	63,800	64,600	33,000	50,400	41,700	32,000	11,500	15,700	7,920
12	39,600	86,100	51,100	63,900	63,800	33,000	50,600	40,700	31,700	12,700	14,500	8,740
13	42,100	82,500	52,200	63,600	62,700	34,100	50,900	39,900	31,600	15,700	14,000	10,900
14	45,600	78,900	53,100	63,800	62,500	35,400	51,100	39,600	31,200	19,300	14,800	12,600
15	47,600	75,200	54,300	63,600	62,100	36,300	50,800	39,600	30,900	24,000	16,100	13,300
16	48,600	72,000	55,300	63,700	61,800	36,400	50,400	40,400	30,600	28,600	16,200	13,100
17	49,300	69,300	56,200	63,900	61,000	36,000	50,000	41,000	30,200	30,900	15,700	12,900
18	50,000	66,200	56,700	63,800	60,300	34,900	49,500	41,300	29,300	31,100	14,600	12,700
19	50,200	63,000	57,200	62,900	59,200	32,700	48,500	41,800	28,500	29,600	13,400	12,700
20	50,800	61,000	57,200	62,500	58,600	30,100	47,100	42,000	27,800	27,500	12,200	12,400
21	51,300	58,800	57,100	63,000	58,500	27,400	45,100	42,700	27,100	26,300	11,600	12,100
22	51,600	56,700	56,900	63,300	58,600	25,500	42,900	43,400	26,600	25,100	12,000	12,600
23	52,700	55,000	58,300	62,500	58,200	24,700	40,900	43,900	26,500	24,900	12,400	13,100
24	53,100	53,100	71,800	63,300	57,300	25,400	39,500	44,500	26,600	25,400	12,700	13,100
25	52,700	51,700	88,700	63,100	56,800	29,000	38,900	44,900	26,600	26,200	13,200	12,800
26	53,000	50,000	100,000	62,800	56,100	33,600	39,400	45,400	26,400	26,400	13,000	12,300
27	53,400	47,800	109,000	61,900	55,200	36,200	39,900	45,800	26,200	26,200	13,000	12,300
28	53,800	45,500	112,000	61,500	54,200	38,900	40,200	46,000	26,100	25,000	12,700	12,100
29	53,900	43,200	109,000	61,100	---	40,800	40,200	46,100	26,200	23,700	11,700	11,500
30	59,300	41,300	104,000	60,800	---	41,900	40,100	45,700	26,500	22,600	10,500	10,700
31	64,300	---	99,900	60,900	---	42,800	---	45,000	---	21,400	9,720	---
Total	1,389,500	2,130,200	1,940,500	2,100,100	1,696,800	1,157,500	1,377,800	1,359,100	939,100	693,200	463,320	336,760
Mean	44,820	71,010	62,600	67,750	60,600	37,340	45,930	43,840	31,300	22,360	14,950	11,230
Max	64,300	96,300	112,000	95,500	65,200	53,000	51,100	48,000	43,900	31,100	20,300	13,300
Min	28,800	41,300	38,600	60,800	54,200	24,700	38,900	39,600	26,100	11,500	9,720	7,920
Ac-ft	2,756,000	4,225,000	3,849,000	4,166,000	3,366,000	2,296,000	2,733,000	2,696,000	1,863,000	1,375,000	919,000	668,000

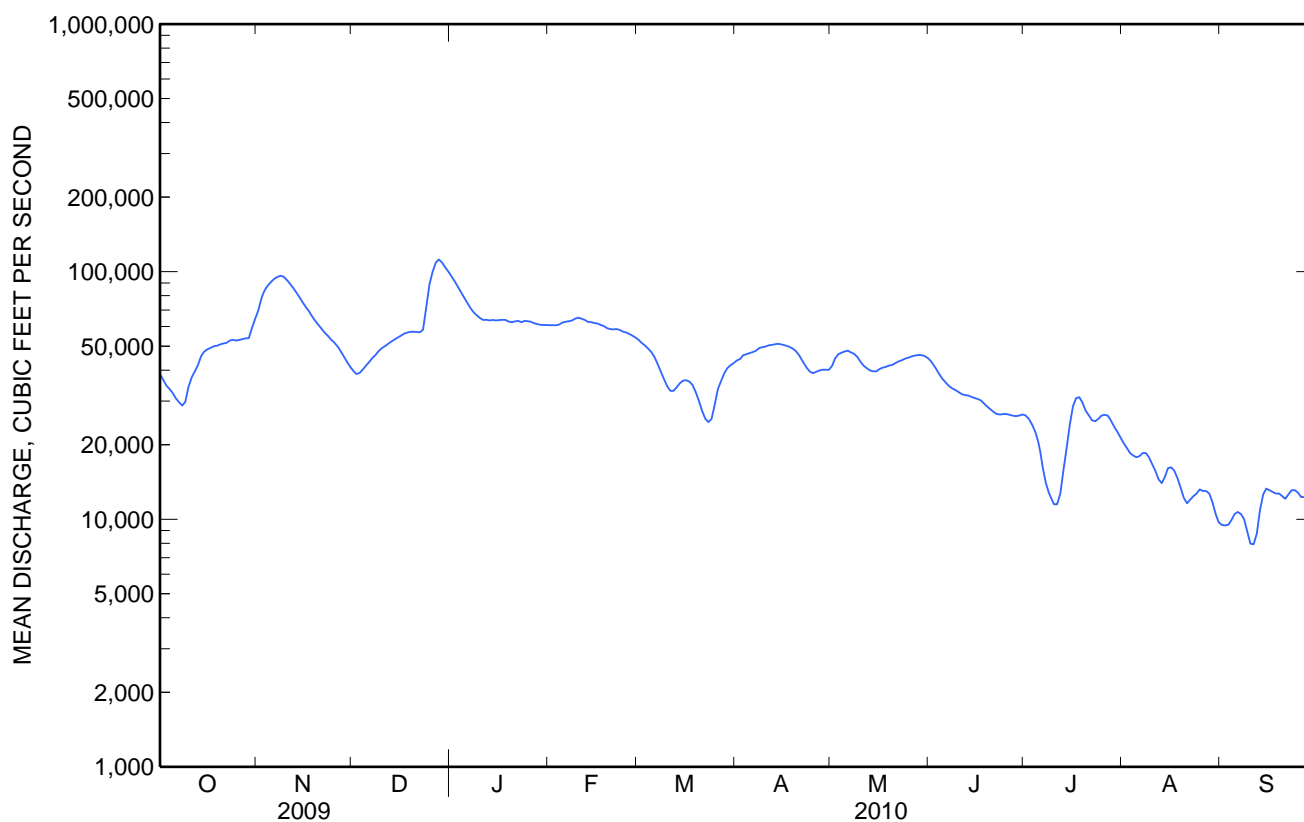
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2010, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	12,810	17,020	25,190	31,310	36,620	39,860	42,610	40,780	25,990	19,970	16,430	13,570
Max	44,820	71,010	67,180	110,000	107,100	85,070	139,200	90,730	73,590	48,560	48,900	36,450
(WY)	(2010)	(2010)	(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 2009		Water Year 2010		Water Years 1950 - 2010	
Annual total	14,990,580		15,583,880			
Annual mean	41,070		42,700		26,800	
Highest annual mean					51,270	
Lowest annual mean					11,900	
Highest daily mean	112,000	Dec 28	112,000	Dec 28	187,000	Apr 17, 2008
Lowest daily mean	8,130	Sep 9	7,920	Sep 11	2,830	Nov 12, 2005
Annual seven-day minimum	8,870	Sep 4	9,250	Sep 6	3,290	Sep 26, 1954
Maximum peak flow			113,000	Dec 28	189,000	Apr 17, 2008
Maximum peak stage			27.20	Dec 28	31.41	Apr 17, 2008
Instantaneous low flow			7,600	Sep 10	2,620	Nov 12, 2005
Annual runoff (ac-ft)	29,730,000		30,910,000		19,410,000	
10 percent exceeds	67,900		65,000		53,900	
50 percent exceeds	38,900		42,400		19,900	
90 percent exceeds	17,800		12,700		8,040	



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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 2009 TO SEPTEMBER 2010

Part 1 of 5

[%, percent; CaCO₃, calcium carbonate; MF, membrane filter; N, nitrogen; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft, feet; ft/s, feet per second; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; μS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Sample start time	Barometric pressure, mm Hg (00025)	Discharge, instantaneous, ft ³ /s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)	Specific conductance, water, unfiltered, μS/cm at 25 °C (00095)	Temperature, water, °C (00010)	Stream width, ft (00004)	Velocity at point in stream, ft/s (81904)
11-18-2009	1030	773	66,400	6.01	60.0	7.68	201	16	250	2
01-12-2010	1050	774	63,900	13.02	92.0	7.94	214	1.7	250	3
03-10-2010	1115	765	34,200	11.13	100.2	8.11	254	10.85	150	< 1.5
04-08-2010	1010	768	49,000	9.47	96.9	7.79	252	16.81	600	2.0
06-07-2010	1120	765	34,400	8.17	98.7	8.03	265	25.07	600	2.0
08-10-2010	0915	768	16,700	9.26	116.7	8.2	308	27.6	300	< 1.5

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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[%, percent; CaCO₃, calcium carbonate; MF, membrane filter; N, nitrogen; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft, feet; ft/s, feet per second; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; μS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Sampler type (84164)	Sampling method (82398)	Dissolved solids dried at 180 °C, water, filtered, mg/L (70300)	Dissolved solids, water, filtered, tons per acre-foot (70303)	Dissolved solids, water, tons per day (70302)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)
11-18-2009	US DH-2 Bag Sampler	EWI	122.48	.167	21,960	90.67	23.0200	8.0590
01-12-2010	US DH-95 plastic	EWI	109.81	.149	18,950	89.28	21.9100	8.3930
03-10-2010	Grab sample	Multiple verticals	149.20	.203	13,780	124.7	30.0300	12.0700
04-08-2010	US DH-95 plastic	EWI	129.56	.176	17,140	120.6	29.8900	11.1500
06-07-2010	US DH-95 plastic	EWI	149.04	.203	13,840	132.4	32.5700	12.4000
08-10-2010	US DH-95 plastic	Multiple verticals	166.05	.226	7,487	150.4	37.3800	13.8600

07077000 WHITE RIVER AT DEVALLS BLUFF, AR—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 3 of 5

[%, percent; CaCO₃, calcium carbonate; MF, membrane filter; N, nitrogen; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft, feet; ft/s, feet per second; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; μS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Potassium, water, filtered, mg/L (00935)	Sodium adsorption ratio, water, number (00931)	Sodium fraction of cations, water, percent in equivalent s of major cations (00932)	Sodium, water, filtered, mg/L (00930)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Sulfate, water, filtered, mg/L (00945)	Ammonia plus organic nitrogen, water, unfiltered, mg/L as N (00625)	Ammonia, water, filtered, milligrams per liter as NH ₄ (71846)	Ammonia, water, filtered, mg/L as N (00608)
11-18-2009	2.4820	.081	3.9	1.7700	2.613	< .08	4.030	.362	E .0222	E .01722
01-12-2010	1.7040	.083	4.1	1.8120	2.944	< .08	4.414	.210	< .0258	< .02
03-10-2010	1.5320	.098	4.2	2.5250	4.298	< .08	5.839	.274	< .0258	< .02
04-08-2010	1.5230	.084	3.6	2.1120	3.502	E .063	5.269	.352	< .0258	< .02
06-07-2010	1.5160	.098	4.0	2.5830	3.794	E .066	4.877	.411	E .0160	E .01242
08-10-2010	1.6770	.128	4.9	3.6070	5.728	.107	5.897	.438	< .0258	< .02

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 4 of 5

[%, percent; CaCO₃, calcium carbonate; MF, membrane filter; N, nitrogen; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft, feet; ft/s, feet per second; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; μS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Nitrate, water, filtered, milligrams per liter (71851)	Nitrate, water, filtered, mg/L as N (00618)	Nitrite, water, filtered, milligrams per liter (71856)	Nitrite, water, filtered, mg/L as N (00613)	Organic nitrogen, water, unfiltered, mg/L (00605)	Orthophos phate, water, filtered, mg/L (00660)	Orthophos phate, water, filtered, mg/L as P (00671)	Phosphoru s, water, filtered, mg/L as P (00666)
11-18-2009	.100	.4314	.0975	.0083	.00254	E .345	.0763	.02489	E .029
01-12-2010	.220	.9647	.2179	.0068	.00207	< .210	.0358	.01169	E .028
03-10-2010	.198	E .8692	E .1963	E .0054	E .00165	< .274	E .0183	E .00597	< .04
04-08-2010	.144	E .6298	E .1423	E .0056	E .00172	< .352	E .0239	E .00781	< .04
06-07-2010	.199	.8639	.1952	.0126	.00384	E .399	.0562	.01833	E .023
08-10-2010	.101	.4286	.0968	.0137	.00417	< .438	E .0154	E .00501	< .04

07077000 WHITE RIVER AT DEVALLS BLUFF, AR—Continued**WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

Part 5 of 5

[%, percent; CaCO₃, calcium carbonate; MF, membrane filter; N, nitrogen; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft, feet; ft/s, feet per second; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; μS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, unfiltered, mg/L (00600)	Esche richia coli, modified m-TEC MF method, water, col/100 mL (90902)	Fecal coliform, M-FC MF (0.7 micron) method, water, col/100 mL (31625)	Suspended sediment, sieve diameter, percent smaller than 0.0625 mm (70331)	Suspended sediment concentration, mg/L (80154)	Suspended sediment discharge, tons per day (80155)
11-18-2009	.067	.462	53	80	--	26	4,661
01-12-2010	.041	.430	68	64	93	28	4,831
03-10-2010	.043	.472	E 3	E 2	93	44	4,063
04-08-2010	.056	.496	48	E 40	44	47	6,218
06-07-2010	.092	.610	E 27	40	97	74	6,873
08-10-2010	.044	.539	46	42	94	57	2,570