

Water-Data Report 2008

**07077500 CACHE RIVER AT PATTERSON, AR**

White Basin  
Cache Subbasin

LOCATION.--Lat 35°16'11", long 91°14'11" referenced to North American Datum of 1983, in SE ¼ SE ¼ sec.31, T.8 N., R.2 W., Woodruff County, AR, Hydrologic Unit 08020302, at bridge on U.S. Hwy 64 at Patterson, 10.9 mi upstream from Maple Slough, and at mile 77.2.

DRAINAGE AREA.--1,040 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--Oct 1927 to Sep 1931, Feb 1937, Aug 1937 to Sep 1960, Oct 1965 to Sep 1977, Oct 1997 to current year in reports of the U.S. Geological Survey. Monthly discharge only for some periods, published in WSP 1311 and WSP 1731. Jan 1947 to Dec 1963 in reports of Mississippi River Commission. Jan 1964 to date in reports of U.S. Army Corps of Engineers, Memphis District. Gage height records Jul 11, 1916, to Dec 31, 1931, are contained in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 182.96 ft above NGVD of 1929. Prior to Oct 3, 1966, nonrecording and recording gages at or within 1,000 ft of old U.S. Hwy 64 crossing, 1.4 mi downstream as follows: Prior to 1931, nonrecording gage at datum 183.17 ft above NGVD of 1929; Jan 1937 to Oct 5, 1949, nonrecording gage; and Oct 6, 1949, to Dec 31, 1950, water-stage recorder at mean Gulf level, or 0.24 ft below sea level; Jan 1, 1950, to Oct 2, 1966, water-stage recorder at present datum.

COOPERATION.--U.S. Army Corps of Engineers.

REMARKS.--Water-discharge records poor, including estimated daily discharges. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr 19, 1927, reached a stage of 16.1 ft, present datum, from floodmarks, discharge, 24,500 ft<sup>3</sup>/s, because of break in White River levee.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, undetermined; minimum discharge, 0.00 ft<sup>3</sup>/s, Nov 16, 17, gage height, 2.79 ft.

## 07077500 CACHE RIVER AT PATTERSON, 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	133	1,910	3,260	2,580	418	944	e6,700	2,000	133	107	511	862
2	199	1,380	3,010	2,150	530	729	e7,740	1,710	155	111	474	684
3	217	916	2,380	1,770	593	670	e8,450	1,390	162	121	384	649
4	198	594	1,740	1,440	609	1,370	e9,010	1,070	150	141	299	735
5	162	401	1,220	1,160	584	2,410	e8,940	902	127	167	243	926
6	124	267	823	917	556	3,220	9,460	1,360	101	197	210	1,030
7	92	174	611	700	541	4,320	8,780	1,920	80	219	199	1,110
8	66	112	536	572	519	4,900	7,670	1,800	68	237	199	1,490
9	48	75	521	473	509	5,150	6,720	1,420	62	270	197	2,040
10	36	50	486	438	654	5,070	6,210	1,070	60	300	201	2,300
11	30	33	412	482	1,110	4,840	6,520	955	58	301	306	2,170
12	41	23	393	494	1,600	4,600	6,800	777	55	287	494	1,840
13	154	14	645	542	2,070	4,410	6,540	616	54	297	600	1,490
14	248	7.3	1,420	690	2,250	4,390	6,160	526	54	326	629	1,190
15	271	3.0	2,570	815	2,450	4,270	5,880	541	58	358	595	948
16	243	e6.0	4,120	738	3,080	3,590	5,760	457	64	374	504	735
17	200	e11	5,080	611	3,720	2,790	5,590	407	60	389	398	618
18	394	e0.78	5,220	486	4,030	2,500	5,530	455	55	463	331	526
19	941	e0.75	5,200	379	3,970	3,530	5,500	465	54	554	e364	447
20	1,540	e0.75	5,460	301	3,740	4,610	5,290	400	54	602	e559	378
21	2,050	e10	6,050	246	3,520	4,780	4,990	315	54	544	863	317
22	2,920	e24	6,040	210	3,580	5,150	4,610	238	55	426	1,280	266
23	3,640	e60	5,700	182	3,080	5,640	4,160	180	56	338	1,460	237
24	3,920	102	5,360	161	2,380	6,230	3,320	138	56	262	1,320	257
25	4,080	226	5,050	143	1,930	5,880	2,690	111	56	214	1,200	352
26	3,920	569	4,800	130	1,740	5,330	2,210	94	56	192	1,300	494
27	3,440	1,490	4,650	120	1,620	5,140	2,030	83	55	197	1,530	609
28	3,130	2,020	4,570	116	1,440	5,010	2,010	77	56	228	1,630	621
29	2,990	2,280	4,390	119	1,200	4,990	2,080	75	59	311	1,550	542
30	2,800	2,890	3,840	178	---	5,300	2,180	94	83	417	1,350	433
31	2,420	---	3,140	311	---	e6,010	---	116	---	491	1,110	---
<b>Total</b>	40,647	15,649.58	98,697	19,654	54,023	127,773	169,530	21,762	2,250	9,441	22,290	26,296
<b>Mean</b>	1,311	522	3,184	634	1,863	4,122	5,651	702	75.0	305	719	877
<b>Max</b>	4,080	2,890	6,050	2,580	4,030	6,230	9,460	2,000	162	602	1,630	2,300
<b>Min</b>	30	0.75	393	116	418	670	2,010	75	54	107	197	237
<b>Ac-ft</b>	80,620	31,040	195,800	38,980	107,200	253,400	336,300	43,160	4,460	18,730	44,210	52,160

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	427	754	1,554	1,945	2,102	2,190	1,969	1,550	843	502	471	456
<b>Max</b>	3,100	5,297	6,168	8,809	8,817	5,770	7,586	6,075	5,890	2,093	3,009	2,210
<b>(WY)</b>	(1985)	(1958)	(1958)	(1950)	(1950)	(1945)	(1979)	(1973)	(1928)	(1945)	(1998)	(1965)
<b>Min</b>	8.32	11.3	25.5	37.8	68.6	168	121	150	67.7	57.6	47.1	45.5
<b>(WY)</b>	(1988)	(2006)	(2006)	(1964)	(1963)	(1941)	(2006)	(1941)	(1941)	(1954)	(1944)	(1943)

07077500 CACHE RIVER AT PATTERSON, AR—Continued

SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1928 - 2008	
<b>Annual total</b>	405,553.58		608,012.58			
<b>Annual mean</b>	1,111		1,661		1,231	
<b>Highest annual mean</b>					2,984	
<b>Lowest annual mean</b>					308	
<b>Highest daily mean</b>	6,050	Dec 21	9,460	Apr 6	12,100	Jun 27, 1928
<b>Lowest daily mean</b>	0.75	Nov 19	<sup>a</sup> 0.75	Nov 19 <sup>b</sup>	0.00	Oct 27, 1956
<b>Annual seven-day minimum</b>	4.2	Nov 14	4.2	Nov 14	0.00	Oct 24, 1978
<b>Maximum peak flow</b>			c		13,200	Jan 24, 1937
<b>Maximum peak stage</b>			c		<sup>d</sup> 13.21	Jan 24, 1937
<b>Instantaneous low flow</b>			0.00		0.00	Oct 27, 1956
<b>Annual runoff (ac-ft)</b>	804,400		1,206,000		891,500	
<b>10 percent exceeds</b>	3,640		5,100		3,590	
<b>50 percent exceeds</b>	420		606		450	
<b>90 percent exceeds</b>	67		60		66	

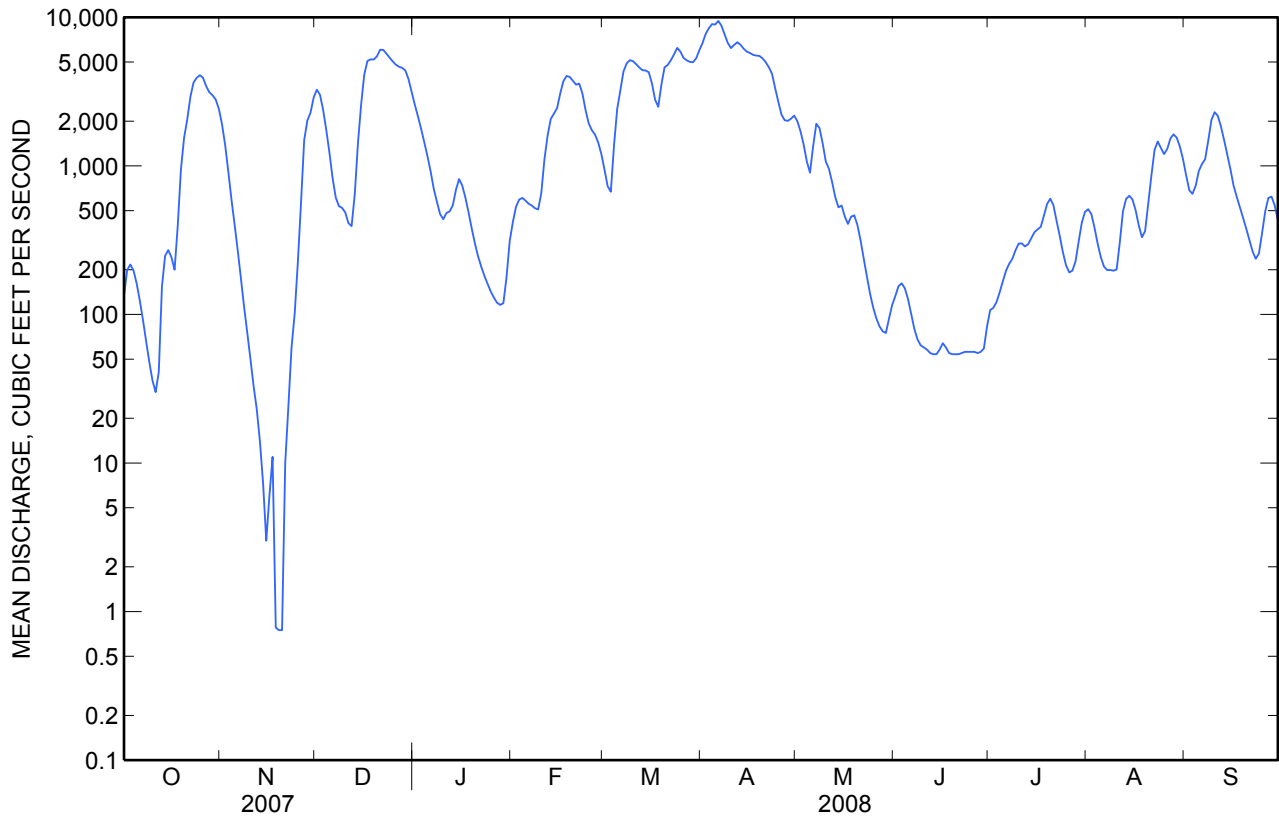
<sup>a</sup> Estimated

<sup>b</sup> Also occurred on Nov 20

<sup>c</sup> Undetermined

<sup>d</sup> At present datum

<sup>e</sup> Also occurred on Nov 17



## 07077500 CACHE RIVER AT PATTERSON, AR—Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Oct 1952 to May 1955, Oct 1975 to current year.

WATER-QUALITY DATA  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 1 of 4

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

Date	Time	Instantaneous discharge, ft <sup>3</sup> /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, $\mu$ S/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO <sub>3</sub> (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
Oct 04...	1015	237	770	5.8	67	7.7	368	23.6	120	29.7	10.5	6.73	.7
Dec 19...	1445	3,930	769	11.7	92	7.7	126	5.5	34	8.26	3.17	4.72	.5
Jan 24...	1220	161	778	13.3	96	7.5	146	2.6	44	11.0	3.89	4.38	.5
Feb 27...	0945	1,910	776	9.9	75	7.2	114	4.8	32	8.08	2.93	3.35	.5
May 01...	1110	1,720	759	7.4	77	6.9	93	17.1	32	7.92	2.90	2.83	.3

WATER-QUALITY DATA  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 2 of 4

[Remark codes: &lt;, 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 (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 04...	24	18.2	19.7	.22	18.1	233	.83	--	<.020	.16	.691	.16	.009
Dec 19...	26	6.44	7.19	.12	8.39	67	.80	.03	.024	.09	.376	.08	.007
Jan 24...	25	7.61	7.10	.14	6.83	97	1.1	.13	.103	.21	.915	.21	.020
Feb 27...	27	6.12	5.01	E.12	7.56	77	1.3	.07	.055	.26	1.11	.25	.020
May 01...	20	4.15	2.75	.14	5.61	76	1.4	.06	.050	.36	1.57	.35	.033

07077500 CACHE RIVER AT PATTERSON, 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, m-TEC MF, 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)	Sampler type, code (84164)
<b>Oct</b> <b>04...</b>	.003	--	.99	.248	.081	.09	.16	210	130	96	84	54	8010
<b>Dec</b> <b>19...</b>	.002	.77	.88	.233	.076	.10	.23	310	280	96	67	711	3052
<b>Jan</b> <b>24...</b>	.006	1.0	1.3	.201	.066	.09	.28	240	94	94	107	47	3070
<b>Feb</b> <b>27...</b>	.006	1.2	1.5	.120	.039	.05	.31	E92	96	97	133	686	3052
<b>May</b> <b>01...</b>	.010	1.3	1.7	.274	.089	.09	.40	88	260	98	217	1,010	3052

**WATER-QUALITY**  
**DATA**  
**WATER YEAR**  
**OCTOBER 2007 TO**  
**SEPTEMBER 2008**

Part 4 of 4

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

Date	Sam- pling method, code (82398)
<b>Oct</b> <b>04...</b>	40
<b>Dec</b> <b>19...</b>	10
<b>Jan</b> <b>24...</b>	70
<b>Feb</b> <b>27...</b>	10
<b>May</b> <b>01...</b>	10