

Water-Data Report 2010

07077700 BAYOU DEVIEW NEAR MORTON, AR

White Basin
Cache Subbasin

LOCATION.--Lat 35°15'07", long 91°06'43" referenced to North American Datum of 1983, in SW ¼ SE ¼ sec.5, T.7 N., R.1 W., Woodruff County, AR, Hydrologic Unit 08020302, at bridge on U.S. Hwy 64, 1.0 mi west of Morton, and at river mile 39.6.

DRAINAGE AREA.--421 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Apr 1939 to May 1973, Aug 1973 to Sep 1977, and Oct 1997 to current year in reports of the U.S. Geological Survey. Feb 1939 to Dec 1963 in reports of Mississippi River Commission. Jan 1964 to current year in reports of U.S. Army Corps of Engineers, Memphis District.

REVISED RECORDS.--WDR Arkansas 1973: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 187.71 ft above NGVD of 1929. Nonrecording gage prior to Nov 8, 1949. At datum 0.26 ft below NGVD of 1929 prior to Jan 1, 1952.

COOPERATION.--Gage-height records furnished by U.S. Army Corps of Engineers.

REMARKS.--Water-discharge records fair except discharges below 10 ft³/s, which are poor. No estimated daily discharges. Satellite telemeter at station.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,930 ft³/s, on several days, gage height, 18.60 ft; minimum discharge, 0.00 ft³/s, on several days.

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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	1,410	2,560	126	2,880	889	248	433	1,100	78	17	70	76
2	1,070	2,550	200	2,890	809	202	265	1,860	56	5.3	69	75
3	906	2,540	786	2,910	860	172	199	2,100	33	0.00	60	72
4	781	2,510	1,020	2,920	1,040	147	245	2,150	58	6.8	54	66
5	636	2,470	1,140	2,900	1,320	122	297	2,100	128	24	55	59
6	484	2,440	1,130	2,880	1,510	99	206	2,010	97	36	55	51
7	363	2,420	928	2,840	1,560	87	186	1,910	61	35	56	42
8	250	2,400	777	2,770	1,600	89	932	1,790	34	41	66	38
9	524	2,380	1,150	2,640	1,610	88	1,220	1,590	16	48	79	37
10	1,200	2,360	1,340	2,590	1,600	85	1,260	1,330	11	63	85	43
11	1,460	2,330	1,360	2,500	1,600	225	1,050	1,250	11	64	93	79
12	1,530	2,300	1,330	2,320	1,560	465	647	1,150	4.6	494	111	118
13	1,610	2,240	1,230	2,060	1,510	568	369	999	6.1	1,100	112	104
14	1,830	2,160	1,060	1,750	1,480	562	200	650	13	1,490	120	81
15	1,950	2,040	885	1,420	1,400	457	119	386	19	1,690	133	59
16	1,990	1,860	705	1,220	1,240	319	83	443	22	1,800	124	39
17	1,970	1,530	534	1,180	1,070	212	70	583	20	1,820	97	28
18	1,940	1,160	407	1,180	895	147	62	613	21	1,760	82	20
19	1,900	885	303	1,140	752	123	57	457	22	1,600	82	16
20	1,860	685	229	1,100	643	99	52	265	23	1,250	83	17
21	1,810	515	181	1,350	578	94	48	233	27	743	90	21
22	1,820	359	150	1,540	845	331	43	185	28	383	127	20
23	1,900	243	317	1,620	1,010	666	37	112	27	186	163	19
24	1,900	178	1,680	1,730	1,030	784	39	74	27	106	149	16
25	1,830	153	2,600	1,770	873	739	86	84	31	75	133	11
26	1,750	130	2,840	1,760	600	698	214	238	33	67	132	6.0
27	1,730	109	2,900	1,720	404	802	156	161	35	137	146	1.5
28	1,820	103	2,890	1,650	291	897	94	110	34	173	128	0.00
29	1,870	106	2,890	1,510	---	916	70	75	28	143	101	0.00
30	2,290	120	2,880	1,270	---	854	59	58	23	105	87	0.00
31	2,510	---	2,880	1,040	---	664	---	57	---	83	78	---
Total	46,894	43,836	38,848	61,050	30,579	11,961	8,798	26,123	1,026.7	15,545.10	3,020	1,214.50
Mean	1,513	1,461	1,253	1,969	1,092	386	293	843	34.2	501	97.4	40.5
Max	2,510	2,560	2,900	2,920	1,610	916	1,260	2,150	128	1,820	163	118
Min	250	103	126	1,040	291	85	37	57	4.6	0.00	54	0.00
Ac-ft	93,010	86,950	77,060	121,100	60,650	23,720	17,450	51,810	2,040	30,830	5,990	2,410
Cfs/m	3.59	3.47	2.98	4.68	2.59	0.92	0.70	2.00	0.08	1.19	0.23	0.10
In.	4.14	3.87	3.43	5.39	2.70	1.06	0.78	2.31	0.09	1.37	0.27	0.11

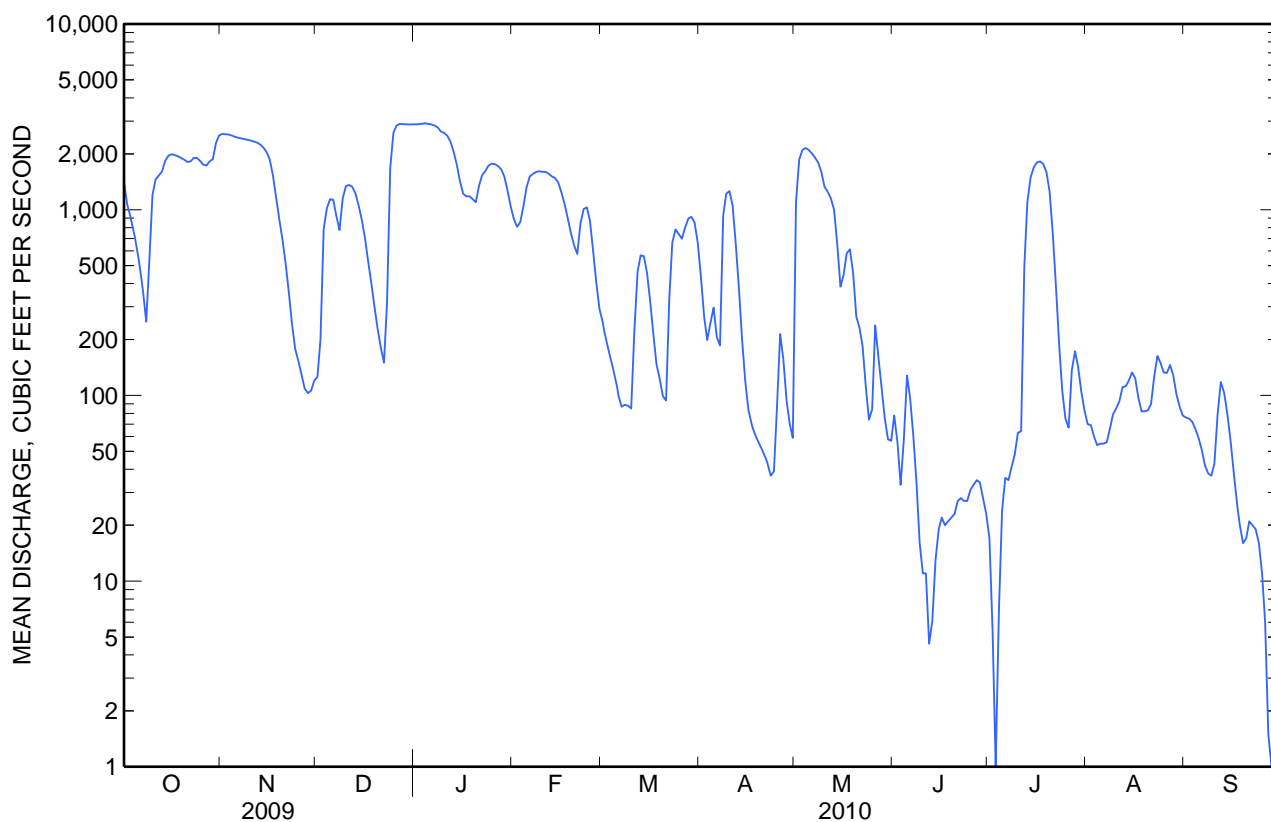
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2010, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	153	371	653	871	972	941	747	576	291	179	207	230
Max	1,798	2,811	2,515	3,917	3,837	2,658	2,139	2,389	2,173	682	1,020	1,174
(WY)	(1950)	(1958)	(2002)	(1950)	(1956)	(1945)	(2008)	(1958)	(1945)	(1967)	(1966)	(2009)
Min	0.00	0.00	0.00	12.8	2.96	44.2	24.2	5.55	4.47	0.00	0.06	0.00
(WY)	(1957)	(1954)	(1963)	(1964)	(1963)	(1941)	(1963)	(1948)	(1941)	(1954)	(1947)	(1943)

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SUMMARY STATISTICS

	Calendar Year 2009		Water Year 2010		Water Years 1939 - 2010	
Annual total	362,397.3		288,895.30			
Annual mean	993		791		504	
Highest annual mean					1,312	1950
Lowest annual mean					132	2006
Highest daily mean	2,900	Dec 27	2,920	Jan 4	6,640	Nov 23, 1957
Lowest daily mean	1.3	Jul 4	0.00	Jul 3 ^a	0.00	Aug 7, 1943 ^a
Annual seven-day minimum	20	Jun 30	4.9	Sep 24	0.00	Aug 7, 1943
Maximum peak flow			2,930	Dec 27 ^a	6,700	Nov 23, 1957
Maximum peak stage			18.60	Dec 27 ^a	18.79	Dec 25, 2001
Instantaneous low flow			0.00	Jul 2 ^a	0.00	Jan 1, 1966 ^a
Annual runoff (ac-ft)	718,800		573,000		365,100	
Annual runoff (cfsm)	2.36		1.88		1.20	
Annual runoff (inches)	32.02		25.53		16.26	
10 percent exceeds	2,230		2,120		1,720	
50 percent exceeds	885		363		116	
90 percent exceeds	94		28		0.00	

^a Occurred on several days

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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Oct 1973 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)
10-28-2009	1400	770	1,820	4.84	47.0	6.62	102	14.55	70	E 1.5
01-12-2010	1645	782	2,900	11.30	77.1	6.68	73	.86	200	< 2
03-23-2010	1345	766	684	7.31	67.5	7.08	115	12.05	105	< 1.5
04-27-2010	1430	749	148	5.39	59.8	6.81	206	19.5	100	< 1.5

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 2 of 5

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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)	Potassium, water, filtered, mg/L (00935)
10-28-2009	Grab sample	Grab sample(dip)	85.09	.116	418.1	34.58	9.0780	2.8930	5.8300
01-12-2010	Grab sample	Grab sample(dip)	57.28	.078	448.5	19.69	5.0090	1.7450	3.1860
03-23-2010	Grab sample	Grab sample(dip)	63.03	.086	116.4	34.13	8.7830	2.9620	3.4340
04-27-2010	Grab sample	Grab sample(dip)	125.13	.170	50.00	61.22	15.8600	5.2480	5.7620

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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	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)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)
10-28-2009	.250	14.9	3.3780	5.524	.082	5.568	.869	E .0145	E .01123	.056
01-12-2010	.243	18.5	2.4790	2.909	E .065	4.184	.713	.0456	.03541	.071
03-23-2010	.472	26.4	6.3360	6.247	.157	9.709	1.550	.0927	.072	.499
04-27-2010	.682	28.0	12.2700	14.338	.224	16.575	1.382	.2110	.16387	.817

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, 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)	Phosphorus, water, unfiltered, mg/L as P (00665)
10-28-2009	.2302	.0520	.0131	.004	E .858	.2843	.09272	.127	.210
01-12-2010	.3045	.0688	.0073	.00221	.678	.0803	.0262	E .034	.195
03-23-2010	2.146	.4847	.0471	.01433	1.48	.3968	.1294	.137	.461
04-27-2010	3.475	.7851	.1048	.0319	1.22	.5526	.18023	.183	.439

07077700 BAYOU DEVIEW NEAR MORTON, 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	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)
10-28-2009	.925	300	E 340	97	35	172.0
01-12-2010	.784	27	63	98	59	462.0
03-23-2010	2.05	170	160	99	223	411.8
04-27-2010	2.20	--	94	98	120	48.0