07195500 ILLINOIS RIVER NEAR WATTS, OK

Robert S. Kerr Reservoir Basin
Illinois Subbasin

LOCATION.--Lat 36°07′48″, long 94°34′19″ referenced to North American Datum of 1927, in NW ¼ NE ¼ sec.18, T.19 N., R.26 E., Adair County, OK, Hydrologic Unit 11110103, near the downstream side of right abutment of U.S. Highway 59 bridge, 1.5 mi north of Watts, 4.5 mi downstream from Cincinnati Creek, and at mile 106.2.

DRAINAGE AREA.--635 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1955 to current year.

GAGE.--Water-stage recorder. Datum of gage is 893.78 ft above NGVD of 1929.

REMARKS.--Records fair except for estimated daily discharges which are poor. Since July 2, 1957, small diversion for municipal water supply for the city of Siloam Springs, Ark., upstream from station. U.S. Army Corps of Engineers' satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,500 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr 26	0300	*97,400	*28.60
May 2	1500	8,740	12.37
May 21	1400	6,560	10.68
May 24	0700	56,700	25.19

Suggested citation: U.S. Geological Survey, 2012, Water-resources data for the United States, Water Year 2011: U.S. Geological Survey Water-Data Report WDR-US-2011, site 07195500, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/07195500.2011.pdf

07195500 ILLINOIS RIVER NEAR WATTS, OK—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	224	170	277	431	e202	1,300	341	2,690	1,130	342	202	174
2	216	175	260	353	e247	803	353	5,970	1,020	331	193	166
3	207	189	248	290	e229	638	e317	4,740	939	351	190	159
4	197	194	240	266	e228	553	300	3,020	867	357	186	154
5	196	179	230	253	e229	793	289	2,350	801	368	184	149
6	195	175	224	243	229	786	272	1,970	750	341	179	145
7	191	171	223	234	245	621	261	1,660	713	325	177	145
8	185	165	222	225	305	549	252	1,350	675	317	178	147
9	178	165	221	215	337	507	240	1,180	636	303	203	147
10	170	169	217	208	e297	460	226	1,080	612	289	349	147
11	168	169	212	205	e289	417	383	995	580	276	461	144
12	175	171	208	202	e287	381	911	935	583	269	533	141
13	178	171	203	197	317	359	538	1,300	574	280	451	138
14	173	175	203	194	640	595	411	1,070	547	317	523	146
15	169	166	205	191	829	1,040	480	904	552	305	354	150
16	166	165	207	187	827	718	692	828	535	283	305	154
17	161	166	217	183	706	595	469	772	512	262	282	162
18	158	163	241	186	596	537	383	739	495	251	267	253
19	174	163	240	190	503	483	342	712	471	249	249	860
20	205	164	234	196	442	438	329	779	445	248	233	457
21	196	163	218	197	414	402	316	4,460	439	242	218	304
22	183	e163	201	194	384	380	2,150	2,130	429	234	215	376
23	180	172	191	192	348	366	2,990	4,680	412	234	230	902
24	215	187	193	187	341	340	21,800	33,600	414	232	230	468
25	238	296	194	189	672	319	53,100	11,400	402	222	213	356
26	219	815	185	190	607	311	47,500	5,250	382	220	202	306
27	223	499	179	189	494	308	8,180	3,280	368	215	194	271
28	209	367	181	184	1,930	291	7,280	2,510	368	208	186	245
29	192	310	192	189	---	291	4,130	1,930	369	203	179	227
30	183	291	205	189	---	300	3,160	1,480	357	201	185	210
31	177	---	242	184	---	295	---	1,260	---	201	183	---
Total	5,901	6,688	6,713	6,733	13,174	16,176	158,395	107,024	17,377	8,476	7,934	7,803
Mean	190	223	217	217	470	522	5,280	3,452	579	273	256	260
Max	238	815	277	431	1,930	1,300	53,100	33,600	1,130	368	533	902
Min	158	163	179	183	202	291	226	712	357	201	177	138
Ac-ft	11,700	13,270	13,320	13,350	26,130	32,090	314,200	212,300	34,470	16,810	15,740	15,480
Cfsm	0.30	0.35	0.34	0.34	0.74	0.82	8.31	5.44	0.91	0.43	0.40	0.41
In.	0.35	0.39	0.39	0.39	0.77	0.95	9.28	6.27	1.02	0.50	0.46	0.46

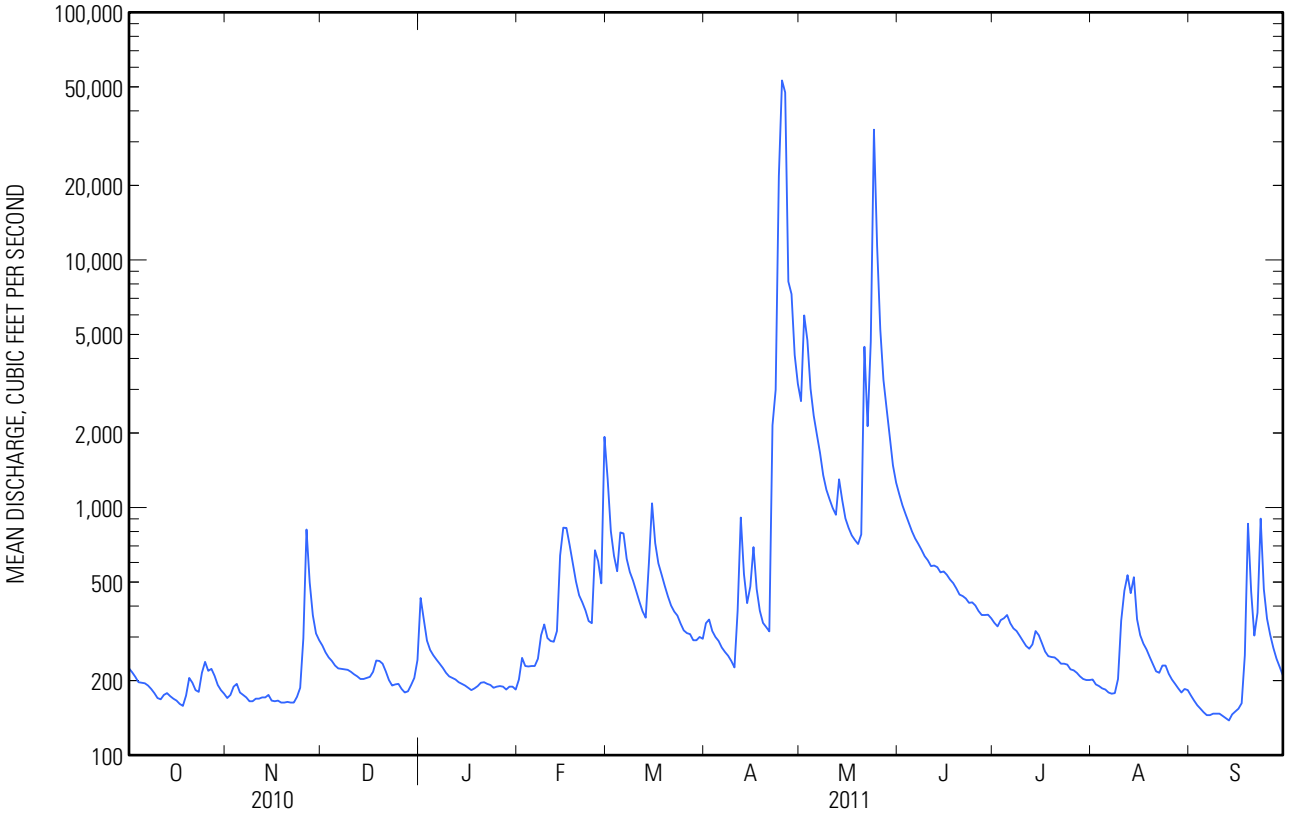
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	377	624	646	602	712	974	1,123	1,026	674	393	245	321
Max	2,734	3,087	2,786	2,396	2,361	3,157	5,280	4,286	3,552	1,807	1,172	1,690
(WY)	(1987)	(1974)	(1988)	(2005)	(2001)	(2008)	(2011)	(1961)	(2000)	(1958)	(1961)	(2008)
Min	20.9	65.6	60.4	61.4	75.1	114	176	144	113	50.7	33.2	14.9
(WY)	(1957)	(1964)	(1956)	(1956)	(1964)	(1956)	(1963)	(1977)	(1963)	(1964)	(1956)	(1956)

07195500 ILLINOIS RIVER NEAR WATTS, OK—Continued

SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1956 - 2011	
Annual total	214,269		362,394			
Annual mean	587		993		642	
Highest annual mean					1,247	1993
Lowest annual mean					151	1964
Highest daily mean	5,630	Jul 13	53,100	Apr 25	53,100	Apr 25, 2011
Lowest daily mean	140	Aug 29	138	Sep 13	10	Sep 19, 1956
Annual seven-day minimum	144	Aug 26	144	Sep 7	11	Sep 22, 1956
Maximum peak flow			97,400	Apr 26	97,400	Apr 26, 2011
Maximum peak stage			28.60	Apr 26	28.60	Apr 26, 2011
Annual runoff (ac-ft)	425,000		718,800		465,200	
Annual runoff (cfsm)	0.924		1.56		1.01	
Annual runoff (inches)	12.55		21.23		13.74	
10 percent exceeds	1,160		1,030		1,270	
50 percent exceeds	350		267		300	
90 percent exceeds	173		171		107	



07195500 ILLINOIS RIVER NEAR WATTS, OK—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1989 to July 1995, July 1996 to current year.

REMARKS.--Samples collected periodically. Specific conductance, pH, water temperature, dissolved oxygen, and turbidity were determined in the field.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 1 of 4

[%, percent; FNU, Formazin nephelometric units; LED, light-emitting diode; MPN/100 mL, most probable number per 100 milliliters; N, nitrogen; P, phosphorus; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; --, no data; <, less than; >, greater than]

Date	Sample start time	Barometric pressure, mm Hg (00025)	Temperature, air, °C (00020)	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)
10-05-2010	**1115**	--	--	195	10.2	--	8.1	352	17.3
12-01-2010	**1230**	746	6.1	273	12.6	107	8.0	343	7.3
02-15-2011	**1200**	742	14.4	847	12.8	105	7.9	374	6.0
04-13-2011	**1045**	742	21.4	538	9.1	96	7.8	297	16.9
04-19-2011	**1200**	--	25.4	323	9.0	--	8.0	315	18.1
04-25-2011	**1415**	728	--	55,800	8.6	88	7.2	97	14.7
04-26-2011	**1000**	--	--	51,300	8.4	--	7.2	92	14.6
04-27-2011	**1430**	--	--	6,900	9.8	--	7.5	185	14.2
05-24-2011	**1130**	734	28.2	45,200	9.6	95	6.8	53	13.5
06-01-2011	**1330**	744	--	1,110	8.9	104	7.8	261	21.7
08-02-2011	**0945**	746	38.1	194	8.1	111	8.2	334	30.7

07195500 ILLINOIS RIVER NEAR WATTS, OK—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
Part 2 of 4

[%, percent; FNU, Formazin nephelometric units; LED, light-emitting diode; MPN/100 mL, most probable number per 100 milliliters; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; --, no data; <, less than; >, greater than]

Date	Sample start time	Turbidity, water, unfiltered, monochrome near infrared LED light, 780-900 nm, detection angle 90 +/- 2.5 degrees, FNU (63680)	Ammonia plus organic nitrogen, water, unfiltered, mg/L as N (00625)	Ammonia, water, filtered, mg/L as NH4 (71846)	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Nitrate, water, filtered, mg/L (71851)	Nitrate, water, filtered, mg/L as N (00618)	Nitrite, water, filtered, mg/L (71856)
10-05-2010	1115	5.9	.139	< .013	< .010	2.30	10.2	2.30	.010
12-01-2010	1230	2.3	.209	< .013	< .010	2.39	10.6	2.39	.006
02-15-2011	1200	15	.644	.019	.0145	2.49	11.0	2.48	.034
04-13-2011	1045	13	.567	.071	.0555	1.62	7.09	1.60	.064
04-19-2011	1200	8.9	.252	.023	.0176	1.66	7.29	1.65	.027
04-25-2011	1415	240	1.42	.060	.0466	1.02	4.50	1.02	.025
04-26-2011	1000	420	1.73	.046	.0360	.920	4.04	.912	.027
04-27-2011	1430	79	.664	.036	.0282	2.78	12.3	2.77	.025
05-24-2011	1130	91	1.47	.080	.0621	.648	2.82	.637	.035
06-01-2011	1330	140	.160	.013	.0103	3.10	13.7	3.10	.008
08-02-2011	0945	5.1	.193	.015	.0114	1.81	7.96	1.80	.025

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
Part 3 of 4

[%, percent; FNU, Formazin nephelometric units; LED, light-emitting diode; MPN/100 mL, most probable number per 100 milliliters; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; --, no data; <, less than; >, greater than]

Date	Sample start time	Nitrite, water, filtered, mg/L as N (00613)	Organic nitrogen, water, unfiltered, mg/L (00605)	Orthophosphate, water, filtered, mg/L (00660)	Orthophosphate, water, filtered, mg/L as P (00671)	Phosphorus, water, filtered, mg/L as P (00666)	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, unfiltered, mg/L (00600)	Enterococci, Defined Substrate Technology, water, MPN/100 mL (99601)
10-05-2010	1115	.00317	< .14	.154	.0501	.0524	.0630	2.4	6
12-01-2010	1230	.00192	< .21	.173	.0564	.0583	.0682	2.6	19
02-15-2011	1200	.0104	.63	.260	.0849	.0968	.147	3.1	200
04-13-2011	1045	.0196	.51	.348	.113	.119	.159	2.2	39
04-19-2011	1200	.00816	.23	.121	.0393	.0426	.0662	1.9	22
04-25-2011	1415	.00767	1.4	.766	.250	.285	.699	2.4	> 4,800
04-26-2011	1000	.00836	1.7	.515	.168	.188	.712	2.7	> 4,800
04-27-2011	1430	.00757	.64	.359	.117	.120	.295	3.4	> 4,800
05-24-2011	1130	.0108	1.4	.592	.193	.205	.654	2.1	> 4,800
06-01-2011	1330	.00254	.15	.219	.0714	.0788	.102	3.3	49
08-02-2011	0945	.00766	.18	.193	.0630	.0627	.0755	2.0	32

07195500 ILLINOIS RIVER NEAR WATTS, OK—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 4 of 4

[%, percent; FNU, Formazin nephelometric units; LED, light-emitting diode; MPN/100 mL, most probable number per 100 milliliters; N, nitrogen; P, phosphorus; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; --, no data; <, less than; >, greater than]

Date	Sample start time	Escherichia coli, Defined Substrate Technology, water, MPN/100 mL (50468)	Total coliform, Defined Substrate Technology, water, MPN/100 mL (50569)	Suspended sediment, sieve diameter, percent smaller than 0.0625 mm (70331)	Suspended sediment concentration, mg/L (80154)	Suspended sediment discharge, tons per day (80155)
10-05-2010	**1115**	< 10	5,000	81	13	6.8
12-01-2010	**1230**	10	2,200	93	3	2.2
02-15-2011	**1200**	200	4,200	91	16	37
04-13-2011	**1045**	120	2,200	86	21	31
04-19-2011	**1200**	20	2,800	81	15	13
04-25-2011	**1415**	7,600	73,000	98	353	53,200
04-26-2011	**1000**	4,900	48,000	99	469	65,000
04-27-2011	**1430**	240	1,600	97	124	2,310
05-24-2011	**1130**	1,000	110,000	99	387	47,200
06-01-2011	**1330**	20	6,300	88	32	96
08-02-2011	**0945**	20	20,000	93	11	5.8