Water-Data Report 2011

10109000 LOGAN RIVER ABOVE STATE DAM, NEAR LOGAN, UT

Lower Bear Basin
Little Bear-Logan Subbasin

LOCATION.--Lat 41°44′36″, long 111°46′55″ referenced to North American Datum of 1927, in NW ¼ NW ¼ NE ¼ sec.36, T.12 N., R.1 E., Cache County, UT, Hydrologic Unit 16010203, on left bank 0.5 mi upstream from State dam, and 2.5 mi east of Logan.

DRAINAGE AREA.--214 mi^2, Elevation of gage is 4,680 feet (NGVD29).

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1896 to current year. Published as Logan River near Logan prior to 1913. Records from May 1913 to November 1970 equivalent to earlier records, if records for Utah Power & Light Co.'s tailrace near Logan (station 10108000) are added. Monthly discharge only for some periods, published in WSP 1314.

REVISED RECORDS.--WDR UT-74-1: Drainage area. WDR UT-96-1:1995, Combined discharge of Logan River Above State Dam and Logan, Hyde Park and Smithfield Canal at Head. WDR UT-04-1:1995, Logan River above State Dam, near Logan, Ut; Combined discharge of Logan River above State Dam and Logan, Hyde Park and Smithfield Canal at Head.

GAGE.--Water-stage recorder. Elevation of gage is 4,680 ft above NGVD of 1929, from topographic map. Prior to May 7, 1913, nonrecording gage at various sites within 0.5 mi downstream at different datums. May 7, 1913, to September 3, 1938, water-stage recorder at present site at different datums.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow affected by regulation and diversions above station for power, irrigation, and municipal culinary supply. Utah Power and Light Co. stopped diverting water from river November 1970 at which time the tailrace station (station 10108000) was discontinued. During 1963, site for gaging station for Logan, Hyde Park and Smithfield Canal (station 10108400) was relocated. Records for combined flow since that time are equivalent to previous records. For record of combined flow, see station 10109001.

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 2,000 ft^3/s, Mar 21, 1916, gage height, 5.6 ft; minimum, 5.2 ft^3/s, Feb 26, 1986, result of hydro-electric plant testing. Combined river and canal: Maximum discharge observed, 2,480 ft^3/s, May 24, 1907; minimum daily, 50 ft^3/s, Jan 21, 1935.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,710 ft^3/s, Jun 25, 26, gage height, 5.38 ft; minimum daily discharge, 85 ft^3/s, Oct 11. Combined river and canal: Maximum daily discharge, 1,680 ft^3/s, Jun 25; minimum daily discharge, 87 ft^3/s, Feb 2.

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 10109000, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/10109000.2011.pdf

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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	86	121	e105	e94	e102	100	166	343	777	1,550	648	281
2	86	122	108	e90	e87	99	206	354	854	1,510	609	276
3	86	120	110	e93	e96	104	243	383	861	1,470	572	272
4	89	119	108	e92	e105	102	213	387	892	1,460	547	270
5	88	119	111	e96	109	102	200	442	979	1,400	533	265
6	87	119	111	e97	104	108	201	524	1,130	1,360	514	267
7	86	118	112	e97	105	108	216	656	1,230	1,350	498	262
8	91	120	108	e97	103	107	207	769	1,180	1,310	474	251
9	88	118	108	e97	96	107	196	763	1,230	1,290	451	246
10	87	116	114	e98	102	110	188	666	1,120	1,280	440	244
11	85	114	112	e98	100	122	186	633	1,150	1,260	429	243
12	89	113	110	e99	100	125	204	640	1,260	1,200	417	244
13	93	113	111	100	100	128	215	742	1,260	1,150	410	249
14	92	114	111	103	100	138	230	900	1,270	e1,120	400	246
15	91	116	113	102	104	144	225	1,020	1,380	1,080	396	245
16	91	121	104	111	105	160	267	1,080	e1,490	1,040	387	243
17	91	116	101	163	105	213	443	935	1,420	997	379	250
18	91	113	114	152	102	181	609	849	1,350	964	368	243
19	90	112	125	140	102	172	526	885	1,410	928	358	243
20	90	121	138	127	106	160	449	828	1,440	901	351	246
21	96	119	124	124	103	155	425	817	1,440	865	343	243
22	102	116	120	123	102	152	392	900	1,470	826	333	240
23	105	116	119	116	101	144	368	970	1,540	793	323	238
24	114	104	115	115	102	142	367	1,040	1,600	758	315	236
25	155	e100	114	118	104	141	385	958	1,630	727	306	235
26	126	e106	113	113	105	138	364	975	1,620	704	303	234
27	118	111	111	111	101	141	334	926	1,590	681	300	238
28	114	114	108	110	99	138	340	899	1,550	654	297	235
29	113	108	115	110	---	133	368	899	1,570	626	294	233
30	114	e100	108	110	---	132	337	868	1,570	608	290	229
31	116	---	e101	110	---	139	---	788	---	596	284	---
Total	3,050	3,439	3,482	3,406	2,850	4,145	9,070	23,839	39,263	32,458	12,569	7,447
Mean	98.4	115	112	110	102	134	302	769	1,309	1,047	405	248
Max	155	122	138	163	109	213	609	1,080	1,630	1,550	648	281
Min	85	100	101	90	87	99	166	343	777	596	284	229
Ac-ft	6,050	6,820	6,910	6,760	5,650	8,220	17,990	47,280	77,880	64,380	24,930	14,770

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	133	128	115	108	106	132	249	563	660	327	178	143
Max	247	213	186	161	205	369	615	1,072	1,413	1,047	405	267
(WY)	(1984)	(1984)	(1984)	(1985)	(1986)	(1986)	(1986)	(1997)	(1986)	(2011)	(2011)	(1986)
Min	67.4	71.9	69.0	63.1	61.6	78.9	109	131	113	77.9	63.6	61.1
(WY)	(1978)	(1993)	(1993)	(1993)	(1993)	(1991)	(1977)	(1977)	(1992)	(1992)	(1992)	(1992)

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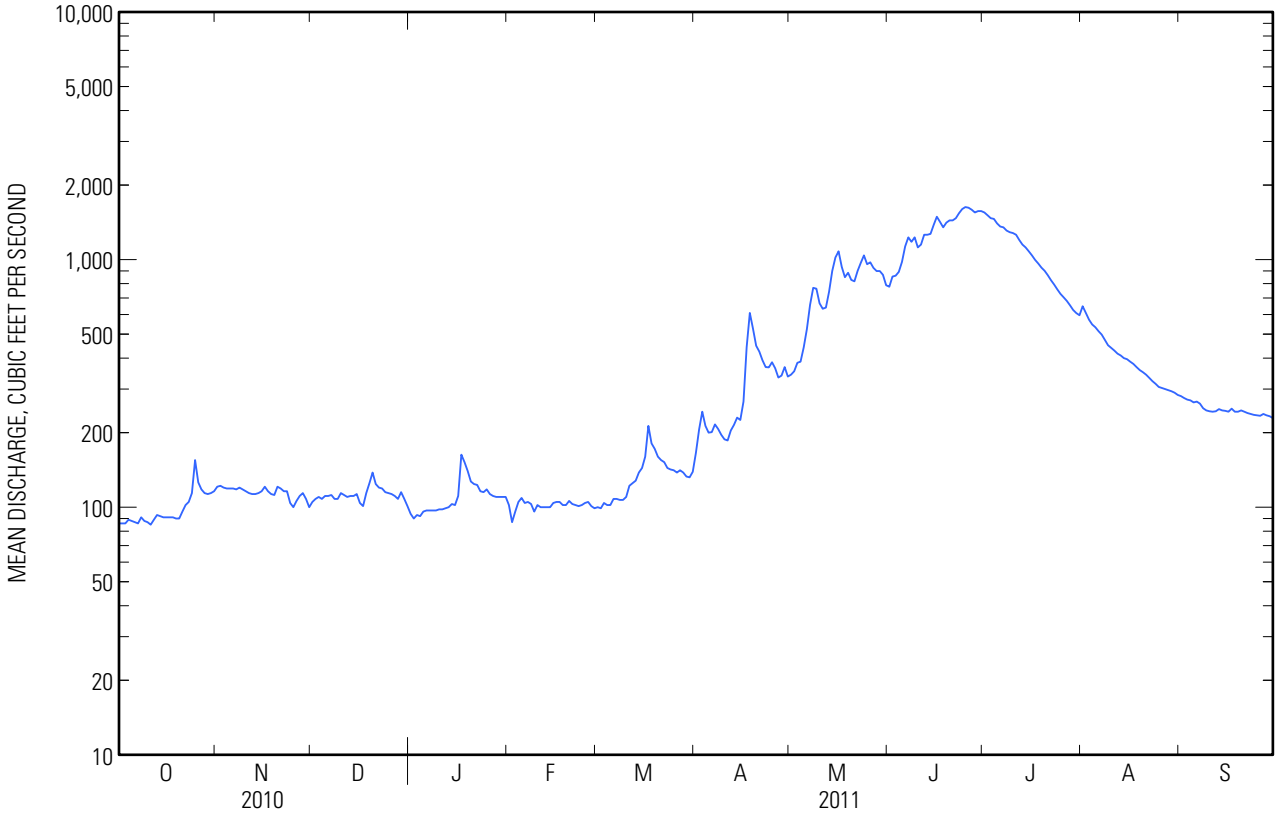
SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1971 - 2011	
Annual total	61,596		145,018			
Annual mean	169		397		237	
Highest annual mean					440	1986
Lowest annual mean					99.6	1992
Highest daily mean	852	Jun 7	1,630	Jun 25	1,870	Jun 6, 1986
Lowest daily mean	85	Oct 11	85	Oct 11	55	Jan 21, 1991
Annual seven-day minimum	87	Sep 27	87	Oct 1	58	Sep 24, 1992
Annual runoff (ac-ft)	122,200		287,600		172,000	
10 percent exceeds	358		1,140		546	
50 percent exceeds	108		186		141	
90 percent exceeds	91		99		84