

## 07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO

Mississippi River Main Stem

LOCATION.--Lat 38°37'44.4", long 90°10'47.2" referenced to North American Datum of 1983, in T.45 N., R.7 E., St. Louis City, MO, Hydrologic Unit 07140101, on downstream side of west pier of Eads Bridge at St. Louis, 15.0 mi downstream from Missouri River, 19.2 mi upstream from Meramec River, and at mile 180.0 above the Ohio River.

DRAINAGE AREA.--697,000 mi<sup>2</sup>.

### SURFACE-WATER RECORDS

PERIOD OF RECORD.--

DISCHARGE: January 1861 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE HEIGHT: March 1933 to current year. Since January 1861 in reports of Mississippi River Commission. Since January 1890 in reports of the National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 379.94 ft above National Geodetic Vertical Datum of 1929. Prior to May 5, 1934, nonrecording gage 0.4 mi downstream; May 5, 1934, to Dec. 9, 1952, water-stage recorder at site 20 ft downstream at present datum.

REMARKS.--No estimated daily discharges. Water-discharge records good. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River Basin and by many reservoirs and diversions for irrigation in Missouri River Basin.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 27, 1844, reached a stage of 41.32 ft, from floodmarks, discharge, 1,000,000 ft<sup>3</sup>/s, computed by U.S. Army Corps of Engineers. Flood in April 1785 may have reached a stage of 42.0 ft. Minimum flow, 18,000 ft<sup>3</sup>/s, Dec. 23, 1863.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 574,000 ft<sup>3</sup>/s, May 20, 21, gage height, 33.24 ft; minimum discharge, 91,300 ft<sup>3</sup>/s, Dec. 9, gage height, 0.45 ft.

## 07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO—Continued

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**  
**DAILY MEAN VALUES**

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	232,000	183,000	116,000	344,000	122,000	230,000	438,000	496,000	366,000	314,000	158,000	308,000
2	220,000	168,000	110,000	326,000	119,000	230,000	424,000	531,000	346,000	296,000	145,000	304,000
3	212,000	157,000	107,000	305,000	113,000	220,000	410,000	546,000	336,000	282,000	136,000	283,000
4	203,000	146,000	107,000	290,000	109,000	189,000	395,000	547,000	332,000	282,000	133,000	213,000
5	198,000	142,000	108,000	276,000	108,000	189,000	380,000	541,000	326,000	329,000	132,000	176,000
6	188,000	135,000	102,000	248,000	113,000	189,000	367,000	526,000	323,000	328,000	133,000	167,000
7	182,000	133,000	104,000	232,000	116,000	180,000	356,000	504,000	319,000	292,000	129,000	153,000
8	181,000	127,000	94,300	225,000	117,000	179,000	346,000	486,000	311,000	271,000	124,000	145,000
9	181,000	148,000	94,000	214,000	112,000	202,000	339,000	484,000	298,000	259,000	121,000	138,000
10	176,000	171,000	104,000	212,000	120,000	245,000	348,000	494,000	298,000	253,000	127,000	136,000
11	164,000	165,000	103,000	194,000	189,000	297,000	356,000	486,000	320,000	245,000	137,000	138,000
12	155,000	158,000	102,000	184,000	219,000	400,000	364,000	474,000	372,000	242,000	151,000	129,000
13	154,000	155,000	106,000	177,000	255,000	455,000	388,000	455,000	406,000	251,000	158,000	125,000
14	151,000	150,000	107,000	164,000	272,000	465,000	403,000	427,000	402,000	248,000	158,000	122,000
15	149,000	149,000	115,000	152,000	271,000	465,000	395,000	409,000	372,000	253,000	158,000	119,000
16	149,000	140,000	117,000	137,000	266,000	460,000	382,000	408,000	380,000	272,000	156,000	117,000
17	153,000	142,000	112,000	140,000	264,000	447,000	369,000	440,000	427,000	266,000	153,000	119,000
18	153,000	140,000	104,000	147,000	255,000	422,000	355,000	506,000	464,000	248,000	179,000	118,000
19	154,000	143,000	116,000	150,000	247,000	392,000	346,000	553,000	477,000	221,000	195,000	115,000
20	148,000	147,000	120,000	140,000	242,000	359,000	343,000	570,000	476,000	195,000	232,000	112,000
21	143,000	147,000	120,000	136,000	227,000	327,000	351,000	571,000	454,000	183,000	284,000	121,000
22	136,000	139,000	102,000	133,000	211,000	307,000	358,000	558,000	427,000	177,000	294,000	120,000
23	141,000	135,000	106,000	132,000	188,000	295,000	351,000	530,000	408,000	179,000	263,000	111,000
24	152,000	130,000	129,000	134,000	179,000	285,000	336,000	491,000	398,000	184,000	225,000	108,000
25	156,000	125,000	132,000	130,000	181,000	290,000	321,000	453,000	400,000	187,000	198,000	112,000
26	191,000	121,000	121,000	127,000	188,000	315,000	310,000	437,000	405,000	178,000	186,000	133,000
27	221,000	117,000	134,000	126,000	196,000	353,000	302,000	418,000	402,000	178,000	171,000	154,000
28	226,000	120,000	247,000	125,000	211,000	375,000	308,000	408,000	389,000	184,000	179,000	155,000
29	215,000	114,000	312,000	127,000	---	399,000	373,000	403,000	367,000	191,000	229,000	134,000
30	205,000	110,000	354,000	129,000	---	431,000	453,000	395,000	339,000	182,000	270,000	123,000
31	193,000	---	361,000	123,000	---	447,000	---	386,000	---	169,000	295,000	---
<b>Mean</b>	176,800	141,900	137,600	183,200	186,100	323,800	365,600	481,700	378,000	236,700	180,900	150,300
<b>Max</b>	232,000	183,000	361,000	344,000	272,000	465,000	453,000	571,000	477,000	329,000	295,000	308,000
<b>Min</b>	136,000	110,000	94,000	123,000	108,000	179,000	302,000	386,000	298,000	169,000	121,000	108,000
<b>In.</b>	0.29	0.23	0.23	0.30	0.28	0.54	0.59	0.80	0.61	0.39	0.30	0.24

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 2009, BY WATER YEAR (WY)**

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	138,400	141,700	123,900	118,500	146,000	229,800	304,000	298,900	276,900	222,700	145,500	138,600
<b>Max</b>	575,300	359,200	452,400	307,800	301,400	521,800	692,500	588,700	600,600	808,800	700,200	531,800
<b>(WY)</b>	(1987)	(1986)	(1983)	(1973)	(1974)	(1973)	(1973)	(1995)	(1947)	(1993)	(1993)	(1993)
<b>Min</b>	44,170	47,920	42,130	31,340	41,900	74,550	110,100	79,500	70,260	67,130	43,510	54,640
<b>(WY)</b>	(1940)	(1940)	(1938)	(1940)	(1940)	(1964)	(1934)	(1934)	(1934)	(1936)	(1936)	(1939)

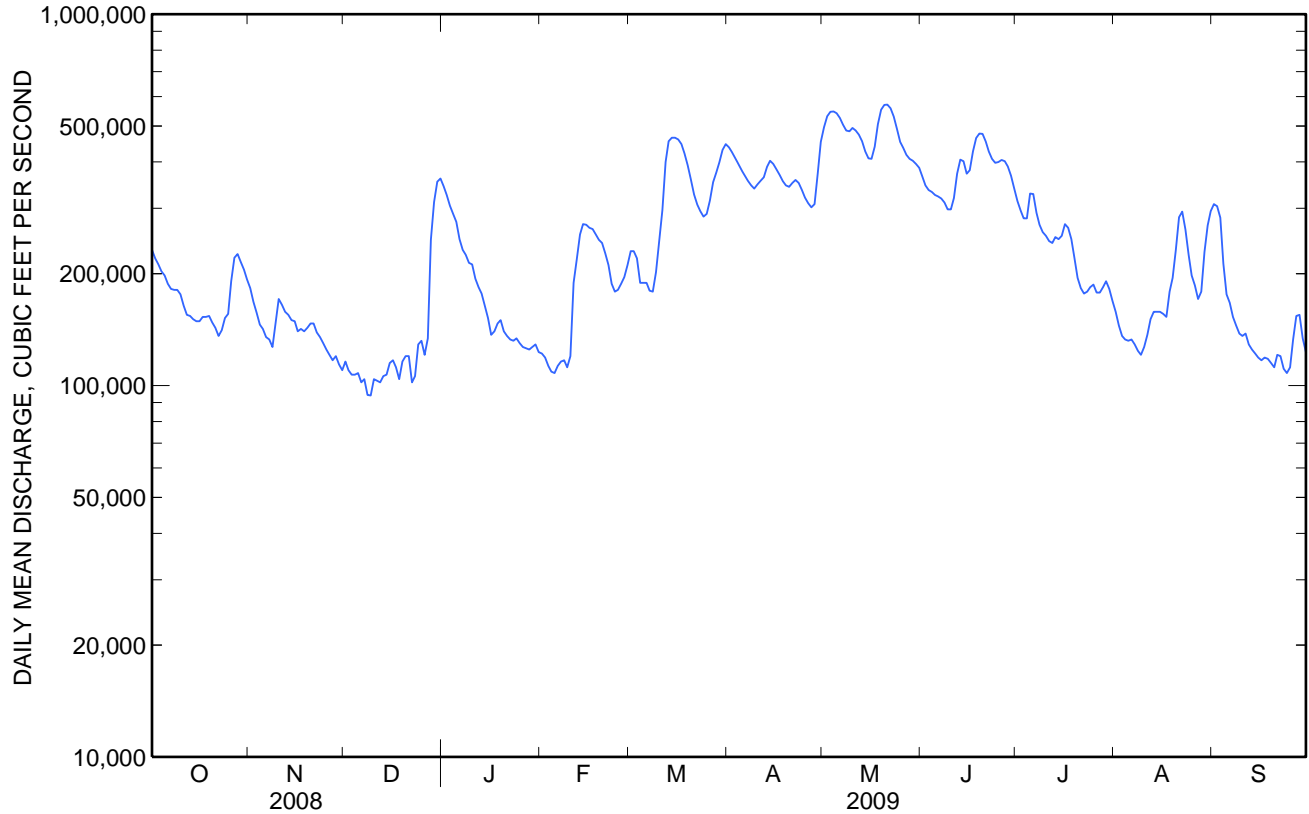
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SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1933 - 2009	
<b>Annual mean</b>	306,400		245,600		190,500	
<b>Highest annual mean</b>					429,700	1993
<b>Lowest annual mean</b>					67,700	1934
<b>Highest daily mean</b>	716,000	Jun 30 <sup>a</sup>	571,000	May 21	1,050,000	Aug 1, 1993
<b>Lowest daily mean</b>	94,000	Dec 9	94,000	Dec 9	27,800	Dec 12, 1937
<b>Annual seven-day minimum</b>	100,000	Dec 6	100,000	Dec 6	28,200	Jan 18, 1940
<b>Maximum peak flow</b>			574,000	May 20 <sup>b</sup>	1,080,000	Aug 1, 1993
<b>Maximum peak stage</b>			33.24	May 21	49.58	Aug 1, 1993
<b>Instantaneous low flow</b>			91,300	Dec 9	27,800	Dec 12, 1937
<b>Annual runoff (inches)</b>	5.99		4.78		3.71	
<b>10 percent exceeds</b>	529,000		429,000		372,000	
<b>50 percent exceeds</b>	246,000		198,000		152,000	
<b>90 percent exceeds</b>	119,000		117,000		70,600	

<sup>a</sup> Also Jul 1

<sup>b</sup> Also May 21



**07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO—Continued**

**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--

WATER TEMPERATURE: October 1951 to September 1992.

SEDIMENT RECORDS: April 1948 to current year.

WATER-QUALITY RECORDS: October 2004 to September 2007.

REMARKS.--Sediment discharge computed from turbidity readings. Sediment records fair.

EXTREMES FOR PERIOD OF RECORD.--

SUSPENDED-SEDIMENT CONCENTRATION: Maximum daily mean, 6,720 mg/L, Feb. 24, 1985; minimum daily mean, 19 mg/L, Jan. 21 and 22, 1967.

SUSPENDED-SEDIMENT LOAD: Maximum daily, 9,830,000 tons, Feb. 24, 1985; minimum daily, 2,800 tons, Jan. 21, 1967.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATION: Maximum daily mean 1,520 mg/L, May 2; minimum daily mean 61 mg/L, Feb 1.

SUSPENDED-SEDIMENT LOAD: Maximum daily 2,180,000 tons, May 2; minimum daily 16,200tons, Feb 5.

## 07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO—Continued

**SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY)**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**
[e, estimated;  $\times 10^6$ , million]

Day	Mean discharge (ft <sup>3</sup> /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean discharge (ft <sup>3</sup> /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean discharge (ft <sup>3</sup> /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)
	October			November			December		
1	232,000	151	94,400	183,000	385	190,000	116,000	82	25,900
2	220,000	126	74,500	168,000	332	150,000	110,000	86	25,400
3	212,000	130	74,400	157,000	253	107,000	107,000	82	23,700
4	203,000	122	67,100	146,000	205	80,900	107,000	84	24,200
5	198,000	110	58,500	142,000	196	74,900	108,000	75	21,900
6	188,000	106	53,800	135,000	200	72,700	102,000	86	23,900
7	182,000	94	46,400	133,000	192	68,600	104,000	79	22,000
8	181,000	88	43,200	127,000	154	52,500	94,300	79	20,200
9	181,000	93	45,500	148,000	159	63,600	94,000	99	25,200
10	176,000	96	45,600	171,000	250	116,000	104,000	81	22,600
11	164,000	87	38,600	165,000	336	150,000	103,000	93	25,900
12	155,000	95	39,600	158,000	336	143,000	102,000	92	25,500
13	154,000	101	42,200	155,000	223	93,300	106,000	108	31,000
14	151,000	96	39,300	150,000	176	71,300	107,000	99	28,700
15	149,000	92	37,000	149,000	137	55,200	115,000	99	30,800
16	149,000	97	39,200	140,000	109	41,300	117,000	90	28,300
17	153,000	113	46,500	142,000	115	43,800	112,000	80	24,100
18	153,000	104	43,200	140,000	118	44,400	104,000	79	22,200
19	154,000	138	57,500	143,000	113	43,500	116,000	93	29,100
20	148,000	132	52,800	147,000	107	42,700	120,000	99	32,000
21	143,000	149	57,500	147,000	98	38,700	120,000	118	38,100
22	136,000	128	47,000	139,000	109	41,100	102,000	115	31,400
23	141,000	123	47,100	135,000	99	36,000	106,000	105	29,900
24	152,000	138	56,500	130,000	108	37,800	129,000	179	62,200
25	156,000	151	63,500	125,000	103	34,900	132,000	149	52,900
26	191,000	297	153,000	121,000	93	30,400	121,000	112	36,500
27	221,000	608	363,000	117,000	131	41,300	134,000	96	34,800
28	226,000	508	310,000	120,000	96	30,900	247,000	521	347,000
29	215,000	480	278,000	114,000	85	26,100	312,000	616	519,000
30	205,000	431	238,000	110,000	84	24,900	354,000	696	664,000
31	193,000	360	187,000	---	---	---	361,000	835	813,000
<b>Total</b>	5,482,000	---	2,839,900	4,257,000	---	2,046,800	4,266,300	---	3,141,400

## 07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO—Continued

**SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY)  
 WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**
[e, estimated;  $\times 10^6$ , million]

Day	Mean discharge (ft <sup>3</sup> /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean discharge (ft <sup>3</sup> /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean discharge (ft <sup>3</sup> /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)
	January			February			March		
1	344,000	735	683,000	122,000	51	16,900	230,000	119	73,700
2	326,000	625	550,000	119,000	86	27,700	230,000	147	91,500
3	305,000	460	379,000	113,000	60	18,300	220,000	211	125,000
4	290,000	492	385,000	109,000	58	17,000	189,000	243	124,000
5	276,000	446	332,000	108,000	56	16,200	189,000	401	205,000
6	248,000	348	233,000	113,000	74	22,700	189,000	331	169,000
7	232,000	299	187,000	116,000	61	19,300	180,000	257	125,000
8	225,000	253	154,000	117,000	63	20,100	179,000	204	98,400
9	214,000	270	156,000	112,000	56	16,800	202,000	162	88,500
10	212,000	178	102,000	120,000	93	30,100	245,000	279	184,000
11	194,000	185	96,800	189,000	297	151,000	297,000	143	114,000
12	184,000	202	100,000	219,000	e374	e221,000	400,000	866	935,000
13	177,000	268	128,000	255,000	e401	e276,000	455,000	1,110	1,360,000
14	164,000	210	92,900	272,000	e395	e290,000	465,000	898	1,130,000
15	152,000	148	61,000	271,000	e364	e266,000	465,000	821	1,030,000
16	137,000	137	50,500	266,000	e333	e239,000	460,000	777	966,000
17	140,000	96	36,300	264,000	e324	e231,000	447,000	902	1,090,000
18	147,000	109	43,500	255,000	e291	e201,000	422,000	455	518,000
19	150,000	114	46,100	247,000	e264	e176,000	392,000	371	393,000
20	140,000	80	30,400	242,000	e240	e157,000	359,000	327	317,000
21	136,000	66	24,300	227,000	e232	e142,000	327,000	249	219,000
22	133,000	80	28,700	211,000	234	133,000	307,000	231	191,000
23	132,000	80	28,300	188,000	260	132,000	295,000	255	204,000
24	134,000	63	22,900	179,000	197	95,200	285,000	164	126,000
25	130,000	66	23,300	181,000	199	97,200	290,000	139	109,000
26	127,000	52	17,700	188,000	178	90,300	315,000	175	149,000
27	126,000	56	18,900	196,000	154	81,600	353,000	282	269,000
28	125,000	76	25,600	211,000	110	62,800	375,000	355	360,000
29	127,000	75	25,900	---	---	---	399,000	659	711,000
30	129,000	66	22,800	---	---	---	431,000	612	713,000
31	123,000	86	28,500	---	---	---	447,000	725	875,000
<b>Total</b>	5,679,000	---	4,113,400	5,210,000	---	3,247,200	10.03 $\times 10^6$	---	13.06 $\times 10^6$

## 07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO—Continued

**SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY)  
 WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**
[e, estimated;  $\times 10^6$ , million]

Day	Mean discharge (ft <sup>3</sup> /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean discharge (ft <sup>3</sup> /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean discharge (ft <sup>3</sup> /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)
	April			May			June		
1	438,000	583	690,000	496,000	1,310	1,750,000	366,000	352	348,000
2	424,000	398	455,000	531,000	1,520	2,180,000	346,000	314	294,000
3	410,000	337	373,000	546,000	1,310	1,940,000	336,000	268	243,000
4	395,000	272	289,000	547,000	916	1,350,000	332,000	229	205,000
5	380,000	245	252,000	541,000	760	1,110,000	326,000	189	166,000
6	367,000	187	185,000	526,000	569	807,000	323,000	223	195,000
7	356,000	153	147,000	504,000	445	605,000	319,000	290	250,000
8	346,000	150	140,000	486,000	331	434,000	311,000	297	250,000
9	339,000	143	131,000	484,000	333	435,000	298,000	363	292,000
10	348,000	135	127,000	494,000	286	382,000	298,000	443	357,000
11	356,000	136	130,000	486,000	304	399,000	320,000	319	276,000
12	364,000	184	181,000	474,000	260	334,000	372,000	479	481,000
13	388,000	276	288,000	455,000	260	319,000	406,000	686	752,000
14	403,000	299	325,000	427,000	245	283,000	402,000	770	835,000
15	395,000	322	344,000	409,000	231	255,000	372,000	776	779,000
16	382,000	227	234,000	408,000	247	272,000	380,000	778	798,000
17	369,000	215	215,000	440,000	285	339,000	427,000	699	805,000
18	355,000	205	197,000	506,000	610	832,000	464,000	579	725,000
19	346,000	200	186,000	553,000	1,070	1,590,000	477,000	665	857,000
20	343,000	193	179,000	570,000	1,140	1,760,000	476,000	589	758,000
21	351,000	149	142,000	571,000	829	1,280,000	454,000	824	1,010,000
22	358,000	183	177,000	558,000	770	1,160,000	427,000	700	807,000
23	351,000	216	205,000	530,000	715	1,020,000	408,000	807	889,000
24	336,000	181	164,000	491,000	448	594,000	398,000	609	655,000
25	321,000	219	190,000	453,000	381	466,000	400,000	447	483,000
26	310,000	167	140,000	437,000	562	663,000	405,000	545	595,000
27	302,000	138	113,000	418,000	379	428,000	402,000	656	712,000
28	308,000	129	107,000	408,000	262	289,000	389,000	591	621,000
29	373,000	171	172,000	403,000	247	269,000	367,000	510	506,000
30	453,000	946	1,160,000	395,000	401	428,000	339,000	402	368,000
31	---	---	---	386,000	252	263,000	---	---	---
<b>Total</b>	10.96 $\times 10^6$	---	7,638,000	14.93 $\times 10^6$	---	24.23 $\times 10^6$	11.34 $\times 10^6$	---	16.31 $\times 10^6$

## 07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO—Continued

**SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY)**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**
[e, estimated;  $\times 10^6$ , million]

Day	Mean discharge (ft <sup>3</sup> /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean discharge (ft <sup>3</sup> /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean discharge (ft <sup>3</sup> /s)	Mean concentration (mg/L)	Sediment discharge (tons/day)
1	314,000	405	344,000	158,000	148	63,100	308,000	742	616,000
2	296,000	438	351,000	145,000	78	30,600	304,000	625	514,000
3	282,000	416	317,000	136,000	79	29,200	283,000	571	437,000
4	282,000	370	282,000	133,000	124	44,500	213,000	499	287,000
5	329,000	482	428,000	132,000	98	35,200	176,000	374	178,000
6	328,000	473	419,000	133,000	77	27,600	167,000	254	114,000
7	292,000	357	281,000	129,000	77	26,800	153,000	200	82,700
8	271,000	302	221,000	124,000	93	31,100	145,000	191	75,000
9	259,000	261	183,000	121,000	77	25,100	138,000	147	54,600
10	253,000	250	171,000	127,000	81	27,900	136,000	114	42,100
11	245,000	285	188,000	137,000	81	30,100	138,000	128	47,500
12	242,000	375	245,000	151,000	94	38,400	129,000	113	39,400
13	251,000	363	246,000	158,000	90	38,400	125,000	100	33,700
14	248,000	353	236,000	158,000	107	45,700	122,000	99	32,600
15	253,000	344	235,000	158,000	95	40,500	119,000	113	36,200
16	272,000	399	293,000	156,000	117	49,100	117,000	107	33,600
17	266,000	389	280,000	153,000	136	56,200	119,000	109	34,800
18	248,000	441	296,000	179,000	132	63,600	118,000	105	33,500
19	221,000	326	194,000	195,000	157	82,800	115,000	140	43,500
20	195,000	347	183,000	232,000	320	201,000	112,000	107	32,300
21	183,000	397	196,000	284,000	869	667,000	121,000	131	42,700
22	177,000	344	165,000	294,000	1,070	850,000	120,000	155	50,200
23	179,000	324	157,000	263,000	818	582,000	111,000	131	39,500
24	184,000	274	136,000	225,000	612	372,000	108,000	152	44,600
25	187,000	263	133,000	198,000	368	196,000	112,000	162	49,100
26	178,000	195	93,500	186,000	360	181,000	133,000	140	50,400
27	178,000	169	81,200	171,000	225	104,000	154,000	163	67,900
28	184,000	174	86,400	179,000	185	89,200	155,000	174	72,500
29	191,000	237	122,000	229,000	209	129,000	134,000	133	48,300
30	182,000	145	71,100	270,000	259	188,000	123,000	124	41,100
31	169,000	130	59,300	295,000	443	353,000	---	---	---
<b>Total</b>	7,339,000	---	6,693,500	5,609,000	---	4,698,100	4,508,000	---	3,273,800

	Total discharge (ft <sup>3</sup> /s)	Total suspended sediment discharge (tons)
<b>Year</b>	89,629,300	91,303,200