06181000 POPLAR RIVER NEAR POPLAR, MT

Missouri-Poplar Basin
Poplar Subbasin

LOCATION.--Lat 48°10′15″, long 105°10′42″ referenced to North American Datum of 1927, in NE ¼ NE ¼ sec.19, T.28 N., R.51 E., Roosevelt County, MT, Hydrologic Unit 10060003, on right bank 4 mi north of Poplar, and at river mile 11.

DRAINAGE AREA.--3,174 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1908 to October 1924, August 1947 to September 1969, June 1975 to September 1979, October 1981 to current year. Monthly discharge only for some periods, published in Water Supply Paper (WSP) 1309.

REVISED RECORDS.-- WSP 1176. 1948. WSP 1389: 1911. WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,953.16 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to May 1, 1911, nonrecording gage at site 4.2 mi upstream at different elevation. May 1, 1911, to Oct. 4, 1913, nonrecording gage at site 14 mi upstream at different elevation. Oct. 5, 1913, to Oct. 31, 1924, nonrecording gage at site 2.2 mi upstream at different elevation. Aug. 10, 1947, to Sept. 30, 1969, water-stage recorder at present site and elevation.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Diversions for irrigation include about 5,500 acres upstream from station. Flow is partially regulated by Coronach Dam, on the East Fork Poplar River, 2 mi north of international boundary. U.S. Geological Survey satellite telemeter is located at the station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1946, reached a stage of 18.1 ft, from floodmark, discharge, 40,000 ft^3/s, from slope-area measurement of peak flow made at site 20 mi upstream.

06181000 POPLAR RIVER NEAR POPLAR, MT—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	13	e10	e7.5	e3.0	e2.5	e3.0	146	50	662	37	6.9	6.0
2	13	e10	e6.0	e3.5	e2.5	e3.0	135	47	482	36	6.8	5.7
3	13	e15	e8.0	e4.0	e2.5	e3.0	125	45	378	41	6.7	5.7
4	13	21	e10	e3.5	e2.5	e3.5	116	55	327	36	6.5	5.7
5	14	23	e10	e3.0	e2.5	e3.5	109	60	269	32	6.3	6.2
6	13	24	e10	e3.5	e3.0	e5.0	101	66	273	30	7.2	14
7	14	27	e10	e3.0	e3.0	e6.5	95	65	230	29	7.5	10
8	15	29	e10	e3.0	e2.5	e8.0	91	60	185	29	7.0	10
9	21	28	e10	e3.0	e2.5	e10	87	60	162	26	6.8	8.9
10	18	25	e10	e3.5	e2.5	e20	88	59	141	25	7.1	8.0
11	19	24	e10	e1.0	e2.5	e30	92	56	124	25	7.9	7.6
12	17	24	e10	e1.0	e2.5	e40	88	54	108	24	7.9	7.3
13	15	25	e10	e0.50	e2.0	e50	86	51	94	22	8.8	6.5
14	15	25	e10	e1.0	e2.0	e100	85	57	88	21	7.9	6.8
15	15	e15	e10	e0.80	e2.0	e200	82	162	86	19	7.1	6.9
16	16	e20	e9.0	e2.5	e2.0	e300	79	109	95	18	6.6	6.8
17	16	e20	e7.0	e3.0	e2.5	e400	74	79	93	17	6.7	6.6
18	17	e15	e8.0	e3.0	e2.5	e500	71	68	90	16	6.5	6.6
19	18	e25	e9.0	e3.0	e2.5	574	68	63	88	15	6.4	6.8
20	19	e25	e8.5	e3.5	e3.0	455	67	62	77	12	5.7	6.4
21	19	e25	e9.0	e3.5	e3.5	352	67	65	69	11	5.2	6.2
22	18	e25	e9.0	e4.0	e3.5	319	64	63	61	11	5.2	6.4
23	18	e20	e8.5	e4.0	e3.5	285	62	93	57	10	5.2	7.0
24	17	e10	e8.0	e4.0	e3.5	234	60	236	53	9.6	5.5	7.2
25	17	e9.0	e8.0	e4.0	e3.0	212	60	259	52	8.9	5.5	7.6
26	17	e7.0	e8.0	e4.0	e3.0	200	59	227	46	8.9	5.5	7.5
27	17	e7.0	e8.5	e3.5	e3.0	183	57	188	44	8.5	5.5	7.3
28	18	e7.0	e7.0	e3.5	e3.0	173	54	187	41	8.0	8.0	7.5
29	18	e7.0	e5.0	e3.0	---	176	53	173	40	7.8	9.0	7.3
30	19	e8.0	e3.0	e3.0	---	166	51	168	37	7.4	8.5	7.4
31	e15	---	e3.0	e3.0	---	157	---	258	---	7.3	7.0	---
Total	507	555.0	260.0	91.80	75.5	5,171.5	2,472	3,245	4,552	608.4	210.4	219.9
Mean	16.4	18.5	8.39	2.96	2.70	167	82.4	105	152	19.6	6.79	7.33
Max	21	29	10	4.0	3.5	574	146	259	662	41	9.0	14
Min	13	7.0	3.0	0.50	2.0	3.0	51	45	37	7.3	5.2	5.7
Ac-ft	1,010	1,100	516	182	150	10,260	4,900	6,440	9,030	1,210	417	436

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	27.5	26.4	16.6	8.58	26.2	321	635	122	89.7	75.0	26.5	23.2
Max	81.5	93.5	50.0	30.0	743	2,445	4,918	421	336	800	220	206
(WY)	(1925)	(1919)	(1915)	(1915)	(1996)	(1960)	(1952)	(1955)	(1953)	(1993)	(1993)	(1911)
Min	2.19	4.25	1.28	0.01	0.10	0.18	37.3	17.4	2.77	0.68	0.04	0.15
(WY)	(1959)	(1959)	(1986)	(1950)	(1959)	(1965)	(1992)	(1992)	(1988)	(1984)	(1988)	(1988)

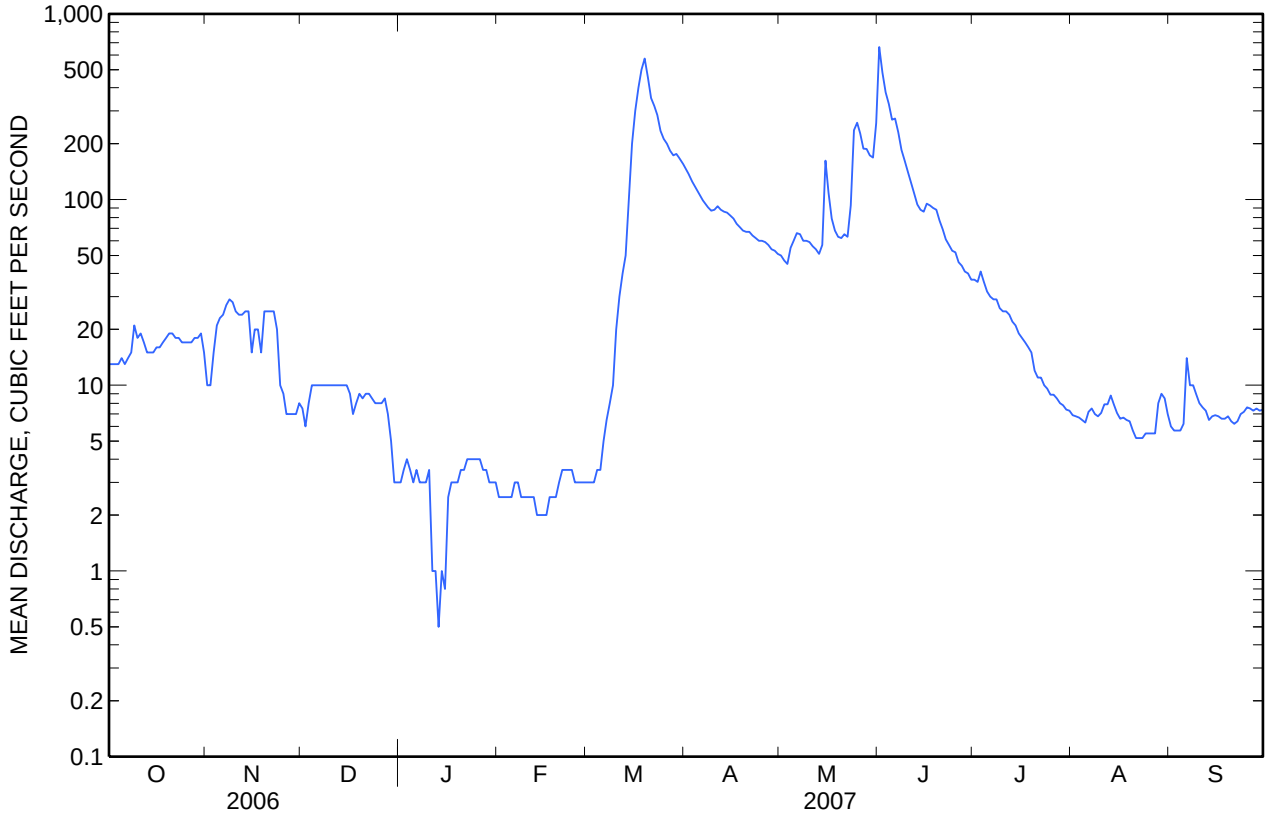
* During periods of operation (1908-24, 1947-69, 1975-79, 1982 to current year).

06181000 POPLAR RIVER NEAR POPLAR, MT—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1908 - 2007*	
Annual total	18,528.6		17,968.50			
Annual mean	50.8		49.2		**116	
Highest annual mean					435	1952
Lowest annual mean					13.7	1988
Highest daily mean	856	Apr 2	662	Jun 1	34,200	Apr 7, 1954
Lowest daily mean	2.8	Aug 31	0.50	Jan 13	0.00	Dec 16, 1917[c]
Annual seven-day minimum	2.9	Aug 31	1.4	Jan 11	0.00	Jan 4, 1950
Maximum peak flow			[a]1,140	Mar 18	[d]37,400	Apr 6, 1954
Maximum peak stage			[b]6.46	Mar 18	[e]17.86	Apr 6, 1954
Annual runoff (ac-ft)	36,750		35,640		84,050	
10 percent exceeds	132		143		172	
50 percent exceeds	21		13		23	
90 percent exceeds	4.4		3.0		3.0	

* During periods of operation (1908-24, 1947-69, 1975-79, 1982 to current year).
**Median of yearly mean discharge, 80.6 ft³/s.
[a] Gage height, 6.34 ft.
[b] Backwater from ice.
[c] No flow at times most years.
[d] From slope-area measurement of peak flow.
[e] From floodmark.



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975-81, 1987-94, May 1999 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: April 2000 to September 2003 (seasonal records).

REMARKS.--Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 33.0°C, Aug. 12, 18, 19, 2003; minimum, 0.0°C on many days during winters periods.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 1 of 3

Date	Time	Instantaneous discharge, cfs (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, wat unf µS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
Apr													
17...	1000	74	719	9.8	96	8.6	1,240	16.0	11.5	210	35.2	30.2	7.15
Jun													
25...	1115	52	717	8.2	98	8.7	1,480	23.5	21.0	210	25.4	35.0	6.77
Aug													
02...	1015	7.0	724	7.7	94	8.7	2,310	26.0	22.0	260	26.7	48.0	9.45
29...	1530	9.8	723	8.0	99	8.8	2,350	26.5	23.0	260	26.7	47.4	8.33

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 2 of 3
[Remark codes: <, less than.]

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Dissolved solids, sum of constituents mg/L (70301)	Dissolved solids, tons/acre-ft (70303)	Dissolved solids, tons/d (70302)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)
Apr													
17...	6.3	211	425	30.3	.39	4.9	206	781	1.06	156	<.020	<.016	<.002
Jun													
25...	8.1	266	484	47.8	.52	6.4	251	930	1.26	131	<.020	<.016	<.002
Aug													
02...	11	427	528	235	.55	6.0	331	1,400	1.91	26.5	<.020	<.016	<.002
29...	12	428	515	261	.50	3.3	332	1,420	1.93	37.5	<.020	<.016	.002

06181000 POPLAR RIVER NEAR POPLAR, MT—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
Part 3 of 3
[Remark codes: E, estimated.]

Date	Total nitro-gen, water, Fltrd, ysis, mg/L (62855)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Total phos-phorus, water, unfltrd mg/L (00665)	Arsenic water, unfltrd µg/L (01002)	Boron, water, fltrd, µg/L (01020)	Cadmium water, unfltrd µg/L (01027)	Lead, water, unfltrd recover -able, µg/L (01051)	Zinc, water, unfltrd recover -able, µg/L (01092)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)
Apr											
17...	.68	E.004	.132	2.2	588	.03	1.19	5.7	98	107	21
Jun											
25...	1.01	E.004	.101	4.5	920	.05	2.30	9.6	99	167	23
Aug											
02...	.99	E.005	.069	4.0	1,170	.04	1.38	3.3	81	134	2.5
29...	.68	.007	.041	2.7	1,130	.02	.46	E1.5	51	77	2.0