Water-Data Report 2012

06317000 POWDER RIVER AT ARVADA, WY

Powder Basin
Upper Powder Subbasin

LOCATION.--Lat 44°39′00″, long 106°07′37″ referenced to North American Datum of 1927, in SW ¼ SE ¼ sec.16, T.54 N., R.77 W., Sheridan County, WY, Hydrologic Unit 10090202, on right bank 0.1 mi downstream from bridge on county road, 0.2 mi southeast of Arvada, and 0.2 mi upstream from Wild Horse Creek.

DRAINAGE AREA.--6,050 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1919 to current year (no winter records in water years 1919-30, 1934). Records for February 16-23, 1930, published in WSP 701, are unreliable and should not be used.

REVISED RECORDS.--WSP 1509: 1921(M), 1923(M), 1924-26, 1927-28(M), 1929, 1930(M), 1931, 1932(M), 1933, 1934(M), 1935-36. See PERIOD OF RECORD.

GAGE.--Water-stage recorder. Elevation of gage is 3,620 ft above NGVD of 1929, from topographic map. Prior to October 24, 1938, non-contributing gage at bridge 0.2 mi upstream from station at datum 3,621.87 ft. October 24, 1938 to April 27, 1983, at site 0.7 mi upstream from station at different datum. U.S. Geological Survey data collection platform with satellite telemetry at station.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Numerous small reservoirs and diversions for irrigation upstream from station. Quality of water data were collected and are available at http://waterdata.usgs.gov/usa/nwis/qw.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	108	189	e90	e140	e190	e370	256	430	403	53	16	1.6
2	109	196	e86	e150	e190	e400	253	378	367	46	16	1.2
3	112	197	e90	e150	e180	e420	259	340	348	44	14	1.0
4	115	199	e80	e170	e170	e440	273	332	345	40	12	0.97
5	114	206	e66	e180	e180	e500	321	331	335	38	9.8	0.77
6	110	202	e60	e170	e190	e540	358	335	296	48	8.9	0.68
7	119	200	e66	e160	e200	e740	334	317	287	76	8.0	0.67
8	131	202	e74	e180	e200	e1,000	311	332	285	61	6.8	0.93
9	132	195	e70	e200	e200	e1,410	299	379	271	39	6.2	1.2
10	138	e170	e70	e210	e210	e940	298	387	255	34	6.4	1.2
11	204	179	e76	e210	e210	e580	293	355	239	32	6.0	0.98
12	249	174	e84	e190	e230	439	279	337	211	35	6.7	0.91
13	225	183	e80	e180	e220	607	266	305	190	30	7.3	1.1
14	211	198	e76	e180	e210	577	276	300	186	27	7.3	1.5
15	205	197	e86	e180	e230	514	286	306	175	23	5.6	2.0
16	204	e180	e96	e190	e240	456	335	280	173	23	5.5	2.3
17	205	e160	e110	e170	e250	414	362	252	169	22	6.0	2.2
18	188	e170	e140	e170	e250	373	359	247	163	28	6.0	2.5
19	187	e150	e130	e160	e240	349	348	247	153	23	6.0	2.5
20	182	e125	e130	e160	e250	337	327	218	142	20	5.7	2.6
21	189	e125	e130	e170	e260	321	307	210	140	19	5.6	2.7
22	215	e140	e120	e170	e300	318	302	220	137	19	4.9	3.3
23	208	e160	e120	e180	e520	301	288	318	131	22	4.8	4.4
24	196	e180	e130	e170	e560	282	276	312	126	21	4.0	5.0
25	191	e170	e130	e170	e450	271	272	280	119	23	3.6	6.0
26	187	e160	e140	e180	e420	263	297	281	107	18	3.7	6.6
27	183	e150	e140	e190	e330	259	333	323	91	17	3.5	7.4
28	183	e150	e140	e180	e340	263	395	389	79	18	3.2	8.0
29	188	e150	e150	e170	e340	272	423	610	70	18	2.9	8.6
30	197	e160	e160	e170	---	269	440	625	62	20	2.2	8.7
31	193	---	e150	e180	---	265	---	473	---	17	2.1	---
Total	5,378	5,217	3,270	5,430	7,760	14,490	9,426	10,449	6,055	954	206.7	89.51
Mean	173	174	105	175	268	467	314	337	202	30.8	6.67	2.98
Max	249	206	160	210	560	1,410	440	625	403	76	16	8.7
Min	108	125	60	140	170	259	253	210	62	17	2.1	0.67
Ac-ft	10,670	10,350	6,490	10,770	15,390	28,740	18,700	20,730	12,010	1,890	410	178

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2012, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	132	130	99.2	92.5	168	379	348	721	727	247	91.3	70.6
Max	865	419	290	242	567	953	1,107	4,025	3,319	1,703	861	451
(WY)	(1995)	(1999)	(1974)	(1974)	(1972)	(1978)	(1941)	(1978)	(1962)	(1937)	(1941)	(1982)
Min	0.00	11.4	23.0	15.0	10.0	132	99.0	51.3	30.6	14.7	0.00	0.00
(WY)	(1961)	(1936)	(1950)	(1933)	(1933)	(2005)	(1961)	(1936)	(1954)	(2006)	(1932)	(1932)

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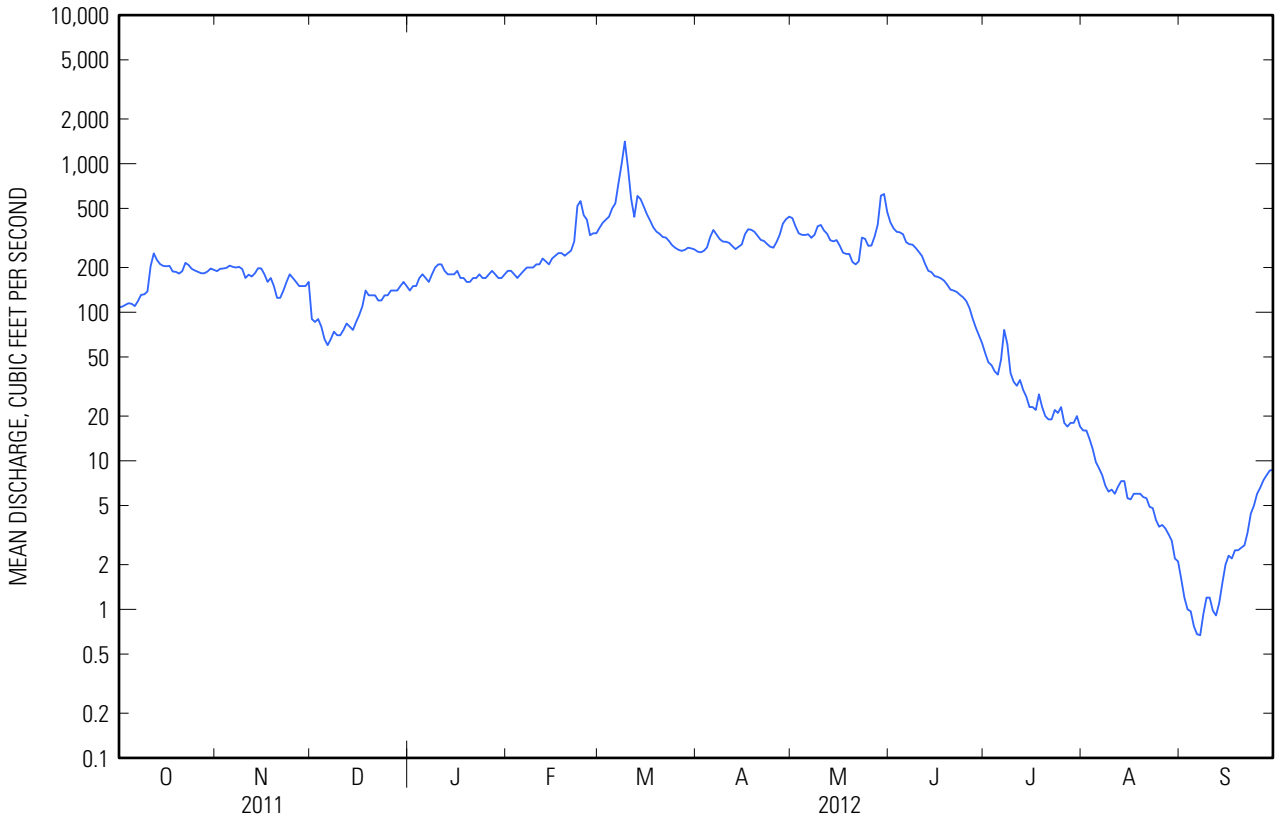
SUMMARY STATISTICS

	Calendar Year 2011		Water Year 2012		Water Years 1931 - 2012	
Annual total	146,573		68,725.21			
Annual mean	402		188		268	
Highest annual mean					735	1978
Lowest annual mean					70.3	1961
Highest daily mean	4,530	Jun 1	1,410	Mar 9	22,600	May 20, 1978
Lowest daily mean	43	Aug 24[a]	0.67	Sep 7	0.00	Jul 13, 1931[b]
Annual seven-day minimum	44	Aug 23	0.89	Sep 2	0.00	Jul 24, 1932[c]
Maximum peak flow			[d]1,410	Mar 9	[e]100,000	Sep 29, 1923
Maximum peak stage			[f]6.65	Mar 8	[g]23.70	Sep 29, 1923
Annual runoff (ac-ft)	290,700		136,300		194,500	
10 percent exceeds	1,130		360		564	
50 percent exceeds	190		180		130	
90 percent exceeds	66		5.6		16	

[a] Also, August 25.
[b] Many days, some years.
[c] Some years.
[d] Maximum daily discharge, estimated, no gage height.
[e] About, from rating curve extended above 20,000 ft³/s.
[f] Backwater from ice.
[g] From floodmarks.