Water-Data Report 2007

06259000 WIND RIVER BELOW BOYSEN RESERVOIR, WY

Big Horn Basin
Lower Wind Subbasin

LOCATION.--Lat 43°25′30″, long 108°10′42″ referenced to North American Datum of 1927, in NW ¼ SW ¼ sec.9, T.5 N., R.6 E., Fremont County, WY, Hydrologic Unit 10080005, on right bank 0.6 mi downstream from Boysen Dam and 13 mi north of Shoshoni.

DRAINAGE AREA.--7,701 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--May 1951 to current year.

REVISED RECORDS.--WSP 1709: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,608.58 ft above NGVD of 1929. Bureau of Reclamation data collection platform with satellite telemetry at station.

COOPERATION.--Station operated and data provided by Bureau of Reclamation from April 1998; record computed and reviewed by U.S. Geological Survey.

REMARKS.--Records good.Flow regulated by Boysen Reservoir since October 1951. Natural flow also affected by Bull Lake, Pilot Butte Reservoir, and several small reservoirs, combined capacity, 190,000 acre-ft, and diversions for irrigation of about 196,000 acres upstream from station.

06259000 WIND RIVER BELOW BOYSEN RESERVOIR, WY—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	495	491	479	491	493	519	508	757	999	1,250	965	923
2	495	491	484	495	485	517	506	777	997	1,240	983	925
3	499	485	483	488	485	506	509	780	1,010	1,250	1,000	922
4	492	490	483	487	489	503	508	783	1,000	1,250	1,000	920
5	495	490	490	485	491	504	513	825	997	1,220	986	914
6	490	491	488	491	493	504	509	825	1,000	1,230	983	907
7	485	487	510	496	499	504	511	785	968	1,240	953	885
8	486	486	511	495	506	512	516	857	929	1,240	955	871
9	486	486	510	488	504	509	513	953	931	1,240	960	857
10	478	484	513	490	502	507	493	1,050	925	1,230	984	834
11	484	484	515	501	507	505	492	1,050	934	1,230	1,010	820
12	483	484	514	493	507	510	491	1,030	964	1,200	1,020	800
13	490	484	509	491	499	512	493	1,030	989	1,180	1,020	787
14	486	493	507	489	502	501	489	1,060	1,020	1,170	1,040	784
15	482	488	506	492	500	504	490	1,090	1,060	1,170	1,050	790
16	484	489	506	492	504	508	492	1,150	1,060	1,160	1,040	774
17	484	490	504	497	504	510	488	1,170	1,070	1,120	1,050	767
18	474	490	500	486	506	512	502	1,220	1,070	1,110	1,060	772
19	476	488	504	494	509	509	508	1,210	1,100	1,090	1,050	759
20	487	488	507	494	507	510	499	1,190	1,120	1,080	1,060	748
21	503	488	510	506	512	512	495	1,170	1,130	1,080	1,040	732
22	495	483	501	495	512	512	493	1,150	1,160	1,060	1,030	712
23	495	478	491	491	516	515	524	1,110	1,200	1,030	1,020	712
24	498	479	489	495	517	514	586	1,100	1,250	1,030	958	710
25	500	481	489	491	516	516	618	1,110	1,240	1,030	953	673
26	494	483	488	491	513	516	651	1,100	1,220	984	958	639
27	493	476	484	489	512	512	653	1,100	1,230	939	952	563
28	491	482	490	486	518	520	653	1,080	1,280	974	955	523
29	487	478	486	483	---	513	715	1,050	1,290	966	964	502
30	496	480	488	482	---	506	755	991	1,310	957	950	501
31	490	---	490	485	---	506	---	997	---	958	931	---
Total	15,173	14,567	15,429	15,229	14,108	15,808	16,173	31,550	32,453	34,908	30,880	23,026
Mean	489	486	498	491	504	510	539	1,018	1,082	1,126	996	768
Max	503	493	515	506	518	520	755	1,220	1,310	1,250	1,060	925
Min	474	476	479	482	485	501	488	757	925	939	931	501
Ac-ft	30,100	28,890	30,600	30,210	27,980	31,360	32,080	62,580	64,370	69,240	61,250	45,670

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1,120	1,096	1,091	1,030	996	1,071	1,197	1,464	2,241	2,389	1,472	1,252
Max	2,846	2,086	2,005	2,208	2,202	2,035	2,259	4,314	7,252	8,816	2,789	2,502
(WY)	(1983)	(1959)	(1959)	(1958)	(1958)	(1997)	(1998)	(1999)	(1991)	(1967)	(1997)	(1973)
Min	299	298	301	299	210	213	389	777	980	935	909	703
(WY)	(2003)	(2003)	(1989)	(1989)	(1952)	(1952)	(1952)	(1952)	(1992)	(1992)	(1992)	(2002)

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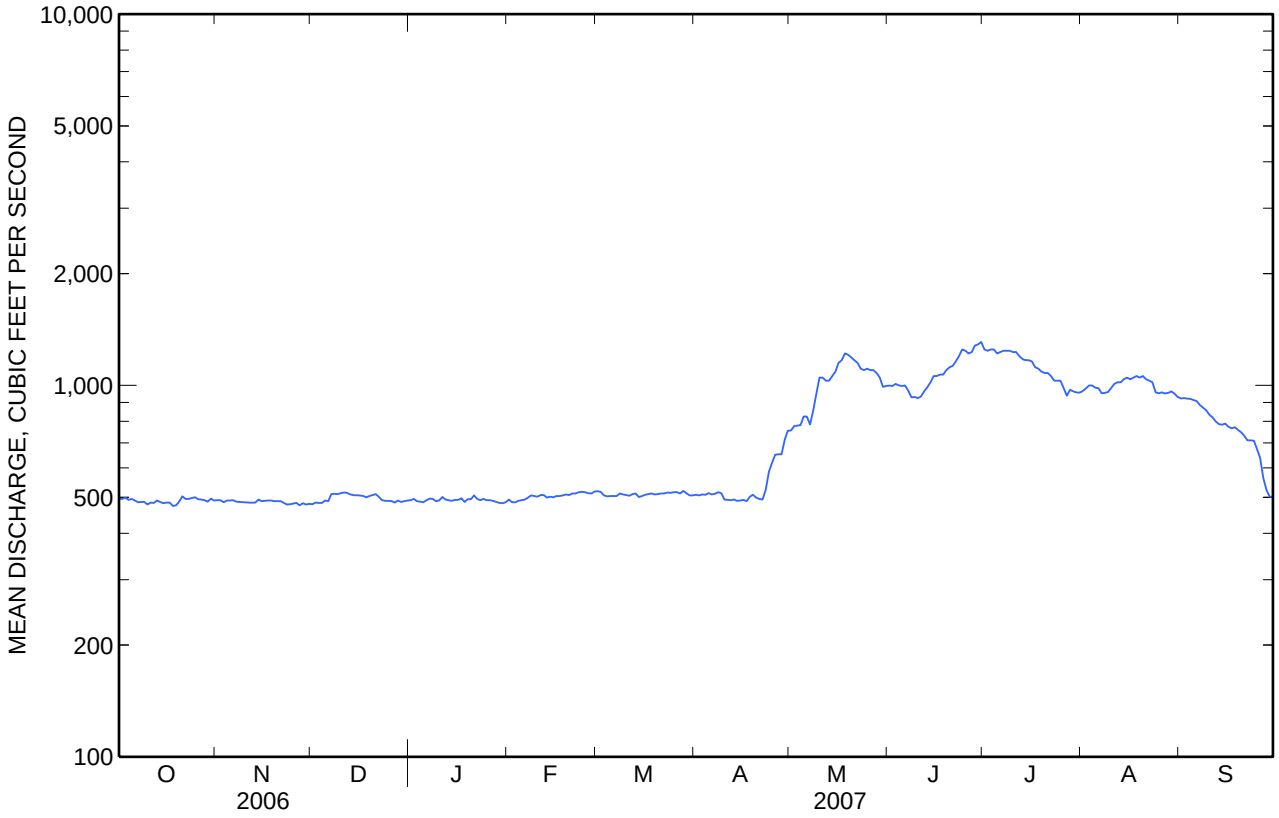
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1951 - 2007	
Annual total	306,490		259,304			
Annual mean	840		710		1,360	
Highest annual mean					2,349	1983
Lowest annual mean					603	2003
Highest daily mean	3,160	Mar 29	1,310	Jun 30	13,200	Jul 7, 1967
Lowest daily mean	474	Oct 18	474	Oct 18	4.7	Apr 3, 1962
Annual seven-day minimum	480	Nov 23	480	Nov 23	106	Oct 12, 1951
Maximum peak flow			1,350	Jun 30	13,500	Jul 7, 1967
Maximum peak stage			4.98	Jun 30	13.35	Jul 7, 1967
Annual runoff (ac-ft)	607,900		514,300		985,000	
10 percent exceeds	1,170		1,110		2,140	
50 percent exceeds	806		512		1,120	
90 percent exceeds	487		486		526	



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1953-54, 1956, 1960-92, 2001-02, September 2006.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 3

[Remark codes: <, less than; E, estimated.]

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)
Oct													
30...	1405	504	640	11.2	116	8.6	635	7.0	9.2	210	55.5	17.8	2.86
Nov													
28...	1410	511	635	10.4	100	8.6	634	-5.0	5.6	220	57.6	18.1	2.99
Jan													
31...	1335	490	634	10.9	99	7.7	659	-5.0	3.4	220	56.8	18.4	2.98
Feb													
28...	1050	490	632	11.1	103	8.2	680	-2.0	4.1	230	59.2	19.9	3.05
Apr													
05...	1330	476	645	10.5	100	8.2	717	7.0	5.9	240	61.7	19.9	3.04
30...	1140	739	640	11.6	121	8.7	692	21.0	9.4	230	60.9	20.0	3.04
May													
24...	1245	1,110	638	9.4	109	8.6	705	12.5	13.7	230	59.8	20.5	3.12
Jun													
28...	1100	1,300	644	9.8	123	8.4	662	26.0	17.9	220	58.0	19.0	2.95
Jul													
31...	1220	939	642	6.8	93	8.1	673	27.0	22.1	220	55.8	18.5	2.93
Aug													
24...	1045	885	641	9.6	124	8.0	680	17.0	18.9	220	58.0	18.4	3.15
Sep													
20...	1210	749	640	6.8	86	8.4	680	20.5	18.1	220	56.8	18.5	3.23

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

Date	Sodium adsorption ratio (00931)	Sodium fraction of cations percent (00932)	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)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/acre-ft (70303)	Residue water, dissolved, tons/d (70302)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia water, fltrd, mg/L as N (00608)
Oct													
30...	1.7	37	57.5	167	6.68	.43	.23	164	405	.57	573	421	E.015
Nov													
28...	1.8	37	59.5	169	6.55	.41	.21	164	411	.58	584	424	<.020
Jan													
31...	1.9	39	63.8	178	7.13	.45	.53	177	434	.60	584	442	<.020
Feb													
28...	1.7	36	60.2	176	6.96	.43	.79	174	430	.60	588	444	<.020
Apr													
05...	1.9	37	65.5	182	7.46	.43	2.90	193	463	.66	623	485	.050
30...	1.9	38	66.4	172	7.41	.41	.08	170	431	.63	931	466	<.020
May													
24...	1.8	37	64.9	172	7.57	.40	.83	183	443	.64	1,410	469	<.020
Jun													
28...	1.8	37	62.2	162	7.53	.41	1.26	175	423	.60	1,540	440	<.020
Jul													
31...	1.8	38	61.4	160	7.08	.41	2.54	172	417	.60	1,120	441	<.020
Aug													
24...	1.9	38	64.5	166	7.52	.39	4.17	175	431	.61	1,070	447	.100
Sep													
20...	1.9	39	64.3	166	7.46	.40	4.60	178	434	.60	885	438	.065

06259000 WIND RIVER BELOW BOYSEN RESERVOIR, WY—Continued

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

Date	Nitrate + nitrite water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitro-gen, wat unf by anal ysis, mg/L (62855)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Arsenic water, unfltrd µg/L (01002)	Barium, water, unfltrd recover -able, µg/L (01007)	Beryll-ium, water, unfltrd recover -able, µg/L (01012)	Iron, water, fltrd, µg/L (01046)	Mangan-ese, water, fltrd, µg/L (01056)	Selen-ium, water, unfltrd µg/L (01147)
Oct												
30...	<.06	<.002	.31	E.006	92	2.7	4.0	63.5	<.06	E5	10.8	.74
Nov												
28...	<.06	<.002	.29	.008	25	2.1	2.3	59.5	<.06	<6	5.8	.54
Jan												
31...	<.06	<.002	.23	E.004	9	2.2	2.3	60.2	<.06	<6	11.4	.64
Feb												
28...	<.06	<.002	.23	E.003	8	2.0	1.9	60.3	<.06	<6	14.2	.58
Apr												
05...	<.06	E.001	.32	.018	18	1.9	1.9	61.1	<.06	<6	78.0	.61
30...	<.06	<.002	.31	<.006	32	1.8	1.7	61.6	<.06	<6	7.3	.60
May												
24...	<.06	E.002	.25	<.006	37	1.8	1.6	58.1	<.06	<6	6.4	.56
Jun												
28...	<.06	E.001	.26	E.003	35	1.6	1.5	60.8	<.06	<6	4.1	.56
Jul												
31...	<.06	<.002	.31	.009	32	2.1	1.9	58.1	<.06	E3	1.9	.55
Aug												
24...	<.06	.005	.39	.082	21	2.4	2.5	61.5	<.06	<6	63.4	.42
Sep												
20...	E.04	.004	.44	.061	29	2.6	2.7	61.4	<.06	<6	15.3	.58