06412500 RAPID CREEK ABOVE CANYON LAKE, NEAR RAPID CITY, SD

Cheyenne Basin
Rapid Subbasin

LOCATION.--Lat 44°03′10″, long 103°18′41″ referenced to North American Datum of 1927, in NW ¼ NW ¼ NW ¼ sec.17, T.1 N., R.7 E., Pennington County, SD, Hydrologic Unit 10120110, on left bank between bridges on State Highway 44, at city limits of Rapid City, and 2.9 mi downstream from Victoria Creek.

DRAINAGE AREA.--371 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1946 to current year.

GAGE.--Water-stage recorder and concrete broad-crested, V-notch weir. Datum of gage is 3,398.17 ft above NGVD of 1929. Prior to Oct. 6, 1947, nonrecording gage, Oct. 6, 1947, to Nov. 2, 1967, and Oct. 1, 1968, to Sept. 30, 1976, water-stage recorder all at datum 9.25 ft higher. Nov. 3, 1967, to Sept. 30, 1968, nonrecording gage at site 0.1 mi downstream at datum 6.13 ft higher. Oct. 1, 1968, to Oct. 1, 1989, at datum 7.22 ft higher. Prior to Oct. 1, 1991, at site 0.1 mi upstream at datum 7.25 ft higher.

REMARKS.--Records good except for winter period, which is poor. Flow regulated by Deerfield Reservoir since December 1945 and by Pactola Dam 21.0 mi upstream since August 1956 (reservoir filled from August 1956 to June 1963). Maximum discharge prior to Sept. 30, 1963, 2,600 ft^3/s, May 23, 1952, gage height, 10.08 ft, site and datum then in use; minimum daily discharge, no flow Jan. 6-8, 1959, Apr. 4-5, 1960. Gage located in loss zone and analysis of low-flow data would be unreliable due to differences in respective gage locations. Satellite data-collection platform and National Weather Service telemeter at station. Water temperature and specific conductance measured with each discharge measurement.

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FROM THE DCP
DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	21	7.8	e3.6	e10	e5.0	14	9.2	8.4	30	109	62	e21
2	15	7.6	e3.4	e9.0	e5.0	11	9.0	8.3	20	107	56	e17
3	13	7.3	e3.4	e9.0	e5.0	11	8.5	8.0	26	100	53	e11
4	15	7.4	e3.0	9.0	e5.0	11	8.9	7.8	29	69	53	e11
5	19	7.5	e3.4	8.8	e5.5	9.5	9.3	8.4	29	67	53	e11
6	13	7.6	e3.4	8.2	e5.5	9.7	9.5	8.1	34	62	57	11
7	11	7.4	e3.0	9.1	e5.5	9.7	14	8.4	35	60	65	10
8	10	7.3	e4.0	8.9	e6.0	9.1	11	13	33	60	44	9.9
9	10	7.3	e5.5	8.6	e5.5	9.2	9.2	15	28	60	17	10
10	10	7.7	e7.5	8.7	e5.0	8.7	8.4	15	27	63	29	e10
11	10	7.3	e13	9.0	e5.0	7.5	8.3	14	27	63	41	11
12	9.9	7.2	13	8.9	e5.5	7.6	8.5	12	26	63	45	11
13	8.5	7.2	12	5.9	e6.0	8.0	8.1	9.1	27	61	47	10
14	7.8	7.4	10	10	e6.0	11	7.5	8.5	27	60	47	10
15	7.3	7.0	8.6	9.6	e5.0	13	7.1	8.4	30	61	47	10
16	7.3	6.5	e7.4	8.5	e4.5	10	7.0	8.3	31	60	45	10
17	7.2	8.3	e5.5	1.7	e4.5	8.6	6.6	8.0	32	60	45	11
18	7.2	7.9	e3.0	e3.8	e4.5	10	7.6	10	44	75	46	11
19	7.2	8.1	e4.0	e4.5	e5.0	8.6	10	32	50	84	45	11
20	7.4	7.6	e5.0	e5.0	e5.5	7.1	9.9	36	e60	84	46	11
21	7.2	7.8	e7.5	e5.5	e6.0	12	9.1	37	64	85	45	8.6
22	7.2	8.0	e10	e6.0	e8.0	11	8.9	37	65	85	41	7.0
23	7.4	7.8	e12	e6.0	e10	9.6	8.8	33	67	84	41	14
24	7.8	7.7	12	e6.0	e11	9.4	11	33	67	84	40	9.4
25	7.7	7.9	12	e6.0	e11	10	10	33	64	88	41	7.6
26	7.6	7.9	11	e6.0	e12	9.7	9.5	34	65	95	43	7.2
27	7.4	7.9	11	e6.0	e13	9.9	9.1	35	74	92	43	7.0
28	7.4	5.4	9.9	e5.5	17	10	9.7	36	75	81	38	7.2
29	7.4	3.4	10	e5.0	---	11	9.2	49	82	73	24	7.1
30	8.0	e3.2	10	e4.5	---	11	9.5	45	95	72	22	6.8
31	7.9	---	e10	e4.5	---	9.6	---	43	---	70	22	---
Total	299.8	216.4	237.1	217.2	192.5	307.5	272.4	661.7	1,363	2,337	1,343	309.8
Mean	9.67	7.21	7.65	7.01	6.88	9.92	9.08	21.3	45.4	75.4	43.3	10.3
Max	21	8.3	13	10	17	14	14	49	95	109	65	21
Min	7.2	3.2	3.0	1.7	4.5	7.1	6.6	7.8	20	60	17	6.8
Ac-ft	595	429	470	431	382	610	540	1,310	2,700	4,640	2,660	614

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2006, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	24.6	20.2	18.9	17.6	18.5	27.9	50.9	104	132	93.9	66.9	40.8
Max	135	154	135	80.4	84.1	133	217	449	466	275	239	123
(WY)	(1999)	(1999)	(1999)	(1997)	(1997)	(1996)	(1997)	(1997)	(1999)	(1998)	(1997)	(1997)
Min	1.38	0.71	0.12	0.09	0.09	0.29	3.55	12.0	11.9	23.2	24.5	10.3
(WY)	(1991)	(1982)	(1991)	(1991)	(1991)	(1991)	(1991)	(2005)	(2005)	(1992)	(2005)	(2006)

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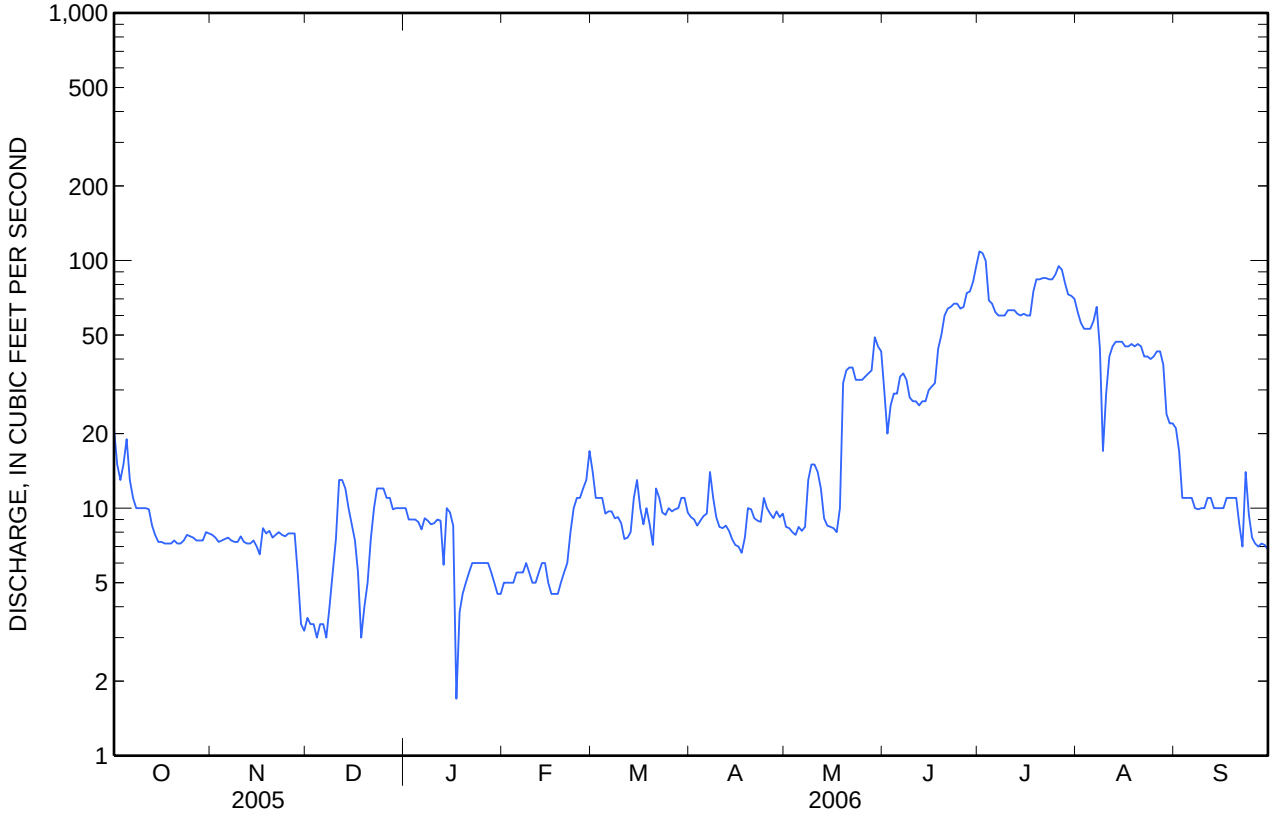
SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1964 – 2006*	
Annual total	6,418.4		7,757.4			
Annual mean	17.6		21.3		51.5	
Highest annual mean					173	1997
Lowest annual mean					17.5	1991
Highest daily mean	92	Jul 11	109	Jul 1	2,600	Jun 10, 1972
Lowest daily mean	1.5	Jan 2	1.7	Jan 17	0.00	Dec 12, 1990
Annual seven-day minimum	3.3	Dec 1	3.3	Dec 1	0.00	Dec 20, 1990
Maximum peak flow			117	Aug 7	31,200	Jun 9, 1972
Maximum peak stage			2.67	Aug 7	17.77	Jun 9, 1972
Annual runoff (ac-ft)	12,730		15,390		37,340	
10 percent exceeds	38		61		108	
50 percent exceeds	11		9.9		27	
90 percent exceeds	7.1		5.5		7.0	

* Regulated period only (1964-2006). See REMARKS.
[a] No flow for many days in 1991 water year.



WATER-QUALITY RECORDS

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Time	Instan-taneous dis-charge, cfs (00061)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, air, deg C (00020)	Temper-ature, water, deg C (00010)
Oct					
11...	1235	10	393	15.5	10.5
Nov					
21...	1050	8.1	392	14.0	3.5
Jan					
10...	1105	8.2	398	12.5	1.0
Feb					
07...	0950	--	406	--	.0
28...	0915	12	386	17.0	.0
Apr					
06...	1215	9.5	404	9.5	8.0
May					
16...	1245	--	397	25.5	16.5
Jun					
06...	1355	36	389	28.0	18.5
Jul					
05...	1115	68	395	27.0	14.5
Aug					
18...	1505	45	388	20.0	19.0