

Water-Data Report 2013

06343000 HEART RIVER NR SOUTH HEART, ND

Cannonball, Heart, and Knife Basin
Upper Heart Subbasin

LOCATION.--Lat 46°51'56", long 102°56'53" referenced to North American Datum of 1927, in NE ¼ SE ¼ SW ¼ sec.8, T.139 N., R.97 W., Stark County, ND, Hydrologic Unit 10130202, on left bank 1.7 mi downstream from North Creek, 2 mi east of South Heart, 5.5 mi upstream from Edward Arthur Patterson Lake.

DRAINAGE AREA.--311 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--DAILY DISCHARGE--July 1946 to September 1970, October 1977 to September 1984, March 2011 to current year (seasonal records only); Water years 1971-73, 1985-2010 (annual peak discharge only).

PERIOD OF RECORD.--DAILY GAGE HEIGHT--September 1977 to May 1978, March 2011 to current year (seasonal records only).

GAGE.--Water stage recorder. Datum of gage is 2,429.45 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,380 ft³/s, June 1, gage height, 12.16 ft; minimum daily discharge, 0.75 ft³/s, May 15.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	---	e0.90	19	3.8	1,170	1.7	1.1	1.1
2	---	---	---	---	---	e1.0	18	3.0	e1,100	1.7	1.1	1.1
3	---	---	---	---	---	e1.3	15	2.4	e343	1.6	1.1	1.1
4	---	---	---	---	---	e1.3	13	1.8	e193	1.5	1.2	1.1
5	---	---	---	---	---	e1.3	12	1.7	e130	1.6	1.2	1.2
6	---	---	---	---	---	e1.7	12	1.7	e97	1.6	5.2	1.1
7	---	---	---	---	---	e1.9	11	1.6	e72	7.2	2.4	1.2
8	---	---	---	---	---	e1.8	11	1.4	47	7.4	1.4	1.2
9	---	---	---	---	---	e1.7	9.8	1.2	34	5.0	1.2	274
10	---	---	---	---	---	e1.6	9.8	1.3	e28	21	1.5	568
11	---	---	---	---	---	e1.5	9.5	1.2	22	12	1.6	329
12	---	---	---	---	---	e1.5	9.3	1.0	19	8.8	1.5	48
13	---	---	---	---	---	e1.6	9.3	0.89	16	12	1.3	18
14	---	---	---	---	---	e2.7	8.9	0.85	13	9.1	1.3	9.1
15	---	---	---	---	---	e6.0	7.7	0.75	12	5.2	1.3	6.4
16	---	---	---	---	---	e12	7.2	0.82	10	3.1	5.2	5.6
17	---	---	---	---	---	e14	6.6	0.97	e8.3	3.0	3.7	2.8
18	---	---	---	---	---	e15	6.3	1.0	e6.7	3.0	2.5	1.8
19	---	---	---	---	---	e15	7.0	1.2	6.2	2.5	1.8	1.4
20	---	---	---	---	---	e13	7.2	2.7	5.6	1.8	1.5	1.3
21	---	---	---	---	---	e11	7.4	15	5.0	1.6	1.4	1.1
22	---	---	---	---	---	e10	8.7	13	5.2	1.4	1.2	1.1
23	---	---	---	---	---	e9.5	11	9.7	3.8	1.3	1.2	1.5
24	---	---	---	---	---	e9.1	8.9	6.9	7.1	1.2	1.1	2.3
25	---	---	---	---	---	8.9	9.1	4.7	7.4	1.2	1.1	4.1
26	---	---	---	---	---	8.8	7.6	4.8	4.0	1.1	1.1	1.3
27	---	---	---	---	---	8.9	9.0	15	2.4	1.0	1.1	1.1
28	---	---	---	---	---	9.5	7.2	e40	2.4	1.1	1.1	1.0
29	---	---	---	---	---	11	5.9	e100	2.0	1.0	1.1	0.96
30	---	---	---	---	---	e20	4.7	e80	1.8	0.99	1.1	0.92
31	---	---	---	---	---	e25	---	e350	---	1.0	1.1	---
Total	---	---	---	---	---	228.50	289.1	670.38	3,373.9	123.69	51.7	1,289.88
Mean	---	---	---	---	---	7.37	9.64	21.6	112	3.99	1.67	43.0
Max	---	---	---	---	---	25	19	350	1,170	21	5.2	568
Min	---	---	---	---	---	0.90	4.7	0.75	1.8	0.99	1.1	0.92
Ac-ft	---	---	---	---	---	453	573	1,330	6,690	245	103	2,560

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2013, BY WATER YEAR (WY)

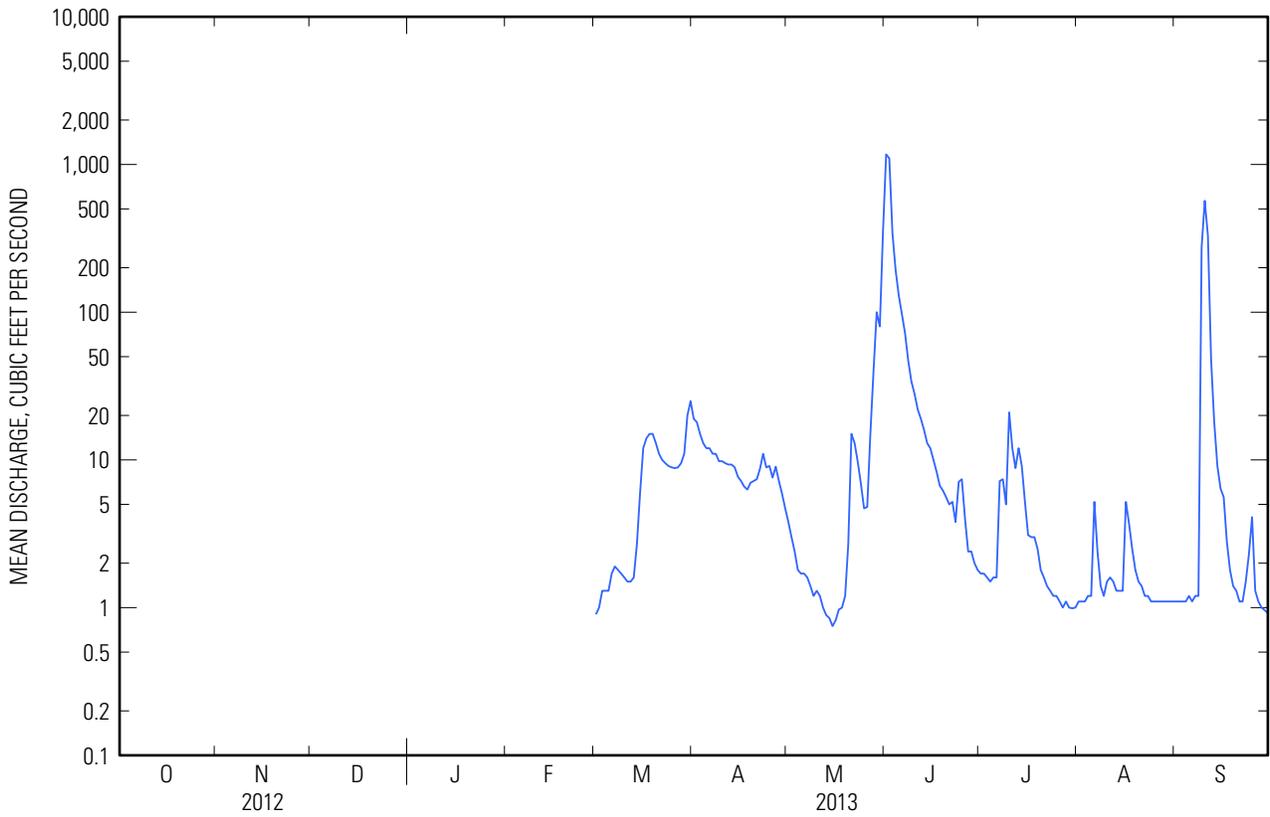
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	5.06	0.99	0.71	1.25	16.0	107	108	46.6	51.0	13.6	7.58	2.55
Max	98.2	9.64	2.53	19.9	191	582	539	398	308	215	88.3	43.0
(WY)	(1983)	(1983)	(1983)	(1983)	(1982)	(1978)	(1952)	(1970)	(1957)	(1969)	(1981)	(2013)
Min	0.15	0.21	0.18	0.08	0.18	0.63	0.58	0.16	0.46	0.12	0.09	0.15
(WY)	(1968)	(1968)	(1969)	(1968)	(1950)	(1964)	(1968)	(1968)	(1980)	(1968)	(1967)	(1969)

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SUMMARY STATISTICS

Water Years 1946 - 2013		
Annual mean	^a 29.5	
Highest annual mean	^a 79.8	1982
Lowest annual mean	^a 1.96	1980
Highest daily mean	6,580	May 9, 1970
Lowest daily mean	0.00	Aug 26, 1958
Annual seven-day minimum	0.00	Jan 15, 1962
Maximum peak flow	8,080	May 9, 1970
Maximum peak stage	22.77	May 9, 1970
Annual runoff (ac-ft)	^a 21,340	
10 percent exceeds	23	
50 percent exceeds	0.79	
90 percent exceeds	0.20	

^a Based on complete water years only (1947-70, 1978-84).



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GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	---	4.13	4.27	4.07	11.25	3.29	3.25	3.27
2	---	---	---	---	---	4.14	4.24	4.01	---	3.29	3.26	3.27
3	---	---	---	---	---	4.17	4.19	3.97	---	3.27	3.25	3.26
4	---	---	---	---	---	4.25	4.14	3.91	---	3.23	3.30	3.27
5	---	---	---	---	---	4.25	4.12	3.91	---	3.26	3.32	3.29
6	---	---	---	---	---	4.42	4.10	3.92	---	3.27	3.81	3.27
7	---	---	---	---	---	4.33	4.09	3.91	---	3.61	3.56	3.28
8	---	---	---	---	---	4.22	4.09	3.88	4.50	3.77	3.38	3.31
9	---	---	---	---	---	4.21	4.04	3.84	4.34	3.64	3.30	6.44
10	---	---	---	---	---	4.17	4.04	3.86	---	4.08	3.39	8.46
11	---	---	---	---	---	4.14	4.02	3.84	4.17	3.99	3.43	6.93
12	---	---	---	---	---	4.11	4.02	3.79	4.12	3.90	3.40	4.71
13	---	---	---	---	---	4.10	4.05	3.75	4.06	4.01	3.33	4.28
14	---	---	---	---	---	4.14	4.14	3.74	3.99	3.95	3.36	4.03
15	---	---	---	---	---	4.26	4.10	3.70	3.95	3.78	3.32	3.90
16	---	---	---	---	---	4.74	4.09	3.73	3.90	3.64	3.82	3.85
17	---	---	---	---	---	4.45	4.08	3.78	3.83	3.64	3.70	3.61
18	---	---	---	---	---	4.37	4.07	3.81	3.76	3.64	3.58	3.48
19	---	---	---	---	---	4.27	4.12	3.86	3.72	3.59	3.48	3.38
20	---	---	---	---	---	4.17	4.14	4.04	3.68	3.49	3.42	3.33
21	---	---	---	---	---	4.10	4.17	4.56	3.64	3.43	3.37	3.25
22	---	---	---	---	---	4.06	4.23	4.54	3.65	3.38	3.32	3.24
23	---	---	---	---	---	4.05	4.32	4.46	3.54	3.32	3.28	3.39
24	---	---	---	---	---	4.03	4.26	4.36	3.69	3.30	3.26	3.47
25	---	---	---	---	---	4.00	4.27	4.25	3.78	3.29	3.25	3.71
26	---	---	---	---	---	4.00	4.23	4.23	3.56	3.24	3.25	3.34
27	---	---	---	---	---	4.00	4.29	4.56	3.40	3.23	3.26	3.25
28	---	---	---	---	---	4.02	4.23	---	3.40	3.24	3.28	3.21
29	---	---	---	---	---	4.08	4.18	---	3.35	3.23	3.24	3.19
30	---	---	---	---	---	4.42	4.12	---	3.31	3.20	3.25	3.17
31	---	---	---	---	---	4.37	---	---	---	3.22	3.28	---
Mean	---	---	---	---	---	4.20	4.15	---	---	3.50	3.38	3.86
Max	---	---	---	---	---	4.74	4.32	---	---	4.08	3.82	8.46
Min	---	---	---	---	---	4.00	4.02	---	---	3.20	3.24	3.17

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