

Water-Data Report 2008

12433200 CHAMOKANE CREEK BELOW FALLS, NEAR LONG LAKE, WA

Spokane Basin
Lower Spokane Subbasin

LOCATION (REVISED).--Lat 47°51'48", long 117°51'26" referenced to North American Datum of 1927, in SE ¼ SW ¼ sec.2, T.27 N., R.39 E., Stevens County, WA, Hydrologic Unit 17010307, Spokane Indian Reservation, on right bank 800 ft downstream from Chamokane Falls, 1.4 mi upstream from mouth, 1.8 mi north of town of Long Lake, and at mile 1.6.

DRAINAGE AREA.--179 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1971 to September 1978, April 1984 to September 1987 (seasonal records), October 1987 to current year.

Water temperature records April 1984 to September 1987 (seasonal records); October 1987 to September 1989.

GAGE.--Water-stage recorder. Elevation of gage is 1,420 ft above NGVD of 1929, from topographic map.

REMARKS.--Records fair. No known regulation. Diversions upstream for irrigation, domestic use, and fish hatchery. Pumpage from ground-water wells can cause small fluctuations in discharge. U.S. Geological Survey satellite telemeter at site. This site was measured as part of a 2008 Chamokane Creek Spring High-Flow Investigation, and was measured as part of a 2008 Chamokane Creek Seepage Investigation. See following pages for the complete spring high-flow report and complete seepage report.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--28 years (water years 1972-78, 1988-2008), 62.5 ft³/s, 4.74 in/yr, 45,280 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,200 ft³/s, Apr. 25, 1975, gage height, 5.06 ft, from rating curve extended above 500 ft³/s, on basis of slope-area measurement of peak flow; maximum gage height, 5.37 ft, Mar. 20, 1997; minimum discharge, 9.4 ft³/s, Dec. 30, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 625 ft³/s, Apr. 15, gage height, 3.44 ft; minimum discharge, 24 ft³/s, on July 25, 26, 28, 29, 30 and Aug. 9.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	30	28	31	32	e33	39	77	159	48	37	26	28
2	29	29	31	32	e33	39	73	143	47	40	26	28
3	30	29	38	32	e32	39	74	132	46	37	26	27
4	28	29	36	33	e32	41	83	127	45	36	26	27
5	28	29	38	33	e32	48	97	129	45	e35	26	27
6	28	29	36	32	e33	52	125	132	44	e35	26	27
7	28	30	34	32	e33	52	171	131	44	e34	25	27
8	28	30	32	32	e33	56	191	127	43	e34	26	27
9	28	30	32	33	e33	62	196	120	43	e33	25	26
10	28	30	32	33	33	78	213	107	44	e32	26	26
11	28	30	32	33	33	97	224	98	43	e31	26	26
12	28	30	32	33	35	125	260	92	42	e30	27	27
13	28	30	32	33	35	167	327	89	41	e29	26	26
14	28	30	31	33	35	152	421	86	40	e28	26	27
15	28	31	31	33	35	144	558	82	39	27	27	27
16	28	33	32	32	34	142	449	81	39	27	27	27
17	28	33	32	33	35	136	350	80	38	28	25	27
18	28	32	32	33	35	151	324	76	38	27	27	27
19	31	31	32	33	35	173	298	70	38	27	29	26
20	29	30	33	33	35	154	265	68	38	26	30	26
21	28	30	32	e32	35	130	240	66	38	26	29	28
22	28	30	32	e32	35	115	218	64	39	26	29	28
23	28	30	32	e32	35	108	193	62	37	26	29	28
24	28	30	32	e32	35	116	182	59	37	25	28	29
25	28	30	32	e32	35	124	162	56	37	25	28	29
26	28	31	32	e32	35	116	156	53	37	25	29	29
27	28	31	32	e33	36	107	152	51	36	25	29	29
28	28	31	32	e33	37	98	155	49	36	25	28	29
29	28	31	32	e33	38	94	169	48	35	24	28	28
30	28	31	32	e33	---	91	176	49	35	25	28	28
31	28	---	32	e33	---	83	---	48	---	26	28	---
Total	877	908	1,011	1,010	995	3,129	6,579	2,734	1,212	911	841	821
Mean	28.3	30.3	32.6	32.6	34.3	101	219	88.2	40.4	29.4	27.1	27.4
Max	31	33	38	33	38	173	558	159	48	40	30	29
Min	28	28	31	32	32	39	73	48	35	24	25	26
Ac-ft	1,740	1,800	2,010	2,000	1,970	6,210	13,050	5,420	2,400	1,810	1,670	1,630
Cfs/m	0.16	0.17	0.18	0.18	0.19	0.56	1.23	0.49	0.23	0.16	0.15	0.15
In.	0.18	0.19	0.21	0.21	0.21	0.65	1.37	0.57	0.25	0.19	0.17	0.17

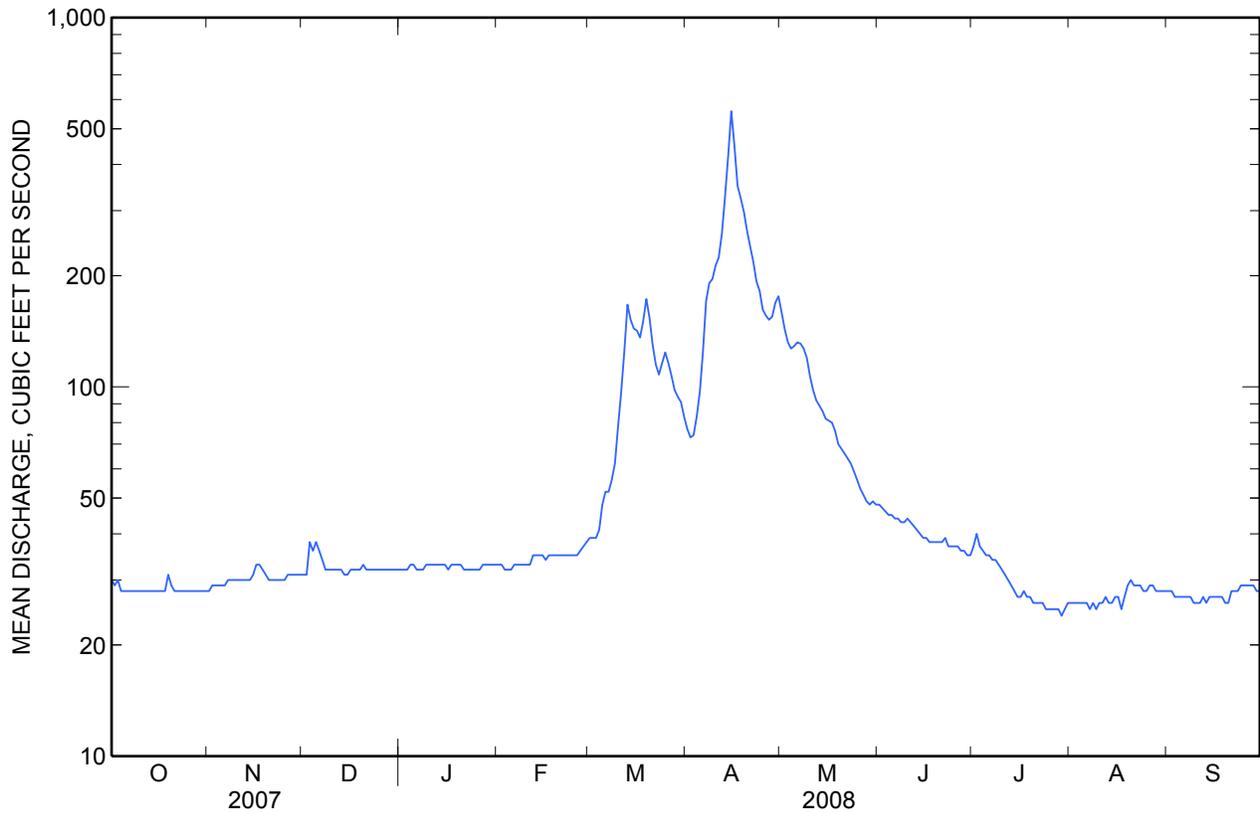
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	28.5	29.8	42.4	63.0	75.9	168	157	64.6	38.5	29.2	26.9	27.1
Max	41.5	47.5	236	239	232	626	564	257	115	59.5	47.2	43.0
(WY)	(1998)	(1974)	(1974)	(1997)	(1995)	(1997)	(1975)	(1975)	(1997)	(1997)	(1997)	(1997)
Min	18.9	19.1	17.1	17.4	21.2	29.9	22.6	19.6	19.4	18.2	18.4	18.1
(WY)	(1993)	(1993)	(1993)	(1993)	(1994)	(1977)	(1992)	(1992)	(1994)	(1994)	(1994)	(1990)

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SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1971 - 2008	
Annual total	18,668		21,028			
Annual mean	51.1		57.5		62.5	
Highest annual mean					170	1997
Lowest annual mean					25.8	1994
Highest daily mean	591	Mar 13	558	Apr 15	1,750	Mar 20, 1997
Lowest daily mean	26	Jul 30	24	Jul 29	15	Dec 26, 1977
Annual seven-day minimum	27	Jul 28	25	Jul 24	16	Jan 2, 1993
Annual runoff (ac-ft)	37,030		41,710		45,280	
Annual runoff (cfsm)	0.286		0.321		0.349	
Annual runoff (inches)	3.88		4.37		4.74	
10 percent exceeds	91		131		131	
50 percent exceeds	32		32		31	
90 percent exceeds	27		27		20	



12433200 CHAMOKANE CREEK BELOW FALLS, NEAR LONG LAKE, WA—Continued

SPOKANE RIVER BASIN

Chamokane Creek Spring High-Flow Investigation

A series of discharge measurements were made April 14 - 17, 2008, on Chamokane Creek and some of its tributaries to study near-peak discharge. The reach covered 30.7 miles. Two additional discharge measurements, made just outside of the Chamokane Creek drainage, are included in this table. These two sites, Sams Creek near Ford and Unnamed Springs outflow near Sams Creek Tributary near Ford, are both tributary to Little Chamokane Creek.

[River Mile, as measured from the confluence of the Spokane River and Lake Roosevelt; ft³/s, cubic foot per second; °C, degrees Celsius; --, no data]

River Mile	Stream and Location	Measured Discharge (ft ³ /s)	Date	Gain or Loss	Water temperature (°C)
62.3	Middle Fork Chamokane Creek near Springdale (12433020)	206	4/14/2008	--	3.7
62.5	South Fork Chamokane Creek near Springdale (12433030)	159	4/15/2008	--	2.9
59.1	Chamokane Creek below Forks near Springdale (12433035)	333	4/15/2008	-32.0	2.9
59.4	Unnamed Tributary at Rose Hill Road near Springdale (12433040)	11.1	4/14/2008	--	3.8
58.9	Unnamed Tributary at Springdale-Hunters Hwy near Springdale (12433043)	37.6	4/14/2008	--	4.5
56.7	Chamokane Creek at West Lyons Hill Road near Springdale (12433055)	425	4/15/2008	+54.4	5.0
58.4	Unnamed Tributary Site 2 off Mickelson Road near Springdale (12433062)	6.23	4/14/2008	--	4.5
58.0	Unnamed Tributary above Drum Road near Springdale (12433067)	3.66	4/17/2008	--	7.6
53.6	Chamokane Creek at East Lyons Hill Road near Springdale (12433070)	522	4/15/2008	+87.1(b)	2.7
51.4	Chamokane Creek above Swamp Creek near Springdale (12433075)	502	4/15/2008	-20.0	4.0
53.8	Swamp Creek at Cemetery Road near Springdale (12433078)	2.87	4/14/2008	--	12.6
53.4	Swamp Creek off Canfield Road near Springdale (12433085)	2.10	4/15/2008	--	10.5
52.3	Unnamed Tributary off Hidden Road near Springdale (12433090)	1.44	4/14/2008	--	--
51.8	Unnamed Tributary at Hidden Road near Springdale (12433094)	1.46	4/14/2008	--	--
48.6	Chamokane Creek near Springdale (12433100)	348	4/16/2008	-159(b)	5.9
49.2	Unnamed Tributary at Fortymile Canyon Road near Springdale (12433105)	6.50	4/14/2008	--	--
49.9	Unnamed Tributary at Fortymile Canyon near Springdale (12433110)	6.78	4/14/2008	--	--
46.0	Unnamed Tributary off Reservation Road near Ford (12433135)	1.09	4/15/2008	--	4.5
45.1	Rail Creek below Bartlett Creek near Ford (12433145)	15.9	4/14/2008	--	4.9
44.2	Thomas Creek near Ford (12433155)	1.14	4/15/2008	--	8.3
41.6	Negro Creek near Ford (12433170)	8.08	4/14/2008	--	5.1
39.4	Chamokane Creek at Ford-Wellpinit Road near Ford (12433175)	420	4/16/2008	+32.5(b)	6.0
40.1	Moses Creek near Ford (12433180)	3.57	4/15/2008	--	4.3
37.8	Galbraith Springs outflow near Ford (12433187)	7.23	4/17/2008	--	12.6
37.8	Tribal hatchery outflow near Ford (12433190)	9.87	4/17/2008	--	11.7
34.1	Chamokane Creek below Falls near Long Lake (12433200)	422	4/16/2008	-18.7(b)	--
38.4	Sams Creek near Ford (a) (12433250)	32.0	4/15/2008	--	3.4
38.3	Unnamed Springs outflow near Sams Creek Tributary near Ford (a) (12433255)	0.001	4/15/2008	--	8.4

RM 31.8 - Confluence of Little Chamokane Creek and Spokane River

RM 32.5 - Confluence of Chamokane Creek and Spokane River

(a) Sites tributary to Little Chamokane Creek

(b) Value may not be representative of actual gain or loss along the main stem of Chamokane Creek because discharge from tributary streams was measured closer to the headwaters of the tributaries than to their confluence with Chamokane Creek.

12433200 CHAMOKANE CREEK BELOW FALLS, NEAR LONG LAKE, WA—Continued**SPOKANE RIVER BASIN****Chamokane Creek Seepage Investigation**

A series of discharge measurements were made August 25 - September 2, 2008, on Chamokane Creek and some of its tributaries to study gains and losses. The reach covered 30.7 miles. Two additional discharge measurements, made just outside of the Chamokane Creek drainage, are included in this table. These two sites, Sams Creek near Ford and Unnamed Springs outflow near Sams Creek Tributary near Ford, are both tributary to Little Chamokane Creek.

[River Mile, as measured from the confluence of the Spokane River and Lake Roosevelt; ft³/s, cubic foot per second; °C, degrees Celsius; --, no data]

River Mile	Stream and Location	Measured Discharge (ft ³ /s)	Date	Gain or Loss	Water temperature (°C)
62.3	Middle Fork Chamokane Creek near Springdale (12433020)	0	8/25/2008	--	15.7
62.5	South Fork Chamokane Creek near Springdale (12433030)	0.08	8/25/2008	--	13.7
59.1	Chamokane Creek below Forks near Springdale (12433035)	0	8/25/2008	--	14.6
59.4	Unnamed Tributary at Rose Hill Road near Springdale (12433040)	0	8/25/2008	--	--
58.9	Unnamed Tributary at Springdale-Hunters Hwy near Springdale (12433043)	0	8/25/2008	--	--
59.7	Unnamed Tributary at Bowler Road near Springdale (12433048)	0	8/26/2008	--	12.4
56.7	Chamokane Creek at West Lyons Hill Road near Springdale (12433055)	0	8/26/2008	--	16.2
58.4	Unnamed Tributary Site 2 off Mickelson Road near Springdale (12433062)	0.02	8/25/2008	--	8.5
58.0	Unnamed Tributary above Drum Road near Springdale (12433067)	0.18	8/26/2008	--	13.4
53.6	Chamokane Creek at East Lyons Hill Road near Springdale (12433070)	0.04	8/26/2008	-0.16(b)	19.6
51.4	Chamokane Creek above Swamp Creek near Springdale (12433075)	1.00	8/29/2008	+0.96	13.1
53.8	Swamp Creek at Cemetery Road near Springdale (12433078)	1.00	8/28/2008	--	14.2
53.4	Swamp Creek off Canfield Road near Springdale (12433085)	1.43	8/28/2008	--	14.5
52.3	Unnamed Tributary off Hidden Road near Springdale (12433090)	0	8/28/2008	--	--
51.8	Unnamed Tributary at Hidden Road near Springdale (12433094)	0	8/28/2008	--	--
48.6	Chamokane Creek near Springdale (12433100)	0	8/28/2008	-2.43	14.4
49.2	Unnamed Tributary at Fortymile Canyon Road near Springdale (12433105)	0.02	8/27/2008	--	11.9
49.9	Unnamed Tributary at Fortymile Canyon near Springdale (12433110)	0	8/27/2008	--	--
46.0	Unnamed Tributary off Reservation Road near Ford (12433135)	0.05	8/27/2008	--	13.7
45.1	Rail Creek below Bartlett Creek near Ford (12433145)	0.35	8/29/2008	--	12.4
44.2	Thomas Creek near Ford (12433155)	0.30	8/28/2008	--	10.6
41.6	Negro Creek near Ford (12433170)	0.02	8/29/2008	--	13.9
39.4	Chamokane Creek at Ford-Wellpinit Road near Ford (12433175)	1.65	8/28/2008	+0.91(b)	13.7
40.1	Moses Creek near Ford (12433180)	0.04	8/28/2008	--	12.7
37.8	Galbraith Springs outflow near Ford (12433187)	1.98	9/2/2008	--	12.0
37.8	Tribal hatchery outflow near Ford (12433190)	7.95	9/2/2008	--	12.8
34.1	Chamokane Creek below Falls near Long Lake (12433200)	29.6	8/29/2008	+18.0(b)	--
38.4	Sams Creek near Ford (a) (12433250)	0.05	9/2/2008	--	12.9
38.3	Unnamed Springs outflow near Sams Creek Tributary near Ford (a) (12433255)	0	9/2/2008	--	16.3

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