

Water-Data Report 2011

14015000 MILL CREEK AT WALLA WALLA, WA

Middle Columbia Basin
Walla Walla Subbasin

LOCATION.--Lat 46°04'35", long 118°16'21" referenced to North American Datum of 1927, in NE ¼ NW ¼ sec.23, T.7 N., R.6 E., Walla Walla County, WA, Hydrologic Unit 17070102, on left bank 200 ft downstream from diversion dam, 1.5 mi east of Walla Walla, and at mile 10.5.

DRAINAGE AREA.--95.7 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--April 1941 to current year.

REVISED RECORDS.--WSP 1288: Drainage area. WSP 1348: 1943, 1945-46.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,165.49 ft above NGVD of 1929 (levels by U.S. Corps of Engineers). April 1941 to June 11, 1941, nonrecording gage, and June 11, 1941, to Jan. 22, 1957, water-stage recorder, at sites 0.8 mi downstream at different datum. U.S. Geological Survey telephone telemeter at station.

REMARKS.--Records fair except estimated daily discharges and those below 10 ft³/s, which are poor. Some regulation at diversion dam 200 ft upstream from station where water is diverted into Yellowhawk and Garrison Creeks for stock and irrigation. Since Nov. 19, 1941, water has been diverted 1.0 mi upstream into Mill Creek Reservoir for flood control with release of stored water after flood into Russell Creek, and is also diverted as required to replenish losses from seepage and evaporation from small recreation pool maintained in the reservoir. City of Walla Walla diverts water for municipal supply about 11 mi upstream. Other small diversions upstream from station for irrigation.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--69 years (water years 1942-2011), 79.8 ft³/s, 57,790 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,190 ft³/s, Feb. 9, 1996, gage height, 6.89 ft (inside high-water mark), from rating curve extended above 1,500 ft³/s; no flow many days.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 31 or Apr. 1, 1931, discharge not determined, was greatest since at least 1913. A discharge of about 11,000 ft³/s, based on a slope-area measurement, was determined for the 1931 peak at old City of Walla Walla diversion dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,500 ft³/s, Jan. 16, gage height, 4.66 ft; minimum discharge, 0.10 ft³/s, July 19, gage height, 1.72 ft.

14015000 MILL CREEK AT WALLA WALLA, WA—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	5.5	20	42	156	84	67	481	78	141	27	1.3	1.6
2	4.8	18	58	124	74	86	559	77	239	24	1.2	2.0
3	4.5	15	60	105	68	139	532	81	356	20	1.3	2.2
4	6.2	12	46	90	64	176	428	77	302	18	1.4	2.0
5	4.9	4.9	37	83	62	184	1,000	80	252	15	1.9	1.1
6	4.0	1.6	32	80	58	212	745	88	225	14	1.9	1.4
7	8.8	6.8	29	104	60	203	493	109	190	11	1.7	1.6
8	12	12	40	192	62	163	347	117	166	8.1	1.2	1.9
9	9.1	12	84	192	57	158	242	105	137	6.4	1.0	2.0
10	11	12	140	160	53	314	192	93	122	5.9	0.69	1.6
11	14	12	119	132	52	478	183	96	113	5.1	0.73	1.6
12	9.6	11	137	115	53	354	180	120	104	4.4	1.2	1.6
13	8.8	10	515	133	56	276	174	113	99	5.2	0.68	2.0
14	8.7	14	531	235	60	353	155	153	94	4.6	0.85	3.4
15	8.0	20	375	338	80	349	158	241	87	3.7	0.87	4.4
16	9.3	21	227	938	106	425	206	335	81	3.7	1.3	1.6
17	8.6	19	162	1,030	107	373	261	345	79	5.2	1.4	1.6
18	7.9	23	122	589	104	295	253	294	77	3.3	1.5	1.6
19	7.8	19	97	402	97	249	e200	235	85	3.1	1.8	1.6
20	8.7	18	86	274	92	208	e170	199	77	4.3	1.8	1.6
21	8.8	17	73	322	82	201	151	170	69	2.8	1.9	1.6
22	8.4	18	67	623	77	230	129	164	62	3.0	1.3	1.7
23	9.5	25	62	462	74	228	118	144	59	2.2	0.80	1.1
24	15	23	59	350	70	213	110	127	53	2.1	1.4	1.1
25	35	25	59	299	60	181	113	119	47	1.3	1.6	1.2
26	32	29	67	257	56	146	e110	288	44	1.3	1.6	1.6
27	19	32	65	215	57	140	e105	285	40	1.3	1.6	1.4
28	13	28	162	186	59	134	e94	248	39	0.89	1.6	1.1
29	14	24	494	161	---	129	88	214	40	1.2	1.6	1.3
30	15	24	322	138	---	335	83	173	34	1.3	1.6	1.2
31	20	---	208	112	---	475	---	150	---	1.3	1.6	---
Total	351.9	526.3	4,577	8,597	1,984	7,474	8,060	5,118	3,513	210.69	42.32	51.7
Mean	11.4	17.5	148	277	70.9	241	269	165	117	6.80	1.37	1.72
Max	35	32	531	1,030	107	478	1,000	345	356	27	1.9	4.4
Min	4.0	1.6	29	80	52	67	83	77	34	0.89	0.68	1.1
Ac-ft	698	1,040	9,080	17,050	3,940	14,820	15,990	10,150	6,970	418	84	103

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	6.12	44.2	109	152	168	170	165	101	39.9	3.48	1.94	2.32
Max	96.0	233	433	372	627	393	399	344	179	18.4	7.64	11.5
(WY)	(1952)	(1996)	(1965)	(1974)	(1996)	(1997)	(2009)	(1948)	(1974)	(1981)	(1989)	(1971)
Min	0.00	0.14	4.81	15.8	12.0	3.21	9.70	1.10	0.00	0.00	0.00	0.00
(WY)	(1989)	(1988)	(1953)	(1944)	(1977)	(1947)	(1947)	(1968)	(1973)	(1973)	(1973)	(1985)

14015000 MILL CREEK AT WALLA WALLA, WA—Continued**SUMMARY STATISTICS**

	Calendar Year 2010	Water Year 2011	Water Years 1941 - 2011	
Annual total	23,489.3	40,505.91		
Annual mean	64.4	111	79.8	
Highest annual mean			182	1974
Lowest annual mean			18.1	1977
Highest daily mean	667	Jun 3	1,030	Jan 17
Lowest daily mean	1.6	Jul 10	0.68	Aug 13
Annual seven-day minimum	1.7	Jul 30	0.86	Aug 9
Annual runoff (ac-ft)	46,590		80,340	57,790
10 percent exceeds	157		297	217
50 percent exceeds	42		60	29
90 percent exceeds	2.1		1.6	0.10

