

Snake River Basin  
 Owyhee and Malheur River Basins

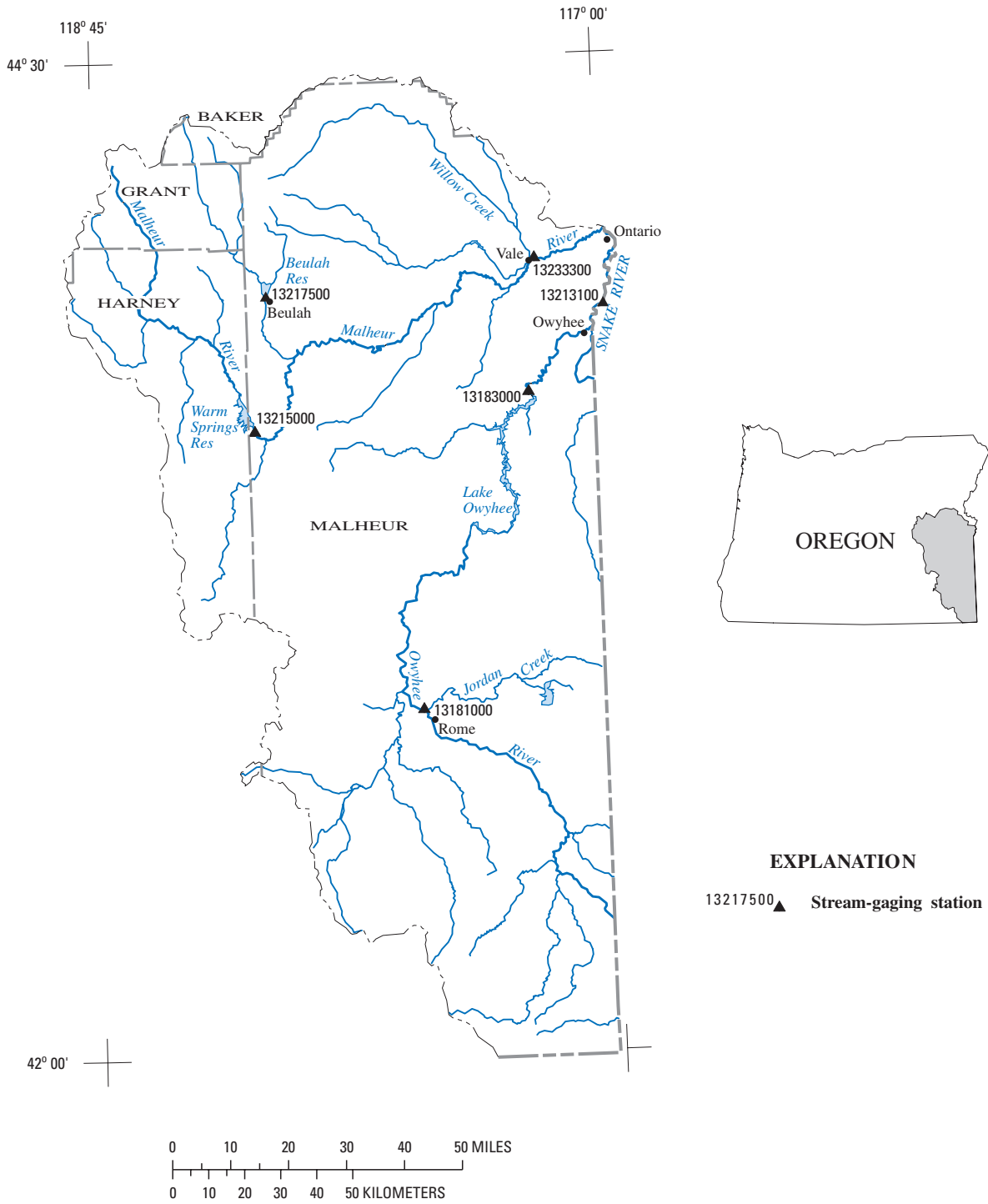


Figure 8. Location of surface-water stations in the Owyhee and Malheur River Basins.

OWYHEE RIVER BASIN

13181000 OWYHEE RIVER NEAR ROME, OR

LOCATION.--Lat 42°51'59", long 117°38'57", in SE ¼ NE ¼ sec.14, T.31 S., R.41 E., Malheur County, Hydrologic Unit 17050107, on right bank 0.5 mi downstream from Jordan Creek, 2.6 mi north of Rome and at mile 122.4.

DRAINAGE AREA.--8,000 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--October 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3,344.20 ft above NGVD of 1929. Prior to Feb 10, 1960, at datum 0.24 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated by Antelope Reservoir, capacity, 70,000 acre-ft, increased in 1970, and Wild Horse Reservoir, capacity, 32,690 acre-ft, and numerous small reservoirs. Diversions upstream from station for irrigation. Continuous water-quality records for the period October 1972 to June 1977 have been collected at this location. U. S. Bureau of Reclamation satellite telemeter at station.

AVERAGE DISCHARGE.--56 years (water years 1950-2005), 931 ft<sup>3</sup>/s, 674,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,700 ft<sup>3</sup>/s Mar. 18, 1993, gage height, 20.11 ft; minimum discharge, 42 ft<sup>3</sup>/s Aug. 12, 1954, July 28, Aug. 5, 1961, July 31, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,900 ft<sup>3</sup>/s May 17, gage height, 11.18 ft; minimum daily discharge, 101 ft<sup>3</sup>/s Aug. 15.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	189	141	215	404	607	794	4,890	2,660	426	165	154
2	111	186	161	193	367	556	789	3,970	2,450	421	166	153
3	111	189	164	196	321	546	1,040	3,540	2,320	413	164	153
4	106	188	162	183	289	519	1,160	3,200	2,060	435	156	133
5	105	217	157	245	270	494	878	2,950	1,850	401	152	120
6	106	235	156	206	251	518	789	3,610	1,710	371	152	119
7	111	212	155	187	233	491	750	6,680	1,570	335	148	118
8	116	198	156	190	242	493	720	6,920	1,450	315	145	121
9	112	197	186	199	233	555	740	6,370	1,410	295	140	128
10	111	194	1,830	197	226	583	823	8,920	1,410	286	132	133
11	110	194	3,720	189	216	618	884	9,740	1,390	280	123	137
12	110	189	2,570	185	201	589	887	7,570	1,280	269	120	132
13	111	193	1,410	163	206	554	810	9,600	1,160	252	117	129
14	113	199	1,030	150	198	557	747	7,810	1,090	239	112	130
15	115	193	828	147	202	554	698	5,830	1,050	228	101	137
16	115	190	648	146	203	534	668	5,000	975	223	104	140
17	119	190	522	182	212	463	648	10,800	908	212	111	147
18	125	190	434	185	213	409	632	12,100	885	202	111	152
19	128	185	356	190	226	381	598	9,780	853	195	104	154
20	131	180	306	192	240	363	584	8,810	824	193	118	157
21	135	e180	273	194	230	349	664	7,620	795	194	126	151
22	136	e170	263	194	256	343	676	6,420	736	187	128	150
23	148	e150	260	194	499	384	707	5,540	676	179	125	158
24	151	e160	223	193	997	443	1,130	4,830	609	177	125	165
25	157	e160	210	193	945	1,680	1,800	4,180	559	175	139	161
26	161	e160	199	201	822	1,320	7,970	3,710	528	169	137	159
27	164	e160	202	206	761	1,010	5,700	3,340	493	168	155	149
28	185	e170	229	228	674	794	3,910	3,070	482	168	161	138
29	207	e140	230	255	---	720	6,200	2,850	452	166	165	131
30	213	e120	226	288	---	878	6,780	2,710	448	164	155	129
31	200	---	221	397	---	839	---	2,620	---	160	156	---
TOTAL	4,136	5,478	17,628	6,283	10,137	19,144	51,176	184,980	35,083	7,898	4,213	4,238
MEAN	133	183	569	203	362	618	1,706	5,967	1,169	255	136	141
MAX	213	235	3,720	397	997	1,680	7,970	12,100	2,660	435	166	165
MIN	105	120	141	146	198	343	584	2,620	448	160	101	118
AC-FT	8,200	10,870	34,970	12,460	20,110	37,970	101,500	366,900	69,590	15,670	8,360	8,410

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2005, BY WATER YEAR (WY)

MEAN	160	210	375	650	1,183	2,451	2,787	1,993	862	250	149	136
MAX	442	593	2,898	4,461	8,820	9,404	16,960	10,470	4,870	1,035	452	361
(WY)	(1976)	(1971)	(1965)	(1971)	(1986)	(1972)	(1952)	(1984)	(1984)	(1984)	(1984)	(1984)
MIN	85.3	107	104	114	129	233	144	86.5	89.6	61.2	56.0	62.5
(WY)	(1955)	(1955)	(1955)	(1955)	(1955)	(1977)	(1992)	(1992)	(1992)	(1968)	(1992)	(1955)

OWYHEE RIVER BASIN

13181000 OWYHEE RIVER NEAR ROME, OR—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1950 - 2005	
ANNUAL TOTAL	263,995		350,394			
ANNUAL MEAN	721		960		931	
HIGHEST ANNUAL MEAN					3,400	1984
LOWEST ANNUAL MEAN					162	1992
HIGHEST DAILY MEAN	12,700	Mar 20	12,100	May 18	46,900	Mar 18, 1993
LOWEST DAILY MEAN	84	Aug 9	101	Aug 15	44	Aug 1, 1968
ANNUAL SEVEN-DAY MINIMUM	87	Aug 3	109	Aug 13	47	Jul 26, 1968
ANNUAL RUNOFF (AC-FT)	523,600		695,000		674,700	
10 PERCENT EXCEEDS	1,830		2,680		2,470	
50 PERCENT EXCEEDS	200		221		230	
90 PERCENT EXCEEDS	111		127		107	

e Estimated

OWYHEE RIVER BASIN

13181000 OWYHEE RIVER NEAR ROME, OR—Continued



2005 Water Year  
OWYHEE RIVER BASIN

13181000 OWYHEE RIVER NR ROME OR

Latitude: 42° 51 ' 59"

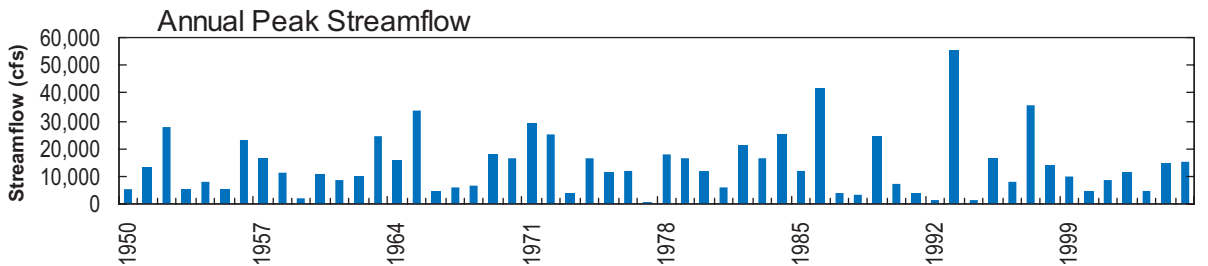
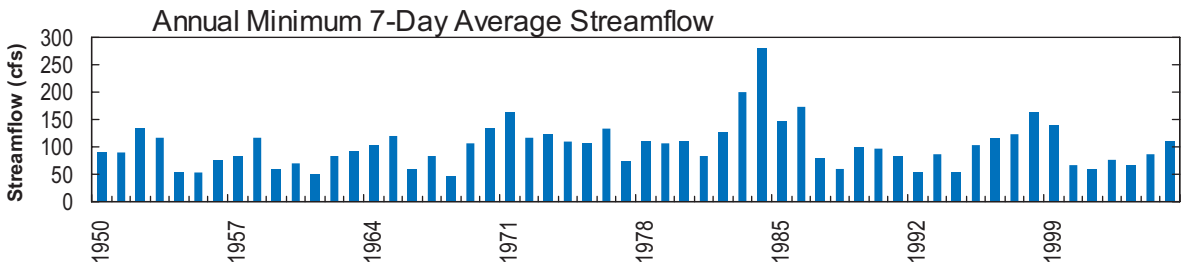
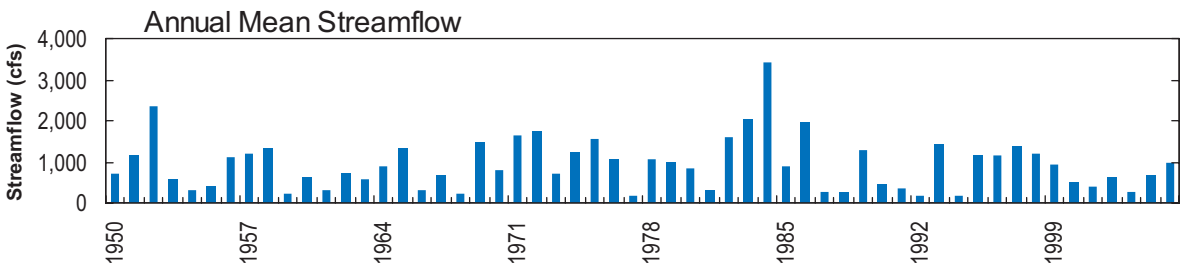
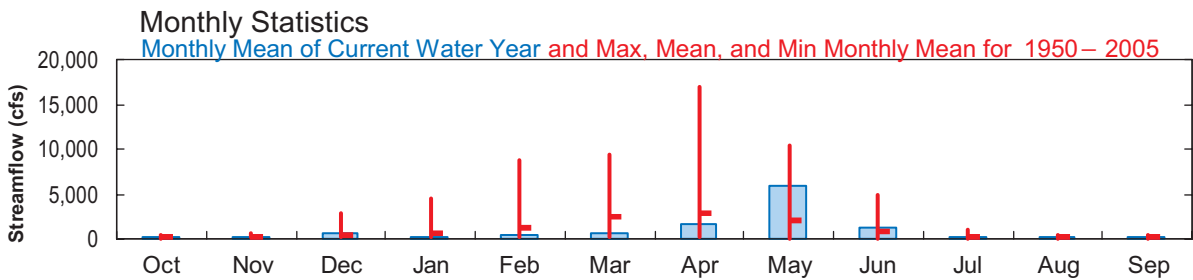
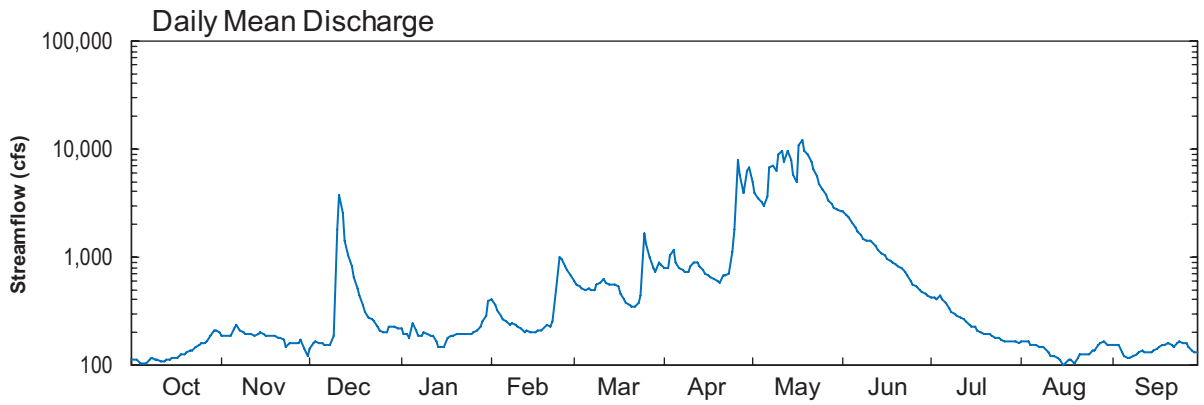
Longitude: 117° 38 ' 57"

Hydrologic Unit Code: 17050107

Malheur County

Datum: 3344.20 feet

Drainage Area: 8000 mi<sup>2</sup>



OWYHEE RIVER BASIN

13183000 OWYHEE RIVER BELOW OWYHEE DAM, OR

LOCATION.--Lat 43°39'16", long 117°15'21", in SE ¼ sec.18, T.22 S., R.45 E.,Malheur County, Hydrologic Unit 17050110, on left bank 0.8 mi downstream from Owyhee Dam, 20 mi southwest of Nyssa and at mile 27.3.

DRAINAGE AREA.--11,160 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--February 1929 to current year.

REVISED RECORDS.--WSP 983: 1941-42. WSP 1397: 1930, 1933, 1946.

GAGE.--Water-stage recorder. Datum of gage is 2,343.67 ft above NGVD of 1929 (levels by Bureau of Reclamation).

REMARKS.--No estimated daily discharges. Records good. Flow regulated since October 1932 by Lake Owyhee (station 13182500), and by many smaller reservoirs. Diversion of up to 457,000 acre-ft from Lake Owyhee during the year for irrigation of lands downstream from station and outside the basin. Many smaller diversions upstream from Lake Owyhee for irrigation upstream from station. Computation of monthly and annual adjusted flows discontinued in 1991.

AVERAGE DISCHARGE.--73 years (water years 1933-2005), 399 ft<sup>3</sup>/s, 289,200 acre-ft/yr, not adjusted for storage or diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,900 ft<sup>3</sup>/s Apr. 15, 1952, gage height, 15.70 ft; no flow for part of Aug. 8, 9, 1932, when temporary diversion tunnel at Owyhee Dam was closed.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 233 ft<sup>3</sup>/s Apr. 17; minimum daily discharge, 3.5 ft<sup>3</sup>/s Oct. 16.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	186	8.1	8.7	9.4	9.7	9.7	10	155	203	216	208	201
2	187	8.1	8.7	9.4	9.7	9.9	10	156	204	216	208	201
3	187	8.3	8.7	9.4	9.7	9.7	11	155	204	217	208	201
4	180	8.1	8.7	9.4	9.9	9.9	11	156	204	218	208	201
5	166	8.1	8.7	9.4	10	10	10	156	204	217	207	201
6	158	8.1	8.7	9.4	9.8	9.9	10	157	205	216	208	201
7	161	8.1	8.7	9.4	9.9	9.9	11	155	217	215	207	201
8	160	8.3	8.7	9.4	10	10	11	156	225	215	199	202
9	160	8.4	8.7	9.4	10	10	11	157	225	213	206	204
10	160	8.4	9.0	9.3	10	10	11	158	225	213	206	204
11	160	8.4	9.0	9.2	10	10	11	158	225	216	206	202
12	160	8.4	9.0	9.1	10	10	11	160	225	218	206	201
13	160	8.4	9.0	9.3	10	10	10	160	225	218	206	202
14	161	8.4	9.0	9.1	10	10	10	160	225	218	206	202
15	82	8.4	9.0	9.1	9.9	10	11	160	225	218	206	203
16	3.5	8.4	9.0	9.2	10	9.8	138	162	225	218	205	204
17	4.8	8.4	9.2	9.0	10	9.7	233	162	225	218	204	204
18	5.4	8.4	9.4	8.9	9.9	10	190	162	225	217	204	204
19	7.8	8.4	9.3	9.1	9.9	10	159	163	222	215	204	203
20	8.1	8.4	9.4	9.2	9.7	10	158	165	220	214	204	204
21	8.1	8.4	9.4	9.0	9.7	10	157	179	220	213	204	204
22	8.1	8.4	9.4	8.7	9.7	10	157	184	220	213	204	204
23	8.1	8.4	9.4	8.7	9.7	10	156	180	220	213	204	204
24	8.1	8.4	9.4	8.6	9.7	10	156	170	220	211	203	204
25	8.1	8.4	9.4	9.2	9.9	10	155	173	220	211	202	204
26	8.1	8.4	9.4	9.7	10	10	154	175	220	211	201	204
27	8.1	8.6	9.4	9.7	9.8	10	154	171	220	211	201	204
28	8.1	8.7	9.4	9.7	9.7	10	154	174	220	210	201	204
29	8.1	8.7	9.4	9.7	---	10	155	187	217	208	201	204
30	8.1	8.7	9.4	9.7	---	10	155	199	216	208	201	204
31	8.1	---	9.4	9.7	---	10	---	199	---	208	201	---
TOTAL	2,546.7	251.1	282.0	287.5	276.3	308.5	2,590	5,164	6,551	6,643	6,339	6,086
MEAN	82.2	8.37	9.10	9.27	9.87	9.95	86.3	167	218	214	204	203
MAX	187	8.7	9.4	9.7	10	10	233	199	225	218	208	204
MIN	3.5	8.1	8.7	8.6	9.7	9.7	10	155	203	208	199	201
AC-FT	5,050	498	559	570	548	612	5,140	10,240	12,990	13,180	12,570	12,070

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 2005, BY WATER YEAR (WY)

MEAN	69.5	9.81	23.5	139	374	996	1,581	819	327	175	158	133
MAX	242	196	703	2,751	5,198	7,799	12,790	8,565	3,246	618	312	248
(WY)	(1986)	(1933)	(1985)	(1971)	(1986)	(1972)	(1984)	(1984)	(1984)	(1933)	(1933)	(1933)
MIN	2.80	1.00	1.31	1.17	1.13	1.66	28.2	39.5	45.8	44.3	22.4	8.00
(WY)	(1955)	(1953)	(1993)	(1993)	(1993)	(1992)	(1955)	(1955)	(1948)	(1948)	(1948)	(1948)

OWYHEE RIVER BASIN

13183000 OWYHEE RIVER BELOW OWYHEE DAM, OR—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1933 - 2005	
ANNUAL TOTAL	40,251.6		37,325.1			
ANNUAL MEAN	110		102		399	
HIGHEST ANNUAL MEAN					2,991	1984
LOWEST ANNUAL MEAN					22.3	1948
HIGHEST DAILY MEAN	223	Aug 24	233	Apr 17	21,800	Apr 16, 1952
LOWEST DAILY MEAN	3.5	Oct 16	3.5	Oct 16	1.0	Oct 18, 1952
ANNUAL SEVEN-DAY MINIMUM	6.5	Oct 16	6.5	Oct 16	1.0	Oct 18, 1952
ANNUAL RUNOFF (AC-FT)	79,840		74,030		289,300	
10 PERCENT EXCEEDS	211		216		518	
50 PERCENT EXCEEDS	164		82		85	
90 PERCENT EXCEEDS	8.4		8.4		2.8	

OWYHEE RIVER BASIN

13183000 OWYHEE RIVER BELOW OWYHEE DAM, OR—Continued



2005 Water Year  
OWYHEE RIVER BASIN

13183000 OWYHEE RIVER BELOW OWYHEE DAM, OR

Latitude: 43° 39' 16"

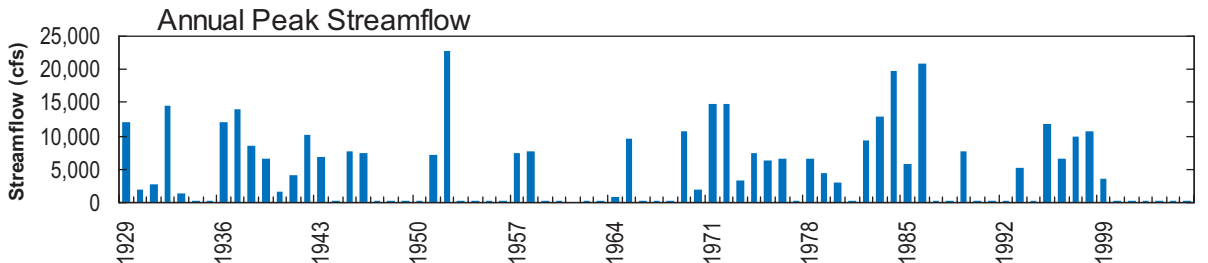
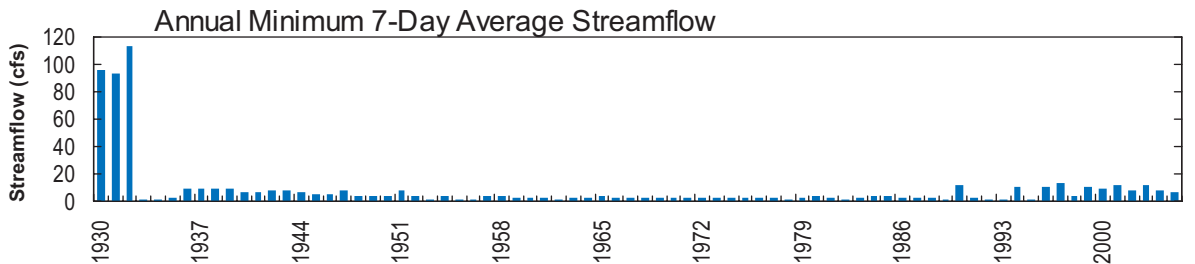
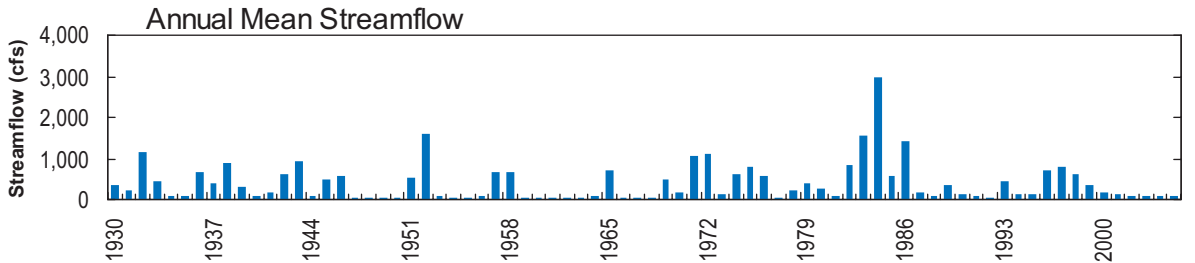
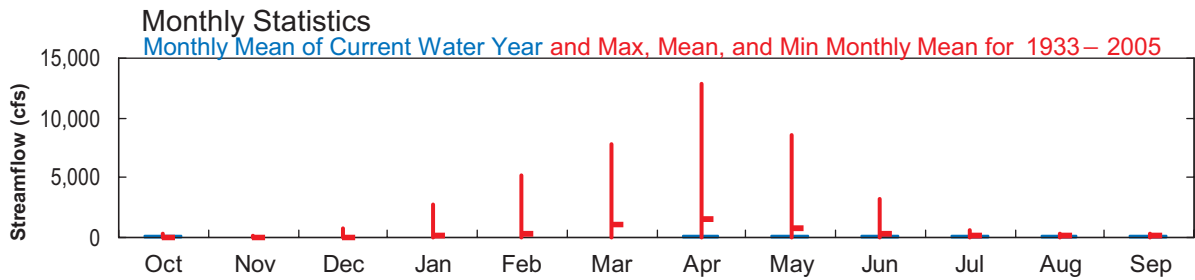
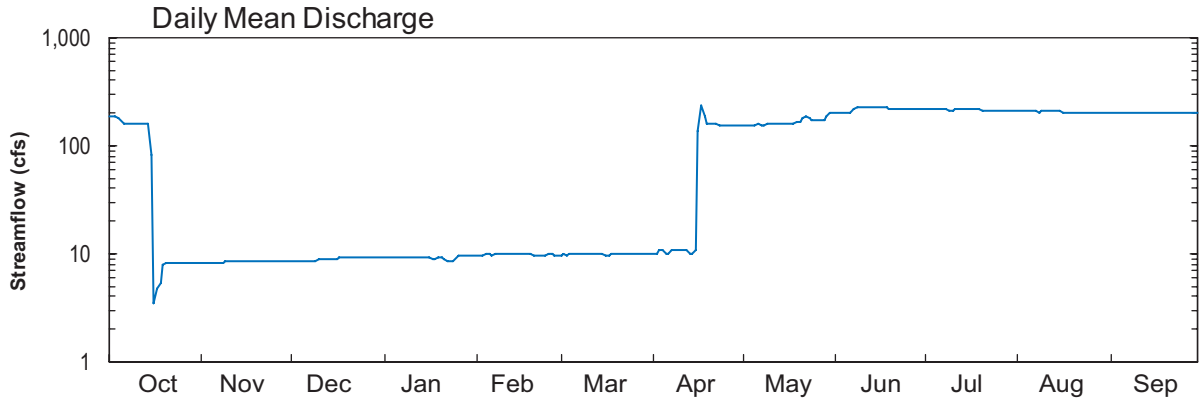
Longitude: 117° 15' 21"

Hydrologic Unit Code: 17050110

Malheur County

Datum: 2343.67 feet

Drainage Area: 11,160 mi<sup>2</sup>



Snake River Main Stem

13213100 Snake River at Nyssa, OR

LOCATION.--Lat 43°52'34", long 116°58'57", (NAD83), in NW¼SW¼NE¼ sec.7, T.6 N., R.5 W., Canyon County, Nyssa quad., Hydrologic Unit 17050115, on right bank, 300 ft upstream from U.S. Highway 20-26 bridge at Nyssa, Oregon, 2.3 mi downstream from Boise River, and at mile 385.2.

DRAINAGE AREA.--58,700 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--November 1974 to September 1986, February 1989 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,170 ft above NGVD of 1929, from topographic map. Prior to 1989, station located on left bank, in Oregon.

REMARKS.--No estimated daily discharges. Records good. Station equipment includes satellite telemetry. Flow regulated by many reservoirs above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 57,900 ft<sup>3</sup>/s Apr. 19, 1984, gage height, 13.34 ft; minimum, 4,110 ft<sup>3</sup>/s June 7, 1992, gage height, 4.32 ft.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 15,900 ft<sup>3</sup>/s May 19; minimum daily, 5,190 ft<sup>3</sup>/s June 24.

Discharge, cubic feet per second  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8450	8700	8290	8090	8060	7820	7460	7730	8650	8330	7030	5640
2	8500	8770	8200	7940	8010	7450	7120	8040	9070	8340	6690	6410
3	8720	9280	7870	7490	7660	7760	6870	7560	9230	7360	6670	6640
4	8130	8580	7850	7520	7760	7550	6780	7300	7230	6930	6950	6530
5	8420	8520	8280	7500	7410	7670	6790	6950	8800	7320	6620	6660
6	8180	8440	8210	7890	7350	7540	6810	8100	8360	7010	6630	6810
7	8530	8450	7720	7660	7780	7680	6560	9340	8070	7040	6660	6930
8	8340	8690	7890	7920	7540	8120	6620	9520	7460	6450	6740	6960
9	8780	8070	8640	7740	7630	7360	6660	9680	7810	6620	6860	6790
10	8260	8600	8750	7340	7360	7540	6340	10500	7390	6520	6390	6790
11	8150	8730	8510	7790	7830	7460	6660	10600	6870	6520	6210	7140
12	8910	8360	8660	7630	7700	7710	6580	11200	6620	7100	6220	7560
13	8870	8680	8270	7620	7480	7740	6660	10800	6260	7010	6190	7240
14	8570	8740	8390	7770	7650	7800	6400	11100	5910	6780	6270	7640
15	8590	8270	8370	7110	7750	7450	6730	11300	5600	6060	6400	7870
16	8800	8360	7890	7840	7530	7250	6330	10500	5760	6710	6190	7800
17	8370	8230	8170	7440	8110	7570	6260	11300	5820	6320	6080	7680
18	8390	8110	8190	7920	7690	7290	6550	12400	6110	6440	6510	7830
19	8860	8460	8060	7740	7110	7080	6300	15900	6400	6810	6400	8420
20	9090	8010	8070	7640	7190	7250	5980	15100	6420	6270	6840	8370
21	8640	7950	7660	7760	7680	7350	6820	13700	6180	6450	6980	8590
22	9270	8190	7910	7580	7620	7230	7500	13800	6150	6530	7050	8270
23	9070	8450	7950	7650	7880	7180	7580	12200	6180	6260	7020	8050
24	8980	8110	7740	7900	7920	7170	7970	11400	5190	6170	6500	8480
25	9330	8050	7660	7800	7590	7360	7620	11200	6050	6170	6390	8500
26	9200	8490	7990	7870	7740	8150	7400	10600	6670	6480	6590	8390
27	9810	8220	7870	7810	7470	7340	8300	9830	7320	6360	6760	8160
28	9240	8180	7550	7610	7930	7400	8240	9670	8050	6710	7030	8260
29	9260	8200	7750	8060	---	6930	7910	8540	8290	6890	6750	8610
30	8690	8030	7670	7640	---	6580	7700	8250	8160	6730	6120	8620
31	8850	---	8090	7560	---	6810	---	9530	---	6630	5340	---
TOTAL	271250	251920	250120	238830	214430	230590	209500	323640	213780	209620	203080	227640
MEAN	8750	8397	8068	7704	7658	7438	6983	10440	7126	6762	6551	7588
MAX	9810	9280	8750	8090	8110	8150	8300	15900	9230	8340	7050	8620
MIN	8130	7950	7550	7110	7110	6580	5980	6950	5190	6060	5340	5640
AC-FT	538000	499700	496100	473700	425300	457400	415500	641900	424000	415800	402800	451500

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2005, BY WATER YEAR (WY)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	
MEAN	11860	12300	12730	13760	14670	16940	18990	18130	15440	8511	8460	10310																				
MAX	21360	24660	24320	30290	38580	40010	43970	49060	41100	16480	12620	17110																				
(WY)	1985	1985	1984	1984	1997	1986	1984	1984	1984	1983	1997	1997																				
MIN	7970	7973	8068	7704	7658	7438	6033	5367	5223	5352	5075	6664																				
(WY)	2004	2004	2005	2005	2005	2005	1992	1992	1992	2003	1992	1992																				

SUMMARY STATISTICS

FOR 2004 CALENDAR YEAR

FOR 2005 WATER YEAR

WATER YEARS 1975 - 2005

ANNUAL TOTAL	2804740	2844400		
ANNUAL MEAN	7663	7793	13410	
HIGHEST ANNUAL MEAN			26260	1984
LOWEST ANNUAL MEAN			7365	1992
HIGHEST DAILY MEAN	10700	15900	57400	Apr 20 1984
LOWEST DAILY MEAN	5230	5190	4240	Jun 7 1992
ANNUAL SEVEN-DAY MINIMUM	5410	5980	4520	Jun 6 1992
ANNUAL RUNOFF (AC-FT)	5563000	5642000	9714000	
10 PERCENT EXCEEDS	9080	8920	24900	
50 PERCENT EXCEEDS	7940	7700	10200	
90 PERCENT EXCEEDS	5740	6400	6930	



## MALHEUR RIVER BASIN

## 13215000 MALHEUR RIVER BELOW WARMSPRINGS RESERVOIR, NEAR RIVERSIDE, OR

LOCATION.--Lat 43°34'28", long 118°12'35"(NAD 83), on line between NW ¼ SW ¼ and SW ¼ NW ¼ sec.17, T.23 S., R.37 E., Malheur County, Hydrologic Unit 17050116, on left bank 0.9 mi downstream from Warm Springs Dam, 3.0 mi upstream from South Fork, 4.0 mi northwest of Riverside, and at mile 113.

DRAINAGE AREA.--1,100 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--January 1906 to March 1907 and December 1908 (gage heights only), January 1909 to September 1910, December 1914 to July 1917, March 1919 to current year. Monthly discharge only for some periods, published in WSP 1317. Figures of discharge for January 1906 to March 1907, published in WSP 272 and 370, have been found to be unreliable and should not be used. Published as Middle Fork of Malheur River at Riverside 1906-07, as Middle Fork of Malheur River above South Fork, at Riverside 1909-10, as Malheur River above South Fork, at Riverside in WSP 370, 1906-10, and as Malheur River at Warm Springs reservoir site, near Riverside 1914-17.

REVISED RECORDS.--WSP 833: 1936. WSP 1063: 1942-45. WSP 1397: 1909-10, 1917. WSP 1447: 1955. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Elevation of gage is 3,305 ft above NGVD of 1929, by barometer. See WSP 1317 or 1737 for history of changes prior to Sept. 29, 1949.

REMARKS.--No estimated daily discharges. Records good except for those below 40 ft<sup>3</sup>/s, which are poor. Flow completely regulated since November 1919 by Warm Springs Reservoir (station 13214500). Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--86 years (water years 1920-2005), 188 ft<sup>3</sup>/s, 136,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 7,200 ft<sup>3</sup>/s Mar. 1, 1910, gage height, 10.7 ft, site and datum then in use, from rating curve extended above 820 ft<sup>3</sup>/s; maximum discharge since storage began November 1919, 3,150 ft<sup>3</sup>/s Mar. 22, 1984, gage height, 9.70 ft, from floodmark; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 487 ft<sup>3</sup>/s Aug. 14; no flow part or all of each day Jan. 14-29, Mar. 12-22.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	0.08	0.04	0.04	0.04	0.02	0.01	159	226	435	430	412
2	28	0.07	0.04	0.04	0.04	0.02	0.01	153	256	436	421	400
3	27	0.07	0.04	0.04	0.04	0.02	0.01	245	275	436	417	376
4	27	0.07	0.04	0.04	0.03	0.02	0.02	329	305	436	419	364
5	27	0.07	0.04	0.03	0.03	0.02	0.02	358	331	436	435	360
6	26	0.07	0.04	0.03	0.03	0.02	0.02	300	308	428	447	358
7	25	0.07	0.04	0.02	0.03	0.02	0.02	96	283	425	447	347
8	25	0.06	0.07	0.02	0.03	0.02	0.02	19	277	436	439	325
9	24	0.06	0.08	0.02	0.03	0.01	0.03	116	275	435	448	312
10	25	0.06	0.07	0.02	0.03	0.01	0.02	42	276	442	451	307
11	11	0.06	0.06	0.02	0.02	0.01	0.02	0.83	281	439	463	307
12	0.12	0.06	0.06	0.01	0.02	0.00	0.03	1.1	283	414	477	287
13	0.10	0.06	0.06	0.01	0.02	0.00	0.03	1.1	284	395	480	260
14	0.10	0.05	0.06	0.00	0.02	0.00	0.03	1.3	291	395	482	241
15	0.09	0.05	0.06	0.00	0.02	0.00	0.03	1.5	296	395	464	205
16	0.09	0.05	0.05	0.00	0.02	0.00	0.03	1.5	317	393	457	161
17	0.09	0.05	0.05	0.00	0.02	0.00	0.04	22	334	391	449	134
18	0.09	0.05	0.05	0.00	0.02	0.00	0.04	118	337	391	437	127
19	0.09	0.05	0.05	0.00	0.02	0.00	0.04	55	335	383	434	141
20	0.11	0.04	0.05	0.00	0.02	0.00	0.04	0.77	335	388	445	150
21	0.11	0.04	0.05	0.00	0.03	0.00	0.05	0.85	363	404	453	150
22	0.12	0.04	0.05	0.00	0.02	0.01	0.06	0.61	400	411	458	153
23	0.33	0.04	0.04	0.00	0.02	0.02	0.06	0.59	423	414	457	156
24	0.28	0.04	0.04	0.00	0.02	0.01	0.06	5.7	423	414	445	152
25	0.26	0.04	0.04	0.00	0.02	0.01	0.07	80	422	411	434	147
26	0.22	0.04	0.04	0.00	0.02	0.01	0.06	120	426	413	432	138
27	0.12	0.04	0.04	0.00	0.02	0.02	0.06	146	436	415	423	126
28	0.10	0.04	0.04	0.00	0.02	0.02	0.06	161	440	413	415	121
29	0.10	0.04	0.04	0.02	---	0.02	0.06	180	440	421	412	102
30	0.09	0.04	0.04	0.05	---	0.02	175	206	437	423	412	75
31	0.08	---	0.04	0.04	---	0.02	---	221	---	424	411	---
TOTAL	275.69	1.60	1.51	0.45	0.70	0.35	176.05	3,141.85	10,115	12,892	13,694	6,894
MEAN	8.89	0.05	0.05	0.01	0.03	0.01	5.87	101	337	416	442	230
MAX	28	0.08	0.08	0.05	0.04	0.02	175	358	440	442	482	412
MIN	0.08	0.04	0.04	0.00	0.02	0.00	0.01	0.59	226	383	411	75
AC-FT	547	3.2	3.0	0.9	1.4	0.7	349	6,230	20,060	25,570	27,160	13,670

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 2005, BY WATER YEAR (WY)

MEAN	34.7	0.74	6.71	17.7	37.2	82.9	313	422	350	434	352	195
MAX	138	19.8	323	452	763	1,440	1,603	1,162	570	677	575	398
(WY)	(1953)	(1920)	(1984)	(1971)	(1983)	(1983)	(1984)	(1958)	(2000)	(1945)	(1946)	(1999)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.4	92.0	30.3	0.04	0.00
(WY)	(1934)	(1933)	(1933)	(1933)	(1933)	(1933)	(1935)	(1932)	(1942)	(1992)	(1988)	(1988)

MALHEUR RIVER BASIN

13215000 MALHEUR RIVER BELOW WARMSPRINGS RESERVOIR, NEAR RIVERSIDE, OR—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1920 - 2005	
ANNUAL TOTAL	56,107.12		47,193.20			
ANNUAL MEAN	153		129		188	
HIGHEST ANNUAL MEAN					566	1983
LOWEST ANNUAL MEAN					46.8	1930
HIGHEST DAILY MEAN	526	Jun 25	482	Aug 14	3,030	Mar 22, 1984
LOWEST DAILY MEAN	0.04	Feb 14	0.00	Jan 14	0.00	Oct 5, 1932
ANNUAL SEVEN-DAY MINIMUM	0.04	Nov 20	0.00	Jan 14	0.00	Oct 5, 1932
ANNUAL RUNOFF (AC-FT)	111,300		93,610		136,200	
10 PERCENT EXCEEDS	457		429		500	
50 PERCENT EXCEEDS	16		0.09		3.0	
90 PERCENT EXCEEDS	0.05		0.01		0.00	

MALHEUR RIVER BASIN

13215000 MALHEUR RIVER BELOW WARMSPRINGS RESERVOIR, NEAR RIVERSIDE, OR—Continued



2005 Water Year  
MALHEUR RIVER BASIN

**13215000 MALHEUR RIVER BLW WARMSPRINGS RESV, NR RIVERSIDE, OR**

Latitude: 43° 34' 28"

Longitude: 118° 12' 35"

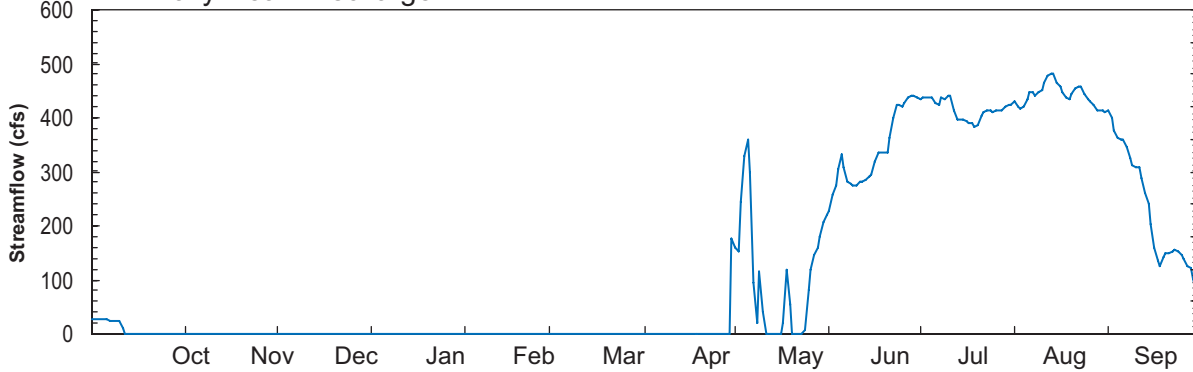
Hydrologic Unit Code: 17050116

Malheur County

Datum: 3305.00 feet

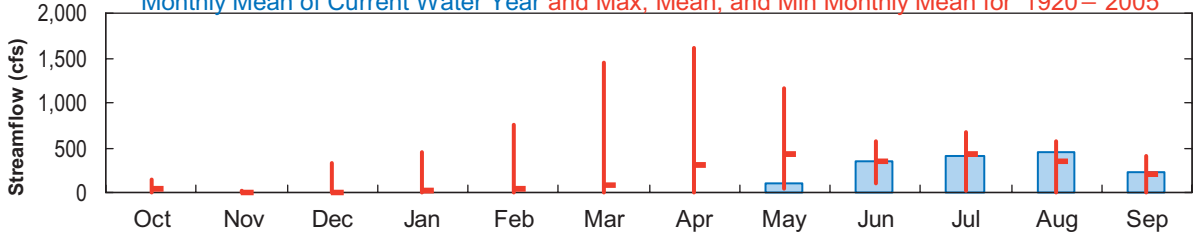
Drainage Area: 1100 mi<sup>2</sup>

Daily Mean Discharge

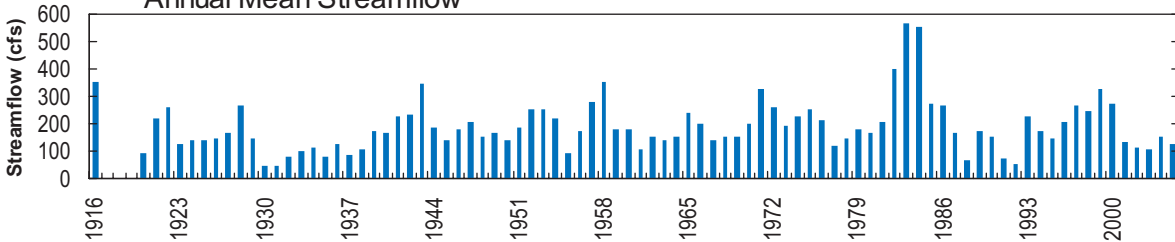


Monthly Statistics

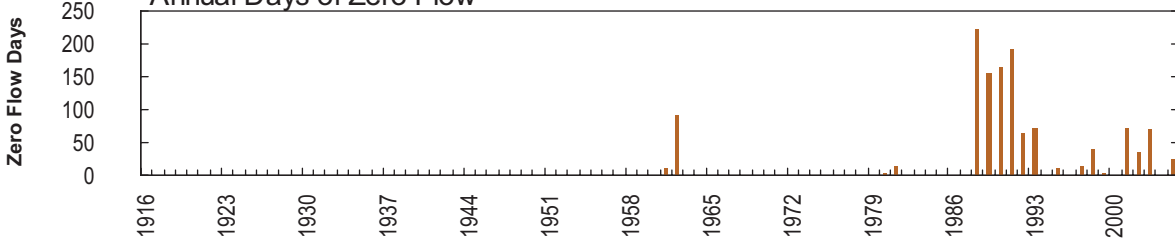
Monthly Mean of Current Water Year and Max, Mean, and Min Monthly Mean for 1920–2005



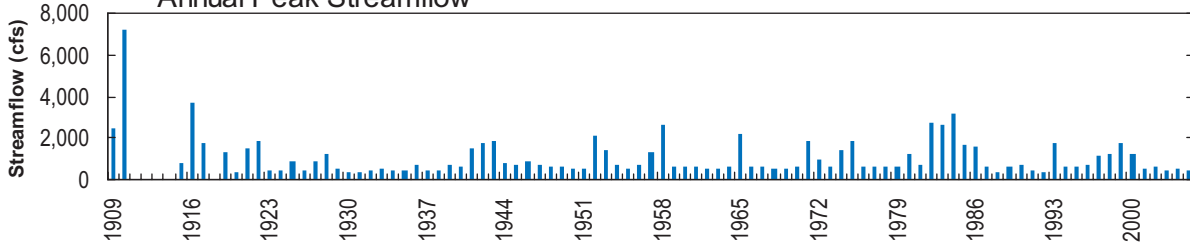
Annual Mean Streamflow



Annual Days of Zero Flow



Annual Peak Streamflow



## MALHEUR RIVER BASIN

## 13217500 NORTH FORK MALHEUR RIVER AT BEULAH, OR

LOCATION.--Lat 43°54'27", long 118°09'12"(NAD 83), in NW ¼ NE ¼ sec.22, T.19 S., R.37 E., Malheur County, Hydrologic Unit 17050116, on left bank at Beulah, 0.3 mi downstream from Agency Valley Dam, 12 mi northwest of Juntura and at mile 14.5.

DRAINAGE AREA.--440 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--June 1926 to current year. Published as "near Beulah" June 1926 to September 1935.

REVISED RECORDS.--WSP 1397: 1927-32, 1934, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,261.20 ft above NGVD of 1929. Prior to Apr. 25, 1936, water-stage recorder at site 1 mi downstream at different datum. Apr. 25, 1936, to Sept. 30, 1949, nonrecording gage at site 20 ft downstream at datum 1.0 ft higher. Oct. 1, 1949 to June 30, 1964, at present site at datum 1.0 ft higher.

REMARKS.--No estimated daily discharges. Records good except those below 20 ft<sup>3</sup>/s, which are poor. Flow regulated since 1935 by Beulah Reservoir (station 13217000). Diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--70 years (water years 1936-2005), 143 ft<sup>3</sup>/s, 103,600 acre-ft/yr, regulated period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,000 ft<sup>3</sup>/s May 7, 1942, gage height, 9.4 ft, present datum, from floodmark, caused by failure of gates at Agency Valley Dam, from rating curve extended above 1,100 ft<sup>3</sup>/s on basis of computation of peak flow over dam; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 762 ft<sup>3</sup>/s May 13, gage height, 4.32 ft; minimum daily discharge, 0.05 ft<sup>3</sup>/s Mar. 14.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	0.06	0.06	0.07	0.08	0.06	0.16	100	244	307	293	235
2	47	0.06	0.06	0.07	0.08	0.06	0.30	100	244	305	287	234
3	48	0.07	0.06	0.07	0.08	0.07	0.40	100	242	305	286	232
4	48	0.06	0.06	0.07	0.08	0.08	0.43	125	241	303	287	231
5	47	0.06	0.06	0.07	0.08	0.08	0.46	171	241	290	287	230
6	24	0.06	0.06	0.07	0.08	0.08	0.45	123	241	283	294	230
7	16	0.06	0.06	0.07	0.08	0.09	0.45	93	241	289	296	228
8	18	0.06	0.09	0.07	0.08	0.08	0.46	94	242	292	296	227
9	20	0.06	0.11	0.07	0.07	0.08	0.48	96	244	297	296	226
10	22	0.06	0.09	0.06	0.07	0.07	0.50	95	244	300	302	224
11	18	0.06	0.08	0.06	0.07	0.07	0.54	92	257	299	302	224
12	17	0.06	0.08	0.06	0.06	0.06	0.63	263	261	298	302	214
13	17	0.07	0.08	0.06	0.07	0.06	0.74	685	261	278	308	192
14	11	0.07	0.08	0.06	0.07	0.05	0.79	565	269	279	312	190
15	8.3	0.07	0.07	0.06	0.07	0.06	0.81	539	272	284	310	158
16	8.9	0.07	0.07	0.06	0.07	0.06	0.91	512	283	284	309	143
17	10	0.07	0.07	0.06	0.07	0.07	1.0	352	287	284	305	143
18	11	0.07	0.07	0.06	0.07	0.07	1.1	214	299	281	302	143
19	12	0.07	0.07	0.06	0.07	0.08	1.1	352	305	278	302	143
20	13	0.07	0.07	0.06	0.06	0.09	1.1	470	277	288	302	153
21	13	0.07	0.06	0.07	0.06	0.08	1.2	358	276	290	302	158
22	13	0.07	0.06	0.06	0.06	0.09	1.2	299	306	290	302	157
23	14	0.07	0.06	0.06	0.06	0.09	1.4	320	318	290	301	155
24	14	0.07	0.06	0.06	0.06	0.09	1.4	233	314	290	291	155
25	13	0.07	0.06	0.06	0.06	0.09	1.4	245	312	290	277	154
26	13	0.07	0.06	0.06	0.06	0.09	1.6	237	312	278	271	142
27	6.3	0.06	0.06	0.06	0.06	0.11	2.0	244	312	272	268	136
28	0.10	0.06	0.06	0.07	0.06	0.13	2.4	243	312	287	265	112
29	0.08	0.06	0.07	0.08	---	0.13	3.2	242	309	293	248	102
30	0.07	0.06	0.07	0.08	---	0.12	85	244	309	293	239	101
31	0.06	---	0.07	0.08	---	0.11	---	244	---	293	237	---
TOTAL	550.81	1.95	2.14	2.03	1.94	2.55	113.61	8,050	8,275	8,990	8,979	5,372
MEAN	17.8	0.07	0.07	0.07	0.07	0.08	3.79	260	276	290	290	179
MAX	48	0.07	0.11	0.08	0.08	0.13	85	685	318	307	312	235
MIN	0.06	0.06	0.06	0.06	0.06	0.05	0.16	92	241	272	237	101
AC-FT	1,090	3.9	4.2	4.0	3.8	5.1	225	15,970	16,410	17,830	17,810	10,660

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 2005, BY WATER YEAR (WY)

MEAN	35.7	0.93	1.54	9.79	28.0	83.5	287	351	284	277	217	133
MAX	134	35.5	62.7	287	478	936	856	810	510	402	399	341
(WY)	(1954)	(1936)	(1943)	(1943)	(1965)	(1983)	(1958)	(1983)	(1974)	(1979)	(1980)	(1945)
MIN	0.09	0.00	0.00	0.00	0.00	0.00	2.29	120	53.7	39.5	30.4	31.9
(WY)	(1974)	(1938)	(1938)	(1936)	(1938)	(1938)	(1981)	(1977)	(1939)	(1992)	(1992)	(1961)

MALHEUR RIVER BASIN

13217500 NORTH FORK MALHEUR RIVER AT BEULAH, OR—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1936 - 2005	
ANNUAL TOTAL	45,180.50		40,341.03			
ANNUAL MEAN	123		111		143	
HIGHEST ANNUAL MEAN					335 1983	
LOWEST ANNUAL MEAN					54.6 1936	
HIGHEST DAILY MEAN	389	Aug 1	685	May 13	3,700	May 7, 1942
LOWEST DAILY MEAN	0.00	Jan 17	0.05	Mar 14	0.00	Dec 22, 1935
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 15	0.06	Nov 4	0.00	Dec 22, 1935
ANNUAL RUNOFF (AC-FT)	89,620		80,020		103,600	
10 PERCENT EXCEEDS	355		301		362	
50 PERCENT EXCEEDS	17		2.4		43	
90 PERCENT EXCEEDS	0.02		0.06		0.07	



2005 Water Year  
 MALHEUR RIVER BASIN

13217500 NORTH FORK MALHEUR RIVER AT BEULAH, OR

Latitude: 43° 54' 27"

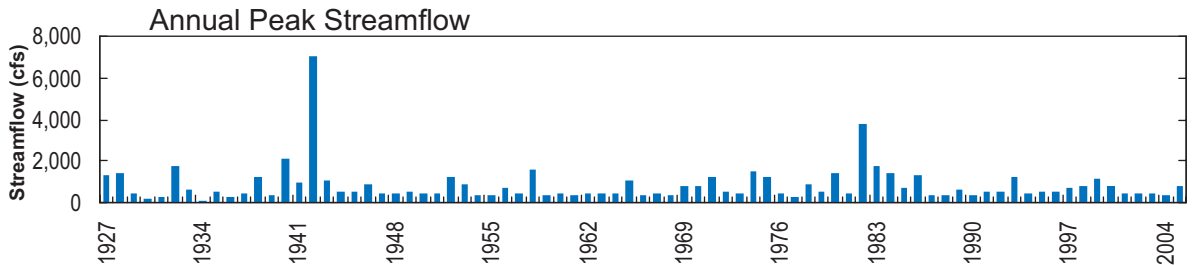
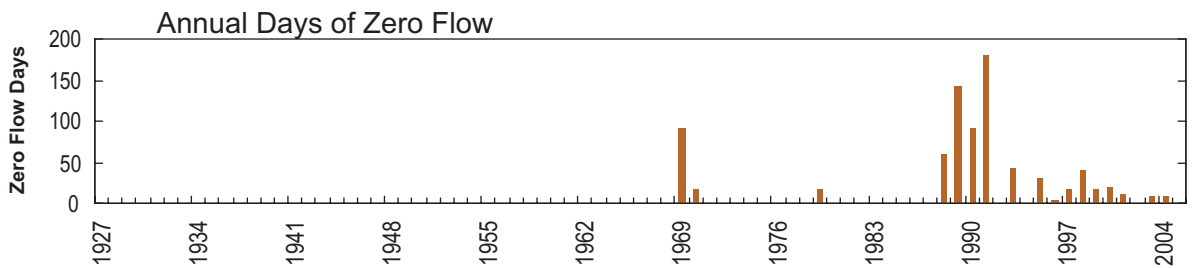
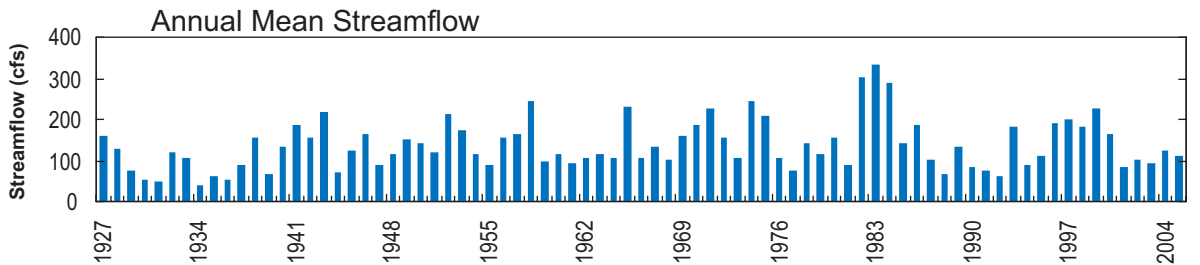
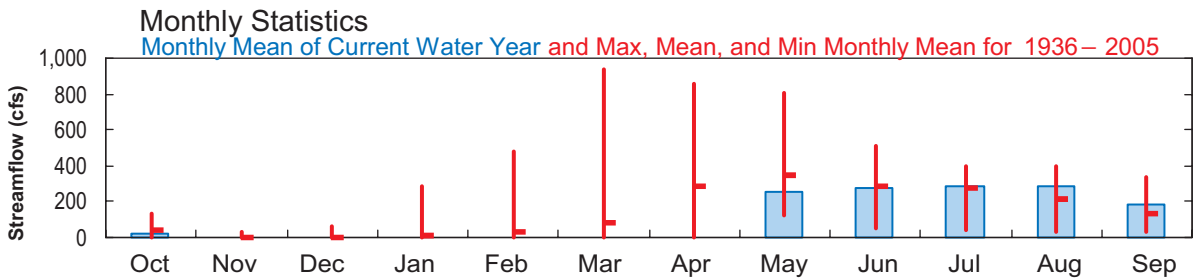
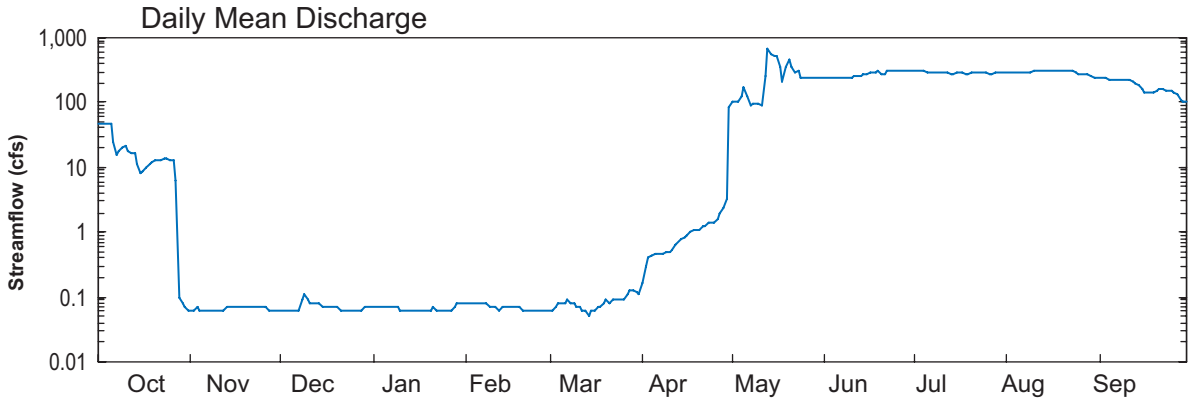
Longitude: 118° 09' 12"

Hydrologic Unit Code: 17050116

Malheur County

Datum: 3261.20 feet

Drainage Area: 440 mi<sup>2</sup>



## MALHEUR RIVER BASIN

## 13233300 MALHEUR RIVER BELOW NEVADA DAM, NEAR VALE, OR

LOCATION.--Lat 43°59'15", long 117°13'08"(NAD), in NE ¼ SW ¼ sec.21, T.18 S., R.45 E.,Malheur County, Hydrologic Unit 17050117, on right bank, 510 ft downstream from dam and headgates of Nevada Canal and 1.5 mi northeast of Vale.

DRAINAGE AREA.--3,880 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--June 1926 to September 1934, April 1936 to March 1942, March 1944 to September 1954, October 1993 to current year. Monthly discharge only for some periods, published in WSP 1317.

GAGE.--Water-stage recorder. Elevation of gage is 2,220 ft above NGVD of 1929, from topographic map. Prior to Nov. 17, 1930, at datum 1.00 ft higher. U.S. Geological Survey satellite telemetry at station.

REMARKS.--No estimated daily discharges. Records fair. Many diversions for irrigation upstream from station. Since March 1930, Vale-Oregon Canal has diverted in sec.31 T.20 S., R.41 E., for irrigation upstream from station and on Willow Creek, a tributary which enters partly above and partly below station. Gilleman-Frohman Canal diverts on left bank in sec.8 T.19 S., R.44 E., for irrigation above and below station. Nevada Canal diverts on right bank 300 ft above station for irrigation below station. Flow regulated by Warm Springs Reservoir and since December 1935, by Beulah Reservoir.

AVERAGE DISCHARGE.--12 years (water years 1994-2005), 221 ft<sup>3</sup>/s, 160,300 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,530 ft<sup>3</sup>/s Feb. 28, 1940, gage height, 8.88 ft; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 24, 1957 reached a stage of 14.6 ft, discharge 21,000 ft<sup>3</sup>/s. Flood of Mar. 19, 1993 reached a stage of 13.31 ft, discharge 16,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1,070 ft<sup>3</sup>/s May 8; minimum daily discharge, 6.8 ft<sup>3</sup>/s June 23.

DISCHARGE, CUBIC FEET PER SECOND  
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	139	97	82	72	66	67	45	109	33	54	72
2	21	184	95	82	71	66	66	113	85	31	52	84
3	20	175	94	76	71	68	66	93	56	32	57	100
4	36	164	93	71	71	66	66	36	58	36	46	124
5	48	147	90	69	71	66	64	58	61	40	34	128
6	53	137	93	77	71	66	62	155	98	44	34	102
7	60	130	95	79	71	66	68	459	111	48	44	99
8	61	128	100	76	69	66	130	1,070	72	33	52	110
9	60	126	103	76	67	64	157	777	49	34	44	118
10	57	125	100	78	66	63	165	1,050	40	59	35	125
11	56	129	95	78	66	63	125	979	37	114	30	109
12	57	127	106	67	66	62	152	708	34	107	31	136
13	59	121	103	70	66	59	158	488	36	91	44	144
14	63	118	99	71	66	59	142	541	16	67	53	143
15	58	117	96	68	65	60	105	613	14	60	66	151
16	48	110	92	79	64	61	101	701	9.5	75	70	206
17	45	109	90	74	63	60	106	741	14	78	66	197
18	41	107	90	73	63	58	108	684	45	77	61	139
19	44	107	89	73	63	57	101	702	59	59	57	117
20	48	104	86	76	65	60	86	784	66	43	53	97
21	48	103	84	77	66	56	79	850	55	35	65	83
22	48	103	84	75	64	59	75	726	18	31	65	81
23	47	103	84	73	63	61	66	542	6.8	27	67	94
24	48	103	81	73	63	56	70	414	17	33	71	97
25	48	103	80	73	63	50	66	322	38	42	72	103
26	51	103	82	73	63	49	36	148	30	41	67	125
27	69	103	78	73	63	51	31	156	43	43	61	131
28	80	103	79	73	64	56	32	164	53	41	57	113
29	136	101	86	73	---	56	35	146	49	46	67	96
30	159	94	82	74	---	63	41	108	34	48	69	93
31	124	---	82	73	---	66	---	110	---	57	70	---
TOTAL	1,810	3,623	2,808	2,305	1,856	1,879	2,626	14,483	1,413.3	1,605	1,714	3,517
MEAN	58.4	121	90.6	74.4	66.3	60.6	87.5	467	47.1	51.8	55.3	117
MAX	159	184	106	82	72	68	165	1,070	111	114	72	206
MIN	17	94	78	67	63	49	31	36	6.8	27	30	72
AC-FT	3,590	7,190	5,570	4,570	3,680	3,730	5,210	28,730	2,800	3,180	3,400	6,980

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2005, BY WATER YEAR (WY)

MEAN	131	130	128	254	383	490	456	264	130	89.0	88.2	124
MAX	228	175	314	1,589	1,322	1,881	1,695	988	541	179	220	300
(WY)	(2000)	(2001)	(1997)	(1997)	(1997)	(1999)	(1999)	(1998)	(1998)	(1998)	(1999)	(1998)
MIN	10.7	66.0	63.7	49.5	65.8	44.0	11.4	16.8	15.2	17.8	4.62	1.96
(WY)	(2004)	(2004)	(2004)	(2004)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)	(2003)	(2003)

MALHEUR RIVER BASIN

13233300 MALHEUR RIVER BELOW NEVADA DAM, NEAR VALE, OR—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1994 - 2005	
ANNUAL TOTAL	36,912.4		39,639.3			
ANNUAL MEAN	101		109		221	
HIGHEST ANNUAL MEAN					535	
LOWEST ANNUAL MEAN					36.5	
HIGHEST DAILY MEAN	762	Mar 11	1,070	May 8	6,230	Jan 3, 1997
LOWEST DAILY MEAN	1.4	Apr 29	6.8	Jun 23	0.32	Sep 30, 2003
ANNUAL SEVEN-DAY MINIMUM	4.7	Apr 24	23	Jun 11	0.39	Sep 27, 2003
ANNUAL RUNOFF (AC-FT)	73,220		78,620		160,300	
10 PERCENT EXCEEDS	185		145		489	
50 PERCENT EXCEEDS	66		71		120	
90 PERCENT EXCEEDS	20		38		14	



MALHEUR RIVER BASIN

13233300 MALHEUR RIVER BELOW NEVADA DAM, NEAR VALE, OR—Continued



2005 Water Year  
MALHEUR RIVER BASIN

13233300 MALHEUR RIVER BELOW NEVADA DAM, NEAR VALE, OR

Latitude: 43° 59' 15"

Longitude: 117° 13' 08"

Hydrologic Unit Code: 17050117

Malheur County

Datum: feet

Drainage Area: 3880 mi<sup>2</sup>

