

03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC

French Broad-Holston Basin Pigeon Subbasin

LOCATION.--Lat 35°47′01″, long 83°06′43″ referenced to North American Datum of 1983, Haywood County, NC, Hydrologic Unit 06010106, on left bank, 550 ft upstream of Browns Bridge on Waterville Road, 0.9 mi downstream of North Carolina and Tennessee state lines, 1.0 mi northwest of Waterville, and at river mile 25.

DRAINAGE AREA.--538 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1997 to current year.

REVISED RECORDS.--WDR NC-04-1: 1997(M), 1998(M), 2003(M).

GAGE.--Water-stage recorder. Elevation of gage is 1,360 ft above NGVD of 1929, from topographic map. Satellite telemetry at station.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Considerable regulation, caused by Walters Hydroelectric Plant, 1.0 mi upstream. Maximum discharge for period of record from rating curve extended above 11,000 ft³/s on basis of slope-conveyance measurement of peak flow. Minimum discharge for period of record and current water year affected by regulation.

03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007 DAILY MEAN VALUES

[e, estimated]

						le, estimate	_					
Day	0ct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	e645	682	1,400	3,260	886	992	347	720	202	184	569	473
2	e612	913	1,780	2,430	1,060	2,890	1,170	624	514	165	533	162
3	579	1,150	1,140	1,870	486	2,060	1,060	533	177	478	218	155
4	556	1,210	862	1,410	509	2,000	1,190	355	193	516	563	154
5	579	593	708	1,530	549	1,150	872	470	508	501	181	154
6	375	801	584	1,720	806	1,130	791	654	500	172	188	151
7	441	788	595	1,410	1,030	1,040	629	720	518	e540	516	146
8	415	1,100	999	2,800	513	1,230	437	761	148	e179	528	152
9	635	872	1,120	2,660	322	1,150	655	703	484	e185	522	152
10	742	809	612	1,720	475	771	927	642	166	e540	179	150
11	506	453	687	1,680	340	612	1,210	282	154	540	493	149
12	632	737	733	1,930	393	747	764	611	466	510	149	150
13	534	1,010	1,020	1,480	438	892	841	238	471	174	174	152
14	291	1,090	1,440	832	793	461	818	461	490	512	526	159
15	258	1,090	664	1,790	813	1,380	564	634	184	188	465	193
16	1,010	2,340	483	1,040	637	1,510	896	621	511	176	492	160
17	753	2,240	328	1,040	512	1,730	1,230	504	152	489	128	150
18	2,290	1,440	676	1,070	273	1,390	1,380	232	150	504	448	153
19	769	1,040	827	1,070	886	1,100	784	250	477	504	168	174
20	1,330	1,520	1,070	1,840	475	1,280	641	537	518	227	161	151
21	642	1,340	174	662	801	1,150	614	316	515	536	161	143
22	538	726	224	1,360	664	1,320	617	420	188	164	158	156
23	754	531	350	1,240	873	1,140	625	439	514	165	154	232
24	797	1,150	526	1,120	690	484	720	439	171	482	156	158
25	664	665	1,040	753	588	713	837	185	162	562	162	162
26	673	764	1,220	845	633	966	705	593	484	697	160	208
27	1,200	729	1,480	351	714	869	813	230	511	225	156	203
28	339	717	1,370	702	1,200	1,080	533	217	564	656	436	154
29	327	541	931	1,350		507	368	e525	381	299	166	156
30	899	718	705	1,090		561	526	e515	543	235	156	155
31	632		1,300	1,190		381		536		553	155	
Total	21,417	29,759	27,048	45,245	18,359	34,686	23,564	14,967	11,016	11,858	9,221	5,167
Mean	691	992	873	1,460	656	1,119	785	483	367	383	297	172
Max	2,290	2,340	1,780	3,260	1,200	2,890	1,380	761	564	697	569	473
Min	258	453	174	351	273	381	347	185	148	164	128	143

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2007, BY WATER YEAR (WY)

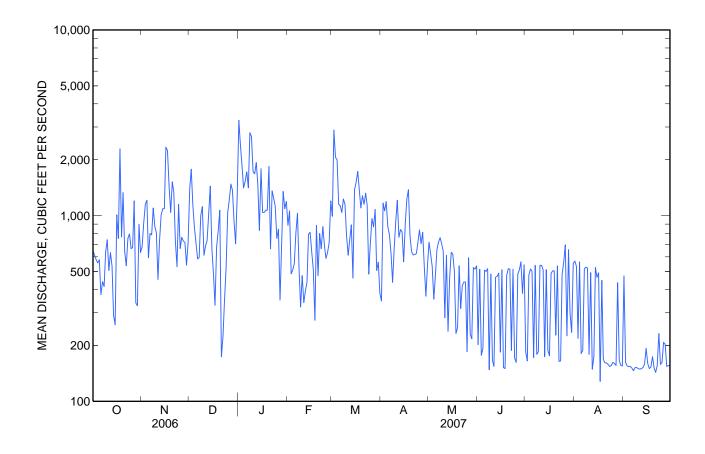
	0ct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	538	795	994	1,293	1,437	1,566	1,498	1,196	871	826	595	844
Max	1,462	1,677	2,133	2,187	3,096	3,505	2,540	2,835	1,742	1,860	1,203	4,517
(WY)	(2005)	(2005)	(2005)	(1998)	(1998)	(1997)	(1998)	(2003)	(2005)	(2005)	(2005)	(2004)
Min	153	286	554	810	656	762	785	483	367	383	293	172
(WY)	(1999)	(2002)	(2002)	(2000)	(2007)	(2006)	(2007)	(2007)	(2007)	(2007)	(2002)	(2007)

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SUMMARY STATISTICS

	Calendar Y	ear 2006	Water Yea	r 2007	Water Years	s 1997 - 2007
Annual total	350,101		252,307			
Annual mean	959		691		1,011	
Highest annual mean					1,553	2005
Lowest annual mean					644	2002
Highest daily mean	5,280	Jan 18	3,260	Jan 1	22,500	Sep 8, 2004
Lowest daily mean	155	Jun 19	128	Aug 17	74	Nov 19, 2000
Annual seven-day minimum	384	Jun 18	150	Sep 6	117	Oct 2, 1998
Maximum peak flow			5,550	Jan 1	^a 39,000	Sep 17, 2004
Maximum peak stage			8.85	Jan 1	18.88	Sep 17, 2004
Instantaneous low flow			^a 117	Aug 17	^a 24	Jun 23, 2002
10 percent exceeds	1,600		1,330		1,980	
50 percent exceeds	821		564		795	
90 percent exceeds	387		161		190	

^a See Remarks.



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1997 to current year.

PERIOD OF DAILY RECORD .--

WATER TEMPERATURE: Water years 1997 to current year.

DISSOLVED OXYGEN: Water years 1997 to current year.

INSTRUMENTATION.--Water-quality monitor since May 1997.

REMARKS.--Interruptions in the data are due to malfunctions of the monitor. Data were collected during the current year for the months of May through September 2007.

EXTREMES FOR PERIOD OF DAILY RECORD .--

WATER TEMPERATURE: Maximum recorded, 25.5°C, August 27, 2007; minimum recorded, 6.8°C, June 2, 2001. DISSOLVED OXYGEN: Maximum recorded, 15.8 mg/L, July 21, 2007; minimum recorded, 3.1 mg/L, November 1, 1998.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 25.5°C, August 27; minimum recorded, 17.9°C, May 31. DISSOLVED OXYGEN: Maximum recorded, 15.8 mg/L, July 21; minimum recorded, 3.6 mg/L, July 20.

03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

TEMPERATURE, WATER, DEGREES CELSIUS WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

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03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

TEMPERATURE, WATER, DEGREES CELSIUS WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

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TEMPERATURE, WATER, DEGREES CELSIUS WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

						IBER 2006 11						
Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			Septembe	r
1	19.8	18.2	18.8	22.4	20.9	21.6	22.0	20.4	21.2	24.6	23.0	23.9
2	19.3	18.1	18.6	21.3	20.7	21.1	22.4	20.9	21.6	24.8	23.5	24.0
3	19.2	18.4	18.8	21.9	20.4	21.1	22.6	21.0	21.8	24.8	23.4	23.9
4	19.8	18.1	18.8	22.0	20.8	21.5	22.6	21.2	21.9	24.9	23.4	23.9
5	19.7	18.1	18.7	22.5	21.0	21.7	22.4	21.6	22.0	24.8	23.1	23.8
6	19.8	18.4	19.0	23.0	21.4	22.0	23.0	21.5	22.2	24.8	23.2	23.8
7	20.1	18.4	19.1	22.3	21.4	21.8	23.0	21.8	22.3	24.5	23.4	23.8
8	21.0	19.0	19.7	23.1	21.4	22.1	23.4	22.1	22.6	24.7	23.1	23.7
9	20.4	18.8	19.3	23.0	21.5	22.0	23.7	22.2	22.8	24.4	23.1	23.6
10	20.9	19.1	19.9	22.7	21.5	22.0	24.0	22.4	23.1	24.1	23.3	23.6
11	20.0	19.0	19.4	22.5	21.7	22.1	23.5	22.3	22.9	23.5	23.1	23.3
12	20.6	18.8	19.5	22.9	21.5	22.2	24.3	22.4	23.3	24.3	22.9	23.4
13	20.3	19.0	19.6	22.2	21.5	21.8	23.9	22.4	23.0	23.9	22.7	23.2
14	20.3	19.1	19.7	22.9	21.1	22.0	23.7	22.3	23.0	23.3	22.6	23.0
15	21.0	19.0	19.9	23.0	21.7	22.3				22.6	21.1	21.9
16	20.8	19.2	19.8	23.1	21.6	22.2	24.3	22.8	23.6	22.2	20.7	21.3
17	21.4	19.4	20.4	22.8	21.7	22.2	24.6	23.2	23.8	22.4	21.1	21.6
18	21.0	19.4	20.1	22.7	21.9	22.3	24.5	22.8	23.6	22.4	20.9	21.5
19	20.8	19.8	20.2	23.2	21.6	22.3	24.7	23.3	23.9	22.3	20.7	21.3
20	21.3	20.1	20.5	22.7	21.2	21.8	24.6	23.2	23.8	22.1	20.7	21.3
21	21.1	19.6	20.4	22.9	20.7	21.7	24.8	23.4	23.9	21.9	21.1	21.4
22	21.6	19.8	20.6	22.9	21.2	21.9	25.2	23.5	24.2	22.2	20.9	21.3
23	21.5	20.1	20.7	22.1	21.1	21.5	25.3	23.7	24.4	22.3	20.9	21.4
24	22.1	20.6	21.2	22.5	21.1	21.7	25.4	23.9	24.3	22.3	21.0	21.5
25	21.6	20.4	20.9	22.4	19.4	21.5	25.2	23.6	24.3	22.1	21.0	21.4
26	21.7	20.5	20.9	21.7	18.7	20.0	25.0	23.8	24.2	22.0	21.0	21.4
27	21.8	20.4	21.0	21.4	19.6	20.3	25.5	23.8	24.4	21.9	21.0	21.3
28	21.6	20.4	21.0	21.3	19.4	20.2	25.0	23.5	24.3	21.8	20.6	21.2
29	22.0	20.1	20.9	20.5	19.2	19.8	25.4	24.2	24.6	21.7	20.2	20.8
30	22.0	20.6	21.1	21.2	19.4	20.1	24.4	23.9	24.2	21.6	20.3	20.8
31				22.0	19.5	20.6	24.9	23.6	24.1			
Month	22.1	18.1	19.9	23.2	18.7	21.5				24.9	20.2	22.4

03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

October November December January 1	Day	Max	Min	Mean									
2			October			Novembe	r		Decembe	r		January	
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03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
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03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			Septembe	
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1	8.6	7.4	7.9	8.3	6.9	7.5	8.3	6.2	7.0			
2	8.7	7.3	7.8	8.0	6.8	7.4	8.3	5.8	7.0			
3	8.4	7.4	7.8	8.5	6.8	7.4	8.8	7.0	7.7			
4	8.6	7.4	7.8	8.5	6.8	7.3						
5	8.4	6.9	7.6	8.4	6.7	7.3						
6	8.0	6.5	7.2	7.9	5.2	6.7						
7	7.8	6.3	7.0	7.1	5.1	5.6	8.2	5.8	6.5	7.7	6.1	6.6
8	8.1	6.5	7.3	8.9	6.8	7.8	7.8	5.5	6.3	7.5	6.0	6.5
9	8.4	6.6	7.4				7.8	5.5	6.2	7.5	5.9	6.4
10	9.3	7.2	7.9				8.2	6.1	6.9	6.6	5.2	5.8
11	8.3	7.1	7.6	7.8	6.0	7.1	8.1	5.7	6.3	6.5	5.8	6.1
12	8.3	6.5	7.3	8.7	6.5	7.3	8.8	6.1	7.1	7.5	6.1	6.6
13	8.2	6.5	7.2	7.9	6.6	7.1	7.5	5.6	6.4	7.6	6.2	6.8
14				8.0	6.0	6.9	7.2	5.2	5.8	7.1	6.4	6.7
15				8.0	6.0	7.0				8.3	6.7	7.5
16	8.8	7.0	7.5	8.2	6.8	7.4	7.0	5.0	5.7			
17	8.9	7.0	7.8	8.0	5.1	6.6	7.2	5.2	5.9			
18	8.7	7.0	7.8	6.9	4.3	6.0	6.5	4.8	5.4			
19	8.5	6.9	7.4	8.7	4.0	6.0	6.5	5.0	5.6	8.0	6.6	7.1
20	8.6	6.9	7.5	10.9	3.6	7.7	6.4	4.9	5.5	8.0	6.8	7.1
21	8.8	6.6	7.4	15.8	7.2	12.7	5.9	4.7	5.2	8.1	6.8	7.2
22	8.3	6.7	7.5	12.9	7.4	9.5	6.3	4.8	5.3	8.0	6.9	7.2
23	8.2	6.5	7.1	8.9	7.2	7.9	5.9	4.4	4.9	8.0	6.8	7.2
24	8.6	6.7	7.4	8.1	6.0	7.0	6.4	4.3	5.0	7.8	6.9	7.2
25	8.6	6.7	7.4	8.3	6.0	6.9	7.3	4.9	5.7	7.8	7.0	7.2
26	8.6	6.5	7.3	8.7	6.6	7.8	7.3	4.9	5.9	7.5	6.5	7.0
27	9.4	7.2	7.8	8.6	7.7	8.0	8.3	5.8	6.9	7.6	6.6	6.9
28	9.4	7.3	8.0	8.4	6.9	7.7	8.0	4.7	6.1	7.8	6.7	7.1
29	9.2	7.3	8.1	9.1	8.2	8.6	7.0	5.1	5.8	8.0	6.9	7.2
30	8.1	6.4	7.2	8.9	7.7	8.2	6.7	5.6	6.0	8.1	6.9	7.2
31				8.6	6.2	7.3	7.3	4.6	6.1			
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