

Water-Data Report 2007

**02077303 HYCO RIVER BELOW AFTERBAY DAM NEAR MCGEHEES MILL, NC**

Roanoke Basin  
Lower Dan Subbasin

LOCATION.--Lat 36°31'21", long 78°59'51" referenced to North American Datum of 1983, Person County, NC, Hydrologic Unit 03010104, on left bank 200 ft downstream from Afterbay Reservoir dam of Progress Energy, 1.2 mi upstream from Ghent Creek, and 1.8 mi east-northeast of McGehees Mill.

DRAINAGE AREA.--202 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--October 1973 to current year. August 1964 to September 1973, published as "Hyco River at McGehees Mill, NC" (02077300).

REVISED RECORDS.--WDR NC-81-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 342.98 ft above NGVD of 1929 (levels by Progress Energy). From August 1964 to September 1973, records published as "Hyco River at McGehees Mill, NC" (02077300) at site 2.8 mi upstream, at datum 349.78 ft. Water-temperature recorder operated at site 600 ft downstream on right bank from June 1974 to September 1995. Satellite telemetry at station.

REMARKS.--Records good, except those for estimated daily discharges, which are poor. Flow regulated by Roxboro Steam-Electric Generating Plant Afterbay Reservoir. Minimum discharge for period of record and current water year due to regulation.

## 02077303 HYCO RIVER BELOW AFTERBAY DAM NEAR MCGEHEES MILL, NC—Continued

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	18	19	215	224	19	282	390	103	14	12	e3.1	2.0
2	18	19	314	144	19	293	349	102	13	12	3.0	2.3
3	19	19	15	18	19	290	165	79	14	12	2.2	2.5
4	18	19	15	19	19	286	22	18	e17	11	2.1	2.5
5	18	21	16	240	18	275	22	18	e16	11	3.0	2.4
6	940	21	18	335	19	199	22	19	e16	11	3.1	2.3
7	1,110	21	e19	295	18	20	22	19	e16	11	2.9	2.2
8	650	519	e18	892	18	20	22	18	e15	11	2.8	2.4
9	380	449	18	1,330	18	20	23	18	e15	10	2.7	2.5
10	480	420	18	510	18	20	23	18	14	e10	2.7	2.3
11	190	121	18	476	18	19	22	19	14	e10	2.6	2.1
12	141	20	18	454	18	87	472	18	14	10	2.7	2.2
13	20	357	18	39	18	90	209	17	14	9.3	2.7	2.4
14	20	504	19	19	543	91	206	18	13	9.6	2.8	2.3
15	20	483	18	19	675	92	1,200	17	13	9.7	2.8	2.4
16	20	554	18	19	255	361	2,130	16	14	9.7	2.5	2.8
17	19	850	18	20	394	1,030	1,500	16	14	9.5	2.6	2.9
18	20	895	18	20	381	1,010	493	17	14	9.3	2.7	2.8
19	21	237	18	20	238	546	102	e17	14	9.5	2.4	2.7
20	20	85	19	19	18	95	104	16	14	9.0	2.1	2.5
21	20	e20	19	19	18	93	104	15	14	9.2	2.3	2.4
22	20	e700	19	59	19	96	104	15	13	9.3	2.2	2.3
23	19	e920	108	191	18	99	105	15	13	9.2	2.0	2.4
24	20	e3,300	229	190	18	98	103	15	13	8.2	2.0	2.4
25	19	e960	240	188	116	98	105	15	13	3.5	2.0	2.5
26	20	e750	243	135	269	98	104	15	13	3.7	2.1	2.5
27	19	e310	233	93	132	99	104	14	13	3.5	2.1	2.6
28	20	e130	233	92	149	103	104	14	13	3.4	2.1	2.5
29	19	66	230	44	---	582	103	14	13	3.4	2.1	2.8
30	19	96	227	19	---	422	104	14	12	3.3	2.2	2.9
31	20	---	225	19	---	403	---	14	---	3.5	2.2	---
<b>Total</b>	4,357	12,885	2,854	6,161	3,482	7,317	8,538	743	418	266.8	76.8	73.8
<b>Mean</b>	141	430	92.1	199	124	236	285	24.0	13.9	8.61	2.48	2.46
<b>Max</b>	1,110	3,300	314	1,330	675	1,030	2,130	103	17	12	3.1	2.9
<b>Min</b>	18	19	15	18	18	19	22	14	12	3.3	2.0	2.0

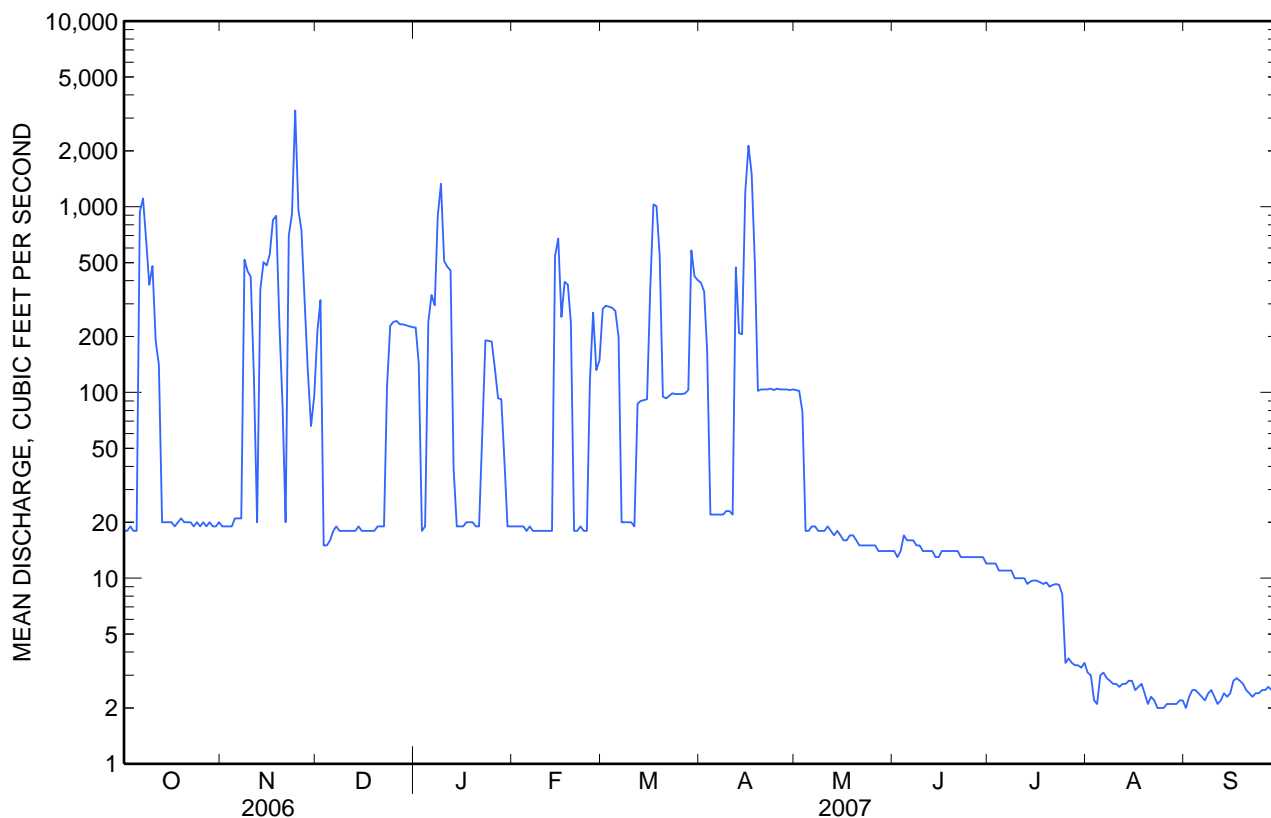
**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2007, BY WATER YEAR (WY)**

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	56.6	78.0	125	320	291	389	238	116	81.6	88.1	65.4	114
<b>Max</b>	351	430	432	1,201	926	1,165	712	864	528	1,058	294	675
<b>(WY)</b>	(1996)	(2007)	(2003)	(1978)	(1979)	(1993)	(2003)	(1978)	(2003)	(1975)	(1982)	(1974)
<b>Min</b>	3.47	2.40	2.19	2.76	4.38	6.02	5.21	4.22	3.96	6.14	1.08	1.55
<b>(WY)</b>	(1999)	(1998)	(1998)	(2001)	(2002)	(2002)	(2002)	(2002)	(1974)	(2002)	(1999)	(1977)

02077303 HYCO RIVER BELOW AFTERBAY DAM NEAR MCGEHEES MILL, NC—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1974 - 2007	
<b>Annual total</b>	30,462		47,172.4			
<b>Annual mean</b>	83.5		129		163	
<b>Highest annual mean</b>					394	2003
<b>Lowest annual mean</b>					5.11	2002
<b>Highest daily mean</b>	3,300	Nov 24	3,300	Nov 24	9,280	Jul 14, 1975
<b>Lowest daily mean</b>	13	Jun 29	2.0	Aug 23	0.27	Nov 2, 1997
<b>Annual seven-day minimum</b>	13	Jun 29	2.1	Aug 23	0.45	Aug 3, 1999
<b>Maximum peak flow</b>			NOT DETERMINED		11,300	Jul 14, 1975
<b>Maximum peak stage</b>			NOT DETERMINED		24.40	Jul 14, 1975
<b>Instantaneous low flow</b>			1.1	Dec 3	0.00	Jun 26, 1980
<b>10 percent exceeds</b>	228		392		370	
<b>50 percent exceeds</b>	18		19		28	
<b>90 percent exceeds</b>	15		2.5		9.2	



**02077303 HYCO RIVER BELOW AFTERBAY DAM NEAR MCGEHEES MILL, NC—Continued****WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1981 to September 1983.

WATER TEMPERATURE: June 1974 to current year.

INSTRUMENTATION.--Temperature recorder since June 1974. Water-quality monitor from October 1981 to September 1983.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 197 microsiemens, December 6, 1981; minimum, 89 microsiemens, May 16, 1983.

WATER TEMPERATURE: Maximum recorded, 33.5°C, July 20, 21, 22, 1977; minimum recorded, 1.0°C, January 6, 2002.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 30.9°C, August 25; minimum recorded, 3.2°C, February 14.

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

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	22.6	19.7	20.9	17.3	15.5	16.2	15.7	14.5	15.1	12.2	10.7	11.4
2	22.4	19.7	20.7	16.8	14.8	15.8	15.6	14.0	14.9	12.2	11.4	11.7
3	22.6	19.3	20.6	16.1	14.2	14.9	14.7	13.8	14.2	13.0	11.3	12.0
4	22.8	20.0	21.0	15.6	13.4	14.2	14.5	12.6	13.5	13.6	11.6	12.6
5	22.7	20.1	21.1	15.0	13.2	13.8	13.8	12.3	12.8	12.8	11.9	12.4
6	22.7	20.2	22.1	15.2	13.4	13.9	13.8	12.0	12.7	13.8	12.3	13.1
7	22.0	21.2	21.6	14.2	11.2	13.4	13.9	11.5	12.7	13.5	12.3	12.9
8	21.2	19.2	20.5	14.4	12.1	13.9	11.7	10.7	11.2	13.0	12.5	12.8
9	21.2	18.6	20.2	14.9	14.1	14.5	11.9	10.1	10.8	12.9	12.7	12.8
10	21.4	20.9	21.1	14.9	14.2	14.5	12.7	10.3	11.1	12.8	12.3	12.5
11	21.3	20.9	21.1	16.2	14.6	15.1	12.1	10.4	11.0	12.7	12.0	12.4
12	21.8	19.5	21.0	15.1	13.0	14.1	11.9	10.0	10.9	12.7	12.0	12.4
13	20.8	18.2	19.2	15.4	14.5	15.0	11.9	10.7	11.1	14.1	12.3	13.2
14	20.1	17.6	18.7	15.5	14.7	15.1	12.5	10.4	11.1	14.2	12.8	13.4
15	19.9	17.5	18.5	15.5	14.8	15.2	12.4	10.4	11.2	14.5	13.0	13.7
16	19.2	18.0	18.6	15.8	14.8	15.4	12.2	10.4	11.0	14.0	12.2	13.3
17	18.7	17.4	18.4	15.5	15.2	15.4	12.4	9.8	11.0	12.6	11.5	12.1
18	20.3	18.5	19.2	15.7	15.2	15.4	12.6	10.4	11.3	12.1	11.5	11.8
19	19.5	18.2	19.0	15.6	15.2	15.3	11.9	10.7	11.2	12.9	11.1	11.9
20	20.2	17.9	19.1	15.4	14.0	14.8	11.7	10.0	10.7	12.7	10.7	11.4
21	19.6	17.2	18.1	14.1	8.8	12.9	11.6	10.1	11.0	11.1	8.7	10.5
22	18.2	17.0	17.6	13.6	8.8	12.0	11.8	10.9	11.4	11.3	9.8	10.6
23	17.9	16.4	17.1	13.6	12.7	13.1	12.3	10.3	11.4	10.6	9.8	10.3
24	17.2	15.6	16.1	14.6	13.4	13.9	10.7	10.1	10.4	10.5	9.7	10.0
25	17.0	15.1	15.8	15.0	13.7	14.2	10.6	9.9	10.2	10.2	9.2	9.8
26	17.1	14.7	15.6	14.3	13.6	14.0	10.4	9.9	10.1	9.5	8.7	9.1
27	15.9	15.2	15.7	14.4	13.6	14.0	10.4	9.6	10	9.6	8.5	9.1
28	17.1	14.6	15.8	14.4	13.5	13.9	10.9	9.7	10.4	9.5	8.5	9.1
29	16.8	14.5	15.4	14.4	13.6	14.1	11.2	10.5	10.8	9.1	7.6	8.2
30	17.1	14.6	15.7	14.8	14.0	14.3	11.4	10.4	10.9	9.4	7.5	8.4
31	16.8	14.9	15.7	---	---	---	11.3	10.7	11.0	9.1	7.4	8.0
<b>Month</b>	22.8	14.5	18.7	17.3	8.8	14.4	15.7	9.6	11.5	14.5	7.4	11.4

## 02077303 HYCO RIVER BELOW AFTERBAY DAM NEAR MCGEHEES MILL, NC—Continued

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

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	<b>February</b>			<b>March</b>			<b>April</b>			<b>May</b>		
<b>1</b>	8.1	7.3	7.8	10.1	9.1	9.7	18.8	17.4	17.9	20.1	18.8	19.3
<b>2</b>	8.7	7.5	8.0	12.0	9.1	10.8	19.6	18.2	19.0	20.7	19.0	20.0
<b>3</b>	9.0	7.2	7.7	12.4	10.8	11.6	18.4	16.6	17.8	19.4	16.5	18.5
<b>4</b>	8.5	7.0	7.5	12.0	10.9	11.4	18.3	16.1	17.0	17.0	16.5	16.7
<b>5</b>	8.3	6.4	7.0	12.1	10.5	11.3	17.6	15.1	16.1	17.7	16.6	17.0
<b>6</b>	7.8	5.6	6.7	12.5	10.7	11.4	17.0	14.8	15.6	18.5	15.8	17.0
<b>7</b>	8.3	6.9	7.6	13.3	10.7	11.9	16.5	14.4	15.3	18.7	15.7	16.9
<b>8</b>	8.2	6.3	7.2	13.3	10.8	11.6	16.8	14.4	15.4	17.9	15.6	16.8
<b>9</b>	7.8	6.2	6.9	12.8	10.3	11.3	16.6	14.5	15.4	18.7	16.7	17.4
<b>10</b>	7.8	6.0	6.7	13.2	10.3	11.8	16.6	14.2	15.3	19.3	16.5	17.6
<b>11</b>	8.0	5.5	6.8	14.0	11.5	12.5	15.1	12.4	14.8	20.0	16.6	18.0
<b>12</b>	8.4	6.0	7.2	12.5	11.1	11.7	16.8	11.2	15.3	19.7	17.4	18.3
<b>13</b>	7.8	4.6	7.1	12.6	10.9	12.0	16.8	15.8	16.3	19.2	16.5	17.9
<b>14</b>	7.8	3.2	5.7	13.9	11.4	12.6	16.6	16.0	16.2	19.8	16.1	17.7
<b>15</b>	5.9	5.1	5.5	14.4	13.0	13.8	16.6	15.3	16.2	20.5	16.6	18.4
<b>16</b>	6.2	5.2	5.7	14.4	11.4	12.9	16.5	16.0	16.2	21.2	17.9	19.3
<b>17</b>	7.1	5.9	6.5	13.5	12.6	13.2	17.2	16.2	16.6	19.8	17.4	18.7
<b>18</b>	7.1	6.7	6.8	13.6	12.3	12.9	16.9	16.2	16.6	21.9	17.4	18.5
<b>19</b>	8.9	6.4	7.4	13.8	12.9	13.3	16.5	15.9	16.2	20.3	16.9	18.4
<b>20</b>	10.0	8.0	9.0	14.5	13.1	13.8	16.7	15.9	16.2	20.9	17.3	18.9
<b>21</b>	10.9	8.7	9.4	14.1	13.1	13.4	16.7	16.0	16.4	21.2	17.7	19.1
<b>22</b>	11.1	8.9	9.7	14.5	13.1	13.8	17.1	16.2	16.7	20.7	18.2	19.3
<b>23</b>	10.7	8.9	9.6	15.5	14.2	14.9	18.6	16.4	17.5	21.4	17.7	19.3
<b>24</b>	11.0	8.4	9.6	15.5	14.5	14.9	18.6	17.3	17.9	21.1	17.5	19.2
<b>25</b>	9.7	7.8	9.0	14.7	13.9	14.4	19.2	17.1	17.8	21.5	17.9	19.5
<b>26</b>	9.6	8.1	8.6	15.9	13.8	14.7	18.6	17.2	17.6	21.6	18.4	19.8
<b>27</b>	10.3	8.6	9.3	16.7	15.4	16.0	19.8	17.3	18.5	21.9	18.6	20.1
<b>28</b>	10.2	9.0	9.4	16.0	14.8	15.2	20.1	18.0	19.0	22.0	18.9	20.3
<b>29</b>	---	---	---	16.4	14.5	15.7	20.7	18.9	19.8	21.9	18.6	20.3
<b>30</b>	---	---	---	17.5	16.4	16.7	20.4	18.3	19.4	21.8	18.6	20.3
<b>31</b>	---	---	---	17.9	16.8	17.4	---	---	---	22.1	19.1	20.5
<b>Month</b>	11.1	3.2	7.7	17.9	9.1	13.2	20.7	11.2	16.9	22.1	15.6	18.7

## 02077303 HYCO RIVER BELOW AFTERBAY DAM NEAR MCGEHEES MILL, NC—Continued

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

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	22.2	19.6	20.7	24.3	22.6	23.3	---	---	---	26.7	23.8	25.2
2	21.9	19.5	20.6	24.2	22.0	23.0	26.2	22.7	24.3	29.1	23.5	25.3
3	20.5	19.9	20.2	24.0	22.2	23.2	28.7	22.6	25.0	28.7	23.4	25.3
4	22.8	20.3	21.4	24.7	23.0	23.8	29.8	23.2	25.6	29.5	23.6	25.6
5	22.6	20.6	21.6	25.1	23.2	24.1	29.0	23.4	25.3	29.2	23.5	25.6
6	22.9	20.6	21.6	25.0	23.6	24.2	29.1	24.3	26.3	29.3	23.9	25.9
7	22.7	20.4	21.6	24.8	22.7	23.8	29.2	24.4	26.4	29.4	24.3	26.0
8	23.7	21.3	22.4	25.4	23.5	24.3	30.3	24.6	26.9	29.5	24.0	25.8
9	23.2	21.5	22.1	25.8	23.7	24.6	30.5	24.9	27.1	29.7	23.8	25.6
10	22.9	21.2	21.9	---	---	---	30.1	25.3	27.1	29.1	24.0	25.8
11	22.6	21.0	21.7	---	---	---	28.0	24.7	25.9	29.2	24.3	25.9
12	23.2	20.7	21.7	25.8	23.6	24.6	29.3	23.9	26.0	29.4	23.9	25.7
13	23.1	21.0	21.8	24.5	23.7	24.1	29.7	23.6	25.9	28.2	23.5	25.3
14	21.5	20.8	21.1	25.0	22.6	23.9	29.6	23.5	25.5	26.1	22.6	24.5
15	21.4	20.8	21.1	25.5	23.4	24.4	29.8	23.5	25.8	28.0	22.6	24.2
16	22.7	20.8	21.6	26.1	24.1	24.9	30.4	24.6	26.9	27.2	22.1	23.5
17	23.4	20.8	22.0	25.7	24.1	24.7	29.6	24.9	26.6	26.9	21.7	23.2
18	23.5	20.9	22.1	26.2	24.4	25.2	29.2	24.2	25.9	26.7	21.3	22.9
19	23.9	21.2	22.5	26.6	24.7	25.6	28.8	23.9	25.9	24.8	20.8	22.5
20	23.2	21.6	22.4	25.9	24.5	25.2	30.4	24.7	26.9	24.2	21.5	22.4
21	23.4	20.7	22.1	25.5	24.0	24.6	30.7	25.1	26.9	24.3	21.7	22.6
22	23.5	21.0	22.3	25.4	23.7	24.3	30.0	24.8	26.6	27.2	21.9	23.8
23	23.2	21.4	22.2	25.5	23.6	24.3	28.0	25.2	26.2	27.5	21.6	23.8
24	23.2	21.6	22.5	24.8	23.4	24.2	30.3	24.8	27.0	26.6	21.7	23.3
25	23.6	22.4	22.9	26.1	23.0	24.2	30.9	25.2	27.2	26.8	21.1	23.2
26	24.4	22.4	23.4	26.5	22.8	24.3	29.4	25.1	26.6	27.3	21.4	23.5
27	24.5	23.0	23.7	26.8	22.9	24.4	29.2	24.7	26.4	26.7	21.6	23.4
28	25.0	23.2	24.0	26.5	23.2	24.4	30.2	24.8	26.7	27.3	21.2	23.2
29	24.7	23.5	24.0	26.1	23.0	24.2	30.0	25.0	26.8	26.1	20.8	22.3
30	24.7	23.3	23.8	25.7	23.2	24.1	30.5	24.9	26.8	25.8	20.2	21.9
31	---	---	---	26.6	23.0	24.5	29.3	24.7	26.5	---	---	---
Month	25.0	19.5	22.1	---	---	---	---	---	---	29.7	20.2	24.2