

Water-Data Report 2008

## **02145000 SOUTH FORK CATAWBA RIVER AT LOWELL, NC**

Santee Basin  
South Fork Catawba Subbasin

LOCATION.--Lat 35°17'07", long 81°06'04" referenced to North American Datum of 1983, Gaston County, NC, Hydrologic Unit 03050102, on right bank 50 ft north of private mill road, 120 ft downstream of Housers Creek, 2.5 mi upstream from bridge on Interstate Highway 85, 3.0 mi downstream of Long Creek and 1.0 mi north of Lowell.

DRAINAGE AREA.--628 mi<sup>2</sup>.

### **SURFACE-WATER RECORDS**

PERIOD OF RECORD.--January 1942 to September 1971, October 1983 to current year.

REVISED RECORDS.--WSP 1002: 1943(M). WSP 1303: 1950(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 602.28 ft above North American Vertical Datum of 1988. Satellite telemetry at station.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Considerable diurnal fluctuation and slight regulation for short periods at low flow caused by power plant upstream from station. For diversion by Town of Bessemer City, see Long Creek near Bessemer City (station 02144000). The city of Lincolnton diverts water approximately 23 mi upstream from gaging station for water supply and returns treated effluent to South Fork Catawba River approximately 18.7 mi upstream of gaging station. A daily average of 5.45 ft<sup>3</sup>/s was diverted during the year and a daily average of 4.11 ft<sup>3</sup>/s of treated effluent from the City of Lincolnton wastewater treatment plant was returned. A daily average of 9.04 ft<sup>3</sup>/s of treated effluent from Long Creek wastewater treatment plant was discharged into the river approximately 3.47 mi upstream of the gaging station, causing some diurnal fluctuation. Minimum discharge for all years affected by regulation.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of August 15, 1940, reached a stage of 21.33 ft, from floodmarks; discharge, 34,000 ft<sup>3</sup>/s. Depth of flow over dam during the July 1916 flood at High Shoals, 11 mi upstream, was about 1 ft higher than that for August 1940, from information by local resident.

## 02145000 SOUTH FORK CATAWBA RIVER AT LOWELL, NC—Continued

**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            | 114   | 159   | 201   | 773    | 489    | 366    | 416    | 430   | 252   | 193   | 190    | 450    |
| 2            | 90    | 173   | 206   | 494    | 945    | 293    | 410    | 390   | 242   | 145   | 215    | 380    |
| 3            | 82    | 149   | 208   | 409    | 835    | 373    | 398    | 361   | 215   | 131   | 168    | 294    |
| 4            | 102   | 153   | 191   | 334    | 601    | 388    | 504    | 302   | 219   | 143   | 158    | 294    |
| 5            | 113   | 174   | 160   | 334    | 477    | 829    | 972    | 333   | 194   | 169   | 135    | 266    |
| 6            | 86    | 159   | 191   | 283    | 452    | 773    | 1,370  | 322   | 198   | 278   | 147    | 259    |
| 7            | 77    | 164   | 208   | 302    | 430    | 822    | 1,270  | 294   | 182   | 429   | 165    | 239    |
| 8            | 109   | 144   | 185   | 291    | 348    | 1,080  | 988    | 286   | 154   | 352   | 125    | 229    |
| 9            | 109   | 155   | 190   | 301    | 319    | 918    | 743    | 364   | 162   | 372   | 112    | 181    |
| 10           | 100   | 128   | 189   | 290    | 290    | 750    | 636    | 281   | 158   | 781   | 108    | 444    |
| 11           | 114   | 161   | 209   | 270    | 306    | 604    | 578    | 285   | 148   | 929   | 107    | 1,110  |
| 12           | 80    | 190   | 195   | 317    | e325   | 557    | 542    | 376   | 148   | 519   | 86     | 481    |
| 13           | 78    | 162   | 209   | 296    | e360   | 481    | 504    | 307   | 165   | 323   | 107    | 373    |
| 14           | 104   | 188   | 192   | 289    | 466    | 452    | 483    | 303   | 151   | 289   | 424    | 345    |
| 15           | 99    | 177   | 210   | 275    | 429    | 492    | 465    | 259   | 138   | 366   | 214    | 265    |
| 16           | 96    | 237   | 276   | 252    | 415    | 709    | 416    | 299   | 160   | 239   | 165    | 464    |
| 17           | 108   | 207   | 360   | 332    | 400    | 575    | 447    | 314   | 152   | 191   | 393    | 535    |
| 18           | 88    | 182   | 254   | 367    | 432    | 513    | 418    | 281   | 145   | 175   | 1,250  | 491    |
| 19           | 102   | 194   | 256   | 405    | 445    | 488    | 398    | 344   | 126   | 148   | 365    | 360    |
| 20           | 77    | 189   | 231   | 382    | 396    | 756    | 406    | 280   | 113   | 147   | 220    | 322    |
| 21           | 112   | 184   | 221   | 344    | 396    | 787    | 467    | 333   | 102   | 147   | 188    | 257    |
| 22           | 109   | 158   | 215   | 319    | 362    | 686    | 416    | 287   | 108   | 128   | 141    | 246    |
| 23           | 104   | 261   | 251   | 319    | 364    | 561    | 410    | 234   | 384   | 163   | 124    | 236    |
| 24           | 131   | 208   | 340   | 317    | 353    | 527    | 354    | 230   | 254   | 163   | 123    | 247    |
| 25           | 219   | 196   | 433   | 311    | 347    | 472    | 373    | 222   | 148   | 208   | 114    | 210    |
| 26           | 445   | 210   | 381   | 272    | 387    | 437    | 328    | 225   | 140   | 200   | 232    | 257    |
| 27           | 391   | 224   | 312   | 288    | 468    | 443    | 442    | 248   | 152   | 172   | 5,200  | 520    |
| 28           | 282   | 206   | 305   | 294    | 438    | 427    | 639    | 276   | 140   | 155   | 5,970  | 523    |
| 29           | 223   | 213   | 446   | 279    | 395    | 426    | 732    | 469   | 377   | 210   | 2,220  | 508    |
| 30           | 185   | 229   | 681   | 266    | ---    | 457    | 472    | 358   | 325   | 169   | 732    | 402    |
| 31           | 165   | ---   | 1,010 | 271    | ---    | 421    | ---    | 306   | ---   | 140   | 511    | ---    |
| <b>Total</b> | 4,294 | 5,534 | 8,916 | 10,276 | 12,670 | 17,863 | 16,997 | 9,599 | 5,552 | 8,174 | 20,409 | 11,188 |
| <b>Mean</b>  | 139   | 184   | 288   | 331    | 437    | 576    | 567    | 310   | 185   | 264   | 658    | 373    |
| <b>Max</b>   | 445   | 261   | 1,010 | 773    | 945    | 1,080  | 1,370  | 469   | 384   | 929   | 5,970  | 1,110  |
| <b>Min</b>   | 77    | 128   | 160   | 252    | 290    | 293    | 328    | 222   | 102   | 128   | 86     | 181    |
| <b>Cfsm</b>  | 0.22  | 0.29  | 0.46  | 0.53   | 0.70   | 0.92   | 0.90   | 0.49  | 0.29  | 0.42  | 1.05   | 0.59   |
| <b>In.</b>   | 0.25  | 0.33  | 0.53  | 0.61   | 0.75   | 1.06   | 1.01   | 0.57  | 0.33  | 0.48  | 1.21   | 0.66   |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2008<sup>a</sup>, BY WATER YEAR (WY)

|             | Oct    | Nov    | Dec    | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>Mean</b> | 613    | 617    | 784    | 976    | 1,156  | 1,267  | 1,038  | 739    | 629    | 534    | 575    | 503    |
| <b>Max</b>  | 2,862  | 2,034  | 1,748  | 2,468  | 3,204  | 3,511  | 3,187  | 2,412  | 2,232  | 1,599  | 2,266  | 2,460  |
| <b>(WY)</b> | (1965) | (1958) | (1968) | (1993) | (1960) | (1952) | (2003) | (2003) | (2003) | (2003) | (1970) | (1945) |
| <b>Min</b>  | 104    | 175    | 235    | 242    | 437    | 539    | 367    | 228    | 122    | 109    | 116    | 110    |
| <b>(WY)</b> | (1955) | (2002) | (1956) | (1956) | (2008) | (2006) | (2002) | (2002) | (2002) | (2002) | (2002) | (1954) |

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## SUMMARY STATISTICS

|                                 | Calendar Year 2007 |        | Water Year 2008 |        | Water Years 1942 - 2008 <sup>a</sup> |              |
|---------------------------------|--------------------|--------|-----------------|--------|--------------------------------------|--------------|
| <b>Annual total</b>             | 184,603            |        | 131,472         |        |                                      |              |
| <b>Annual mean</b>              | 506                |        | 359             |        | 785                                  |              |
| <b>Highest annual mean</b>      |                    |        |                 |        | 1,518                                | 2003         |
| <b>Lowest annual mean</b>       |                    |        |                 |        | 272                                  | 2002         |
| <b>Highest daily mean</b>       | 9,410              | Mar 2  | 5,970           | Aug 28 | 21,700                               | Aug 11, 1970 |
| <b>Lowest daily mean</b>        | 50                 | Sep 10 | 77              | Oct 7  | 25                                   | Aug 15, 2002 |
| <b>Annual seven-day minimum</b> | 72                 | Sep 8  | 93              | Oct 12 | 54                                   | Aug 9, 2002  |
| <b>Maximum peak flow</b>        |                    |        | 6,980           | Aug 28 | 24,800                               | Aug 11, 1970 |
| <b>Maximum peak stage</b>       |                    |        | 9.50            | Aug 28 | 17.38                                | Aug 11, 1970 |
| <b>Instantaneous low flow</b>   |                    |        | <sup>b</sup> 30 | Oct 12 | <sup>b</sup> 13                      | Aug 22, 1988 |
| <b>Annual runoff (cfs)</b>      | 0.805              |        | 0.572           |        | 1.25                                 |              |
| <b>Annual runoff (inches)</b>   | 10.94              |        | 7.79            |        | 16.98                                |              |
| <b>10 percent exceeds</b>       | 860                |        | 558             |        | 1,350                                |              |
| <b>50 percent exceeds</b>       | 308                |        | 286             |        | 554                                  |              |
| <b>90 percent exceeds</b>       | 104                |        | 127             |        | 256                                  |              |

<sup>a</sup>See Period of Record.<sup>b</sup>See Remarks.