# Appendix for Model 03060107

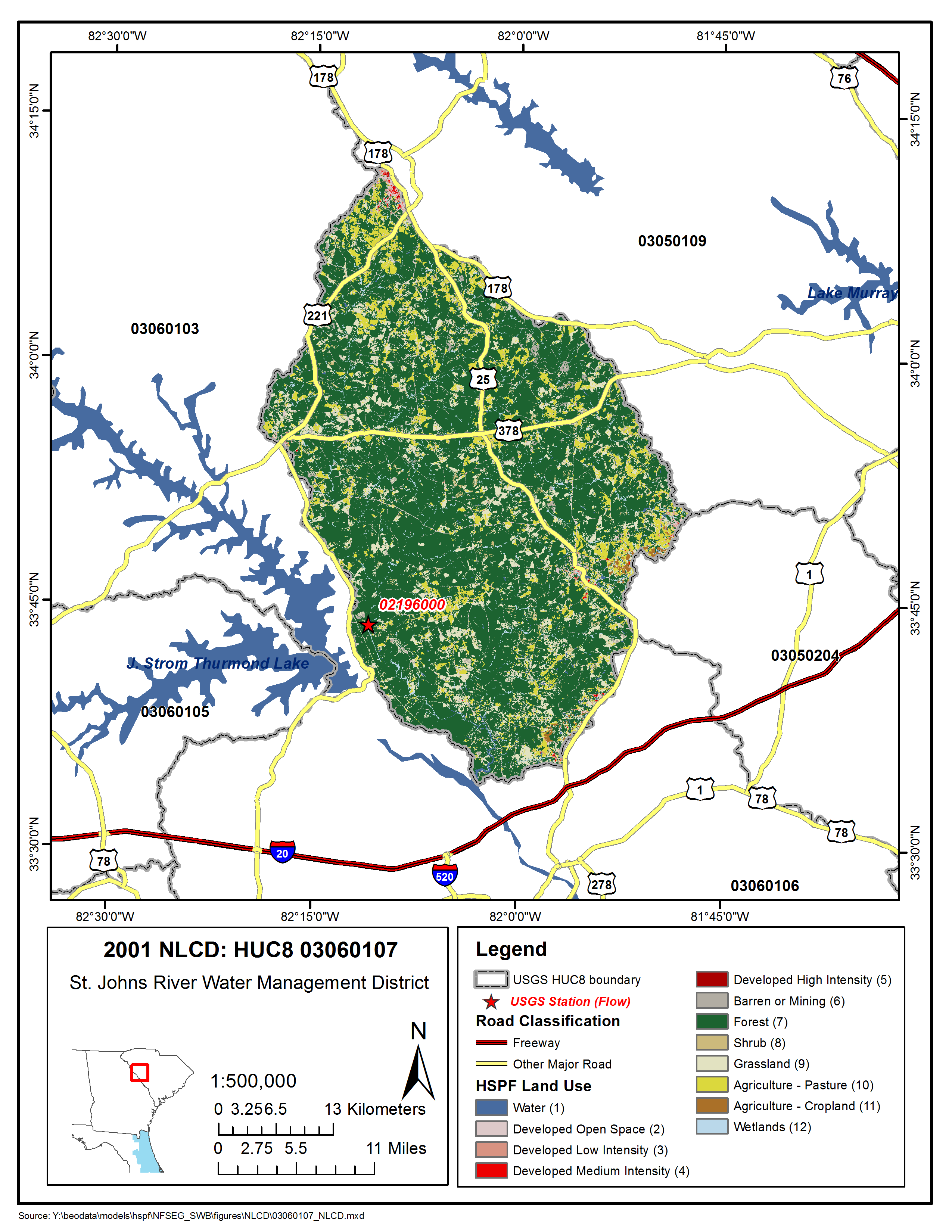


Figure 03060107-1: Land Cover from the National Land Cover Database.

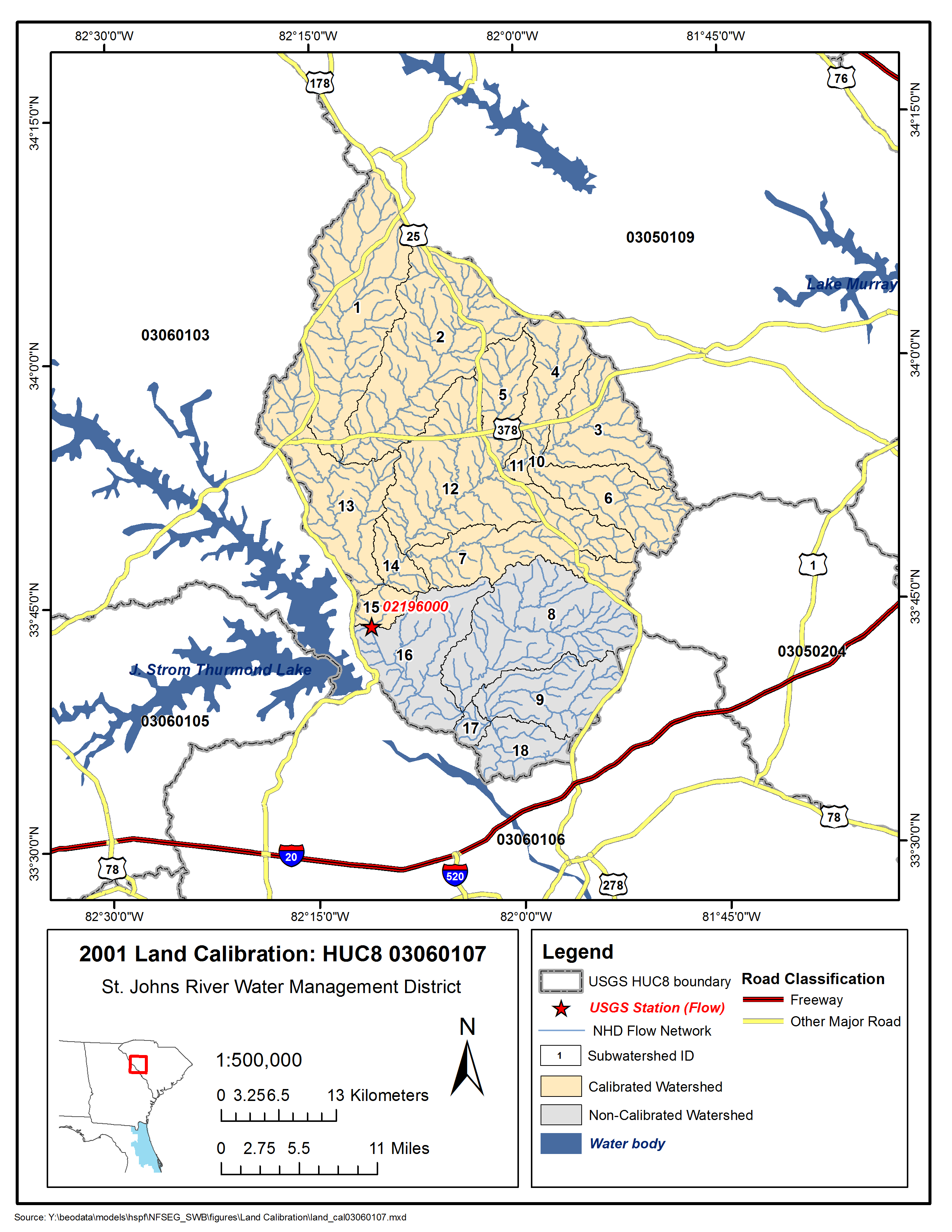


Figure 03060107-2: Calibrated sub-watersheds.

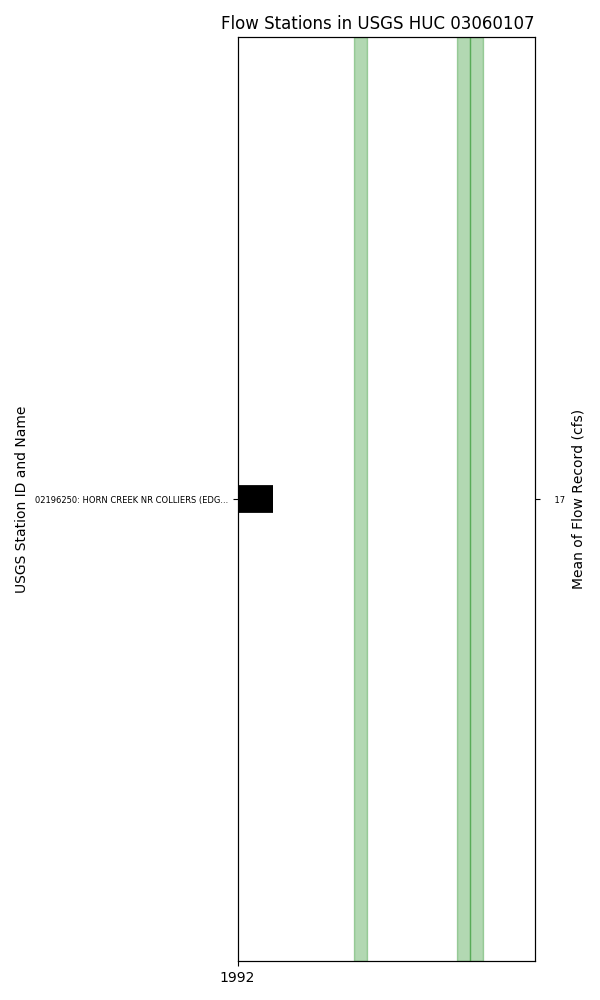


Figure 03060107-3: Station period of record. Blue color identifies gauges used for calibration.

## HSPF Reach 15, USGS Gauge 02196000

Table 03060107-1: Comparison Statistics Between HSPF Reach 15 and USGS Gauge 02196000.

|  |  |
| --- | --- |
| Statistic | Value |
| Bias | 16.58 |
| Standard error | 155.50 |
| Relative bias | 0.05 |
| Relative standard error | 0.37 |
| Nash-Sutcliffe coefficient | 0.86 |
| Kling-Gupta coefficient | 0.90 |
| Coefficient of efficiency | 0.68 |
| Index of agreement | 0.84 |

Table 03060107-2: Hydrologic Indices Between USGS Gauge 02196000 and HSPF Reach 15.

|  |  |  |  |
| --- | --- | --- | --- |
| Hydrologic Index and description (Olden and Poff, 2003) | Observed 02196000 | Simulated Reach 15 | Percent Difference |
| MA1: Mean, all daily flows | 304.23 | 321.00 | 5.51 |
| MA2: Median, all daily flows | 65.00 | 61.94 | -4.70 |
| MA3: CV, all daily flows | 269.81 | 267.71 | -0.78 |
| MA4: CV, log of all daily flows | 162.88 | 161.68 | -0.74 |
| MA5: Mean daily flow / median daily flow | 4.68 | 5.18 | 10.72 |
| MA9: (Q10 - Q90) / median daily flow | 8.63 | 12.04 | 39.47 |
| MA10: (Q20 - Q80) / median daily flow | 4.03 | 4.61 | 14.35 |
| MA11: (Q25 - Q75) / median daily flow | 2.97 | 3.20 | 7.67 |
| MA12: Mean monthly flow, January | 501.08 | 483.95 | -3.42 |
| MA13: Mean monthly flow, February | 651.76 | 618.33 | -5.13 |
| MA14: Mean monthly flow, March | 833.04 | 745.64 | -10.49 |
| MA15: Mean monthly flow, April | 314.93 | 351.57 | 11.63 |
| MA16: Mean monthly flow, May | 222.04 | 265.34 | 19.50 |
| MA17: Mean monthly flow, June | 174.21 | 232.19 | 33.28 |
| MA18: Mean monthly flow, July | 126.74 | 146.69 | 15.74 |
| MA19: Mean monthly flow, August | 141.08 | 171.03 | 21.23 |
| MA20: Mean monthly flow, September | 58.21 | 101.27 | 73.96 |
| MA21: Mean monthly flow, October | 74.49 | 109.55 | 47.07 |
| MA22: Mean monthly flow, November | 182.35 | 186.92 | 2.51 |
| MA23: Mean monthly flow, December | 305.78 | 368.12 | 20.39 |
| ML1: Mean minimum monthly flow, January | 94.42 | 99.67 | 5.57 |
| ML2: Mean minimum monthly flow, February | 127.00 | 125.84 | -0.91 |
| ML3: Mean minimum monthly flow, March | 143.58 | 112.97 | -21.32 |
| ML4: Mean minimum monthly flow, April | 89.53 | 79.29 | -11.43 |
| ML5: Mean minimum monthly flow, May | 43.92 | 44.53 | 1.39 |
| ML6: Mean minimum monthly flow, June | 25.79 | 29.36 | 13.87 |
| ML7: Mean minimum monthly flow, July | 19.24 | 21.59 | 12.20 |
| ML8: Mean minimum monthly flow, August | 16.18 | 17.64 | 9.01 |
| ML9: Mean minimum monthly flow, September | 9.68 | 15.78 | 63.00 |
| ML10: Mean minimum monthly flow, October | 12.29 | 19.04 | 54.86 |
| ML11: Mean minimum monthly flow, November | 24.59 | 29.97 | 21.89 |
| ML12: Mean minimum monthly flow, December | 50.43 | 57.84 | 14.70 |
| ML13: CV of minimum monthly flows | 125.83 | 136.90 | 8.80 |
| ML14: Mean minimum daily flow / mean median annual flow | 0.05 | 0.06 | 14.03 |
| ML15: Mean minimum annual flow / mean annual flow | 0.02 | 0.02 | 7.94 |
| ML16: Median minimum annual flow / median annual flow | 0.04 | 0.06 | 37.17 |
| ML20: Ratio of baseflow volume to total flow volume | 0.24 | 0.23 | -5.00 |
| ML22: Mean annual minimum flow divided by catchment area | 0.05 | 0.07 | 34.76 |
| RA1: Mean of positive changes from one day to next (rise rate) | 379.15 | 414.87 |  |
| RA2: CV, mean of positive changes from one day to next (rise rate) | 307.14 | 345.18 |  |
| RA3: Mean of negative changes from one day to next (fall rate) | 151.63 | 183.47 |  |
| RA4: CV, mean of negative changes from one day to next (fall rate) | 417.39 | 459.46 |  |
| RA5: Ratio of days that are higher than previous day | 0.27 | 0.31 |  |
| RA6: Median of difference in log of flows over two consecutive days of rising | 0.30 | 0.15 |  |
| RA7: Median of difference in log of flows over two consecutive days of falling | 0.15 | 0.17 |  |
| RA8: Number of flow reversals from one day to the next | 94.17 | 107.88 |  |
| RA9: CV, number of flow reversals from one day to the next | 13.31 | 14.81 |  |

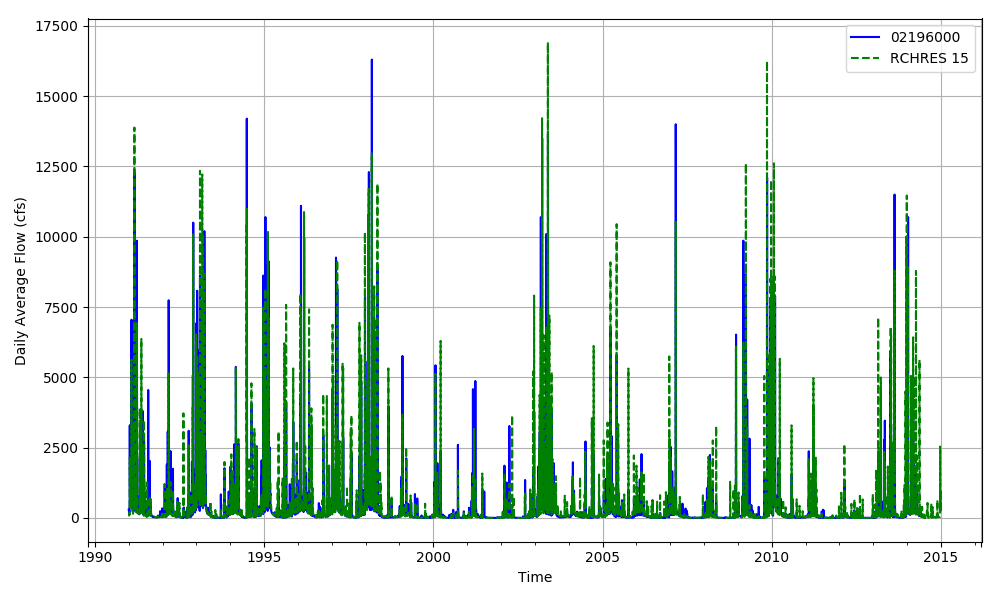


Figure 03060107-4: Daily flow for HSFP reach 15 and USGS station 02196000.

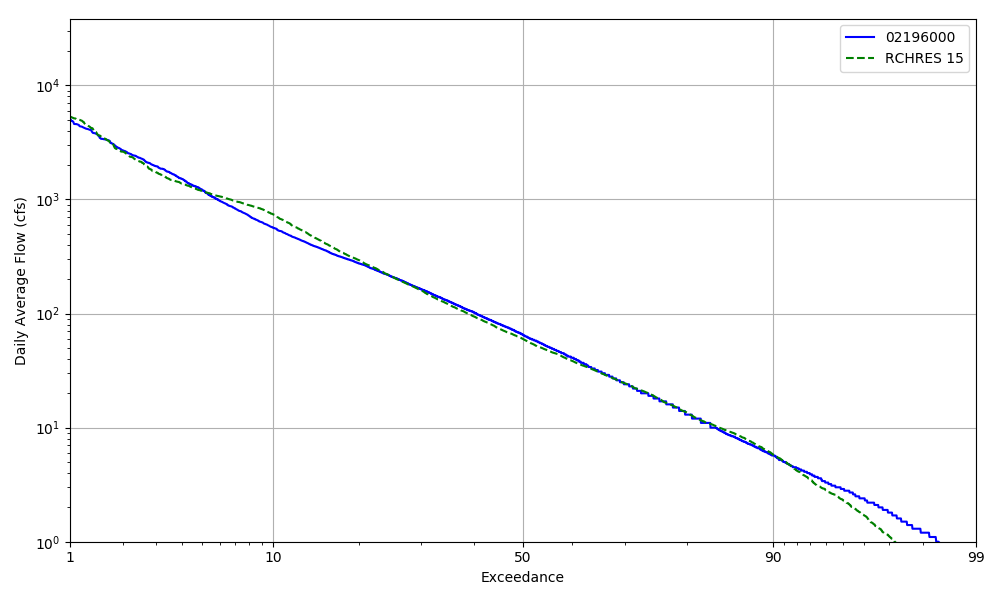


Figure 03060107-5: Daily exceedance for HSFP reach 15 and USGS station 02196000.

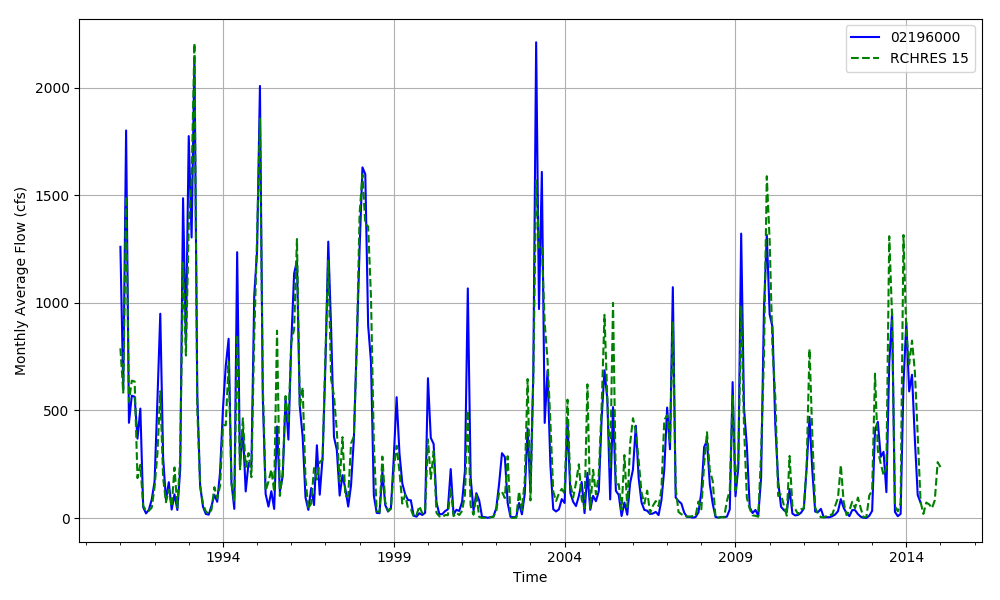


Figure 03060107-6: Monthly flow for HSFP reach 15 and USGS station 02196000.