# Appendix for Model 03110101

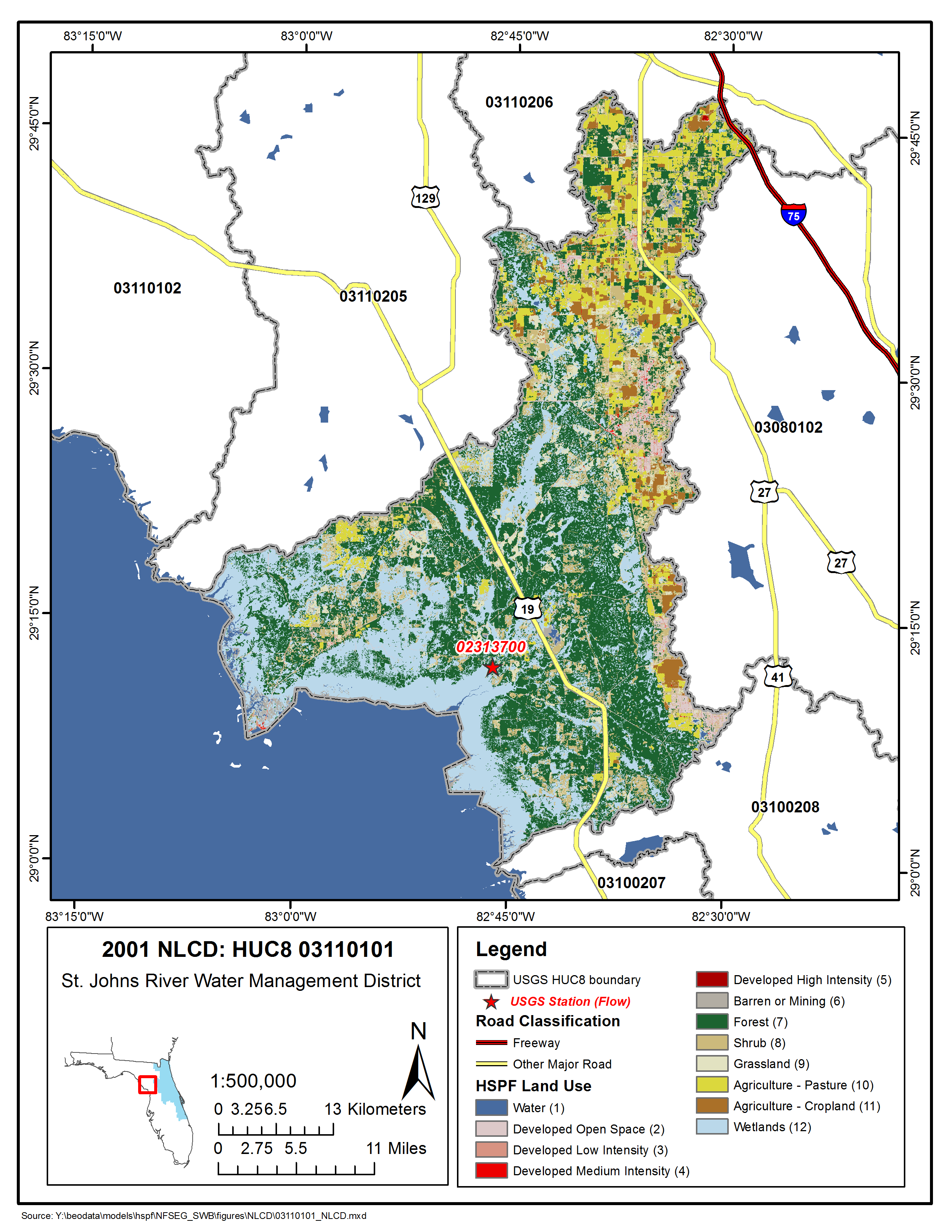


Figure 03110101-1: Land Cover from the National Land Cover Database.

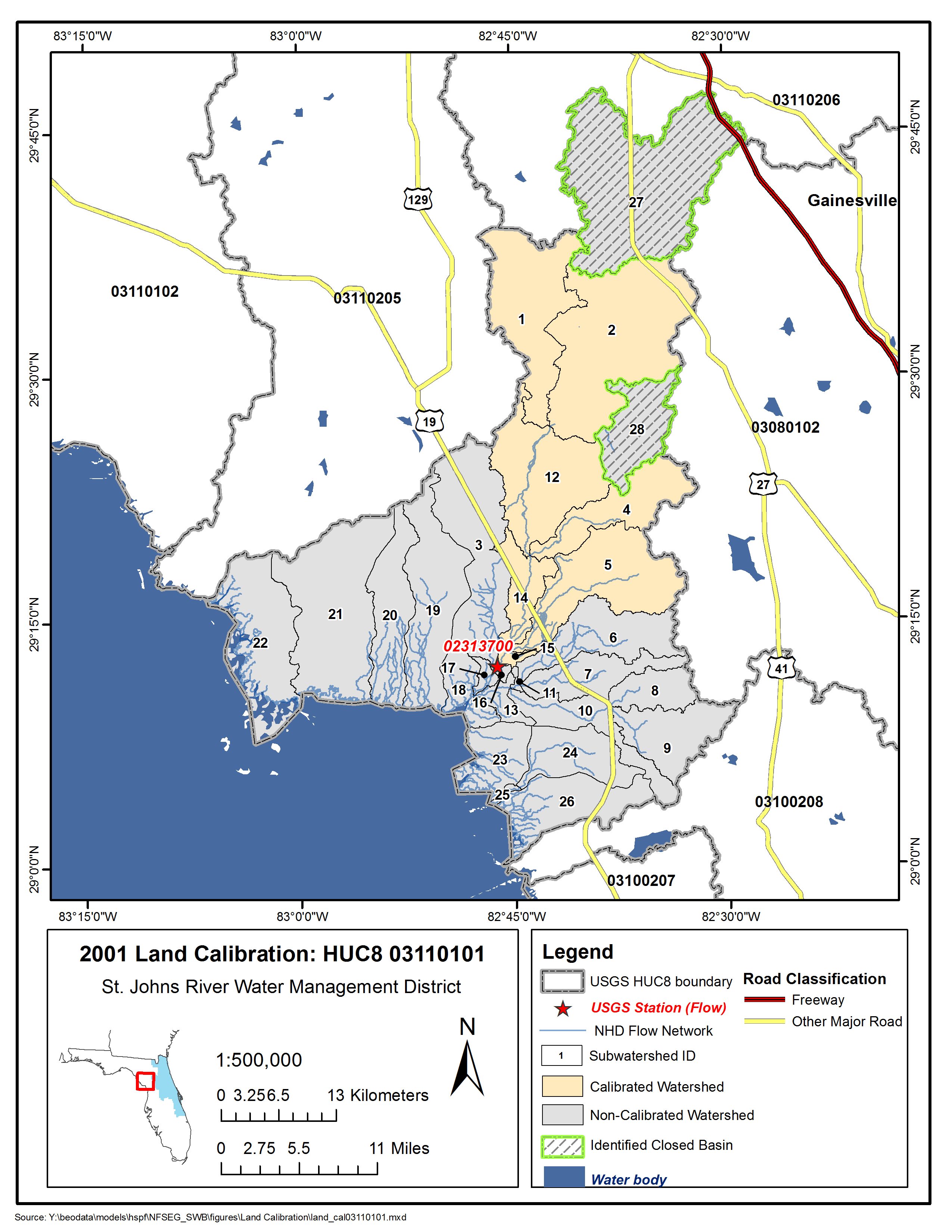


Figure 03110101-2: Calibrated sub-watersheds.

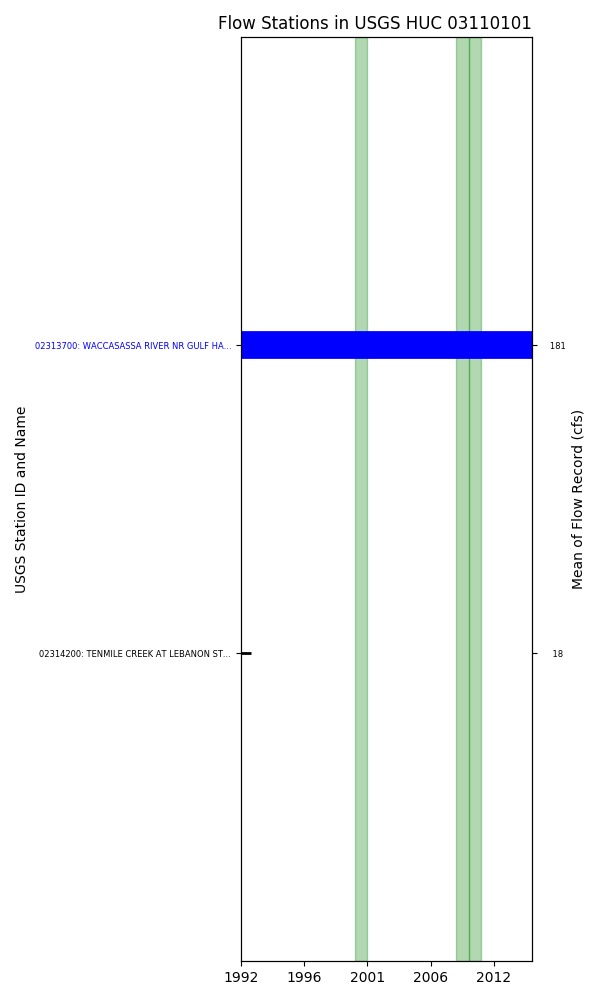


Figure 03110101-3: Station period of record. Blue color identifies gauges used for calibration.

## HSPF Reach 15, USGS Gauge 02313700

Table 03110101-1: Comparison Statistics Between HSPF Reach 15 and USGS Gauge 02313700.

|  |  |
| --- | --- |
| Statistic | Value |
| Bias | -38.46 |
| Standard error | 160.26 |
| Relative bias | -0.21 |
| Relative standard error | 0.67 |
| Nash-Sutcliffe coefficient | 0.55 |
| Coefficient of efficiency | 0.31 |
| Index of agreement | 0.60 |

Table 03110101-2: Hydrologic Indices Between USGS Gauge 02313700 and HSPF Reach 15.

|  |  |  |  |
| --- | --- | --- | --- |
| Hydrologic Index and description (Olden and Poff, 2003) | Observed 02313700 | Simulated Reach 15 | Percent Difference |
| MA1: Mean, all daily flows | 248.96 | 150.01 | -39.74 |
| MA2: Median, all daily flows | 174.00 | 87.17 | -49.90 |
| MA3: CV, all daily flows | 75.16 | 81.33 | 8.21 |
| MA4: CV, log of all daily flows | 79.08 | 94.00 | 18.87 |
| MA5: Mean daily flow / median daily flow | 1.43 | 1.72 | 20.28 |
| MA9: (Q10 - Q90) / median daily flow | 2.58 | 3.36 | 30.18 |
| MA10: (Q20 - Q80) / median daily flow | 1.33 | 2.29 | 72.36 |
| MA11: (Q25 - Q75) / median daily flow | 0.97 | 1.84 | 89.38 |
| MA12: Mean monthly flow, January | 118.32 | 83.54 | -29.40 |
| MA13: Mean monthly flow, February | 144.04 | 100.22 | -30.42 |
| MA14: Mean monthly flow, March | 146.00 | 122.60 | -16.03 |
| MA15: Mean monthly flow, April | 92.10 | 65.66 | -28.71 |
| MA16: Mean monthly flow, May | 82.96 | 37.43 | -54.88 |
| MA17: Mean monthly flow, June | 140.64 | 67.17 | -52.24 |
| MA18: Mean monthly flow, July | 164.26 | 110.86 | -32.51 |
| MA19: Mean monthly flow, August | 239.33 | 186.60 | -22.03 |
| MA20: Mean monthly flow, September | 249.54 | 182.71 | -26.78 |
| MA21: Mean monthly flow, October | 138.47 | 87.66 | -36.69 |
| MA22: Mean monthly flow, November | 93.07 | 40.49 | -56.49 |
| MA23: Mean monthly flow, December | 109.07 | 66.58 | -38.96 |
| ML1: Mean minimum monthly flow, January | 32.12 | 29.51 | -8.11 |
| ML2: Mean minimum monthly flow, February | 55.67 | 52.99 | -4.82 |
| ML3: Mean minimum monthly flow, March | 43.68 | 48.60 | 11.26 |
| ML4: Mean minimum monthly flow, April | 30.66 | 41.11 | 34.06 |
| ML5: Mean minimum monthly flow, May | 40.27 | 21.13 | -47.55 |
| ML6: Mean minimum monthly flow, June | 44.51 | 25.56 | -42.56 |
| ML7: Mean minimum monthly flow, July | 79.28 | 67.92 | -14.33 |
| ML8: Mean minimum monthly flow, August | 100.88 | 101.08 | 0.20 |
| ML9: Mean minimum monthly flow, September | 52.11 | 65.68 | 26.05 |
| ML10: Mean minimum monthly flow, October | 53.68 | 41.76 | -22.20 |
| ML11: Mean minimum monthly flow, November | 36.66 | 25.68 | -29.95 |
| ML12: Mean minimum monthly flow, December | 41.61 | 37.77 | -9.23 |
| ML13: CV of minimum monthly flows | 131.81 | 90.19 | -31.57 |
| ML14: Mean minimum daily flow / mean median annual flow | 0.01 | 0.10 | 744.63 |
| ML15: Mean minimum annual flow / mean annual flow | 0.01 | 0.06 | 528.58 |
| ML16: Median minimum annual flow / median annual flow | 0.00 | 0.09 | 2082.57 |
| ML20: Ratio of baseflow volume to total flow volume | 0.35 | 0.46 | 33.61 |
| ML22: Mean annual minimum flow divided by catchment area | 33333.35 | 33333.43 | 0.00 |
| RA1: Mean of positive changes from one day to next (rise rate) | 85.22 | 37.91 |  |
| RA2: CV, mean of positive changes from one day to next (rise rate) | 230.00 | 330.29 |  |
| RA3: Mean of negative changes from one day to next (fall rate) | 62.95 | 15.93 |  |
| RA4: CV, mean of negative changes from one day to next (fall rate) | 139.08 | 221.77 |  |
| RA5: Ratio of days that are higher than previous day | 0.42 | 0.30 |  |
| RA6: Median of difference in log of flows over two consecutive days of rising | 0.29 | 0.13 |  |
| RA7: Median of difference in log of flows over two consecutive days of falling | 0.22 | 0.10 |  |
| RA8: Number of flow reversals from one day to the next | 96.50 | 36.94 |  |
| RA9: CV, number of flow reversals from one day to the next | 76.16 | 74.92 |  |

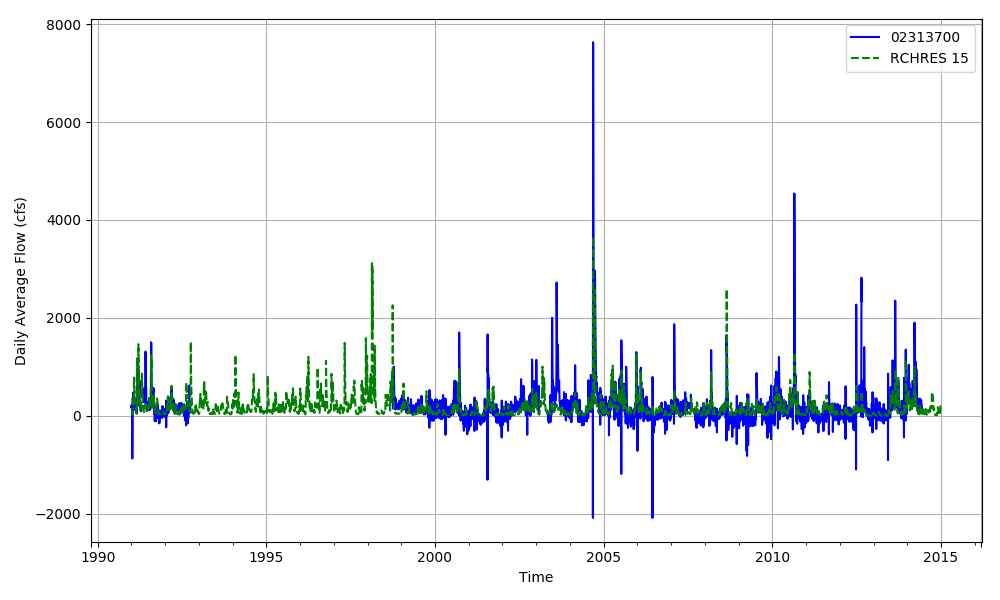


Figure 03110101-4: Daily flow for HSFP reach 15 and USGS station 02313700.

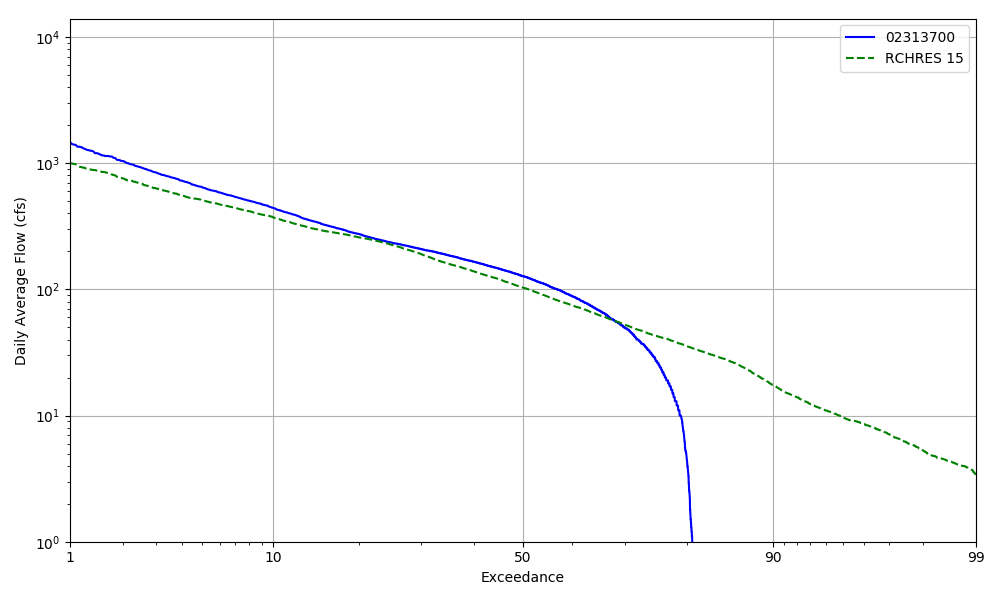


Figure 03110101-5: Daily exceedance for HSFP reach 15 and USGS station 02313700.

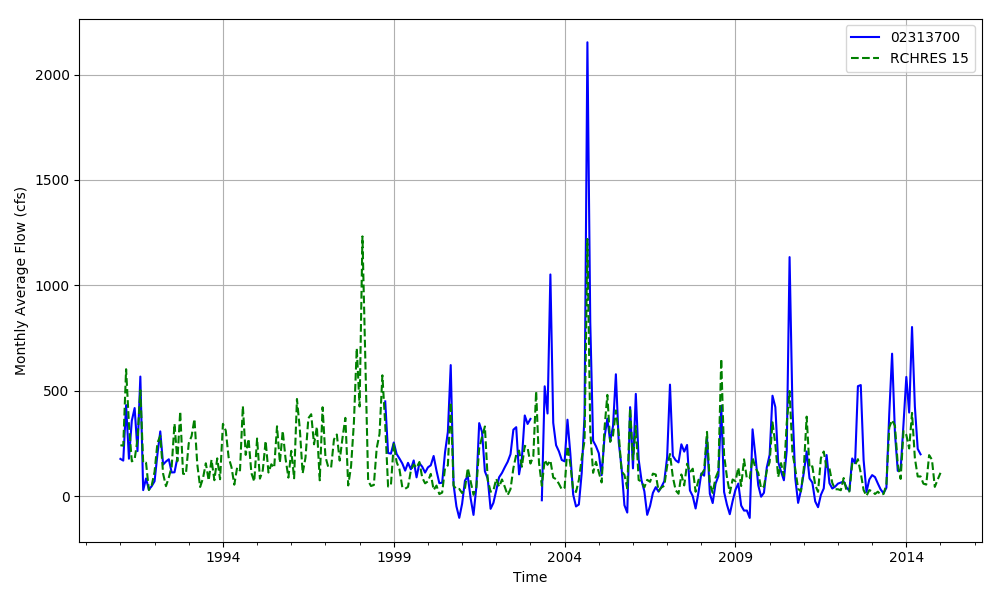


Figure 03110101-6: Monthly flow for HSFP reach 15 and USGS station 02313700.