# Appendix for Model 03130010

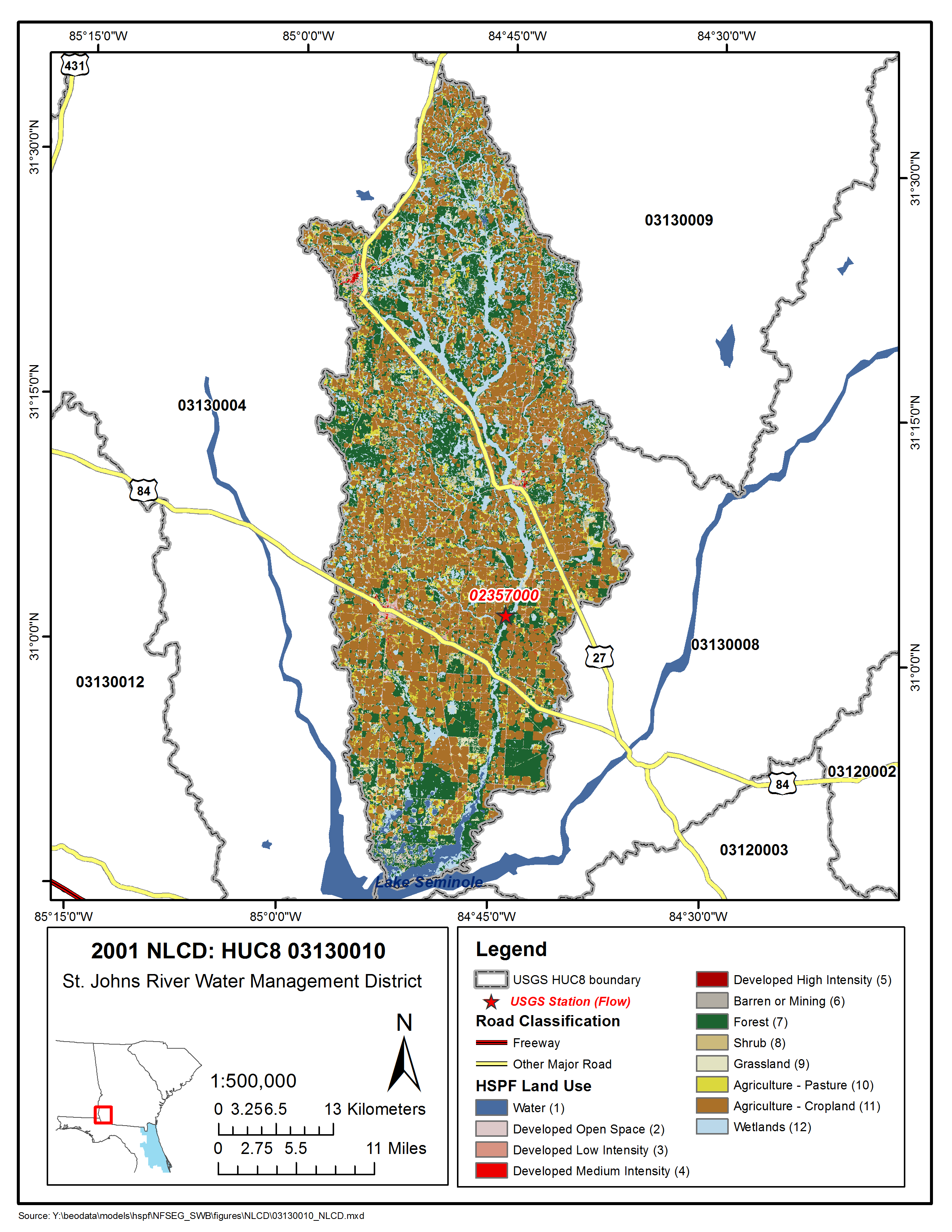


Figure 03130010-1: Land Cover from the National Land Cover Database.

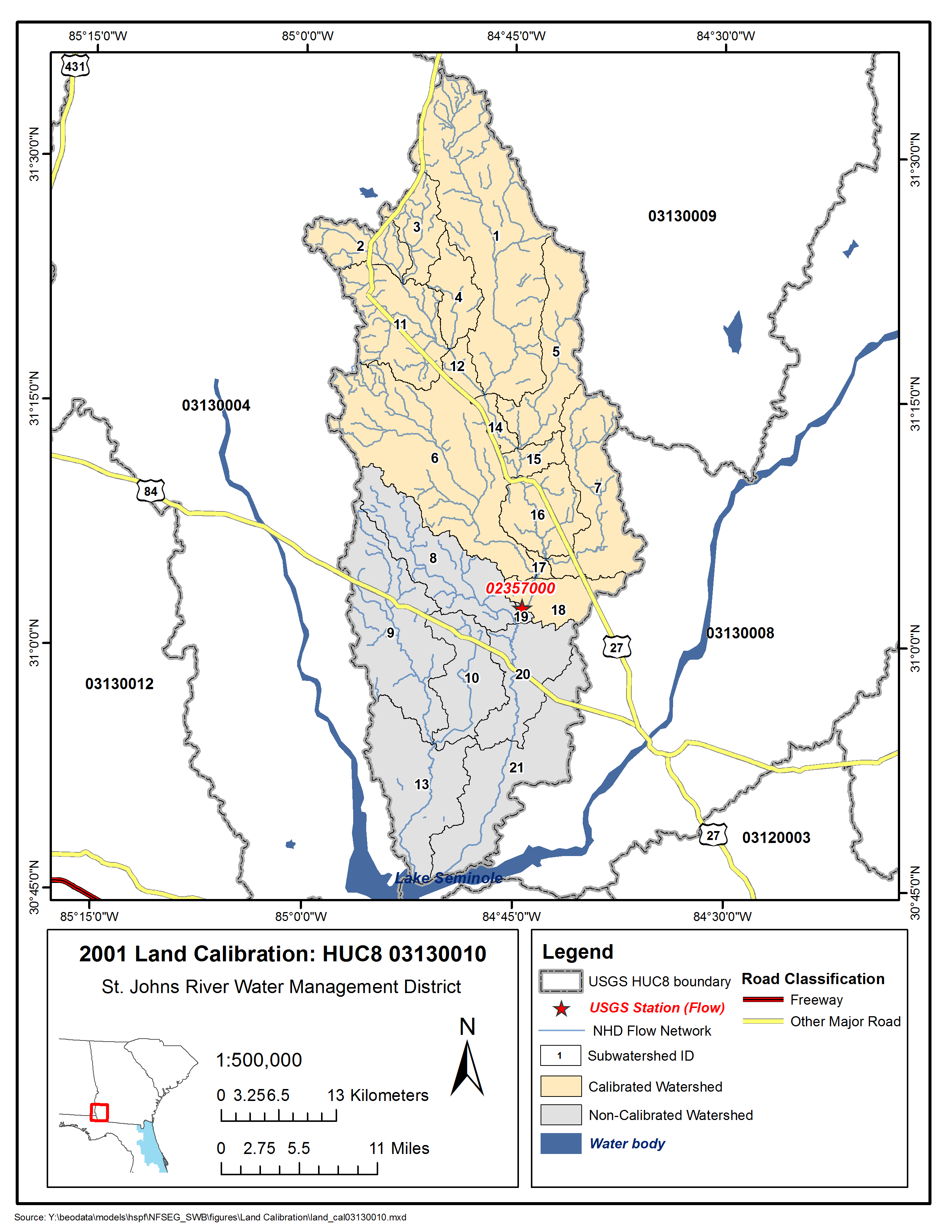


Figure 03130010-2: Calibrated sub-watersheds.

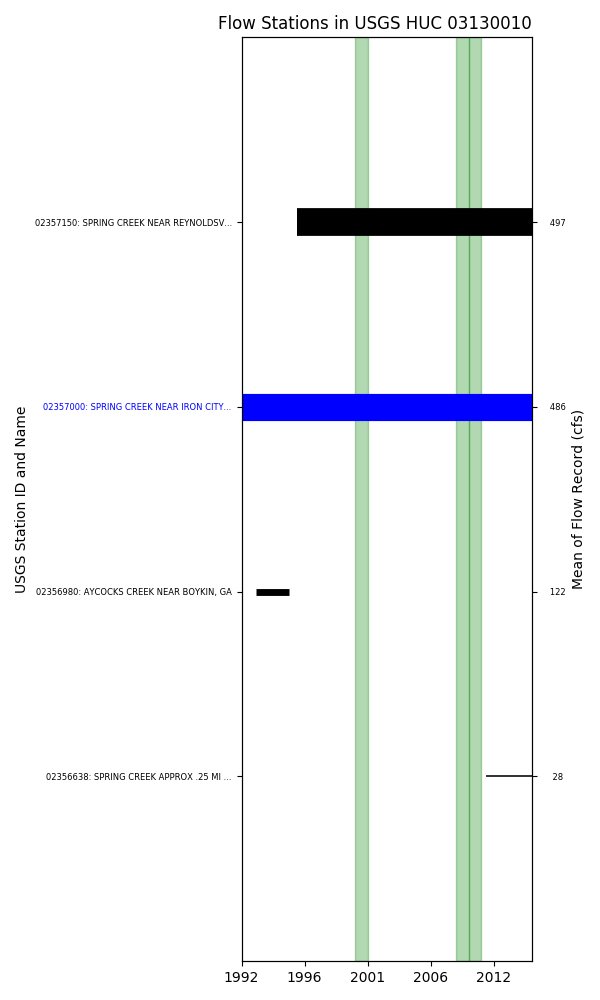


Figure 03130010-3: Station period of record. Blue color identifies gauges used for calibration.

## HSPF Reach 18, USGS Gauge 02357000

Table 03130010-1: Comparison Statistics Between HSPF Reach 18 and USGS Gauge 02357000.

|  |  |
| --- | --- |
| Statistic | Value |
| Bias | -2.67 |
| Standard error | 226.72 |
| Relative bias | -0.01 |
| Relative standard error | 0.35 |
| Nash-Sutcliffe coefficient | 0.87 |
| Kling-Gupta coefficient | 0.89 |
| Coefficient of efficiency | 0.72 |
| Index of agreement | 0.86 |

Table 03130010-2: Hydrologic Indices Between USGS Gauge 02357000 and HSPF Reach 18.

|  |  |  |  |
| --- | --- | --- | --- |
| Hydrologic Index and description (Olden and Poff, 2003) | Observed 02357000 | Simulated Reach 18 | Percent Difference |
| MA1: Mean, all daily flows | 486.35 | 483.33 | -0.62 |
| MA2: Median, all daily flows | 196.00 | 221.09 | 12.80 |
| MA3: CV, all daily flows | 155.87 | 135.99 | -12.75 |
| MA4: CV, log of all daily flows | 121.51 | 119.52 | -1.63 |
| MA5: Mean daily flow / median daily flow | 2.48 | 2.19 | -11.90 |
| MA9: (Q10 - Q90) / median daily flow | 5.69 | 5.40 | -5.02 |
| MA10: (Q20 - Q80) / median daily flow | 3.32 | 2.84 | -14.46 |
| MA11: (Q25 - Q75) / median daily flow | 2.61 | 2.13 | -18.18 |
| MA12: Mean monthly flow, January | 664.00 | 741.22 | 11.63 |
| MA13: Mean monthly flow, February | 942.40 | 1049.87 | 11.40 |
| MA14: Mean monthly flow, March | 1145.57 | 1160.83 | 1.33 |
| MA15: Mean monthly flow, April | 746.90 | 672.99 | -9.89 |
| MA16: Mean monthly flow, May | 253.19 | 233.27 | -7.87 |
| MA17: Mean monthly flow, June | 208.85 | 195.70 | -6.30 |
| MA18: Mean monthly flow, July | 384.79 | 283.20 | -26.40 |
| MA19: Mean monthly flow, August | 303.96 | 276.20 | -9.13 |
| MA20: Mean monthly flow, September | 212.66 | 176.39 | -17.06 |
| MA21: Mean monthly flow, October | 202.35 | 166.98 | -17.48 |
| MA22: Mean monthly flow, November | 172.69 | 197.80 | 14.55 |
| MA23: Mean monthly flow, December | 429.28 | 481.39 | 12.14 |
| ML1: Mean minimum monthly flow, January | 320.93 | 310.46 | -3.26 |
| ML2: Mean minimum monthly flow, February | 449.04 | 456.78 | 1.72 |
| ML3: Mean minimum monthly flow, March | 459.83 | 463.77 | 0.86 |
| ML4: Mean minimum monthly flow, April | 305.96 | 300.38 | -1.82 |
| ML5: Mean minimum monthly flow, May | 121.55 | 100.72 | -17.13 |
| ML6: Mean minimum monthly flow, June | 78.32 | 80.20 | 2.40 |
| ML7: Mean minimum monthly flow, July | 118.62 | 117.65 | -0.82 |
| ML8: Mean minimum monthly flow, August | 112.06 | 133.12 | 18.80 |
| ML9: Mean minimum monthly flow, September | 73.60 | 81.71 | 11.02 |
| ML10: Mean minimum monthly flow, October | 95.48 | 81.36 | -14.78 |
| ML11: Mean minimum monthly flow, November | 102.26 | 92.61 | -9.43 |
| ML12: Mean minimum monthly flow, December | 196.54 | 207.46 | 5.56 |
| ML13: CV of minimum monthly flows | 118.70 | 116.67 | -1.71 |
| ML14: Mean minimum daily flow / mean median annual flow | 0.10 | 0.09 | -10.14 |
| ML15: Mean minimum annual flow / mean annual flow | 0.06 | 0.05 | -18.91 |
| ML16: Median minimum annual flow / median annual flow | 0.04 | 0.07 | 54.88 |
| ML20: Ratio of baseflow volume to total flow volume | 0.54 | 0.59 | 8.04 |
| ML22: Mean annual minimum flow divided by catchment area | 0.32 | 0.25 | -23.78 |
| RA1: Mean of positive changes from one day to next (rise rate) | 139.86 | 146.22 |  |
| RA2: CV, mean of positive changes from one day to next (rise rate) | 445.36 | 452.09 |  |
| RA3: Mean of negative changes from one day to next (fall rate) | 71.81 | 58.06 |  |
| RA4: CV, mean of negative changes from one day to next (fall rate) | 465.88 | 463.69 |  |
| RA5: Ratio of days that are higher than previous day | 0.31 | 0.28 |  |
| RA6: Median of difference in log of flows over two consecutive days of rising | 0.10 | 0.09 |  |
| RA7: Median of difference in log of flows over two consecutive days of falling | 0.07 | 0.06 |  |
| RA8: Number of flow reversals from one day to the next | 57.46 | 65.79 |  |
| RA9: CV, number of flow reversals from one day to the next | 22.50 | 20.42 |  |

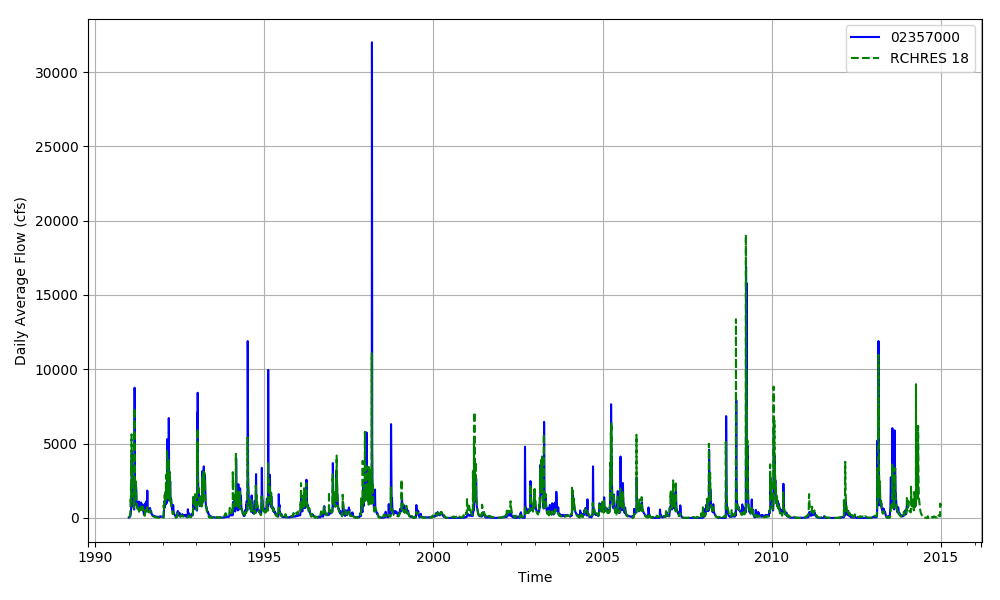


Figure 03130010-4: Daily flow for HSFP reach 18 and USGS station 02357000.

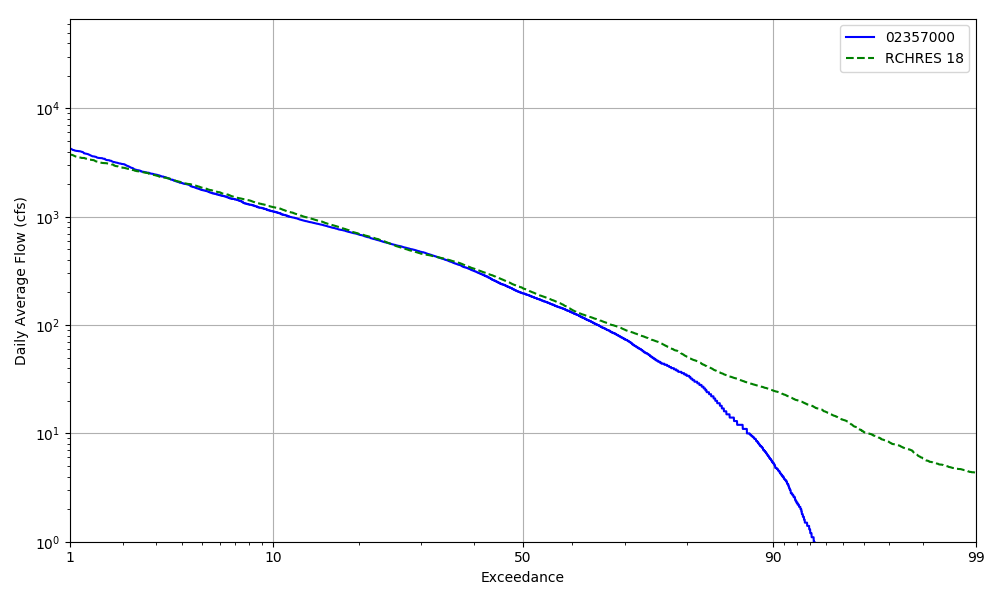


Figure 03130010-5: Daily exceedance for HSFP reach 18 and USGS station 02357000.

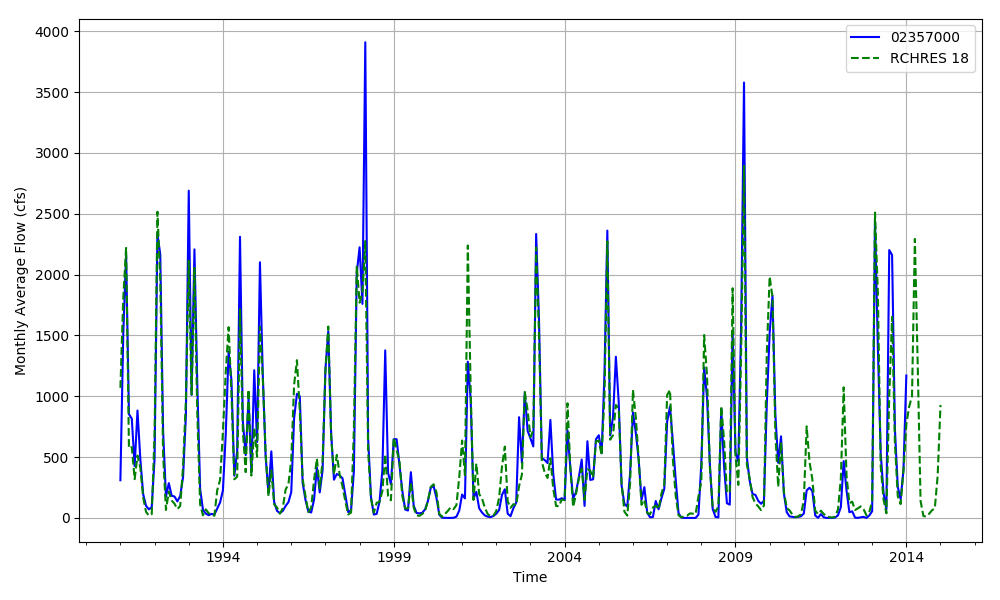


Figure 03130010-6: Monthly flow for HSFP reach 18 and USGS station 02357000.