# Appendix for Model 03070202

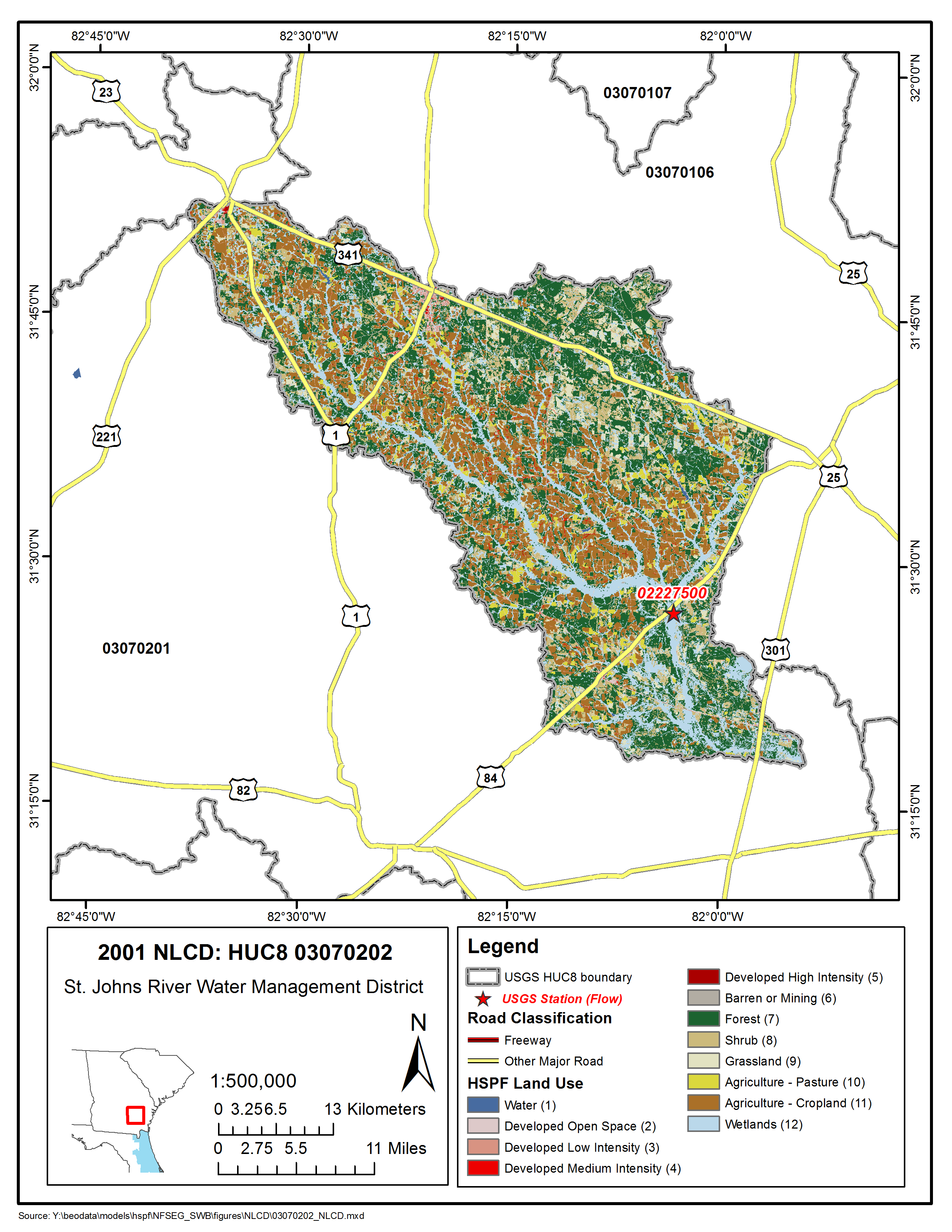


Figure 03070202-1: Land Cover from the National Land Cover Database.

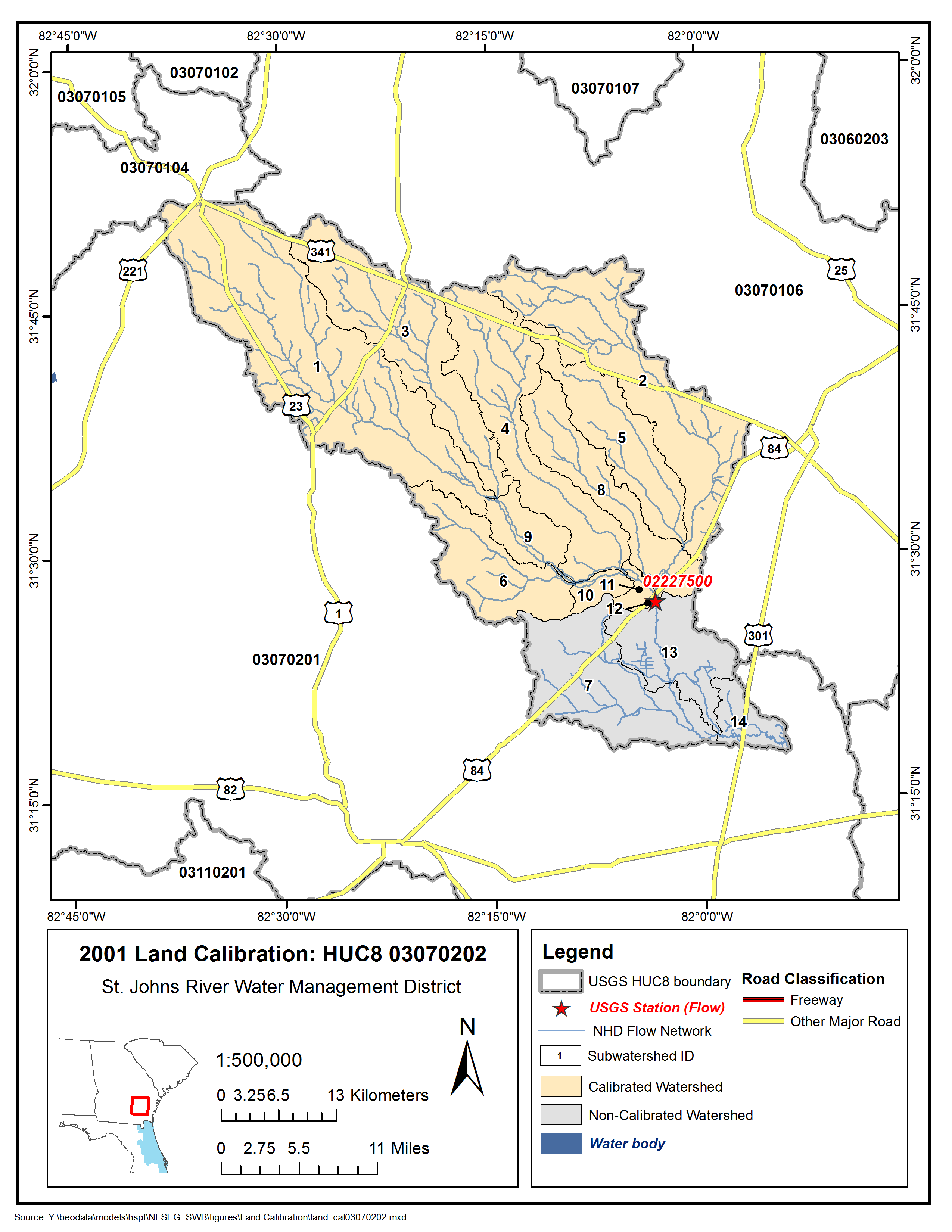


Figure 03070202-2: Calibrated sub-watersheds.

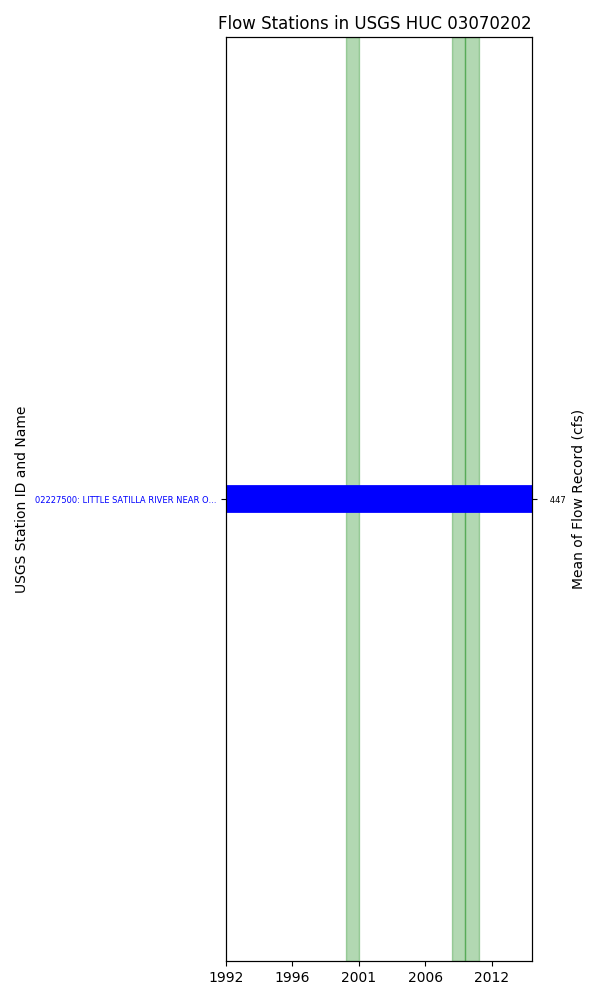


Figure 03070202-3: Station period of record. Blue color identifies gauges used for calibration.

## HSPF Reach 12, USGS Gauge 02227500

Table 03070202-1: Comparison Statistics Between HSPF Reach 12 and USGS Gauge 02227500.

|  |  |
| --- | --- |
| Statistic | Value |
| Bias | 5.05 |
| Standard error | 291.46 |
| Relative bias | 0.01 |
| Relative standard error | 0.41 |
| Nash-Sutcliffe coefficient | 0.83 |
| Coefficient of efficiency | 0.65 |
| Index of agreement | 0.83 |

Table 03070202-2: Hydrologic Indices Between USGS Gauge 02227500 and HSPF Reach 12.

|  |  |  |  |
| --- | --- | --- | --- |
| Hydrologic Index and description (Olden and Poff, 2003) | Observed 02227500 | Simulated Reach 12 | Percent Difference |
| MA1: Mean, all daily flows | 469.96 | 474.51 | 0.97 |
| MA2: Median, all daily flows | 100.00 | 105.58 | 5.58 |
| MA3: CV, all daily flows | 161.76 | 173.35 | 7.17 |
| MA4: CV, log of all daily flows | 161.95 | 157.81 | -2.56 |
| MA5: Mean daily flow / median daily flow | 4.70 | 4.49 | -4.37 |
| MA9: (Q10 - Q90) / median daily flow | 12.99 | 12.46 | -4.08 |
| MA10: (Q20 - Q80) / median daily flow | 6.46 | 6.23 | -3.50 |
| MA11: (Q25 - Q75) / median daily flow | 4.61 | 4.56 | -1.07 |
| MA12: Mean monthly flow, January | 729.56 | 808.22 | 10.78 |
| MA13: Mean monthly flow, February | 911.88 | 1039.12 | 13.95 |
| MA14: Mean monthly flow, March | 941.08 | 897.33 | -4.65 |
| MA15: Mean monthly flow, April | 520.34 | 378.54 | -27.25 |
| MA16: Mean monthly flow, May | 125.36 | 58.96 | -52.97 |
| MA17: Mean monthly flow, June | 271.83 | 147.49 | -45.74 |
| MA18: Mean monthly flow, July | 277.29 | 268.79 | -3.07 |
| MA19: Mean monthly flow, August | 416.16 | 474.21 | 13.95 |
| MA20: Mean monthly flow, September | 328.38 | 434.68 | 32.37 |
| MA21: Mean monthly flow, October | 289.57 | 315.41 | 8.92 |
| MA22: Mean monthly flow, November | 206.49 | 240.35 | 16.39 |
| MA23: Mean monthly flow, December | 442.84 | 455.92 | 2.95 |
| ML1: Mean minimum monthly flow, January | 229.13 | 208.60 | -8.96 |
| ML2: Mean minimum monthly flow, February | 286.88 | 247.72 | -13.65 |
| ML3: Mean minimum monthly flow, March | 237.04 | 158.23 | -33.25 |
| ML4: Mean minimum monthly flow, April | 80.16 | 46.74 | -41.69 |
| ML5: Mean minimum monthly flow, May | 15.38 | 6.45 | -58.10 |
| ML6: Mean minimum monthly flow, June | 15.37 | 12.82 | -16.61 |
| ML7: Mean minimum monthly flow, July | 51.92 | 61.45 | 18.35 |
| ML8: Mean minimum monthly flow, August | 46.15 | 110.64 | 139.74 |
| ML9: Mean minimum monthly flow, September | 21.44 | 82.31 | 283.96 |
| ML10: Mean minimum monthly flow, October | 25.12 | 40.48 | 61.18 |
| ML11: Mean minimum monthly flow, November | 71.64 | 91.92 | 28.30 |
| ML12: Mean minimum monthly flow, December | 138.43 | 129.65 | -6.34 |
| ML13: CV of minimum monthly flows | 191.46 | 168.86 | -11.80 |
| ML14: Mean minimum daily flow / mean median annual flow | 0.01 | 0.01 | -9.47 |
| ML15: Mean minimum annual flow / mean annual flow | 0.00 | 0.00 | -61.01 |
| ML16: Median minimum annual flow / median annual flow | 0.00 | 0.00 | -91.50 |
| ML20: Ratio of baseflow volume to total flow volume | 0.36 | 0.38 | 5.34 |
| ML22: Mean annual minimum flow divided by catchment area | 0.02 | 0.01 | -72.20 |
| RA1: Mean of positive changes from one day to next (rise rate) | 151.97 | 188.63 |  |
| RA2: CV, mean of positive changes from one day to next (rise rate) | 273.56 | 359.98 |  |
| RA3: Mean of negative changes from one day to next (fall rate) | 74.99 | 69.10 |  |
| RA4: CV, mean of negative changes from one day to next (fall rate) | 272.09 | 363.68 |  |
| RA5: Ratio of days that are higher than previous day | 0.32 | 0.27 |  |
| RA6: Median of difference in log of flows over two consecutive days of rising | 0.20 | 0.20 |  |
| RA7: Median of difference in log of flows over two consecutive days of falling | 0.15 | 0.12 |  |
| RA8: Number of flow reversals from one day to the next | 72.88 | 61.33 |  |
| RA9: CV, number of flow reversals from one day to the next | 20.21 | 21.60 |  |

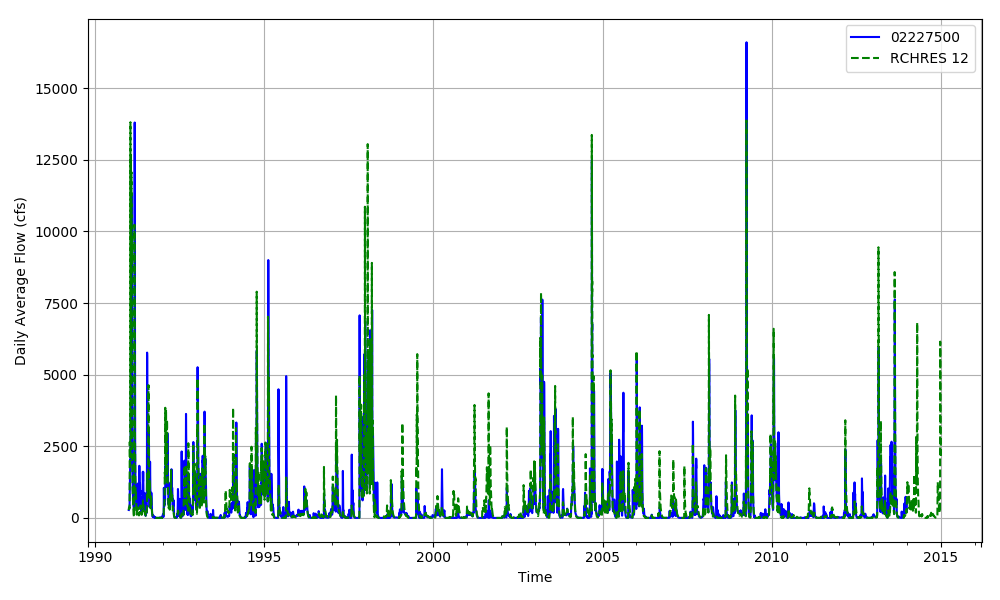


Figure 03070202-4: Daily flow for HSFP reach 12 and USGS station 02227500.

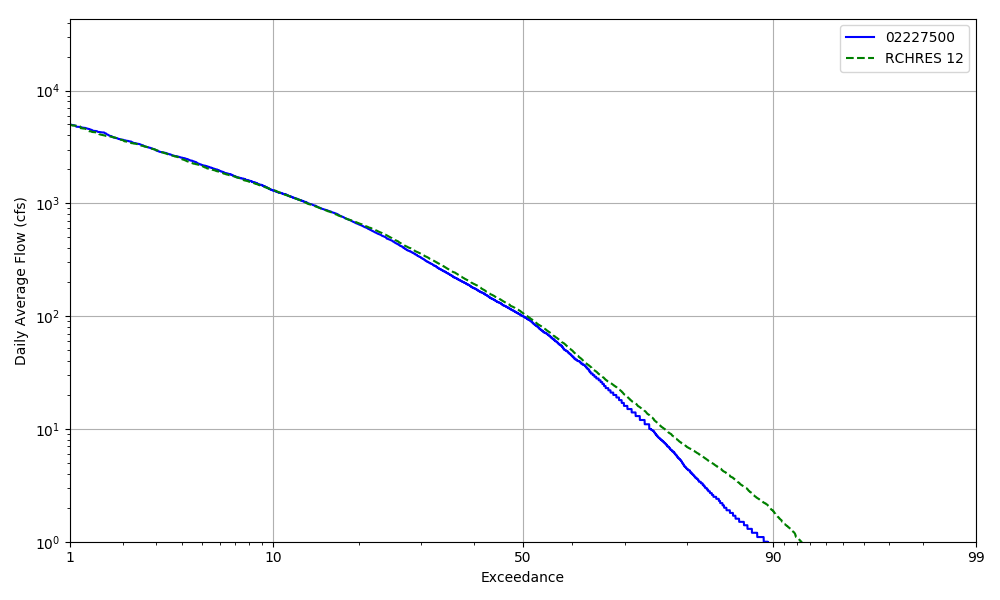


Figure 03070202-5: Daily exceedance for HSFP reach 12 and USGS station 02227500.

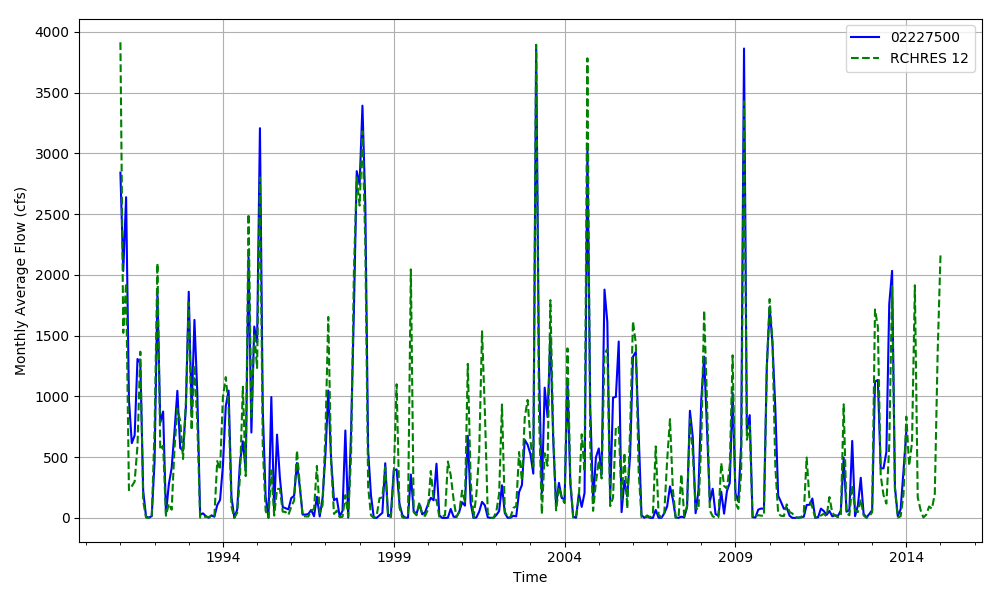


Figure 03070202-6: Monthly flow for HSFP reach 12 and USGS station 02227500.