Table XX. Northern barrens tiger beetle abundance and occupancy results from hierarchical Bayesian modeling in JAGS. Upper and lower credible interval limits (CRIs) are given. Bolded non-intercept parameters are significant at p < 0.15.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **JAGS Abundance and Occupancy Results** | | |  |  |  |
|  | Mean | SD | 85% CRI LL | 85%  CRI UL | Rhat |
| Abundance |  |  |  |  |  |
| Intercept | 13.24 | 11.17 |  |  | 1.22 |
| Elevation CV | **0.67** | 0.22 | **0.21** | **1.44** | 1.02 |
| Canopy | **0.32** | 0.22 | **0.28** | **1.25** | 1.01 |
|  |  |  |  |  |  |
| Occupancy |  |  |  |  |  |
| Intercept | -0.12 | 0.31 |  |  | 1.00 |
| Elevation CV | **0.67** | 0.32 | **0.37** | **0.99** | 1.00 |
| Canopy | **0.75** | 0.34 | **0.02** | **0.64** | 1.00 |

.

Actual output from cipa\_JAGS

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | mean | sd | 0.025 | 0.250 | 0.500 | 0.750 | 0.975 | Rhat | n.eff | overlap0 | f |
| b0.abund | 13.238 | 11.172 | 1.730 | 5.524 | 9.196 | 17.419 | 42.447 | 1.219 | 21 | 0 | 1.00 |
| b1.abund | 0.672 | 0.216 | 0.271 | 0.525 | 0.665 | 0.809 | 1.121 | 1.024 | 127 | 0 | 1.00 |
| sd.abund | 2.040 | 0.291 | 1.556 | 1.848 | 2.009 | 2.193 | 2.732 | 1.086 | 76 | 0 | 1.00 |
| b2.abund | 0.320 | 0.216 | -0.085 | 0.171 | 0.312 | 0.464 | 0.754 | 1.014 | 162 | 1 | 0.94 |
| b0.psi | -0.123 | 0.313 | -0.736 | -0.334 | -0.125 | 0.085 | 0.494 | 1.000 | 28109 | 1 | 0.66 |
| b1.psi | 0.671 | 0.323 | 0.060 | 0.451 | 0.661 | 0.881 | 1.336 | 1.000 | 6583 | 0 | 0.99 |
| b2.psi | 0.753 | 0.340 | 0.120 | 0.520 | 0.740 | 0.973 | 1.456 | 1.001 | 2251 | 0 | 0.99 |
| alpha.p | 0.571 | 0.113 | 0.379 | 0.491 | 0.560 | 0.640 | 0.818 | 1.004 | 1004 | 0 | 1.00 |
| beta.p | 50.819 | 40.262 | 8.884 | 24.949 | 41.029 | 60.881 | 179.910 | 1.282 | 18 | 0 | 1.00 |
| p.derived | 0.017 | 0.012 | 0.003 | 0.009 | 0.014 | 0.022 | 0.050 | 1.324 | 13 | 0 | 1.00 |
| deviance | 759.549 | 26.238 | 709.379 | 741.686 | 759.022 | 776.961 | 812.501 | 1.002 | 1400 | 0 | 1.00 |