Table 1XX

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Single Abundance Models** | | | | | | **Multiple  Abundance  Model** |
| Variable | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
| Intercept | -2.97 | -0.07 | 0.13 | 0.26 | 0.26 |  |
|  | (-4.48,-1.46) | (-0.70,0.56) | (-0.45,0.71) | (-0.36,0.87) | (-0.36,0.87) |  |
| Disturbance | **4.13** | -- | -- | -- | -- |  |
|  | **(2.58,5.68)** |  |  |  |  |  |
| Canopy | -- | **-0.85** | -- | -- | -- |  |
|  |  | **(-1.42,-0.28)** |  |  |  |  |
| Woody Stems | -- | -- | **-0.58** | -- | -- |  |
|  |  |  | **(-1.11,-0.05)** |  |  |  |
| Litter | -- | -- | -- | -- | -0.01 | -- |
|  |  |  |  |  | (-0.43,0.41) |  |
| **Detection Models** | | | | | | |
| Intercept | -1.85 | -1.7 | -1.78 | -1.74 | -1.74 |  |
|  | (-2.29,-1.41) | (-2.18,-1.23) | (-2.22,-1.35) | (-2.18,-1.30) | (-2.19,-1.30) |  |
| Date | **0.26** | **0.29** | **0.29** | **0.29** | **0.29** |  |
|  | **(0.08,0.43)** | **(0.11,0.47)** | **(0.11,0.47)** | **(0.11,0.47)** | **(0.11,0.47)** |  |
| Time | **0.33** | **0.36** | **0.37** | **0.37** | **0.37** |  |
|  | **(0.15,0.52)** | **(0.18,0.55)** | **(0.18,0.55)** | **(0.18,0.55)** | **(0.18,0.55)** |  |
| **Dynamics** |  |  |  |  |  |  |
| Survival | 0.25 | 0.27 | 0.07 | 0.03 | 0.03 |  |
|  | (-0.55,1.04) | (-0.71,0.76) | (-0.68,0.82) | (-0.70,0.76) | (-0.70,0.76) |  |
| Recruitment | -2.25 | -2.16 | -2.12 | -2.09 | -2.09 |  |
|  | (-3.33,-1.17) | (-3.20,-1.11) | (-3.14,-1.10) | (-3.06,-1.12) | (-3.06,-1.12) |  |
| **AIC** | 442.73 | 461.61 | 463.78 | 464.09 | 466.09 |  |

Table 2XX

|  |  |  |  |
| --- | --- | --- | --- |
| **Single Abundance Models** | | | |
| Variable | Model 1 | Model 2 | Model 3 |
| Intercept | 1.01 (0.85,1.17) | 1.01 (0.85,1.16) | 0.99 (0.80,1.18) |
| Canopy | **-0.13 (-0.25,0.00)** | -- | -- |
| Disturbance | -- | -- | 0.04 (-0.21,0.29) |
| **Detection Models** | | | |
| Intercept | -0.41 (-0.60,-0.23) | -0.40 (-0.58,-0.22) | -0.40 (-0.58,-0.22) |
| Date | **0.12 (0.05,0.19)** | **0.12 (0.05,0.19)** | **0.12 (0.05,0.19)** |
| **Dynamics** | | | |
| Survival | 0.54 (-0.22,1.29) | 0.58 (-0.17,1.33) | 0.59 (-0.17,1.33) |
| Recruitment | 0.04 (-0.45,0.53) | 0.01 (-0.48,0.5) | 0.01 (-0.48,0.50) |
| AIC | 1723.19 | 1723.26 | 1725.21 |

Table 3XX

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Single Abundance Models | | | | | | | | Multiple |
| Variable | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | JAGS Model |
| Intercept | -1.12 | 0.34 | -0.06 | -0.22 | -0.15 | -0.92 | -0.62 |  |
|  | (-1.94,-0.31) | (-0.47,1.15) | (-0.75,0.64) | (-0.93,0.49) | (-0.85,0.55) | (-0.80,0.61) | (-0.76,0.63) |  |
| *Liatris* | **1.84** | -- | -- | -- | -- | -- | -- |  |
|  | **(0.94,2.73)** |  |  |  |  |  |  |  |
| Disturbance | -- | **-1.50** | -- | -- | -- | -- | -- |  |
|  |  | **(-2.86,-0.14)** |  |  |  |  |  |  |
| Non-bunchgrass | -- | -- | -- | -0.75 | -- | -- | -- |  |
|  |  |  |  | (-1.75,0.24) |  |  |  |  |
| Bunchgrass | -- | -- | -- | -- | 0.25 | -- | -- |  |
|  |  |  |  |  | (-0.20,0.71) |  |  |  |
| Litter | -- | -- | -- | -- | -- | -0.35 | -- |  |
|  |  |  |  |  |  | (-1.32,0.63) |  |  |
| Canopy | -- | -- | -- | -- | -- | -- | 0.19 |  |
|  |  |  |  |  |  |  | (-0.57,0.96) |  |
| Detection Model | | | | | | | |  |
| Intercept | -1.98 | -2.00 | -2.00 | -2.00 | -1.98 | -1.99 | -2.01 |  |
|  | (-2.34-1.62) | (-2.36,-1.63) | (-2.37,-1.63) | (-2.36,-1.62) | (-2.35,-1.61) | (-2.37,-1.62) | (-2.38,-1.64) |  |
| Dynamics | | | | | | | |  |
| Survival | -1.47 | -1.48 | -1.48 | -1.48 | -1.47 | -1.48 | -1.49 |  |
|  | (-2.24,-0.70) | (-2.26,-0.71) | (-2.26,-0.71) | (-2.26,-0.71) | (-2.25,-0.70) | (-2.25,-0.71) | (-2.26,-0.71) |  |
| Recruitment | -11.2 | -11.0 | -10.4 | -12.1 | -14.2 | -11.4 | -11.6 |  |
|  | (-92.1,69.7) | (-84.2,62.1) | (-64.5,43.6) | (-137.2,113.0) | (-371.6,343.2) | (-100.8,78.0) | (-109.7,86.5) |  |
| AIC (DIC) | 207.71 | 216.62 | 216.84 | 217.56 | 218.13 | 218.59 | 218.71 |  |

Table 4XX

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Single Occupancy Models | | | | | | | |  |
| Variable | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | JAGS Model |
| Intercept | -1.62 | -1.47 | -1.51 | -1.47 | -1.47 | -1.47 | -1.5 |  |
|  | (-2.25,-0.99) | (-2.03,-0.90) | (-2.10,-0.92) | (-2.03,-0.90) | (-2.03,-0.90) | (-2.03,-0.90) | (-2.24,-0.75) |  |
| *Liatris* | **0.75** | -- | -- | -- | -- | -- | -- |  |
|  | **(0.16,1.34)** |  |  |  |  |  |  |  |
| Non-bunchgrass | -- | **--** | -0.39 | -- | -- | -- | -- |  |
|  |  |  | (-1.14,0.35) |  |  |  |  |  |
| Litter | -- | -- | -- | -0.13 | -- | -- | -- |  |
|  |  |  |  | (-0.70,0.44) |  |  |  |  |
| Bunchgrass | -- | -- | -- | -- | 0.09 | -- | -- |  |
|  |  |  |  |  | (-0.45,0.63) |  |  |  |
| Canopy | -- | -- | -- | -- | -- | 0.04 | -- |  |
|  |  |  |  |  |  | (-0.51,0.59) |  |  |
| Disturbance | -- | -- | -- | -- | -- | -- | 0.07 |  |
|  |  |  |  |  |  |  | (-1.03,1.16) |  |
| Detection Model | | | | | | | |  |
| Intercept | -1.03 | -1.01 | -1.01 | -1.01 | -1.01 | -1.01 | -1.01 |  |
|  | (-1.45,-0.60) | (-1.42,-0.60) | (-1.43,-0.60) | (-1.43,-0.60) | (-1.42,-0.60) | (-1.43,-0.60) | (-1.42,-0.60) |  |
| Dynamics | | | | | | | |  |
| Extinction | 0.27 | 0.26 | 0.25 | 0.26 | 0.26 | 0.26 | 0.26 |  |
|  | (-0.81,1.36) | (-0.83,1.34) | (-0.83,1.34) | (-0.82,1.34) | (-0.82,1.34) | (-0.83,1.34) | (-0.83,1.34) |  |
| Colonization | -10.43 | -9.72 | -10.41 | -9.95 | -10.36 | -10.37 | -10.41 |  |
|  | (-53.49,32.64) | (-39.83,20.40) | (-52.00,32.17) | (-43.77,23.87) | (-51.82,31.10) | (-52.15,31.40) | (-52.87,32.05) |  |
| AIC (DIC) | 160.73 | 162.87 | 164.18 | 164.76 | 164.81 | 164.86 | 164.86 |  |

Table 5XX

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Single Abundance Models** | | | | | Multiple |
| Variable | Model 1 | Model 2 | Model 3 | Model 4 | JAGS Model |
| Intercept | 1.65 (1.16,2.13) | 1.88 (1.37,2.38) | 2.08 (1.55,2.61) | 2.07 (1.54,2.61) |  |
| Elevation CV | **1.24 (0.54,1.94)** | -- | -- | -- |  |
| Canopy | -- | **0.68 (0.14,1.22)** | -- | -- |  |
| Litter | -- | -- | -- | 0.12 (-0.57,0.81) | -- |
| **Detection Model** | | | | |  |
| Intercept | -2.54 (-2.66,-2.41) | -2.54 (-2.66,-2.41) | -2.53 (-2.66,-2.41) | -2.53 (-2.66,-2.41) |  |
| **Dynamics** | | | | |  |
| Survival | 2.66 (2.24,3.07) | 2.64 (2.24,3.05) | 2.63 (2.23,3.03) | 2.63 (2.23,3.03) |  |
| Recruitment | -2.51 (-3.24,-1.79) | -2.49 (-3.21,-1.77) | -2.44 (-3.11,-1.77) | -2.44 (-3.11,-1.77) |  |
| AIC/DIC | 2473.34 | 2477.55 | 2478.72 | 2480.65 |  |

Table 6XX

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Single Occupancy Models** | | | | | Multiple |
| Variable | Model 1 | Model 2 | Model 3 | Model 4 | JAGS Model |
| Intercept | -0.98 (-1.49,-0.48) | -0.93 (-1.41,-0.45) | -0.82 (-1.24,-0.39) | -0.82 (-1.26,-0.39) |  |
| Elevation CV | **1.16 (0.57,1.76)** | -- | -- | -- |  |
| Canopy | -- | **0.87 (0.38,1.36)** | -- | -- |  |
| Litter | -- | -- | -- | 0.30 (-0.13,0.73) | -- |
| **Detection Model** | | | | |  |
| Intercept | -0.22 (-0.46,0.02) | -0.22 (-0.46,0.01) | -0.21 (-0.45,0.02) | -0.22 (-0.46,0.02) |  |
| **Dynamics** | | | | |  |
| Survival | -1.29 (-1.89,-0.70) | -1.32 (-1.92,-0.72) | -1.29 (-1.87,-0.70) | -1.31 (-1.90,-0.71) |  |
| Recruitment | -2.66 (-3.12,-2.20) | -2.68 (-3.15,-2.21) | -2.66 (-3.11,-2.20) | -2.67 (-3.14,-2.20) |  |
| AIC/DIC | 707.91 | 712.26 | 717.86 | 718.86 |  |