Supplementary Table S2: Posterior Summaries of the Bayesian Models for the Relationship between Probability of Urban Expansion and Taxonomic Richness, Functional Richness, Taxonomic Diversity, and Rao's Quadratic Entropy

This table provides a summary of the parameter estimates, including the median, 95% credible intervals (CI), posterior probability (PP), Rhat diagnostic, and effective sample size (ESS) for each model component, across the different response variables.

## Taxonomic Richness

| Parameter | Median | 95% CI | PP | Rhat | ESS |
| --- | --- | --- | --- | --- | --- |
| Intercept | 4.849 | [4.842, 4.855] | 1.000 | 1.000 | 5,736.892 |
| poly(Urban expansion)1 | -0.814 | [-0.988, -0.631] | 1.000 | 0.999 | 3,698.604 |
| poly(Urban expansion)2 | -0.224 | [-0.398, -0.048] | 0.992 | 1.000 | 3,848.944 |
| poly(Urban expansion)3 | -1.658 | [-1.831, -1.484] | 1.000 | 1.000 | 3,816.139 |

## Functional Richness

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Intercept | 5.345 | [5.34, 5.35] | 1.000 | 1.000 | 5,187.459 |
| poly(Urban expansion)1 | -2.585 | [-2.73, -2.438] | 1.000 | 1.000 | 3,272.096 |
| poly(Urban expansion)2 | 0.379 | [0.229, 0.525] | 1.000 | 1.000 | 3,812.988 |
| poly(Urban expansion)3 | -2.727 | [-2.86, -2.589] | 1.000 | 0.999 | 3,668.506 |

## Taxonomic Diversity

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Intercept | 1.491 | [1.484, 1.498] | 1.000 | 0.999 | 4,822.055 |
| poly(Urban expansion)1 | -0.470 | [-0.652, -0.278] | 1.000 | 0.999 | 4,291.654 |
| poly(Urban expansion)2 | -0.057 | [-0.229, 0.12] | 0.726 | 1.000 | 4,898.598 |
| poly(Urban expansion)3 | -0.286 | [-0.472, -0.1] | 0.999 | 1.000 | 4,386.986 |
| Shape | 115.074 | [103.623, 127.399] | 1.000 | 1.000 | 5,078.147 |

## Rao's Quadratic Entropy

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Intercept | 1.125 | [1.116, 1.133] | 1.000 | 0.999 | 5,296.663 |
| poly(Urban expansion)1 | 0.822 | [0.596, 1.047] | 1.000 | 1.001 | 4,512.562 |
| poly(Urban expansion)2 | -0.096 | [-0.319, 0.137] | 0.800 | 1.001 | 4,050.017 |
| poly(Urban expansion)3 | 0.190 | [-0.041, 0.424] | 0.949 | 1.000 | 3,908.122 |
| Shape | 72.257 | [64.779, 80.024] | 1.000 | 1.001 | 4,363.389 |