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| --- | --- | --- | --- |
| **Marsh Recession Model** | | | |
| *Predictors* | *Estimates* | *CI* | *p* |
| **Mu model** |  |  |  |
| (Intercept) | 0.29 | 0.16 – 0.54 | **<0.001** |
| Erosion protection [Yes] | 0.56 | 0.28 – 1.11 | 0.1 |
| Project age (scaled) | 0.92 | 0.64 – 1.31 | 0.648 |
| Distance upriver (scaled) | 2.01 | 1.27 – 3.19 | **0.004** |
| Elevation (scaled) | 0.72 | 0.48 – 1.09 | 0.124 |
| River arm [North] | 2.63 | 1.26 – 5.48 | **0.012** |
| Percent edge (scaled) | 1.41 | 0.97 – 2.05 | 0.073 |
| Project area (scaled) | 1.05 | 0.77 – 1.42 | 0.767 |
| Distance upriver (scaled) \* Elevation (scaled) | 0.9 | 0.76 – 1.06 | 0.209 |
|  |  |  |  |
| **Nu model** |  |  |  |
| (Intercept) | 1.65 | 0.65 – 4.19 | 0.298 |
| Erosion protection [Yes] | 1.25 | 0.38 – 4.11 | 0.714 |
| Project age (scaled) | 0.77 | 0.43 – 1.38 | 0.383 |
| Distance upriver (scaled) | 0.24 | 0.10 – 0.58 | **0.002** |
| Elevation (scaled) | 3.67 | 1.72 – 7.83 | **0.001** |
| River arm [North] | 0.24 | 0.06 – 0.95 | **0.046** |
| Percent edge (scaled) | 0.82 | 0.41 – 1.64 | 0.577 |
| Project area (scaled) | 0.24 | 0.05 – 1.10 | 0.071 |
| Distance upriver (scaled) \* Elevation (scaled) | 0.96 | 0.68 – 1.34 | 0.806 |
|  |  |  |  |
| Observations: | 78 |  |  |
| df: | 19 |  |  |
| Residual df: | 59 |  |  |
| at cycle: | 6 |  |  |
|  |  |  |  |
| Global Deviance: | 45.9807 |  |  |
| AIC: | 83.9807 |  |  |
| BIC: | 128.7582 |  |  |

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| **Native Dominance Model** | | | |  |
| *Predictors* | *Odds Ratios* | *CI* | *p* |  |
| (Intercept) | 2.44 | 1.50 – 3.97 | **<0.001** |  |
| Closed embayment [Yes] | 0.48 | 0.21 – 1.10 | 0.082 |  |
| River arm [North] | 1.04 | 0.56 – 1.92 | 0.901 |  |
| Reference marsh [Yes] | 0.93 | 0.47 – 1.84 | 0.842 |  |
| Distance upriver (scaled) | 0.64 | 0.47 – 0.87 | **0.005** |  |
| Elevation (scaled) | 0.94 | 0.81 – 1.10 | 0.456 |  |
| Channel proximity (scaled) | 0.86 | 0.71 – 1.04 | 0.116 |  |
| Sample year [2021] | 1.02 | 0.57 – 1.81 | 0.952 |  |
| Elevation \* Distance upriver | 0.99 | 0.85 – 1.16 | 0.929 |  |
|  |  |  |  |  |
| **Random Effects** |  |  |  |  |
| σ2 | 3.29 |  |  |  |
| τ00 SITE | 1.23 |  |  |  |
| N SITE | 95 |  |  |  |
| Observations | 1716 |  |  |  |
| Marginal R2 / Conditional R2 | 0.072/0.33 |  |  |  |
|  |  |  |  |  |

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| **Native Richness Model** | | | |
| *Predictors* | *Incidence Rate Ratios* | *CI* | *p* |
| (Intercept) | 4.07 | 3.55 – 4.66 | **<0.001** |
| Closed embayment [Yes] | 0.57 | 0.45 – 0.73 | **<0.001** |
| River arm [North] | 1.02 | 0.86 – 1.21 | 0.849 |
| Reference marsh [Yes] | 1.02 | 0.84 – 1.25 | 0.819 |
| Channel proximity (scaled) | 1.05 | 0.99 – 1.10 | 0.088 |
| Distance upriver (scaled) | 1.12 | 1.03 – 1.22 | **0.006** |
| Elevation (scaled) | 1.09 | 1.05 – 1.13 | **<0.001** |
| Sample year [2021] | 0.76 | 0.64 – 0.89 | **0.001** |
| Elevation \* Distance upriver | 0.96 | 0.92 – 1.00 | **0.034** |
| **Random Effects** |  |  |  |
| σ2 | 0.26 |  |  |
| τ00 SITE | 0.12 |  |  |
| ICC | 0.31 |  |  |
| N SITE | 95 |  |  |
| Observations | 1716 |  |  |
| Marginal R2 / Conditional R2 | 0.174 / 0.433 |  |  |

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| --- | --- | --- | --- |
| **Non-Native Richness Model** | | | |
| *Predictors* | *Incidence Rate Ratios* | *CI* | *p* |
| (Intercept) | 2.29 | 1.88 – 2.78 | **<0.001** |
| Closed embayment [Yes] | 0.95 | 0.69 – 1.31 | 0.756 |
| River arm [North] | 1.2 | 0.94 – 1.53 | 0.148 |
| Reference marsh [Yes] | 0.95 | 0.73 – 1.25 | 0.722 |
| Channel proximity (scaled) | 1.07 | 1.01 – 1.14 | **0.017** |
| Distance upriver (scaled) | 1.5 | 1.33 – 1.69 | **<0.001** |
| Elevation (scaled) | 1.25 | 1.19 – 1.30 | **<0.001** |
| Sample year [2021] | 0.73 | 0.58 – 0.93 | **0.01** |
| Elevation \* Distance upriver | 0.86 | 0.82 – 0.90 | **<0.001** |
| **Random Effects** |  |  |  |
| σ2 | 0.38 |  |  |
| τ00 SITE | 0.24 |  |  |
| ICC | 0.38 |  |  |
| N SITE | 95 |  |  |
| Observations | 1716 |  |  |
| Marginal R2 / Conditional R2 | 0.268 / 0.549 |  |  |