Appendix 3. Effect sizes (**Β**), standard error (**se**), and McFadden’s pseudo R2 (**R2**) for top models (Appendix 2). Models for which the null model was the top model are not listed.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **Intercept** | **Year** | **Year2** |   |
| **Threat**  | **Phylum**  | **Model form**  | Β0 | se | Β1 | se | Β2 | se | R2 |
| Aquatic development  | Angiosperms  | Quadratic  | -1.49 | 0.12 | 0.40 | 0.14 | -0.35 | 0.11 | 0.02 |
| Aquatic development  | Arthropods  | Linear  | -0.99 | 0.22 | 0.92 | 0.24 |  |  | 0.12 |
| Aquatic development  | Mollusks  | Quadratic  | 2.58 | 0.42 | 0.57 | 0.25 | -1.08 | 0.30 | 0.21 |
| Aquatic development  | Chordates  | Quadratic  | 0.37 | 0.17 | 0.55 | 0.13 | -0.64 | 0.13 | 0.07 |
| Development  | Angiosperms  | Quadratic  | 0.04 | 0.09 | 0.32 | 0.08 | -0.26 | 0.06 | 0.02 |
| Development  | Mollusks  | Linear  | 0.002 | 0.19 | 0.82 | 0.21 |  |  | 0.10 |
| Development  | Chordates  | Linear  | -0.008 | 0.11 | 0.62 | 0.12 |  |  | 0.06 |
| Mining & oil/gas  | Angiosperms  | Quadratic  | -1.85 | 0.13 | -0.22 | 0.14 | -0.33 | 0.11 | 0.03 |
| Mining & oil/gas  | Arthropods  | Log-based pseudo-threshold  | -6.53 | 2.51 | 1.34 | 0.73 |  |  | 0.06 |
| Mining & oil/gas  | Mollusks  | Log-based pseudo-threshold  | -2.55 | 1.13 | 0.68 | 0.35 |  |  | 0.03 |
| Mining & oil/gas  | Chordates  | Quadratic  | -0.94 | 0.19 | 1.01 | 0.20 | -0.52 | 0.19 | 0.10 |
| Harvested renewable resources  | Angiosperms  | Log-based pseudo-threshold  | -5.14 | 0.52 | 1.72 | 0.17 |  |  | 0.11 |
| Harvested renewable resources  | Arthropods  | Linear  | -0.65 | 0.20 | 0.89 | 0.22 |  |  | 0.12 |
| Harvested renewable resources  | Mollusks  | Linear  | -0.25 | 0.19 | 0.65 | 0.20 |  |  | 0.07 |
| Harvested renewable resources  | Chordates  | Quadratic  | 0.01 | 0.17 | 0.87 | 0.15 | -0.57 | 0.15 | 0.10 |
| Non-developmental habitat alteration  | Angiosperms  | Quadratic  | -0.77 | 0.10 | 0.38 | 0.12 | -0.51 | 0.09 | 0.04 |
| Non-developmental habitat alteration  | Arthropods  | Linear  | -1.42 | 0.24 | 0.73 | 0.25 |  |  | 0.07 |
| Non-developmental habitat alteration  | Mollusks  | Quadratic  | 0.41 | 0.28 | 0.25 | 0.22 | -0.71 | 0.26 | 0.06 |
| Non-developmental habitat alteration  | Chordates  | Log-based pseudo-threshold  | -6.30 | 0.83 | 1.82 | 0.26 |  |  | 0.19 |
| Anthropogenic ecosystem modification  | Angiosperms  | Quadratic  | -4.99 | 0.43 | 1.11 | 0.27 | 0.91 | 0.20 | 0.46 |
| Anthropogenic ecosystem modification  | Chordates  | Linear  | -4.33 | 0.59 | 1.35 | 0.45 |  |  | 0.15 |
| Human disturbances  | Angiosperms  | Quadratic  | 0.67 | 0.09 | 0.34 | 0.08 | -0.49 | 0.07 | 0.05 |
| Human disturbances  | Arthropods  | Quadratic  | 0.18 | 0.26 | 0.05 | 0.21 | -0.65 | 0.23 | 0.06 |
| Human disturbances  | Mollusks  | Quadratic  | -2.07 | 0.38 | 0.33 | 0.20 | 0.65 | 0.22 | 0.08 |
| Human disturbances  | Chordates  | Linear  | -1.38 | 0.14 | 0.55 | 0.13 |  |  | 0.05 |
| Authorized take  | Angiosperms  | Linear  | -2.18 | 0.12 | -0.64 | 0.13 |  |  | 0.05 |
| Authorized take  | Chordates  | Linear  | -1.70 | 0.15 | 0.37 | 0.15 |  |  | 0.02 |
| Unauthorized take  | Mollusks  | Quadratic  | -0.21 | 0.37 | 0.38 | 0.45 | -2.00 | 0.60 | 0.17 |
| Unauthorized take  | Chordates  | Linear  | -1.98 | 0.17 | 0.50 | 0.16 |  |  | 0.04 |
| Unintentional take  | Chordates  | Linear  | -1.67 | 0.16 | 0.88 | 0.15 |  |  | 0.11 |
| Sedimentation  | Angiosperms  | Quadratic  | -0.55 | 0.11 | 1.84 | 0.17 | -0.33 | 0.13 | 0.28 |
| Sedimentation  | Arthropods  | Linear  | -1.54 | 0.28 | 1.32 | 0.30 |  |  | 0.19 |
| Sedimentation  | Mollusks  | Quadratic  | 1.60 | 0.34 | 0.70 | 0.24 | -0.85 | 0.29 | 0.14 |
| Sedimentation  | Chordates  | Quadratic  | -0.50 | 0.18 | 0.84 | 0.17 | -0.54 | 0.17 | 0.08 |
| Pesticide pollution  | Angiosperms  | Log-based pseudo-threshold  | -5.86 | 1.05 | 1.00 | 0.33 |  |  | 0.03 |
| Pesticide pollution  | Arthropods  | Quadratic  | -0.20 | 0.30 | 0.99 | 0.42 | -1.52 | 0.46 | 0.15 |
| Pesticide pollution  | Mollusks  | Log-based pseudo-threshold  | -3.39 | 1.21 | 1.00 | 0.38 |  |  | 0.05 |
| Pesticide pollution  | Chordates  | Linear  | -2.31 | 0.20 | 0.73 | 0.18 |  |  | 0.07 |
| Chemical pollution  | Mollusks  | Quadratic  | 1.44 | 0.35 | 0.66 | 0.27 | -1.23 | 0.35 | 0.15 |
| Chemical pollution  | Chordates  | Linear  | -1.67 | 0.16 | 0.80 | 0.15 |  |  | 0.09 |
| Nutrient pollution  | Mollusks  | Quadratic  | 1.31 | 0.33 | 0.44 | 0.24 | -1.05 | 0.31 | 0.12 |
| Nutrient pollution  | Chordates  | Linear  | -1.88 | 0.17 | 0.68 | 0.16 |  |  | 0.07 |
| Nonpoint pollution  | Mollusks  | Quadratic  | 1.26 | 0.33 | 0.56 | 0.26 | -1.10 | 0.33 | 0.13 |
| Nonpoint pollution  | Chordates  | Quadratic  | -0.84 | 0.19 | 1.20 | 0.24 | -0.86 | 0.22 | 0.11 |
| Object pollution  | Arthropods  | Quadratic  | -0.67 | 0.32 | 0.04 | 0.39 | -1.38 | 0.47 | 0.12 |
| Object pollution  | Chordates  | Linear  | -3.81 | 0.47 | 1.53 | 0.36 |  |  | 0.20 |
| Direct species interactions  | Angiosperms  | Linear  | 1.47 | 0.11 | 1.73 | 0.15 |  |  | 0.23 |
| Direct species interactions  | Arthropods  | Log-based pseudo-threshold  | -6.64 | 1.53 | 2.20 | 0.48 |  |  | 0.22 |
| Direct species interactions  | Mollusks  | Quadratic  | -0.92 | 0.31 | 1.63 | 0.29 | 0.88 | 0.25 | 0.36 |
| Direct species interactions  | Chordates  | Quadratic  | 0.60 | 0.17 | 0.35 | 0.12 | -0.37 | 0.13 | 0.03 |
| Indirect species interactions  | Angiosperms  | Linear  | 0.28 | 0.08 | 1.45 | 0.11 |  |  | 0.22 |
| Indirect species interactions  | Arthropods  | Quadratic  | 1.14 | 0.35 | 2.51 | 0.50 | -1.83 | 0.51 | 0.40 |
| Indirect species interactions  | Mollusks  | Linear  | -1.08 | 0.28 | 1.92 | 0.31 |  |  | 0.37 |
| Indirect species interactions  | Chordates  | Linear  | -0.61 | 0.12 | 0.79 | 0.12 |  |  | 0.10 |
| Severe weather  | Angiosperms  | Linear  | -0.60 | 0.09 | 1.96 | 0.14 |  |  | 0.35 |
| Severe weather  | Arthropods  | Quadratic  | -1.43 | 0.35 | 2.17 | 0.36 | 1.05 | 0.32 | 0.46 |
| Severe weather  | Mollusks  | Log-based pseudo-threshold  | -17.82 | 2.91 | 5.36 | 0.88 |  |  | 0.45 |
| Severe weather  | Chordates  | Quadratic  | -0.67 | 0.19 | 1.53 | 0.22 | -0.42 | 0.19 | 0.22 |
| Fire  | Angiosperms  | Linear  | -1.09 | 0.09 | 1.12 | 0.09 |  |  | 0.18 |
| Fire  | Arthropods  | Quadratic  | -1.01 | 0.38 | 4.08 | 1.12 | -2.31 | 0.83 | 0.36 |
| Fire  | Mollusks  | Linear  | -2.94 | 0.50 | 1.15 | 0.45 |  |  | 0.13 |
| Fire  | Chordates  | Linear  | -2.47 | 0.23 | 0.94 | 0.20 |  |  | 0.11 |
| Climate change  | Angiosperms  | Linear | -5.62 | 0.72 | 5.26 | 0.53 |  |  | 0.88 |
| Climate change  | Arthropods  | Quadratic  | -4.89 | 1.10 | 4.10 | 0.85 | s | 0.77 | 0.81 |
| Climate change  | Chordates  | Linear  | -3.87 | 0.53 | 3.19 | 0.43 |  |  | 0.54 |
| Few individuals  | Angiosperms  | Log-based pseudo-threshold  | -2.28 | 0.44 | 1.25 | 0.15 |  |  | 0.08 |
| Few individuals  | Arthropods  | Linear  | 0.22 | 0.20 | 0.96 | 0.22 |  |  | 0.14 |
| Few individuals  | Mollusks  | Linear  | 0.84 | 0.22 | 0.92 | 0.24 |  |  | 0.12 |
| Few individuals  | Chordates  | Linear  | -0.29 | 0.12 | 0.76 | 0.12 |  |  | 0.09 |
| Small range  | Angiosperms  | Quadratic  | 1.34 | 0.11 | 1.00 | 0.10 | -0.19 | 0.08 | 0.12 |
| Small range  | Arthropods  | Linear  | 2.51 | 0.40 | 1.29 | 0.36 |  |  | 0.18 |
| Small range  | Mollusks  | Log-based pseudo-threshold  | -3.31 | 1.27 | 1.94 | 0.47 |  |  | 0.25 |
| Small range  | Chordates  | Quadratic  | 0.99 | 0.18 | 0.67 | 0.12 | -0.50 | 0.14 | 0.08 |
| Genetic/life history limitations  | Angiosperms  | Quadratic  | -0.78 | 0.10 | 0.91 | 0.09 | 0.29 | 0.07 | 0.18 |
| Genetic/life history limitations  | Arthropods  | Linear  | -0.55 | 0.21 | 1.19 | 0.24 |  |  | 0.19 |
| Genetic/life history limitations  | Mollusks  | Log-based pseudo-threshold  | -5.46 | 1.47 | 1.92 | 0.47 |  |  | 0.16 |
| Genetic/life history limitations  | Chordates  | Quadratic  | -0.33 | 0.18 | 1.13 | 0.17 | -0.43 | 0.16 | 0.14 |