|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Survey Type | |  | Individual Chi-Square Test | |
| Species | Roving | SVC | Total | X2 | p-value |
| Goldentail moray | 0 (0%) | 7 (100%) | 7 (100%) | 5.322 | **0.02106** |
| Green moray | 1 (5%) | 19 (95%) | 20 (100%) | 15.987 | **6.377e-05** |
| Purplemouth moray | 0 (0%) | 12 (100%) | 12 (100%) | 10.701 | **0.001071** |
| Spotted moray | 5 (8.77%) | 52 (91.23%) | 57 (100%) | 51.136 | **8.618e-13** |
| Sharptail eel | 0 (0%) | 2 (100%) | 2 (100%) | 0.50485 | 0.4774 |
| Amberjack | 0 (0%) | 1 (100%) | 1 (100%) | 0 | 1 |
| Black grouper | 11 (22.45%) | 38 (77.55%) | 49 (100%) | 18.047 | **2.155e-05** |
| Coney | 5 (29.41%) | 12 (70.59%) | 17 (100%) | 2.3061 | 0.1289 |
| Gag grouper | 4 (15.38%) | 22 (84.62%) | 26 (100%) | 12.703 | **0.000365** |
| Graysby | 51 (45.54%) | 61 (54.46%) | 112 (100%) | 1.567 | 0.2106 |
| Nassau grouper | 0 (0%) | 20 (100%) | 20 (100%) | 19.97 | **7.866e-06** |
| Red grouper | 11 (25%) | 33 (75%) | 44 (100%) | 12.712 | **0.0003634** |
| Red hind | 0 (0%) | 7 (100%) | 7 (100%) | 5.322 | **0.02106** |
| Rock hind | 1 (20%) | 4 (80%) | 5 (100%) | 0.8197 | 0.3653 |
| Greater soapfish | 0 (0%) | 6 (100%) | 6 (100%) | 4.2904 | **0.03833** |
| Scamp | 0 (0%) | 1 (100%) | 1 (100%) | 0 | 1 |
| Black margate | 2 (66.67%) | 1 (33.33%) | 3 (100%) | 0 | 1 |
| Cubera snapper | 0 (0%) | 1 (100%) | 1 (100%) | 0 | 1 |
| Mutton snapper | 15 (41.67%) | 21 (58.33%) | 36 (100%) | 0.83979 | 0.3595 |
| Barracuda | 6 (50%) | 6 (50%) | 12 (100%) | 0 | 1 |
| Lionfish | 5 (12.5%) | 35 (87.5%) | 40 (100%) | 26.031 | **3.36e-07** |
| Spotted scorpionfish | 1 (11.11%) | 8 (88.89%) | 9 (100%) | 4.1809 | **0.04088** |
| Trumpetfish | 26 (96.30%) | 1 (3.70%) | 27 (100%) | 24.516 | **7.371e-07** |
| Total | 144 (29.75%) | 340 (70.25%) | 484 (100%) |  |  |
| **X2 = 136.47, df = 22, p < 2.2e-16** | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameters in top ranked models** | **df** | **AICc** | **ΔAIC** | **Weight** |
| SVC vs. Roving Survey Model | | | | |
| 1. **Colouration** | 6 | 1730.1 | 0.00 | 0.578 |
| 1. **Colouration** + Cryptic Behaviour | 7 | 1732.5 | 2.38 | 0.176 |
| SVC vs. Transect Survey Model | | | | |
| 1. **Aggregation Behaviour** + **Colouration** + **Cryptic Behaviour** + **Maximum Length** + **Reef Type** + **Octocoral** + **Stony Coral** + **Shape**\*Size Bin | 21 | 33308.8 | 0.00 | 0.317 |
| 1. **Aggregation Behaviour** + **Colouration** + **Cryptic Behaviour** + **Reef Type** + **Octocoral** + **Stony Coral** + **Shape**\*Size Bin | 20 | 33309.9 | 1.16 | 0.177 |
| 1. **Colouration** + **Cryptic Behaviour** + **Maximum Length** + **Reef Type** + **Octocoral** + **Stony Coral** + **Shape**\*Size Bin | 19 | 33311.0 | 2.21 | 0.105 |
| 1. **Aggregation Behaviour** + **Colouration** + **Cryptic Behaviour** + **Maximum Length** + Position + **Reef Type** + **Octocoral** + **Stony Coral** + **Shape**\*Size Bin | 22 | 33311.5 | 2.75 | 0.080 |
| 1. **Aggregation Behaviour** + **Colouration** + **Cryptic Behaviour** + **Maximum Length** + Nocturnal + **Reef Type** + **Octocoral** + **Stony Coral** + **Shape**\*Size Bin | 22 | 33312.2 | 3.41 | 0.058 |
| 1. **Aggregation Behaviour** + **Colouration** + **Cryptic Behaviour** + Position + **Reef Type** + **Octocoral** + **Stony Coral** + **Shape**\*Size Bin | 21 | 33312.7 | 3.91 | 0.045 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Predictor** | **Estimate** | **Adjusted SE** | **Z Value** | **P-Value** |
| aggregation behavior: shoaling | 0.124 | 0.0100 | 1.245 | **< 0.001** |
| aggregation behavior: solitary | 0.414 | 0.122 | 3.385 | **< 0.001** |
| coloration: colorful | 0.941 | 0.169 | 5.567 | **< 0.001** |
| coloration: neutral | 0.780 | 0.152 | 5.126 | **< 0.001** |
| coloration: silvering | 0.976 | 0.301 | 3.243 | **0.00118** |
| cryptic behavior | -0.308 | 0.0627 | 4.906 | **< 0.001** |
| water column position: demersal | -0.115 | 0.248 | 0.462 | 0.644 |
| size bin | 0.0103 | 0.00617 | 1.677 | 0.0936 |
| shape: elongated | -1.858 | 0.166 | 11.210 | **< 0.001** |
| shape: fusiform | -0.337 | 0.159 | 2.113 | **0.0346** |
| shape: globiform | -1.485 | 0.248 | 5.995 | **< 0.001** |
| nocturnal behavior | 0.120 | 0.117 | 1.029 | 0.304 |
| maximum length | 0.00637 | 0.00167 | 3.808 | **< 0.001** |
| reef type: patch | -0.695 | 0.105 | 6.642 | **< 0.001** |
| percent octocoral | 0.00979 | 0.00157 | 6.255 | **< 0.001** |
| percent stony coral | 0.0156 | 0.00342 | 4.570 | **< 0.001** |
| elongated:size bin | 0.0843 | 0.0127 | 6.617 | **< 0.001** |
| fusiform:size bin | 0.0189 | 0.00588 | 3.207 | **0.00134** |
| globiform:size bin | 0.0634 | 0.0171 | 3.715 | **< 0.001** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Predictor** | **Estimate** | **Adjusted SE** | **Z Value** | **P-Value** |
| coloration: neutral | 0.295 | 0.1245 | 2.367 | **0.0179** |
| coloration: silvering | 1.132 | 0.259 | 4.365 | **< 0.001** |
| cryptic behavior | -0.0864 | 0.327 | 0.264 | 0.792 |