### Supplemental Materials

**Table S1:** Full model table for the Generalized Linear Model Hurdle. The full model comparisons are shown for the Binomial (Food in Stomach) and Gamma (Relative Consumption) responses.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Response | Model | R2 | loglik | AICc | ΔAICc | Wi |
| **Food in Stomach**  **(0 or 1)** | **Consumer** | **0.053** | **-36.18** | **76.5** | **-** | **0.473** |
| Consumer + Year | 0.056 | -35.98 | 78.2 | 1.7 | 0.203 |
| Consumer + Month | 0.068 | -35.13 | 78.6 | 2.1 | 0.164 |
|  | Consumer + Year + Month | 0.075 | -34.65 | 79.8 | 3.33 | 0.089 |
|  | NULL | 0 | -39.62 | 81.3 | 4.81 | 0.043 |
|  | Year | 0.001 | -39.56 | 83.2 | 6.75 | 0.016 |
|  | Month | 0.007 | -39.15 | 84.5 | 8.04 | 0.009 |
|  | Year + Month | 0.007 | -39.15 | 86.6 | 10.17 | 0.003 |
| **Relative Consumption** | **Consumer + Year** | **0.110** | **-222.53** | **453.4** | **-** | **0.582** |
| Consumer | 0.081 | -224.34 | 454.9 | 1.5 | 0.279 |
|  | Consumer + Month + Year | 0.113 | -222.35 | 457.5 | 4.1 | 0.077 |
|  | Consumer + Month | 0.089 | -223.86 | 458.3 | 4.9 | 0.052 |
|  | NULL | 0 | -229.22 | 462.5 | 9.1 | 0.006 |
|  | Year | 0.003 | -229.03 | 464.3 | 10.85 | 0.003 |
|  | Month | 0.007 | -228.77 | 465.9 | 12.48 | 0.001 |
|  | Year + Month | 0.008 | -228.71 | 468.0 | 14.54 | 0.000 |

**Table S2:** Coefficients for each of the fit models for the Generalized Linear Model Hurdle Model. Models are ordered by AICc (Table S1). A cell with dashes (---) indicates the model does not include that variable. The values shown are the estimates for each coefficient with the standard error. The values are all in relation to the dummy variable (e.g., sculpin shown in contrast to Arctic char).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Response | Model | Intercept | Consumer  (Sculpin) | Year  (2019) | Month (August) | Month (September) |
| **Food in Stomach**  **(0 or 1)** | **Consumer** | **3.912** (±1.01) | **-2.151** (±1.06) | **---** | **---** | **---** |
| Consumer + Year | 4.208 (±1.12) | -2.332 (±1.10) | -0.449 (±0.68) | --- | --- |
| Consumer + Month | 2.818 (±1.17) | -2.418 (±1.10) | --- | 1.454 (±0.96) | 1.680 (±1.40) |
|  | Consumer + Year + Month | 2.984 (±1.21) | -2.643 (±1.11) | -0.736 (±0.74) | 1.764 (±1.02) | 1.739 (±1.40) |
|  | NULL | 2.251 (±0.30) | --- | --- | --- | --- |
|  | Year | 2.169 (±0.37) | --- | 0.228 (±0.64) | --- | --- |
|  | Month | 1.504 (±0.78) | --- | --- | 0.873 (±0.85) | 0.575 (±1.31) |
|  | Year + Month | 1.504 (±0.78) | --- | 0.037 (±0.70) | 0.856 (±0.91) | 0.575 (±1.31) |
| **Relative Consumption** | **Consumer + Year** | **0.585** (±0.06) | **-0.253** (±0.06) | **-0.117** (±0.05) | **---** | **---** |
| Consumer | 0.509 (±0.05) | -0.213 (±0.06) | --- | --- | --- |
|  | Consumer + Month + Year | 0.565 (±0.12) | -0.259 (±0.06) | -0.111 (±0.05) | 0.017 (±0.13) | 0.089 (±0.16) |
|  | Consumer + Month | 0.546 (±0.12) | -0.218 (±0.06) | --- | -0.043 (±0.12) | 0.068 (±0.16) |
|  | NULL | 0.363 (±0.03) | --- | --- | --- | --- |
|  | Year | 0.378 (±0.04) | --- | -0.038 (±0.06) | --- | --- |
|  | Month | 0.476 (±0.13) | --- | --- | -0.123 (±0.14) | -0.080 (±0.18) |
|  | Year + Month | 0.476 (±0.14) | --- | -0.023 (±0.06) | -0.112 (±0.14) | -0.080 (±0.18) |

**Figure S1**:

Normal Q-Q plot of the standard deviance residuals vs theoretical quantiles for the most parsimonious model of relative consumption (feeding intensity; relative consumption ~ species + year).

A graph of a normal q-q

Description automatically generated

**Figure S2:**

Diagnostic plot of residuals vs predicted values for the most parsimonious model of relative consumption (feeding intensity; relative consumption~ species + year).

A graph of a comparison of values

Description automatically generated

**Figure S3:**

Shepard plot indicating the goodness of fit for the final 3-dimension ordination from Non-metric Multidimensional Scaling.

A graph with lines and numbers

Description automatically generated