Biomass analysis

Table of Contents

## Joining, by = "oera"

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## Warning in eval(family$initialize): non-integer #successes in a binomial glm!  
  
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# Figure S2 - Biomass

## Setting row to 1

## Setting column to 1

## Setting row to 2

## Setting column to 1

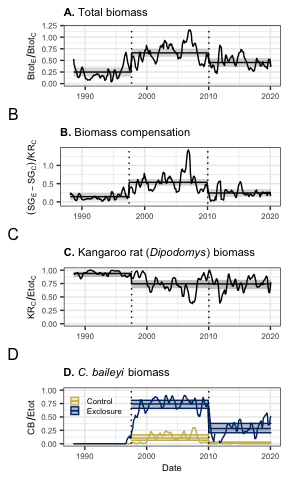
## Setting row to 3

## Setting column to 1

## Setting row to 4

## Setting column to 1

## Warning: Removed 228 row(s) containing missing values (geom\_path).



## Legend

Lines are 6-month moving averages. Horizontal lines + ribbons are means and SE or CL from GLM or GLS. **Compensation** refers to compensatory gains in biomass by small granivores on exclosure plots relative to controls. Calculated as . **Total biomass** refers to the overall loss in biomass caused by kangaroo rat removal.

# Model results

# Compensation

### Table S1. Coefficients from GLS for compensation

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Value | Std.Error | t-value | p-value |
| (Intercept) | 0.3081443 | 0.0290539 | 10.605950 | 0.0000000 |
| oera.L | 0.0711412 | 0.0514131 | 1.383719 | 0.1673549 |
| oera.Q | -0.2799121 | 0.0465252 | -6.016352 | 0.0000000 |

### Table S2. Estimates from GLS for compensation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| oera | emmean | SE | df | lower.CL | upper.CL |
| a\_pre\_pb | 0.1435663 | 0.0511419 | 39.16210 | 0.0401356 | 0.2469969 |
| b\_pre\_reorg | 0.5366915 | 0.0452745 | 41.78758 | 0.4453102 | 0.6280729 |
| c\_post\_reorg | 0.2441751 | 0.0517205 | 41.05328 | 0.1397276 | 0.3486227 |

### Table S3. Contrasts from GLS for compensation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| contrast | estimate | SE | df | t.ratio | p.value |
| a\_pre\_pb - b\_pre\_reorg | -0.3931253 | 0.0673811 | 43.09746 | -5.834358 | 0.0000 |
| a\_pre\_pb - c\_post\_reorg | -0.1006089 | 0.0727090 | 40.24488 | -1.383719 | 0.3588 |
| b\_pre\_reorg - c\_post\_reorg | 0.2925164 | 0.0678003 | 44.29593 | 4.314383 | 0.0003 |

# Total biomass

### Table S4. Coefficients from GLS on total biomass ratio

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Value | Std.Error | t-value | p-value |
| (Intercept) | 0.4553971 | 0.0272418 | 16.716827 | 0.0000000 |
| oera.L | 0.1454493 | 0.0477989 | 3.042941 | 0.0025257 |
| oera.Q | -0.2531409 | 0.0427343 | -5.923594 | 0.0000000 |

### Table S5. Estimates from GLS on total biomass ratio

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| oera | emmean | SE | df | lower.CL | upper.CL |
| a\_pre\_pb | 0.2492046 | 0.0476584 | 33.75206 | 0.1523249 | 0.3460842 |
| b\_pre\_reorg | 0.6620857 | 0.0419515 | 35.90882 | 0.5769967 | 0.7471747 |
| c\_post\_reorg | 0.4549009 | 0.0480215 | 34.91256 | 0.3574032 | 0.5523986 |

### Table S6. Contrasts from GLS on total biomass ratio

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| contrast | estimate | SE | df | t.ratio | p.value |
| a\_pre\_pb - b\_pre\_reorg | -0.4128811 | 0.0621739 | 38.34660 | -6.640747 | 0.0000 |
| a\_pre\_pb - c\_post\_reorg | -0.2056963 | 0.0675979 | 34.60306 | -3.042941 | 0.0121 |
| b\_pre\_reorg - c\_post\_reorg | 0.2071848 | 0.0624325 | 39.12161 | 3.318542 | 0.0055 |

# Kangaroo rat proportional biomass

### Table S7. Coefficients from GLM on Dipodomys biomass.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Estimate | Std. Error | z value | Pr(>|z|) |
| (Intercept) | 1.6149566 | 0.1644937 | 9.817741 | 0.0000000 |
| oera.L | -1.1672395 | 0.3180813 | -3.669626 | 0.0002429 |
| oera.Q | 0.6619048 | 0.2473324 | 2.676175 | 0.0074468 |

### Table S8. Estimates from GLM on Dipodomys biomass.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| oera | prob | SE | df | asymp.LCL | asymp.UCL |
| a\_pre\_pb | 0.9376458 | 0.0226460 | Inf | 0.8932605 | 0.9820310 |
| b\_pre\_reorg | 0.7454543 | 0.0385025 | Inf | 0.6699909 | 0.8209177 |
| c\_post\_reorg | 0.7426552 | 0.0437171 | Inf | 0.6569713 | 0.8283392 |

### Table S9. Contrasts from GLM on Dipodomys biomass.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| contrast | estimate | SE | df | z.ratio | p.value |
| a\_pre\_pb - b\_pre\_reorg | 0.1921915 | 0.0446685 | Inf | 4.3026141 | 0.0001 |
| a\_pre\_pb - c\_post\_reorg | 0.1949906 | 0.0492344 | Inf | 3.9604559 | 0.0002 |
| b\_pre\_reorg - c\_post\_reorg | 0.0027991 | 0.0582548 | Inf | 0.0480493 | 0.9987 |

# C. baileyi proportional biomass

## Warning in eval(family$initialize): non-integer #successes in a binomial glm!  
  
## Warning in eval(family$initialize): non-integer #successes in a binomial glm!  
  
## Warning in eval(family$initialize): non-integer #successes in a binomial glm!

## [1] 237.6847

## [1] 231.2374

## [1] 466.4937

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
| 451 | 57.83526 | NA | NA | NA |
| 452 | 59.76825 | -1 | -1.932984 | 0.1644323 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Resid. Df | Resid. Dev | Df | Deviance | Pr(>Chi) |
| 452 | 59.76825 | NA | NA | NA |
| 453 | 210.39496 | -1 | -150.6267 | 0 |

Note that a model fit as pb\_proportional\_biomass ~ era + treatment + era:treatment does not outperform a model fit without the interaction term, or pb\_proportional\_biomass ~ era + treatment (AIC for the no interaction model = 231 compared to 237 for the interaction model; p-value for an anova Chi-squared comparison of the two models = 0.16). We therefore use the model without the interaction term.

### Table S10. Coefficients from GLM on C. baileyi biomass

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Estimate | Std. Error | z value | Pr(>|z|) |
| (Intercept) | -1.538798 | 0.1671239 | -9.207525 | 0 |
| oera.L | -1.403286 | 0.2006948 | -6.992140 | 0 |
| oplottype.L | 2.270657 | 0.2298594 | 9.878462 | 0 |

### Table S11. Estimates from GLM on C. baileyi biomass

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| oera | prob | SE | df | asymp.LCL | asymp.UCL |
| b\_pre\_reorg | 0.3666711 | 0.0406152 | Inf | 0.2870667 | 0.4462754 |
| c\_post\_reorg | 0.0737085 | 0.0174804 | Inf | 0.0394475 | 0.1079695 |

### Table S12. Contrasts from GLM on C. baileyi biomass.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| contrast | estimate | SE | df | z.ratio | p.value |
| b\_pre\_reorg - c\_post\_reorg | 0.2929626 | 0.0413291 | Inf | 7.088523 | 0 |