Table 1:

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| **Hypotheses & Best Model** | **AIC** | **BIC** | **p-value** | **Additional summary variables of significant model results.** |
| **H1: Domestic cattle addition would result in a decrease in *D.******occidentalis* abundance.**  *D. occidentalis* ~ Herbivory Tx. + year  **Intercept:** wildlife only (W) in 2016 (pre-exclosure installation) | 3987.01 | 4028.93 | CW plot  *(0.0158) \** | Estimate = -1.07526  St. Error = 0.77538  z-statistic = -2.414 |
| -CW plot  *(0.968)* | Estimate = 0.017  St. Error = 0.439  z-statistic = 0.040 |
| 2017  *(<0.0) \*\*\** | Estimate = -3.42  St. Error = 0.161  z-statistic = -21.3 |
| 2018  *(<0.0) \*\*\** | Estimate = -3.82  St. Error = 0.163  z-statistic = -23.5 |
| 2019  *(<0.0) \*\*\** | Estimate = -1.51  St. Error = 0.163  z-statistic = -9.27 |
| **H2: Increasing aridity through the climate levels would decrease tick *D. occidentalis* abundance.**  *D. occidentalis ~* Climate level\*year  **Intercept:** Intermediate climate level in 2016 | 3867.84 | 3941.21 | Arid level  *(0.01716) \** | Estimate = -1.3097  St. Error = 0.5496  z-statistic = -2.383 |
| Mesic level  *(0.00962) \*\** | Estimate = -1.6929  St. Error = 0.6505  z-statistic = -2.602 |
| Mesic:2017  *(0.04166) \** | Estimate = 1.0937  St. Error = 0.5370  z-statistic = 2.037 |
| Arid:2018  *(0.02102) \** | Estimate = -0.9788  St. Error = 0.4241  z-statistic = -2.308 |
| 2017  *(<0.0) \*\*\** | Estimate =  St. Error =  z-statistic = |
| 2018  *(<0.0) \*\*\** | Estimate =  St. Error =  z-statistic = |
| 2019  *(<0.0) \*\*\** | Estimate =  St. Error =  z-statistic = |
| Arid:2017 | Estimate =  St. Error =  z-statistic = |
| Mesic:2018 | Estimate =  St. Error  z-statistic = |
| Arid:2019 | Estimate =  St. Error =  z-statistic = |
| Mesic:2019 | Estimate =  St. Error =  z-statistic = |
| **H3: Herbivory treatment and climate level would have an interacting effect on *D. occidentalis* counts.**  *D. occidentalis* ~ herbivory treatment\*climate level  **Intercept:** W exclosures at Intermediate in 2016 | 5726.35 | 5784.00 | CW plot:Arid level  *(0.00529) \*\** | Estimate = -1.89  St. Error = 0.679  z-statistic = -2.79 |
| Arid  *(0.03181) \** | Estimate = -0.9644  St. Error = 0.4492  z-statistic = -2.147 |
| CW  *(0.367)* | Estimate = -0.403  St. Error = 0.446  z-statistic = -0.903 |
| -CW  *(0.507)* | Estimate = 0.295  St. Error = 0.444  z-statistic = 0.664 |
| Mesic  *(0.104)* | Estimate = -0.727  St. Error = 0.447  z-statistic = -2.79 |
| -CW:Arid  *(0.253)* | Estimate = -0.728  St. Error = 0.637  z-estimate = -1.14 |
| CW:Mesic  *(0.598)* | Estimate = -0.336  St. Error = 0.638  z-estimate = -0.527 |
| -CW:Mesic  *(0.851)* | Estimate = -0.118  St. Error = 0.631  z-estimate = -0.187 |