Dear Dr. Atwood,

Thank you for your suggested improvements to the manuscript they help greatly in improving readability and clarity in the paper. We have accepted many of your suggestions and took careful consideration of those we chose not to include. Below is a detailed response to your comments we hope addresses the concerns. We appreciate your input and believe the manuscript is overall improved.

Sincerely,

Cole (on behalf of the coauthors)

Detailed responses:

The suggested grammar changes have been incorporated in the manuscript; we thank you for pointing out where the writing could have been improved.

**The use of "plot" and "exclosure" is still confusing. If you want to call them all plots, add something along the lines of "hereon referred to as plots" to line 136.** I understand the potential confusion, to help improve clarity they are now referred to as "exclosure plot" and "ambient plot" throughout the manuscript instead of exclosure/fence and ambient plot.

**Line 220: What is meant by treatment here (and throughout)? Is this the vegetation type or +/-herbivore?** Treatment in this context and in the models refers to whether herbivores are present or excluded as it is the experimental change made to the system. In most instances treatment is just denoting that there is a difference between the conditions, with the direction of change being stated directly where appropriate. I have added a sentence to the BVOC composition results section that has made the direction of the vector in Figure 5 more explicit to help with clarity (Line 274-275).

**In the statistical approach section: It would be helpful to identify which of your objectives is being tested by which statistical approach. To examine the effects of herbivore-induced changes in vegetation type on BVOC composition and magnitude, we used…..** This is a great suggestion; I have added a lead-in to each sentence before a statistical test to connect it back to the main aims of the study. (Lines 220, 228, and 237)

**Line 243: what are the new Bonferroni P-values?** The p-values listed from the mixed effects models for ER are the Bonferroni adjusted p-values as they adjust for multiple comparisons to reduce the family-wise error rate. We do not list the non-adjusted values as they are less accurate when looking at comparisons between multiple groups.

**Line 244: Again, what is meant by treatment? Is this only referring to herbivory because RIGA only included one type of vegetation?** Yes, treatment in the manuscript is only referring to the use of herbivory fences to exclude large mammals and not to the presence of different vegetation types or soil properties as they were not altered directly but rather as a consequence of the fences and

differences in environmental conditions between sites. I hope the addition of "…treatment (herbivory present in ambient plots or absent in exclosure plots)…" to Line 220 helps to clarify our intention.

**Line 266: what is % cover of abiotic components?** Percent cover of abiotic components is a catch-all term we used to refer to number of hits from the point frame that miss vegetation entirely and land on stone, soil, woody debris, etc; really anything that is not vegetation during the point framing.

**Line 275: What is meant by tentative NIST identification?** The identification of compounds using the NIST spectral library is an estimation of what the compound is based on how well its spectra matches different compounds in the database. Due to potential issues such as the database not having a good (or any) reference for a given sample one tries to identify; we chose to phrase the identifications as tentative instead of definitive as would be determined by comparing to a known reference standard instead of a database.

**In the discussion and conclusion: It would be helpful to clearly identify which BVOCs were different between herbivore present and herbivore absent plots. It would then be helpful to discuss if this difference means anything for climate change or other processes. In other words, does the observed difference in BVOC composition matter?** We appreciate the suggestion and do agree that it would be nice if the importance and implications of the observed BVOC composition differences could be discussed more. However, we prefer not to add discussion on this any further than already present in the manuscript regarding the significant vectors in the RDA, beta-pinene and 2-ethylfuran. The reason is that we understand poorly the effects of relative changes in the BVOC composition on atmospheric reactivity and composition, so adding anything would be rather vague and speculative.