Katherine Hayes   
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Dear Kathryn Cottingham,

Thank you for suggesting revisions our manuscript, “Repeat short-interval fires continue to transform boreal forests beyond a simple conifer to deciduous transition” (ECY20-0429) for publication in Ecology. (Revised title: “Effects of short-interval disturbances continue to accumulate, overwhelming variability in local resilience.”)

We appreciate your suggestions regarding how we addressed theory and the broader implications of our work in the manuscript. It is certainly true the introduction and framing of our original submission was more boreal-heavy, focusing on the implications to the global biome. We appreciate your point that framing with a more theoretical focus that spans multiple ecosystem types will broaden the range of interest. It is an excellent suggestion, and while we have been thinking along those lines throughout the study, we were quite happy to make those thoughts apparent in the manuscript itself.

We do believe this will have a large impact on the field given the novelty of the study. Placing it more in a basic ecological theory framework will only further that goal. Because of our unique setup and the opportunity afforded by these sites, we can push disturbance ecology theory forward. We identified two major theoretical gaps we can address. First, trajectories inferred from single short-interval events may not be valid if frequency of disturbances remains high. We directly test that here. Second, little research has been directed towards repeat disturbances with varying intensity. Our investigation of the role of intensity (controlled by topography, here), is thus also novel. We have made those contributions explicit.

We find that ongoing short-interval disturbances can and do continue to transform ecosystems. Further, aligning with recent theoretical modeling, we find that high frequencies of disturbance events can overwhelm any buffering provided by lower intensities of those disturbances – we still see the transformations occurring eventually.

We have added quite a few citations relevant to basic disturbance ecology theory, as well as substantial adjustments to the introduction, discussion, and conclusions to frame the study as a test of disturbance ecology theory expectations directly. The manuscript is stronger as a result.

Thank you again for your consideration and opportunity to revise.

Sincerely,

A picture containing animal

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Katherine Hayes

![A picture containing outdoor, animal, snow, water

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Brian Buma, PhD