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Interactive comment on "Quantifying legacies of clearcut on carbon fluxes and biomass carbon stock in northern temperate forests" *by* W. Wang et al.

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We have addressed Reviewer 3's comments in the revised manuscript point by point:

1. This manuscript examined the ability of an ecosystem model PnET-CN to capture the trajectories of forest C dynamics after a stand-replacing disturbance and two hypotheses in two northern forest chronosequences. They showed that PnET-CN can reasonably simulate stand characteristics and capture the changes of C fluxes after clearcut. The work is good and interesting, and their conclusions are clear. It is well within the scope of BG.

Author response: Thanks for reviewing the manuscript and for your constructive com-

ments.

2. It is better to add more information on the two plant functional types, especially main tree species composed.

Author response: We have added tree species information about the two plant function types in section 2.1 and Table 1.

3. Page 8798.the MS mentioned “The parameter values used in this study are given in Table 2”, but I did not find it. Same as in page 8802 on maximum relative growth rate (Table 2). I guess it should be Table S1 instead.

Author response: We have corrected the typos.

4. Table 2: Is the statistics calculated from all data (DBF and NEF)? It is interesting to see it separately since you simulated two plant functional types. Why have they different sample size (n)?

Author response: Our post-processing code removed a couple of data points that ER was estimated to be zero. We have corrected it in the revision.

5. The discussion on the difference between DBF and NEF is more attractive. It seems to meet the objective on testing the role of forest composition on successional question on trajectories of forest C dynamics. However, I do not think “forest compostion” is the right word in this case, it is better to use plant functional types consistently.

Author response: We have changed the term of “forest composition” to “plant function types” in the revision.

6. Type error in page 8792. Please delete comma in“Noormets et al., (2007) reported:”.

Author response: It has been deleted.

Interactive comment on Biogeosciences Discuss., 11, 8789, 2014.