

## ***Interactive comment on “Carbon and greenhouse gas balances in an age-sequence of temperate pine plantations” by M. Peichl et al.***

**Anonymous Referee #2**

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The manuscript is overall very clear and well written. It discusses the GHG balance of a chronosequence of 4 pines forests in Southern Ontario, Canada. With the addition of the non-CO<sub>2</sub> fluxes to the carbon balance, the authors present a very valuable contribution to the research field. I recommend this manuscript for publication in Biogeosciences.

Here are a few minor comments:

- 1) P5L28: give more detail on the stand density of the different sites and if the sites were thinned. It would be nice if you also could add LAI(max) values for the different stands.
- 2) P6 L7: I don't understand how you can collect litter at a bi-annual interval with litter

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traps without the risk that part of the litter decomposes in between the collection dates. Please explain.

- 3) P6L20: Explain how you measured the woody debris pools.
- 4) P6L32: Give the measurement frequency for the DOC concentrations
- 5) P7L21: Explain in more detail how you have calculated the biometric estimates.
- 6) P11L16: Is this only an effect of the water balance or do you also see differences in DOC concentration between the stands
- 7) P12L10: This is not true (see fig 4), in both young and mature forests the contribution of non-CO<sub>2</sub> fluxes is higher.
- 8) P12L23: True, but this is mainly because of the lower NEP and not because of the higher contribution of non-CO<sub>2</sub> components. I think you should clearly state this.
- 9) P13L9: Again here you should add that this is mainly because of the lower NEP values.

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Interactive comment on Biogeosciences Discuss., 11, 8227, 2014.

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