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Interactive comment on “Carbon balance of a partially-harvested mixed conifer forest following mountain pine beetle attack and its comparison to a clearcut” by A. Mathys et al.

A. Mathys et al.

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Response to Anonymous Referee #1

This is a technically sound, well-written paper reporting two years of carbon balance data from a partially harvested lodgepole pine forest in British Columbia and comparing that to growing season data from a nearby clearcut. Both management methods were applied in response to a mountain pine beetle outbreak in the area. The major result is that the vegetation remaining in the partial harvest boosted NEP significantly compared to the clearcut. There was some interesting inter-annual variation in the partial harvest NEP/GPP/Re data that was capably interpreted as well in light of variation

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in climatic drivers of C cycle dynamics. It also was interesting that NEP from nearby unharvested beetle-killed stands, reported on previously, was greater than that of the partial harvest. This paper makes an important contribution to our understanding of disturbance impacts on forest C cycle components and adds significantly to a fairly small literature comparing the outcomes of different forest management techniques on NEP. The data are of high quality and reported clearly and will be useful in and of themselves for future syntheses and meta-analyses.

Author response: We very much appreciate the referee's opinion that our data are of high quality and will be useful in future analyses.

My only suggesting of a technical nature is for the authors to add error estimates to Table 5, allowing a more robust assessment of the likely significance of the differences between 'treatments'. Was there some reason that the Monte Carlo methods used in Table 3 cannot be applied to the data shown in Table 5?

Author response: Following the referee's suggestion we have carried out a Monte Carlo analysis of the uncertainty of the 2010 growing season NEP, GEP and Re totals for MPB-09C. We have shown the lower and upper 95% confidence limits in parentheses in Table 5, as in Table 3.

Interactive comment on Biogeosciences Discuss., 10, 4927, 2013.

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