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Interactive comment on “CH₄ and N₂O dynamics in the boreal forest–mire ecotone” by B. Tupek et al.

Anonymous Referee #2

Received and published: 30 June 2014

This manuscript presents CH₄ and N₂O fluxes measured along a forest-mire ecotone using the closed chamber technique. The manuscript closes an important knowledge gap as many studies on CH₄ and N₂O fluxes have been conducted at typical forest sites and also in peatlands but I am solely aware of two published studies on CH₄ and N₂O fluxes from a forest-mire transition zone. These two published studies were conducted in Canada. So this study would be the first from the European continent. It has been suggested before that such transition zones might be a hot spot of CH₄ emissions. This study could show at different meteorological conditions that this hypothesis is quite unlikely. The topic of the manuscript is well within the scope of the journal and is particularly suitable for the special issue: “Towards a full GHG balance of the biosphere”. The paper meets a basic scientific quality, it is well structured. The applied closed chamber method is for sure the right one to achieve the goals of the

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study, results are presented in a clear way and discussion is comprehensive. I highly recommend that manuscript to be published in Biogeosciences Discussions.

Minor suggestions: Page 8059, Line 24 Unfortunately, neither Fig. 2 nor Fig 3 shows the correlation between CH4 flux and ground water level, please include a new figure to show that correlation. Page 8061, Line 7 Just to clarify: which parameter shows the mean level of CH4 fluxes in Table 1? Page 8065, Line 21 change flurk to flark Page 8068, Line 2 Why do you put °C in parenthesis? Figure 3: please explain in the labelling of the figure what does 3a) and 3b) show Figure 6: reference for that figure is missing in the text General comment to figures: it might be better to use consistent designation for parts of one figure, either a), b) or right panel, left panel

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