

Interactive comment on “The impact of land-use change on floristic diversity at regional scale in southern Sweden 600 BC–AD 2008” by D. Fredh et al.

D. Fredh et al.

daniel.fredh@geol.lu.se

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-We thank the Referee for useful comments and suggestions on our manuscript. We will adopt all of the suggested changes. The comments are answered point-by-point below.

This paper reports the results of an attempt to explore the relationship between land use and floristic diversity using fossil pollen assemblages and quantitative methods of reconstruction of vegetation cover. This is an interesting and useful contribution to the field and should have broad appeal amongst ecologists, conservationists and palaeoecologists. The paper is well written and well presented with appropriate figures

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and tables, and I recommend that it be accepted for publication subject to the following minor revisions, mainly for the purposes of clarification.

P.19087, line 14: what do you mean by ‘traditional’ agriculture? You say that modern agriculture is based more on crop cultivation and forestry, but a description of the more traditional farming methods might be helpful here.

-The traditional agriculture included mainly small scaled crop cultivation, mowing and animal husbandry. We will add a short description.

P.19089, line 21: expansion and regression of what? Settlement? Human land-use?

-Sentence will be rephrased to: ‘Expansion and regression phases of agricultural land-use during the last 6000 years and that land-use was dominated by grazing’

P.19089, line 23 and p.19090, line 2: I would recommend that the dates for the Iron Age and medieval expansion periods are enclosed in brackets, rather than separated by commas – I think this would make the sentences read more easily.

-Yes, we will put the dates within brackets to make the sentence easier to read.

P.19090, lines 4-6: “The uplands have been subject to slash-and-burn agriculture...” – the meaning of this sentence is unclear and it needs to be rephrased. Also, change ‘temporal’ to ‘temporary’.

-This sentence will be rephrased to: ‘Historical documents from the 17th century reveal that parts of the uplands were regularly cleared with fire, and used for temporary cultivation as a complement to the more permanent fields (Larsson, 1974).

P.19091, line 5: Table 1 – do you mean Table 2?

-The tables are referred to correct in the text, but the tables themselves changed name during production. This will be corrected.

p.19091, line 24 and p.19097, line 11: Appelby = Appleby

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-This will be corrected.

p.19092, line 9 and p.19097, line 14: Brännvall et al. 2001 does not appear in the reference list.

-Brännvall et al. (2001) does appear in the reference list: 'Brännvall, M-L., Bindler, R., Emteryd, O., and Renberg, I.: Four thousand years of atmospheric lead pollution in northern Europe: A summary from Swedish lake sediments, J. Paleolimnol., 25, 421–435, 2001.'

P.19094, line 21: Table 2 – do you mean Table 1? All references to tables need checking thoroughly.

-This will be checked and corrected. See comment above.

P.19095, line 19 and p.19105, line 3: Change 'we are aware of that' to 'we are aware that'.

-These sentences will be rephrased.

P.19096, line 5: proportions, not proportion.

-This will be corrected.

P.19098, line 22: Why assume that Corylus and Juniperus grew mainly on open land – is it because this is where they are found today?

-Corylus and Juniperus are assumed to grow on open land because they are light-demanding species. We also know from the historical record that some shrubs grew on meadows and pastures. We will add an explanation for this assumption.

P.19099, line 29: recorded, not recoded.

-Will be corrected.

P. 19100, line 25: This sentence is a little confusing – perhaps change to 'the quantification of coverage of taxa related to human impact...' rather than 'the quantification of

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taxa coverage related to human impact...'

-This sentence will be rephrased.

P. 19101, line 2: "some land-use occurred" – anthropogenic land-use?

-We think all land-use is basically anthropogenic, but this sentence may be rephrased to make it clearer.

P.19091, line 8 and p.19103, line 7: agriculture, not agricultural.

-These sentences will be corrected.

P.19102, line 3: This sentence is repetitive (land-use regression) – could it perhaps be rephrased to avoid this?

-Yes, this sentence will be rephrased.

P.19102, line 8: I would hesitate to refer to the Migration period as a period of 'general decline' – 'societal change' will probably do.

-Yes, we will delete 'general decline', 'societal change' will do.

P.19102, line 23: REVEALS-based evenness.

-We will add 'evenness' after 'REVEALS-based' in this sentence.

P.19103, lines 7-8: This sentence is unclear and needs rephrasing. 'probably due to' instead of 'probably by the'?

-Yes, this sentence will be rephrased.

p.19104, line 15: "Fagus has both significantly higher and lower coverage during this time". How can this be?

-This sentence will be rephrased for clarification.

P. 19105, line 3: agricultural, not agriculture.

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-This will be corrected.

P. 19105, lines 25-16: This final sentence rather 'hangs' – perhaps an explanation of why it is important to provide an estimate of reaction time would be useful here.

-Yes, we will add a sentence explaining why it is important to provide these kinds of estimates.

Interactive comment on Biogeosciences Discuss., 9, 19085, 2012.

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