

## ***Interactive comment on “Questions of importance to the conservation of global biological diversity: answers from the past” by K. J. Willis and S. A. Bhagwat***

**Anonymous Referee #1**

Received and published: 30 July 2010

1. Does the paper address relevant scientific questions within the scope of CP?

The paper by Willis and Bhagwat presents an important analysis of how paleoecological records can inform forest conservation and management decisions, especially in biologically diverse locations. While it presents no new data; it draws on existing examples and data to help illustrate the contributions that can be made using paleostudies. It highlights research directions that can be taken by paleoscientists that can be useful for informing current and future management decisions.

2. Does the paper present novel concepts, ideas, tools, or data?

See question 1.

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3. Are substantial conclusions reached?

The examples given in the body of the paper help illustrate how paleostudies can be used to inform conservation and management. This is the main conclusion of the paper and is well supported. Most of the examples presented in the paper are regional examples. The authors might consider mentioning the Marlon et al., 2008 Nature Geosciences paper. The paper provides a global perspective of how climate and humans have influenced vegetation and biomass burning over the past two millennia.

4. Are the scientific methods and assumptions valid and clearly outlined? NaN

5. Are the results sufficient to support the interpretations and conclusions? NaN

6. Is the description of experiments and calculations sufficiently complete and precise to allow their reproduction by fellow scientists (traceability of results)? NaN

7. Do the authors give proper credit to related work and clearly indicate their own new/original contribution?

A discussion of thresholds is presented in Willis and Birks, 2006 paper in Science. It seems that this would be an important paper to reference.

8. Does the title clearly reflect the contents of the paper?

The authors may consider leaving out “global” in the title of their paper. The concepts presented affect all spatial scales.

9. Does the abstract provide a concise and complete summary?

The authors bring up an idea in the abstract about paleo data being descriptive and not of relevance to managers, however they do not discuss this anywhere else in the paper. I believe this is an important point and should be discussed as opposed to eliminated.

10. Is the overall presentation well structured and clear?

Yes.

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11. Is the language fluent and precise?

Yes.

12. Are mathematical formulae, symbols, abbreviations, and units correctly defined and used?

Yes.

13. Should any parts of the paper (text, formulae, figures, tables) be clarified, reduced, combined, or eliminated?

The discussion of thresholds needs more explanation. For example, what likely caused the Ericaceous heathland to never return back to open woodland?

Given the finding that littoral forests are more resistant and resilient to disturbance, why should they be more closely targeted for conservation than the Uapaca woodland that is more susceptible to change? It is also not clear to me how the paragraphs on resistance and resilience fit into the overall discussion of thresholds.

14. Are the number and quality of references appropriate?

Yes, but see #7.

15. Is the amount and quality of supplementary material appropriate? NaN

Minor comments:

Page 1144 Line 1 – Are you referring to 20th century human activity or indigenous activity? Please clarify.

Page 1144 Line 4 – What forest type? Pinus-dominated?

Page 1144 Line 13-14 – Exclusion of people or little to no anthropogenic maintenance of the forest type? The way it is stated suggests a completely untouched landscape.

Page 1144 Line 27 – What is the definition of natural in this context?

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Page 1146 Line 8 – What kind of forest?

Page 1146 Line 12 – What triggering mechanisms are you referring to?

Page 1152 Line 19 – The word “of” should be change to “as”.

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Interactive comment on Clim. Past Discuss., 6, 1139, 2010.

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