

# ***Interactive comment on “Low-hanging fruits in large-scale fluvial landscaping measures: trade-offs between flood hazard, costs, stakeholders and biodiversity” by Menno W. Straatsma et al.***

**Anonymous Referee #1**

Received and published: 17 October 2018

Manuscript compares a variety of options for flood hazard mitigation (in a given area) with respect to (i) hydraulic effectiveness, (ii) economic cost of the measure, (iii) number of people/stakeholders involved (as a measure of social impact and / or feasibility) and (iv) ecological impact. Modelling tools for individual components of the problem are standard; evaluated scenarios are relatively . Please, consider that I am not an expert in ecology; therefore, I cannot judge whether the biodiversity index from the model BIOSAFE provides a significant measurement of ecological value. In the following, I will take it as granted.

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Interactive comment

I read (and re-read) the manuscript with interest but, at the end, I could not find any conclusive message to be learnt. In fact:

- From the hydraulic point of view results are quite obvious.
- "Clear trade-offs were revealed between evaluation parameters, but no single measure represented the optimal combination on all aspects": this is also not surprising.
- Links among control variables (mitigation measures) and state variables are quite expected; accordingly, trade-offs are also quite expected.
- Showing the value of (semi) automatic tools while dealing with complex problems involving spatial variables over large areas does not represent a relevant finding.
- It is true that "The multidimensional evaluation space provides a frame for the co-creation of adaptation paths for climate-proofing deltas", as well as for other critical areas; however, authors terminate the narration just at the critical point of the story ("Our methodology suits the early stages of the planning process"): and now, how to proceed? So far authors conclude that "The results can help to argument in favor of establishing multi-stakeholder platforms": this is surely correct, but not enough as a conclusive value of the paper. I understand that, at present, this is the state of development of the process, so that the author cannot tell the reader much more than this, based on the reality of the field case (see the Discussion section). However, this makes the story only weakly instructive.

All together, my opinion is that there is some (much?) interesting experience in this field case, but the material is not organized / presented in such a way that the reader can take home significant conclusions. I therefore suggest rejection of the paper. I have no suggestions on how to better shape this material with respect to my negative evaluation. On the opposite, I have a number of observations, which may be useful in the case the manuscript will be allowed to proceed along the editorial process and/or it will be submitted to different journals. Please, find them in the annotated pdf file.

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Please also note the supplement to this comment:

<https://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2018-253/nhess-2018-253-RC1-supplement.pdf>

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Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2018-253>, 2018.

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