



Ecosystems meeting minutes March 31st 2014

Present: Anne-Marie, Cecile, Manuele, Christian Bouchard, Montse, Inga, Michael,

Excused: Jane, Stephan, Francesca

- Christian Bouchard presents the work on a Master student (JD Savard) that he improved with latest publications and illustrated, which describes and defines all impact pathways between environmental intervention related to water use and the corresponding effects on ecosystems. He mentions the discovery of the field of ecohydrology which may be relevant for this working group.
- Please see video and document slides do see the work presented.

Montse: How can upstream surface water flow regime be altered?

Christian: This is related to water works, i.e. dams, reservoir...

Montse: There should be a link between water flow disruption and water quality alterations

Christian: yes this could be added

Michael: Concern on the boundary/scale: How are they considered? Would the arrows change based on the scale chosen?

Christian: true this is very important, doesn't know if the arrow would change. Often the Watershed is considered, but sometimes smaller scale (e.g. Van Zelm) or larger scale (Pfister 2009). We will need to think if this would affect impact pathways, but watershed is the recommended scale for now.

- ➔ This is especially relevant for ground water table level change, as impacts may be very different based on the scale of the model.

Christian: What kind of compromise should we make or be looking for?

AMB: We should make a distinction between the "relevant scale" for the modelling, and the need for a consistent scale. The modelling should occur at the most relevant scale for specific impact pathways, which may differ, and "usable" and consistent scale can then be achieved by weighted aggregation.

Christian: Some pathways have very small scales, reality is complex and should be simplified, but not too far.

Manuele: each paper had specific scope which may not always be a global method and will not always be applicable at larger scales.

Christian: For the next meeting, we can present how the models fit this generic model framework (fate and effect).

Manuele: yes, the idea is to make everything consistent and comparable

AMB: Care should be taken with the use/interpretation of the word stress here. It is not meant in the same meaning as “water stress/water scarcity”, but more as an “environmental stressor” which is not (necessarily) related to water stress.

Inga: What is the baseline?

Manuele: Good question, you should start with the present situation and look at incremental changes. In practice, effect factors should be regionalized to take into account the different situations.

Inga: This is very challenging if you compare an ecosystem in Europe adapted for 100 years and a Brazilian virgin ecosystem...

Manuele: you should take the present situation

End of discussion on this

AMB: A student in the WF course I gave in Cape Town, who will join the next WULCA meeting, proposed that we look into the models from IPCC to assess impacts from lower water availability coming from climate change. We maybe can use some of the models for our modeling (effect for example).

Manuele: Good idea, we should look into this!

Inga: The new report focuses a lot on impacts on water resources. She will look into it

We will have another meeting before Basel to discuss the update from Christian and the result of Inga's research on the topic. Because of Christian's holidays, we set April 23rd or 24th, to be confirmed in the email.