Ecosystem sub-working group minutes
April 23rd, 2014

Present:
Manuele
Cecile
Christian
Francesca
Anne-Marie
Inga Lorenzo
Mike
Lorenzo
Montse
Stephan

1. Rado Krüger' suggestion: Idea of looking into IPCC models to improve impact pathways
   -> Inga checked the status:
   They compile effects observed from case studies (not a global model)
   1 or 2 studies are of global relevance; to be checked in further detail:
   As a summary it seems not the right direction for WULCA
   1 paper by Petra Doll: impact of climate change on water resource and ecosystems might be relevant -> conclusion: climate change much more relevant for water resources than human use
   Anne-Marie: we should check what is the cause-effect analysis in that paper
   Inga: will check it
   Manuele: Maybe check GHG emissions rather than water consumption…

2. Christian
   Presentation of work in progress (check video for details):
   All are simplified cases
   a. Case 1: contamination of water body
      Slie 1 Reference situation (initial condition)
      Slide 2 increased contamination Transitory mass balance (reaching steady state)
      Slide 3 in LCA typically a mass impulse not a flow

-> stress = concentration increase -> time-integrated concentration increae = time-integrated-stress
Stephan: isn't slide 1 and 2 the same as slide 3
Actually it is but it is a proof by Huijungs. -> see heijungs 1995.
All the slides are basically applying Heijung's proof on the specific cases (cause-effect chains)

Case 2. Rosalies's groundwater paper -> define stress as gorundwater deficit
-> results the same as Rosalie's paper

Stephan: How can Volume be assessed? Area is very difficult to know
Christian. This is more schematic and to show the principles derived by heijungs

Case 3: Surface water: -> stress is two cases:

A. stress = surface water volume deficit
B. Stress = change in surface water flow

-> different results

Mike's question on case 2: does groundwater footprint work with this
Case 4: Temperature
Case 5 Thermic discharge (same as case 4, but with cooling water withdrawal)

Idea is to apply this also to multi-compartment models (principally works).
Stephan: i see the problem in data availability and it could be used from case to case what is the best way.
Christian: definition of fate factor is the goal since different paper use different approaches.
Idea is to harmonize and structure FF of published work.
Cecile likes this approach to check consistency -> is a raster for analysis.
Manuele: goal is to bring published work into one framework. Goal is to analze methods with this approach and couple with cause effect structure presented before (fom a master thesis)
Next step is to analyse wetland LCIA methods that have been published
-> Francesca might help -> needs to know what is required
Stephan: Francesca can present her work in Basel and Christian can try to do it based on the paper and then Francesca (Stephan can contribute) can check and have a basis for discussion/feedback and know what migth need to be added.
Francesca agrees & will present. Christian will start with modeling and share the results for feedback.

Meeting in Basel:
2 hours meeting -> Francesca to present shortly

Next steps:
- Inga will have a closer look at the Döll papers
- Christian will work on method comparison until mid June
- Collaborate using the intranet.