

# Strategy for first applications and identify development needs of WP3 (Milestone 3.1)

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**Minutes of the WP3 meeting, Edinburgh, 21 March 2013**

**Present:** Almut Arneth, Ian Bateman, Anita Bayer, Craig Bullock, Mark Koetse, Sandra Lavorel, Inés Mazarrasa, Lennart Olsson, Astrid van Teeffelen, Peter Verburg.

## **Task 3.1 / Deliverable 3.1**

How can the info from the meta-analysis WP4 by Carsten Dormann et al. be used for D3.1? Establish a dialogue with these people in due course when the database is coming available. Is a milestone needed? MS28 need to be moved to month 8, connect to D3.1 and a teleconference or meeting will have to be organised to transfer knowledge and needs / initial information exchange (exchange information needs and ideas between the meta-analysis populated database, and their ideas, and 3.1 → what would be needed to aid the deliverable). UFZ is responsible for MS28 and will organise the meeting.

→ **Action Item 1: UFZ:** Responsibility for M28 and organization of meeting (e.g., skype by month 8 = mid 2013)

Discussion of problematic of bridging across scales:

- How can ES be modelled across scales?
- Which remote sensing data can be used? Could these help to bridge biodiv. analyses with Dynamic Global Vegetation Modelling analyses?
- Evaluate loss in accuracy when going to larger scales
- Develop indicators to quantify uncertainties in a way “understandable” by practitioners?

A Milestone is needed to link the quantification to the exemplars, in a meeting, could be connected to the next project meeting in month 10.--> What would be the outputs required between the WP tasks? Establish a dialogue between each other to identify where we can actually link between what the models can produce and what other methods can evaluate.

**Action Item 2: IVM/KIT:** ensure we have half-day or so pre/post next project meeting to discuss science. Also, to follow up on using the Scottish exemplar as a cross-WP exercise.

In the meta-analysis and in this deliverable the role of the marine people needs to be worked out.

Role of CSIC: Balearic: Quantification functions for Marine ecosystem services (e.g., C sequestration of seagrasses). Would be good to do a review of the work that has been done, it seems limited compared to terrestrial. E.g. a separate chapter that summarises methodology of C and other

ecosystem services in marine ecosystems – we could identify whether there is some common in terms of the methodology used in terrestrial and marine systems.

Mark Koetse / Ian Bateman. Link to this task? Mark: would like to update existing meta-analysis databases, need information on spatial variance in quantification for different case studies. Request for data, not a milestone / product / tool. Proposal by Almut: add to Milestone month 10, add interaction between quantification / valuation with exemplars.

Ian: link 3.1 & 3.2: spatially explicit response of ES to change can that be delivered by T3.1 / we don't want to produce MS22 before having that info. Models used in 3.1 need to be land use sensitive, to some degree at least. Tasks 3.1 and 3.2 have to be planned together, not in isolation. The worry is that we do something that takes so much time that it only becomes available toward the end of the project. An option is to use the Scottish exemplar to do the exercise for all steps in iterative manner.

### **Task.3.2**

What are social and cultural values? Analyse motives that underlie peoples choices (e.g., what would they give up, and WHY, to gain something else, and WHY). Also, values change. How can we interact between tasks how to have the necessary information flow between ourselves?

T.3.2 social valuation , two deliverables D3.2 and D3.5

D3.2 need to spell out how social valuation differs from monetary valuation. Could be chapter in deliverable, or a paper.

D3.2 should be Perspectives to move beyond state of the art.

Idea for 3.2 to include spatial and temporal dimension in value functions. Discussion paper; Concept how social valuation differs from economic valuation. Limits in both of them, explore other options, where are options to move forward. Esp. adding space to existing value functions. Perhaps we could bring in temporal changes = (i) change in value systems and (ii) also how with the current value a change in ecosystem management which will affect the mix of ecosystem services over the next 5, 50, 100 years (considering values of today).

→ There are interesting options to do so as it has an enormous impact on the analysis outcomes. It requires models that capture time lags and spatial/temporal interactions. Quantifying uncertainties. - consider timelines: when is the effect visible after the damage was done?

### **Task 3.3**

Task 3.3 – Review, meta-analysis, develop value transfer functions. Select specific problems to explore methods bit further.

Ian proposition – try and monetary value as many ecosystem services as possible, and then pose something like sustainability constraints and use cost effectiveness as some sort of a monetary limit.

Ian's flowchart (Fig 1) could also help to design the work-flow between tasks e.g., when working on one exemplar.

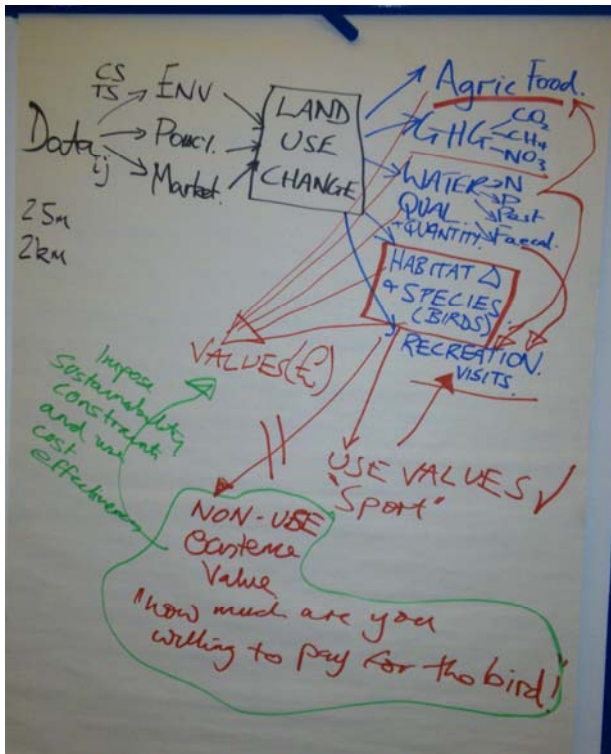


Figure 1. Flow diagram of valuation by Ian Bateman.

### Task 3.4

Construct “ideal” types from first principles and then test them on the real-world exemplars. Governance is used mostly in a relative generic sense – e.g., precautionary principles.

Becomes more concrete in ST-2, property rights: what can be owned, who can own, what are you allowed to do with the things owned, how is ownership maintained. Property rights traditionally have not been applied to some important ecosystem services.

Lennart asks to what extent we have responsibility to cover the ES dealt with by the exemplars. Mark R: See how those things match up, be explicit about what is done where, there is –so far- no need to cover all.

Lennart: State of the art assessment is not groundbreaking, but what is a relevant and interesting and novel item, is to address social justice in social valuation. Also, difference between monetary valuation and social valuation, what are the theoretical issues underpinning these differences.

Lennart (?): to be evaluated in T 3.4.2: Property rights of ES: what can be owned? How can you maintain the ownership, transfer of ownership, ...

Ian /Mark identify tasks that they have no experience with and did not agree on. Environmental accounting is not environmental valuation. Perhaps it is work suggested by IEEP? It seems that in the final round of the negotiations some things got mixed up / grouped . → Mark Koetse makes a proposal to ensure that these institutes/people are assigned to the relevant tasks.

### **Task 3.5**

Bridge ecological, social, economic views, where are synergies, what are trade-offs. What does maximising for one pillar mean for the other two. Where are the optima? Spatial and temporal externalities are important to consider.

Important that the synthesis doesn't come in the end, start thinking already now in terms of conceptual frameworks.

**Action Item 3: IVM/KIT:** Coordinate with task leads to prepare one page about what we want to achieve, how we go about, how to interact with the others in the WP, and also link to others in OPERAS – by month 6, together with the RIP.

### **Overall challenges for the WP:**

In addition to developments in our own respective sub-tasks, develop a conceptual framework how to bring the natural, social and economic approaches to assess ecosystem services. (made already a start).

Then we want to put this conceptual framework into practice. Test by doing so using one exemplar, but will then also be applied to other exemplars (at least in parts).

Issues of uncertainties, and the gains/losses we have if we apply a certain analysis on different time and space perspectives and resolutions.

Challenges:

- 1) need to communicate and train each other a bit about our respective methodologies and also to understand better what information we can produce with our respective tools and how to exchange information
- 2) need to discuss with the exemplars about how we can link our methodologies to their needs, and vice versa.