**Comments on Mary’s Agenda paper**

**Laura – July 8 2019**

My biggest comment is: it’s unclear to me where the paper is saying is the IPBES etc framework has considered vs the edge of knowledge that can be considered, and – if its not considered – what will happen (or not happen). Importantly, the frameworks themselves for ES and IPBES can account for feedbacks between people and nature, so is our point that there wasn’t an explicit focus on those feedbacks and how they are changing in the way evidence was reviewed? Or specifically BEF feedbacks that occur within systems and can be modified by people in positive and negative ways? I think this needs to be clarified. It starts to be at lines 110-111 but could be done sooner because I started reading it thinking that I’m not so clear on what the critique or gap is based on how the intro is written but it would be very helpful to identify this gap more explicitly.

I’m not sure we really have the evidence for what will actually happen if we don’t consider these particular feedbacks, do we? If so, some examples would be really helpful. We provide a coupe of cases in this paper paper where unintended consequences arise without considering feedbacks and interactions prior to taking a management action –the example could be useful?

Dee, L.E., Allesina, S., Bonn, A., Eklöf, A., Gaines, S.D., Hines, J., *et al.* (2017). Operationalizing Network Theory for Ecosystem Service Assessments. *Trends Ecol. Evol.*, 32, 118–130.

We also have some examples of feedbacks in this paper, led by Hui Xiao, which is quite relevant and just accepted. We do a bit of a summary in the intro on what isn’t considered in the literature with respect to feedbacks (as well as management). I’m attaching the current version of the paper in press – see some examples of feedbacks in the intro and the case study section that could be useful to include/cite in our paper.

Xiao et al. In press The value of understanding feedbacks from ecosystem functions to species for managing ecosystems*. Nature Communications.*

**Abstract**

Ecological systems are made up of complex and often unknown interactions and feedbacks. Uncovering these interactions and feedbacks among species, ecosystem functions, and ecosystem services is challenging, costly, and time-consuming. Here, we ask: for which ecosystem features does resolving the uncertainty about the feedbacks from ecosystem function to species improve management outcomes? We develop a dynamic value of information analysis for risk-neutral and risk-prone managers on motif ecosystems and explore the influence of five ecological features. We find that learning the feedbacks from ecosystem function to species does not improve management outcomes for maximising biodiversity, yet learning which species benefit from an ecosystem function improves management outcomes for ecosystem services by up to 25% for risk-neutral managers and 231% for risk-prone managers. Our general approach provides useful guidance for managers and researchers on when learning feedbacks from ecosystem function to species can improve management outcomes for multiple conservation objectives.

For action #5 – How about also engaging early career researchers in this area? And supporting open data exchange to help characterize feedbacks?

RE the Venue: A thought. As for the venue, what about Nature Sustainability as a Perspective? Would that reach more of our desired readership? I personally don't read Current Opinions in The Environment and Sustainability - but maybe it is widely read in the field? Bill Burnside is now an editor for Nature Sustainability and I think he would like this idea: <https://www.nature.com/natsustain/about/editors>

Perspective

A Perspective is intended to provide a forum for authors to discuss models and ideas from a personal viewpoint. They are more forward looking and/or speculative than Reviews and may take a narrower field of view. They may be opinionated but should remain balanced and are intended to stimulate discussion and new approaches within the broad sustainability research domain. Perspectives may also advocate a controversial position or present a speculative hypothesis. Two articles advocating opposite sides in a research controversy are normally published as Perspectives.

Perspectives follow the same guidelines of Reviews. They should not normally exceed 5,000 words. As a guideline, Perspectives allow up to 60 references; citations should be selective. Footnotes are not used. Perspectives should include no more than 6 display items (figures, tables and/or boxes).

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