# **Natural Capital in Practice**

28th May 2019





# Agenda

1. Introduction and welcome

Eva Paulik - Arcadis

2. Gaps between conceptual and operational implementation of Natural Capital Accounting in a developing country context

Julia Baker & Helena Newell Balfour Beatty / Conservation Capital

- 3. Q&A
- 4. Update on Coalition activities

Hannah Pitts - Natural Capital Coalition

5. Topics for future calls

Eva Paulik - Arcadis



The Natural Capital Coalition is a collaborative space to harmonize natural capital approaches and grow a supportive enabling environment for natural capital thinking.



Represents 300+ organizations

# Purpose

To mainstream the inclusion of natural capital in decision making, harmonizing approaches and getting them to scale, quickly.

### **Our Vision**

A world that conserves and enhances natural capital

# GAPS BETWEEN CONCEPTUAL AND OPERATIONAL IMPLEMENTATION OF NATURAL CAPITAL ACCOUNTING IN A DEVELOPING COUNTRY CONTEXT

JULIA BAKER & HELENA NEWELL,
BALFOUR BEATTY / CONSERVATION CAPITAL



# Imperial College London







# **Balfour Beatty**

Gaps between conceptual and operational implementation of Natural Capital Accounting in a developing country context

By Julia Baker, Helena Newell and EJ Milner-Gulland

# Biodiversity Net Gain / No Net Loss developments How do they affect people?

- Biodiversity Net Gain: development projects that generate measurable gains / net gains in biodiversity (No Net Loss)
- Increasingly in planning policies, laws & funder requirements
- Follow the mitigation hierarchy: avoid, minimise, restore, compensate
- Biodiversity NG/NNL can significantly affect people
- Yet these impacts are often not fully accounted for















Fuel, food

Improved air quality

**Soil stability** 

**Building** materials

Recreational benefits

**Cultural sites** 

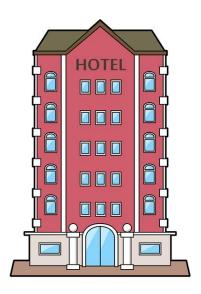
**Climate** regulation

Reduced flood risk







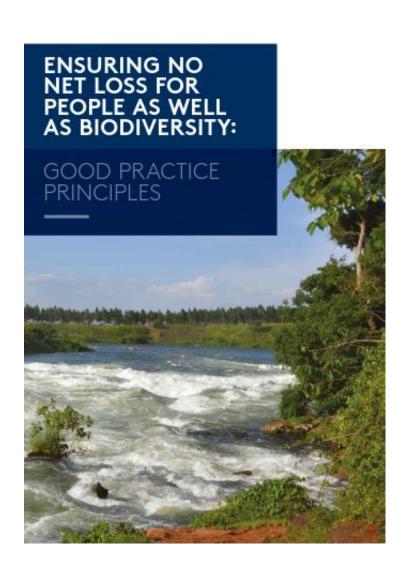


- ✓ Biodiversity Net Gain
- ➤ People at development site permanently lose ecosystem services from the woods
- > Different people benefit from the offset
- But fewer people benefit & in different ways



# Biodiversity NG/NNL developments – good practice for people

- New international principles
- Tools?
- Natural Capital Accounts of Biodiversity Net Gain developments:
  - ✓ Addresses current gaps
  - ✓ Monetary values significantly influence project decisions
  - ✓ Improves design & build of BNG especially offsets
  - ➤ Limited data for project-level NCAs
  - Merging with ESIAs & Biodiversity Net Gain principles





# **ESIA**

PRINCIPLES OF ENVIRONMENTAL IMPACT ASSESSMENT BEST PRACTICE

**SIA principles** 



# NATURAL CAPITAL PROTOCOL





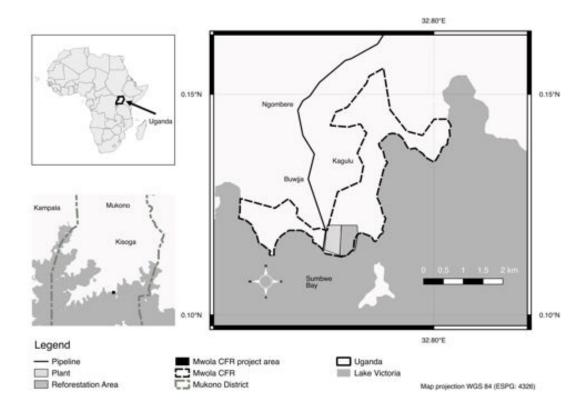


DEVELOPING CORPORATE NATURAL CAPITAL ACCOUNTS



Our case study – the Katosi Water Treatment Plant

# Project area in the Mwola Central Forest Reserve, Mukono, Uganda.



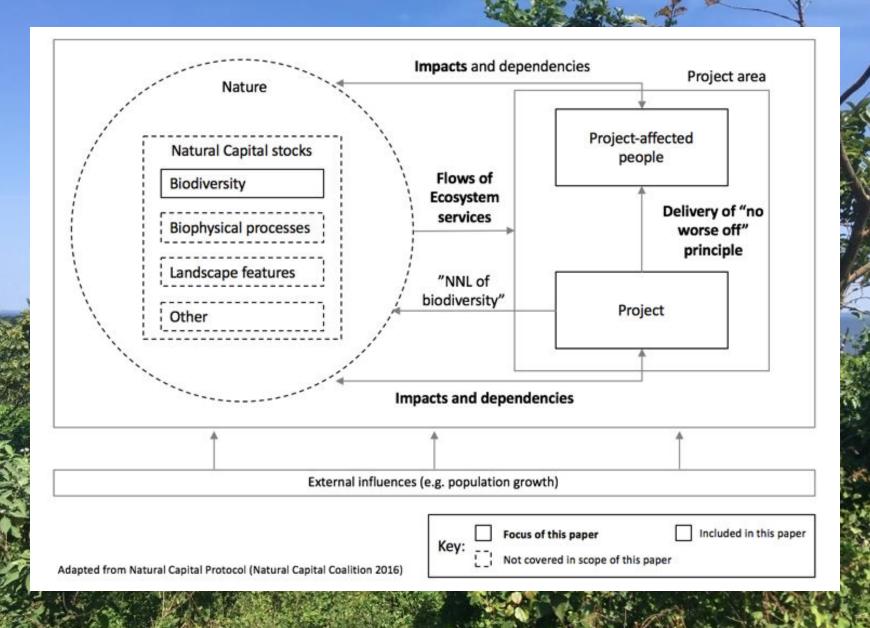


# Aim

Using the case study of an NCA of an infrastructure project in Uganda, to explore the decisions that need to be taken to support the design and evidence-base for no net loss (NNL) of biodiversity that is sustainable and fair to project-affected people.

# **Objectives**

- i) Quantify the stocks of the biodiversity components of natural capital and the flows of ecosystem services for a baseline, post-construction and 30 years after construction, in order:
- ii) To explore how decisions on the baseline, counterfactuals and scenarios affect the flows of ecosystem services, and
- iii) Evaluate how this influences the operational use of the NCA to design no net loss.



### Steps@for@ex@ante@Natural@Capital@Account Step1: Purpose, Scope Data collection Keyadecisionsadiscussedanathisapaper2 Conceptual Projectsiteaccounts Plant Plant Perojects itelaccounts Plant Plant Perojects Plant Peroject Perojects Plant Peroject Perojects Plant Peroject Pero Baseline Counterfactual Step 22: 35 tocks 30 f 3b iodiversity 2 components of natural capital Scenarios Step3: Classification of 2 Scope ecosystem<sub>services</sub> Dependencies Step⊈: Physical flow account Other key decisions Step5: Scope Monetary flow account Purpose Scope Step 36: Boundary Biodiversity metric Conceptual Step27: Data@aggregation Maintenance@cost@ccount Step 8: Methodological **Dependencies** How@to@tollect@data? • How@to@tlassify@stocks@and@ ecosystem\services? Step 19: 10 Determine 12 heed 12 and 12 triteria 15 or 12 delivering 2 h How@o@quantify@monetise? Focus of this paper Key: Step 10:10ffset accounts 2 Notatoveredanascopeaofathisabaper?

Adapted @from@Natural@Capital@Protocol@and@he@CNCA@frameworks@leftec@t@l.@2015;@Natural@Capital@Coalition@2016;@Forest@Trends@L@ftec@2017)

# **Data Collection**

# **Primary data**

- Very short primary data collection period, with observation data only
- No direct collection of data from local people

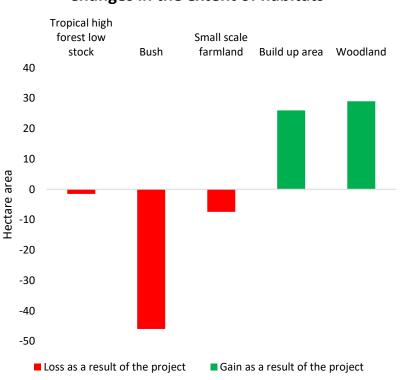
# Secondary data

- Project information from the ESIA
- Local area information from Ugandan data sources, including from The National Water and Sewerage Corporation, the National Forest Authority, the National Biodiversity and Data Bank and Ugandan Bureau of the Statistics
- Peer and non-peer reviewed literature utilised for benefit transfer

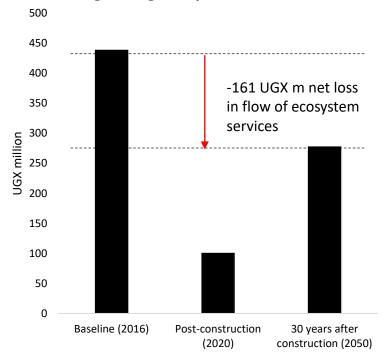
Our figures are indicative only and are used to highlight the decisions and uncertainties within a NCA.

# We found a overall loss in monetary flow of ecosystem services of 161 UGX million per year as a result of the project

### Changes in the extent of habitats



# Monetary flow of provisioning and regulating ecosystem services



# Decisions and uncertainties in practice

The monetary flow of ecosystem services only gives part of the picture.

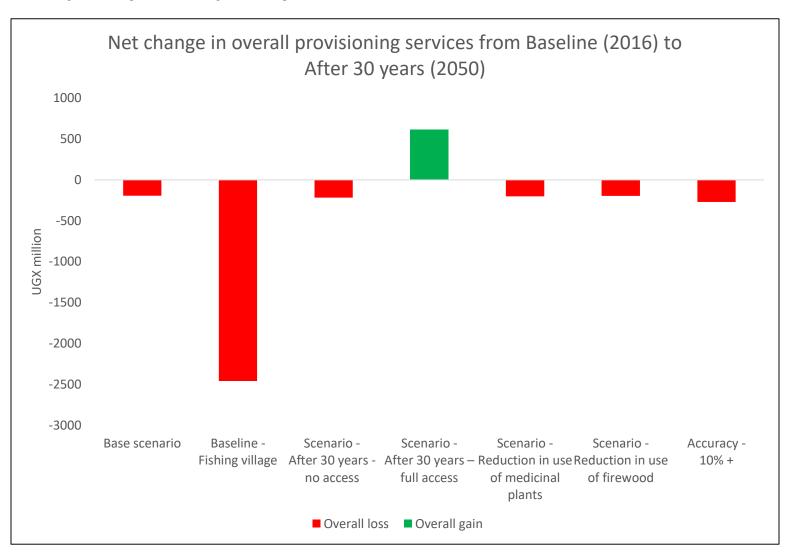
The importance of the decisions within the NCA was highlighted by our experiences in the field:

- The price of goods
- The fishing village

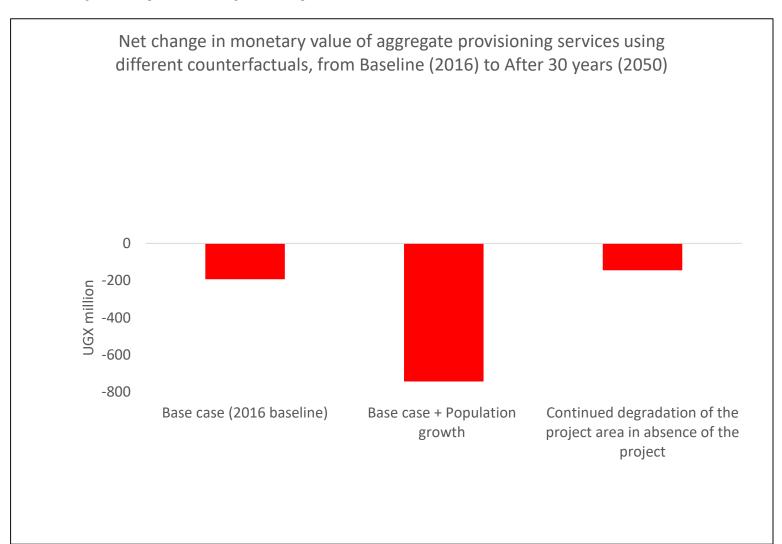




# Examples of the impact of decisions made in the NCA on the outcomes



# Examples of the impact of decisions made in the NCA on the outcomes



# Lessons and areas for further research

- Our case study is the first to develop an ex ante NCA of an infrastructure project; there is a need for many more case studies
- We uncovered major uncertainties, and decision-points which can have fundamental impacts on the resultant NCA. The ESIA did not recognize many of these issues
- There is a need for further research in many of these areas, e.g. on how to measure and manage the project's dependencies on natural capital.
- There is a need for research to be translated into practical and feasible guidance on the implementation of these NCAs, based on case studies, which should help to encourage uptake.

# **Take-homes for practitioners**

- Compared with ESIAs, project-level NCAs can improve understanding of how BNG affects people – this improves the mitigation hierarchy but requires NCAs to be undertaken early
- Decisions on the baseline & counterfactual significantly affect accounts: transparency & justification are vital
- Be explicit on uncertainties & assumptions underlying accounts, especially when ESIAs do not uncover people's complex relationship with nature
- Assess all benefits, assign monetary values where appropriate & show non-monetary benefits in the accounts
- Use NCAs alongside assessments of change in people's wellbeing

# **Acknowledgements**

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> Imperial College London









# Resources

https://www.iccs.org.uk/sites/www.iccs.org.uk/files/inline-files/NNL%20for%20people%20and%20biodiversity%20principles..pdf

http://www.wildbusiness.org/wp-content/uploads/2017/05/BakerOakley 2019 WBL.pdf



Thank you

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# UPDATE ON COALITION ACTIVITIES



# "Natural Capital Checker"

A new tool to enable organizations to 'self-assess' the level of comfort they have in their natural capital assessment An offline qualitative survey of c.11 questions.

Should provide confidence to stakeholders that:

Launched last week

- the approach used is fit for purpose;
- your results are robust enough for your objective: whether internal decision making, external communication, etc.

23 May: 'BETA' version available

**Summer: Piloting** by businesses

**November:** FINAL version available

Volunteers needed!



# **Natural Capital Week 2019**



# **TOPICS FOR FUTURE CALLS**



# Future calls and upcoming topics

NEXT CALL: 2<sup>nd</sup> July 2019

Topic: will be announced soon!



Suggestions for future calls:

https://nccoperations.typeform.com/to/zAOeOt

# **THANK YOU** www.naturalcapitalcoalition.org