



Guidance for Users on Ecosystem Service Assessment

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on natural capital, ecosystem services
and nature-based solutions**



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- Find people who can help



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Guidance

Break down the ESS
assessment process in a
logical sequence



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Scales:

- ☒ Global
- ☒ Continental
- ☒ Sub-continental
- ☒ National
- ☒ Sub-national
- ☒ Local



① Browse and filter the knowledge base of the communities' case study experiences

② Hover your mouse over a case study to read a short summary helping you to decide if you want to 'read more'

③ Read details of the case study and find out more via background information, or contact the persons involved

Learn from others

Search the case studies...

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- ☒ Local



Operationalising ecosystem services for an adaptive management plan for the Lower Danube River, Romania



Keywords

- Adaptive management
- Operational tools
- Ecosystem services

Scale

- Sub-continental
- National
- Local

Tools & methods

- Spreadsheet method
- Quicksan method
- Multi-Criteria Decision Analysis
- Contingent valuation
- Bayesian Belief Network

Publications & reports

Organisations

- Research Centre in Systems Ecology and Sustainability

Contact

- Anja Liski (JRC)
- Elena Preda
- Bela Gluck

Objective

Enhancing the effectiveness of the integrated and adaptive management planning and its implementation in the area. This will be done by mainstreaming the improved understanding, using operational tools regarding the concepts of natural capital and ecosystem services.

Potential impacts and benefits

- Better understanding of the relationships between long term dynamics of the biophysical structure and functions of natural capital and the supplied ecosystem services.
- Maintaining and restoring of longitudinal and lateral connectivity of Lower Danube River Wetlands System, which is expected to recover conditions for migration, spawning and feeding of birds and fishes (e.g. sturgeons).
- Enhancing the stakeholders operational capacity to assess ecosystem services.

Area characterisation

The area under study is a regional complex system covering the Romanian part of the Lower Danube Wetlands System. It includes the Danube River stretches, lakes, wet meadows, alluvial forests, agricultural

Case Studies

Marketplace

PRODUCTS ^

FILTERS ^

Search the marketplace



mulino Decision Support System tool (mDSS)

The mDSS software is a generic indicator-based Decision Support System (DSS) developed to assist decision makers in the participatory management of environmental problems by applying several Multi-Criteria Analysis Methods and Group Decision Making. Specifically, it supports Decision/Policy Makers ...

- 🇬🇧 Primary Language
- ★ Quality Assurance
- € Commercial

MORE



Payment for Ecosystem Services (PES)

Payment for Ecosystem Services (PES) programmes have been increasingly established across the globe in the last few years. PES is a type of market-based instrument that is increasingly used to finance nature conservation. PES programmes allow for the translation of the ecosystem services (ES) that ...

- 🇬🇧 Primary Language
- ★ Quality Assurance
- € Commercial

MORE

KEYWORDS

Choose keywords from the menus below and hit apply...

Ecosystems ^

Implementation ^

Methods ^

Regions ^

Topics ^

RESET


APPLY

SHARE/ADD PRODUCT



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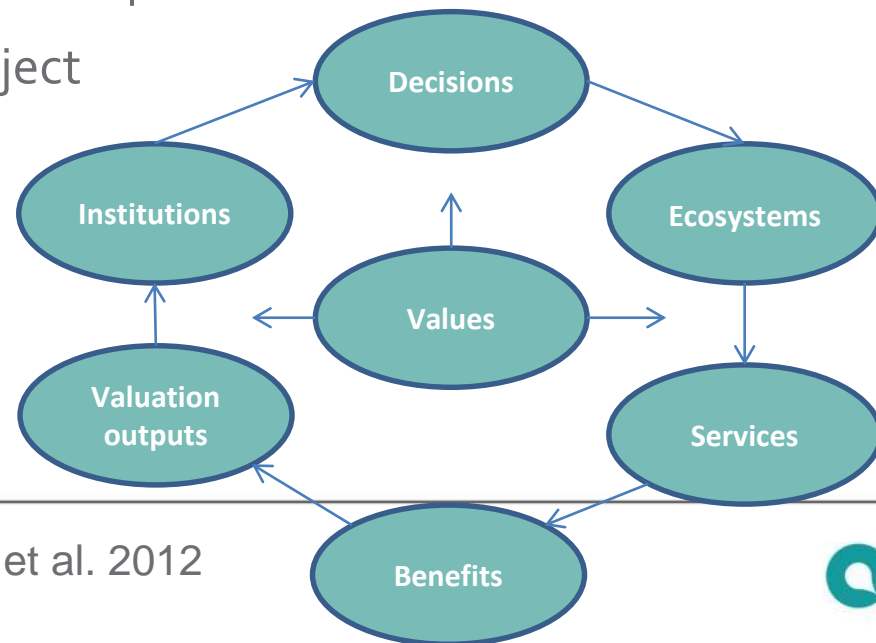


NETWORK



Guidance: The Ecosystem Service Assessment Support Tool (ESAST)

- A general framework for ecosystem service assessment in real-life management and decision-making situations, as well as ...
- A step-by-step guidance tool on how to carry out an ecosystem service assessment in different management and policy contexts
- Developed on the basis of experiences in the OpenNESS 27 place-based case studies as well as OPERAs 13 exemplars
- Draws on Natural Capital project framework to integrate ecosystem services into decision-making



Chan et al. 2012



Ecosystem Service Assessment Support Tool (ESAST)

Ecosystem service assessment is a process that is carried out in a close interaction with key stakeholders to ensure that they find the results reliable and relevant for decision-making.

Putting in practice

Policy instruments and best practice examples e.g. on nature based solutions in urban areas

Valuation

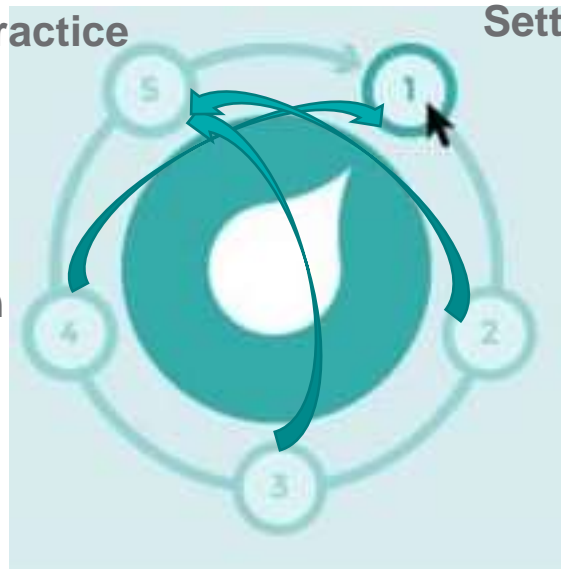
What is the importance of ES for people in monetary or non-monetary terms, and what kind of meanings do people assign to ES, including intrinsic and relational values?

Setting the scene

What is the purpose of the assessment, the decision-making context and who are the key actors to be involved in the assessment?

Identification of ES

What are the key ES and related benefits, and beneficiaries, in the issue at hand?



Biophysical assessment

What are the links between the ES and underlying ecosystem structures and processes and how do drivers of change influence the flow of ES?

Step 1

Logo rotates to point at active step

Links to explanations

Links to glossary

Links to synthesis papers
on key issues/themes

Links vary per step: Biophysical and valuation steps
include links to method selection guidance tools

Direct link to 'Ask Oppla'-
Q&A for this step

Direct link to 'Ask Oppla'
for this step

STEP 1. Setting the scene
Van mij mag hier nog wel een subtitel komen met wat extra uitleg.

Outcomes of this stage

- Definition of the decision context
- List of key stakeholders
- Structured description of the problem

Explanation

The purposes of ecosystem service assessment

Ecosystem service assessment can be carried out for several reasons: a) it can raise awareness of the importance of ecosystem services for human well-being; b) it can help to identify the key stakeholders and their interests; c) it can help to identify the key issues and the key questions; d) it can help to identify the key data and information; e) it can help to identify the key methods and tools; f) it can help to identify the key stakeholders and their interests; g) it can help to identify the key issues and the key questions; h) it can help to identify the key data and information; i) it can help to identify the key methods and tools; j) it can help to identify the key stakeholders and their interests; k) it can help to identify the key issues and the key questions; l) it can help to identify the key data and information; m) it can help to identify the key methods and tools; n) it can help to identify the key stakeholders and their interests; o) it can help to identify the key issues and the key questions; p) it can help to identify the key data and information; q) it can help to identify the key methods and tools; r) it can help to identify the key stakeholders and their interests; s) it can help to identify the key issues and the key questions; t) it can help to identify the key data and information; u) it can help to identify the key methods and tools; v) it can help to identify the key stakeholders and their interests; w) it can help to identify the key issues and the key questions; x) it can help to identify the key data and information; y) it can help to identify the key methods and tools; z) it can help to identify the key stakeholders and their interests.

Relevant resources

- Decision support methods
 - Mapping of social networks
 - Business model canvas
 - Stakeholder map
- Policy and management
- Data

Ecosystem Services and Transdisciplinary

Jennifer Hauck (LIFE/DO), Marion Pötschin (UNOTT/UK), Sanna-Riikka Saarila (SYKE, FIN), Esther Carmen (CEH, UK), Jan Dick (CEH, UK), Berta Martín-López (Leopoldina University/DI, Ester Kelemen (ESSRG/HU), Hans Keune (NBO/BE)

Introduction

Based on the idea to make science more relevant to the solution of real-world problems, transdisciplinarity (TD) was established as a reflexive, integrative, method-driven scientific principle aiming at the solution or transition of societal problems and concurrently of related scientific problems by differentiating and integrating knowledge from various scientific and societal bodies of knowledge (Lang et al., 2012). A key motivation for TD is to address the complexity inherent in many of these problems: as we cannot fully grasp all relevant complexity, we have to reduce complexity and to make choices; these choices are only to a (often very) limited extent purely technical or scientific, thus involvement of societal reflections and actors and arguments is legitimate (Keune et al., 2015). Similar to related approaches such as post-normal science, citizens science, participatory approaches (for definitions please see the OpenNESS glossary), TD goes beyond multi- and interdisciplinary research by co-creating knowledge with and for societal actors. Therefore the language, the concepts and the methodology used in TD are not solely scientific phenomena but jointly produced in the interaction between science, practice and policy.

Influenced by Anglo-American scientific debates in the 1960s and 1970s Jantsch (1972) was one of the first to use the term 'Transdisciplinarity' (TD). During the 1980s the term was introduced in the European scientific community by Mittelstrahl (1992) as a type of research which crosses disciplinary borders and which is based on and meant to solve real world problems. A widely accepted conceptualisation of the transdisciplinary research approach is provided by Lang et al. (2012). This involves three collaborative phases between scientific and non-scientific actors to:

- 1) collaboratively frame the problem and build a collaborative research team (Phase A);
- 2) to-produce solution-oriented and transferable knowledge through collaborative research (Phase B); and
- 3) (re-)integrate and apply the produced knowledge in both scientific and societal practice (Phase C).

TD reshapes some basic epistemological principles by extending the realms of knowledge and transforming the roles of academic and non-academic actors within the research process (Walter et al., 2007). Operating across these traditional boundaries at the interface between science-policy-practice interface (Turnhout et al., 2009) developing a common understanding, targeted communication and relationship building are essential parts of this process (Carmen et al., 2015b). This kind of boundary work can be eased by boundary facilitators, i.e. individuals with certain skill sets to facilitate the flow of information and communication processes or boundary organizations. Boundary objects (Star and Griesemer, 1989; Clark et al., 2011) or boundary concepts (Mollinga, 2010) can be beneficial for TD processes as well (for more detailed definitions of boundary terms please see the OpenNESS glossary). The ecosystem service concept (Pötschin and Haines-Young, 2014) can be considered a boundary concept, to the extent that it enables researchers from other disciplines, policy makers and other stakeholders to develop a common language (Hauck et al., 2013) and each can select knowledge relevant to their particular field (Jordan and Ruzel, 2014). The concept more and more brings together experts, policy representatives and other stakeholders in so-called Ecosystem Services Communities of Practice (CoP). An ES-CoP is a network made up of

Recent answered questions

How can we ensure the environmental dimension of Sustainable Development Goals is not getting lost? Answers here: <http://oppla.eu/question/77>

How can we avoid that advocating nature based solutions will speed up climate development? Answers here: <http://oppla.eu/question/71>

Ask Oppla Ask a question and community... **ASK**

Links to relevant
resources for the
step



Guidance on ES method selection

Methodological Requirements		Research Oriented Reasons	
Data	Amount required	Uncertainty	Can explore/address uncertainty
	Available in the team		
Expertise	Available in the consortium	Novelty	Knowledge advancement
	Ease of use		Method addresses a research need
Time resources	Local knowledge	“Well-accepted” approach	Recognised approach
	Speed of use		Established approach
Economic resources	Ease of use	Improvement of methods	Test the utility of method
	Small team required		Refine existing approach
Spatial Scale	Cost-effective		Approach that combines previously un-combined elements
	Spatial analysis		Approach that goes beyond simple models
Temporal scale	Spatially explicit	Comparability	Build experience
	Temporal analysis		Possibility to replicate in other research sites
Uncertainty	Temporal scales		Results are comparable with other research sites
	Scenarios can be explored		
Uncertainty	Can explore/address uncertainty		



Guidance on ES method selection

Stakeholder Oriented Reasons

Facilitate Stakeholder participation	Stimulate sharing views and knowledge Encourage stakeholder discussion Foster social learning Method easy to explain to non-academic stakeholders
Co-design and co-production of knowledge	Chosen by stakeholder Explore suitability of approach with stakeholders Include expert knowledge from outside the research team Include local non-academic stakeholders
Local experience	Local knowledge

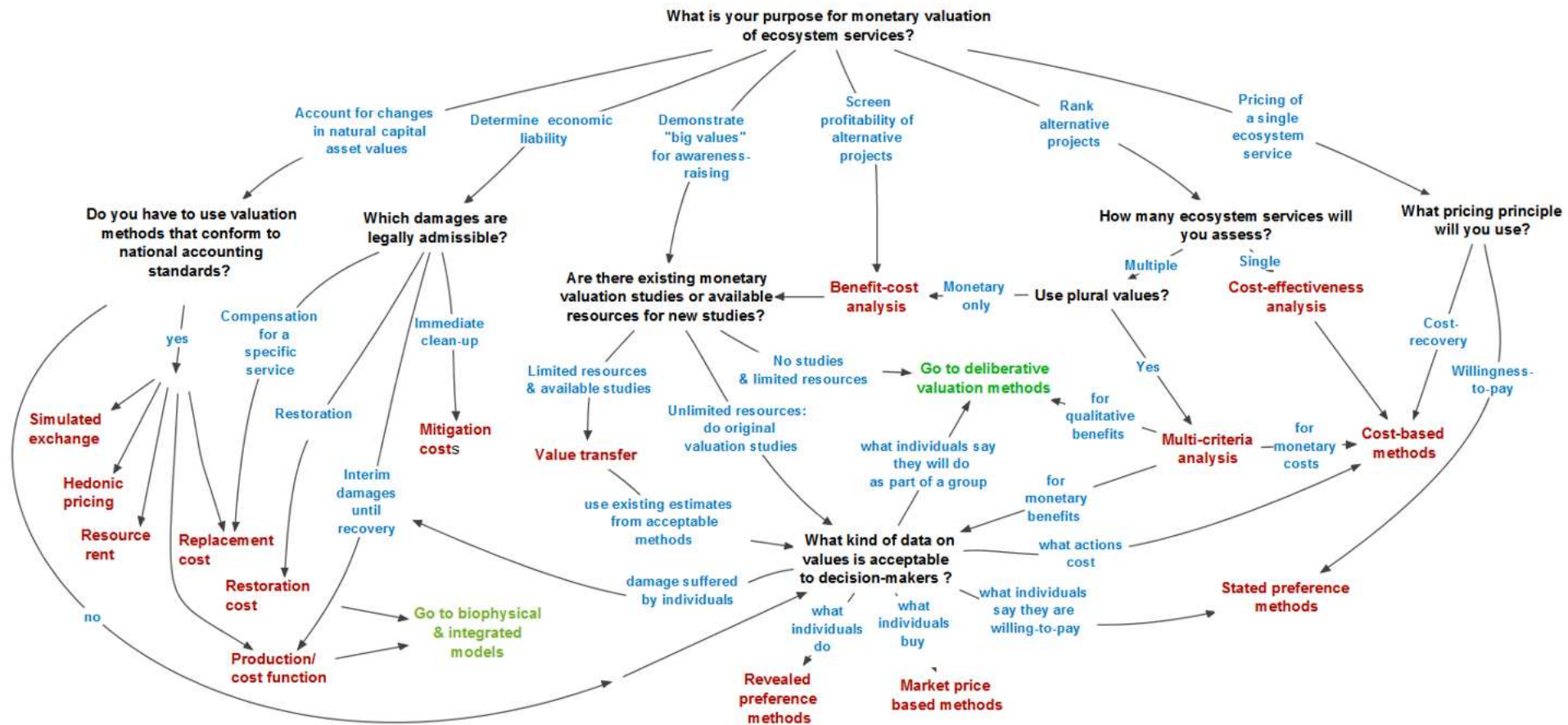
Decision Oriented Reasons

Uncertainty	Can explore/address uncertainty
Raising awareness	Gain/improve understanding of the system Dissemination and pedagogical objectives
Issues of concern	Covers many ecosystem services Facilitates representation of cultural/spiritual values Trade-offs can be addressed
Planning management relevance	Is relevant for planners/managers





Monetary methods decision tree





Socio-cultural methods decision tree



METHOD FACTSHEET

Deliberative valuation

Introduction

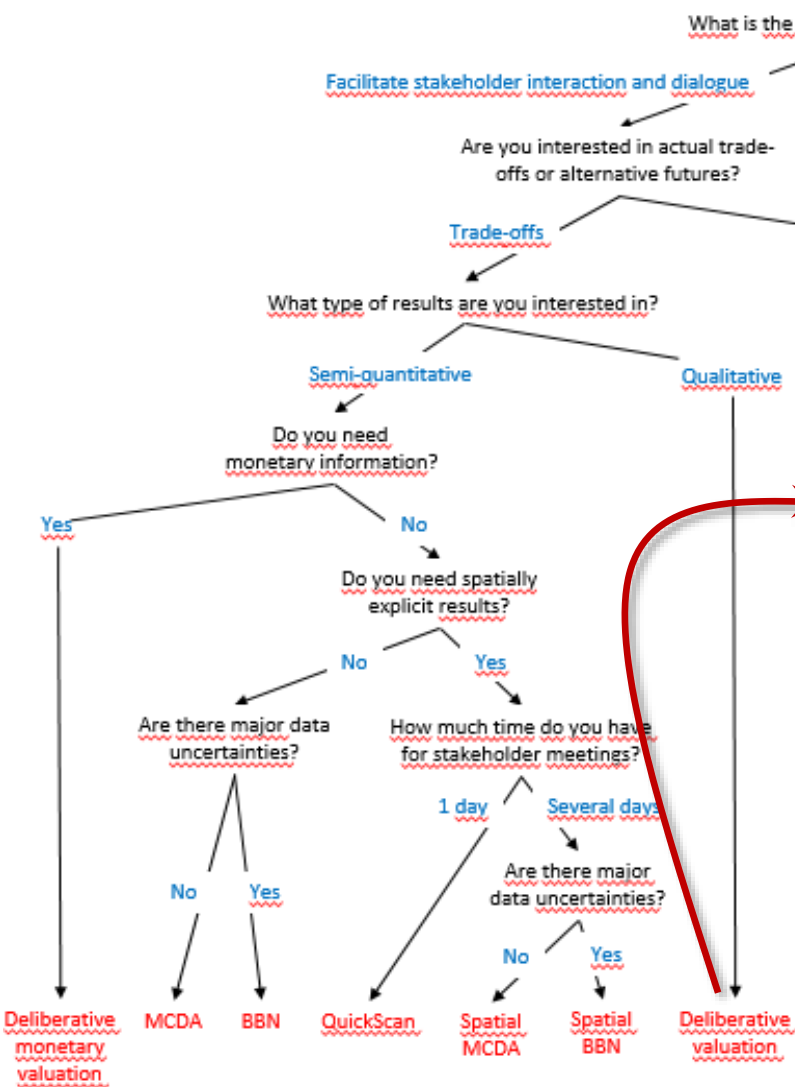
Deliberative valuation is not one particular valuation method, but it is a valuation paradigm (Raymond et al. 2014) providing a framework to combine various tools and techniques that bridges citizens and academia as well as different disciplines within science. Deliberative valuation is based on the assumption that valuation is a social process in which values are discovered, constructed and reflected in a dialogue with others (Wilson and Howarth 2002). Therefore, deliberative valuation invites stakeholders and citizens (the general public) to form their preferences for ecosystem services together through an open dialogue, which allows consideration of ethical beliefs, moral commitments and social norms beyond individual and collective utility (Aldred 1997, Satterfield 2001, Wegner and Pascual 2011).

Keywords

deliberation, public engagement, participation, discourse, relational values, social values, equity

Why would I chose this approach?

Deliberative valuation is considered particularly appropriate when valuing ecosystem services and benefits derived from them, because they are common goods the existence of which has consequences for other people, in other parts of the world, and across generations. These choices are fundamentally ethical and hence the right question is not what "I want for me" (reflecting the self-oriented values that follow individual rationality) but rather what is "right to do" (reflecting the others-oriented values that follow collective rationality) (Vatn 2009, Chan et al. 2012). Open discourse, generated by deliberative techniques, is able to unfold relational values and reflect upon the social context of valuation. Therefore, deliberative methods are also proposed to account for social equity issues in valuation (Wilson and Howarth 2002).





Filtering method selection tool

oppla.eu/guidancetool

oppla

enter search terms: []

ASK MY ACCOUNT LOG OUT

HOME ASK OPPLA WHAT IS OPPLA EVENTS GUIDANCE TOOL NEWS CONTACT

The Oppla Guidance tool is designed to help you choose the most appropriate ecosystem service tool for your needs. Each tab covers a range of questions. As you work through them, tools that become unsuitable will turn grey leaving you with potential useful tools highlighted in orange.

YOUR AIMS YOUR SYSTEM **RESOURCES** DATA ECOSYSTEM SERVICES FUTURE ANALYSIS OUTPUTS **TOOLS**

Please work through the questions below; if you can't answer some questions, just leave them blank.

✓ How much time do you have available to complete the tool?

☐ Very little, an hour or two at most

☐ Three to five hours

☐ A day

☐ Two days

☒ Three or four days

☐ A week

☐ Several weeks

☐ As long as it takes

> What level of expertise is available to you?

> What equipment do you have available?

> Are you willing to undergo some training to use the tool?

> Can you access local knowledge? (i.e., data, stakeholders, etc pertinent to your study area)

> What resources will you have for disseminating your results?

> How many people will you have to help?

...and show how the answers affect the selection

SOC VALUE	T/O ANALYSIS
MON VALUE	POL ANALYSIS
INVEST	IBAT
LCA	ES TIMAP
QS	Our ECOSYS
SCEN TOOLBX	ES INDICAT
CBA IODINE	CBA WWF
MCDM DSS	MCDM ALLIUM
PES	PA
SEEA	EHS
NNL	VOL CANVAS
EIA TOSIA	EIA LCA



Conclusions

- Oppla is a virtual hub which aims to provide a range of users with information and products for ecosystem service assessment.
- Oppla members are likely to have a wide range of backgrounds and different purposes for ES assessment.
- Hence, a single guidance tool is unlikely to fit all needs.
- Multiple guidance tools are under development and being tested across case studies with both scientists and practitioners.
- Continual testing and improvement is likely to be needed in the future to react to feedback from Oppla members.



Thank you!