IDEEA Group

Institute for Development of Environmental-Economic Accounting

USING SEEA EEA FOR NATURAL CAPITAL ACCOUNTING IN THE FORESTRY SECTOR

Carl Obst, IDEEA Group

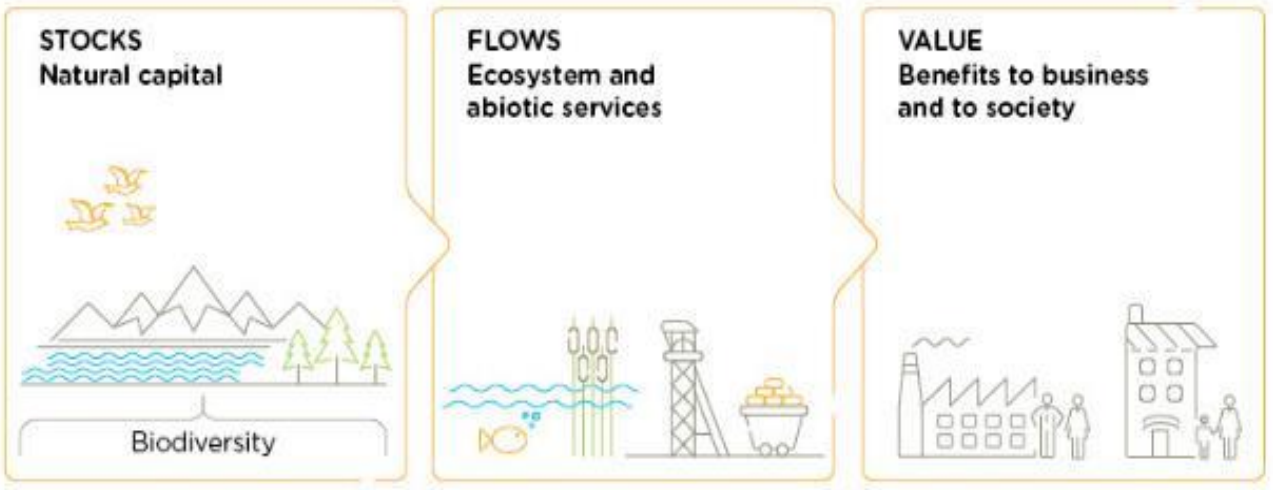
Presentation to the Forum of Experts on Ecosystem Accounting

Glen Cove, New York

27 June, 2019

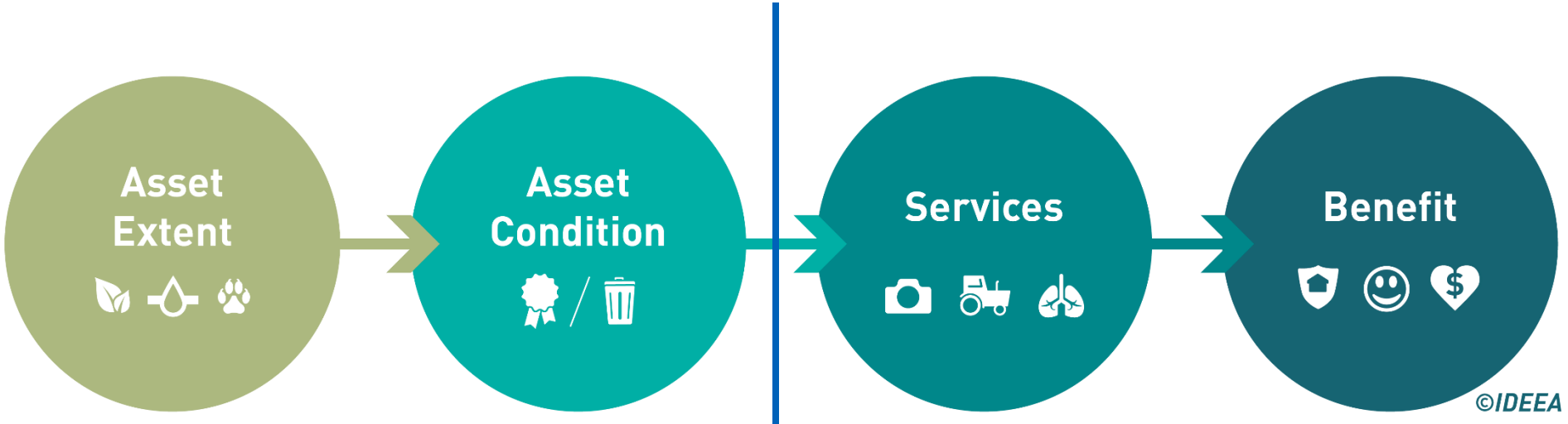
DEFINING NATURAL CAPITAL

Natural Capital
is the **stock** of renewable and non-renewable **natural resources**, (e.g. plants, animals, air water, soils, minerals) that combine to yield a **flow** of benefits to people



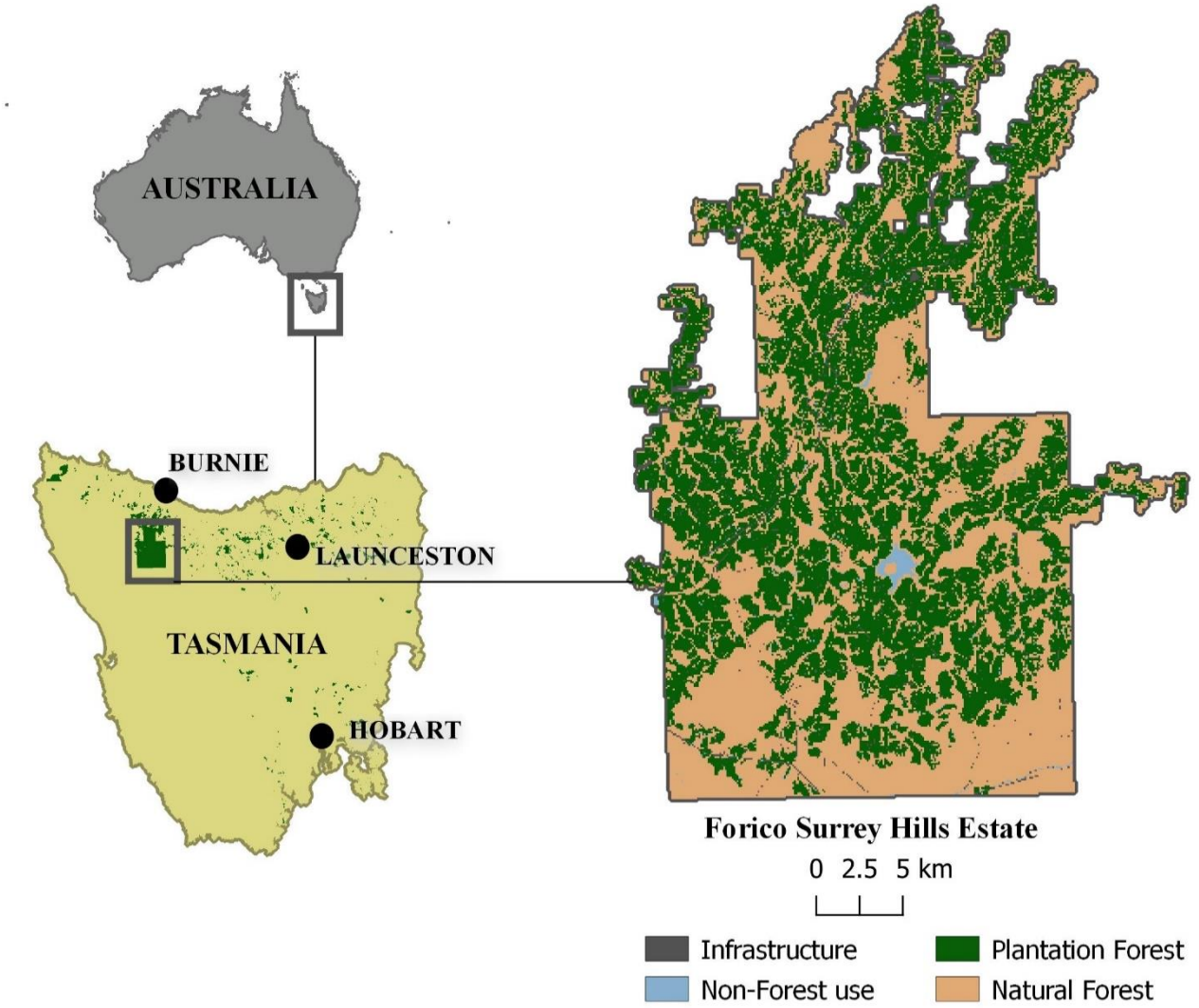
IDEEA Group

CORE ECOSYSTEM ACCOUNTING MODEL



ACCOUNTING FOR FORICO'S ECOSYSTEM ASSETS

FORICO CONTEXT



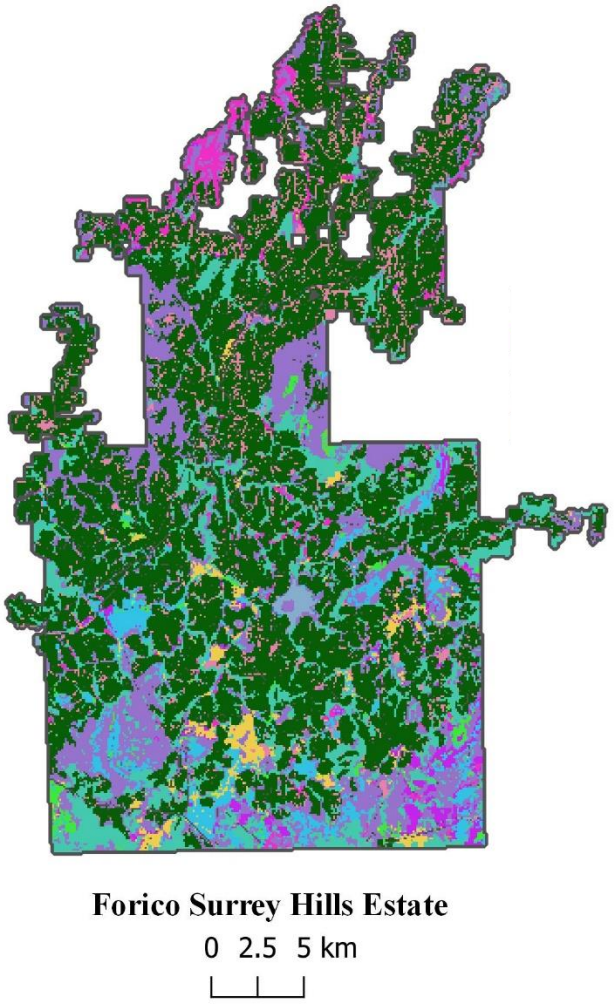
Forest Management Zones (FMZ)

SPATIAL TO TABULAR ACCOUNTING

Reporting Units = FMZs

	Greater Surrey Hills		Other Forico Estate		Total Forico Estate	
	Area (ha)	%	Area	%	Area	%
1. Natural						
1.1 Formal Reserves						
1.2 Other - Natural Ecosystems						
All Natural						
2. Plantation						
2.1 Hardwoods						
2.2 Softwoods						
2.3 Not planted						
2.4 Failed Tree Farm						
All Plantation						
3. Non-Forest Use						
3.1 Firebreak						
3.2 Plantation Buffer						
3.3 Water body						
All Non-Forest Use						
4. Infrastructure						
4.1 Utility						
4.2 Quarries and gravel pits						
4.3 Roads						
All Infrastructure						
5. Other						
5.1 Agriculture						
5.2 Not elsewhere classified						
All Other						
Total	[redacted]		[redacted]		[redacted]	

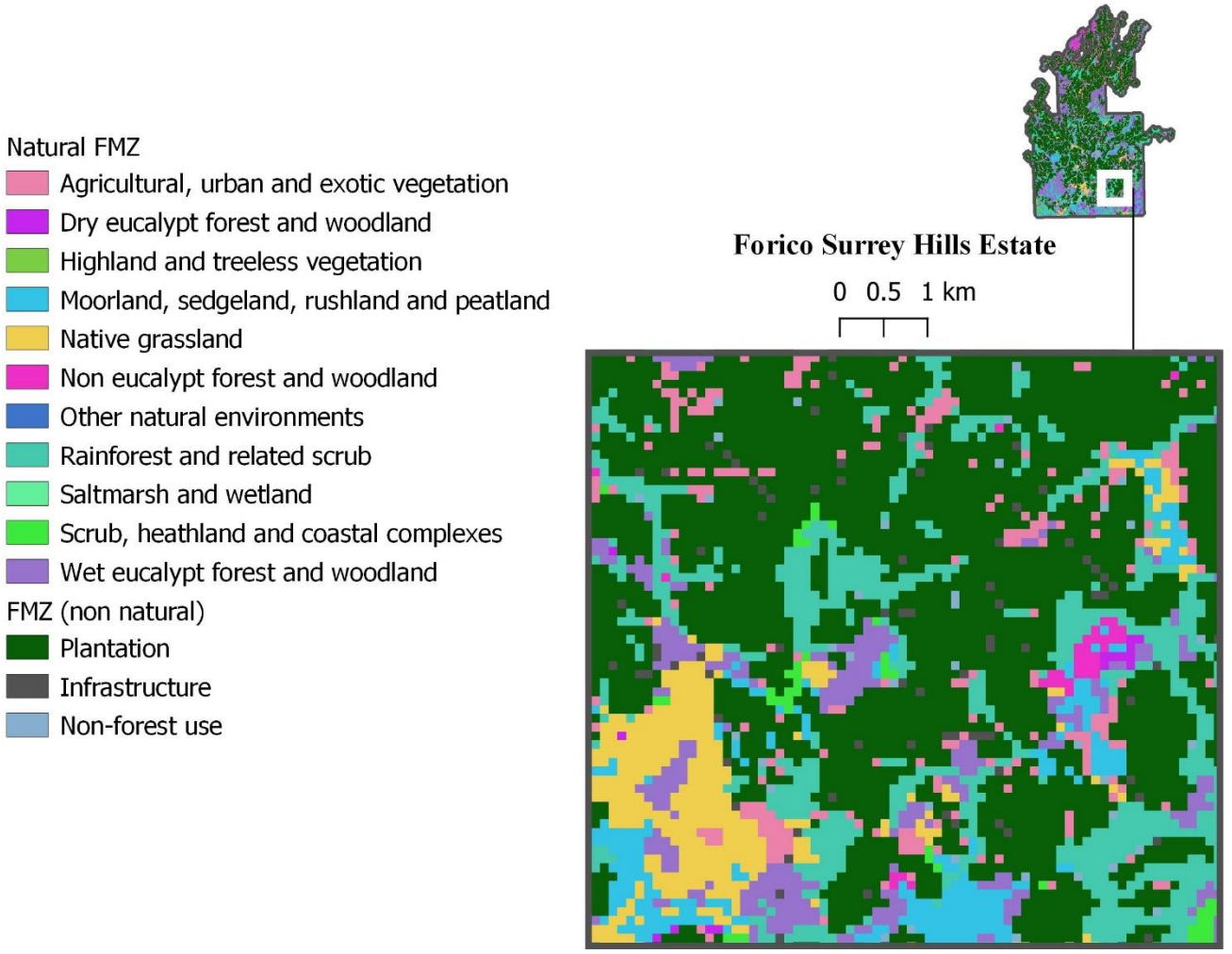
OVERLAYING ECOSYSTEM TYPES



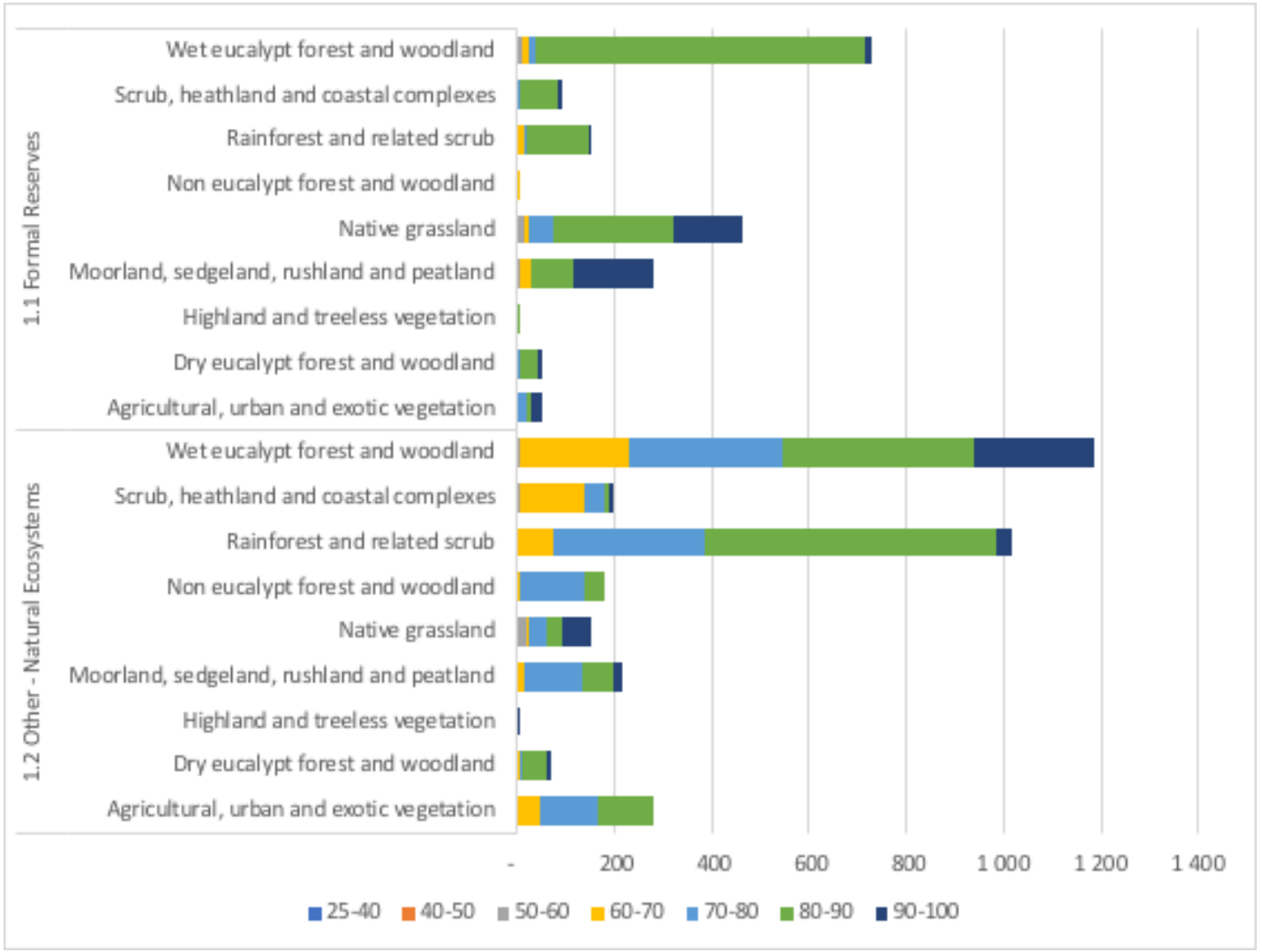
ACCOUNTING FOR ECOSYSTEM TYPES

Tasmanian Vegetation Groups	Greater Surrey Hills		Other Forico Estate	
	Formal Reserves	Other - Natural Ecosystems	Formal Reserves	Other - Natural Ecosystems
Agricultural, urban and exotic vegetation*				
Dry eucalypt forest and woodland				
Highland and treeless vegetation				
Moorland, sedgeland, rushland and peatland				
Native grassland				
Non eucalypt forest and woodland				
Other natural environments				
Rainforest and related scrub				
Saltmarsh and wetland				
Scrub, heathland and coastal complexes				
Wet eucalypt forest and woodland				
Total				

DEFINING ECOSYSTEM ASSETS



VEGETATION CONDITION ASSESSMENT (VCA) BY ECOSYSTEM TYPE, 2017

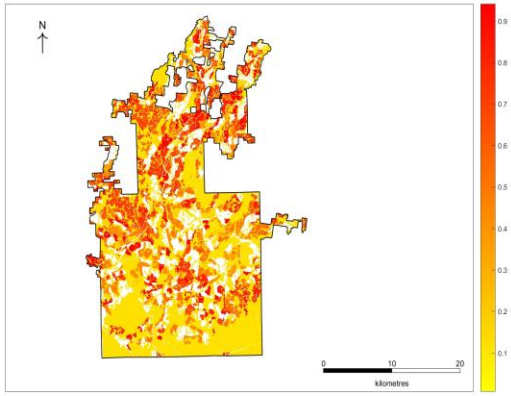


ACCOUNTING FOR ECOSYSTEM SERVICES

IDEEA Group

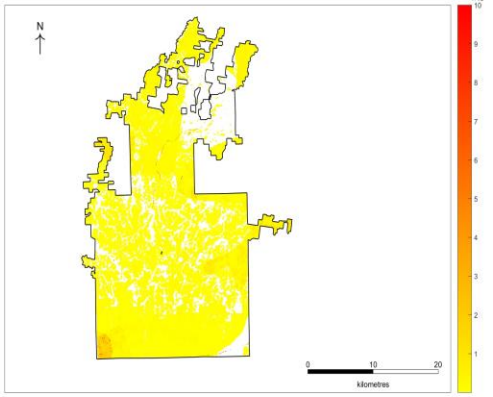
SPATIAL DISTRIBUTION OF ECOSYSTEM SERVICES

Carbon sequestration



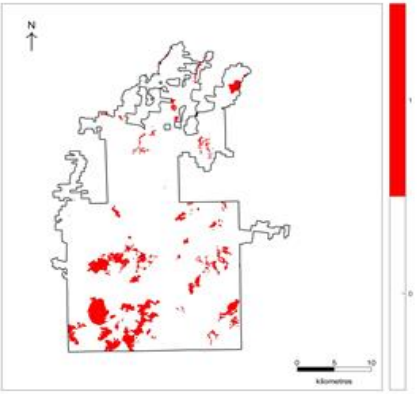
produced using EnSym

Water provisioning



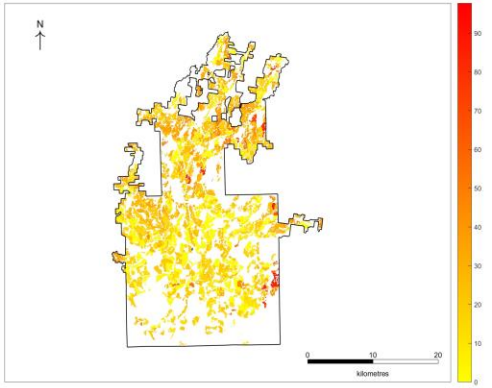
produced using EnSym

Habitat provisioning



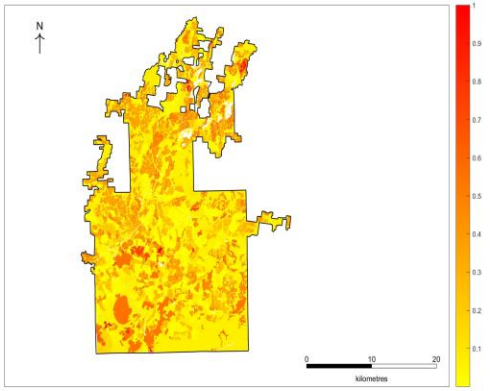
produced using EnSym

Timber provisioning



produced using EnSym

All services (normalised)



produced using EnSym

IDEEA Group

ASSET TYPE LINKED TO SUPPLY OF SERVICES (PHYSICAL)

Class	Area 2017 (ha)	Timber 2017 (tonnes)	Carbon 2017 (tonnes)	Water 2015 (mL)	Habitat 2016 (ha)
Greater Surrey Hills					
1. Natural					
1.1 Formal Reserves					
1.2 Other - Natural Ecosystems					
Total					
2. Plantation					
2.1 Hardwoods					
2.2 Softwoods					
2.3 Not planted					
2.4 Failed Tree Farm					
Total					
3. Non-Forest Use					
3.1 Firebreak					
3.2 Plantation Buffer					
3.3 Water body					
Total					
4. Infrastructure					
4.1 Infrastructure					
4.2 Quarries and gravel pits					
4.3 Roads					
Total					
Greater Surrey Hills Total					

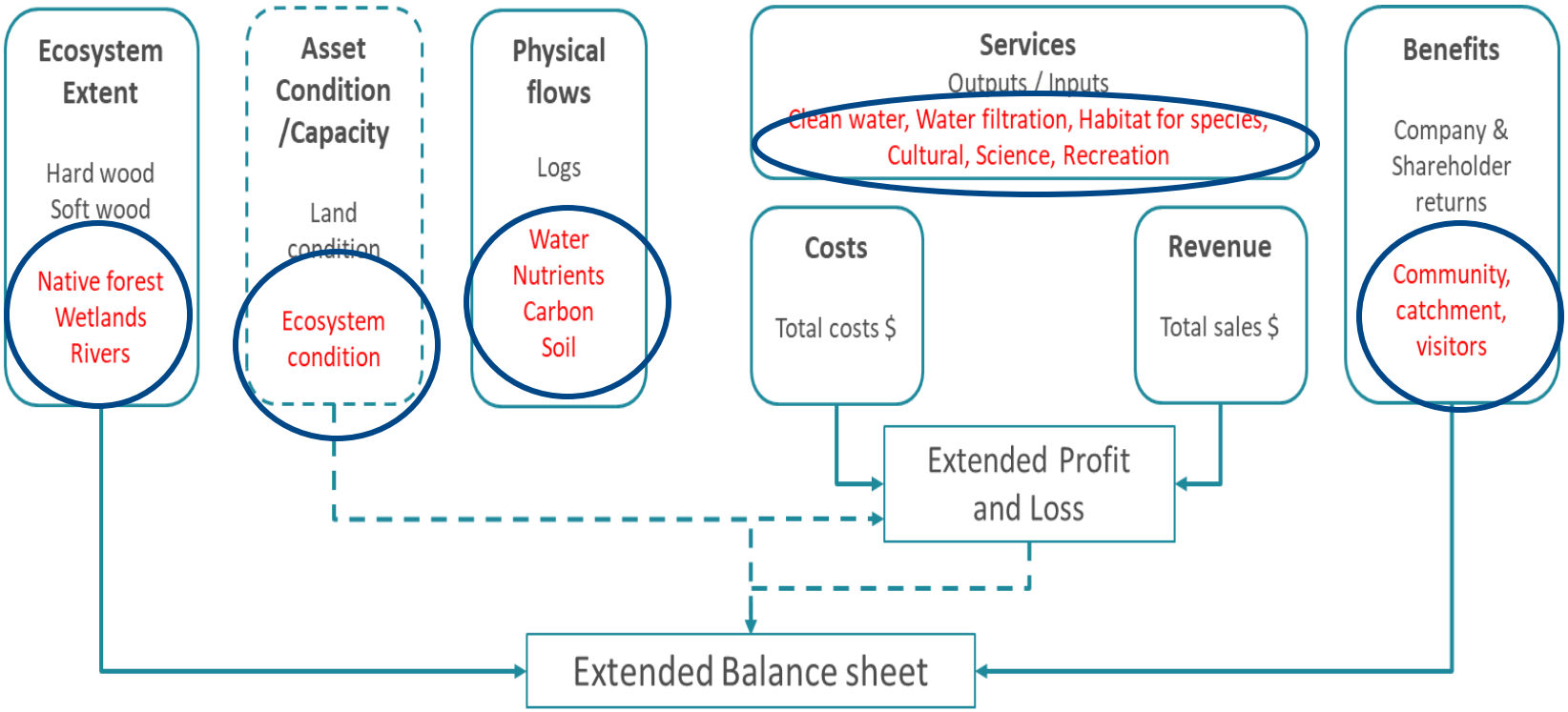
ASSET TYPE LINKED TO SUPPLY OF SERVICES (MONETARY)

Class	Area 2017 (ha)	Timber 2017 $	Carbon 2017 $	Water 2015 $	Habitat 2016 $	Total $
Greater Surrey Hills						
1. Natural						
1.1 Formal Reserves						
1.2 Other - Natural Ecosystems						
Total						
2. Plantation						
2.1 Hardwoods						
2.2 Softwoods						
2.3 Not planted						
2.4 Failed Tree Farm						
Total						
3. Non-Forest Use						
3.1 Firebreak						
3.2 Plantation Buffer						
3.3 Water body						
Total						
4. Infrastructure						
4.1 Infrastructure						
4.2 Quarries and gravel pits						
4.3 Roads						
Total						
Greater Surrey Hills Total						

RECORDING FLOWS OF ECOSYSTEM SERVICES

	SUPPLY/ PRODUCTION			USE	
	Ecosystem assets			Internal	External
	Plantation	Native forests		Forestry business	Government / Household
		Eucalypt	Heathland		
Ecosystem service					
Timber	X			X	
Habitat	X	X	X		X
Carbon seq.	X	X	X		X
Recreation		X	X		X

OPERATIONAL INTEGRATION



WHY USE SEEA EEA AT CORPORATE LEVELS?

KEY APPLICATIONS FOR FORICO:
"MAKING EVERY HECTARE COUNT"

Using parts or all of the integrated ecosystem accounting data set (physical and monetary data) Forico envisages support for:

- Land management/trade-off analysis - optimisation assessment
- Stakeholder engagement – recognising spatial context and multiple values
- Non-financial reporting – e.g. corporate sustainability reports; certification (FSC); State of the Forests reporting
- Identify new revenue opportunities: Environmental markets (carbon, habitat management); Green finance

Other options include scenario and risk analysis (e.g. impacts of climate change); supply chain analysis – ecosystem "footprints"; integrated spatial planning: e.g. with agriculture; social cost-benefit analysis

WHY SEEA EEA AND NOT OTHER CORPORATE NCA APPROACHES

- Producer / operations based perspective
  - Supports targeted operational and investment choices in landscape management (what, where and when)
  - Focus on ecosystems connection rather than business impact
  - Supports detailed understanding of sustainability and resilience (explicit linking of stocks and flows)
- Integrated information system
  - Integrates multiple themes for a single, context-specific narrative
  - Accounting / transaction basis allows full integration of ecological data with financial and accounting systems (transactions, journals and ledgers)
  - Auditable, comparable, time series
  - Potential for data efficiencies and reduced compliance cost (micro – macro linkages)

FINAL THOUGHTS

- Accounting principles of SEEA EEA and SEEA & SNA more generally are relevant recording approaches for integrating environmental/ecological data at corporate level
- Need to move from corporate reporting & sustainability focus to operations and finance – accounting principles are fundamental to this shift
- Focus on natural capital stocks and dependencies rather than societal benefits/impacts is needed to make the connection to "what's in it for me"
- Need engagement with corporate accountants (CFO etc) to talk through details of SEEA EEA approach

"…the experience has proven the value and power of ecosystem accounting as an essential management and governance tool for Forico." (Forico, 2018)

https://www.ideeagroup.com/accounting-for-ecosystem-services-in-the-forest-sector-forico-tasmania/

IDEEA Group

Institute for Development of Environmental-Economic Accounting

Accounting for ecosystem outcomes

www.ideeagroup.com