



Effective strategies to mainstream the value of ecosystem services in the design & implementation of public policies & decision-making in the private and social sectors?

PANEL: HOW TO INTEGRATE THE VALUE OF ECOSYSTEM SERVICES INTO DECISION-MAKING?

**SEMINAR ON THE VALUE OF ECOSYSTEM SERVICES OF MEXICAN PROTECTED AREAS**

October 21-23, World Trade Center, Mexico City

---

Professor Brendan Mackey, PhD  
Director, Griffith Climate Change Response Program  
Griffith University, Australia  
[b.mackey@griffith.edu.au](mailto:b.mackey@griffith.edu.au)

# Accounting & valuation are two related by distinct steps

Not all policy decision making requires monetary valuation, in many cases, physical accounts will suffice

From a national policy perspective, accounting for ecosystem services is important because for a nation to be confident it is getting wealthier, it has to know that both GDP is increasing and natural capital is not being degraded

We live in The Anthropocene – our national accounts lack integrity if they do not account for human impacts on ecosystems

# Get the accounting conceptual framework right

For ecosystem services, “flow-based” accounts such as GHG inventories, are insufficient

We need “stock-based” accounts that recognize fundamental differences in the quality of ecosystem carbon stocks w.r.t. their density, longevity, stability, resilience & adaptive capacity

Need information about how the “condition” of ecosystem stocks are changing due to human activity (i.e. getting more or less degraded)

REF: Ajani J.I. et al. (2013) Comprehensive carbon stock and flow accounting: A national framework to support. climate change mitigation policy. *Ecological Economics* **89**, 61–72

# The conceptual framework must recognize the functional value of biodiversity

“Biodiversity” can be accounted for as an “output” or “asset” (e.g. number of species) but we also need to account for its functional values

The genetic, taxonomic, structural and functional diversity of ecological communities underpins all ecosystem services

The kind of ecosystem, and the quality of ecosystems services, varies with its biodiversity

REF: Thompson I. et al. (2009). *Forest Resilience, Biodiversity, and Climate Change. A synthesis of the biodiversity/ resilience/stability relationship in forest ecosystems*. Secretariat of the Convention on Biological Diversity, Montreal. Technical Series no. 43, 67 pages

# Use the System of Environmental-Economic Accounting 2012 Experimental Ecosystem Accounting\*

- ✓ Recognizes differences between ecosystem stocks, ecosystem assets, ecosystem process flows, ecosystem service flows
- ✓ Defines ecosystem services as *the contributions of ecosystems to benefits used in economic and other human activity*
- ✓ Recognizes the two-way functional relationships between “biodiversity” and “ecosystems”
- ✓ Promotes the policy & decision making benefits of ecosystem service accounting aside from monetary valuation

\*European Commission Organisation for Economic Co-operation and Development, United Nations, World Bank 2013)