What steps have the public and private sectors taken to value, protect and enhance water ecosystem services?

Methodologies and Frameworks (across scales and purposes)

Stanford, US: April 2013

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Learning from experience ... how, what, when, where and why? ... drivers behind the methodologies

• **Processes** –
  *What is an appropriate process to develop an ecosystem services framework?*

• **Information** –
  *What type of information is required to support an ecosystem services framework?*

• **Decision Support Tools** –
  *What type of decision support tools are required to support an ecosystem services framework*

... synergies, interconnectedness, ...
International/National Scale

- Environmental-Economic Accounting (UN SEEA; WAVES);
- Economic valuations (TEEB);
- Intergovernmental Panel on Biodiversity and Ecosystem Services (UN);
- Networks and collaboration (Ecosystem Services Partnership);
- Linking biodiversity science and human well-being (DIVERSITAS);
- Status and trends (poverty alleviation) (MA);
- Policy responses (UK NEA; US EPA);
- Community and consumer education: eco-labeling (Rainforest Alliance)
- Payment schemes for multiple benefits (Forest Trends);
- Business sustainability reporting (WRI; WBCSD);
- Wetland assessment (Ramsar);
- Climate change strategies (IPCC);
- Nature/ biodiversity conservation strategies (CBD);
- ...

http://www.worldrtsday.org/
State/Regional/Local Scale

- Statutory Planning Documents
- NRM Plan – targets
- Integrated Catchment Management
- Restoration initiatives
- Local Govt Planning Schemes and Community Plans
- State of Region/State of Environment
- Climate change mitigation sites
- Nature Conservation Strategies
- Water Resource Strategies
- Business Strategies
- Property Management Planning
Millennium Ecosystem Assessment (UN 2005)

ECOSYSTEM SERVICES

- **Provisioning**
  - Food
  - Fresh water
  - Wood and fiber
  - Fuel
  - ...

- **Regulating**
  - Climate regulation
  - Flood regulation
  - Disease regulation
  - Water purification
  - ...

- **Supporting**
  - Nutrient cycling
  - Soil formation
  - Primary production
  - ...

- **Cultural**
  - Aesthetic
  - Spiritual
  - Educational
  - Recreational
  - ...

LIFE ON EARTH - BIODIVERSITY

CONSTITUENTS OF WELL-BEING

- **Security**
  - Personal safety
  - Secure resource access
  - Security from disasters

- **Basic material for good life**
  - Adequate livelihoods
  - Sufficient nutritious food
  - Shelter
  - Access to goods

- **Health**
  - Strength
  - Feeling well
  - Access to clean air and water

- **Good social relations**
  - Social cohesion
  - Mutual respect
  - Ability to help others

Freedom of choice and action

Opportunity to be able to achieve what an individual values doing and being
Underpinning Drivers of Methodologies

- Researchers
- Organisational missions and mandates
- Culture
- Who was involved (e.g. geodiversity, types of economists,..)
- ES language/definitions/ terminologies
- Existing information – not necessarily the right information (e.g. habitats, ecosystems, environmental classes)
- Flexibility of application – capacity of stakeholders
- Resources available
- Policy led or policy relevant
- Scale – ES are derived, ES received, framework development and application, policy and management, ...
- Purpose – End Users – who will apply the framework? Who are you trying to influence?
- Purpose – valuation ($, scores, ...)??
Towards a Common Classification – across scales and purposes

Inconsistent Terminology … however some convergence.

EP/EF/SF/SS/IS
56 ‘things’ listed – 10 common’

FES/FEGS/ES/ES/G/B
191 ‘things’ listed – 30 common

18 Pest and disease regulation
14 Disturbance regulation
14 Recreation and Tourism
13 Food products
13 Waste treatment (excess nutrients)
12 Climate regulation
12 Pollination
11 Air quality
11 Aesthetics
11 Fuel and Energy
11 Spiritual and Religious values
10 Pharmaceuticals
10 Soil Fertility
10 Soil Retention
9 Water regulation
9 Use of water
9 Water supply
9 Genetic resources
8 Water quality
8 Habitat
7 Cultural Diversity and Heritage
7 Knowledge, research and education
6 Timber and fibre products
6 Habitable climate for humans
6 Gas regulation
6 Inspiration
5 Nutrient Regulation
5 Noise abatement
5 Genetic Diversity
5 Raw materials

10 Food production
10 Nutrient Cycling
8 Gas regulation
8 Soil formation
7 Soil retention
7 Pollination
6 Climate regulation
6 Habitat
5 Water cycling
5 Biological control
Process is as important (if not more) as product!