

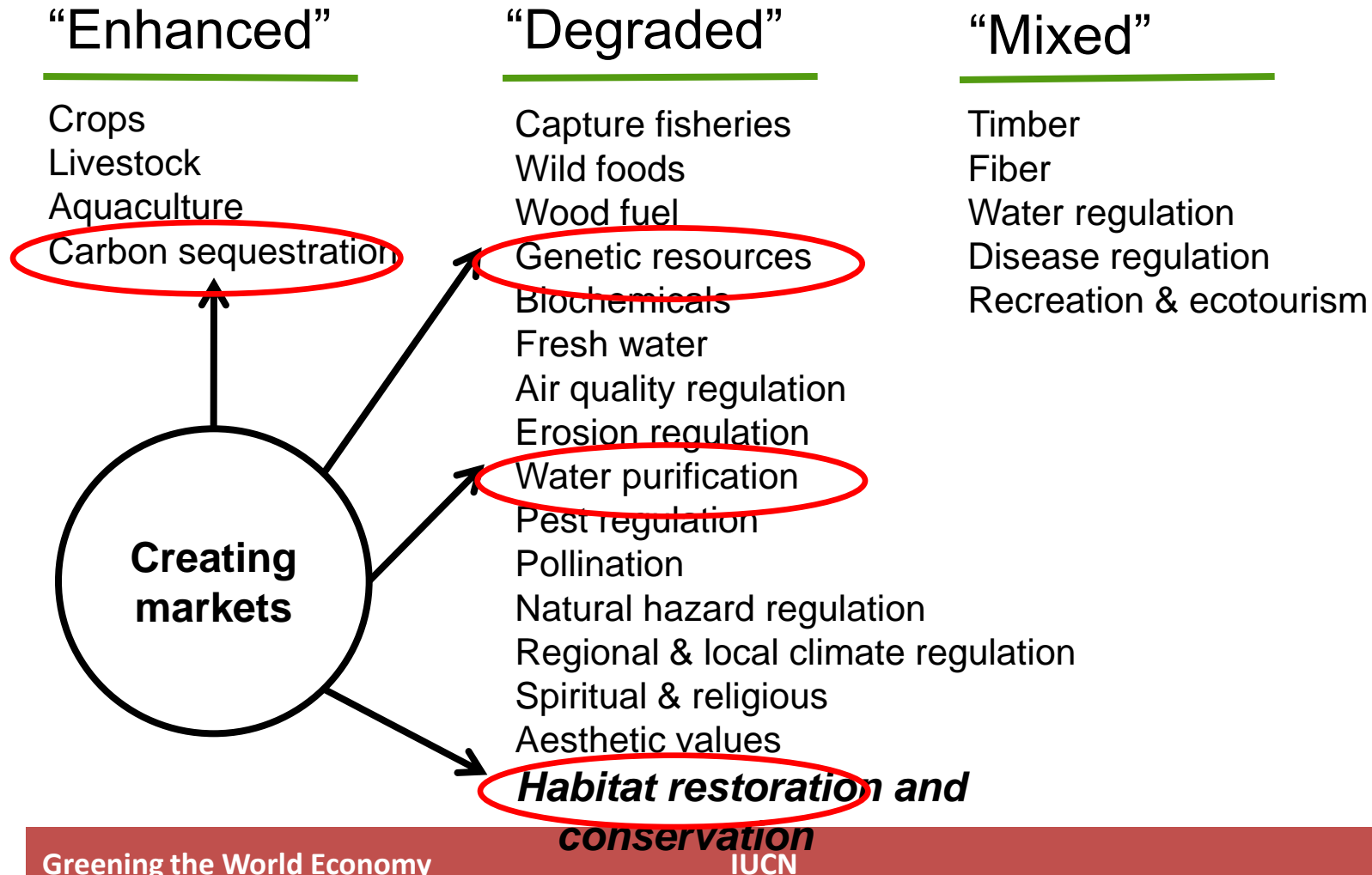
Data to populate national wealth accounts:

Do compensatory policy instruments reflect ecosystem service accounting values? Should they?

PES-style policies

- Beneficiaries (demanders) provide remuneration for ecosystem service stewardship (suppliers).
- Least cost policies most likely result from conditions that most closely reflect efficient markets (e.g., private, well-defined goods, low cost of information/transactions).
- Market value equivalent (opportunity cost) will provide the lower bound on voluntary transactions & create the greatest environmental & least poverty reduction benefit.
- ES targeted by PES-style policies are likely to have public goods dimensions (non-exclusion, non-rival, scale, joint products) that make markets relatively inefficient on the demand side.

From ecosystem decline to ecosystem incentives by creating markets (CBD “direct approaches”)



Creating markets: PES exchanges are sizable

National PES Programmes	Annual Budget in USD
China, Sloping Land Conversion Programme (SLCP)	4 billion (Bennett, 2008)
Costa Rica, Payments for Environmental Services (PES)	12.7 million (FONAFIFO, 2009)
Mexico, Payments for Environmental Hydrological Services (PEHS)	18.2 million (Muñoz Piña <i>et al.</i> , 2008)
UK, Rural Development Programme for England	0.8 billion (Defra, 2009)
US, Conservation Reserve Program (CRP)	1.7 billion (Claassen, 2009)

Regional PES Programmes	Annual Budget in USD
Australia, Tasmanian Forest Conservation Fund (FCF)	14 million (DAFF, 2007)
Australia, Victoria State ecoMarkets	4 million (DSE, 2009)
Bulgaria and Romania, Danube Basin	575 000 (GEF, 2009)
Ecuador, Profafor	150 000 (Wunder and Alban, 2008)
Tanzania, Eastern Arc Mountains	400 000 (EAMCEF, 2007)

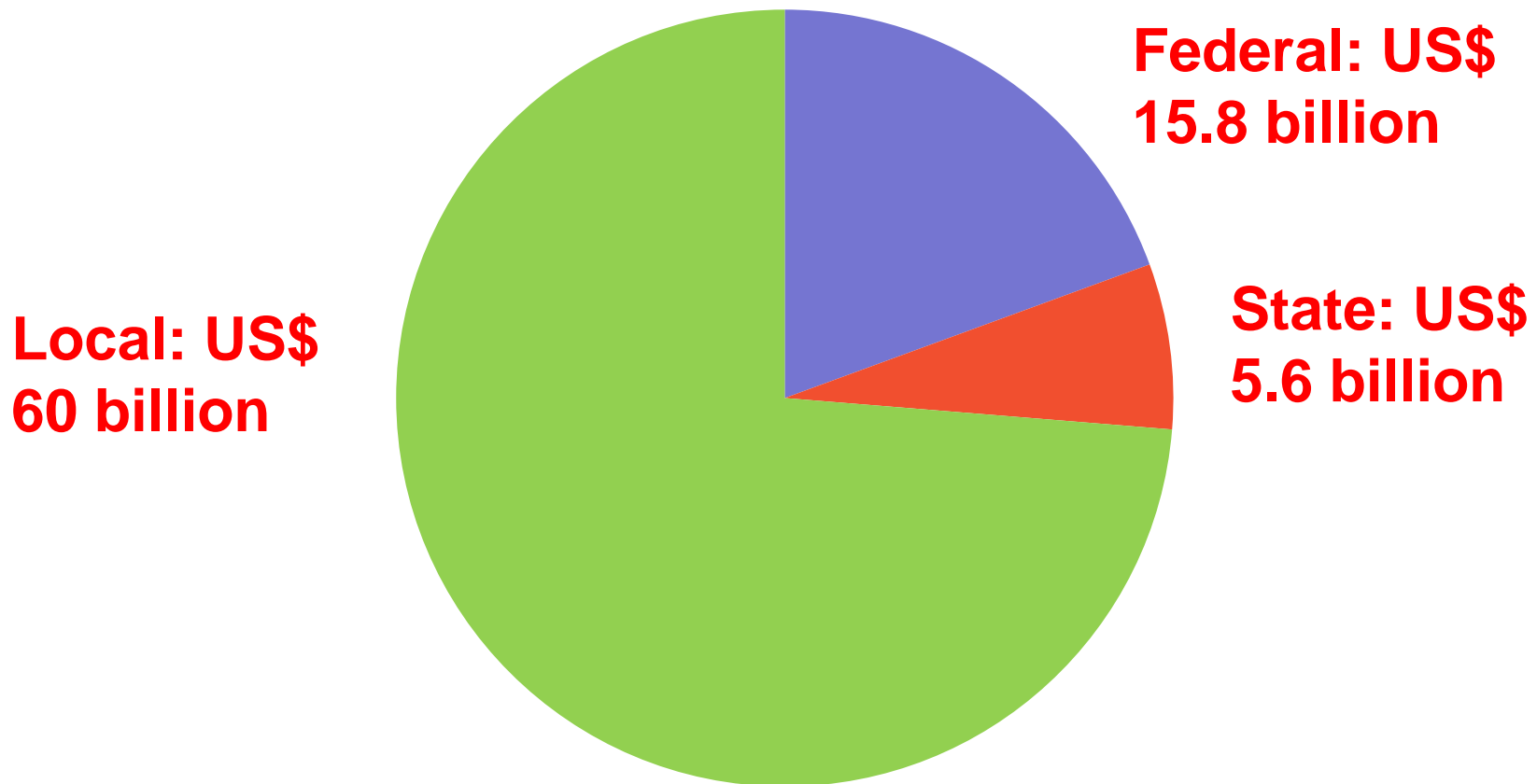
Source:
OECD,
2010.

Scale & joint products: what are the social implications of targeted market creation?



US government spending on biodiversity

1. What was the total in FY2008? **US\$ 81.4 billion**
2. What was the rank (federal, state, local)?





Valuation of ES & local economic development policy

- Connect valuation to economic opportunity to policy
- Efforts must distinguish between economic value of ES and potential local economic opportunity from ES stewardship.
- Are the values derived from such efforts also (imperfectly) commensurable with national wealth accounting values?

Working landscapes in Colorado, USA

- Approach: CVM/CB/TCM + Regional IO
- ES: Composite good 'ranch open space' Recreational, cultural, & regulating services prominent.
- Potential types of value: use and non-use...local public good.
- Payment vehicle: WTP for conservation easement programme
- Policy tool: Agricultural conservation easement
- Objective: Inform broad regional development decisions through valuation of ranch open space to tourists and residents.
- Explore the distributional implications of policies to compensate ecosystem service stewardship.
- Relevant stakeholders: Visitors (demanders), residents (demanders), landowners (suppliers).





Relevant derived values

- **\$1 million/yr: County PACE budget.**
 - Purchase, monitor, management assistance
- **\$3 million/yr: Value of open landscapes to residents**
- **\$35 million/yr: Visitor's value.**
- **Policy tools to connect supply and demand:
Sales tax, Mill levy, Bed tax, Zoning.**



Do policy tools reflect value?: It depends.



- Reasonable reflection of the non-consumptive use (& perhaps non-use) values of current residents and visitors for local private open space .
- Combined with use values we could derive a reasonable total value of land in ranchlands in the locality.
- This value may or may not be relevant at the national scale.
- The value may or may not be fully captured by local policy.
 - The value is not equivalent to the real estate value, which should be lower.
 - Conservation easement purchases in Colorado are typically 20-80% of assessed (development) value.
 - There is a negotiating position between the opportunity cost of providing the public good and the value of its provision. The more unique the resource, the greater the consumers' surplus and more inelastic the demand curve, the more room for negotiation or the greater distance between price and value.

Summary points for discussion



- (Obviously?) when efficient market conditions can be simulated, market-like values can be derived...and the converse.
- ES valuation & subsequent policies done for the purposes of economic development are unlikely to reflect wealth accounting values or market values/opportunity cost.
- ES valuation & subsequent policies implemented using TEV may better reflect wealth accounting values, but are less useful for economic development purposes.
- Explicit incorporation of space preferred over extrapolating averages for all but commodities.
- But...it is directionally correct and better than the default, which is '\$0' value...