



Valuing Water in Policy and Practice

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Forest Trends Water Initiative

Natural Capital Symposium

March 25, 2015

Multiple Values of Water



- Ecologists/hydrologists measure concentrations of pollutants, nutrients, pathogens, flow rates, yield (annual, seasonal), runoff /recharge rates



- Hydroelectric company cares about magnitude and reliability of flows, and absence of sediment



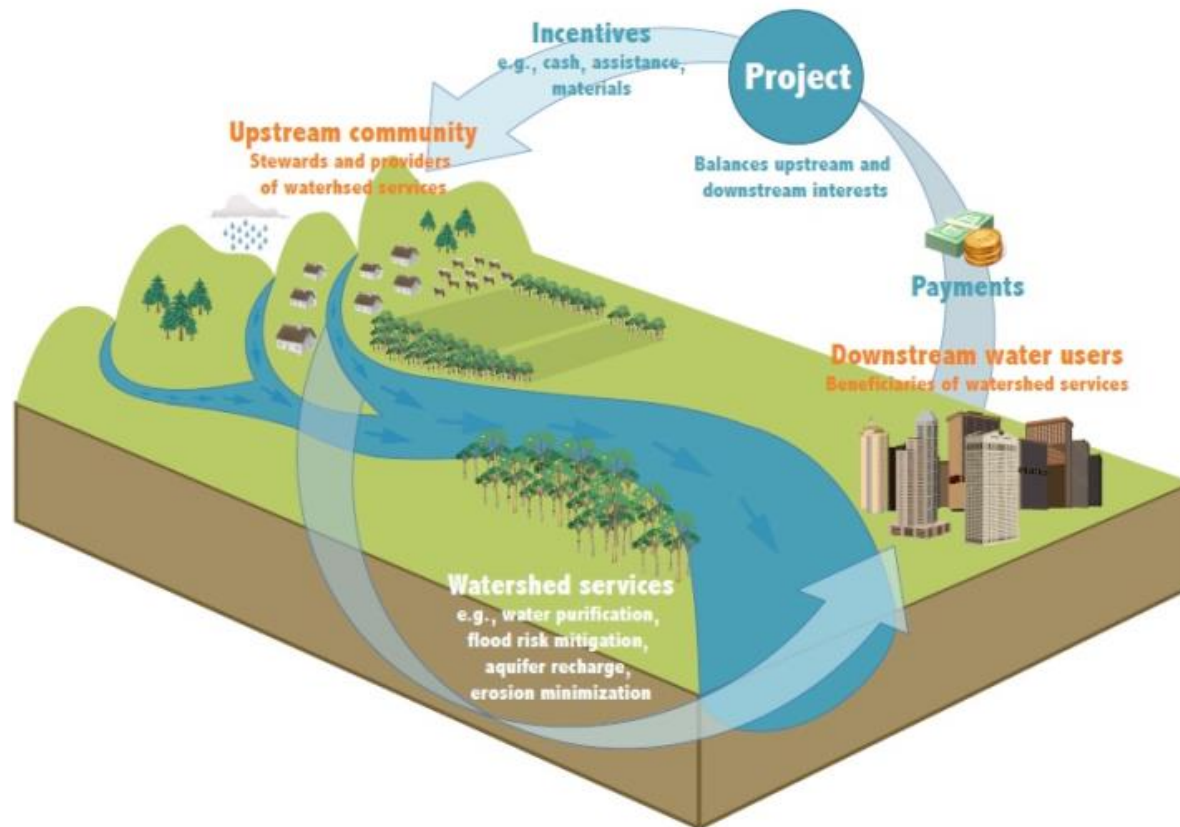
- Consumers care about access, absence of pathogens and toxins, lack of odor, clarity, taste



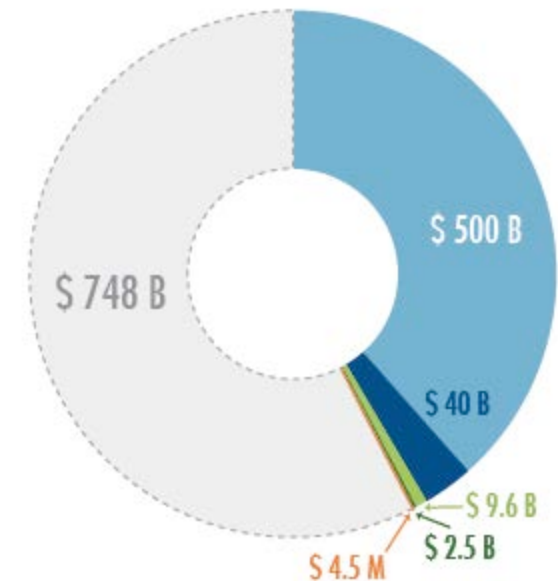
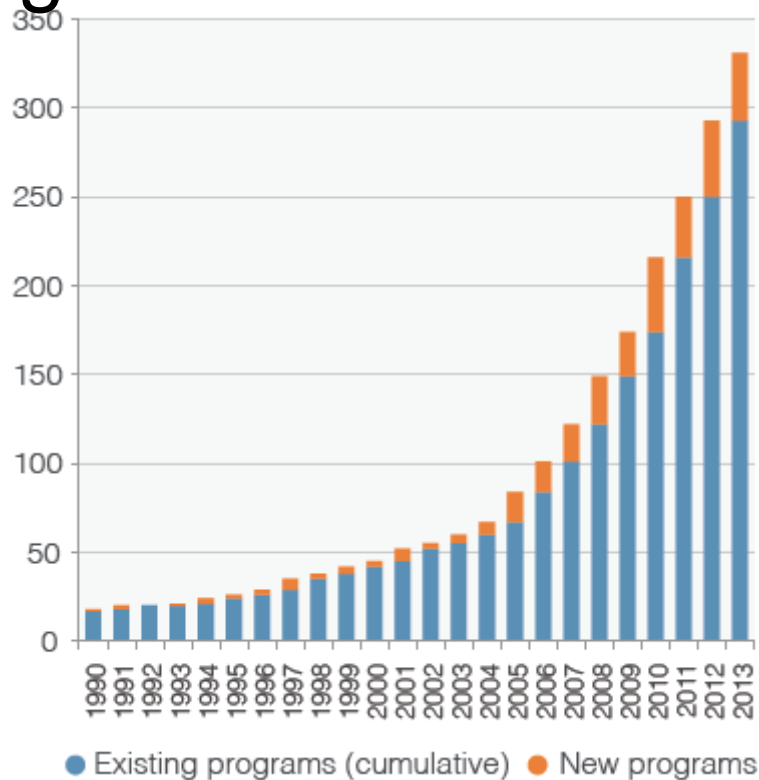
- Farmers care about – predictable supply during growing season, absence of salts, toxins, & excessive sediments, flood damage

Investments in Watershed Services

Natural infrastructure of watersheds: more *cost-effective*, *sustainable alternatives* to traditional water resource management, while also providing *environmental co-benefits*, supporting communities *and livelihoods*.



Natural capital investments for water increasing
 – but traditional infrastructure still
 dominant.....significant funding gap to meet
 global water challenges.....

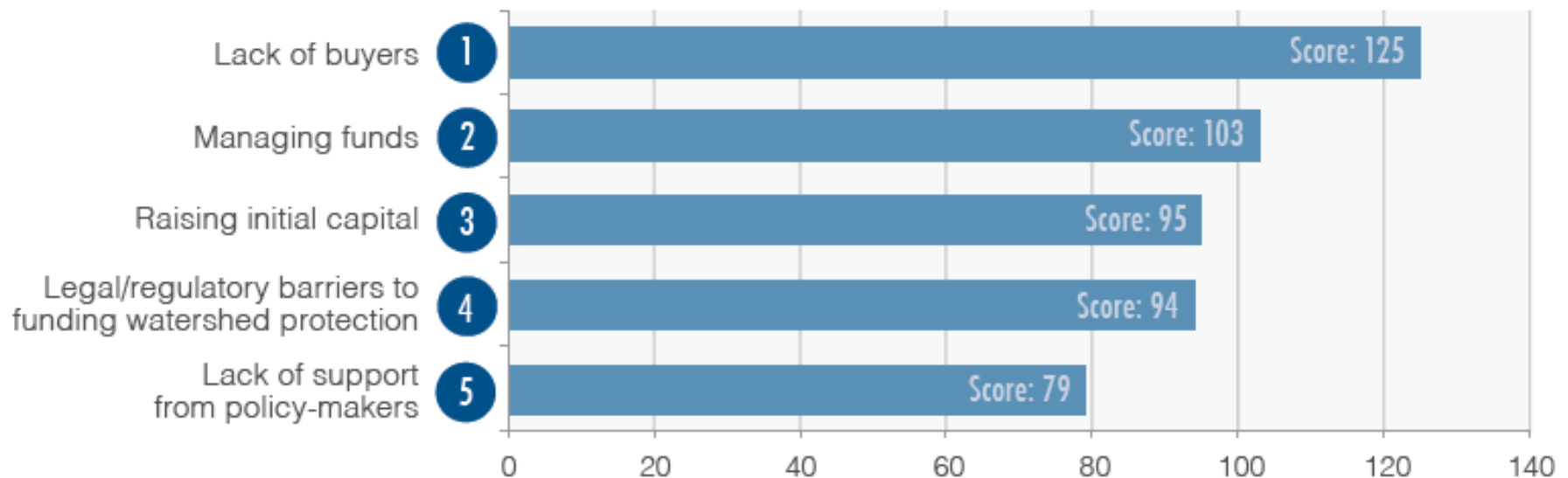


- Public and private investments in infrastructure
- World Bank portfolio on sanitation and flood control
- Watershed investments
- Donor funding for water and sanitation
- Ramsar Convention budget
- Annual finance gap

Source: Forest Trends State of
 Watershed Investments 2014
 (Bennett and Carroll 2014).

Despite interest in natural capital for water – finding sufficient investors or buyers is a challenge

Figure 10: Top Five Challenges Reported by Program Developers



Notes: Scores for program challenges were calculated based on number of programs reporting that challenge, multiplied by the rank (1-5) assigned by the respondent. For this group of survey respondents, theoretically the highest score possible was 415.

Source: Forest Trends' Ecosystem Marketplace. *State of Watershed Investment 2014*.

Investing in Natural Capital for Water – (at least five) Value Propositions

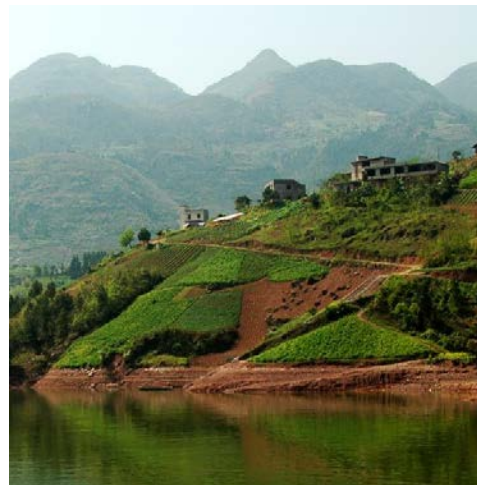
PERU



MEXICO



CHINA



BOLIVIA



GHANA



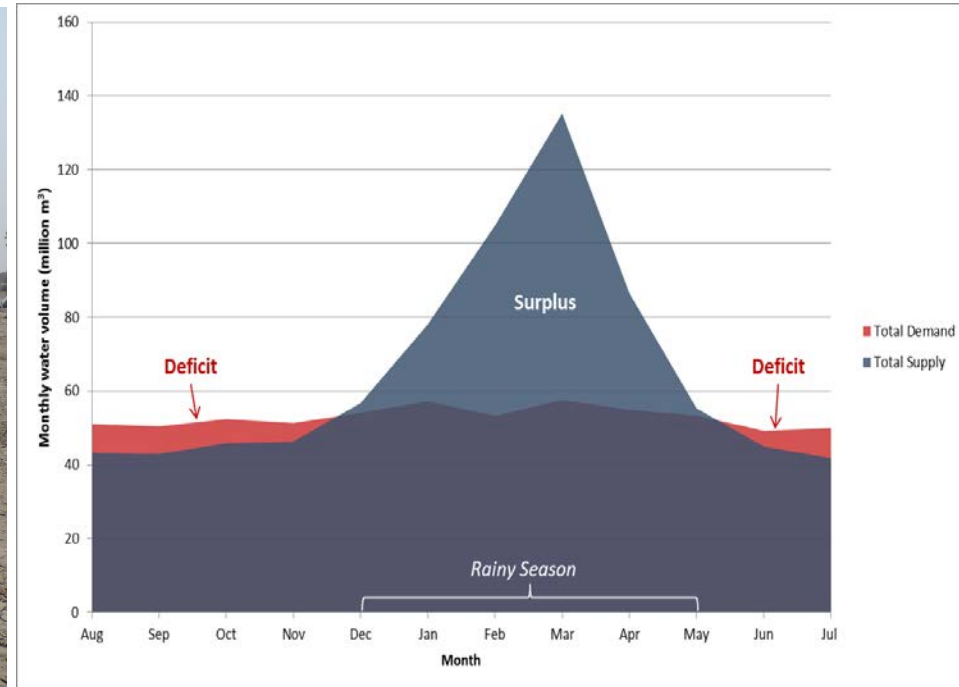
Value & Payments can be Conflated with Privatization, Commodification



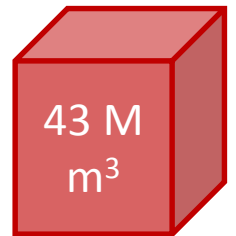
Reciprocal watershed agreements – cooperation & trust between upstream & downstream, community norms for managing water, formalization of land tenure, diversified & resilient livelihoods



Critical Water Scarcity in Lima - World's Second Largest Desert City

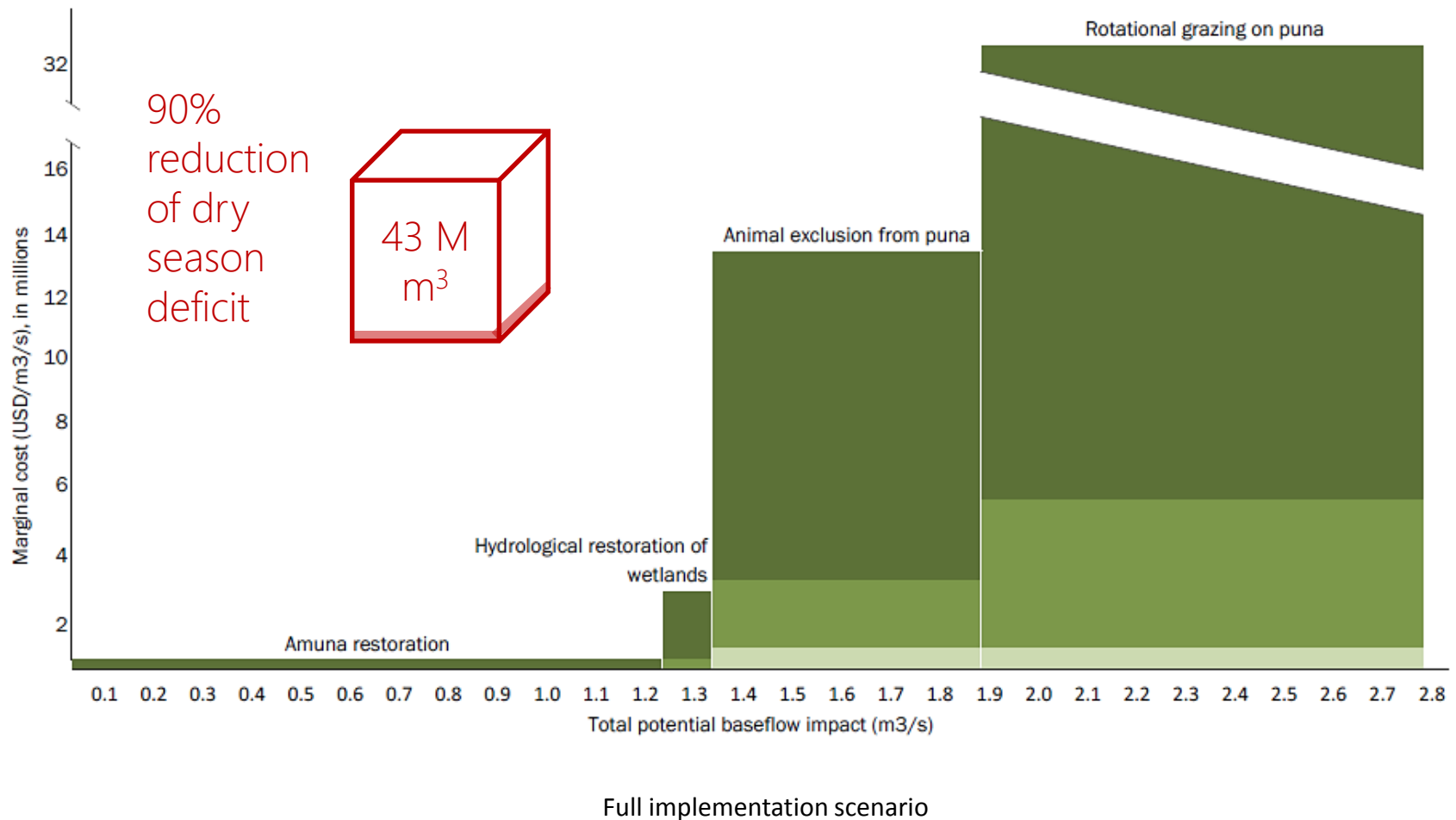


- Why should SEDAPAL invest in natural capital?
- What is the relative value of natural capital vs. 'gray' infrastructure?
- How can this value be communicated to decision-makers?

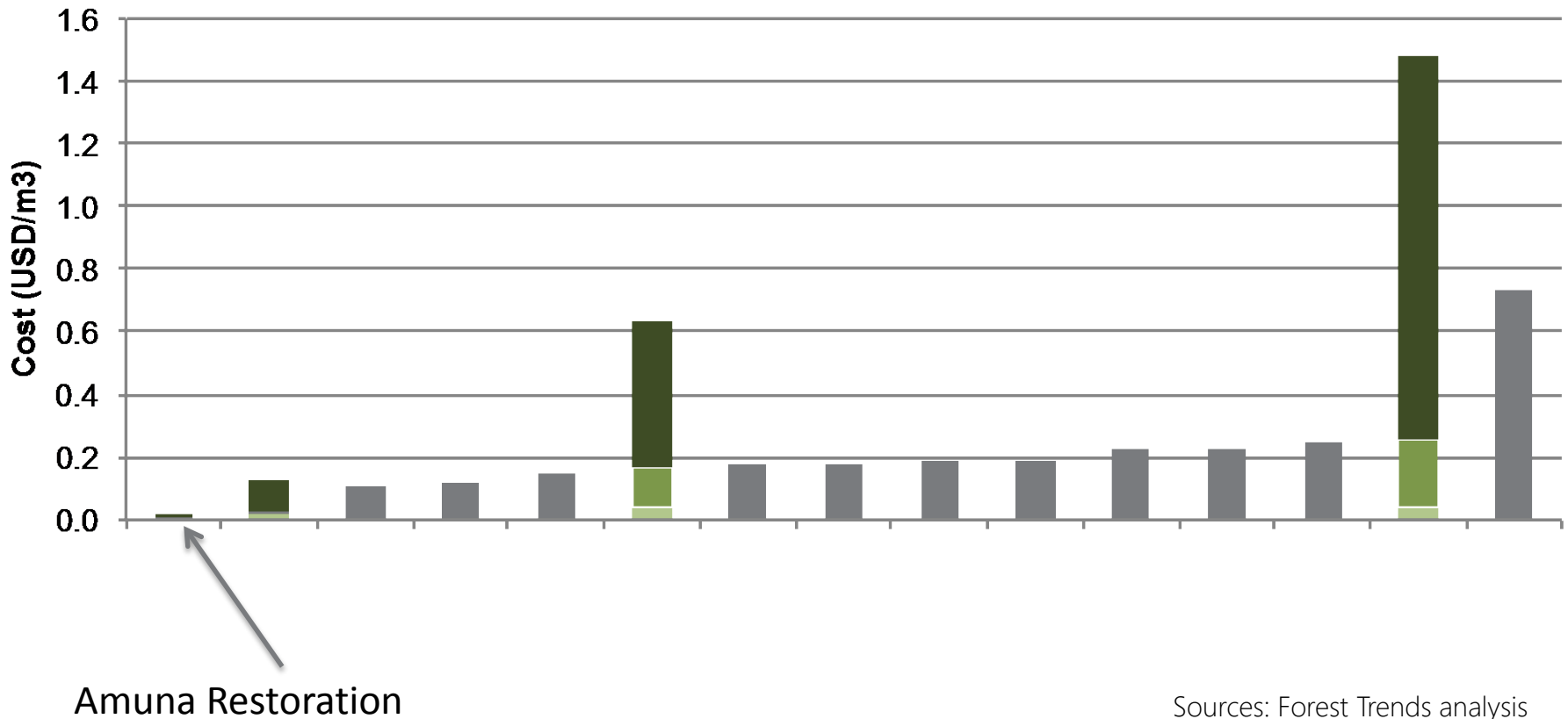


Dry season deficit

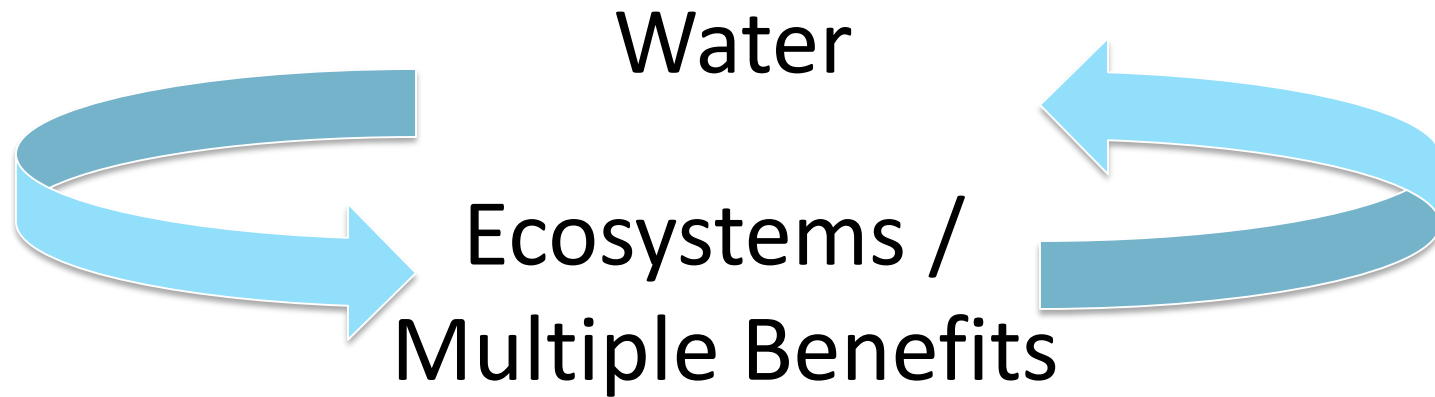
How much can green infrastructure do and at what cost?



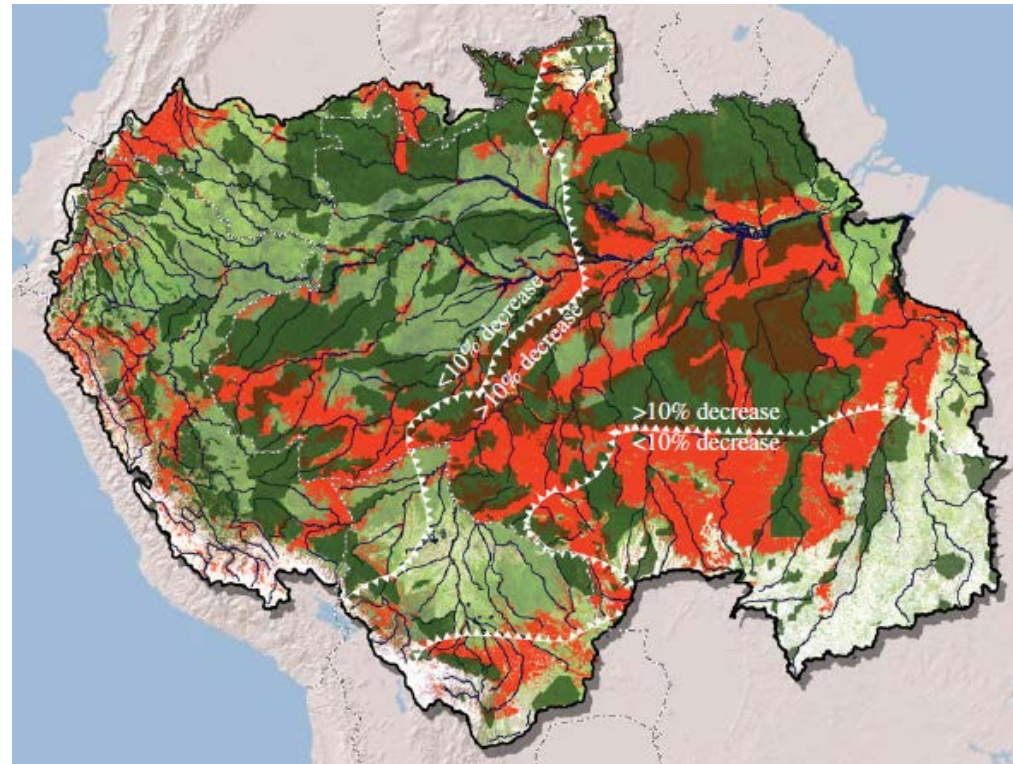
...Which natural capital values can compete with 'gray' infrastructure? Equivalent performance at lower costs.....



Sources: Forest Trends analysis
Gray infrastructure costs: Nippon
Koei (2011).



- Ecosystems rely on water
- Ecosystems maintain the global water system
- Water underpins (most) other ecosystem services
- Loss of key ecosystem (Amazon forest) affects precipitation and multiple services





El Oriente



Los Olivos



Valle Hermoso

**Community
workshops
identifying
benefits, and
service supply
(conceptual
production
functions)**



Playa Azul



Nuevo Cutervo



Bella Palma

Which benefits, who benefits, & how important are the benefits?

Beneficiaries	SUB - CATEGORÍA	FUNCIONES Y SERVICIOS DE LOS ECOSISTEMAS							
		FUNCIÓN DE REGULACIÓN							
		Air Quality	Climate Regulation	Flow Regulation	Flood Mitigation	Soil Health	Nutrient Management	Pollination	Pest Control
Agricultores	Junta Usuarios (Regantes)								
	Arroceros								
	Cafetaleros								
	Cacaoteros								
	Ganaderos								
	Acuicultores								
	Palmicultores								
Comercial Industrial	Comercio de Productos del Bosque								
	Orquidearios								
	Empresas Embotelladoras de Agua								
	Chocolaterías								
	Plantas de Procesamiento de Cacao								
Comunidad	Empresas Constructoras								
	Poblaciones Urbanas								
	Poblaciones Rurales								
	Comunidades Nativas								
	Empresas Prestadoras de Agua								
Transporte	Empresas de Transporte Pluvial								
	Empresas de Transporte Terrestre								
	Operadores Turísticos								
Turismo	Restaurantes Turísticos								

Multiple Benefits: Transition to Climate Smart Coffee, San Martin Peru

ECOSYSTEM SERVICE

Carbon storage & sequestration (climate mitigation) - above ground*

Carbon storage & sequestration (climate mitigation) - below ground*

Soil fertility**

Landslide mitigation*

Pest & disease control**

Biodiversity/Habitat – migration corridors, buffers

Pollination**

Soil stabilization / erosion control*

Regulate micro-climate

Regulation of water flow (infiltration and runoff)*

Filtration / water quality*

NTFPs - Medicinal plants

NTFPs - Ecotourism (orchids)

Recreation/tourism

NTFPs – food plants (fruits, nuts, honey)

Fuelwood



Ranking of ES value by LULC with ha under each LULC before and after transition

Addressing Multiple Benefits

- Attention to the *system* producing benefits – maintaining capacity to produce a suite of benefits
- Transparent assessment of trade-offs across beneficiaries
- Diversity of beneficiaries – traditionally under-represented, marginalized communities
- Multiple values – multiple sources of investment

A photograph of a sunset over the ocean. The sun is a bright white circle with a red halo, positioned in the upper center of the frame. The sky is a gradient of orange and red. The ocean is dark with white-capped waves breaking. Several small, dark figures of people are visible in the water.

Thank you!

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