



# Payments for Ecosystem Services to Achieve Conservation and Development

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**Forest Trends**

**Forest Investment Forum**

**Mexico**

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# Investing in “Natural Infrastructure”

Air quality

Pest & disease control

Watershed protection and regulation

Wilds species & habitat protection

Plant pollination

Carbon sequestration and storage

Soil formation and fertility

Decomposition of wastes

Landscape beauty



## Motivations for Using Market Instruments

- Failure of traditional regulatory approaches
  - Limits of protected areas
- Financial markets reward short-term returns over long-term ones
- Financial value of forest conversion is much higher than for conservation
- Stagnant public and civic funding for forest conservation



## Market Types: a) Self-Organized Private Deals



### ***Private entities pay for private services***

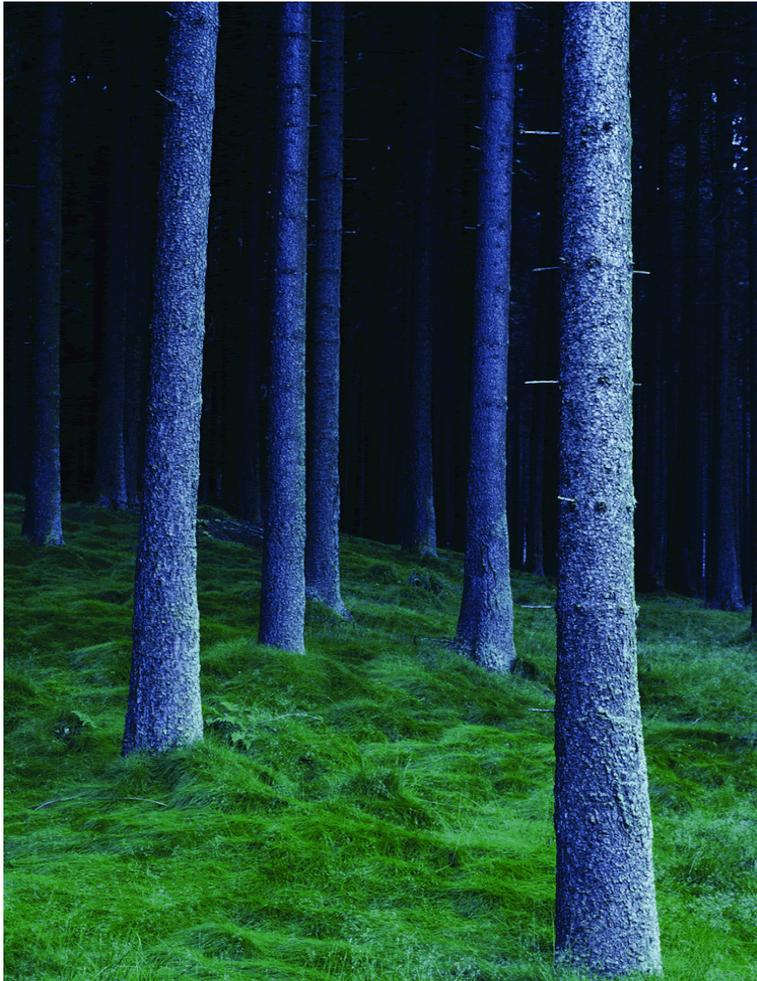
\* Perrier-Vittel pays upstream landowners for improved agricultural practices and reforestation of sensitive infiltration zones (US\$230/ha/yr)

\* TNC, CI, WCS pay farmers for conservation management

Price of service negotiated, based on willingness to buy and sell (valuation studies may be an input for negotiation)



## b) Public Payments to Farmers, Communities

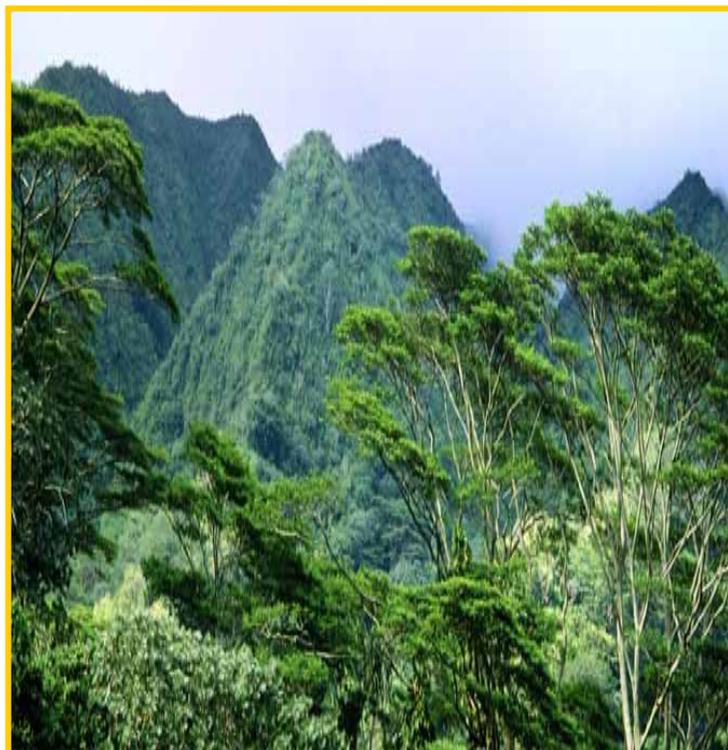


### *Public agency pays for service*

- Public payments for watershed protection in Mexico (\$60 mln in 2004)
- US pay landowners for wildlife conservation (EQUIP, Safe Harbor)
- Price of service either set by program (based on willingness to sell and valuation studies) or through auction



## c) Open Trading of Ecosystem Credits Under a Cap or Floor



***Landowners either comply directly with regulations, or buy compliance credits***

- \* Wetland banking in US allows developers to offset damage
- \* The Kyoto-compliant carbon emission offset market
- \* Freshwater nutrient-trading

\* Price of service is based on supply and demand for the service (with demand determined by regulation)



## d) Eco-labeled Farm, Forest, Natural products

### *Consumers prefer certified sustainable supplies*

- \* “Shade-grown coffee” in Mesoamerica (US\$5 billion for sale in USA alone)
- \* Certified timber
- \* Eco-landscape source labels
- \* Price of service embedded as part of product price—usually by market (FSC), sometimes by negotiation (Starbucks)





## Potential Benefits for Sustainable Development Poverty Reduction

- ❖ New sources of finance for conservation, esp. outside Protected Areas
- ❖ Incentives for rational decision-making about resource use and management
- ❖ Source of income for rural communities with few other market opportunities
- ❖ Rewards rural communities for real benefits they provide to others in the country
- ❖ Financing for transition to sustainable agriculture, forestry and fisheries

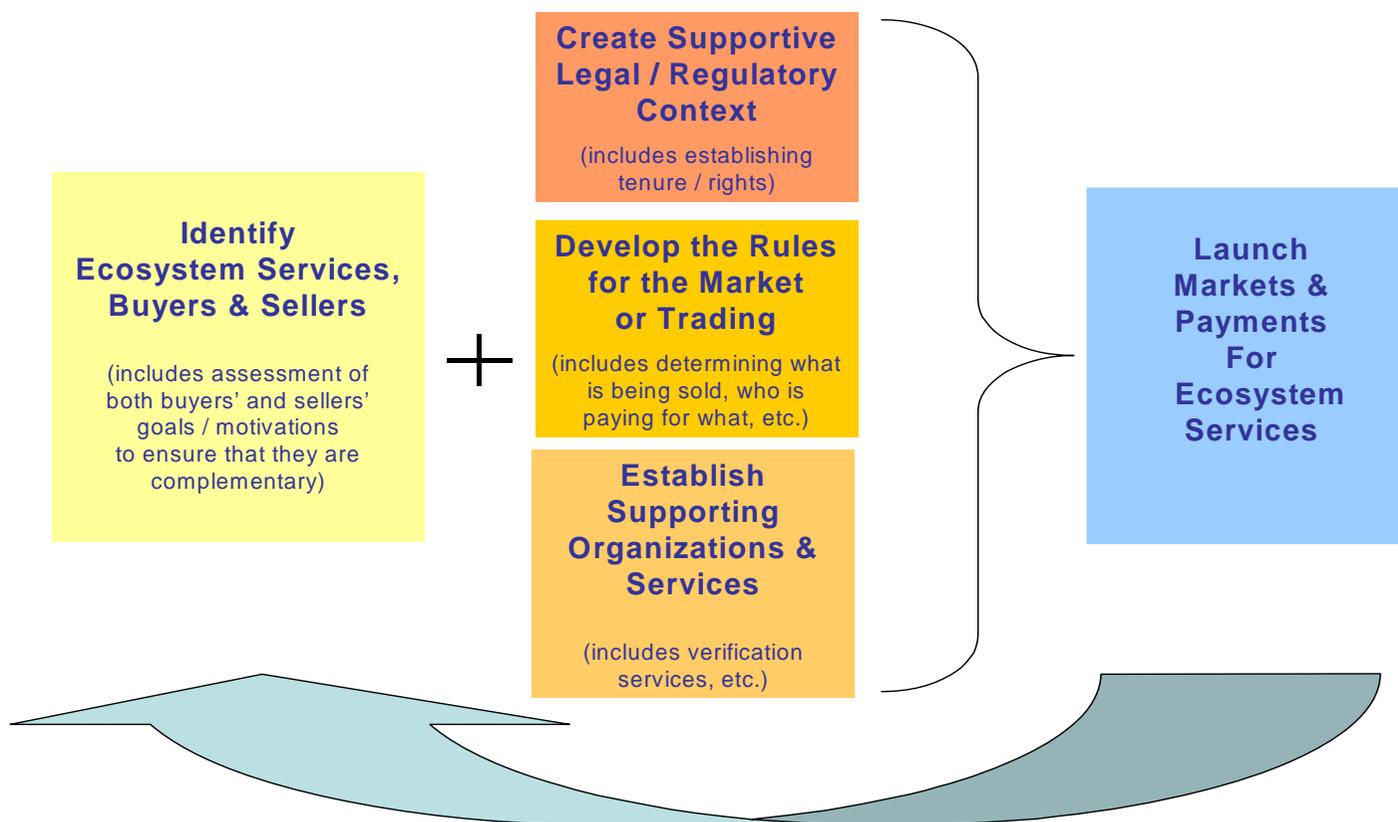


# Who Buys Ecosystem Services? Direct Beneficiaries

- **Watershed protection**
  - Industrial, agricultural water users – to secure stable supply, flow
  - Municipal water utilities, consumers (reduce costs, water quality)
  - Agencies managing environmental risks (e.g., floods)
- **Carbon emission offsets or avoided deforestation**
  - Industries seeking to comply with carbon rules (offsets for emissions)
  - Companies, groups strengthening reputation for env. stewardship
  - Agencies, municipalities seeking to improve air quality
- **Biodiversity conservation**
  - Conservation agencies and organizations working on private lands
  - Tourist industry, for landscape beautify or protection of key species
  - Land developers (offsets for damage, or for amenity values)
  - Farmers (to protect pollinators, sources of wild products)



# Building Blocks for Ecosystem Services Payments and Markets



Adapted from Brand, David. 2002. "Investing in the Environmental Services of Australian Forests," in S. Pagiola, J. Bishop, and N. Landell-Mills (editors). *Selling Forest Environmental Services: Market-Based Mechanisms for Conservation and Development*. London, U.K.: Earthscan Publications.



## Current Obstacles to Developing PES



- ❖ **Lack of technical and market information**
- ❖ **Potential buyers not organized**
- ❖ **High costs of finding, negotiating, monitoring deals**
- ❖ **Lack of experience and capacity**
- ❖ **Inadequate legal and regulatory framework**
- ❖ **Political conflicts over resource rights and responsibilities**
- ❖ **Distrust of markets for public goods**



- ▶ Is currently the most developed market as a result of Kyoto, European Emissions Trading
- ▶ Estimated trading in 2005 for ETS alone was around 362 mt CO<sub>2</sub>, around 400 mt in CDM
- ▶ Translates to total of around \$11.3 billion
- ▶ Is essentially a cap-and-trade market

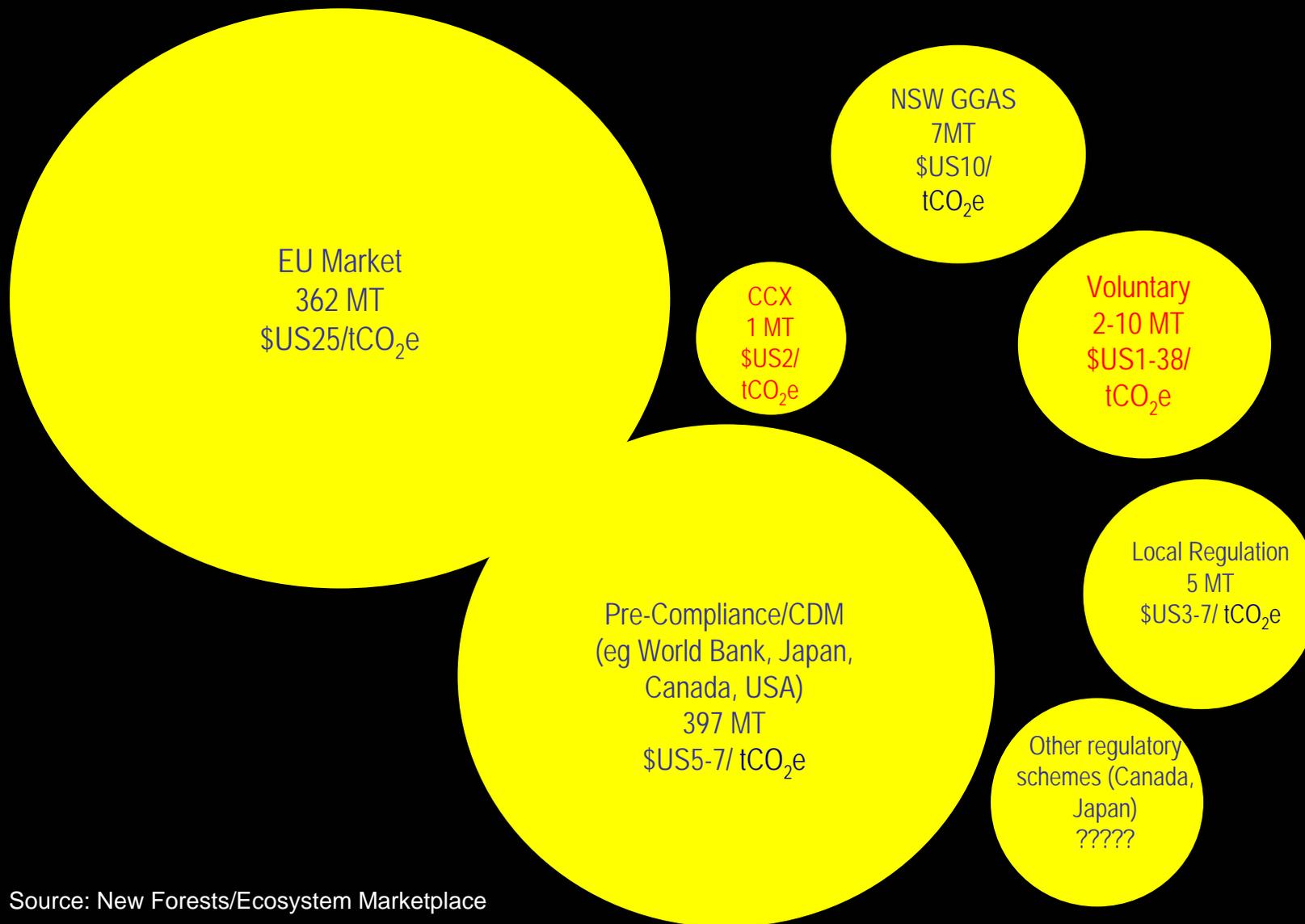
## And the markets are large:

- ▶ Carbon:
  - ▶ Deutsche Bank: CO<sub>2</sub> emissions trading market could be worth as much as \$60 B a year.
  - ▶ Others: worth anywhere from \$150 B to \$250 B from 2008 onward.
  - ▶ In short: CO<sub>2</sub> could become the world's largest commodity market.





FOREST  
TRENDS



Source: New Forests/Ecosystem Marketplace

## State of the Water Markets

- ▶ Much less developed
- ▶ Two possible kinds:
  - ▶ Quality
  - ▶ Quantity
- ▶ Quality likely to come in first
  - ▶ i.e. Nutrient trading





## Nutrient (pollution) Trading

- ▶ Is essentially cap-and-trade applied to watersheds
- ▶ Those who pollute more buy from those who pollute less
- ▶ Dozens of examples in the US
  - ▶ Connecticut, Colorado, others



## Other Water Markets

- ▶ Flood control?
- ▶ Paying for upstream watershed protection
- ▶ Seen this in many places (Mexico, Costa Rica, Ecuador)
- ▶ But in Mexico, Costa Rica is essentially a way to channel gov't money
- ▶ Or one-off deals like Ecuador
- ▶ Problem is science is still tricky
- ▶ Salinity, etc.



- ▶ Wetland Banking
- ▶ Conservation Banking
- ▶ Voluntary Biod. offsets
- ▶ Gov't payments for biodiversity
- ▶ Such as Bush Tender, Eco-Tender in Australia
- ▶ Program in Mexico





## Conservation Banking

- ▶ Like wetlands, but species
- ▶ Dozens in the US
  - ▶ Most in California
  - ▶ Poised for growth in Texas, Florida, etc.
- ▶ Species credits selling for hundreds of thousands of \$
- ▶ Private bankers entering market
- ▶ Market worth about \$45 million
  - ▶ Being exported to Australia, elsewhere





# Responses: The Ecosystem Marketplace

The Katoomba Group's Ecosystem Marketplace - Microsoft Internet Explorer

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Address <http://www.ecosystemmarketplace.com/> Go

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### Current Highlights

NEXT >>

## Maori farmers look to environmental markets in New Zealand

In the midst of New Zealand's urbanizing economy, indigenous Maori landowners are looking to environmental markets and conservation easements to help maintain their livelihood and culture in the rural hill-country of New Zealand's North Island. The **Ecosystem Marketplace** spotlights the challenges and opportunities associated with paying for ecosystem services on communal lands.

> [Go to Article](#)

### MarketWatch

Tracking transactions, pricing trends, and buyers listings across 14 markets where ecosystem services are paid for. Markets are arranged under the categories of biodiversity, carbon, and water.

[Visit MarketWatch](#) | [CNBC Coverage: Street Signs; Squawkbox](#)

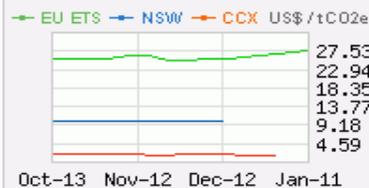
#### INDIVIDUAL MARKETS:

Select One

#### MARKET SECTORS:

Select One

### Carbon Mid-price\* [3 month]



\*CCX - 2005 | EU ETS - 2005 | NSW - Spot

### TODAY'S NEWS

- Warsaw hosts climate conference
  - Forestry in the name of climate change
  - Flowers And Trees Galore, Hot Enough Birds And Bees
  - Citigroup Pledges to Reduce Greenhouse Gas Emissions
  - No-till has proven record
- > [View and Search News](#)

2006 Eco Assets  
March 13-14, 2006, Palo Alto, California

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### MORE HIGHLIGHTS

- Organizations & Programs
- Practical Tools
- Case Studies

### Profile



#### Sandra Postel: A Life Aquatic

Sandra Postel, founder of the Global Water Policy Project, has been selected as a recipient of the Targeted Watershed Grants program. The **Ecosystem Marketplace** spotlights the challenges and opportunities associated with paying for ecosystem services on communal lands.

### Features



#### Markets to help Willamette River keep its cool

The U.S. Environmental Protection Agency recently selected the Willamette Partnership as a grant recipient in its Targeted Watershed Grants program. The **Ecosystem Marketplace** spotlights the challenges and opportunities associated with paying for ecosystem services on communal lands.



# Responses: Making Markets Intelligent

the  
**katoomba**  
group

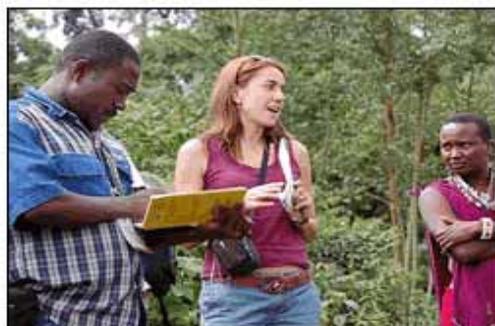


## Promoting Payments for Ecosystem Services to support Sustainability, Conservation, Equity, and Livelihoods throughout Africa

katoomba africa

### Background:

Worldwide, there is growing interest in market-based approaches to conservation. Markets and payments for ecosystem services (PES), such as carbon sequestration, watershed protection, and biodiversity conservation are emerging as a viable tool to protect and restore ecosystems, by rewarding resource stewards and landowners for good land management practices. These instruments can also provide significant incentives to restore degraded lands, shift to sustainable agriculture, and reward smallholders for good land management.



Forest Trends and the Katoomba Group convened a workshop in **Uganda, September 19-22**, to understand current developments and strategic gaps in developing payments for ecosystem services to a significant scale in Eastern and Southern Africa. Participants from the private and public sectors, nongovernmental organizations, and community groups in Tanzania, Kenya, Uganda, Malawi, and South Africa met to take stock of what has already been learned about what can be done effectively under existing conditions in their countries, how to ensure that major equity concerns are addressed, and what directions future policy and investment should take.

To review our major findings from Uganda, please [click here](#).



### Announcements:

Review materials and photographs from the recent Katoomba VIII meeting in Uganda

Major findings and outcomes from the Uganda Meeting

PES Assessment Inventories ready for download for Kenya, South Africa, and Uganda

### Featured Links:

The Katoomba Group

Forest Trends

Ecoagriculture Partners





# The Katoomba Group

Changjin Sun  
RCEEE, China

David Tepper  
Climate Change Capital

David Brand  
New Forests Pty

Phil Cottle  
PartnerRE: Agricultural Services

Ken Chomitz  
The World Bank Group

Randy Hayes  
Rainforest Action Network

Wolfgang Ortloff  
Swiss Re

Dave Malloch Brown  
Global Forest Products,  
South Africa

Ewoud Goudswaard  
ASN Bank, Netherlands

David Kaimowitz  
CIFOR, Indonesia

Josh Bishop  
IUCN, Switzerland

Jeff Liebert  
International Finance  
Corporation

Carlos Muñoz Piña  
SEMARNAT, Mexico

Gretchen Daily  
Stanford University

Antônio Bueno  
Futures and Exchange  
Market, Brazil

Michael Totten  
Conservation International

Mario Monzoni  
Friends of the Earth, Brazil

Jim Brumm  
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Insight Investment

Eugene Linden  
Time Magazine

Luis Gamez  
Ministry of the Environment  
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The Nature Conservancy,  
Columbia

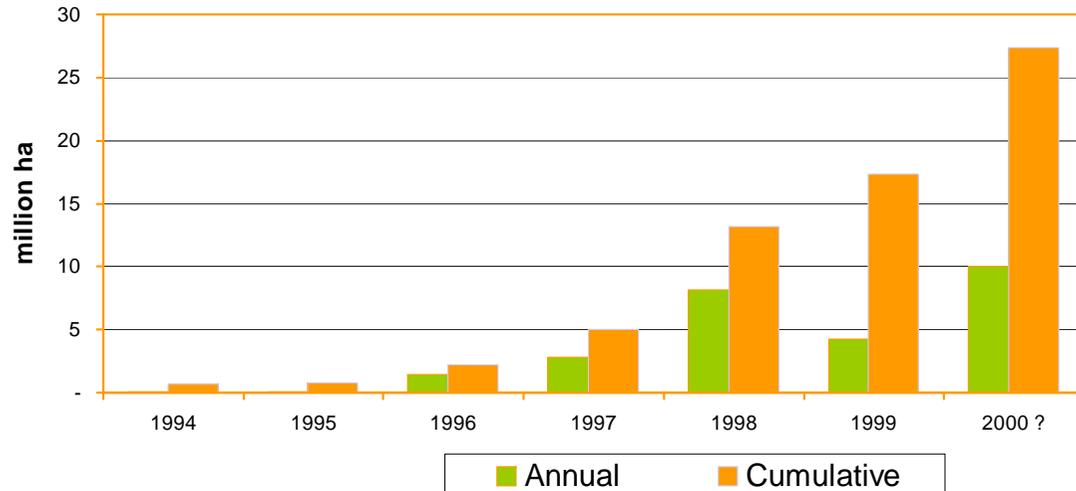
Rina Rosales  
ICRAF, Philippines



# Setting Standards for Biodiversity Offsets

## Forest Stewardship Council

Growth of certified forest area



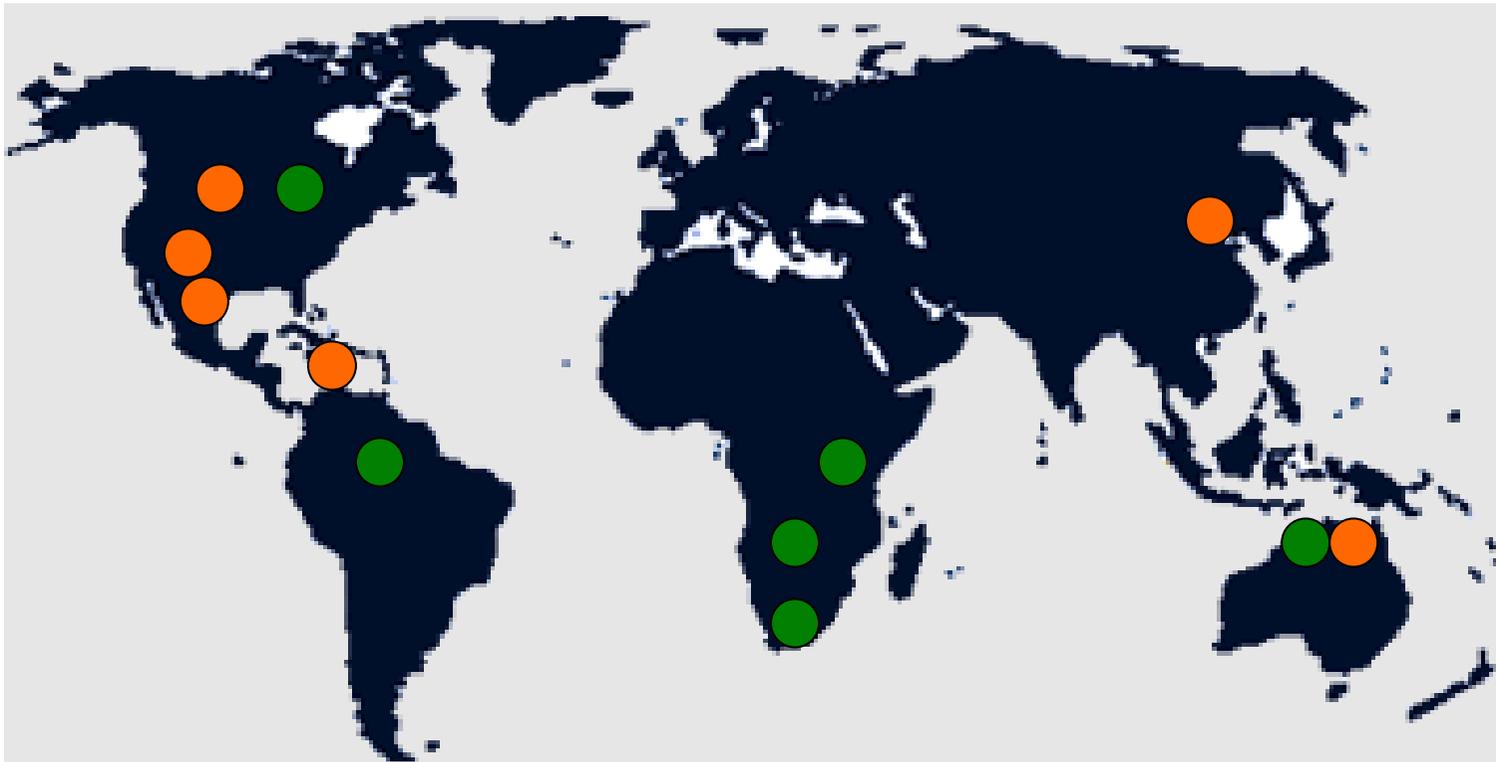
## Business and Biodiversity Offset Project





# The Business Development Facility

- A portfolio of projects aimed to help landowners market the ecosystem services of their land



- **National Policy Support:** Strategic advice to national policy initiatives



**For More Information:**

**Forest Trends**

[www.forest-trends.org](http://www.forest-trends.org)

**Ecosystem Marketplace**

[www.ecosystemmarketplace.com](http://www.ecosystemmarketplace.com)

**Katoomba Group**

[www.katoombagroup.org](http://www.katoombagroup.org)