



Making the Priceless Valuable:

Ecosystem Service Payments and
Forests

*2008 SFI Annual Conference
September 23-25 2008*

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Forest Trends**

Mission: Maintain and restore forest ecosystems by promoting incentives that diversify trade in the forest sector, moving beyond exclusive focus on lumber and fiber to a broader range of products and services.

Activities:

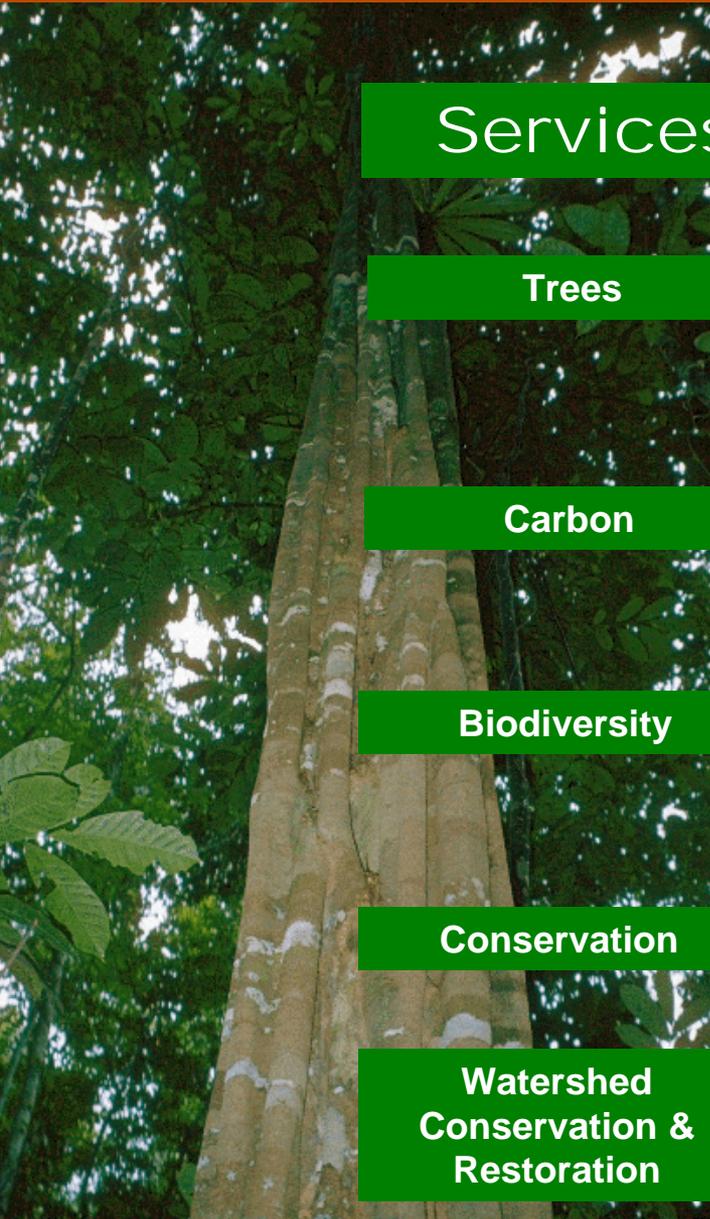
- Accelerating the development of markets for forest ecosystem services
- Expanding markets and investments that encourage improved forest management and more rational consumption of forest products
- Promoting markets that improve livelihoods of forest communities

Forests at a Crossroads

Changing landscape for forests



Markets in Transition - Ecosystems Services



Services

Trees

Carbon

Biodiversity

Conservation

Watershed
Conservation &
Restoration

Revenue

Certified Timber
Botanicals
Wastewood Utilization

Carbon Credits –
Reforestation/Afforestation
Biofuels
Conservation Carbon

Pharmaceuticals/
Natural Medicine
Personal Care/ Cosmetics

Eco-tourism Protection
Biodiversity Credits & Offsets

User Fees
Mitigation
Salinity Credits

Markets in Transition – Demand for Legal Timber

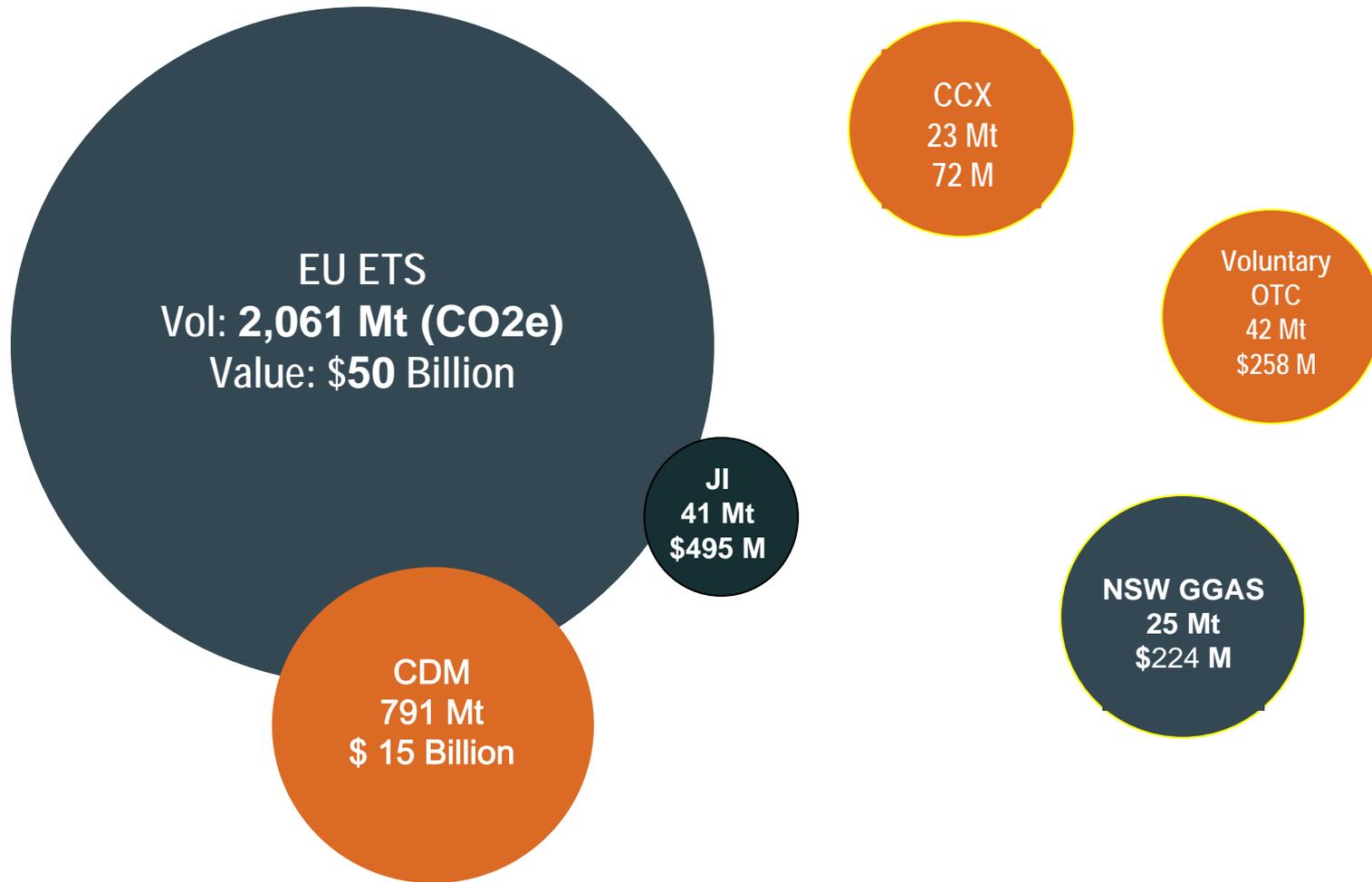
- Why should US producers care about illegal timber?
 - Unfair competition from illegal producers
 - Depressed global prices (7-16% according to AFPA study)
 - Loss of industry credibility, potentially leading to increased market for substitute goods
 - Global environmental stewardship; NGO & media pressure
 - Stable supply of wood
- Due to superior forest governance in the US, US producers have an advantage over other producing countries (e.g. Russia). *But it must be independently verified.*



Markets in Transition – Demand for Legal Timber

- ***European markets:*** Several countries, including six EU countries, have adopted public procurement policies that require government departments to purchase legal / sustainable timber.
 - Affecting all companies that do business with public agencies, in turn steering their procurement policies as well.
 - Credible demonstration of legality will be a minimum requirement.
 - Certification schemes are one way of proving your products legality
- ***Revisions to US Lacey Act:*** revisions to the US Lacey Act will make it a federal offence to import and trade in illegally-sourced timber products.
 - importers will want to ensure that their timber complies with the laws of the country of origin.
 - Products credibly certified will likely to be given significant weight by United States enforcement when prioritizing which sectors of the trade to give more or less scrutiny, as well as in any given investigation into legality / criminal liability related to any import.

CARBON: Carbon Markets



CARBON: Growth of Carbon Markets

Carbon Market Transaction Volumes and Values, 2006 and 2007

Markets	VOL. (MtCO₂e)		VALUE (US\$mill)	
	2006	2007	2006	2007
Voluntary OTC Market	14.3	42.1	58.5	258.4
Chicago Climate Exchange (CCX)	10.3	22.9	38.3	72.4
Total Voluntary Markets	24.6	65.0	96.7	330.8
EU-ETS	1,1044	2,061	24,436	50,097
Primary CDM	537	551	6,887	6,887
Secondary CDM	25	240	8,384	8,384
Joint Implementation	16	41	141	495
New South Wales	20	25	225	224
Total Regulated Markets	1,702	2,918	40,072	66,087
TOTAL GLOBAL MARKET	1,727	2,983	40,169	66,417

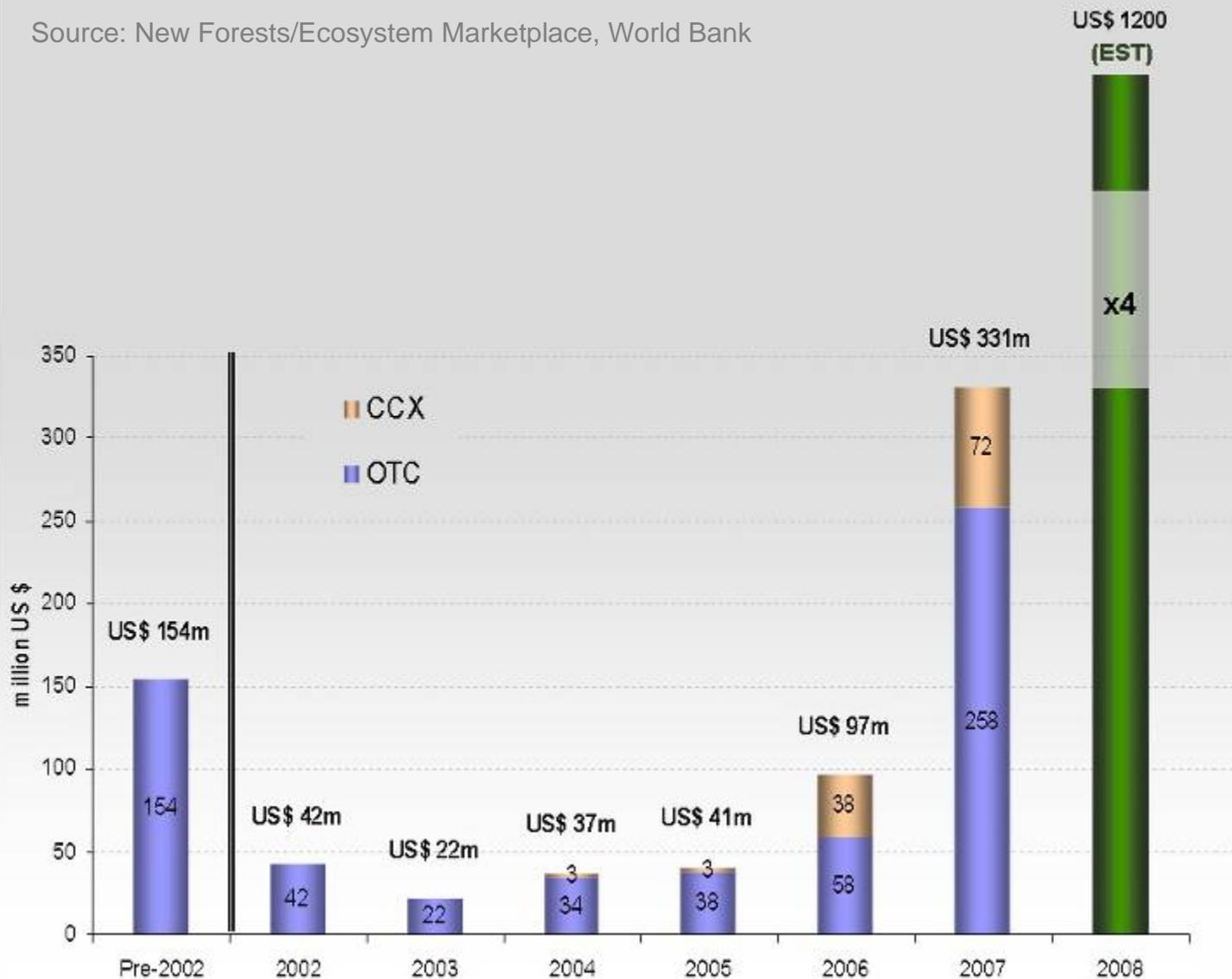
Sources: *Ecosystems Marketplace, New Carbon Finance, World Bank*
 OTC = Over the Counter

CARBON: Forest Carbon in the Voluntary Market

- Forest carbon is < 1% of total market since effectively excluded from regulatory markets (high transaction costs in CDM)
- Forest carbon composed ~20% volume of Voluntary Market
- Voluntary carbon prices are increasing – for OTC trades from \$1.80/tCO₂e in 2006 to \$3 in 2007. Forest carbon prices are above average: \$7-8 for afforestation and \$4.8 for AD projects
- Voluntary market allows innovation, e.g., development of methodologies and standards for REDD; ‘gourmet carbon’ combines carbon and equity objectives
- Key role of standards to ensure quality and reassure buyers, e.g., combination of CCB and VCS standards

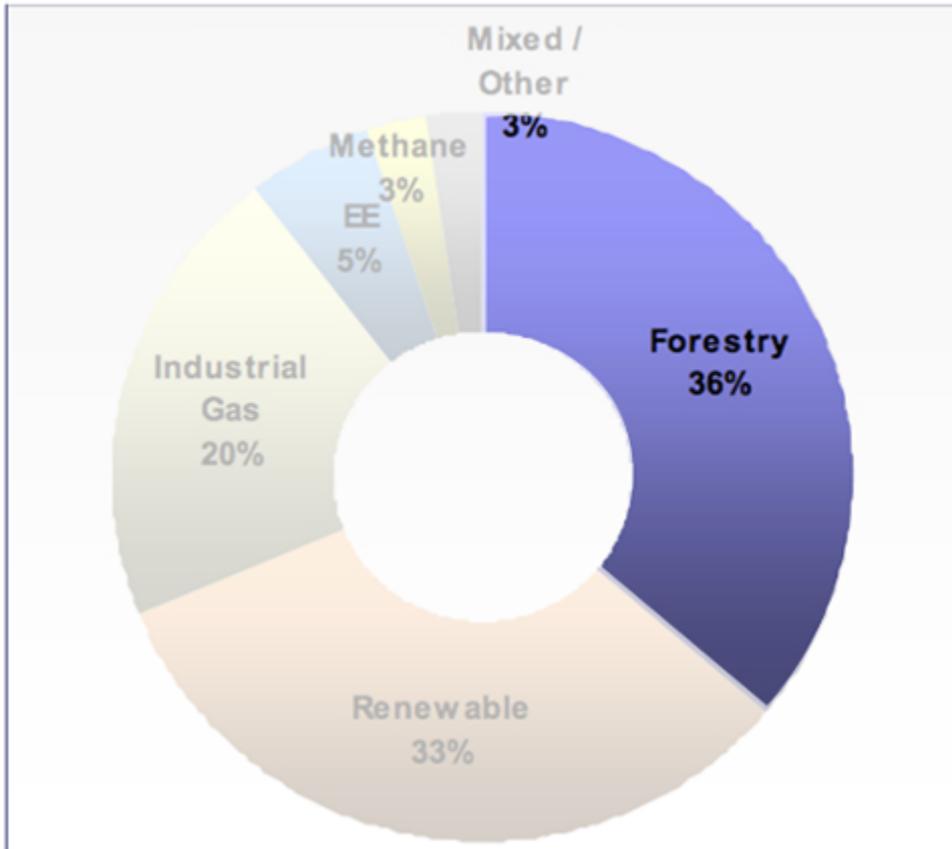
CARBON: Growth of V-Carbon – *Faster than Regulated*

Source: New Forests/Ecosystem Marketplace, World Bank



CARBON: Forest and Carbon

Transactions by project type



Afforestation, Reforestation and Revegetation (ARR)

Agricultural Land Management (ALM)

- Improved cropland management
- Improved grassland management
- Cropland to grassland conversions

Improved Forest Management (IFM)

- Conventional to Reduced Impact Logging
- Convert logged to protected forest
- Extend rotation age
- Conversion of low-productive forests to productive forests

Reducing Emissions from Deforestation (RED)

CARBON: Forest and Carbon Markets in the US

The US may be behind, but there is movement

- CCX
- RGGI
- California
- Oregon, Washington
- Now the Southwest
- Lots on voluntary markets
 - TerraPass, DriveNeutral, etc
 - Wal-Mart, PG&E, etc.

Once the US comes in, could see explosive growth

One day (soon) there will be a national market



WATER: Forests & Water - Payments for Watershed Services

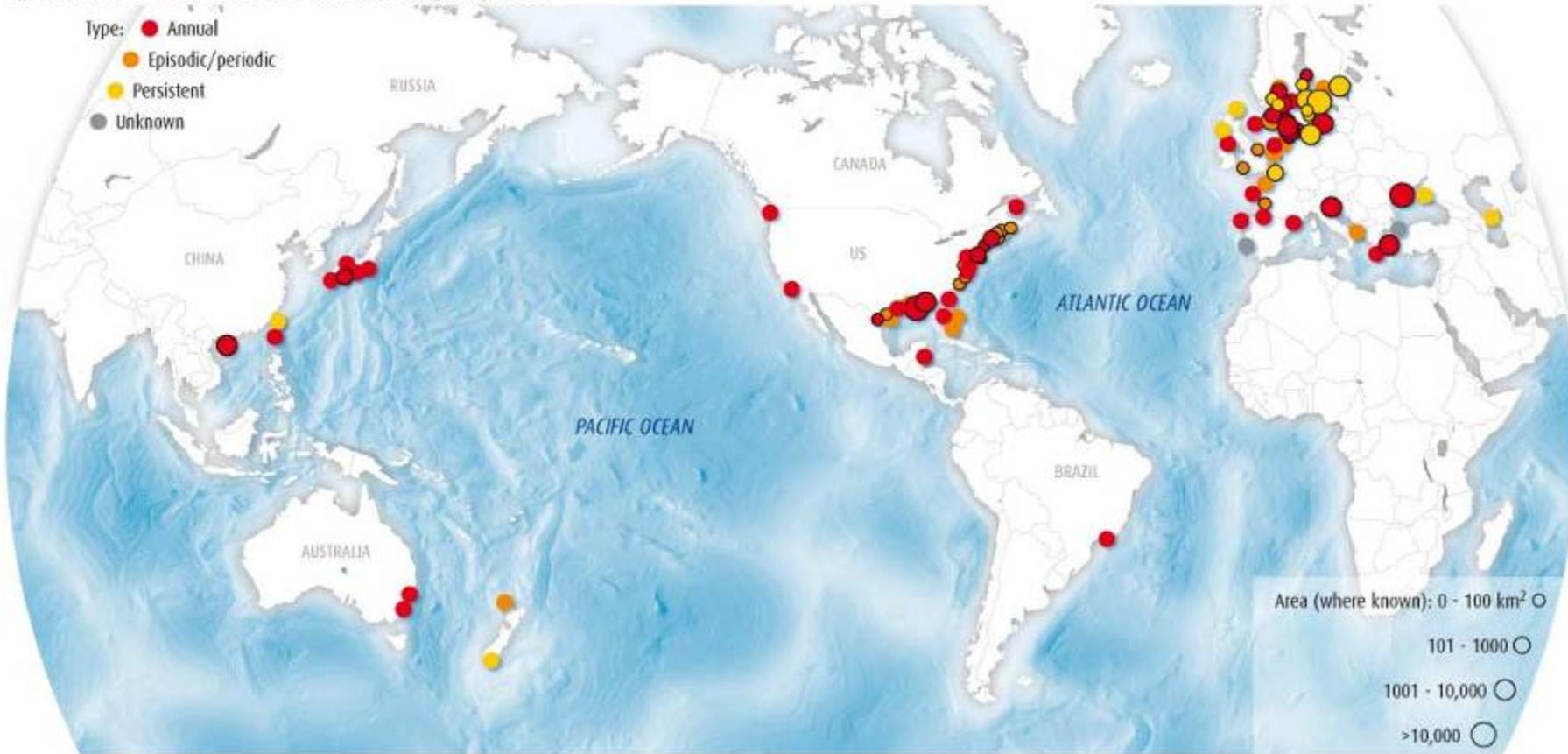
- Demand for clean water is increasing rapidly: water use has increased at twice the population rate. 40% of cities depend on forest areas for water.
- Investment in watershed management is cheaper than treatment or obtaining new water supplies. In the US, each \$1 in watershed protection saved \$7-200 in filtration/water treatment.
- Payments of upstream watershed protection is already taking place in New York City as well as several countries (*e.g., Mexico, Costa Rica, Ecuador*)



WATER: The “Dead Zone” Problem

200 AND COUNTING

The number of dead zones around the world is doubling every decade



WATER: Payments for Watershed Services - Types

Nutrient Trading:

Is essentially cap-and-trade applied to watersheds - Those who pollute more buy from those who pollute less.

*Ex. Chesapeake, Gulf of Mexico,
Yellow River (China)*

Upstream Watershed Protection:

Ex. Mexico, Costa Rica, Ecuador

Other:

- Flood Control
- Salinity Control



WATER: The Benefit of Forests on Water Quality

- Provide food, habitat, and temperature control for stream communities
- Stabilize streambanks and control sediment flux by holding the soil in place
- Filter pollutants by removing suspended solids from surface runoff
- Function as a sink by taking up and sequestering nutrients in plant tissue



WATER: The Chesapeake Fund



- **Goal:** attract new capital and maximize return of restoration investments
- Collaborative project: Forest Trends, Chesapeake Bay Foundation, and World Resources Institute
- Regional pilot with the potential to scale and model in other watersheds
- Focus on “offsetting” nitrogen emissions by investing in water quality protection and restoration projects
- Forest restoration and protection: potential for high-value return



BIODIVERSITY: Biodiversity Markets

- Not easily commoditized
 - Is an “anti-commodity”
- Wetland Banking
- Conservation Banking
- Voluntary Biod. offsets
- Gov’t payments for biodiversity
 - Such as Bush Tender, Eco-Tender in Australia
 - Program in Mexico

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 **Endangered Salamander Habitat Protected (CA)**
SANTA CRUZ, CA, 6/9/04 - The Trust for Public Land (TPL) and the California Wildlife Conservation Board announced the purchase and permanent protection of the largest undeveloped area of chaparral and coastal woodlands on the west side of Highway 1 between Aptos and Watsonville. The 283-acre Buena Vista property is the newest addition to the Californian Department of Fish and Game's Santa Cruz Long-Toed Salamander State Ecological Reserve. The property, valued at \$6.7 million... [Learn More](#)

Market Snapshot

Number of Banks	77 Banks
States with Banks	10 States, 1 Commonwealth
Species Available	44 Species
Land Area Protected or Restored	44,621 hectares (110,280 acres)

[View Source Data/Assumptions](#)

U.S. Species Banks



[Full-Sized Map >>](#)

Find Banks

Select an option:

Select a Species

Select a State

[View Complete List of Banks](#)

Search Transactions

Select one or more options:

Select a Bank

Select a Species

Select a State

View Species Profiles

Select one or more options:

Select a State

[View Complete List of Species](#)

View State Profiles

Get detailed banking data:

Select a Bank

Select a Bank

LATEST NEWS

- At Vero Eos et Accusamuset Iusto Dignissimas
- Ducimus qui Blanditis Praesentium Voluptatum
- Deleniti Atque CorruptioUs Dolores et Quas
- Molestias Excepturi Sint Occaecati Cupiditate No

[More News >>](#)

KEY RESOURCES

- US Conservation Banking Market Summary
- Lorem Ipsum Dolor Sit
- Adipiscing Elit Sed Do
- Eiusmod Tempor ut Labore et Dolor Magna Aliqua
- Ut Enim ad Minim Veniam
- Nulla Pariatur Excepteur

FREE EMAIL NEWSLETTER

Don't miss a beat. Subscribe to Migration Kick, the Ecosystem Marketplace's newsletter on mitigation/conservation banking.

INVESTORS' CIRCLE

 Patient Capital for a Sustainable Future

 International Tropical Forest Investment Forum
April 26-27, 2006

Environmental Mitigation:

Largest Biodiversity Offset Market in the U.S.

- \$3.3 billion a year spent on mitigation in the U.S.
 - \$2 billion in mitigation parcel purchases
 - \$1.3 billion sold from the roughly 120 species banks and 600 wetland banks in the US
- Credits sell from \$4,000 to \$450,000 an acre
- Banks are usually 30 to 400 acres (some as big as 1500)
- Can be profitable, a known bank started selling credits for \$1,500 and 10 years later they were selling for \$125,000 - due to demand and ambient land value
- The industry is ~20 years old and is growing steadily

BIODIVERSITY: Forests & Biodiversity Markets – Forest Landholders

- Forest landowners have the advantage of already owning the land. This is the big expense in selling mitigation credits.
- Forestry Opportunity: generate income from existing conservation parcels generate mitigation for internal permitting
- Sectors involved:
 - Forestry (International Paper, Weyerhaeuser)
 - Mining & Minerals (Rio Tinto, Vulcan)
 - Oil & Gas (Chevron, Shell)
 - Electric Utilities (Southern California Edison, EPRI)
 - Finance (Bank of America)

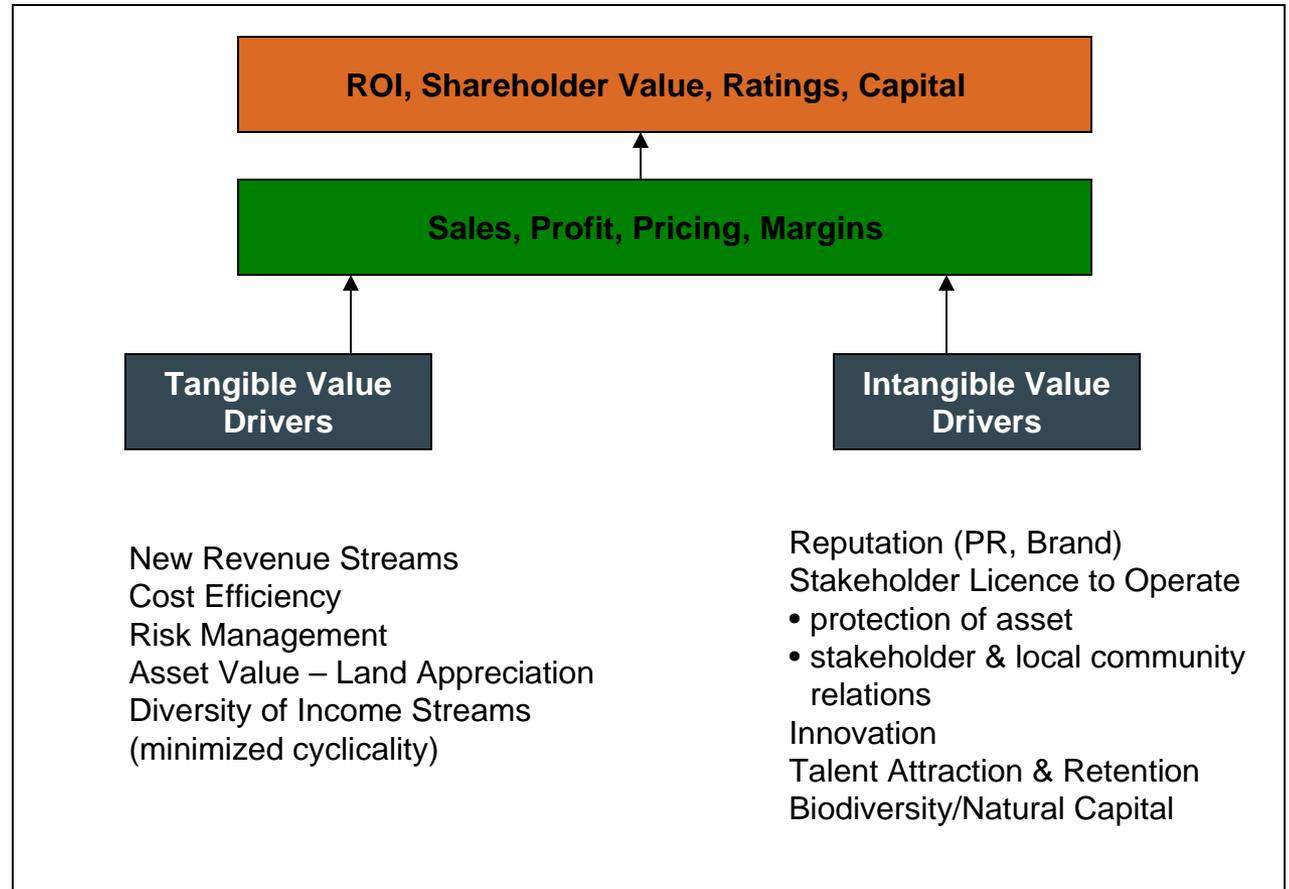


A New Business Model for Forest Land Owners

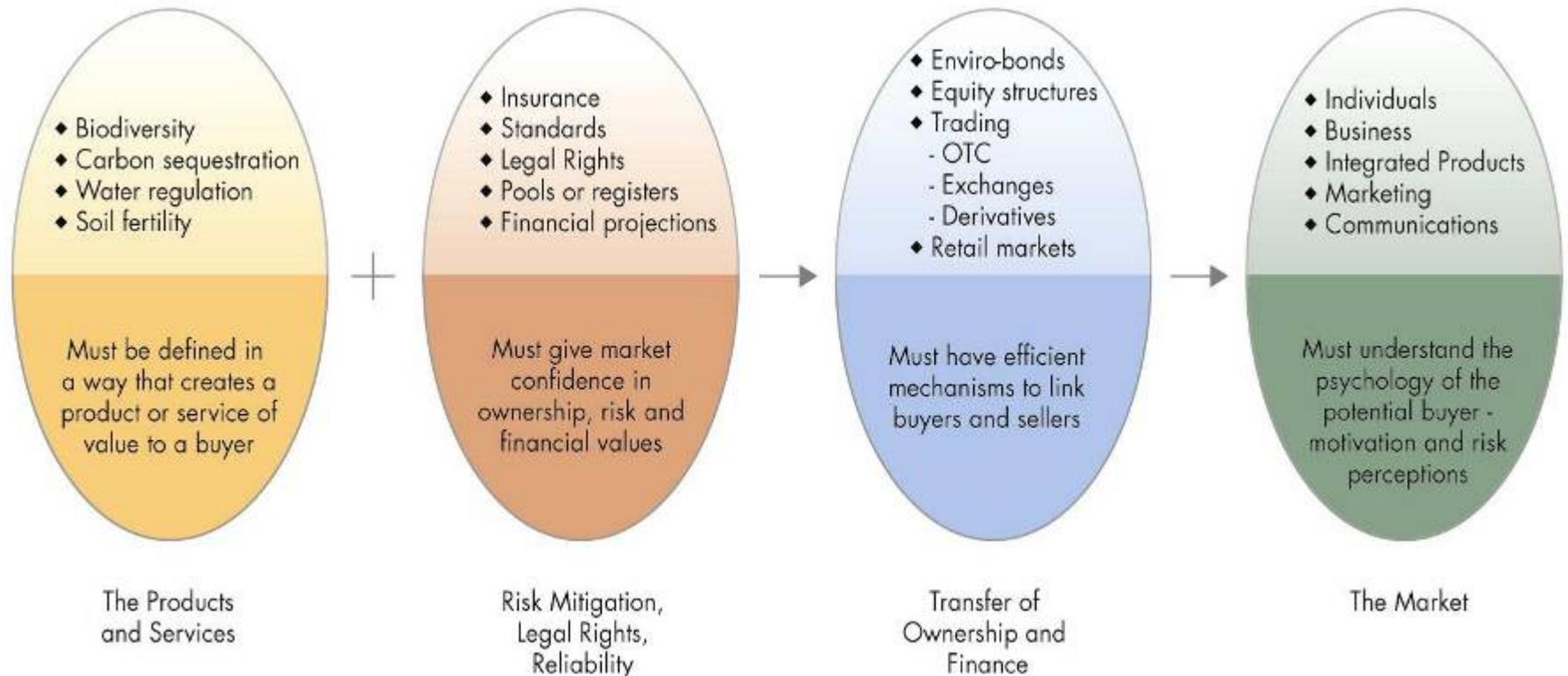
Timber Activities

Non Timber Activities

Watershed Credits
Carbon Credits
Conservation Credits
Recreation
Extractive
Other

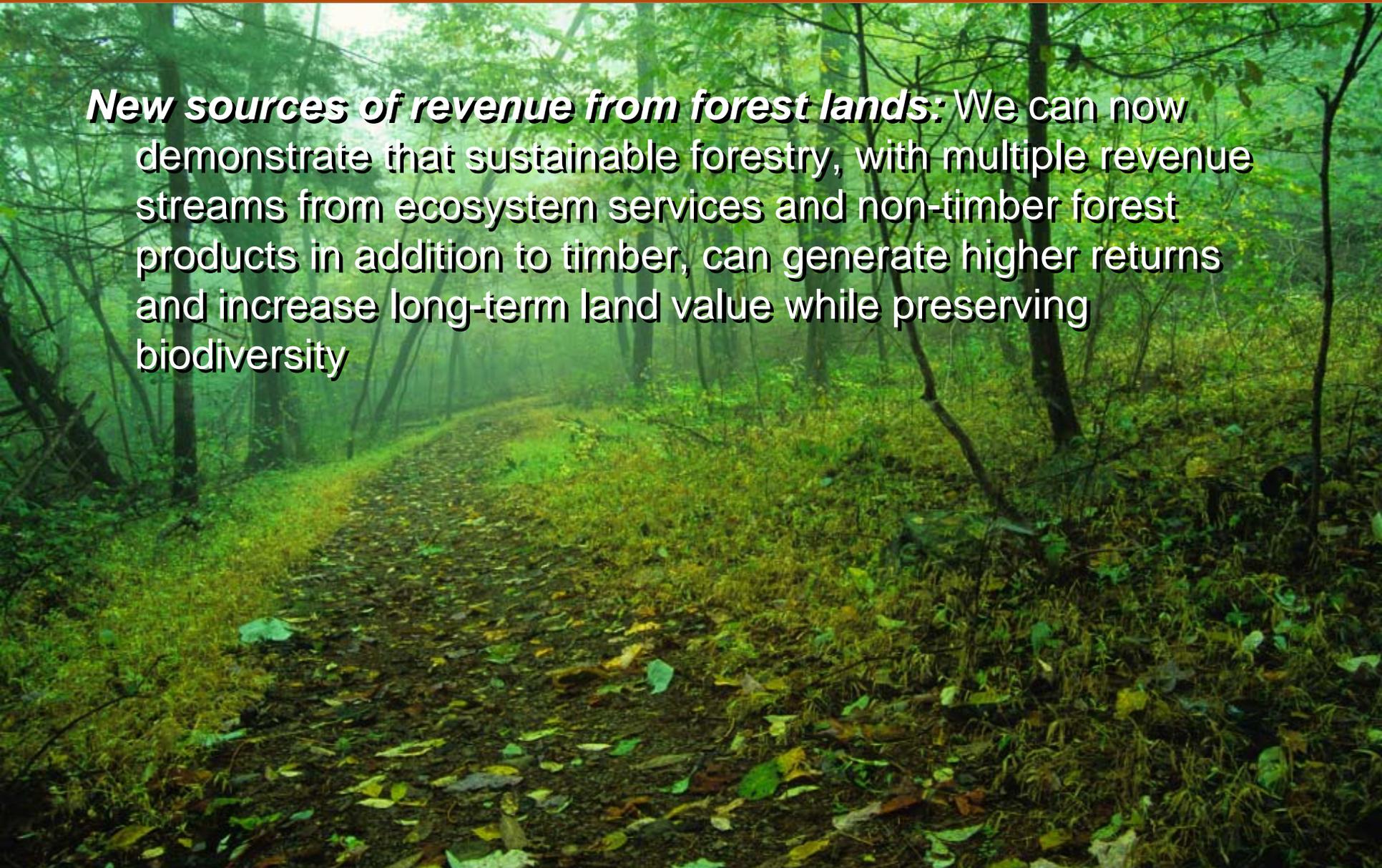


A New Challenge: Creating Ecosystem Markets



Closing... What does this mean for SFI and companies?

New sources of revenue from forest lands: We can now demonstrate that sustainable forestry, with multiple revenue streams from ecosystem services and non-timber forest products in addition to timber, can generate higher returns and increase long-term land value while preserving biodiversity

A photograph of a forest path. The path is covered in fallen leaves and moss, leading through a dense forest of tall, thin trees. The ground is covered in a thick layer of green moss and fallen leaves. The trees are mostly green, with some showing signs of autumn. The overall atmosphere is misty and serene.

Closing... What does this mean for SFI and companies?

Independent certification necessary to demonstrate responsible management, risk mitigation, and ensure access to markets:

Not only for timber production, but a certification of “bundled ecosystem services & products” may emerge.

Customs will increasingly be asking detailed questions about wood sourcing. Thus:

- * understand your sourcing and be able to explain how certification demonstrates legality – especially for European markets
- If your business is also involved in importing, pay careful attention to the new requirements under the Lacey Act to avoid lawsuits and potential forfeiture of imported materials. New regulations will be issued by the US government in late 2008.

Forest Trends & SFI

Steps for Collaboration?

Forest Trends' Potomac Forum:

- Biannual gathering of more than 100 experts on the issue of illegal logging and associated trade.
- January 2009: special session on these new Lacey regulations and how they may affect businesses, as well as an update on the European markets.

• Katoomba Group

- Global network of practitioners that promotes the use and improve capacity for developing ecosystem services transactions
- Provides technical, legal, and business expertise to bring ecosystem services projects closer to market. Support includes preparation for approval, validation or certification processes.

• Ecosystem Marketplace

- World's leading source of information on markets and payments for ecosystem services (PES): carbon, water, and biodiversity
- Check out our website for the latest information, analysis, news, and guidance on how to set up a PES scheme

Forest Trends & SFI

Steps for Collaboration?



www.forest-trends.org



www.ecosystemmarketplace.com



www.katoombagroup.org