



**FAUNA & FLORA**  
INTERNATIONAL

*Conserving wildlife since 1903*

**Ecosystem Services**

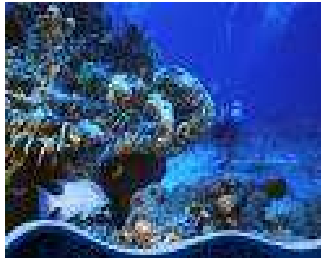
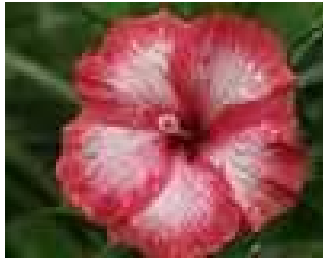
Public policy developments, emerging tools and barriers to  
action

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With Generous Support from Rio Tinto

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# Environmental Services...

## Our Economy's "Natural Infrastructure"



Forests

Oceans

Cultivated /  
Agricultural Lands

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### Environmental Goods

- Lumber
- Wood Products
- Firewood

- Fish & Seafood

- Crops (food & fiber)

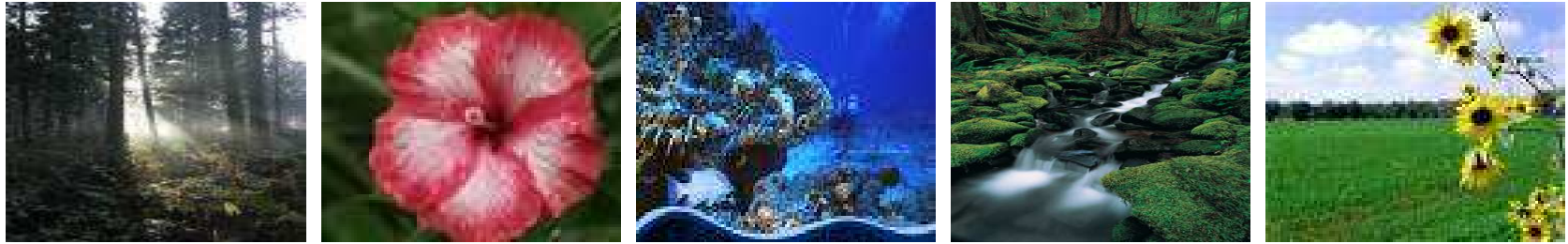
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### Environmental Services

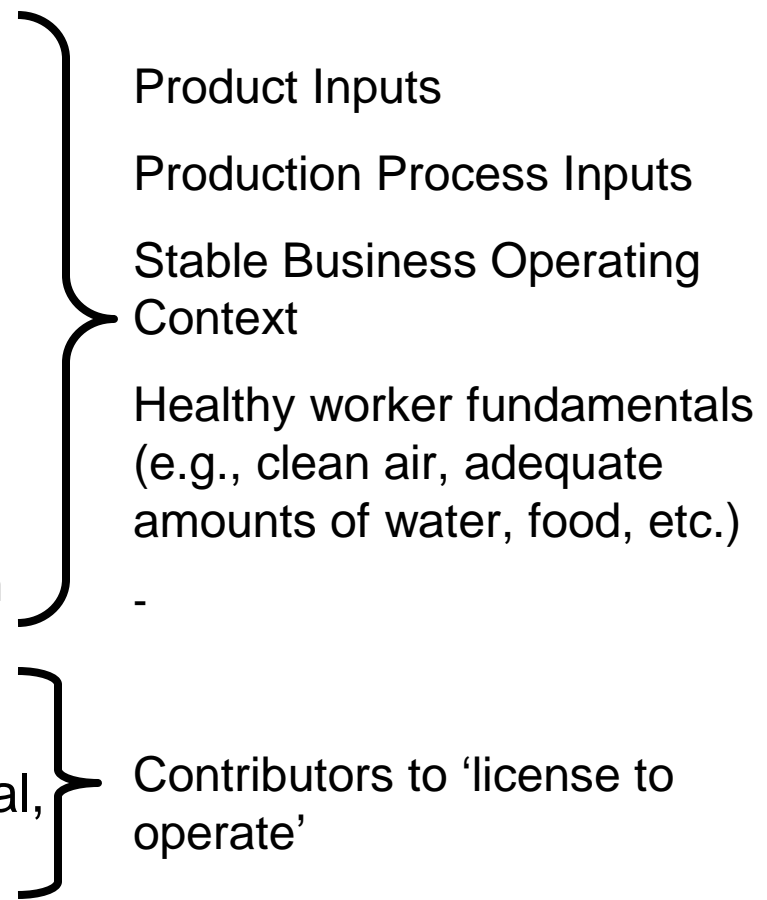
- Purification of air
- Filtration of water
- Nutrient cycling
- Erosion & siltation control
- Soil formation
- Generation /renewal of soil fertility
- Wind breaks

- Climate regulation
- Detoxification and decomposition of wastes

- Pollination of crops and natural vegetation
- Control of agricultural pests
- Moderation of temperature extremes



1. Environmental Goods  
food, freshwater, fuel, fiber
2. Regulating Services  
climate regulation, flood  
regulation, water filtration
3. Supporting Services  
nutrient cycling, soil formation
4. Cultural Services  
aesthetic, spiritual, educational,  
recreational



# Landmark Air Emissions Policies and Markets

<b>Landmark Policies</b>	<p>Regional greenhouse gas reduction targets:</p> <p><a href="#"><u>Kyoto Protocol to the UN Framework Convention on Climate Change</u></a></p> <p><a href="#"><u>California's Global Warming Solutions Act of 2006</u></a></p> <p><a href="#"><u>Australia's New South Wales Greenhouse Gas Reduction Scheme</u></a></p>
<b>Compliance Markets</b>	<p>Existing market-based air emissions trading schemes:</p> <p><a href="#"><u>Kyoto Protocol Mechanisms</u></a></p> <p><a href="#"><u>European Union's Emission Trading Scheme</u></a></p> <p><a href="#"><u>Australia's New South Wales Greenhouse Gas Reduction Scheme</u></a></p> <p>Emerging market-based air emissions trading schemes:</p> <p><a href="#"><u>Regional Greenhouse Gas Initiative (U.S.)</u></a></p> <p><a href="#"><u>Western Climate Initiative (U.S.)</u></a></p> <p><a href="#"><u>Australia's National Emissions Trading Task Force</u></a></p>
<b>Voluntary Markets</b>	<p>Voluntary market-based air emissions trading schemes:</p> <p><a href="#"><u>Chicago Climate Exchange</u></a></p> <p><a href="#"><u>Australian Climate Exchange</u></a></p> <p><a href="#"><u>Japanese Voluntary Emissions Trading Scheme</u></a></p>

# Landmark Water Quality Policies and Markets

<b>Landmark Policies</b>	<a href="#"><u>European Union Water Framework Directive</u></a> <a href="#"><u>Costa Rica's Forest Law 7575 – Payments for Environmental services program</u></a> <a href="#"><u>China's Sloping Land Conversion Program</u></a> <a href="#"><u>China's Forest Ecosystem Compensation Fund</u></a> <a href="#"><u>U.S. Clean Water Act</u></a>
<b>Compliance Markets</b>	<a href="#"><u>U.S. Water Quality Trading</u></a> <a href="#"><u>U.S. Wetlands Mitigation Banking</u></a> <a href="#"><u>U.S. Nutrient Trading Programs</u></a> <a href="#"><u>Australian State Forests of New South Wales' Reduction of Water Salinity Program</u></a>
<b>Voluntary Markets</b>	<a href="#"><u>Costa Rica's Environmental Services Payment Program</u></a> <a href="#"><u>Mexico's Payments for Hydrological Services</u></a>

# Landmark Biodiversity Policies and Markets

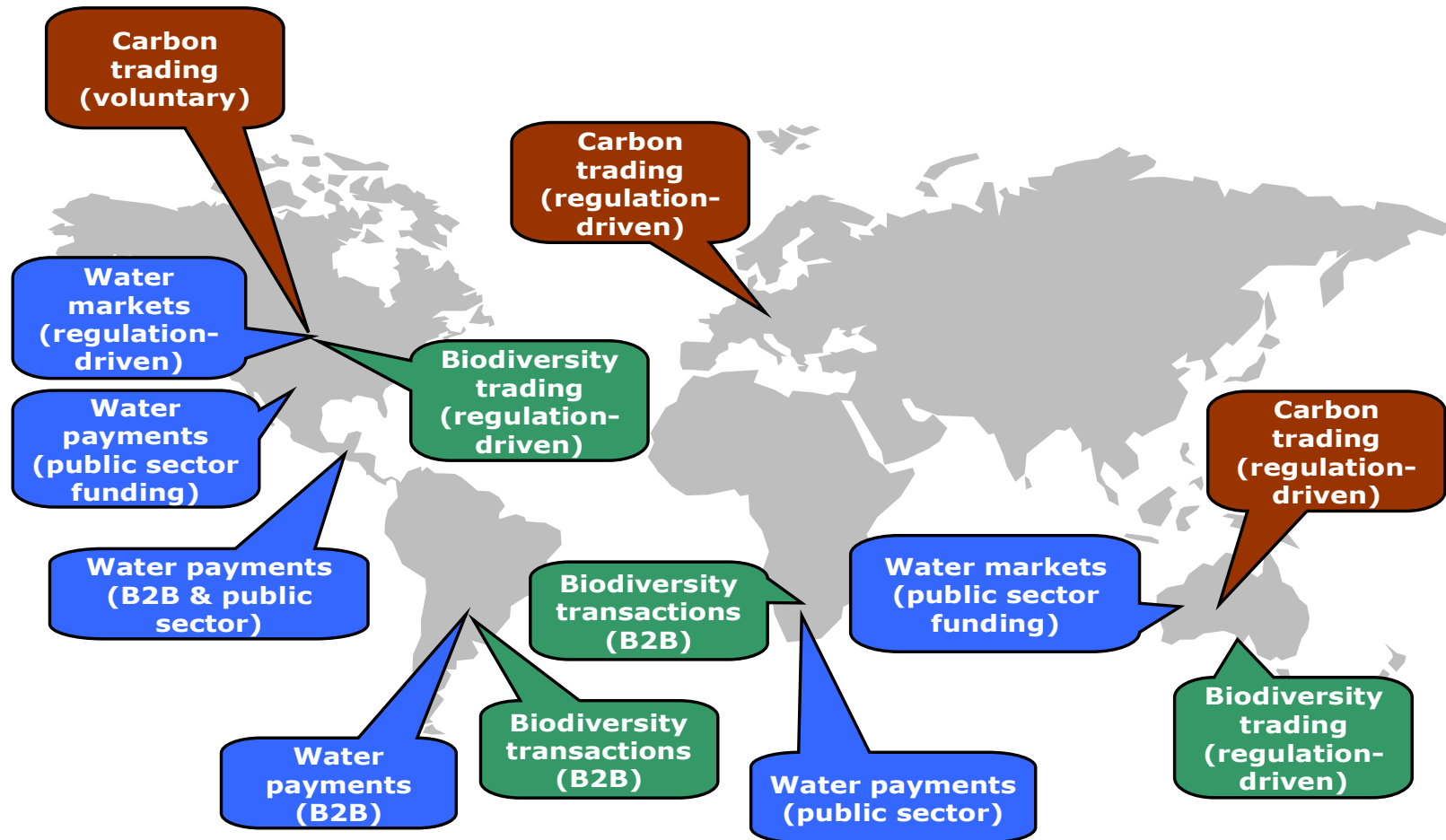
<b>Landmark Policies</b>	<a href="#"><u>U.S. Endangered Species Act (i.e. Conservation Banking)</u></a> <a href="#"><u>European Union's Habitats Directive</u></a> <a href="#"><u>European Union's Birds Directive</u></a> <a href="#"><u>Brazil's Tradable Forest Conservation Obligations under the Forest Regulation and National System of Conservation</u></a> <a href="#"><u>Switzerland's Federal Law for the Protection of Nature and Landscape</u></a> <a href="#"><u>Australia's New South Wales Green Offsets Scheme</u></a> <a href="#"><u>Netherlands Biodiversity Offsets Program</u></a>
<b>Compliance Markets</b>	<a href="#"><u>U.S. Conservation Banking</u></a> <a href="#"><u>U.S. Wetland Mitigation Banking</u></a> <a href="#"><u>Australia's BioBanking</u></a>

# Regional Policy Trends

- **Potsdam Initiative**
- **A shift to an ecosystems approach**
- **Payments for Ecosystem Services policy frameworks**
- **Forest and Watershed Incentive programs**
- **Biobanking and Provincial GHG Caps**

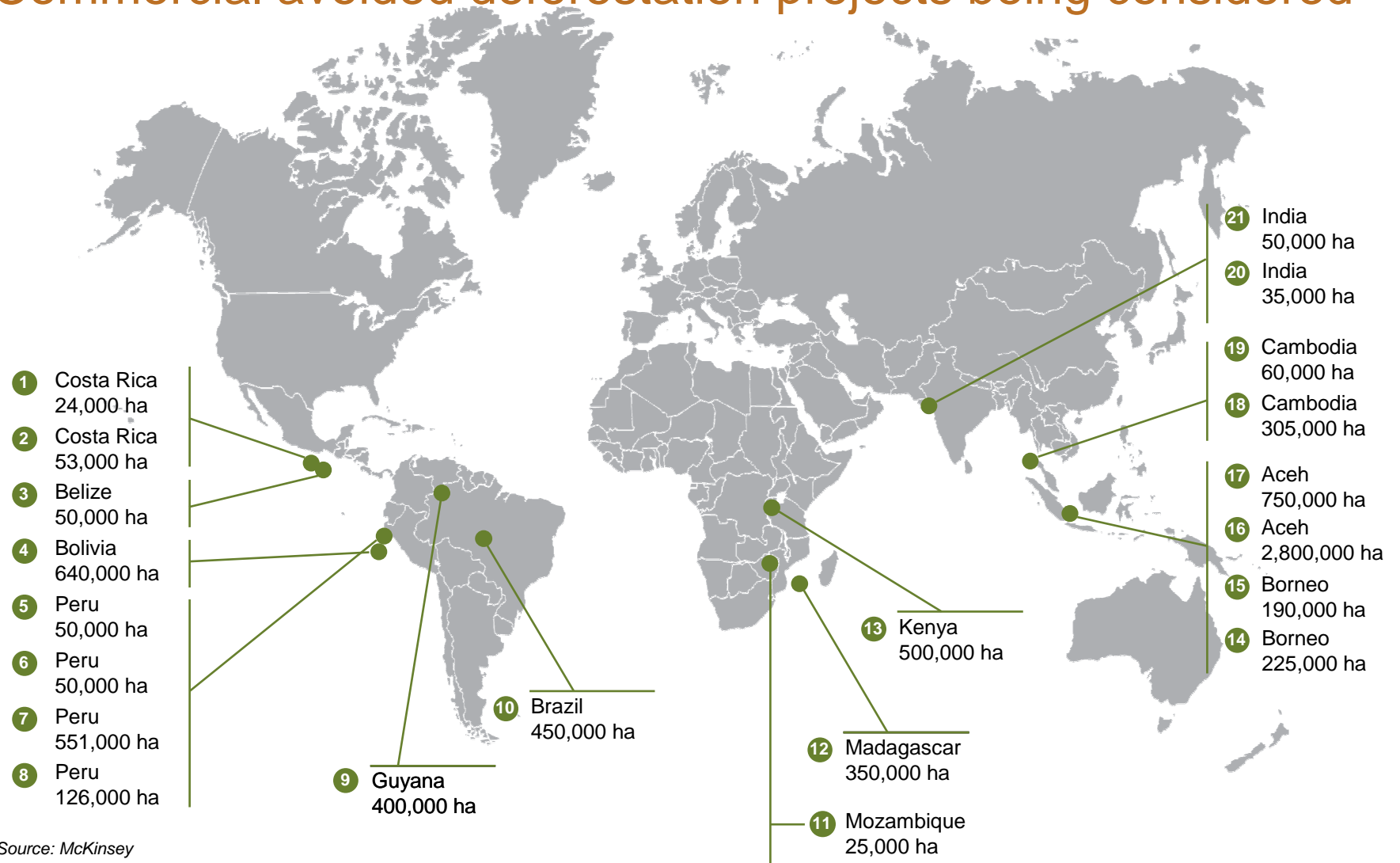


# Experimentation from All Regions



# Experimentation in the markets

Commercial avoided deforestation projects being considered



Source: McKinsey

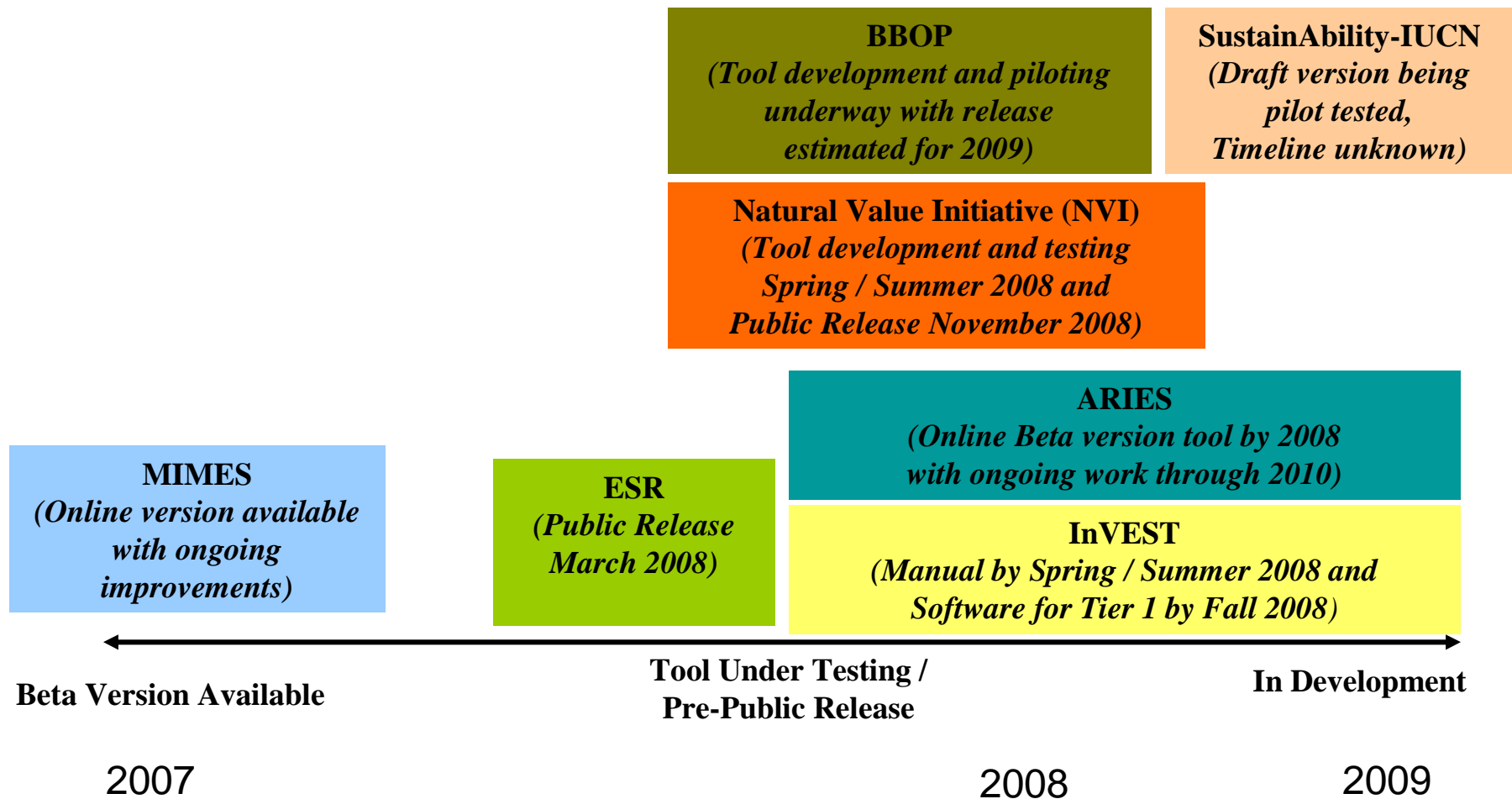
# Companies are “Dipping their Toes in”

- Identifying and addressing water quality problems onsite, and possibly reduce water filtration costs, through:
  - entering deals with local communities to manage water more effectively,
  - investing in wetlands or other water-filtration-related services
- Increasing real estate / re-sale value by:
  - investing in environmental services on leased and owned land, and
  - exceeding required reclamation, with a focus on enhancing ecosystem services
- Transferring ecosystem-related potential liabilities to a specialist broker/bank
- Benefiting from “regulatory goodwill” by demonstrating a willingness to beyond compliance
- Integrating work currently ‘silo-ed’ within the company (e.g. water, carbon, biodiversity) through an integrated/’bundled’ environmental services approach



# Emerging Tools for Corporate Ecosystem Services Management

- [ARIES \(Assessment and Research Infrastructure for Ecosystem Services\)](#), which is under development by the University of Vermont's Ecoinformatics "Collaboratory" (at the Gund Institute for Ecological Economics), Conservation International, Earth Economics, and experts at Wageningen University.
- [ESR \(Corporate Ecosystem Services Review\)](#), which was launched in March 2008 by the World Resources Institute (WRI), the Meridian Institute, and the World Business Council on Sustainable Development (WBCSD).
- [InVEST \(Integrated Valuation of Ecosystem Services and Tradeoffs\)](#), which is in development by The Natural Capital Project—a joint venture among Stanford University's Woods Institute for the Environment, The Nature Conservancy, and World Wildlife Fund—with the goal of issuing a manual in the Summer / Fall 2008 and software in Fall / Winter 2008.
- [MIMES \(Multiscale Integrated Models of Ecosystem Services\)](#), which is currently available in an early version ("beta plus") from the University of Vermont's Gund Institute for Ecological Economics.
- [NVI \(Natural Value Initiative\) assessment approach](#), which is being created by Fauna & Flora International, Brazilian business school FGV, and the United Nations Environmental Program's Finance Initiative for the financial sector.
- [BBOP \(Business and Biodiversity Offset Program\) Toolkit](#), which is in development by Forest Trends, Conservation International and the Wildlife Conservation Society—along with a set of pilot testing companies and a multi-sectoral advisory committee as well as a "learning network"—that would in turn be used to inform design of a biodiversity offset approach.
- [IBAT \(Integrative Biodiversity Assessment Tool\)](#), which is in development by Conservation International, following on their "[Initial Biodiversity Assessment & Planning](#)" (IBAP) approach that draws on Rapid Ecological Assessment methodologies and aims to enable companies to identify potential site specific impacts and risks associated with biodiversity.



# A Flurry of Tool Developing Activity...

# Barriers to engagement

- Lack of a policy framework that promotes collaboration to manage shared resources on which companies are dependent
- Lack of widely used tools and methodologies to identify risk and realise opportunity
- Underpinning this, a lack of a widely recognised business case to convince companies of the need to address the issue as one amongst a range of competing issues