

# The Economics of Ecosystems & Biodiversity



## UN-PRI Webinar TEEB for Business

**Pavan Sukhdev, UNEP**

Study Leader, TEEB

19th July 2010



Federal Ministry for the  
Environment, Nature Conservation  
and Nuclear Safety



Rijksoverheid



MINISTRY OF FOREIGN AFFAIRS





## Two Most Frequently Asked Questions ....

**Q1. What is “Biodiversity” ?**

**Q2. Why “Economic Valuation” ?**

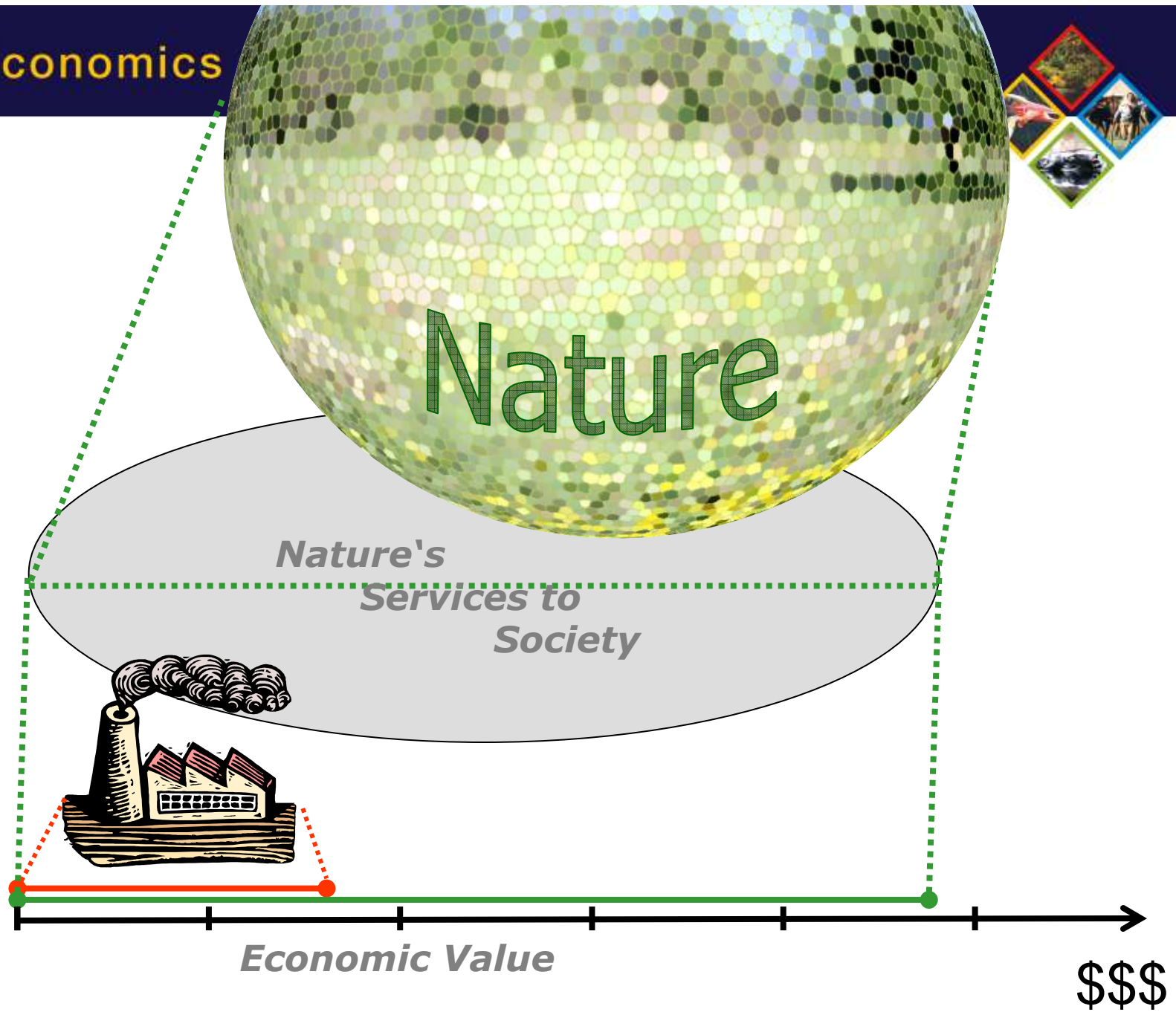
# The Economics of Ecosystems & Biodiversity



- “Biodiversity” is the Living Fabric of this Planet
- Biodiversity’s economic reflection is “Natural Capital”
- The technical definition of Biodiversity includes all its strata including “Ecosystems” (table below) but common usage differentiates Ecosystems...

<b>Biodiversity Strata</b>	<b>Quality dimensions</b>	<b>Quantity dimensions</b>	<b>Ecosystem Services (some examples)</b>
Ecosystems	Variety	Extent	<ul style="list-style-type: none"><li>- Recreation</li><li>- Water regulation</li><li>- Carbon Storage</li></ul>
Species	Diversity	Abundance	<ul style="list-style-type: none"><li>- Food, fibre, fuelwood</li><li>- Design inspiration</li><li>- Pollination</li></ul>
Genes	Variability	Population	<ul style="list-style-type: none"><li>- Medicine discovery</li><li>- Disease resistance</li><li>- Adaptive capacity</li></ul>

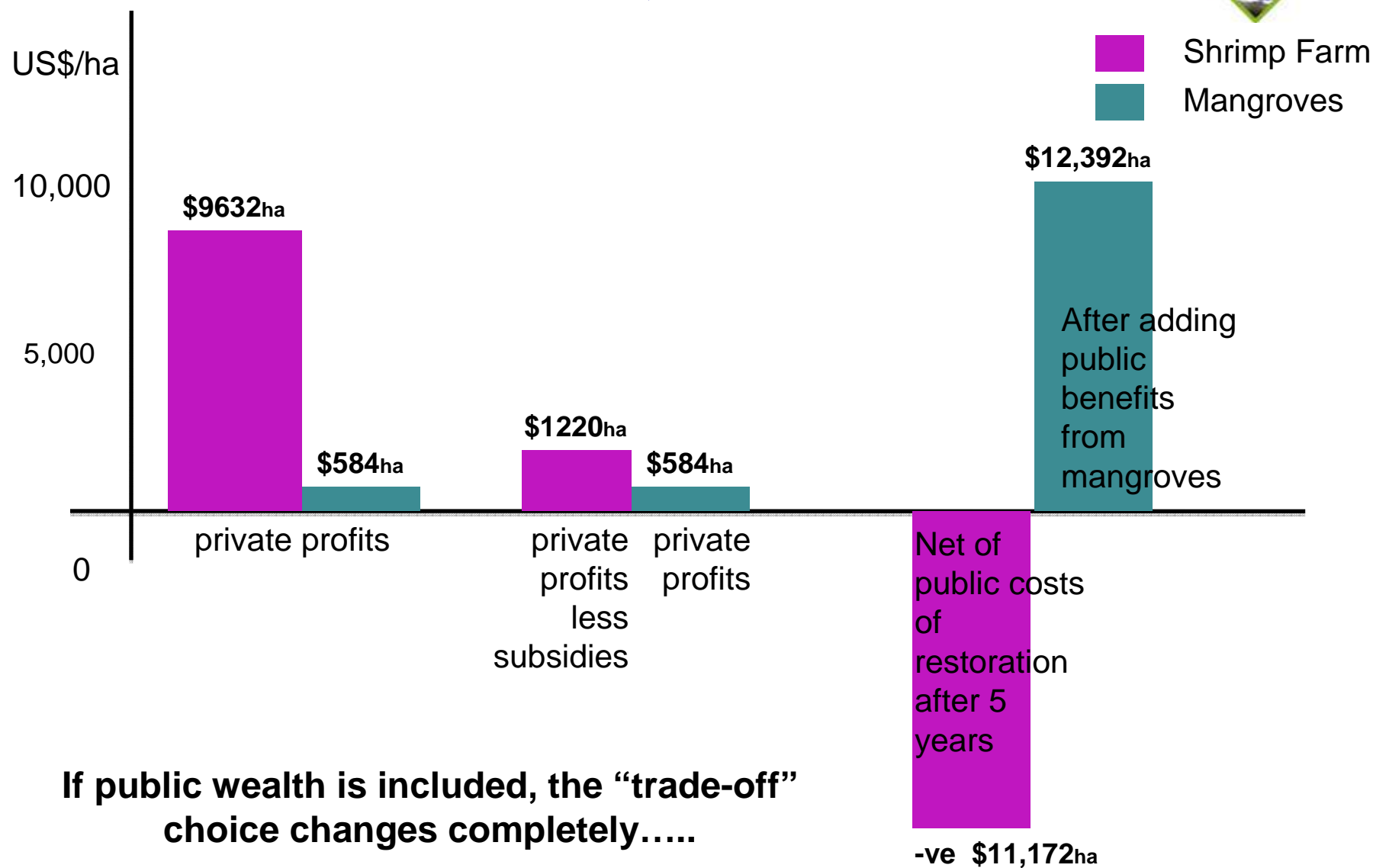
# The Economics



# The Economics of Ecosystems & Biodiversity



## Private Profits, Public Losses



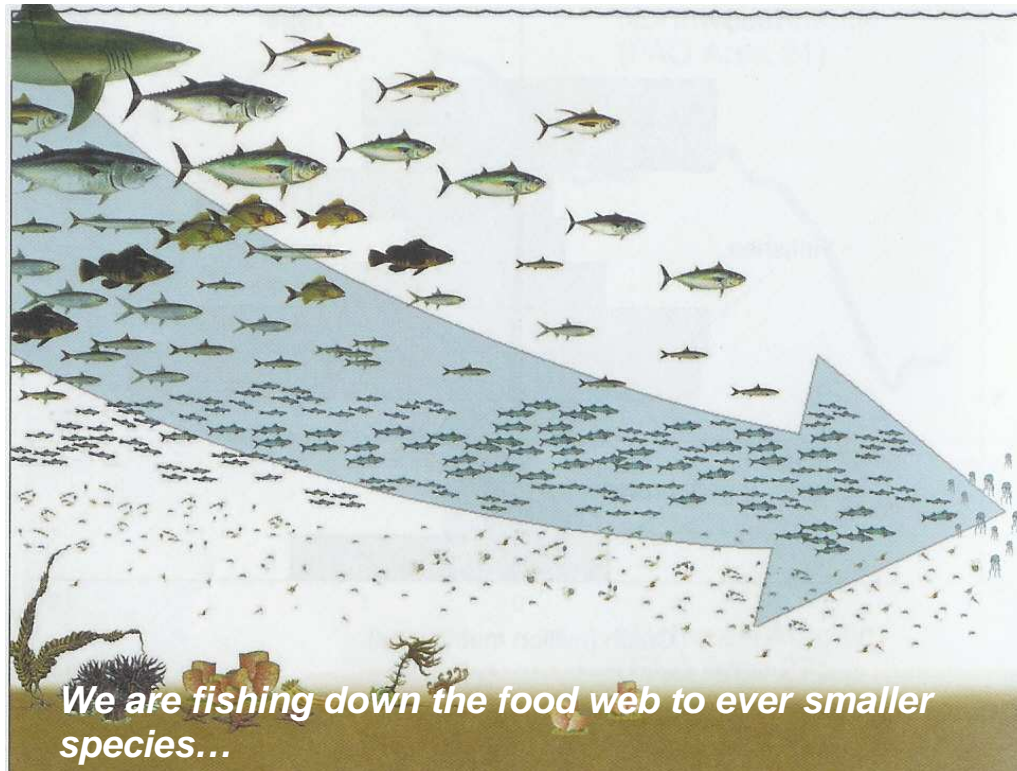


# The Economics of Ecosystems & Biodiversity



## Global Fisheries...

### A Problem with Many Dimensions

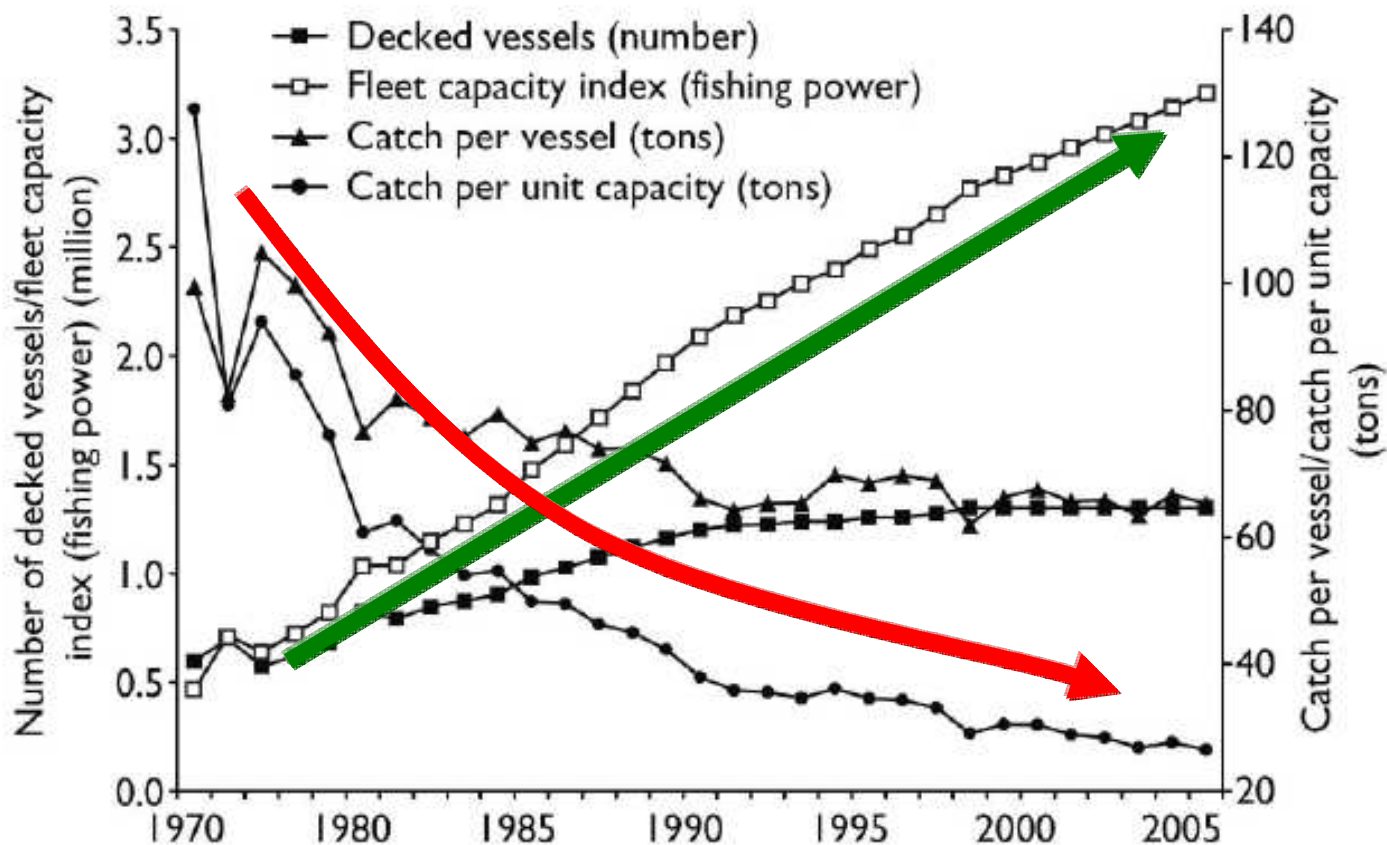


- ❑ Open Access system & Perverse Subsidies are key drivers of the loss of fisheries
- ❑ Half of wild marine fisheries are fully exploited, with a further quarter already over-exploited
- ❑ *lost productivity : est. \$ 50 billion*
- ❑ *at risk : \$ 85 -100 billion landed catch from the sector*
- ❑ *at risk : est. 27 million jobs*
- ❑ *but most important of all.....*

***at risk : Health ... over a billion rely on fish as their main or sole source of animal protein, especially in developing countries***

*Source: Ben ten Brink (MNP) presentation at the Workshop: The Economics of the Global Loss of Biological Diversity 5-6 March 2008, Brussels, Belgium. Original source: Pauly*

# The Economics of Ecosystems & Biodiversity



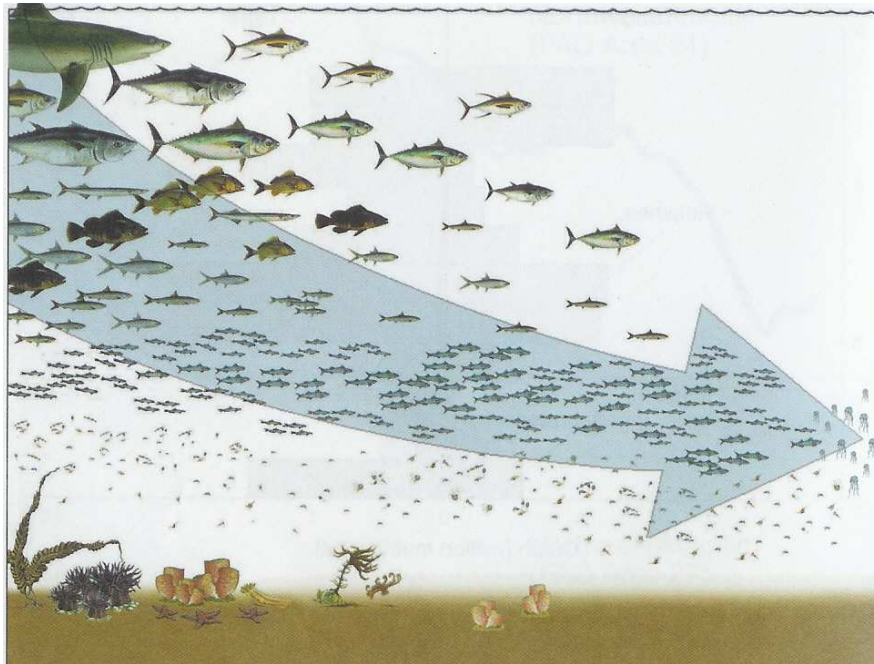
World Bank estimates that net benefit losses from fisheries are 50 billion US\$ per year

# The Economics of Ecosystems & Biodiversity



## Global Loss of Fisheries... Is there a Solution ?

**Open Access & Perverse  
Subsidies drive fisheries losses ...**



*We are fishing down the food web to  
ever smaller species...*

**.... And do reserves work ?**



*Reserves all over the world show  
large increases in spawning stocks..*

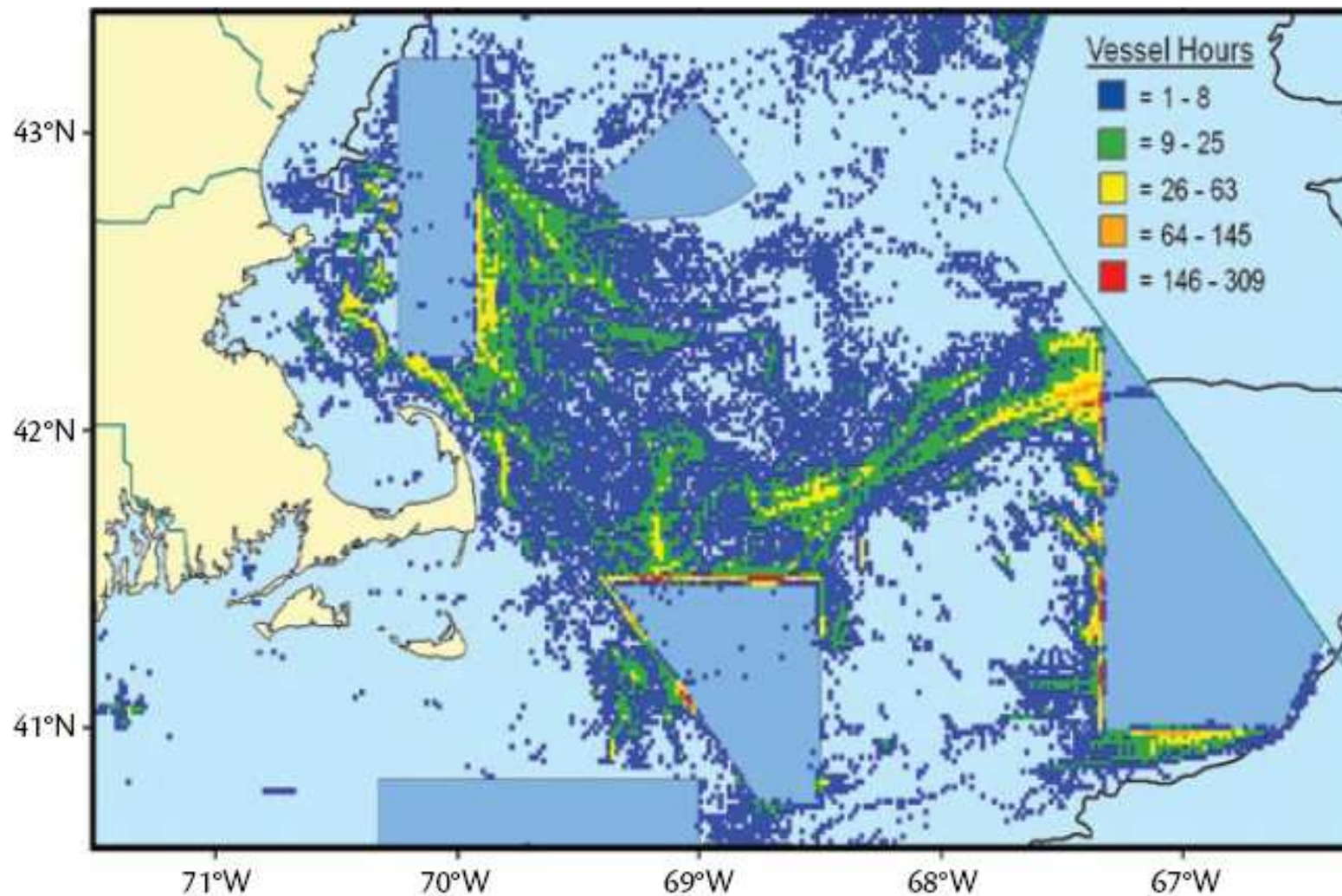
(Source : Prof. Callum Roberts, University of York)



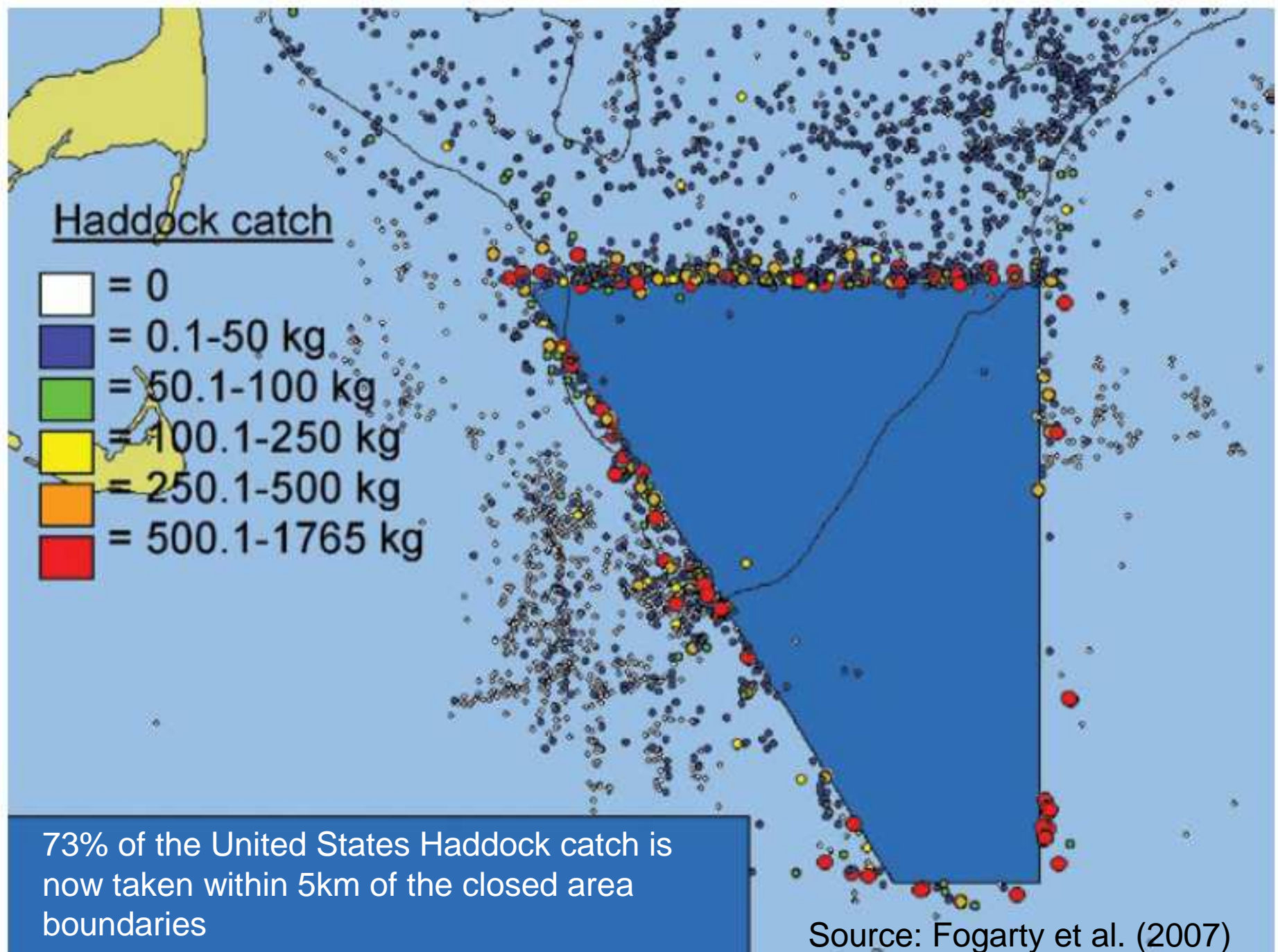
# The Economics of Ecosystems & Biodiversity



Eg : Distribution of fishing effort around  
Georges Bank closed areas



Source: Fogarty et al. (2007)





## TEEB for Business : Audience

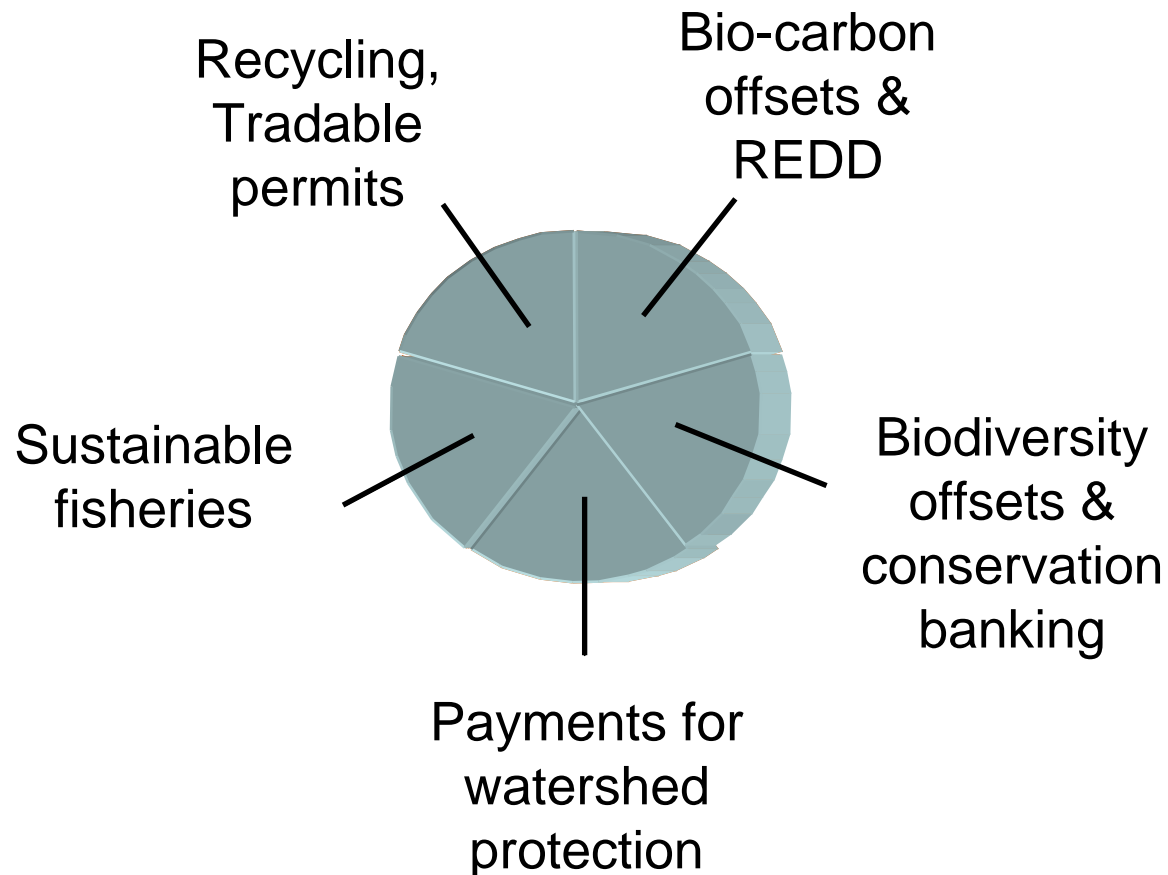
- Visualize audience as medium-to-large companies
- Write “TEEB-D3” analysis as “one size fits most”
- Address the needs of managers, bankers, owners, regulators, insurers.... also business schools, advisors (consultancies, accountants), business associations
- Within companies: CEO, risk managers, finance director, sector/brand leads, CSR directors, environmental managers





## From risks to business opportunity

Source: Adapted from Kapila (2009)



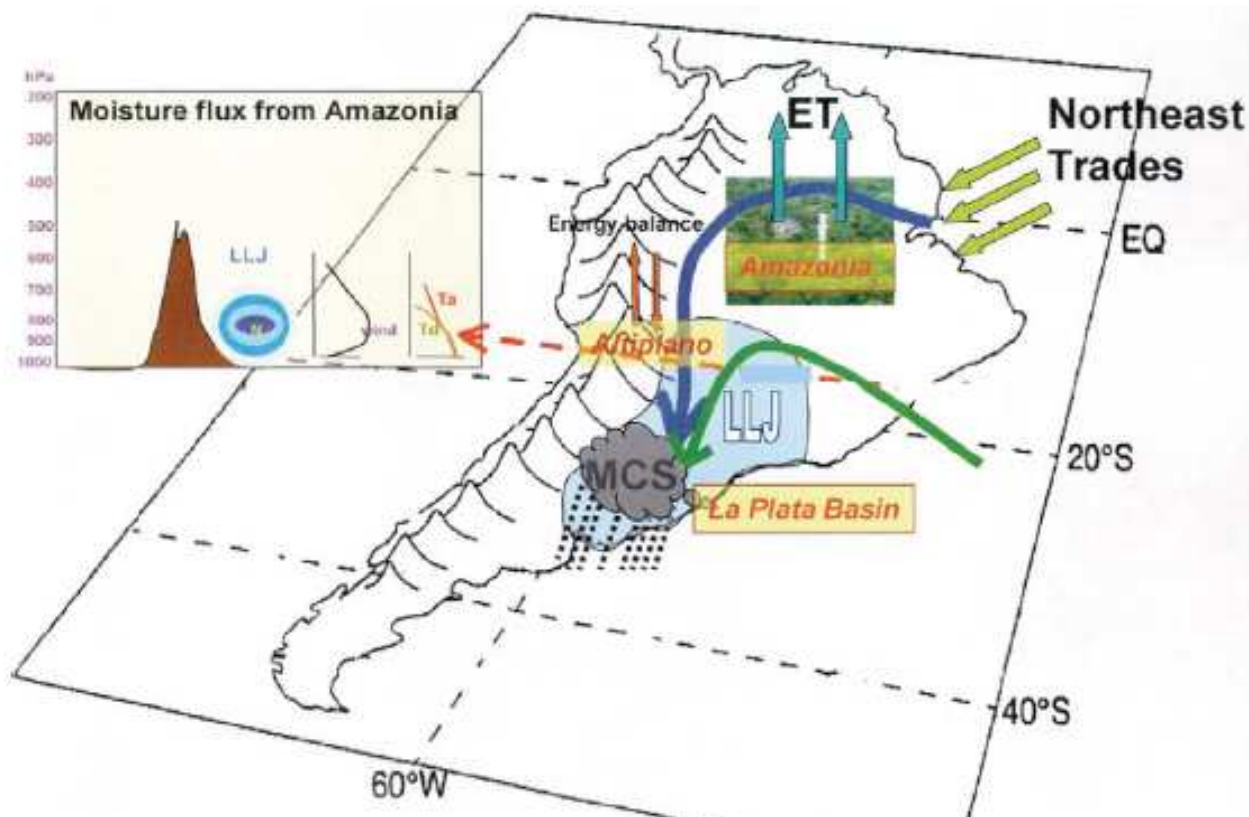


# The Economics of Ecosystems & Biodiversity



From : TEEB for Policy-Makers

What does the Granary of Latin America pay for its Freshwater ?



*Marengo et al. 2004, Journal of Climate*

## Amazon Rainforest “Water Pump”

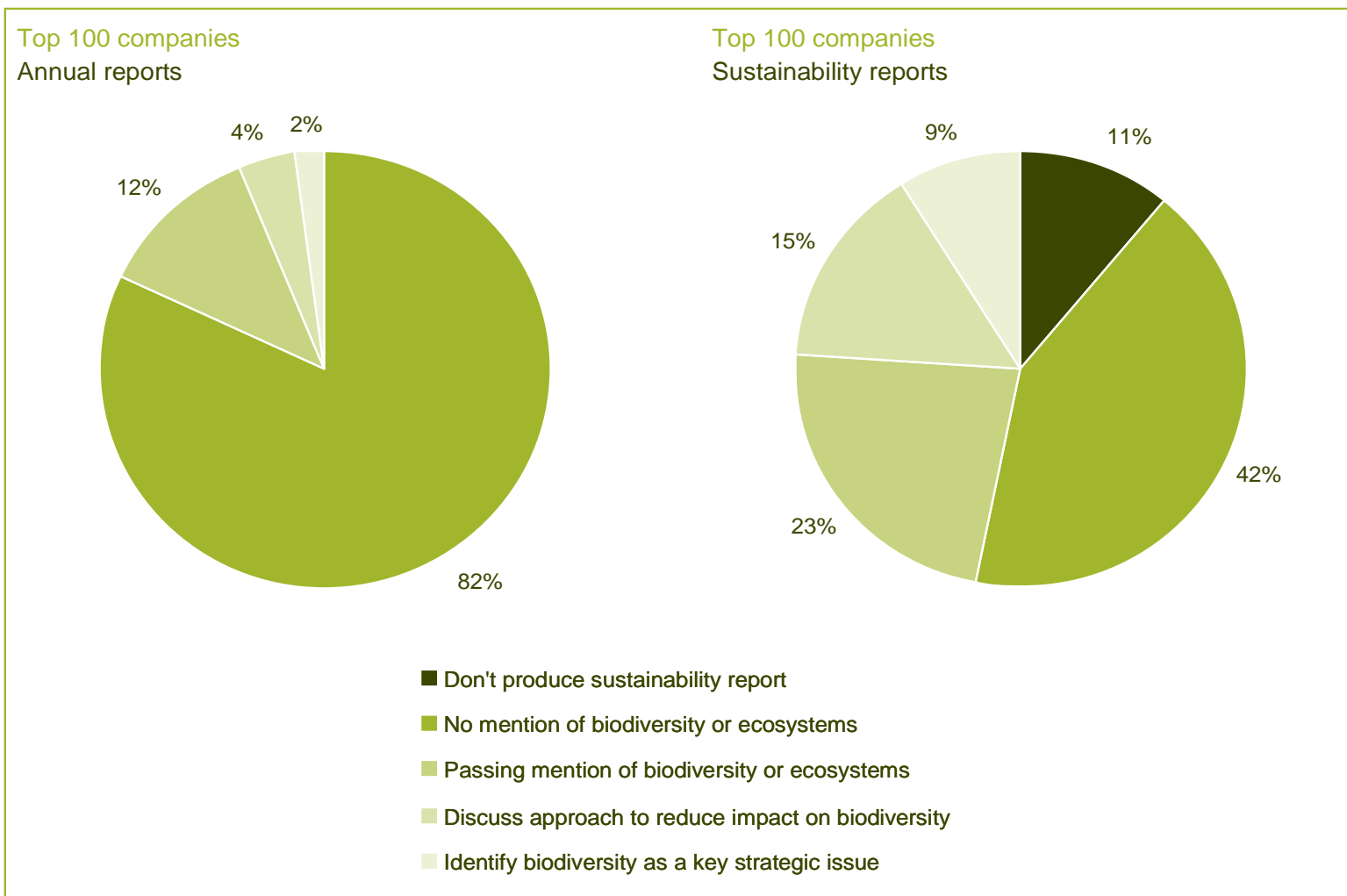
Evapo-transpiration puts 20 billion tonnes of water into the atmosphere daily, some of which falls as rain in the Rio Plata Basin...

*(Global Canopy Programme & Canopy Capital Ltd, 2008)*

# The Economics of Ecosystems & Biodiversity



## Why Integrated Reporting & Disclosure Requirements ?



Source: PwC input to TEEB Report for Business

# The Economics of Ecosystems & Biodiversity



“Net Positive Impact” (“NPI”) : Why ? and How ?

