



PROTECTING GLOBAL BIODIVERSITY: Returning conservation to its proper place atop the public agenda

**Presented to SCNAT Annual Congress on
The Future of Biodiversity in Switzerland
9 November 2010**

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CBD 2002 Strategic plan

Mission: “to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional, and national level as a contribution to poverty alleviation and to the benefit of all life on earth.”

Mission Impossible?



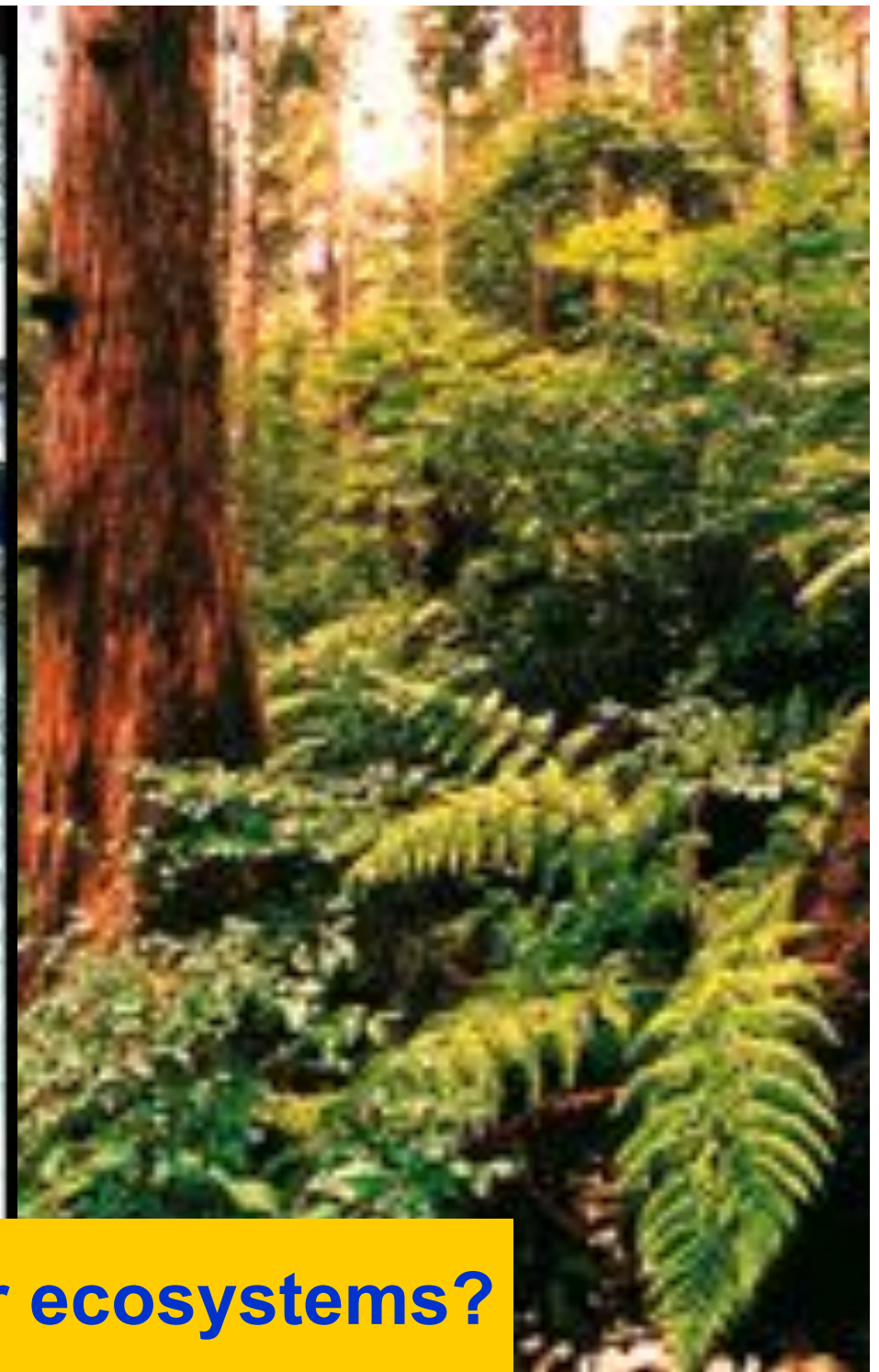
Three big problems

- No baseline against which to measure change
- No metric with which to measure what is happening to biodiversity (or indeed, to even measure biodiversity)
- May lead to false dichotomies

False dichotomies



artifice	the "natural"
rich	poor
glib	sincere
corrupt	virtuous
decadence	restraint
godless	god fearing
celebrity	anonymity
success	failure
the moment	eternity



Species or ecosystems?



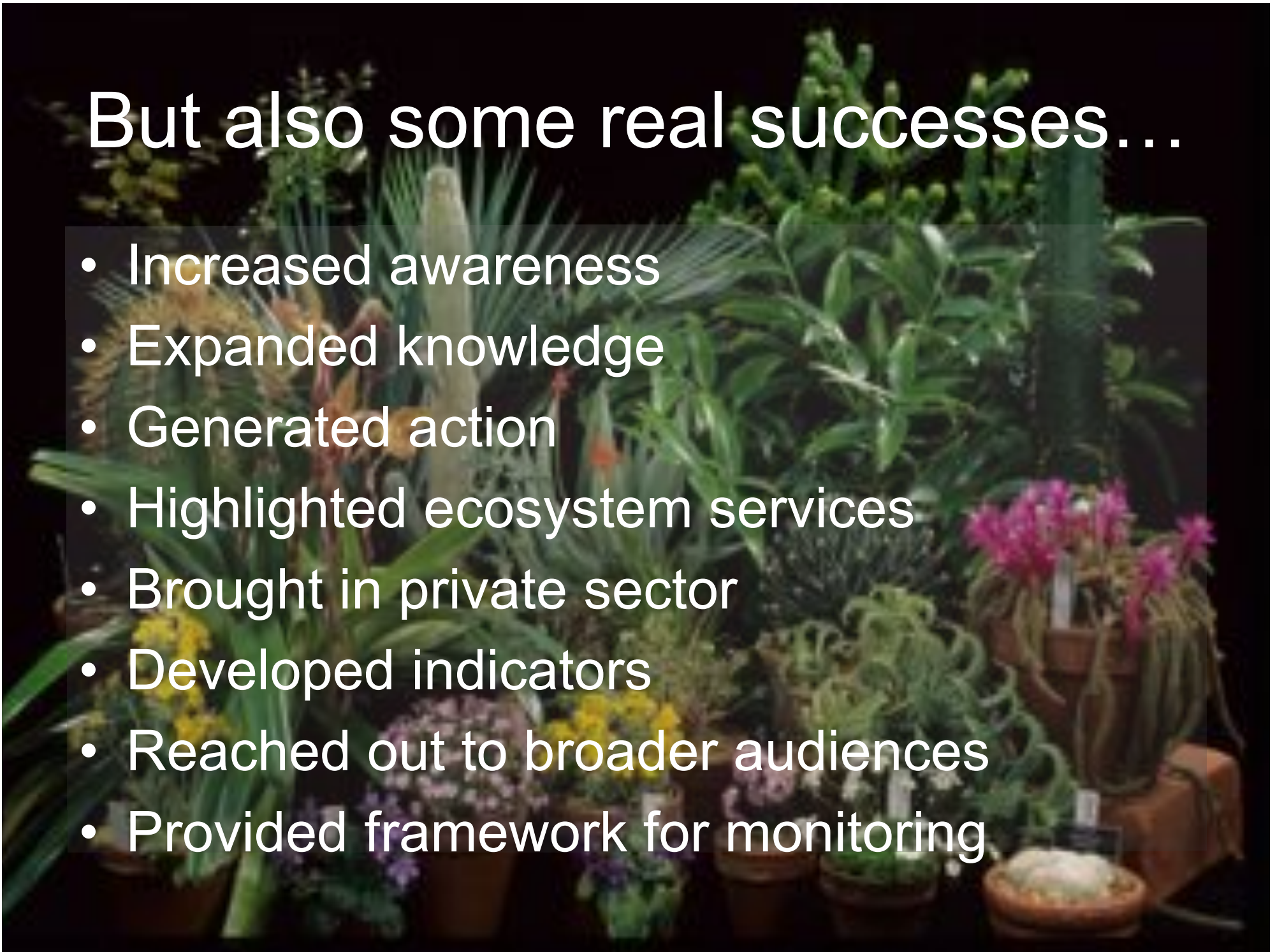
Cash value or intrinsic value?

Climate change or biodiversity?



But also some real successes...

- Increased awareness
- Expanded knowledge
- Generated action
- Highlighted ecosystem services
- Brought in private sector
- Developed indicators
- Reached out to broader audiences
- Provided framework for monitoring



Many European countries have taken the 2010 biodiversity target very seriously.

Biodiversity Indicators

2008

State of Nature in Flanders (Belgium)



EEA Report | No 4/2009

Progress towards the European 2010 biodiversity target

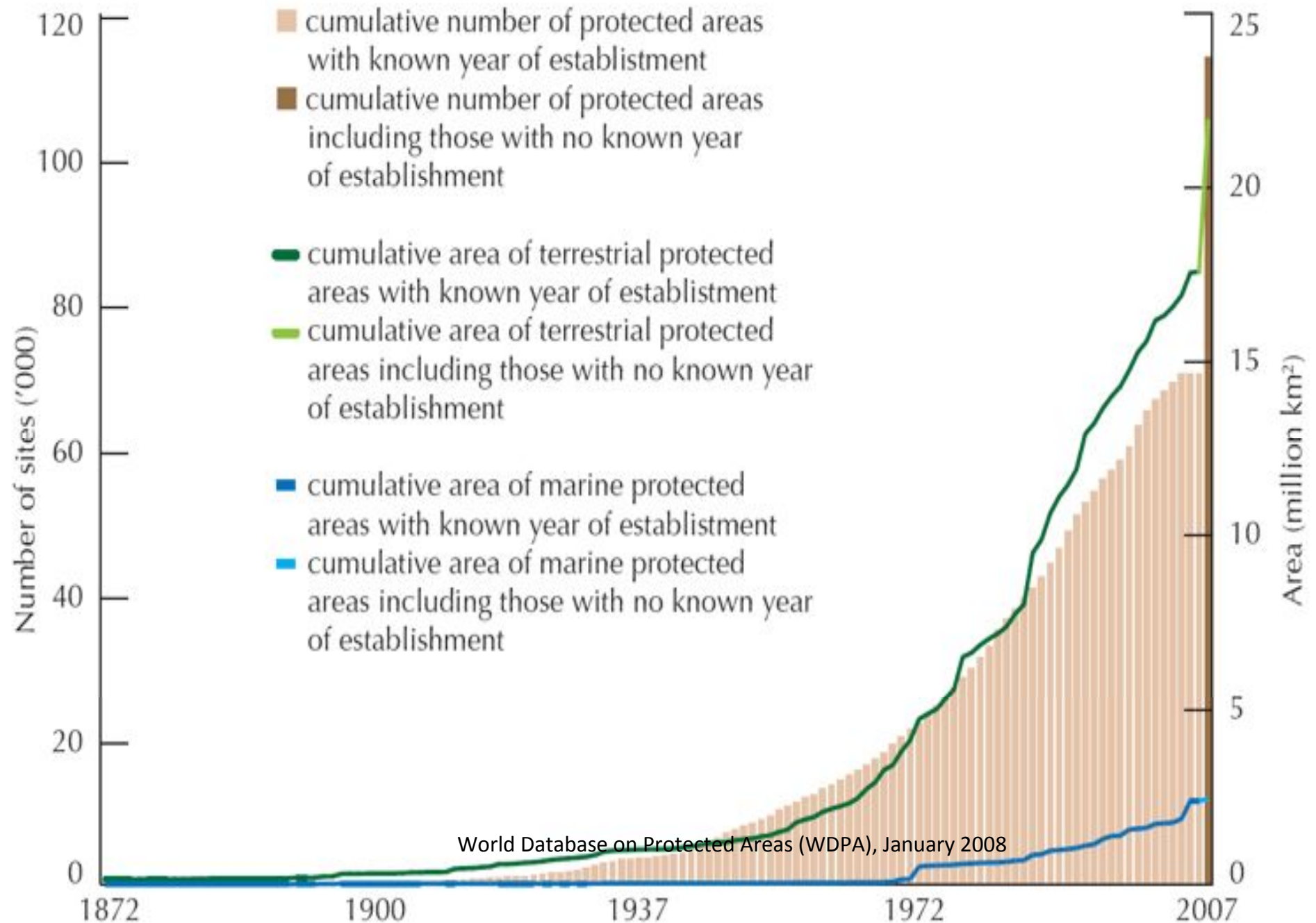
ISSN 1725-9177



European Environment Agency



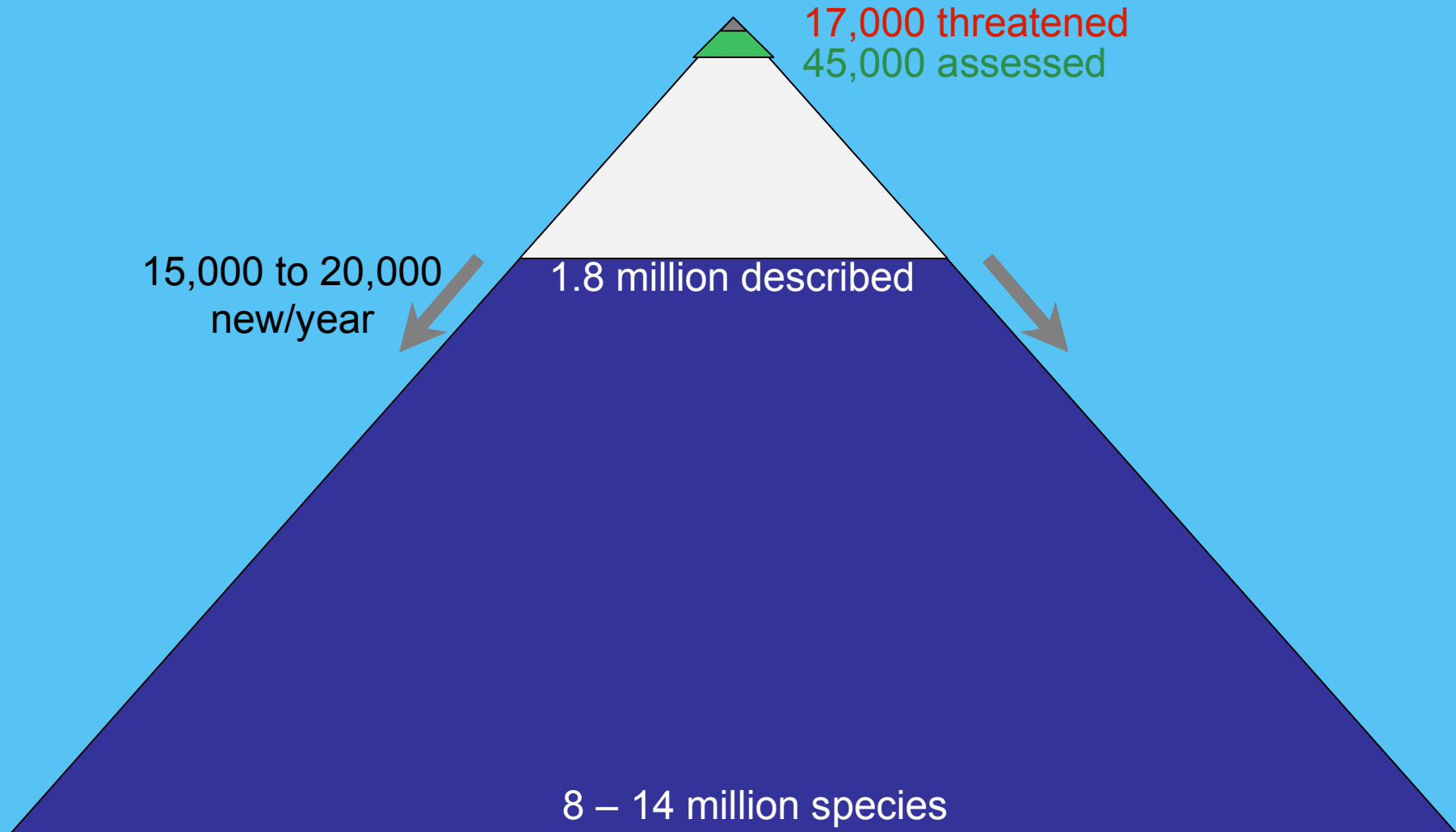
GROWTH OF NATIONALLY DESIGNATED PROTECTED AREAS, 1872-2007 (number and area)



But what about the other 88% of the land?



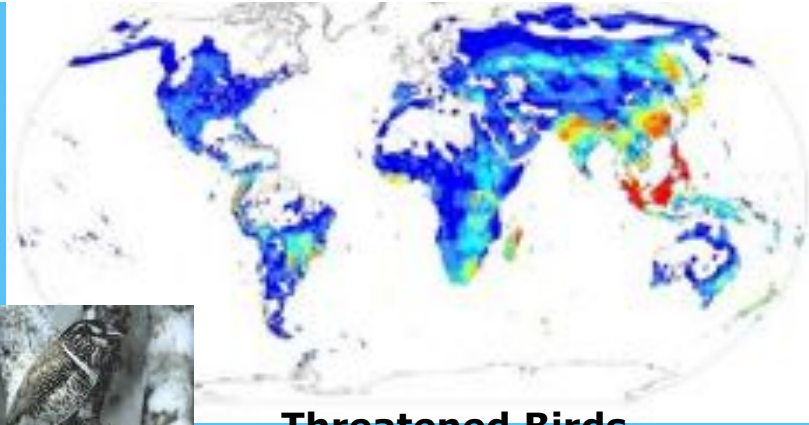
Biodiversity status: Species



Global Species Assessments



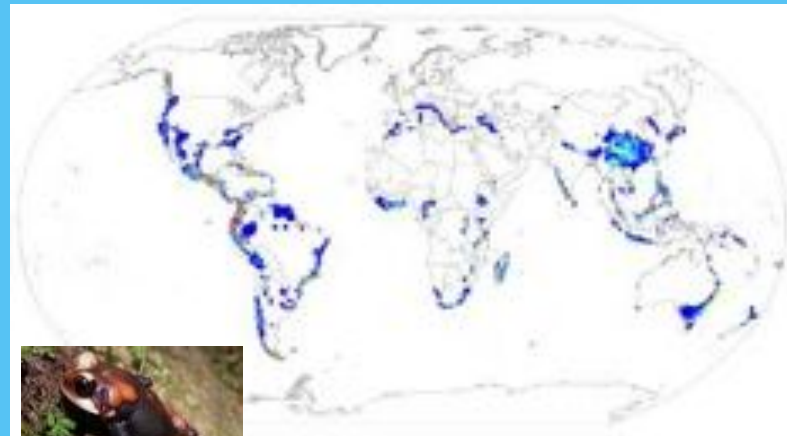
Threatened Mammals



Threatened Birds



Threatened Turtles



Threatened Amphibians

> Red List Home

> Search

> Expert Search

> Help Save Species

> Introduction

> Partners & Credits

> Red List Overview

> Data Organization

> Summary
Statistics

> Sources & Quality

> Categories &
Criteria

> Classification
Schemes

> Photo Gallery

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The IUCN Species Survival Commission

2007 IUCN Red List of Threatened Species™



Search

*Help Save
Species*

IUCN
The World Conservation Union

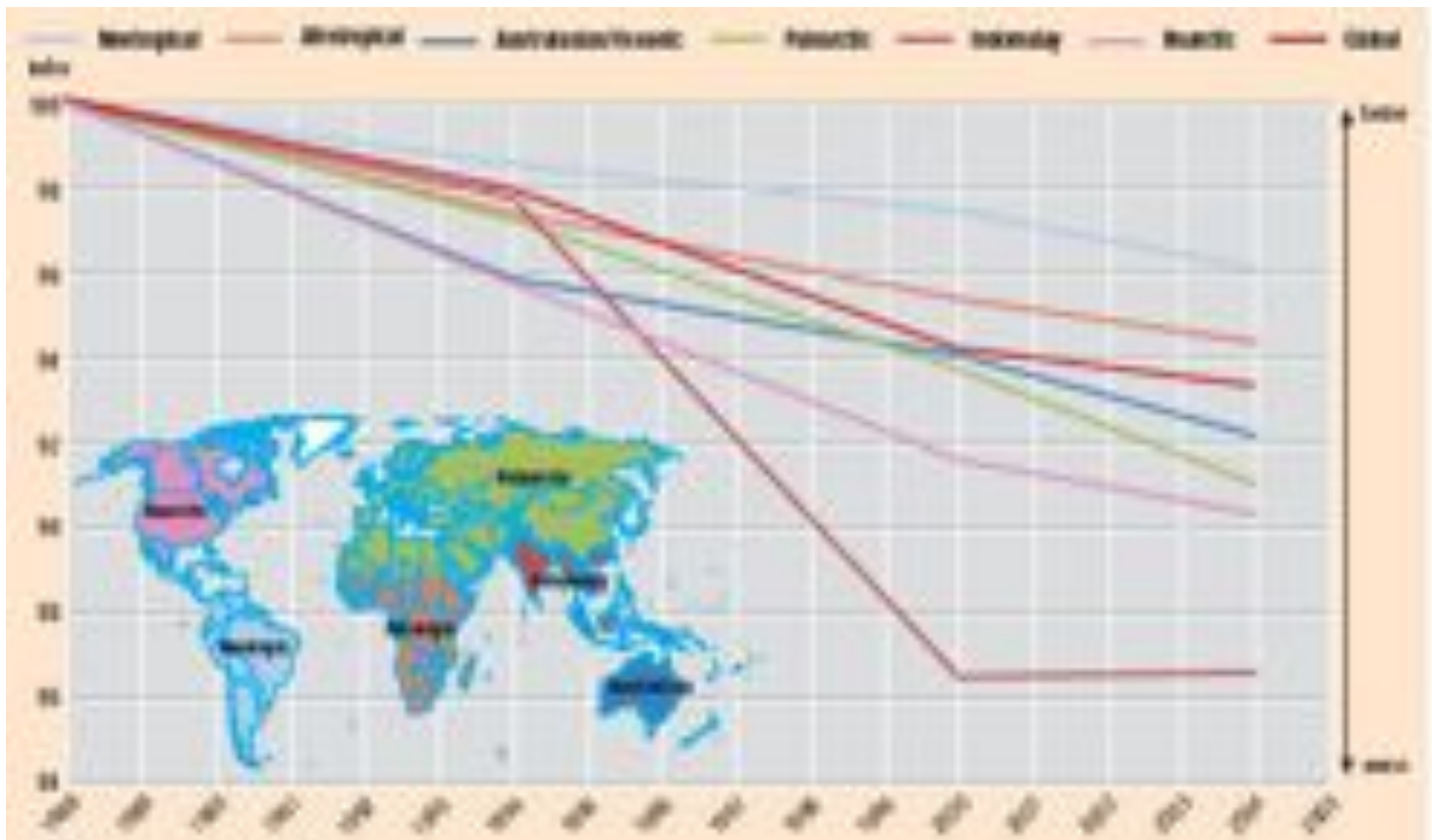
What's new?

Last updated on 12 September 2007.

© International Union for Conservation of Nature and Natural
Resources

Contact Information

 **SSC**
Species Survival Commission



The Red List Index, by region



But recent assessments have found that at least 64 species have improved their status due to conservation action (Hoffman *et al.*, 2010)

The 2010 Target helped. Now what?

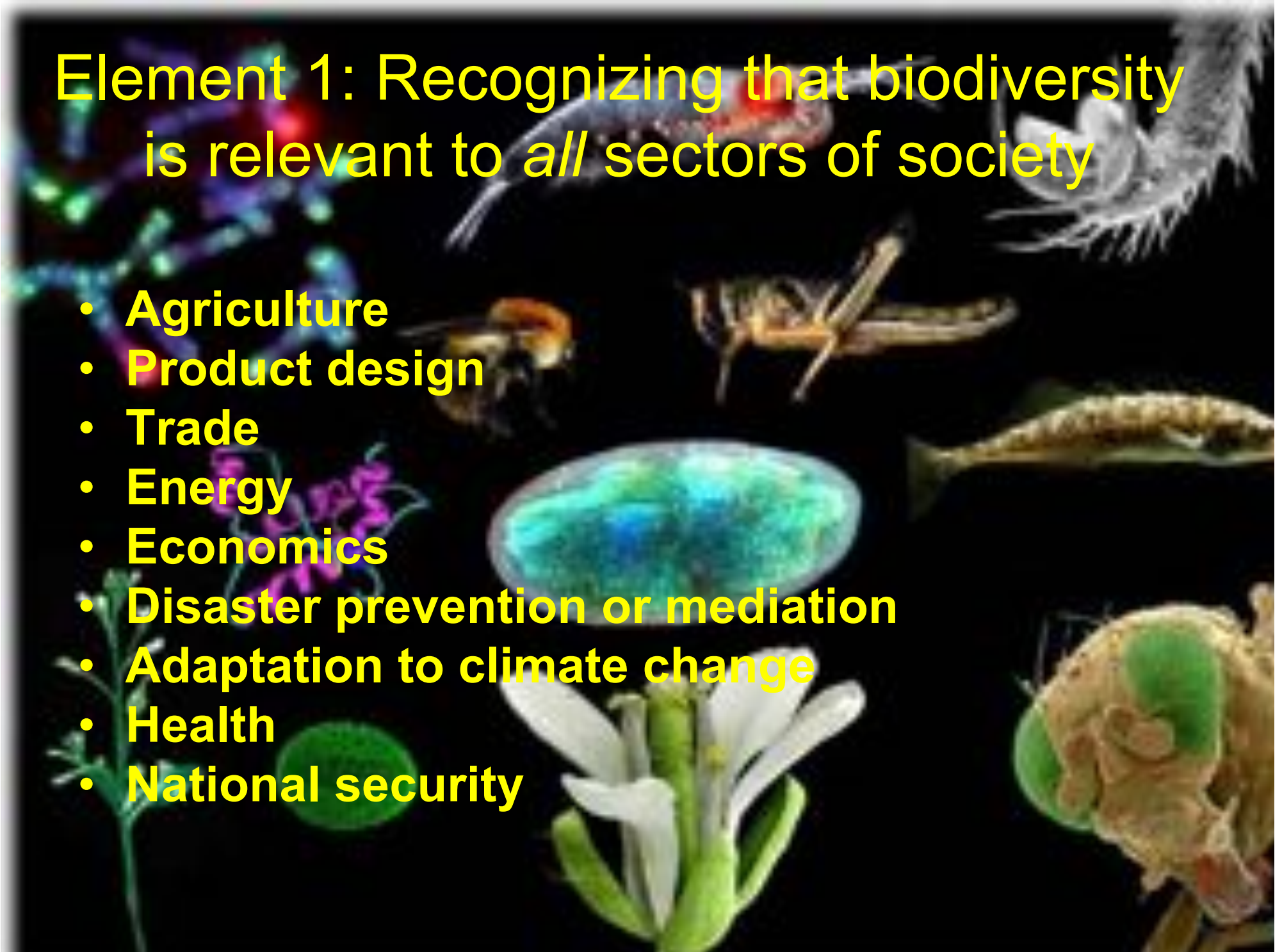


CBD COP 10 in Nagoya agreed a new Strategic Plan, new efforts at financial support, a Protocol on Access and Benefit Sharing, and over 20 other decisions.



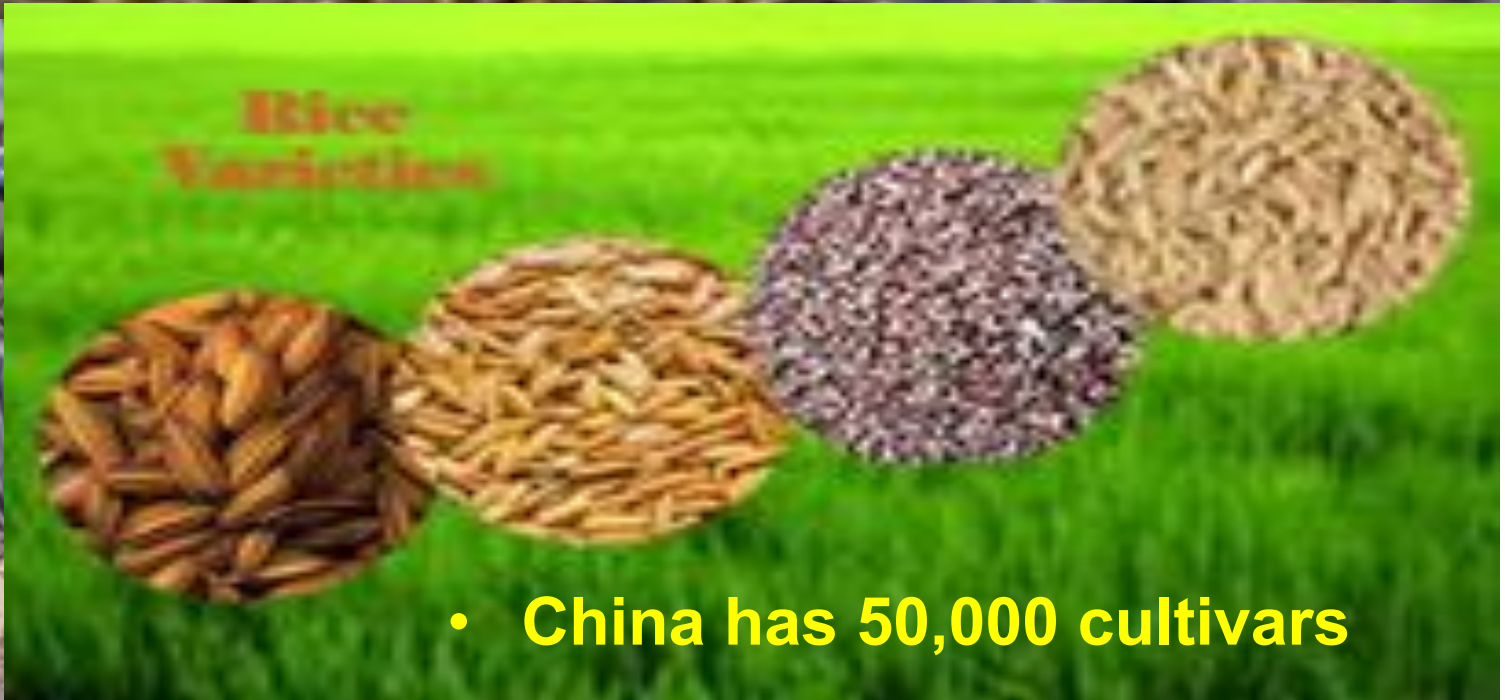
Element 1: Recognizing that biodiversity is relevant to *all* sectors of society

- Agriculture
- Product design
- Trade
- Energy
- Economics
- Disaster prevention or mediation
- Adaptation to climate change
- Health
- National security



AGRICULTURE AND BIODIVERSITY

Biodiversity conservation means saving the genetic diversity provided by wild relatives of domestic plants and animals



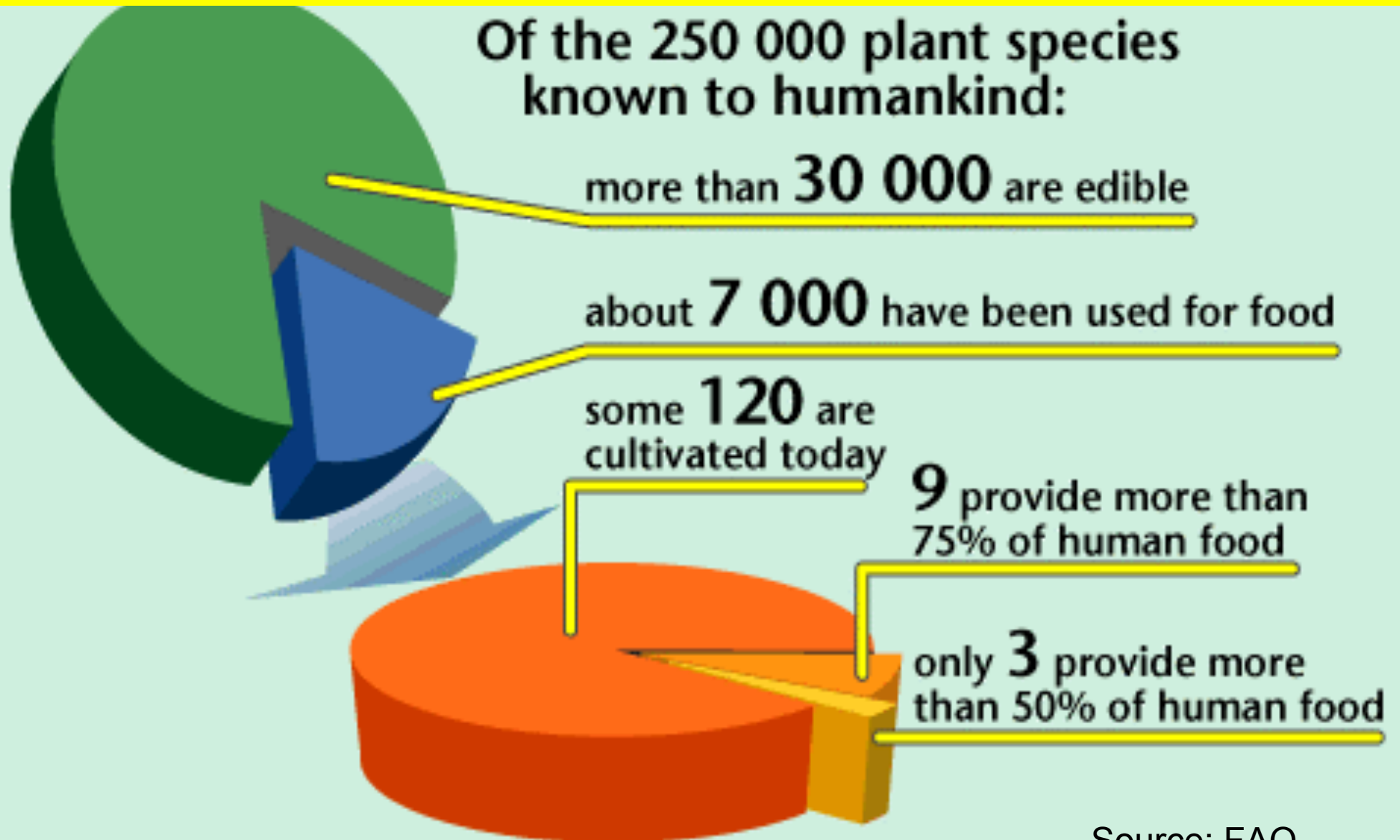
- China has 50,000 cultivars



Pollinators provide services worth billions of dollars to agriculture



Potential new food crops have considerable potential



Source: FAO

Biodiversity and Product Design



Swiss Re Tower





A bullet train in Japan that is able to emerge from tunnels at high speed, without causing excess air turbulence, based on a kingfisher's design



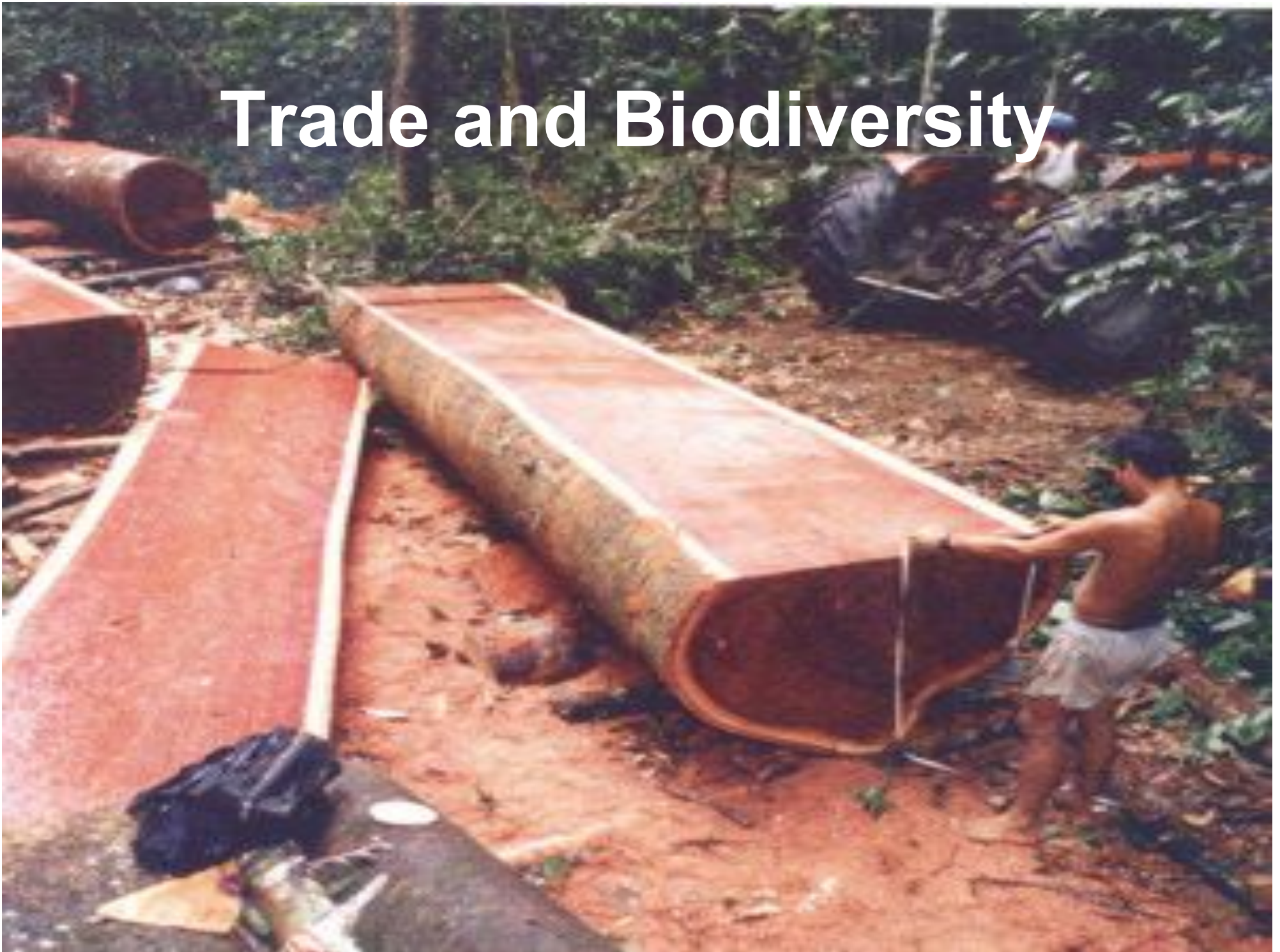
Mercedes-Benz
used the
boxfish as a
model to
produce a car
that had 65%
lower drag
coefficient than
any other
compact
available at that
time (2005)





**Sto-Coat Lotusan
paint**

Trade and Biodiversity





40% of world trade is based on biological products or processes



A photograph of a large container ship docked at a port at night. The ship is red and white, with many colorful shipping containers stacked on its deck. In the background, there are large gantry cranes and bright port lights illuminating the scene. The water is dark, and the sky is a deep blue.

International shipping has increased by a factor of 15 over the past several decades



Russian knapweed
Centauria repens



Kudzu
Pueraria lobata



Johnsongrass
Sorghum halepense



Medusahead
Taeniatherum
caput-medusae



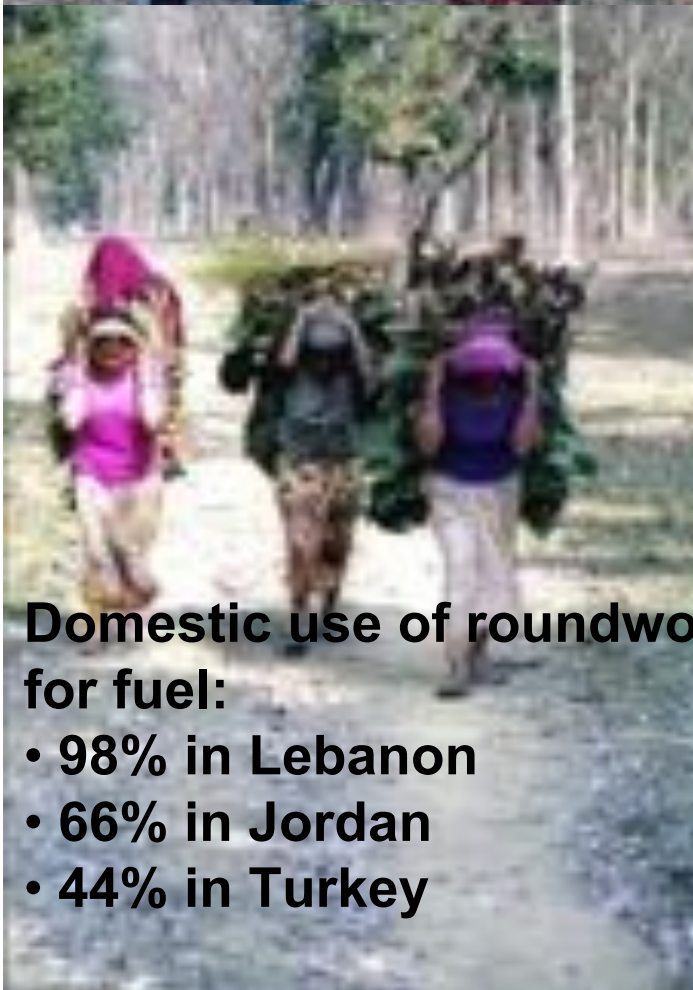
Field bindweed
Convolvulus arvensis

Annual costs associated with Invasive Alien Species

South Africa	US\$ 7 billion
UK	US\$ 12 billion
Australia	US\$ 13 billion
Brazil	US\$ 50 billion
China	US\$ 15 billion
USA	US\$ 160 billion

Energy and Biodiversity

Nepal: 90% of energy comes from fuelwood



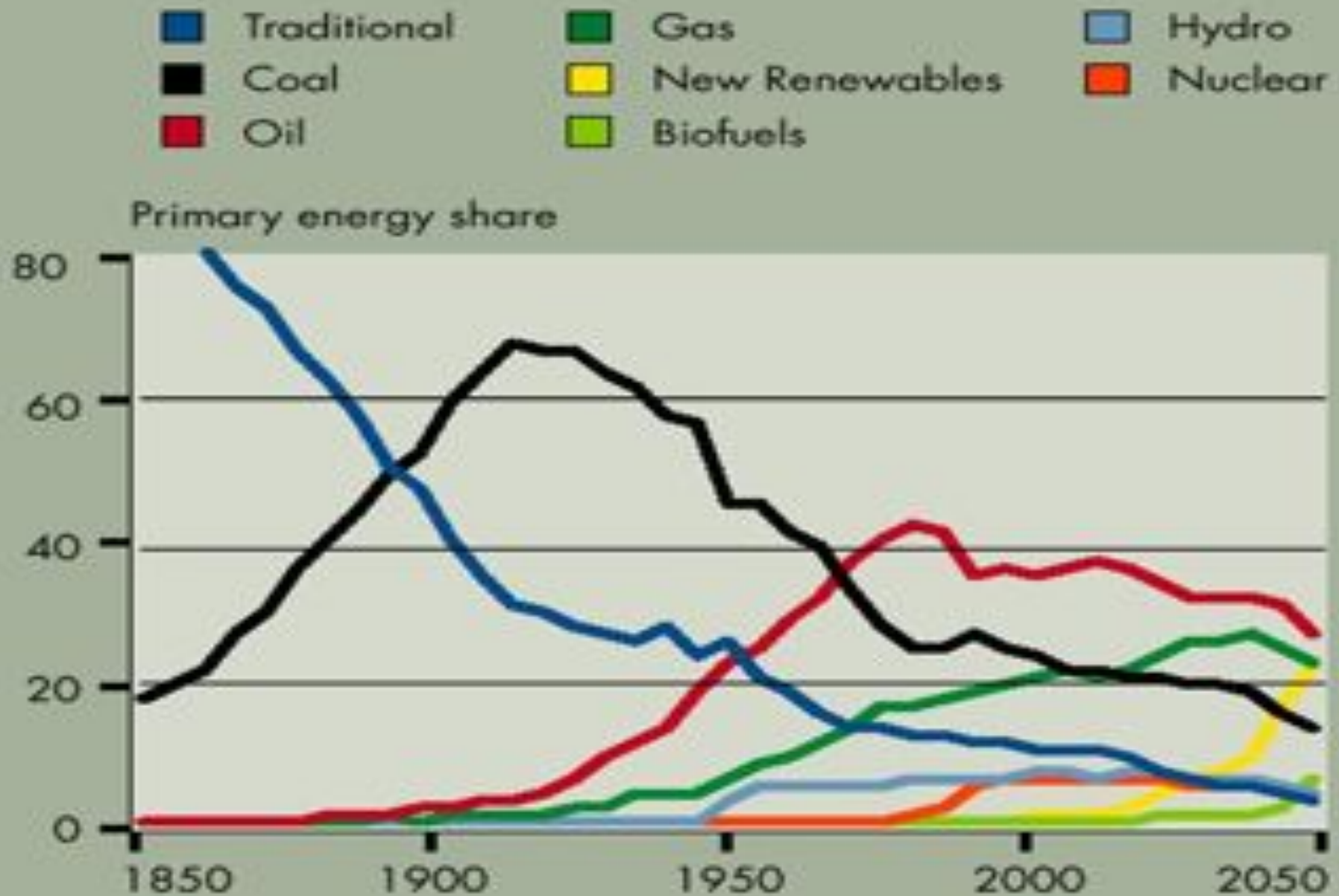
Domestic use of roundwood for fuel:

- 98% in Lebanon
- 66% in Jordan
- 44% in Turkey



Globally, 2 billion people rely on traditional biomass fuels.

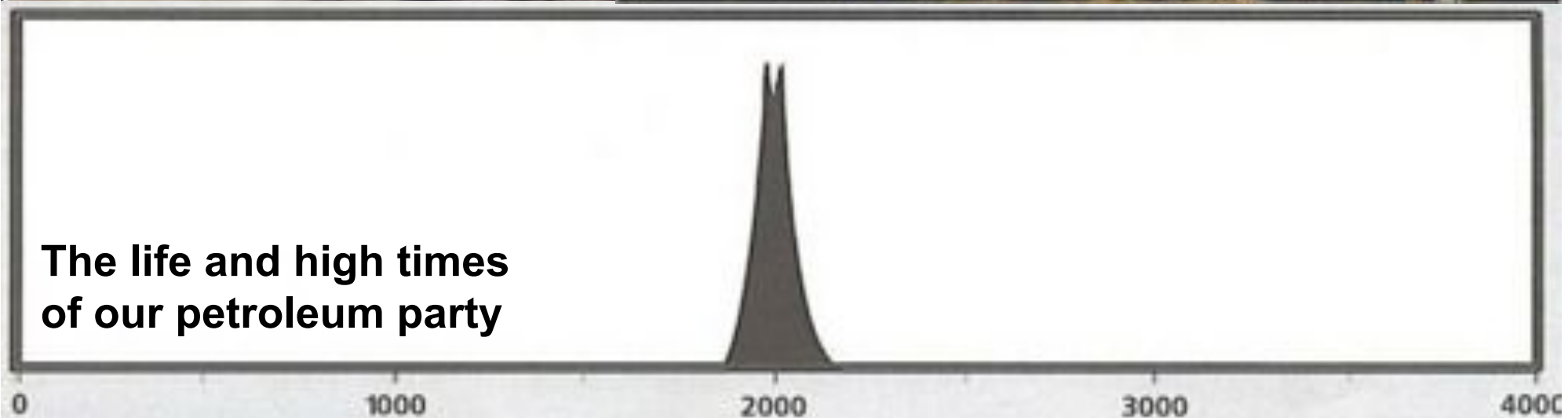
We need to look at all the options



Source: International Energy Agency



**The life and high times
of our petroleum party**



This Ferrari F430 runs on biofuel

Is it ethical to burn crops for fuel to run luxury automobiles when over 900 million people are hungry?



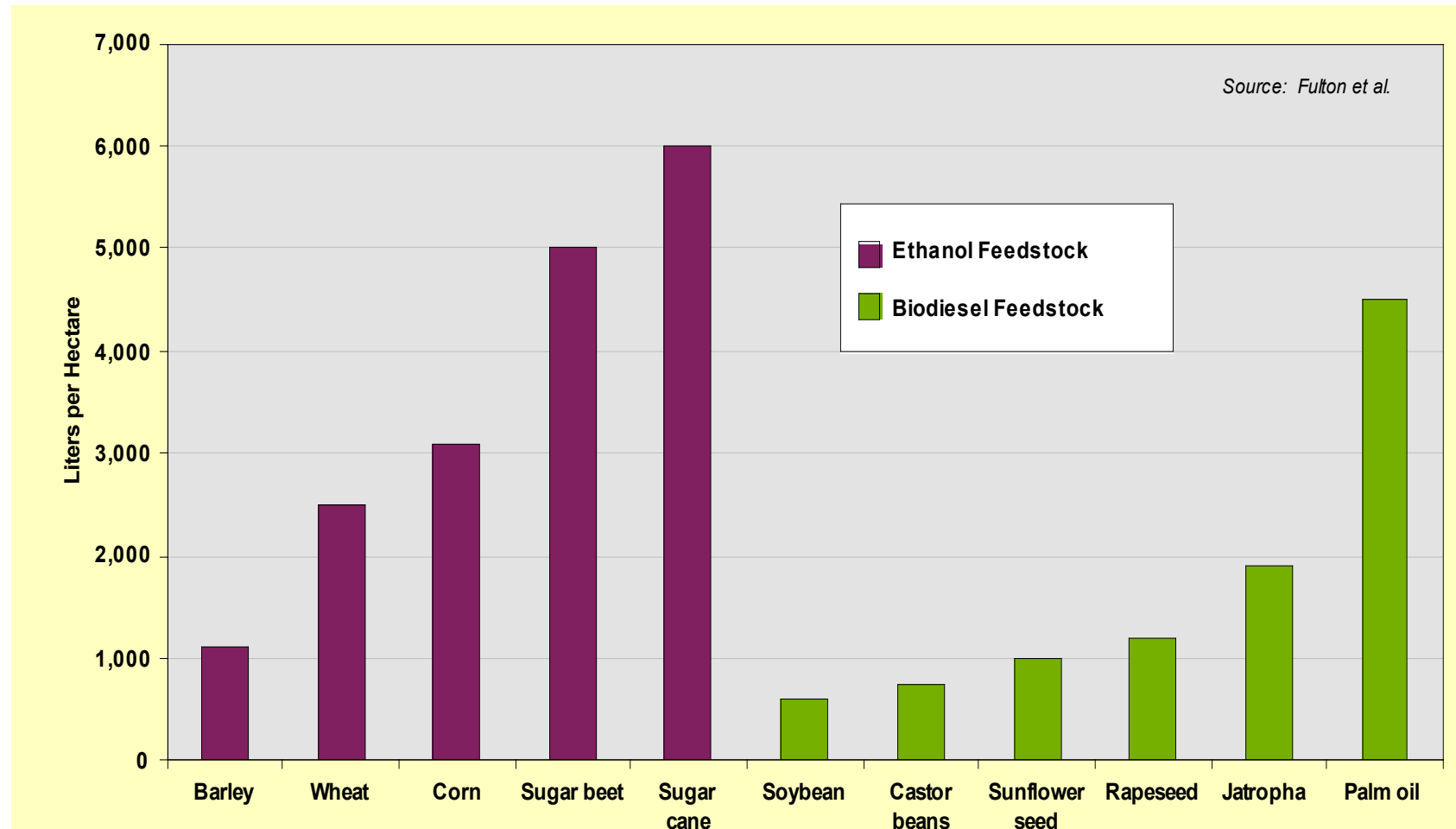


A post-petroleum future?


Alternatives to Oil: Biomass



Biofuel yields of selected first generation ethanol and biodiesel feedstock (l not c)



2000-2005, Indonesia planted 1.6 million ha of oil palm, with US\$110 million in government subsidies. 9.8 million ha of forest were lost.



Forest growing on peat soils in Indonesia are burned to make way for oil palm plantations

**Releasing more carbon than
will ever be stored by the palms**

Source: UNEP

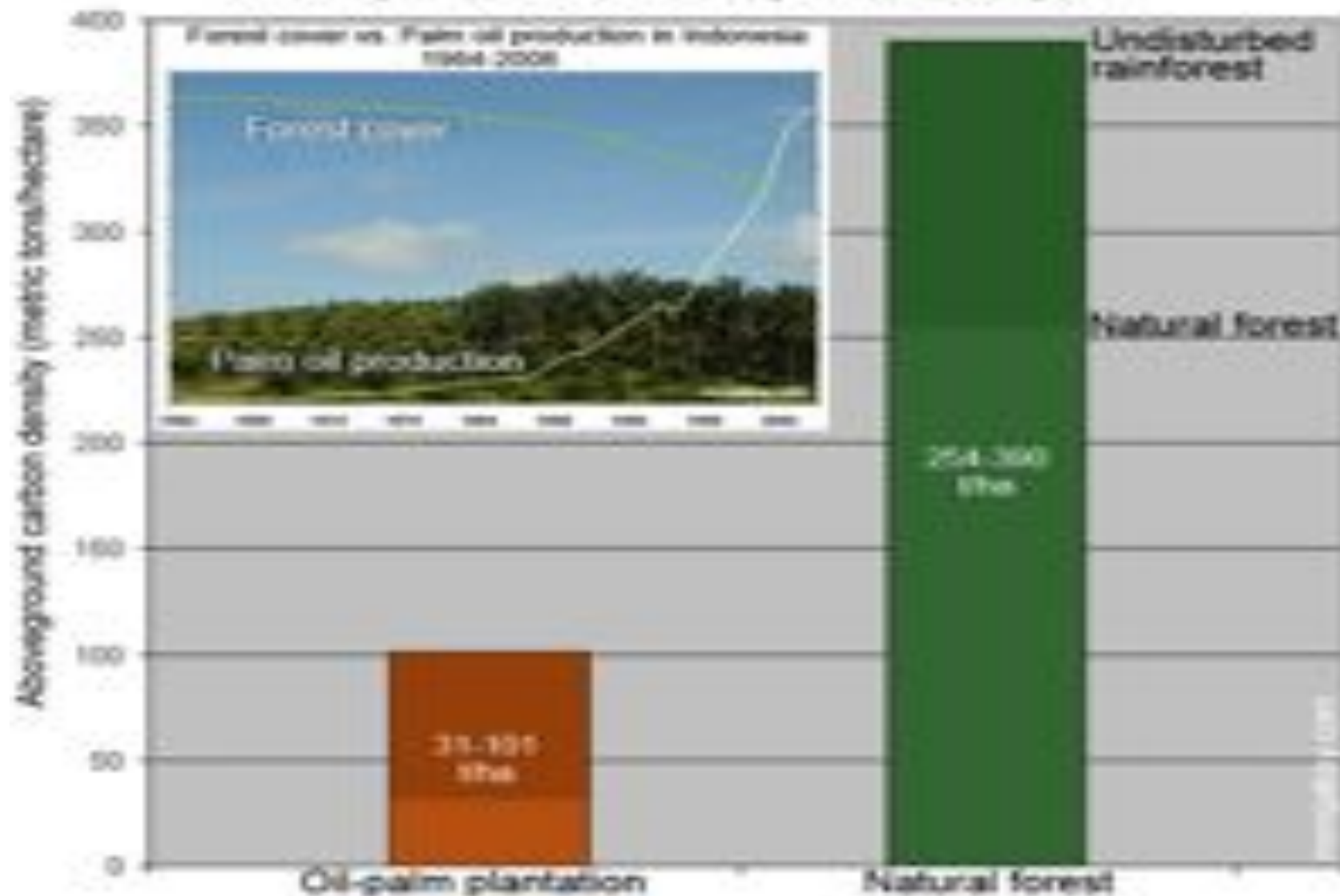
**“Son, let me try to
explain why they are
burning our forest....”**

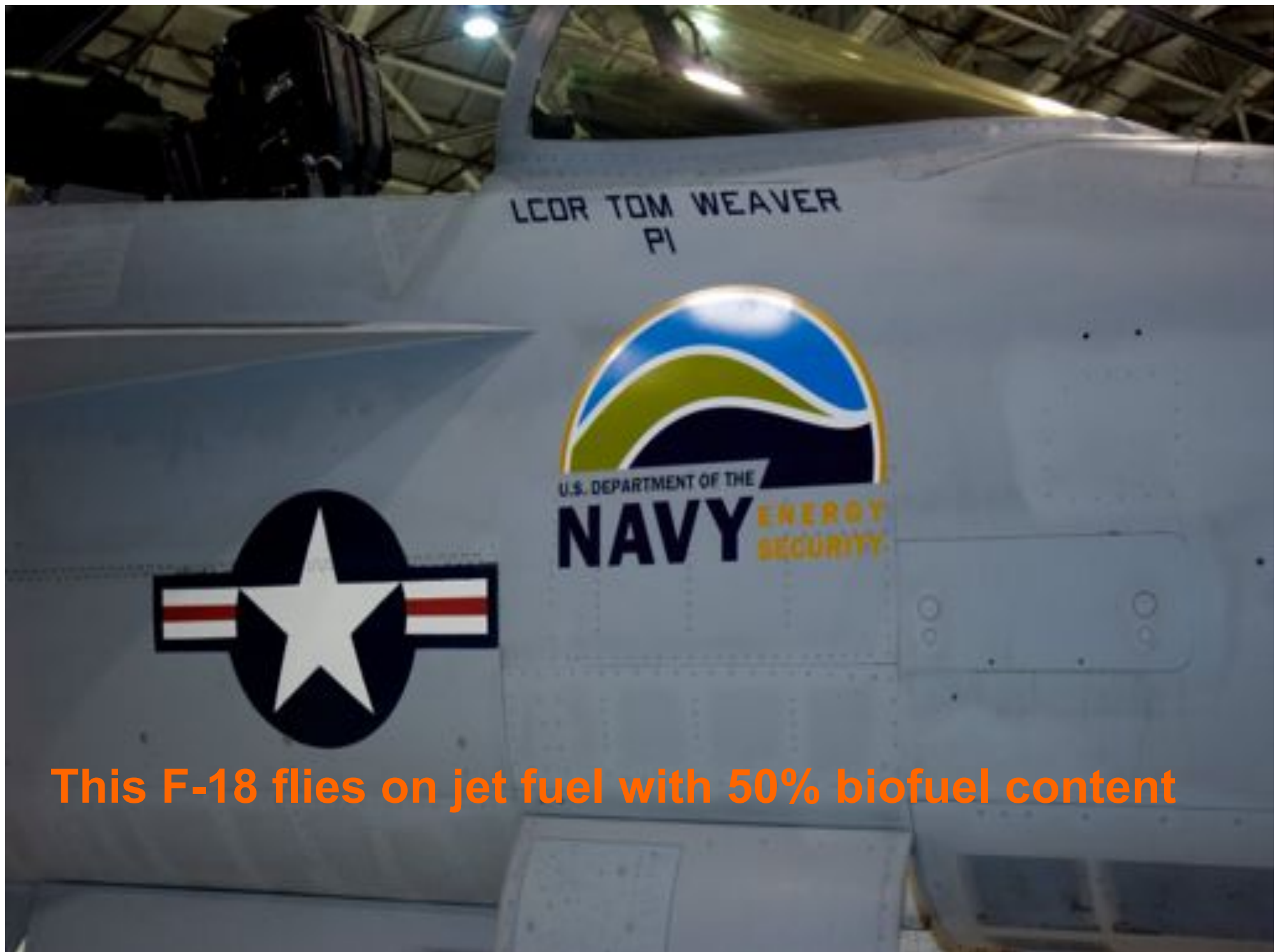


Natural forest stores more carbon than oil palm plantations in Indonesia

Aboveground carbon density (metric tons/hectare)

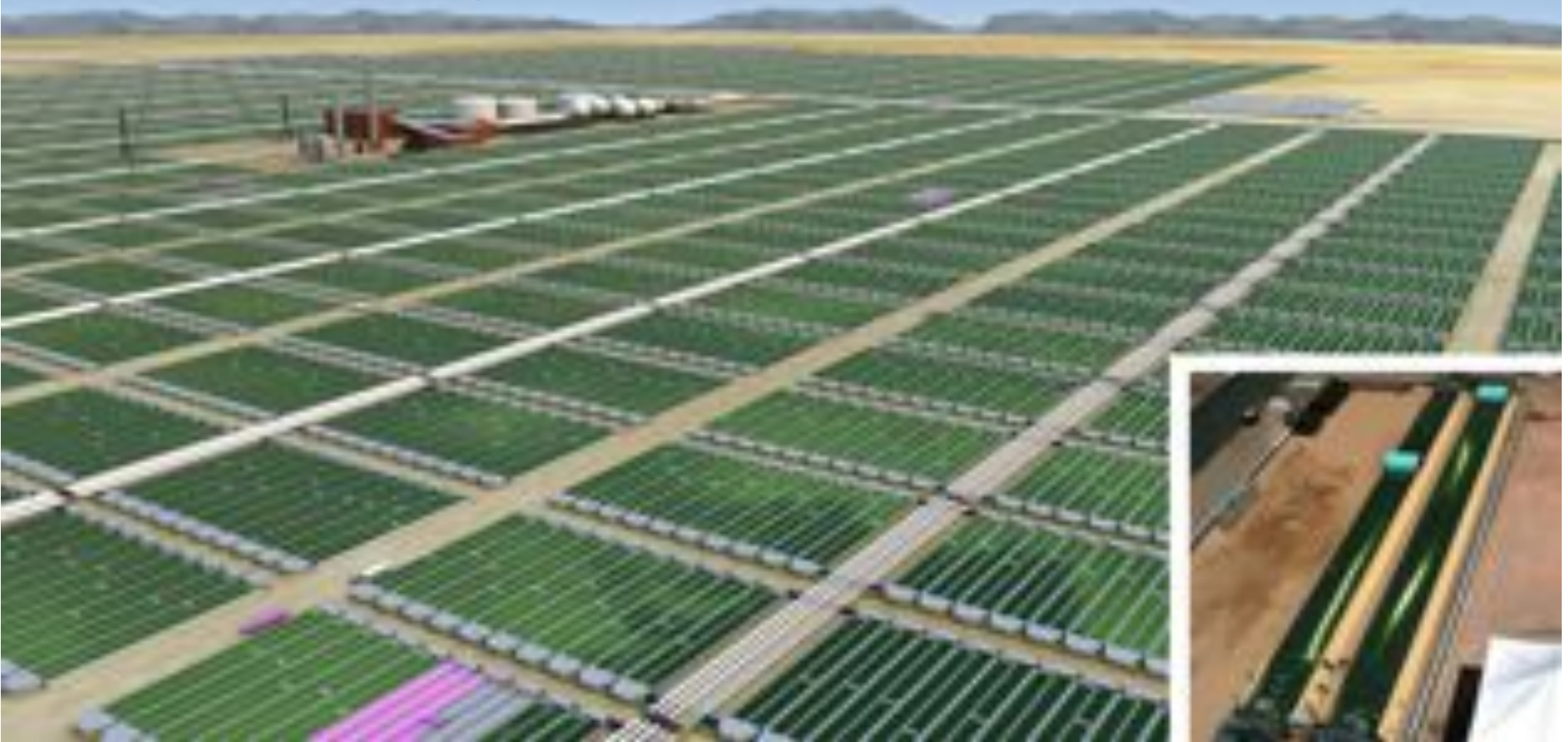
sources: Sitorus 2008, Leco 2002, Marah 2001, Eijgenhuijs 2006, Kurniawan 2008





This F-18 flies on jet fuel with 50% biofuel content

“Third generation” biofuels?



Colorado's Solix Biofuels harvests algae with a field of bioreactors that take a kind of painter's dropcloth to bubble CO through its system

An aerial photograph showing a massive, dense field of green marine algae, likely Botryococcus braunii, covering a large area of water. The algae appear as a textured, green carpet. In the upper left, a small figure of a person is visible, providing a sense of scale to the vastness of the algal bloom. The water around the algae is a darker green color.

Marine algae:

10 times the oil content of oil palm
(*Botryococcus braunii* produce 75%
of their dry weight as hydrocarbons)

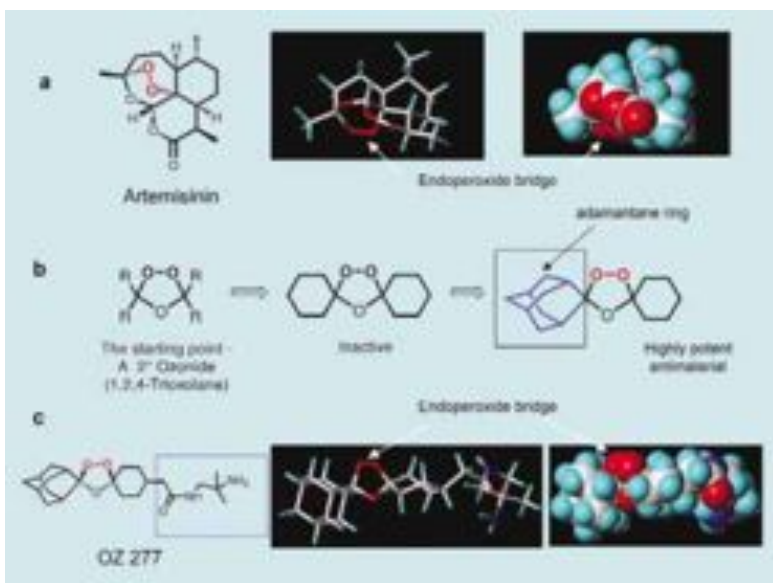
Biodiversity and Disaster Prevention





Health and Biodiversity





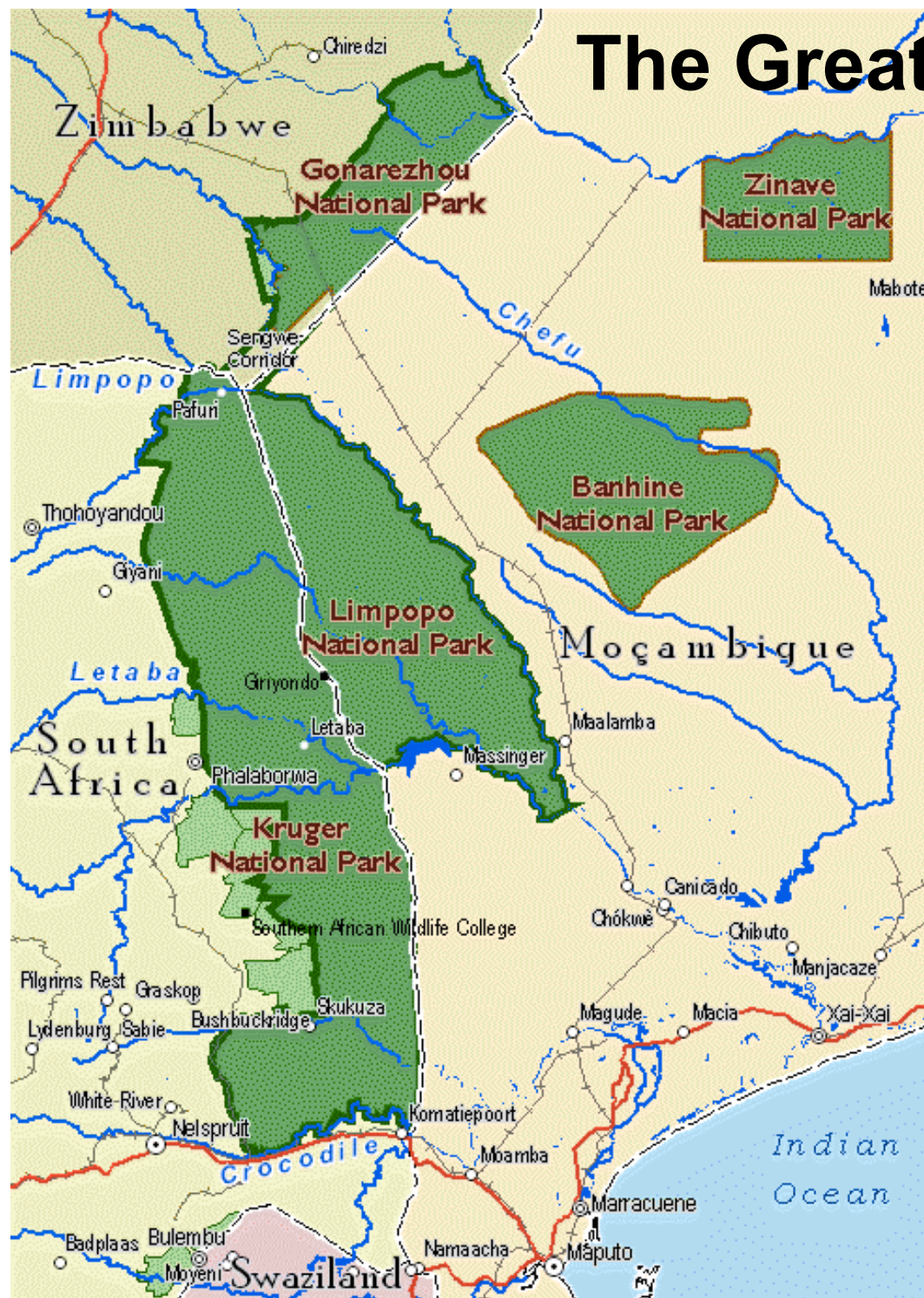
Artemisia annua





Security and Biodiversity

The Great Limpopo Peace Park



Cordillera del Condor International Peace Park





Alberto Fujimori

Jamil Mahuad

**Making peace through transnational parks
makes political sense**



The Alchemist Cafe
Dublin

Biodiversity
The Science Behind the Slogans!

BIOFOREST

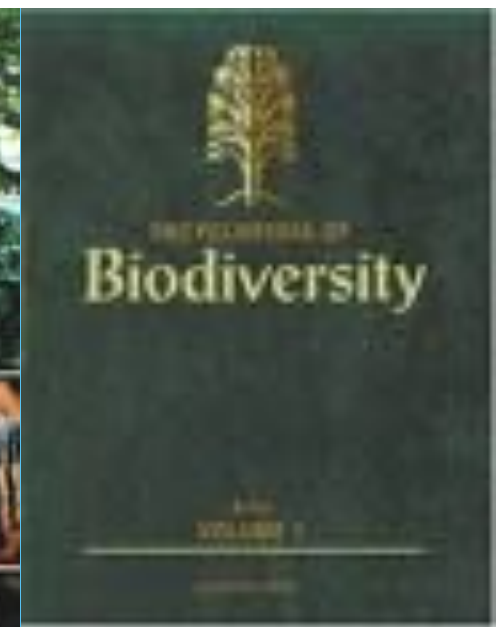
7.45pm on the 9th of November in
The Mercantile, Dame Street

Dr. George Smith of BIOFOREST project, Trinity College Dublin will be discussing biodiversity; what it really is, how it is affecting us all now, and will affect us in the future.

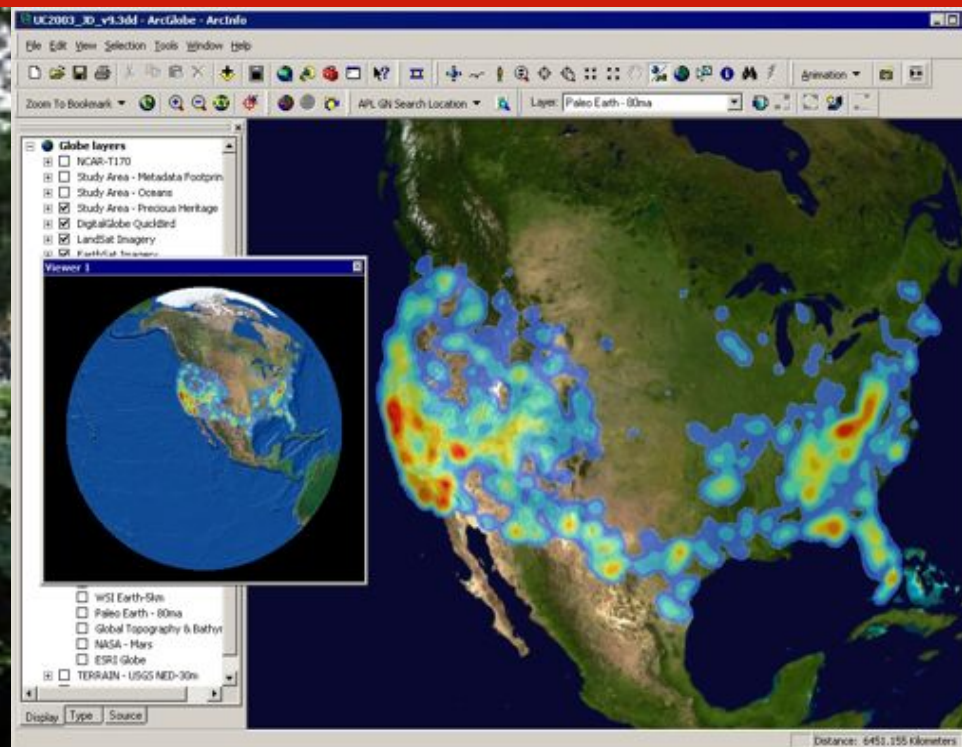
Admission is free and there is finger food provided

In Association with **cpl**

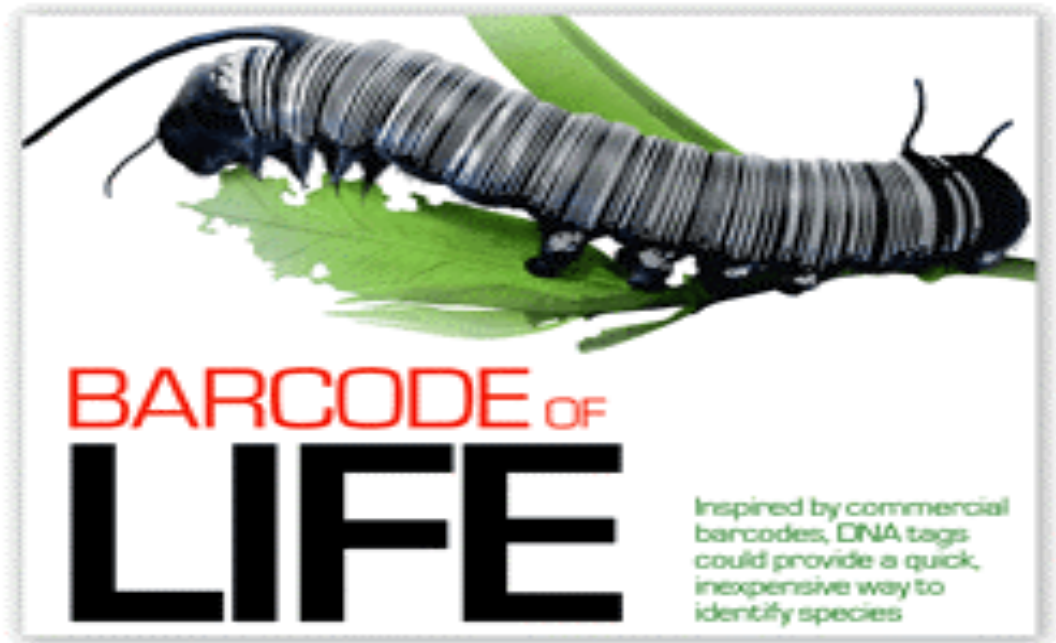
www.alchemistcafe.cjb.net



Element 2: Build stronger scientific support



**Let's mobilize
the scientific
community to
record all life
on Earth**



CENSUS OF MARINE LIFE

The Census of Marine Life is a global network of researchers in more than 80 nations engaged in a 10-year scientific initiative to assess and monitor the diversity, distribution, and abundance of marine life in the oceans. The world's first comprehensive Census of Marine Life—past, present, and future—will be released in 2010.

Arctic Ocean Biodiversity

Arctic Ocean biodiversity is a complex and dynamic system, with many species and habitats that are unique to the region.

Antarctic Marine Life

Antarctic marine life is a complex and dynamic system, with many species and habitats that are unique to the region.

Coastal and Shallow Marine Life

Coastal and shallow marine life is a complex and dynamic system, with many species and habitats that are unique to the region.

Deep-Sea Marine Life

Deep-sea marine life is a complex and dynamic system, with many species and habitats that are unique to the region.

Marine Life on Seamounts

Marine life on seamounts is a complex and dynamic system, with many species and habitats that are unique to the region.

Biogeography of Deep-Sea

Biogeography of deep-sea is a complex and dynamic system, with many species and habitats that are unique to the region.

History of Marine Deep-Seas

History of marine deep-seas is a complex and dynamic system, with many species and habitats that are unique to the region.

Continental Margins

Continental margins are a complex and dynamic system, with many species and habitats that are unique to the region.

Seamounts and Ridges

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History of Marine Animal Populations

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Global of Marine Area Programs

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www.coml.org



- Took 10 years
- Cost \$650 million
- Discovered 5000 new species



RAFFLES



OF

BIODIVERSITY

MUSEUM



RESEARCH

Project BudBurst

A National Phenology Network Field Campaign for Citizen Scientists



Participate!



Resources



Report
Observations



Phenology



Climate Change



Results

How many?

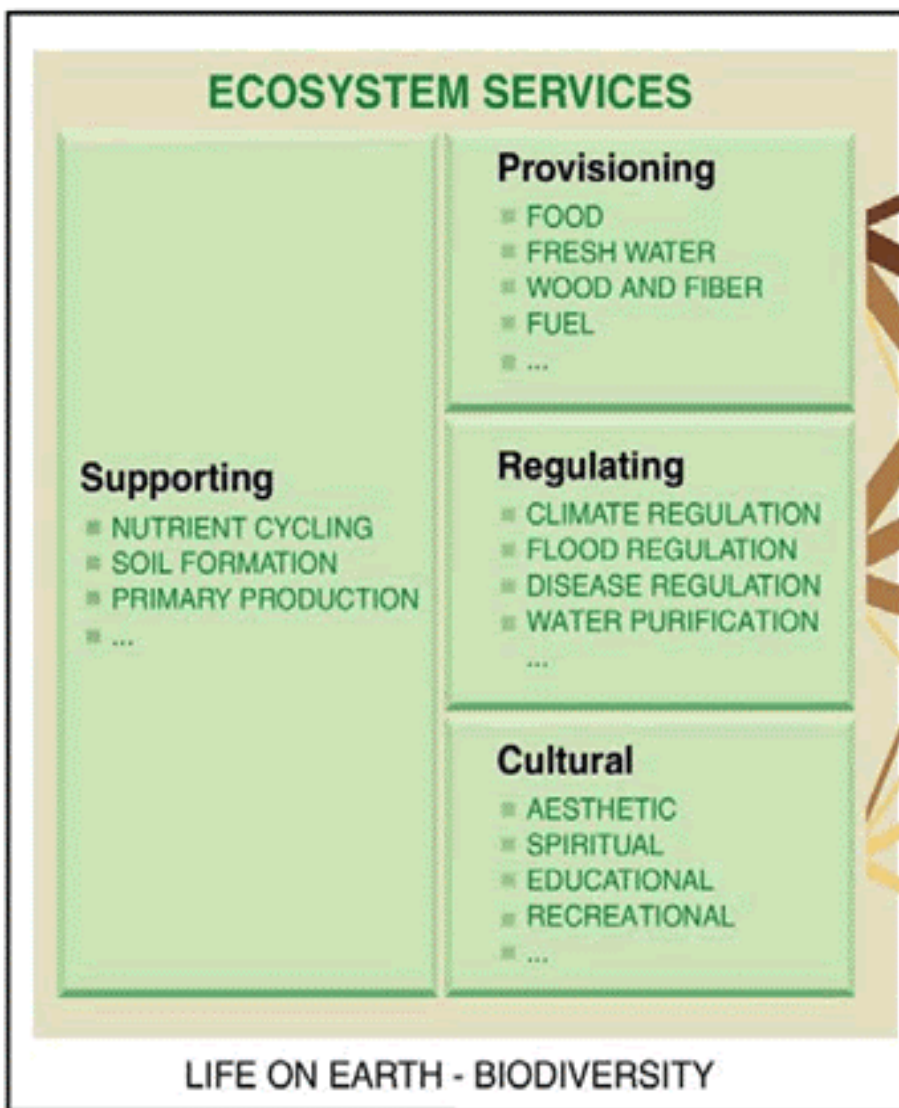
THE CHRISTMAS BIRD COUNT

**Citizen
biodiversity
monitoring**

Brazilian elodea and Hydrilla

invasive species
watch

Can Japan's gardeners
be mobilized for
biodiversity?



CONSTITUENTS OF WELL-BEING

Security

- PERSONAL SAFETY
- SECURE RESOURCE ACCESS
- SECURITY FROM DISASTERS

Basic material for good life

- ADEQUATE LIVELIHOODS
- SUFFICIENT NUTRITIOUS FOOD
- SHELTER
- ACCESS TO GOODS

Health

- STRENGTH
- FEELING WELL
- ACCESS TO CLEAN AIR AND WATER

Good social relations

- SOCIAL COHESION
- MUTUAL RESPECT
- ABILITY TO HELP OTHERS

Freedom of choice and action

OPPORTUNITY TO BE ABLE TO ACHIEVE WHAT AN INDIVIDUAL VALUES DOING AND BEING

Source: Millennium Ecosystem Assessment

ARROW'S COLOR

Potential for mediation by socioeconomic factors

Low

Medium

High

ARROW'S WIDTH

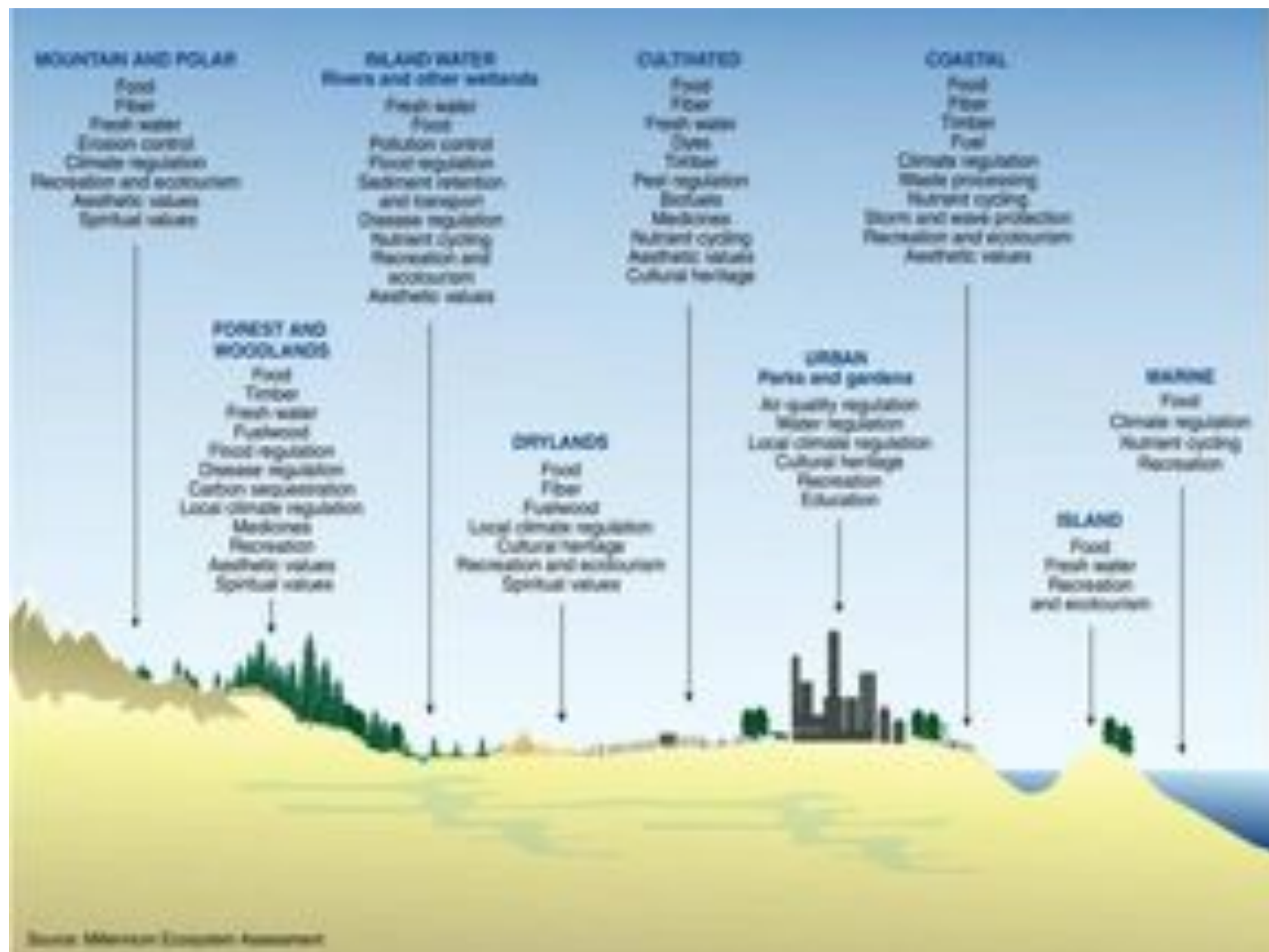
Intensity of linkages between ecosystem services and human well-being

Weak

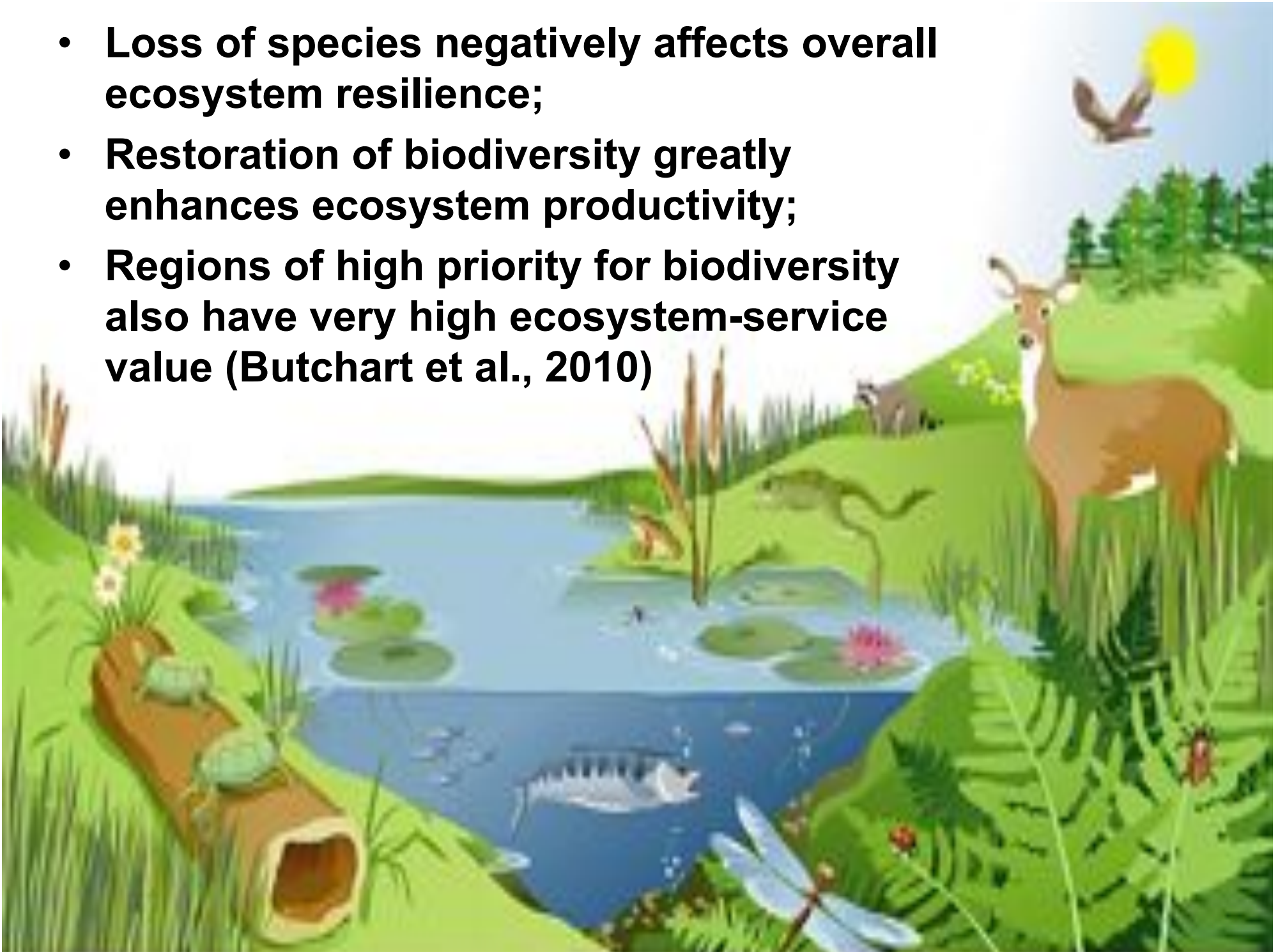
Medium

Strong

Element 3: Build on ecosystem services



- **Loss of species negatively affects overall ecosystem resilience;**
- **Restoration of biodiversity greatly enhances ecosystem productivity;**
- **Regions of high priority for biodiversity also have very high ecosystem-service value (Butchart et al., 2010)**



Element 4: Build strong public support





ANDES to AMAZON

These six programs take us from the depths of the Amazon basin to the icy peaks of the Andes, from the great plains and grasslands, through the vibrant jungle rainforest to the continent's spectacular coastline - on a journey of a lifetime.

BBC

BBC DVD

WILD SOUTH AMERICA ANDES to AMAZON

THE COMPLETE SERIES

Wild South America - A Natural History of the Continent, explores the exciting, diverse and unique wildlife that inhabits the dramatic landscapes of the vast South American continent. It is a land of great extremes, stretching from the Equator almost to the Antarctic, from tropical seas to ice-capped peaks, and it has the planet's greatest river system, longest mountain chain, biggest and richest rainforest and driest desert. Using the latest camera techniques, including infrared night vision cameras, we show little known animals, whilst our specialist aerial cameraman soars over the continent, revealing an entirely new perspective on its varied and dramatic landscape.

- | | |
|------------------|-------------------|
| 1. Lost Worlds | 4. Andes |
| 2. Mighty Amazon | 5. Amazon Jungle |
| 3. Great Plains | 6. Penguin Shores |

WILD

SOUTH AMERICA

DURATION: 200 min	Programs (2000-2001) No.	BBC	NATURAL HISTORY UNIT PRODUCTIONS
E	1	ENGLISH	COLOUR
		16:9	WIDE SCREEN

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DVD

BBC

DVD
VIDEO



NATIONAL BESTSELLER

Last Child in the Woods

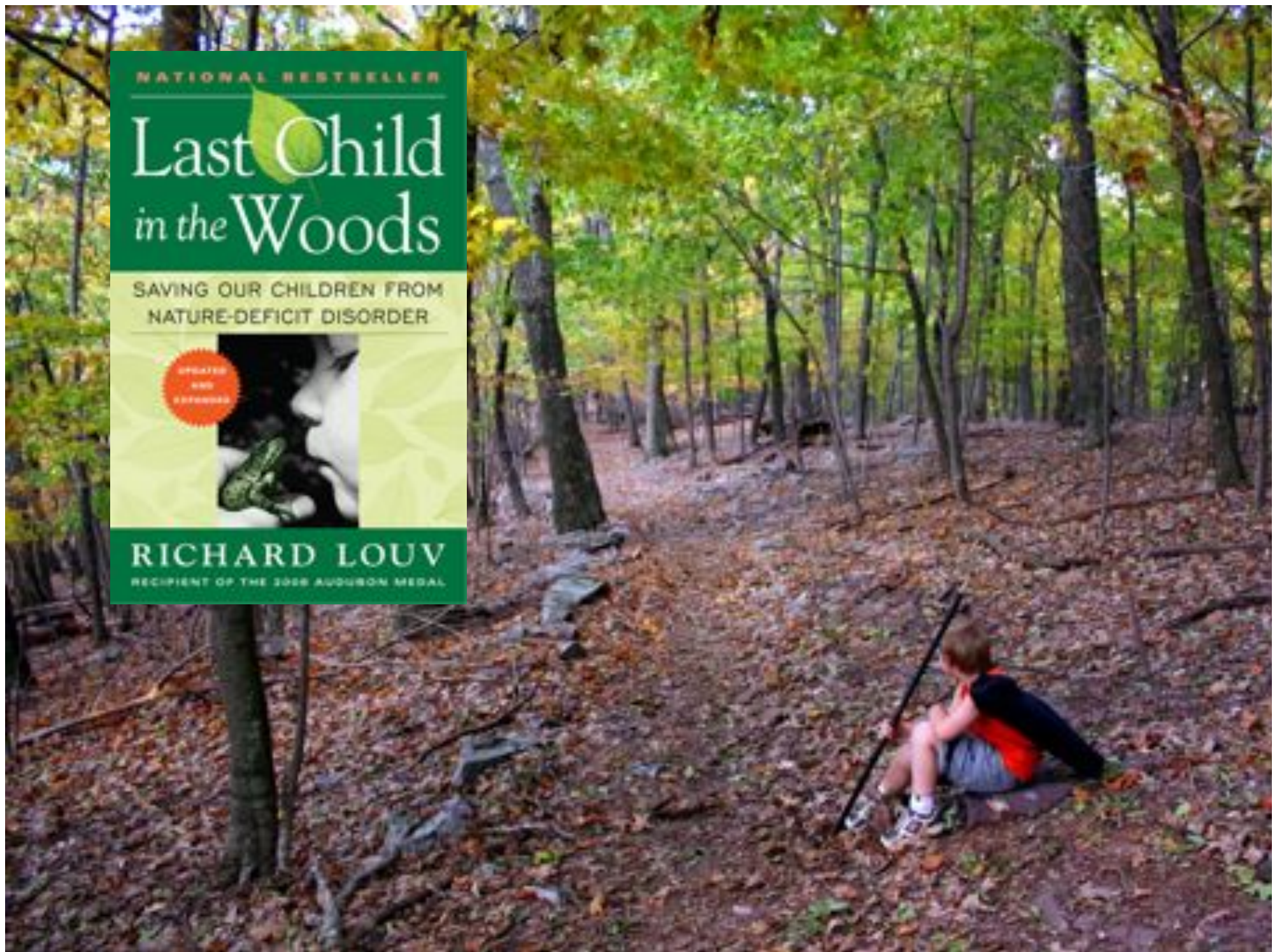
SAVING OUR CHILDREN FROM
NATURE-DEFICIT DISORDER

UPDATED
AND
EXPANDED

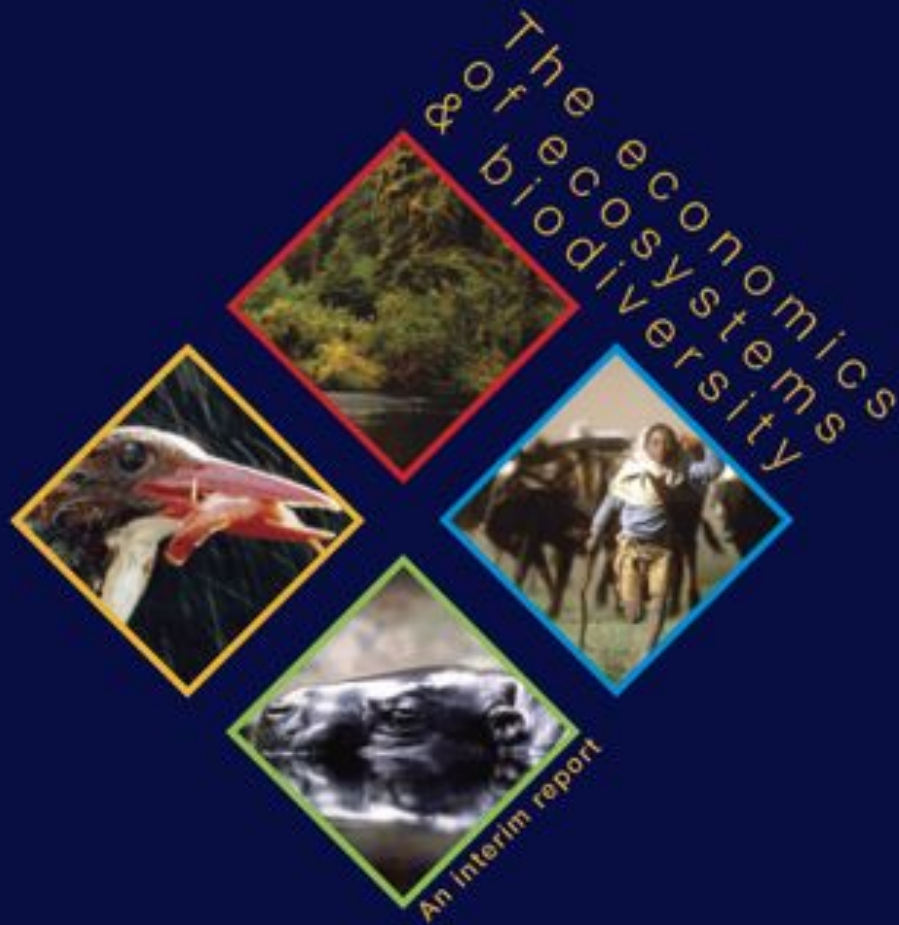


RICHARD LOUV

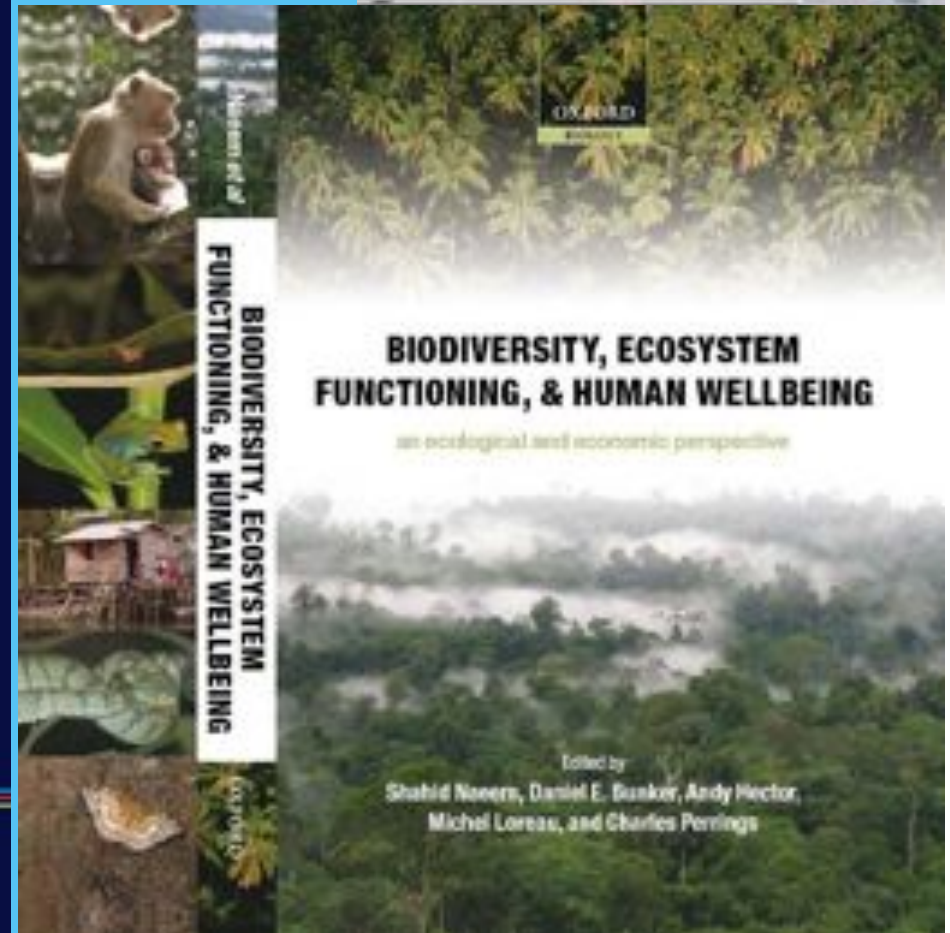
RECIPIENT OF THE 2006 AUDUBON MEDAL




Element 5: Build a strong economic dimension



www.teebweb.org

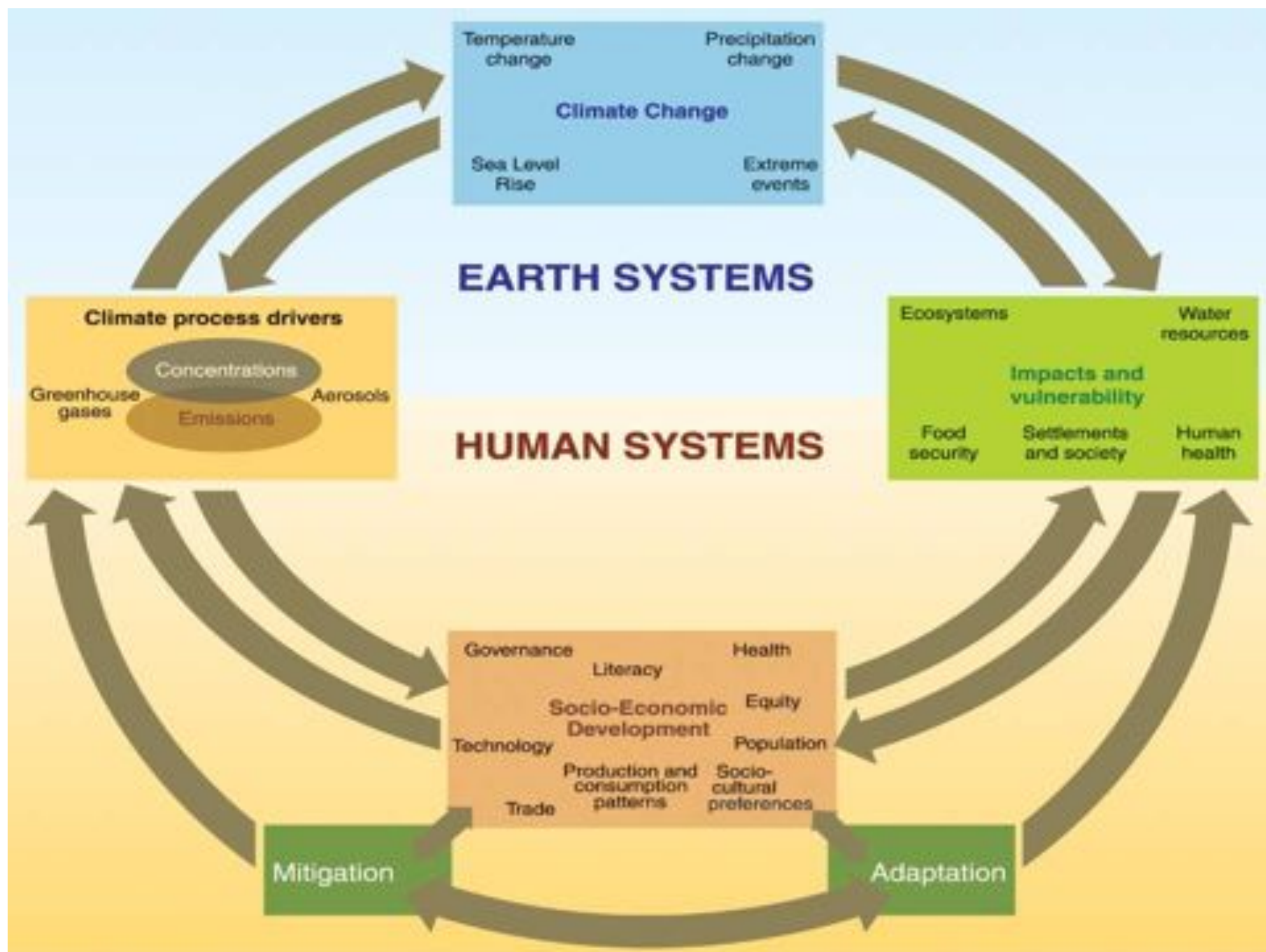




**Coral value:
\$115,704-1,139,190/ha/yr
(based on 83 studies –TEEB, 2009)**



**Tropical forest value:
\$6,120 – 16,362/ha/yr
(based on 109 studies – TEEB 2009)**







Implement

- Save Biodiversity
- Show commitment and act accordingly



Analyze

- Keep a tab on progress (if any)
- Periodic Analysis



Public Involvement

- Involve public
- Devise community programs

