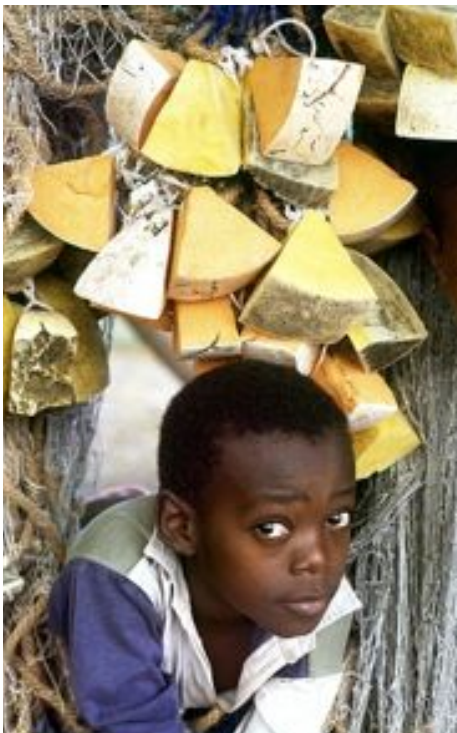


Globaler Biodiversitätsverlust: Haben wir noch Chancen?

Dr. Claude Martin
Former Director General WWF International



WANTED
INFORMATION
LEADING TO THE CONVICTION OF
TOOTHFISH PIRATES



**US\$100,000
REWARD**

CETO (the coalition of legal toothfish operators) offers a reward of US\$100,000 to any person who gives information leading to the conviction on significant illegal fishing charges of fishermen, companies, directors or employees taking part in their illegal fishing activities in the Patagonian toothfish fishery.

CETO is also offering rewards at its discretion of varying amounts up to US\$50,000 for information it considers critical in stopping or significantly reducing unauthorized fishing in the Patagonian toothfish fishery. These rewards cover illegal and unregulated activities in any aspect of global Patagonian toothfish fisheries and trade.

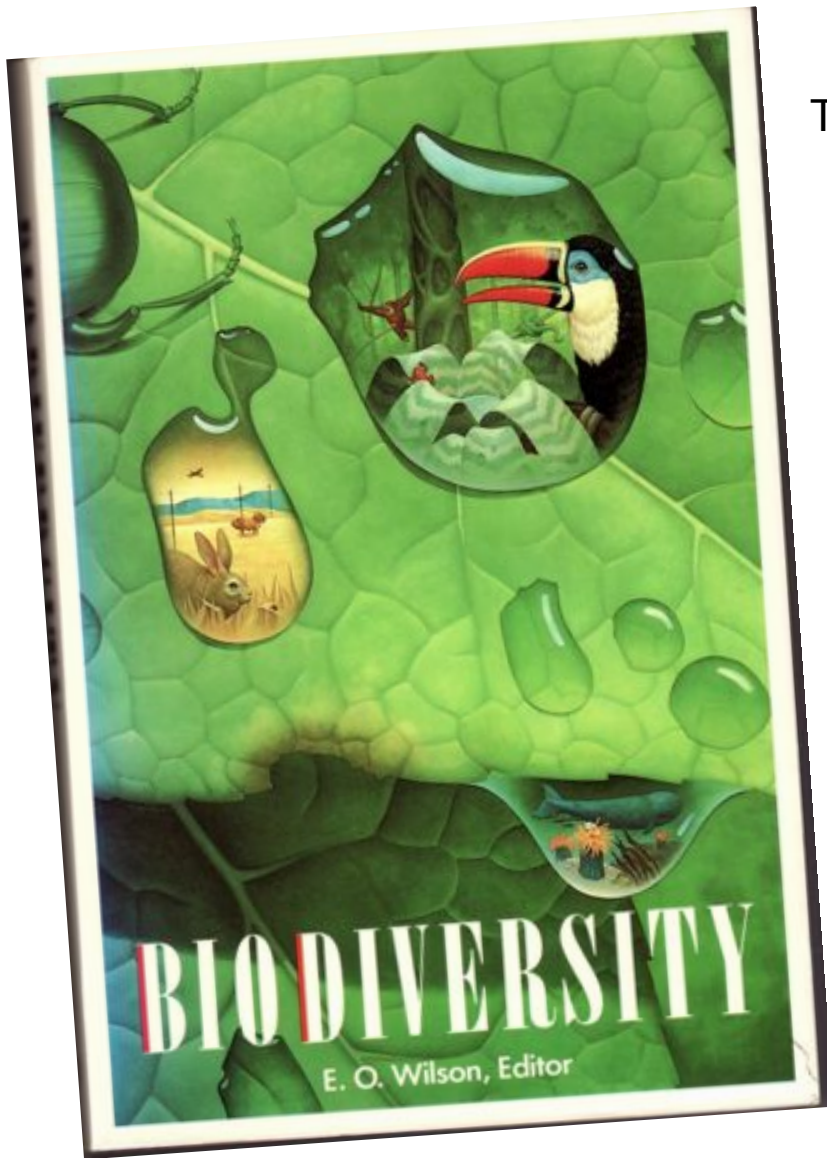
Send your information to wanted@ceto.org or visit the CETO website www.CETO.org or make a FREE phone call to

FREE CALL 1800 202 212



CETO represents international legal toothfish operators. Support legal and sustainable toothfish fishing. Sustained is also known as Chilean Sea Bass, Hake and megarhinichthys de profundis.





Term first used by Raymond F. Dasmann in 1970s

Biodiversity : the variation of life forms within a given ecosystem, biome or the entire Earth

= **“Nature”**

Today defined as the “totality of genes, species and ecosystems”:

A multilevel concept of:

- genetic diversity
- species diversity
- ecosystem diversity

1988 Proceedings of 1986 (US) National Forum on Biological Diversity organized by NRC



April 2002 CBD Biodiversity Target,
endorsed by WSSD in 2002:



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

How to measure it ?

Peter Drucker: “If you can’t measure it, you can’t manage it”



Protected areas target as “Substitute”: “By 2010 terrestrially and 2012 in the marine area, a global network of comprehensive, representative and effectively managed national and regional protected area system is established” (CBD 2004).

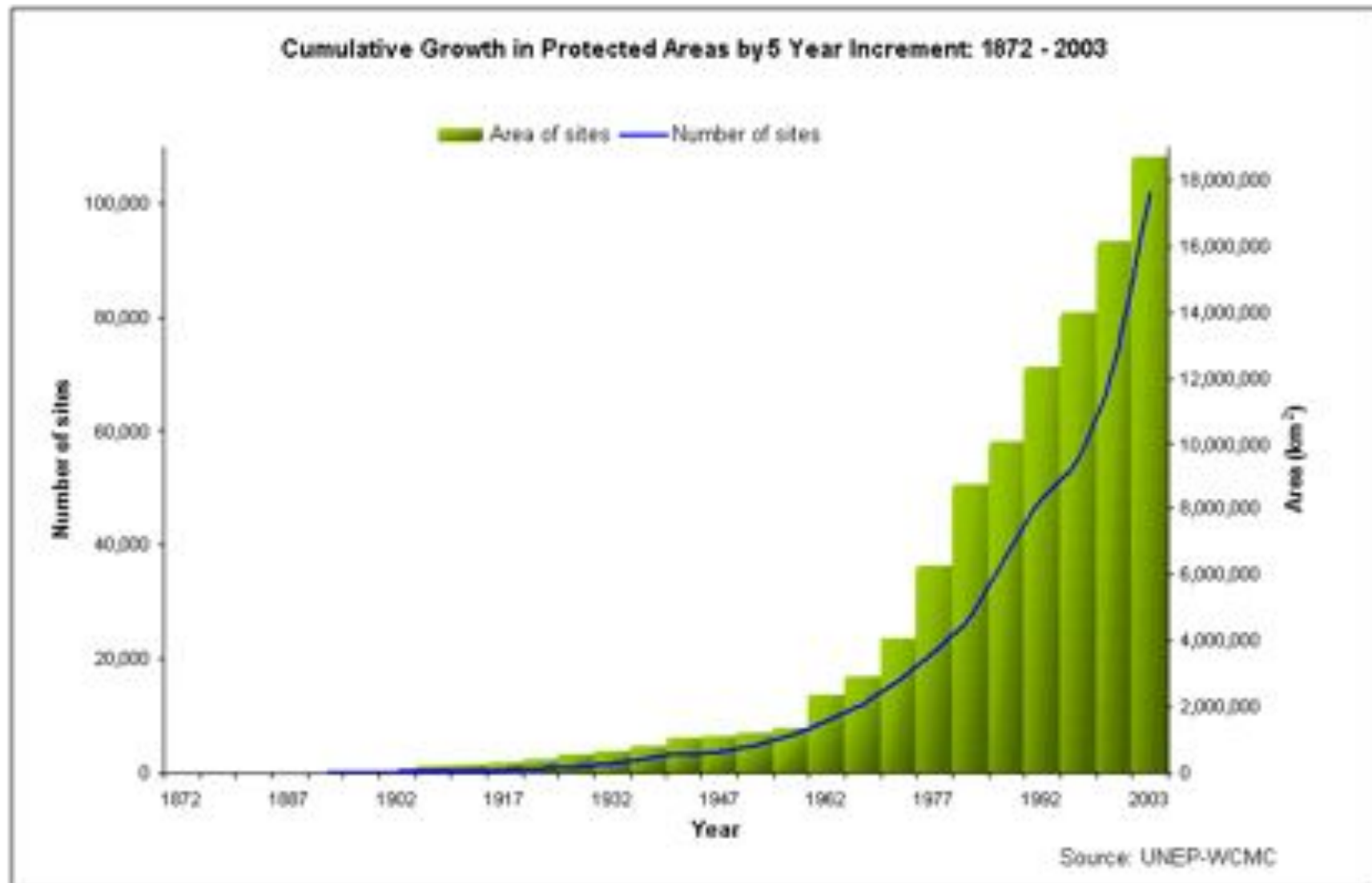
Nagoya 2010:
By 2020 increase protected areas to 17 % of terrestrial area (from currently 12%), and 10 % of marine areas (from currently 1%).

East Africa Marine Ecoregion:

21 sites of global, ecoregional and sub-regional importance

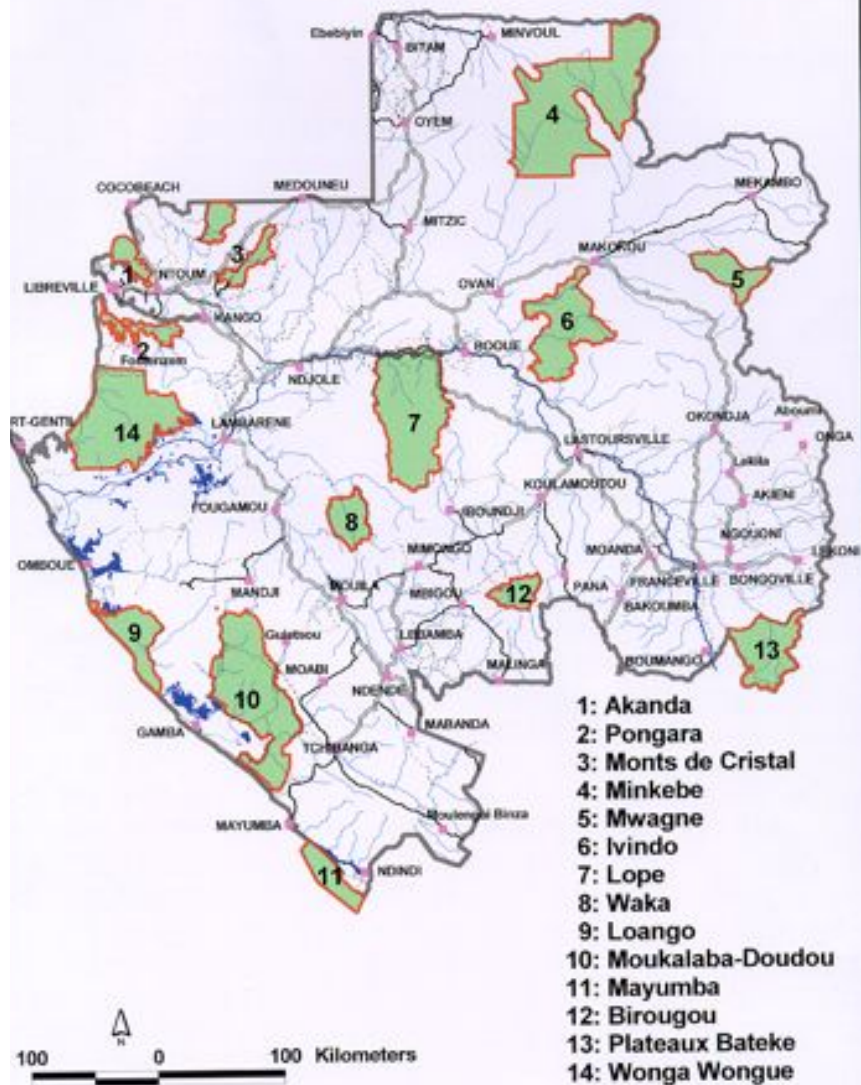


Increase in protected areas since 1872



Gabon 2002

The Network of National Parks to be announced
by President Bongo at the WSSD



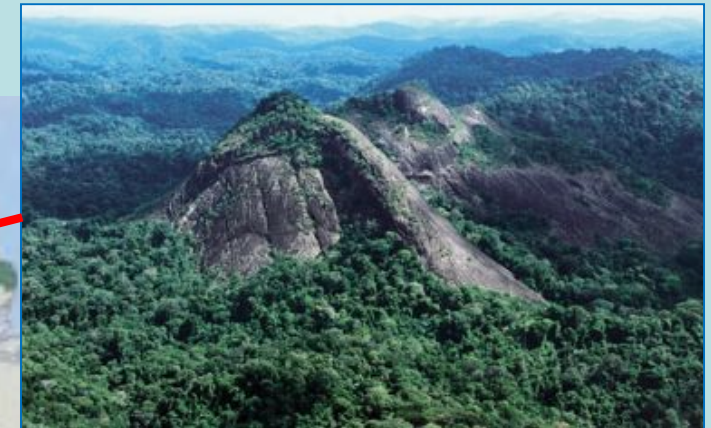
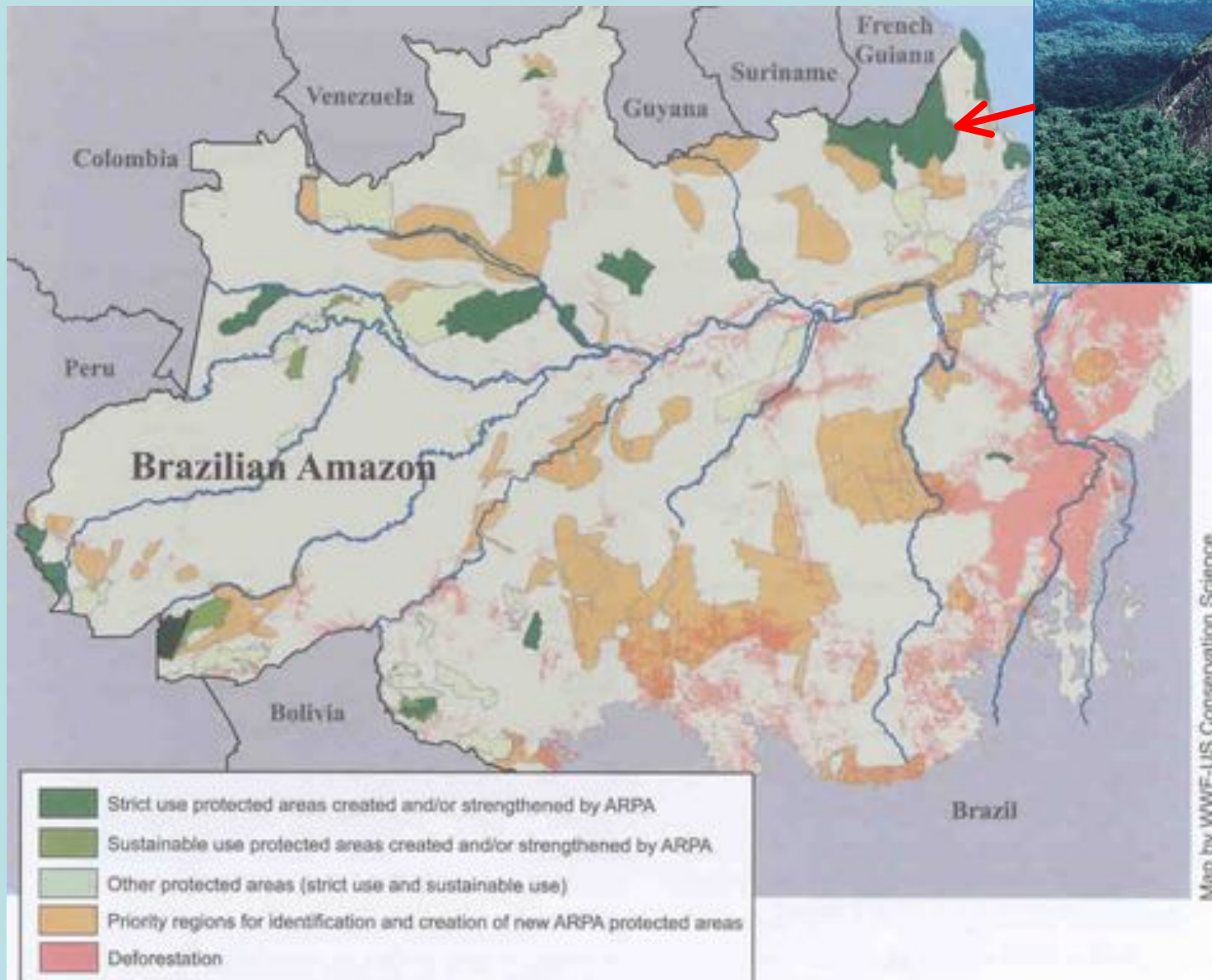
Amazon Region Protected Areas (ARPA) 10-Year Objectives

(A Partnership between GoBrazil, WB, GEF und WWF)

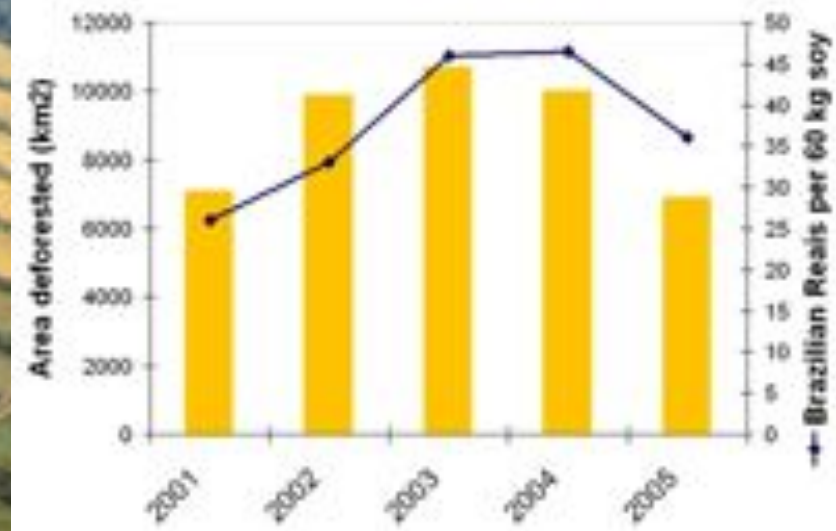
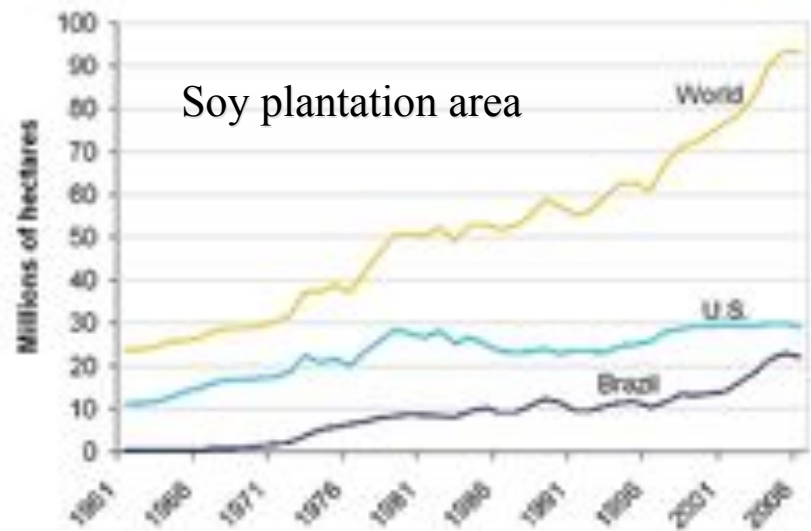


- **Creation of 28m ha of new protected areas**
- **Creation of 9m ha of new sustainable use reserves**
- **Implementation of new and existing parks (12m ha)**
- **Establishment of a Trust Fund**
- **Cost: USD 400m**

Amazon Region Protected Areas – ARPA



Tumucumaque N.P.
Amapa



Soy imports from South America: 45% to Europe, 35% to China

36 % threatened by extinction:
(incl. all 3 categories « critically endangered », endangered », vulnerable»)

- 12% of birds
- 22 % of mammals
- 28 % of reptiles
- 31 % of amphibians
- 37 % of freshwater fishes
- 27 % reef- building corals

- 11 amphibian extinctions since 1980
- plus 120 amphibians possibly extinct



ENVIRONMENT

BYE BYE BIRDIES

Populations of many migratory species have plummeted—and, in some cases, global warming seems to be at fault

By MICHAEL D. LEMONICK

EVEN AFTER AN UNUSUALLY MILD winter, the return of spring to North America feels like a blessing. Parents are dragging their toddlers to the park. Students are dusting off their Frisbees. And bird watchers, armed with binoculars and guidebooks, are heading out to search for their favorite species.

But the birders may be in for a disappointment. Radar studies of annual migrations suggest that the number of birds winging along America's flyways may be down by nearly 50% over the past 30 years, and data from the U.S. Geological Survey's annual Breeding Bird Survey and the Audubon Society's Christmas Bird Count reflect a similar decline. Various reasons for the falloff have been proposed, but climate change caused by global warming is high on the list for many experts.

The evidence has so far been largely circumstantial, however, which is why a study in the current issue of *Nature* is so intriguing. Building on some 40 years of bird counts, Dutch scientists report that populations of a migratory species called the pied flycatcher have plummeted an astonishing 90% over the past two decades in some areas of the Netherlands. And in that case, there doesn't seem to be any doubt about why: flycatchers are on the wane because climate change has made them late for dinner.

Those agile, acrobatic birds spend the

▲ EASTERN MEADOWLARK
PROBLEM The grasslands and fallow fields it nests in are being plowed for crops. In the northeastern U.S., the regrowth of forests is eating up what used to be open land.

▲ CERULEAN WARBLER
PROBLEM The heart of its range in the central Appalachians has been devastated by coal mining that rips the tops off mountains, destroying the forests the bird nests in.

▲ ANDEAN FLAMINGO
PROBLEM Persistent drought due to climate change has been shrinking the salty lakes it calls home on high plateaus in the Andes in Peru, Argentina, Bolivia and Chile. Meanwhile, egg collectors have raided nesting colonies, and mining has destroyed much of its habitat.

TIME, MAY 22, 2006

Biodiversity Loss – what baseline are we talking about ?

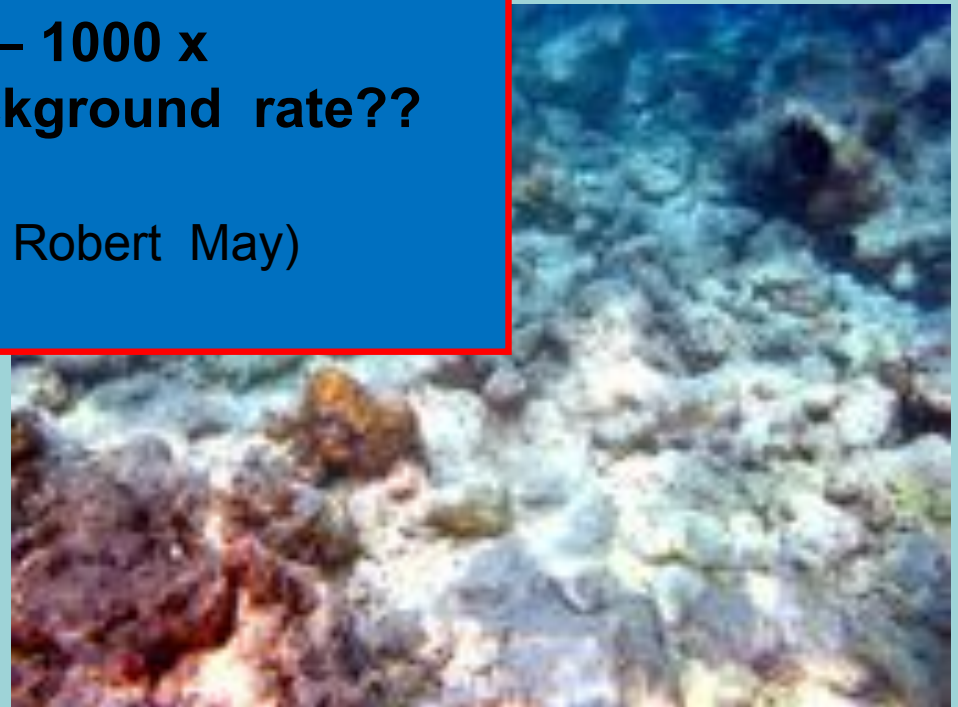
10, 15 oder 50+ million species?

**Currently > 1.8 million are named and described
BUT this includes synonymes !!**

Extinction rates:

**100 – 1000 x
Historic background rate??**

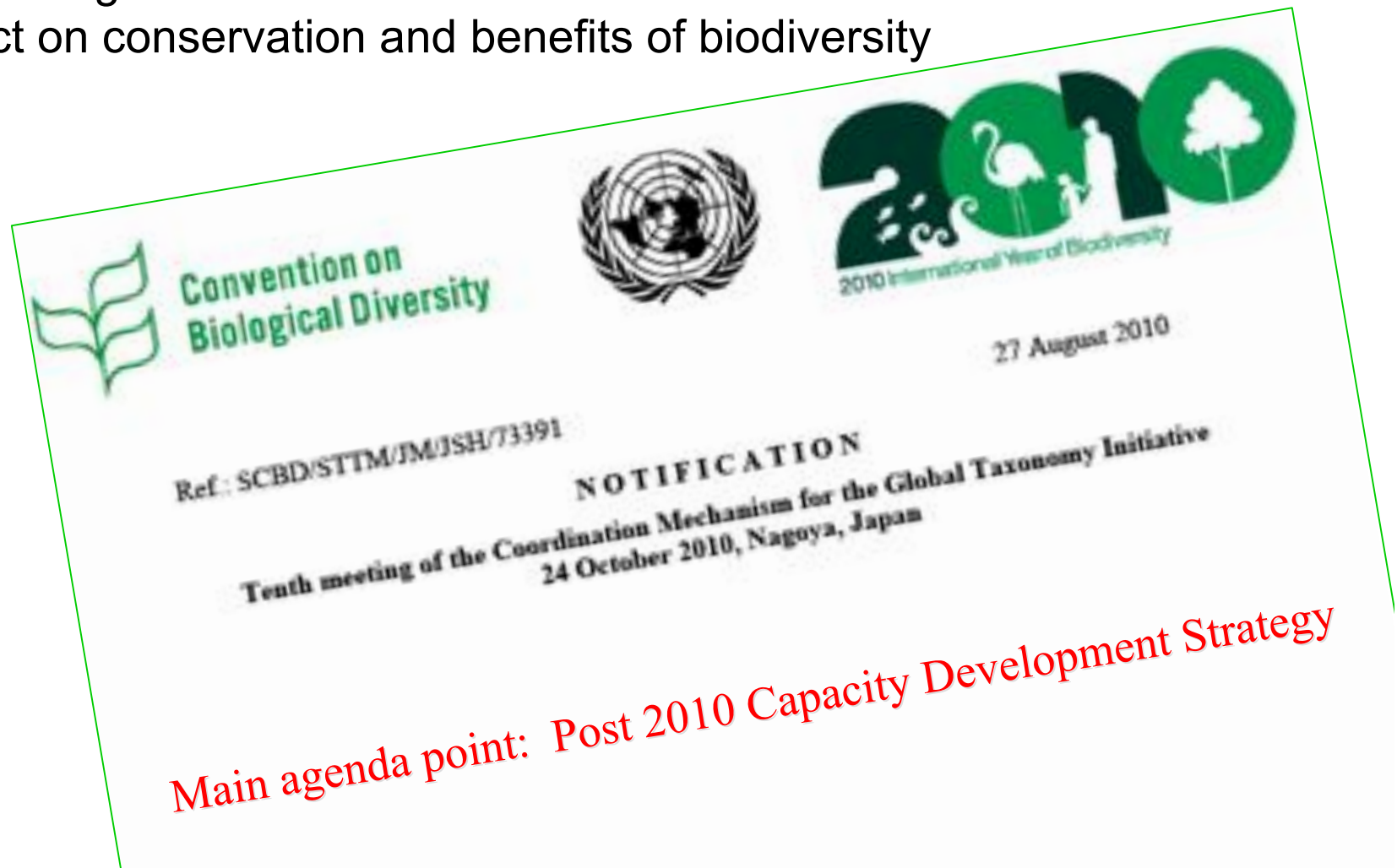
(Source: Robert May)



Global Taxonomy Initiative - GTI

To remove or reduce:

- knowledge gaps in taxonomic system
- the shortage of trained taxonomists and curators
- impact on conservation and benefits of biodiversity



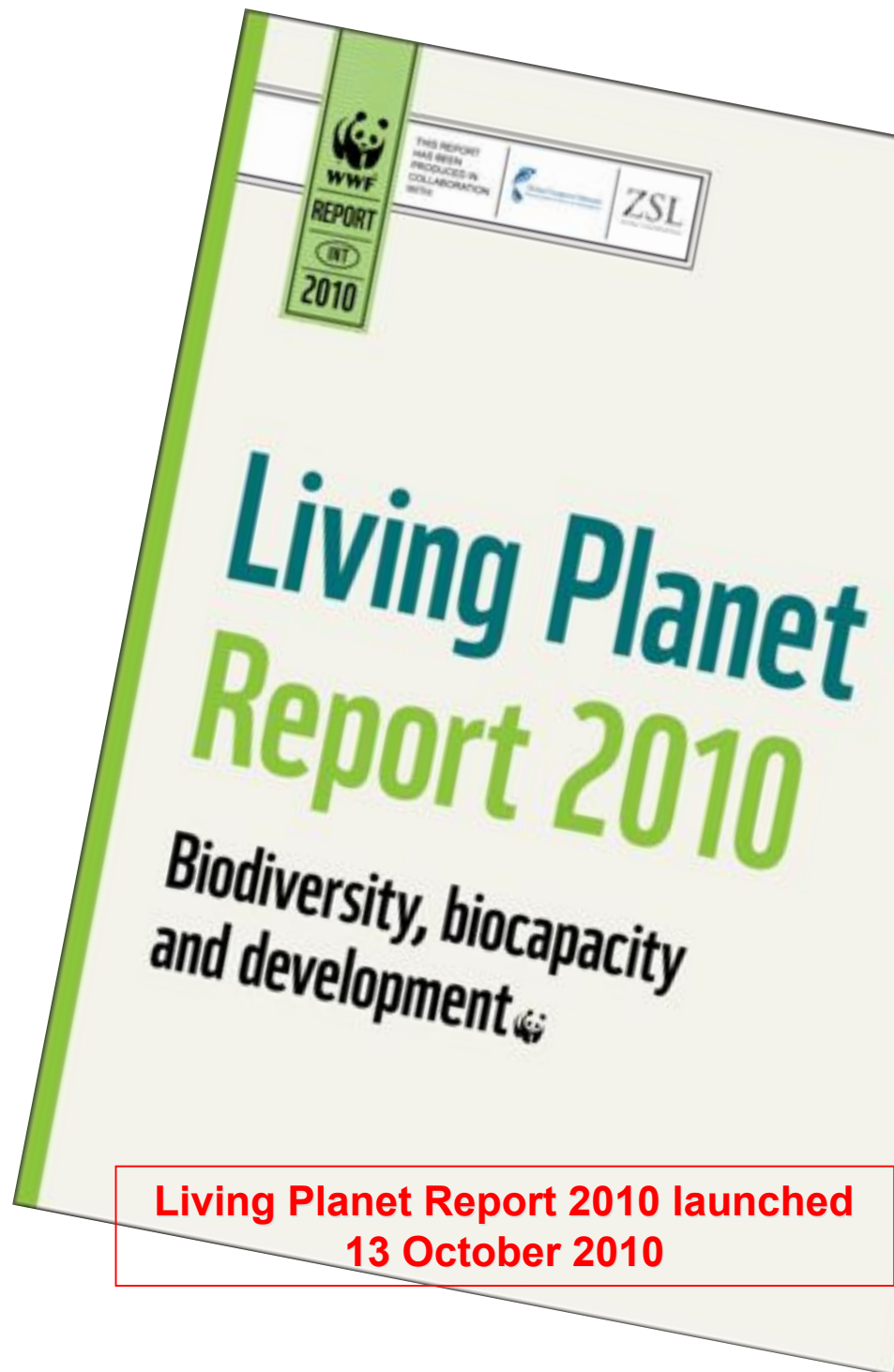
Census of Marine Life - CoML

10 – year Program completed October 4, 2010:

2700 scientists from 80 countries
30 million observations on 540 expeditions
650 million USD cost

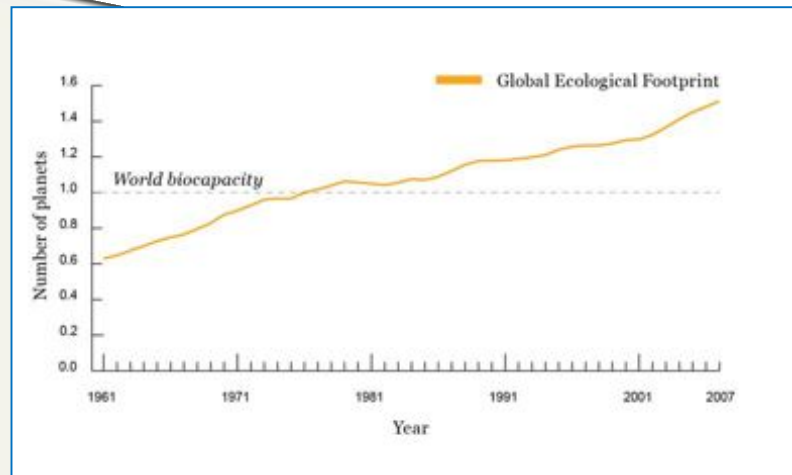
- About 200'000 named marine species identified - 1200 “new” species
- 12 % fishes, 19 % crustacea, 17% mollusca
- Another 5000 found, yet to be described
 - Current estimate at least 1 million higher life forms plus upto 1 billion micro-organisms



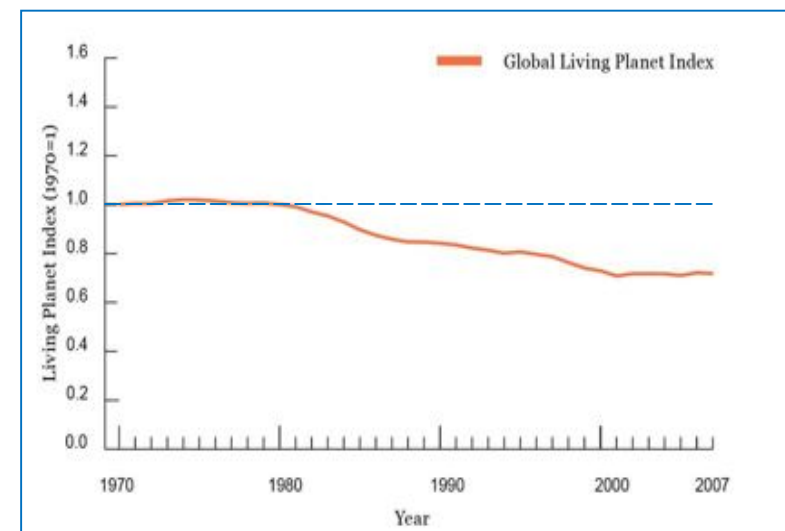


**Living Planet Report 2010 launched
13 October 2010**

**Global Ecological Footprint :
100 % increase since 1966**

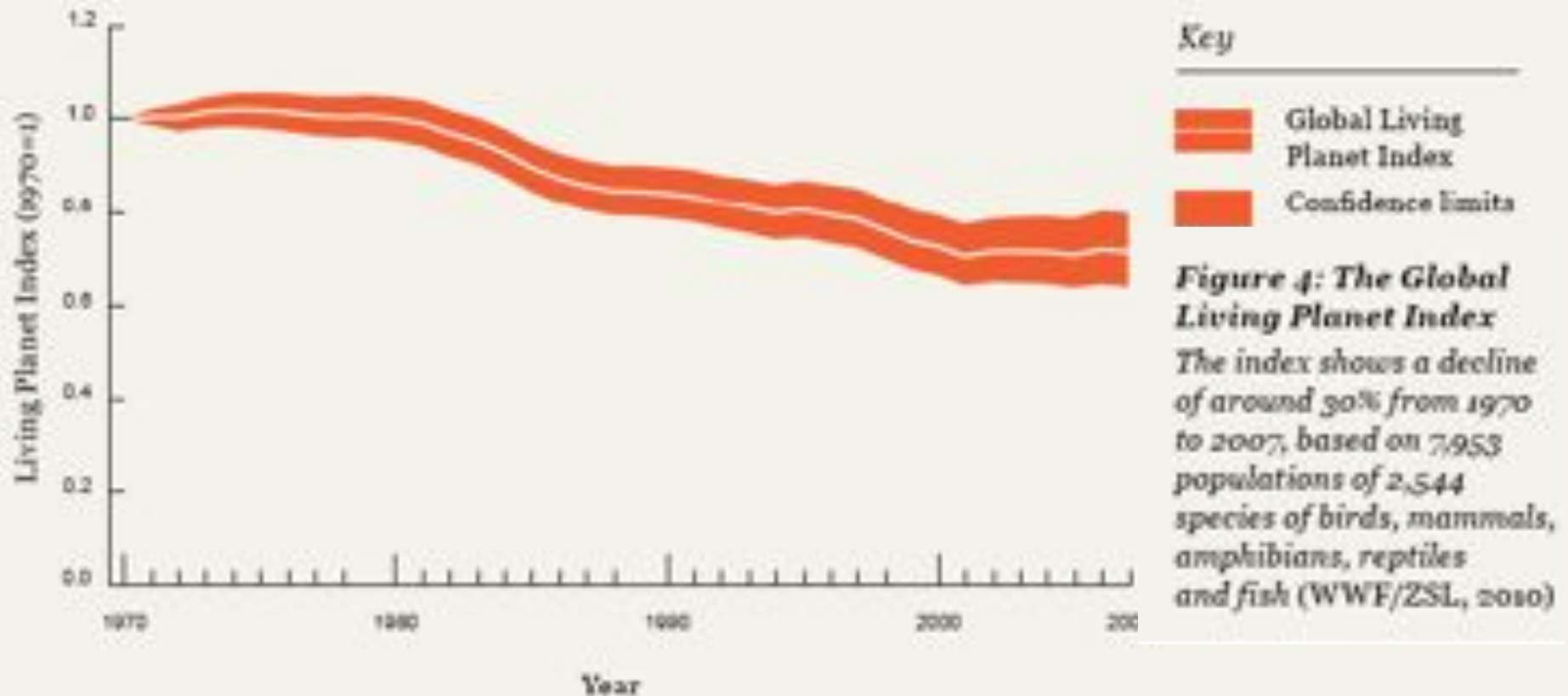


**Global Living Planet Index:
30 % decline since 1970**

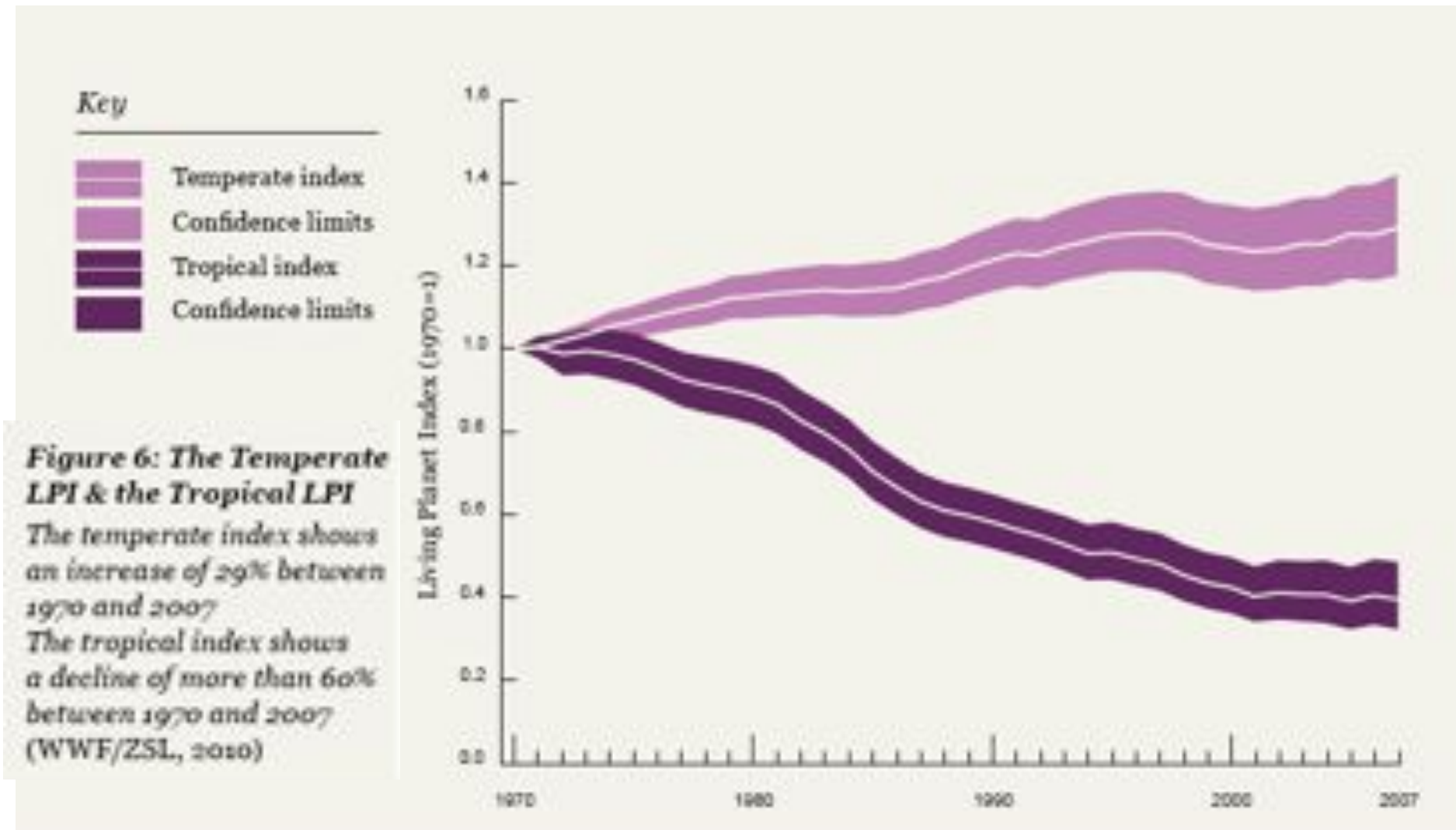


Global Living Planet Index – LPI

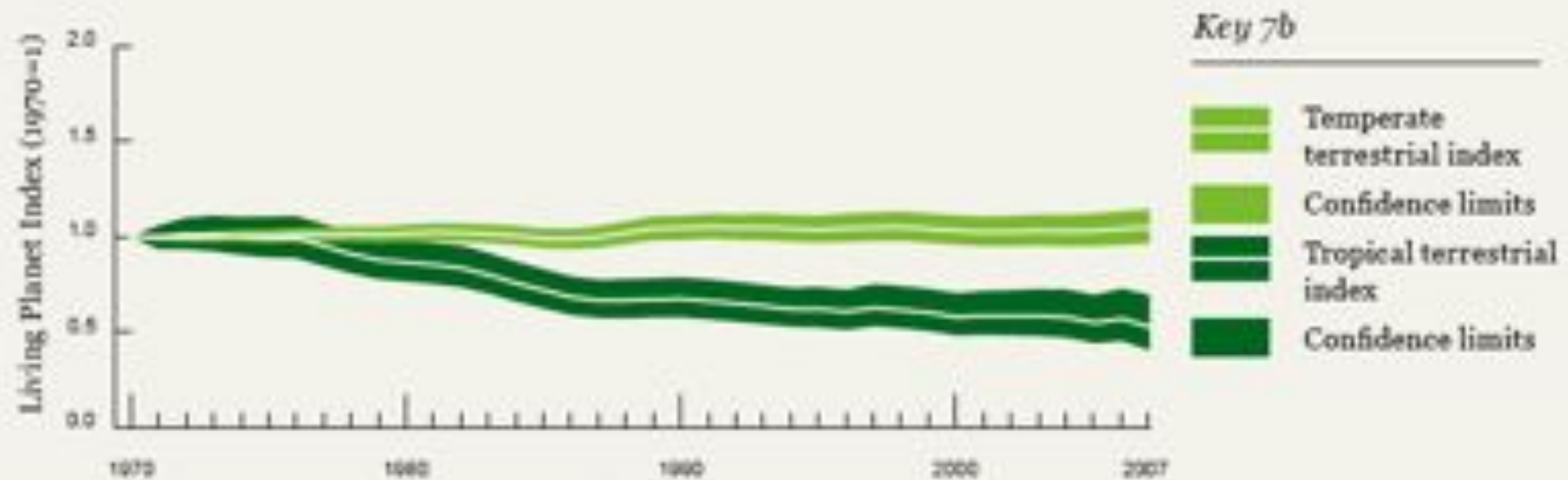
based on 7953 populations of 2544 vertebrate species



Temperate vs. Tropical Living Planet Index

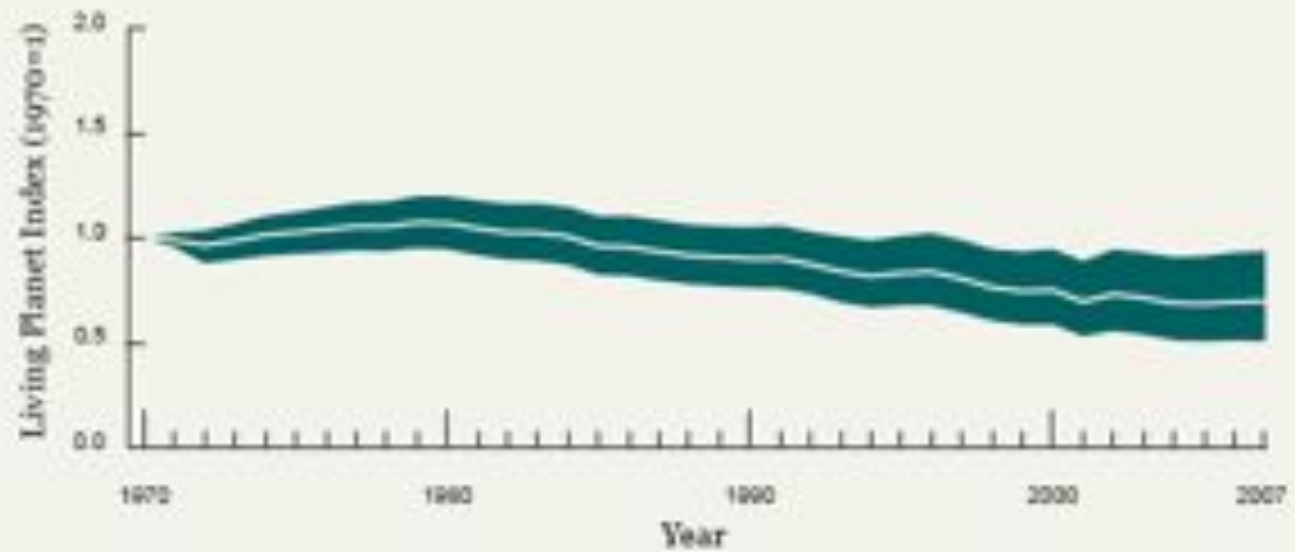
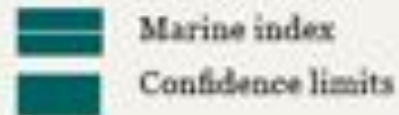


Terrestrial Living Planet Index

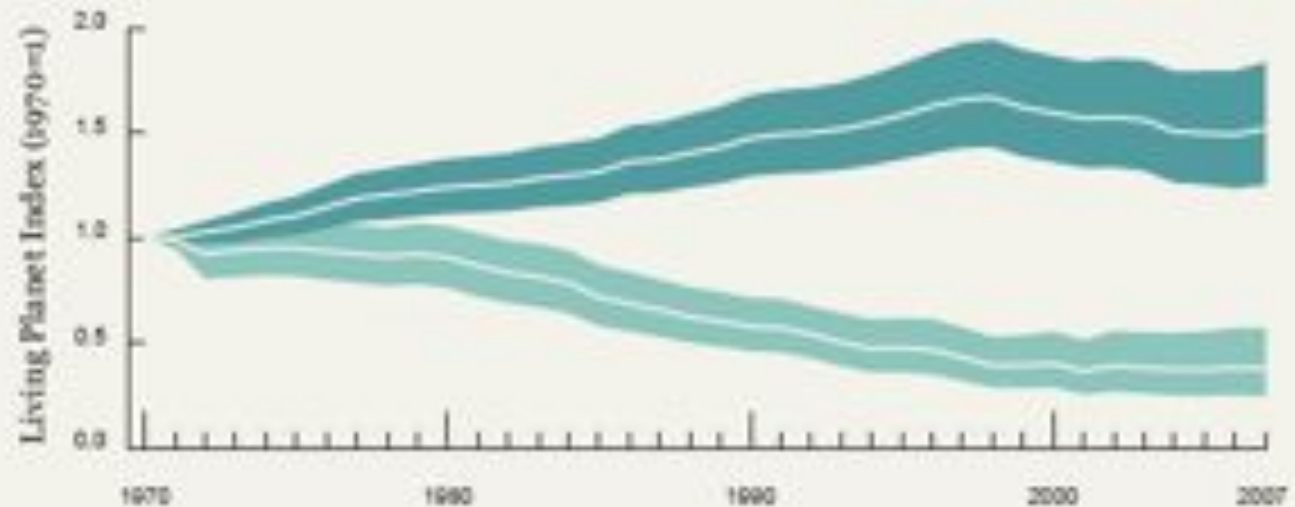


Marine Living Planet Index

Key Sa



Key Sb

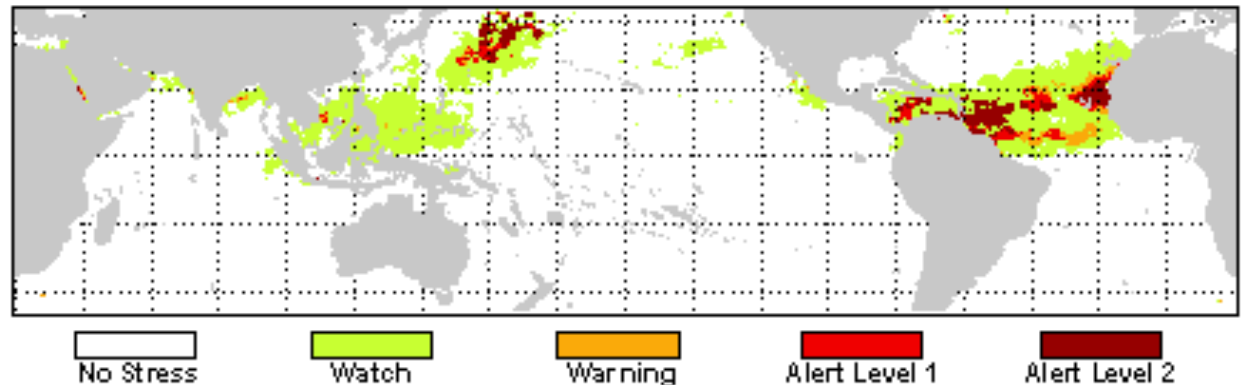




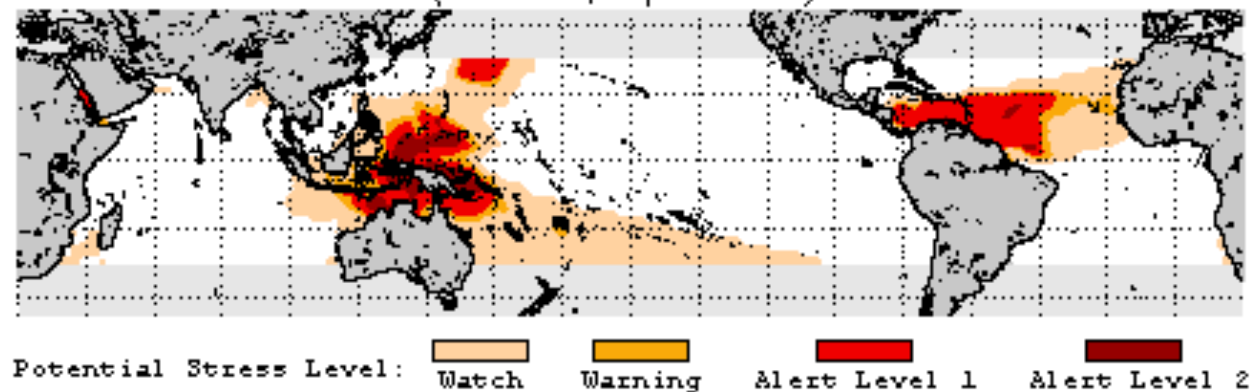
National Oceanic and Atmospheric Administration Coral Reef Conservation Program



NOAA CRW Satellite Coral Bleaching Alert Area 11 Oct 2010

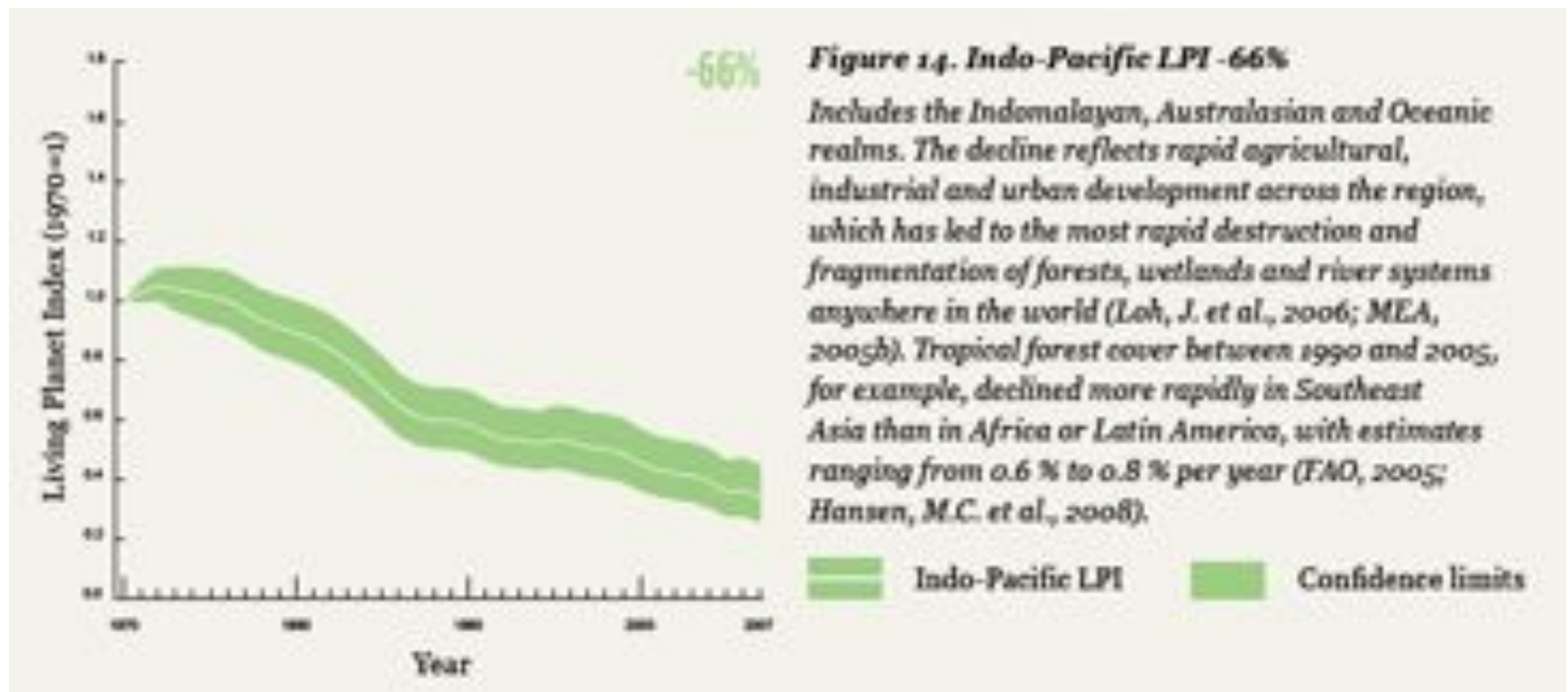


2010 Oct 05 NOAA Bleaching Outlook for Oct–Jan 2011
(Version 2, Experimental)

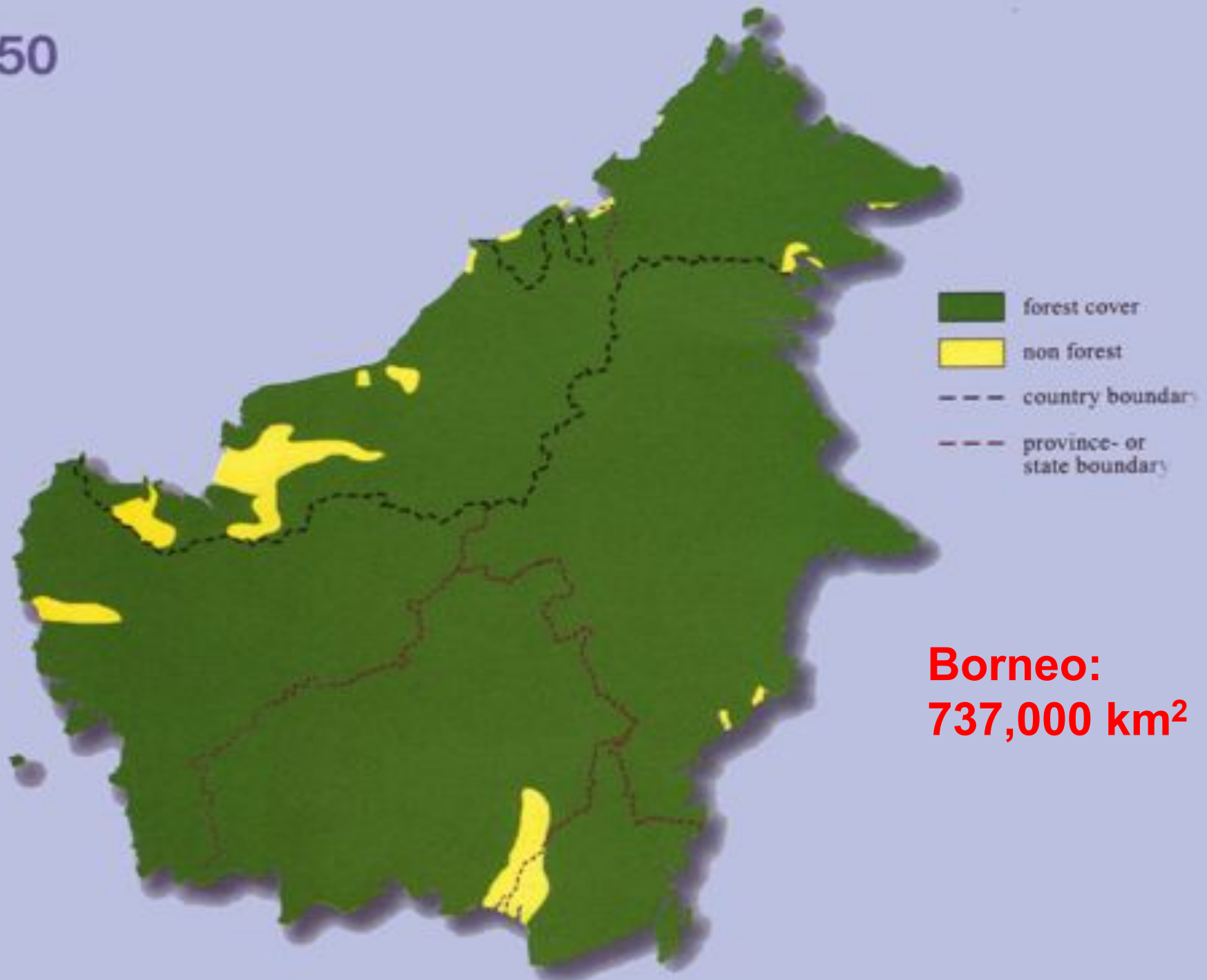


Indo-Pacific LPI is symptomatic of causes for global biodiversity loss due to:

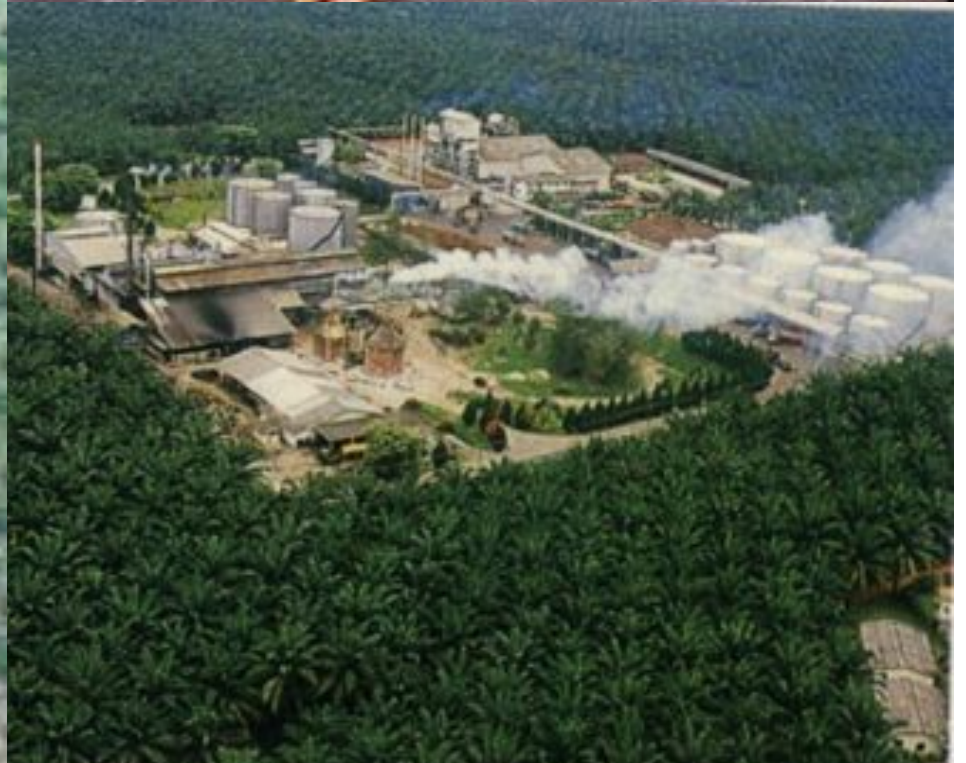
Rapid agricultural, industrial and urban development



1950



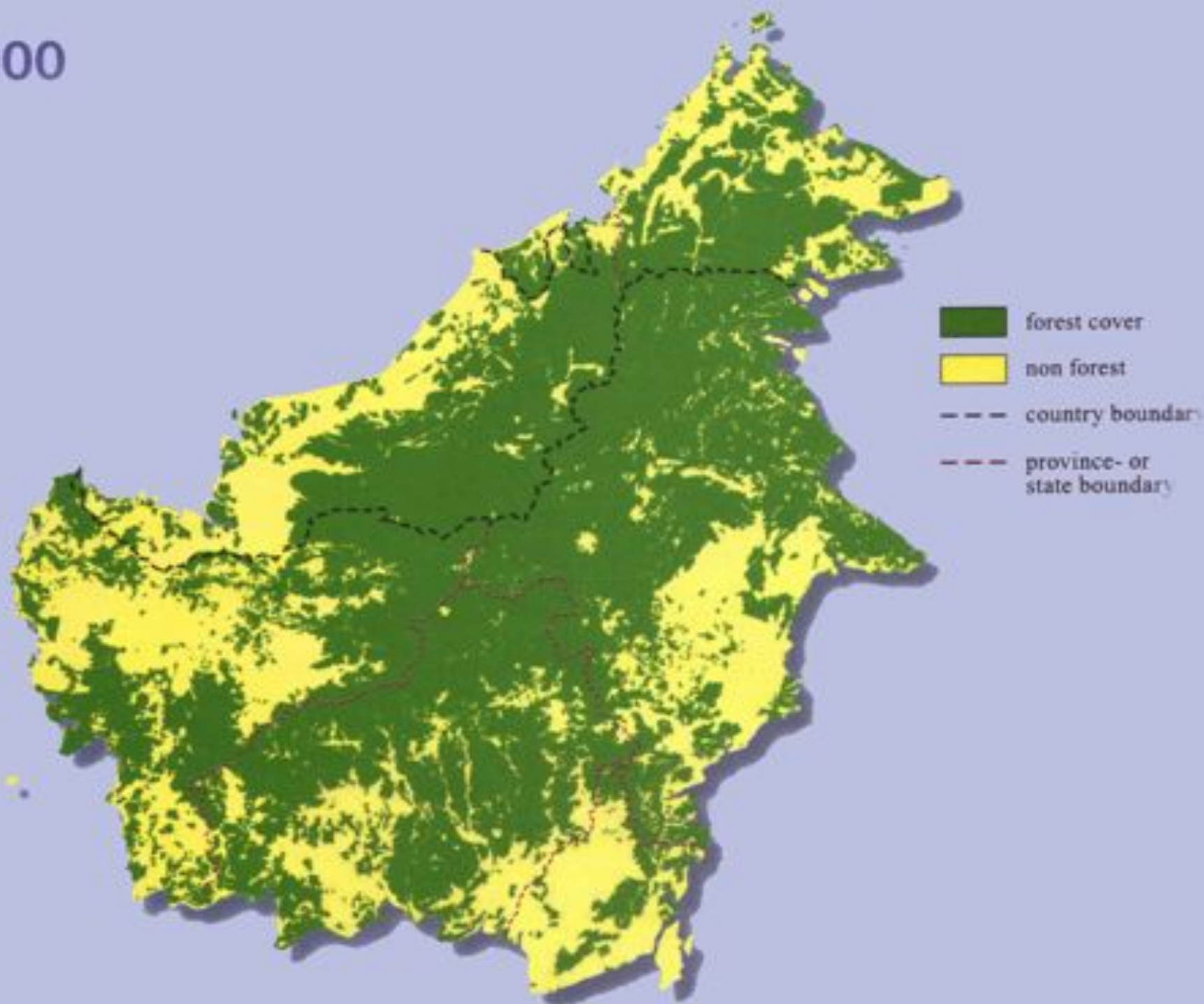
Borneo:
737,000 km²



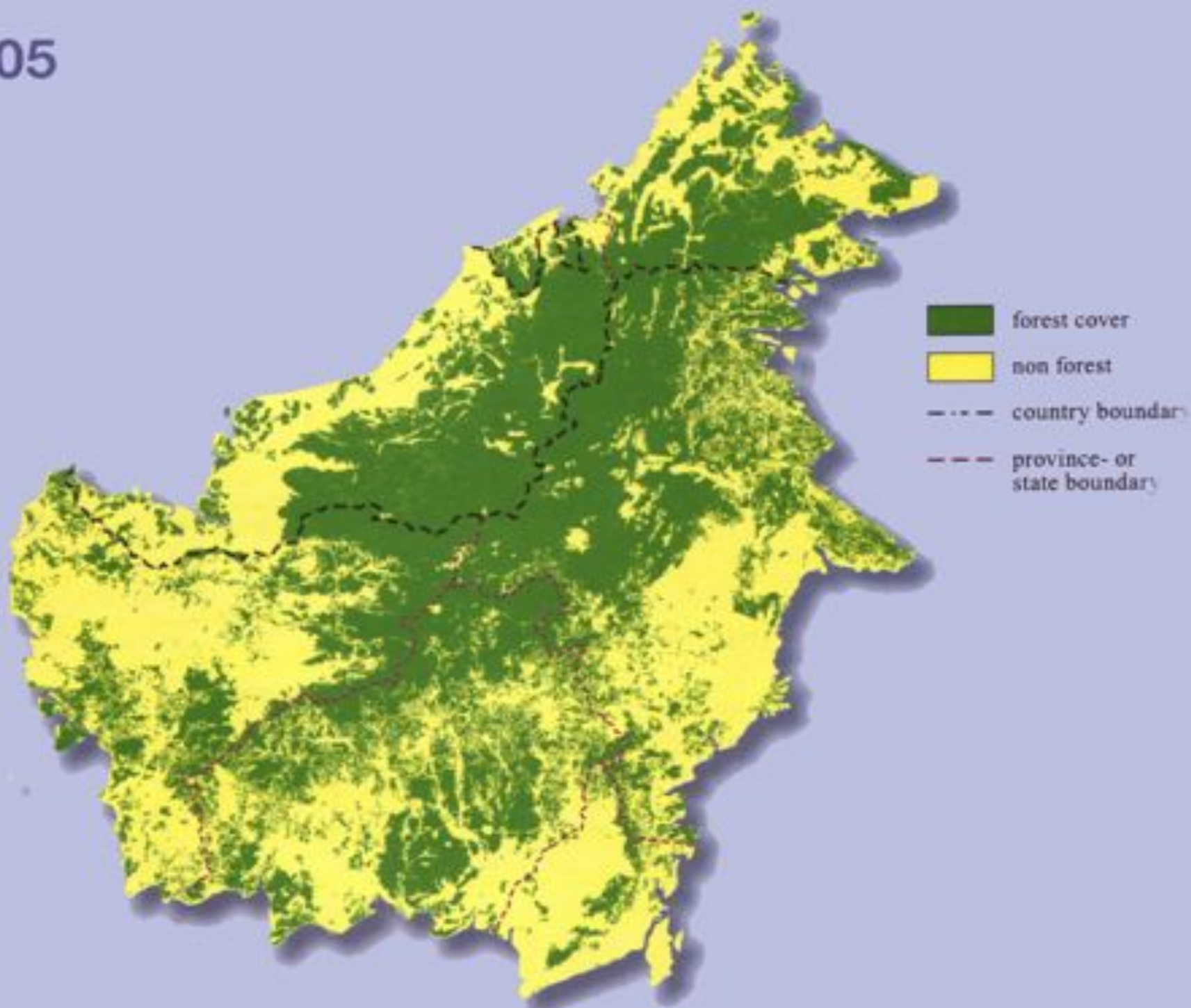
1985



2000

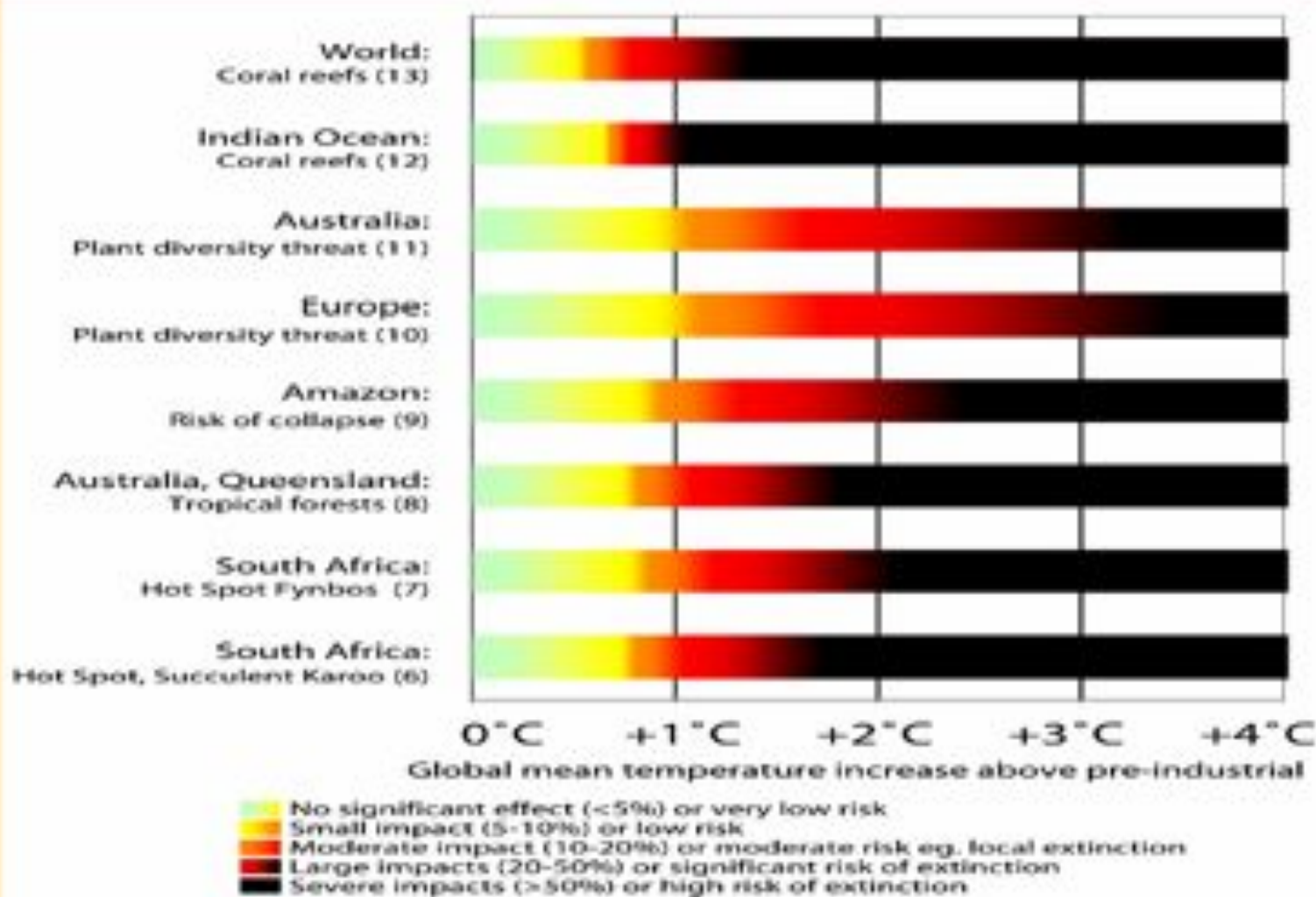


2005





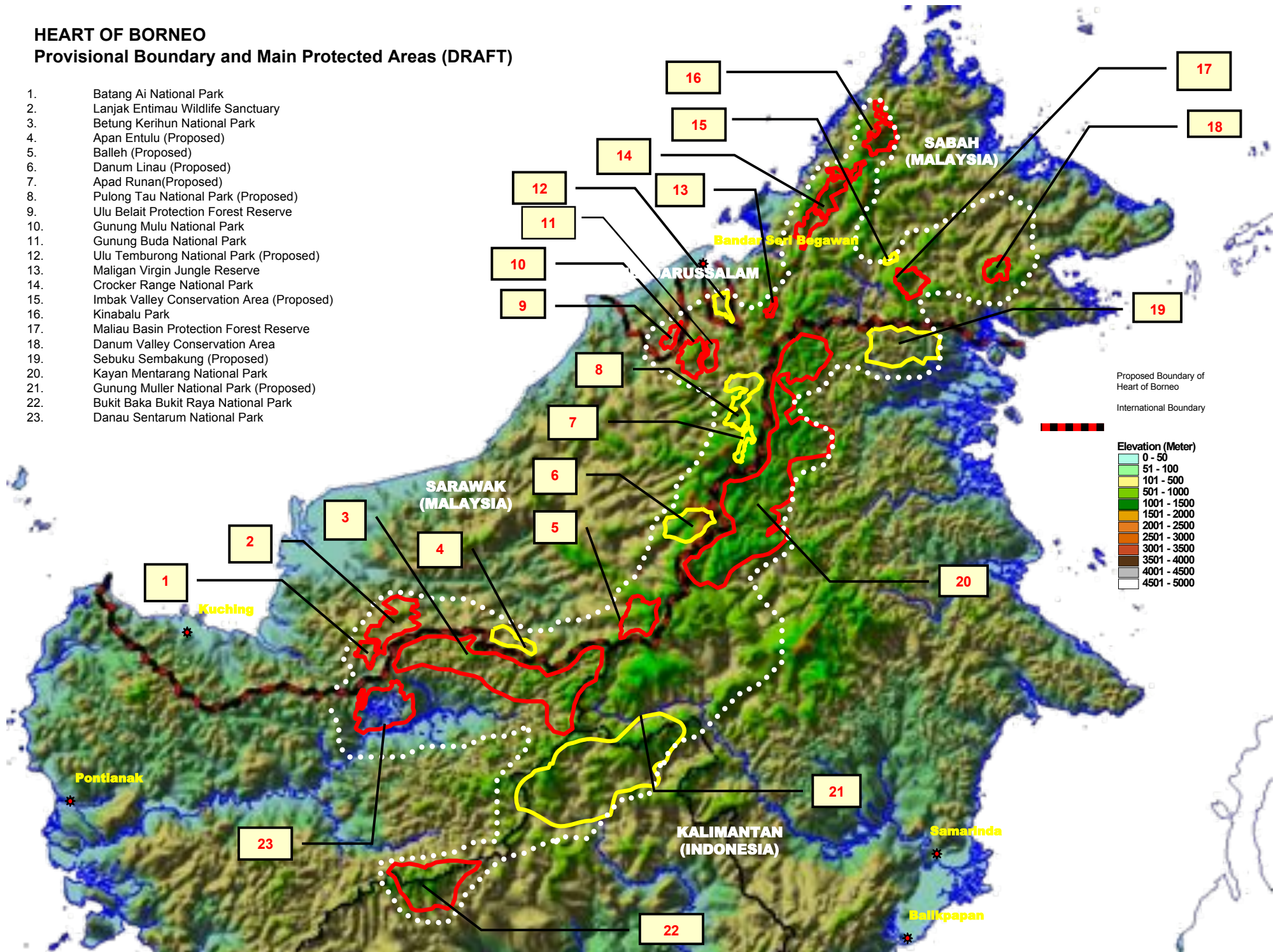
Ecosystems I



HEART OF BORNEO

Provisional Boundary and Main Protected Areas (DRAFT)

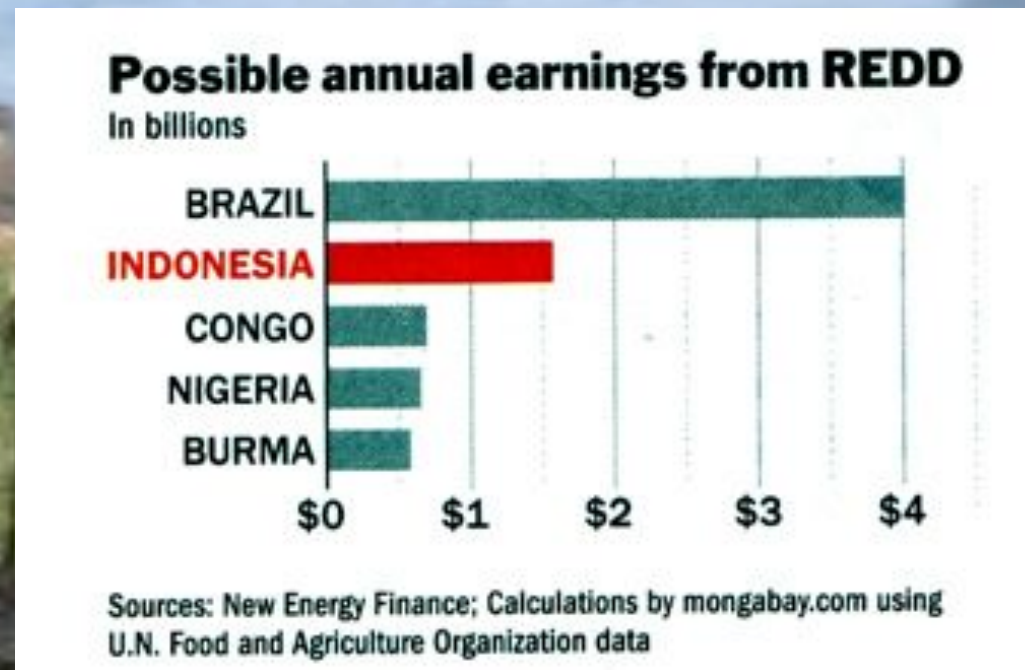
1. Batang Ai National Park
2. Lanjak Entimau Wildlife Sanctuary
3. Betung Kerihun National Park
4. Apan Entulu (Proposed)
5. Balleh (Proposed)
6. Danum Linau (Proposed)
7. Apad Runan(Proposed)
8. Pulong Tau National Park (Proposed)
9. Ulu Belait Protection Forest Reserve
10. Gunung Mulu National Park
11. Gunung Buda National Park
12. Ulu Temburong National Park (Proposed)
13. Maligan Virgin Jungle Reserve
14. Crocker Range National Park
15. Imbak Valley Conservation Area (Proposed)
16. Kinabalu Park
17. Maliau Basin Protection Forest Reserve
18. Danum Valley Conservation Area
19. Sebuk Sembakung (Proposed)
20. Kayan Mentarang National Park
21. Gunung Muller National Park (Proposed)
22. Bukit Baka Bukit Raya National Park
23. Danau Sentarum National Park



CO₂ Emission Reduction through avoided Deforestation

(Reducing Emissions from Deforestation and Forest Degradation (in developing countries - REDD))

**A programme to create incentive structures to combat deforestation
(not an alternative to sustainable forest management)**



Global trade in emissions 2009:
US\$ 122 billion

Growth and consumption driven by urbanisation

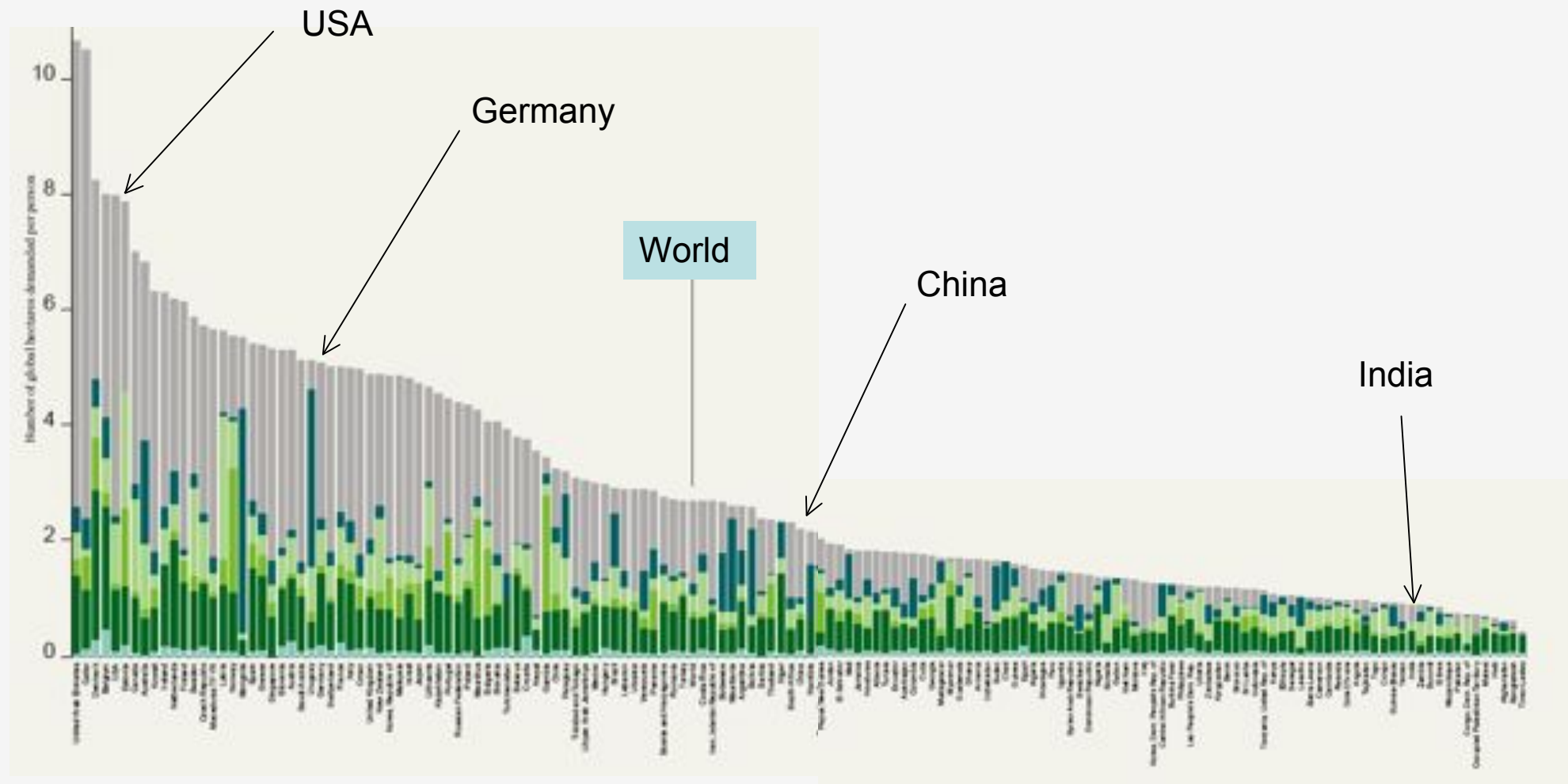
An aerial photograph of a sprawling urban area. The foreground and middle ground are filled with a dense, tightly packed residential or commercial building stock, mostly multi-story structures with flat roofs. In the background, a prominent skyline of modern skyscrapers rises above the haze, indicating a major metropolitan area. The overall scene conveys a sense of massive scale and rapid urban growth.

China: Until 2020 a city the size of Stockholm (1.2 m inhabitants)
...every month!

50 % of the world's new buildings will be constructed in China

Ecological Footprint per capita 2007

(in global hectares)







We are missing the CBD targets, and will globally continue to lose biodiversity – unless we address ...

The underlying (political- economic) root causes of biodiversity loss:

- Externalisation of environmental costs, market failure (e.g. soy)
- Lack of monitoring, full cost accounting and reliable economic indicators (short term gain vs. long-term sustainability)
- Lack of recognition and validation of ecosystem services (PES)
 - Need for de-carbonization of the economy
 - Failure of poverty reduction strategies

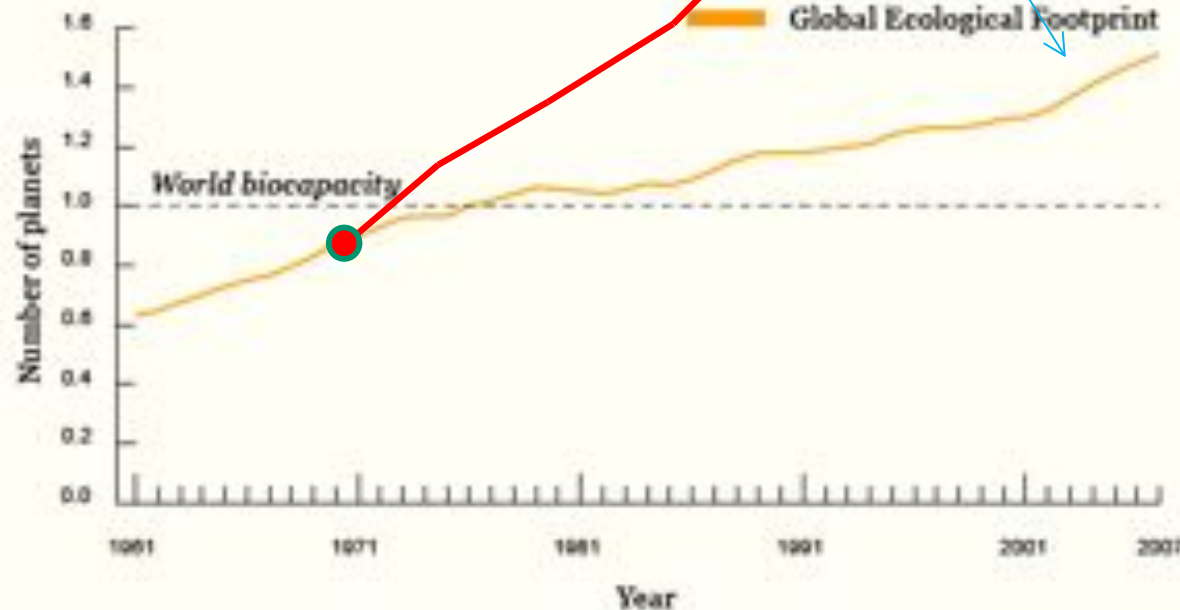
Thus, we are confronted with systems failure, despite recognized need (e.g. fisheries, climate change)

Global Ecological Footprint and Gross World Product

**Gross World Product:
+ 480 % increase
since 1970**

Decoupling?

**+80 % increase
since 1970**



Source: Global Footprint Network

Good luck!

