If you would like to be sent a PDF of these lectures please e-mail

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beware there are 3 timothy walkers in ox.ac.uk

Conservation Conventions, Strategies, & Policies.

THE INDEPENDENT
SATURDAY EDITION
www.independent.co.uk
SATURDAY 30 OCTOBER 2010
Number 7,504
• £1.60 (Ireland €1.80)
SINCE 1986 FREE FROM PARTY POLITICAL BIAS | FREE FROM PROPRIETORIAL INFLUENCE

White's tree frog, *Litoria caerulea*, a native of New Guinea, one of the last great forest wildernesses
BRIAN BEVAN/ALAMY

A giant leap for the natural world

Historic deal aims to halt mass extinctions

By Steve Connor
Science Editor

A HISTORIC deal to halt the mass extinction of species was finally agreed last night in what conservationists see as the most important international treaty aimed at preventing the collapse of the world's wildlife.

Delegates from more than 190 countries meeting in Nagoya, Japan, agreed at the 11th hour on an ambitious conservation programme to protect global biodiversity and the natural habitats that support the most threatened animals and plants.

After 18 years of debate, two weeks

CONTINUED ON PAGE 4

Nagoya, Japan. September 2010.
Next meeting - October 2012, Hyderabad, India

Matters dealt with in Hyderabad **(COP 11)**

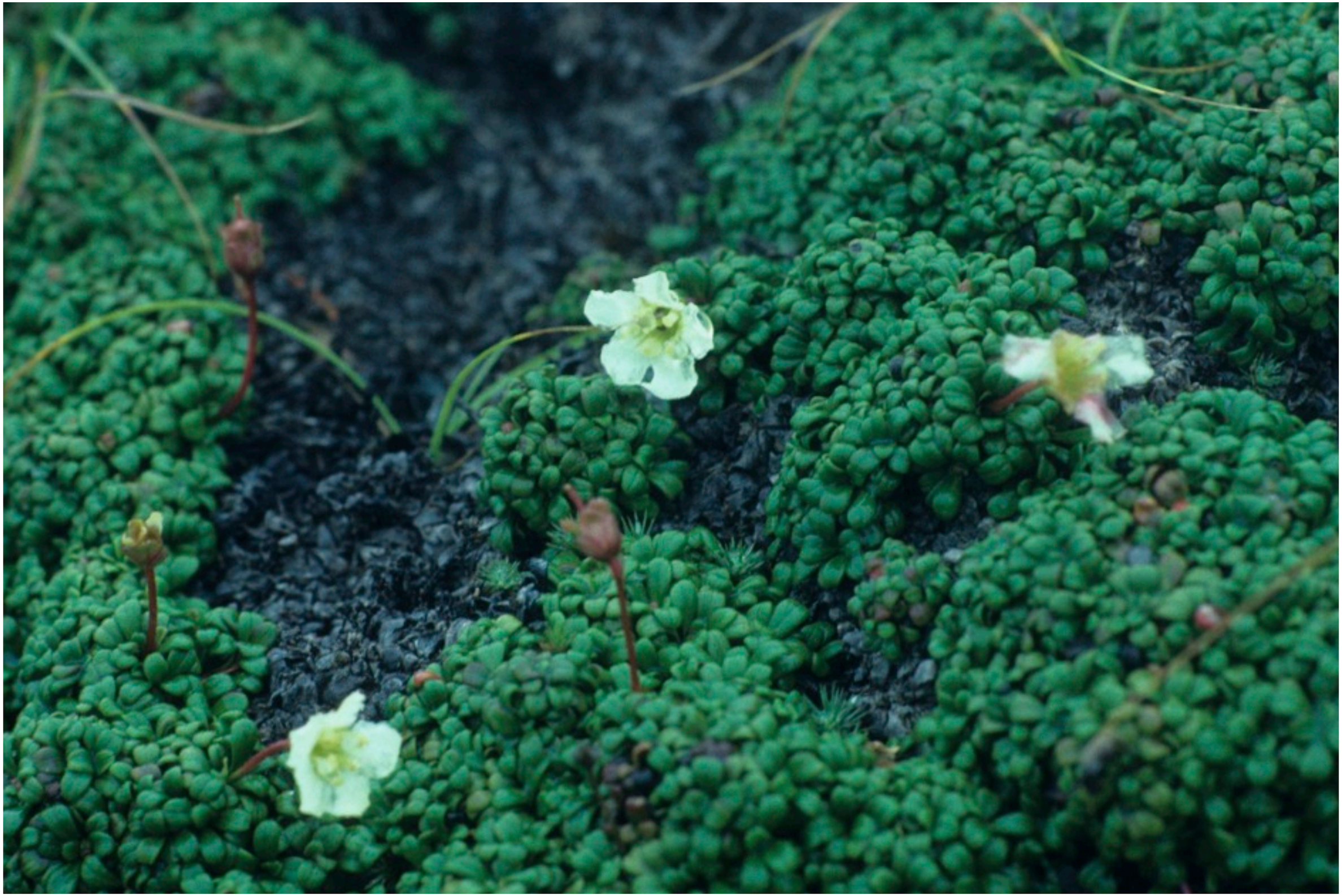
- Business & biodiversity
- Island biodiversity
- Sustainable use of biodiversity
- Ecosystem restoration
- Marine & coastal biodiversity
- Biodiversity & climate change
- Biodiversity & poverty eradication
- Biofuels & biodiversity
- Invasive alien species
- Global taxonomy initiative
- www.cbd.int/cop11/doc/ for more details

Two Definitions of Conservation

- The prevention of careless or avoidable loss or damage

- The negotiation of a transition from the past to the future in such as way as to secure the transfer of the maximum significance

- Conservation is not about stopping evolution and change



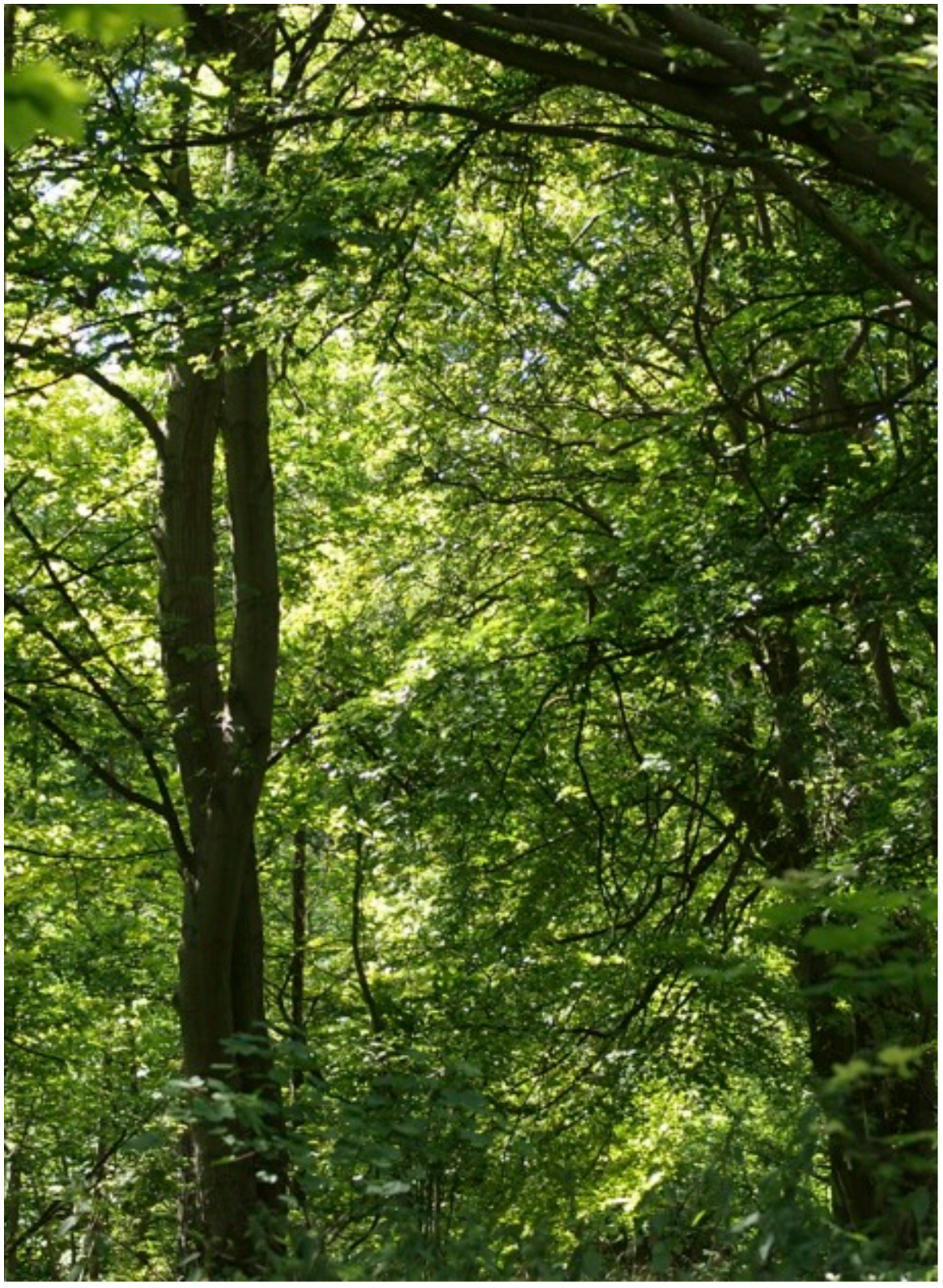
Diapensia lapponica in Japan which seems to be declining naturally

Sheep farming or National Park? South Australia

Three Reasons to Conserve Plant Species

- Economic / Practical / Selfish
- Ecological / Pragmatic / Sensible
- Ethical / Philosophical / Spiritual

Economic / Practical / Selfish



Ecological / Pragmatic / Sensible

Ethical / Philosophical / Spiritual

Some Principles

- Politicians must be involved
- Local people must take ownership of problems
- Pragmatic compromises must be made
- The wild must be managed
- Biology is never black nor white
- Defeatism is a self-fulfilling prophecy
- Individuals can make a difference

Politicians must be involved because they have access to funding & conservation workers must become involved in politics

Local people must take ownership of local problems as this is the only long-term solution

Pragmatic compromises must be made to balance the needs of today & tomorrow

Everywhere in the World has been altered by human activity so that even “the wild” must be managed, even if it is just monitoring

Biology is never black nor white *thank goodness*

Biology is never black nor white *thank goodness*

Defeatism is a self-fulfilling prophecy so inactivity is not an option unless you want to be sure that species disappear

Individuals can make a difference - Wangari Maathai & Jo Dunn

Politicians can ***and have*** made a difference

A personal selection

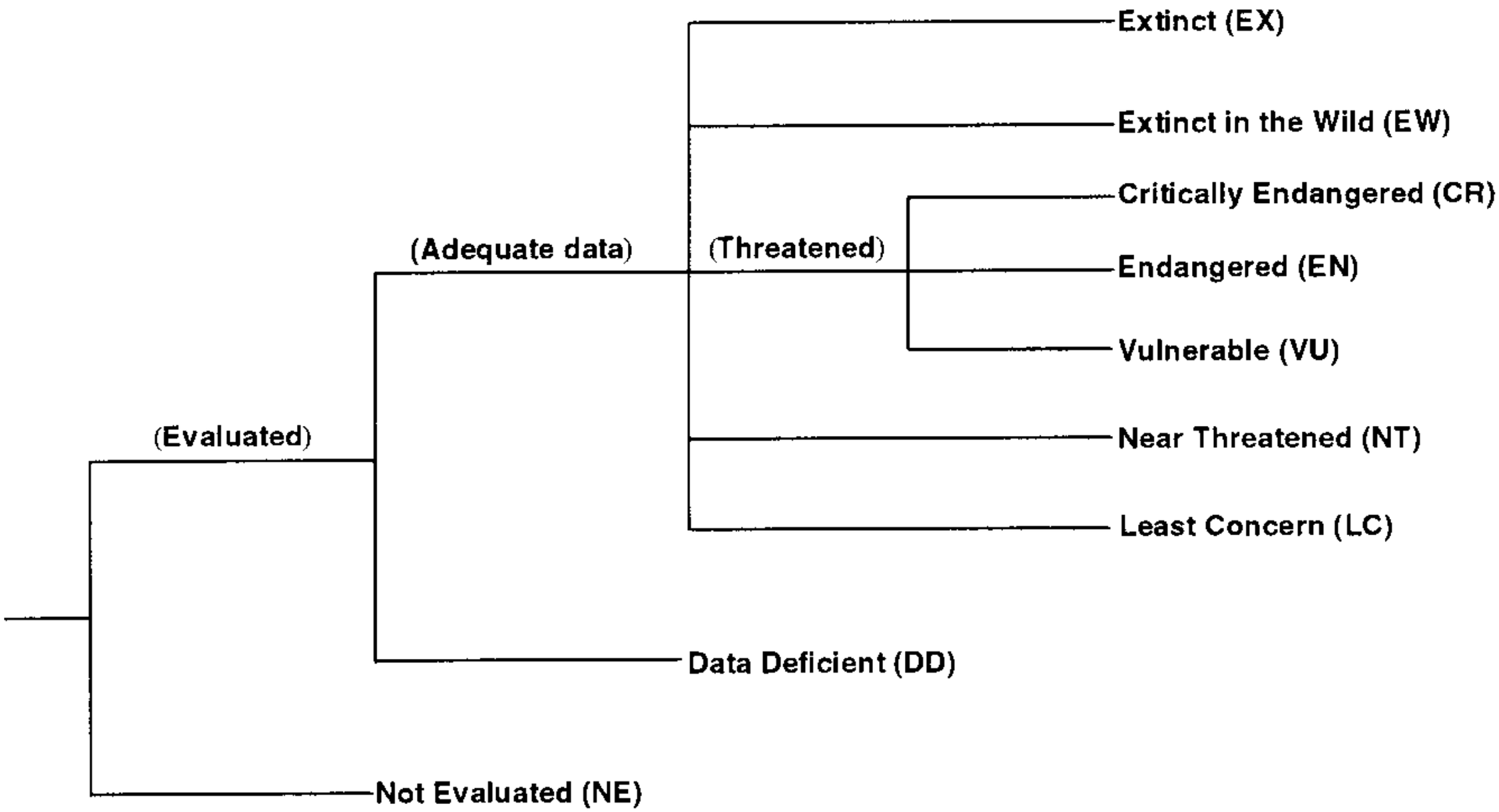
- **1948** - International Union for the Conservation of Nature **IUCN**
- **1975** - Convention on International Trade in Endangered Species **CITES**
- **1981** - UK Wildlife & Countryside Act
- **1992** - Convention on Biological Diversity **CBD**
- **1994** - Conservation (Natural Habitats etc.) Regulations (UK enacting EU Habitats Directive 92/43/EEC)
- **2000** - UN Millennium Development Goals
- **2002** - Global Strategy for Plant Conservation **GSPC**
- **2010** - ***GSPC 2011-2020***

1948 IUCN

IUCN
The World Conservation Union

- **Vision -** a just World that values & conserves nature
- **Mission** - to influence, encourage, and assist societies throughout the World to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable
- The World's largest & oldest global environmental network. 200+ governmental organisations, 800+ NGOs, 11,000+ volunteer experts from 160+ countries.
- Official observer status at the United Nations
- The IUCN aims to develop conservation science & knowledge (by running projects around the World) and to bring together governments, NGOs, scientists, companies, and community organisations to help the World to make better conservation and development decisions
- Probably best known for the **Red Lists**

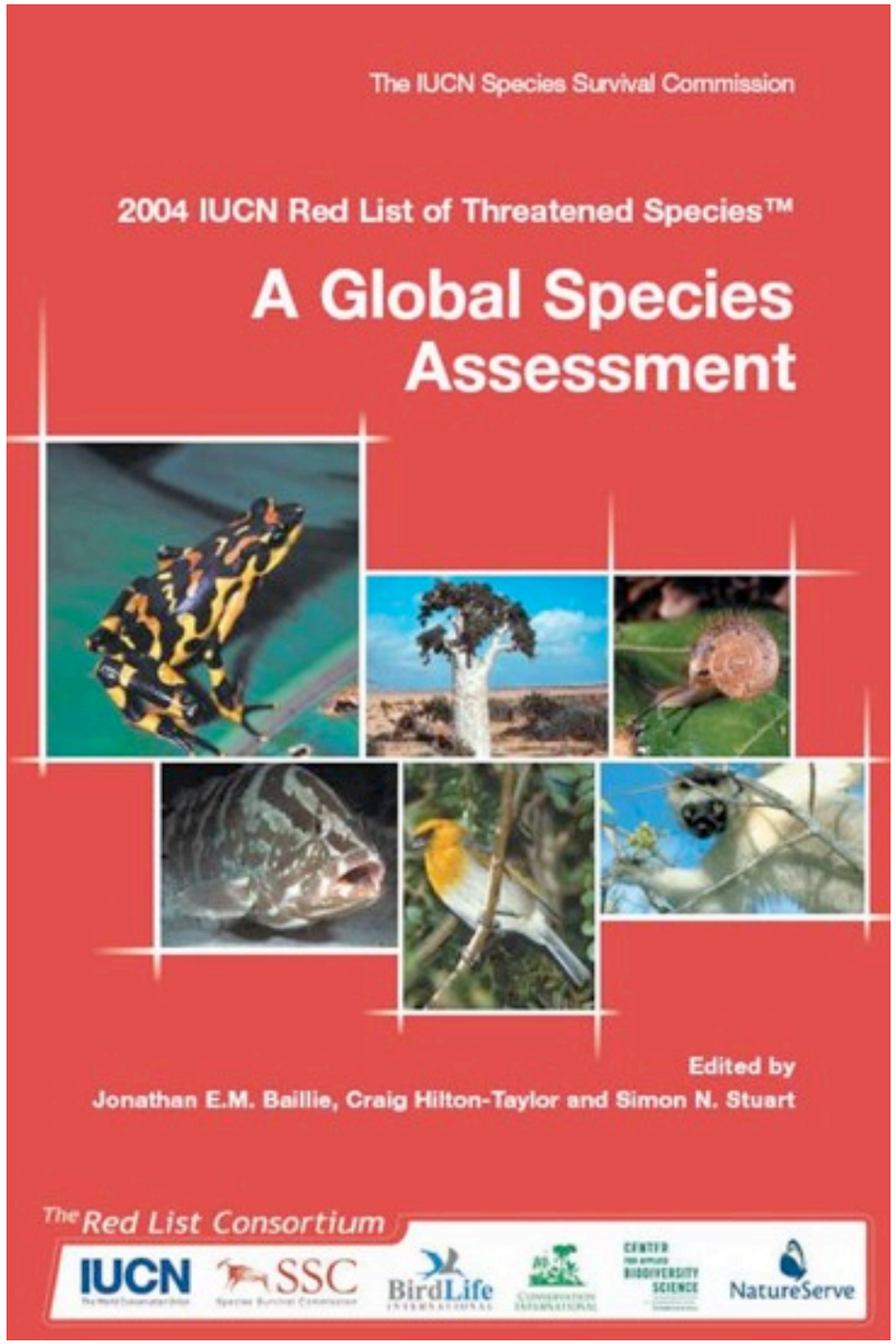
IUCN **RED LIST** categories



IUCN **Red Lists**

IUCN
The World Conservation Union

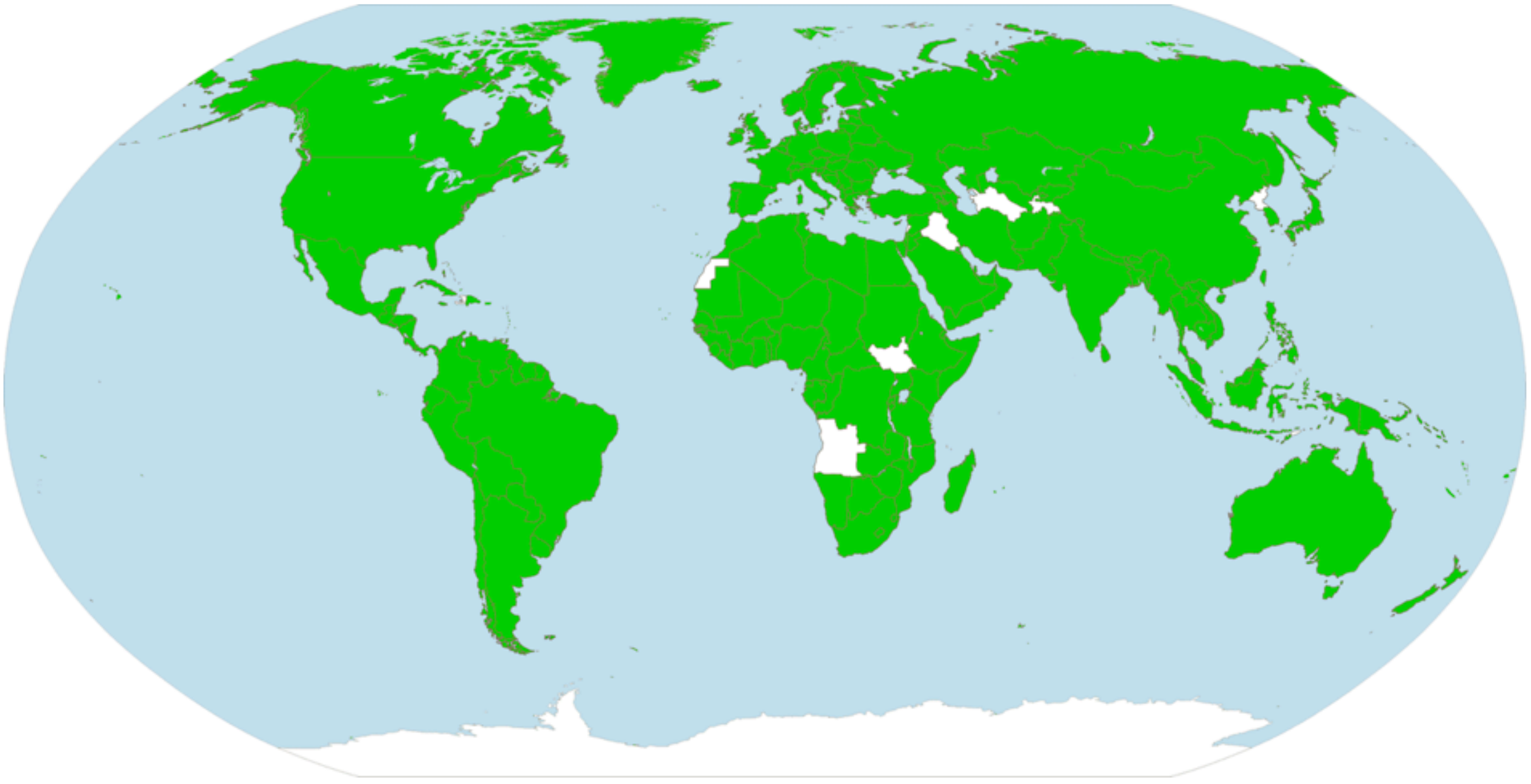
- A Global Species Assessment
- **1994** WCMC: 34,000 species of plants threatened with extinction by 2044 (13.6%)
- **2004** IUCN Species Survival Commission: 8,321 species of plants threatened with extinction by 2054 (3.3%)
- **2008** - 28% species will be extinct by 2058
- **Who knows how many plant species there are and how many are threatened?**



1975 CITES

- CITES was originally drafted in 1963 at an **IUCN** meeting, it was agreed at a meeting of 80 countries in 1973 and came into force in 1975. There are now 175 parties to the Convention
- CITES is a **voluntary**, but legally binding, undertaking to pass national laws to fulfill the aims of the convention
- CITES aims to regulate & monitor the international trade in selected **species** of pants & animals to ensure that international trade does not endanger the survival of **populations** in the wild
- 5,000 animal species and 29,000 plant species are protected by CITES in three appendices depending on the level of threat
- CITES **covers** plants, parts of plants, herbarium specimens, seeds, and plant derivatives

CITES Parties except W Sahara, Angola, S Sudan, Iraq, Turkmenistan, N Korea



CITES appendices

- **Appendix 1** - Species threatened with extinction. Trade in wild plants is prohibited for commercial purposes *but* trade in artificially propagated plants is allowed *subject to permit* - **300 plant species**
- **Appendix 2** - Species not necessarily threatened with extinction but in which trade must be controlled to avoid over exploitation. Trade in wild plants and artificially propagated plants is allowed for commercial and non-commercial purposes *subject to permit* - **29,105 plant species**
- **Appendix 3** - Trade in wild plants and artificially propagated plants is allowed for commercial and non-commercial purposes *subject to permit* - **266 plant species**
- Species in Appendices 1 & 2 are added by the Conference of the Parties and are protected in all countries
- Species in Appendix 3 are added by member countries and are protected in agreement with other countries

Appendix I

Encephalartos ferox (a cycad)

Appendix II

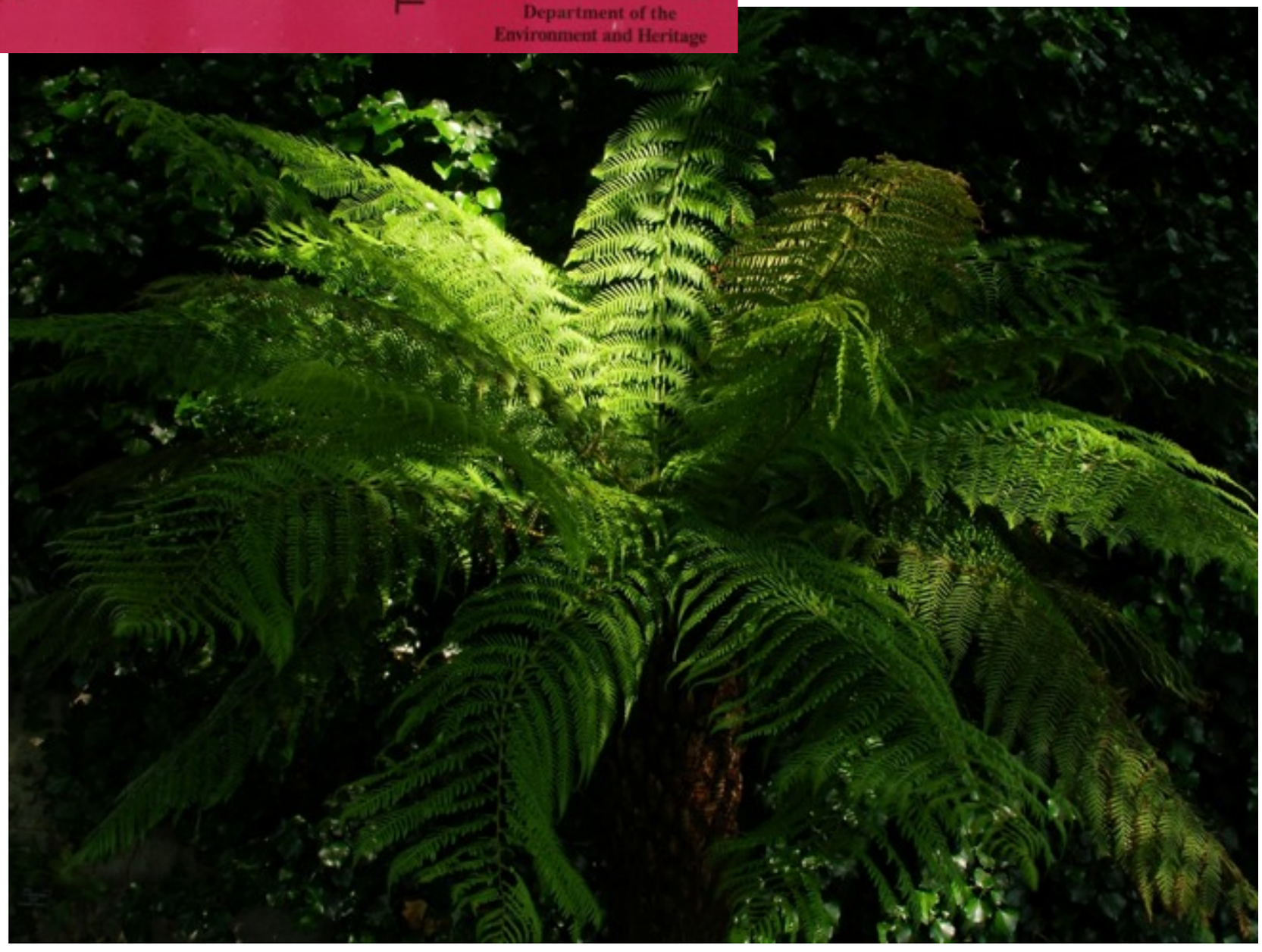
***Galanthus* spp.** (snowdrops)

Appendix III

Lodoicea maldavica (double coconut)

1975 CITES permits

- **Appendix 1** species - **export & import permits required.** Export permit states that the specimen was legally obtained and that the removal of the plant will not endanger the species. Import permit will confirm that non-commercial use is to be made of the plant and that the recipient can care for it.
- **Appendix 2** species - **export permit required.** Export permit states that the specimen was legally obtained and that the removal of the plant will not endanger the species. Import permit required by some countries such as EU.
- **Appendix 3** species - export permit required **only** from the countries who have listed this species



Dicksonia antarctica is an Appendix III species in Australia

CITES as a force for change

- In the USA CITES is often linked to **Free Trade Agreements** where lower tariffs are assigned to responsibly harvested timber, for example big leaf mahogany (*Swietenia macrophylla*)
- CITES is just one of many restrictions on international trade and customs officials need to be aware of many different pieces of legislation

Identifying processed timber is difficult but DNA bar-coding not yet in place

CITES reasons for seizures

- No documents
- Documents not for the attached plants
- Forged documents
- Problems with identification has led to blanket restrictions for **orchids** & **succulents** & most **carnivorous** plants

Orchids confiscated at Heathrow in 1985 now growing in Oxford

CITES - spotting wild source **orchid** plants

	Wild collected	Artificially propagated
General appearance	●irregular shape & size ●damaged & marked	●uniform shape & size ●clean & healthy
Roots	●damaged or cut ●some new root growth	●clean & healthy ●may have the shape of a pot
Leaves	●lower leaves damaged or cut ●insect damage/mining burrows ●pitted due to desiccation ●presence of lichens	●clean & undamaged ●not cut back ●little or no insect damage
Soil	●habitat soil or substrate attached	●only horticultural compost

1975 CITES & orchids

- **Appendix I** species *Paphiopedilum parrishii* was a celebrated case where the perpetrator was fined £20,000 and jailed for 6 months.
- **Appendix II** lists all orchids (including hybrids) that are not in Appendix I. Although artificial hybrids are not wild plants they look like wild plants.
- Bar coding is legally accepted as means to identify the orchid genus *Phragmipedium* using the *mat*K barcode

- Nurseries can be registered with CITES and new nurseries are being set up in developing countries

CITES - spotting wild source **succulents**

	Wild collected	Artificially propagated
General appearance	●irregular shape & size ●wounds & insect damage ●“corky” stems	●uniform shape & size ●clean & healthy
Spines	●damaged, irregular, or broken ●thicker	●uniform & intact ●thinner & weaker
Roots	●irregular & broken ●Thicker	●in shape of a pot ●roots cut back but healthy ●several main roots ●One main taproot
Soil	●habitat soil and associated plants	●usually clean of soil ●only horticultural compost of peat, sand, perlite, & rockwool

***Heliamphora nutans* -** A CITES appendix II carnivorous plant from the Guayana Highlands in northern South America now widely available in the nursery trade following a D.Phil at Oxford

CITES & medicinal plants

- Medicinal plants pose a particular problem due to superstition that cultivated plants do not work
- Once the plant has been processed it is very difficult to ascertain from where the plants came and what the plant actually is
- DNA bar coding might/will help with this identification by custom's officers

- Identifying different species in the same genus is very difficult sometimes and some medicinal plants are intentionally contaminated with other species e.g. ginseng

1981 Wildlife & Countryside Act

- Major piece of legislation that **named species** of plants, birds, & other animals that had special protection.

- Established the concept of Sites of Special Scientific Interest (**SSSI**s)

- Protected the limestone pavement habitat such as Malham Tarn

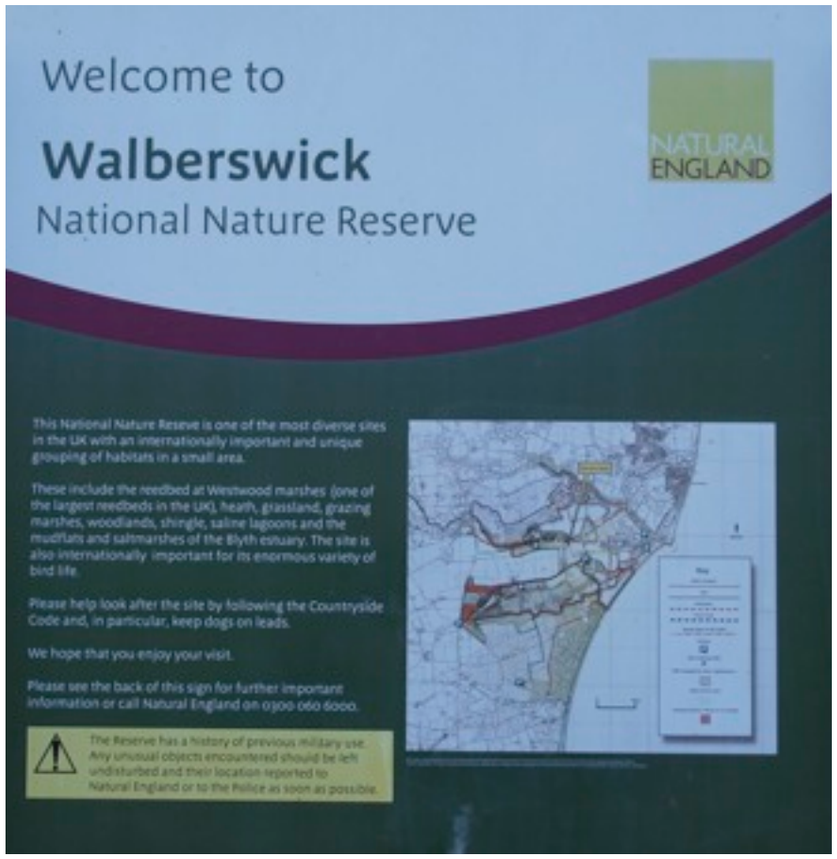
- Established & protected **National Nature Reserves**

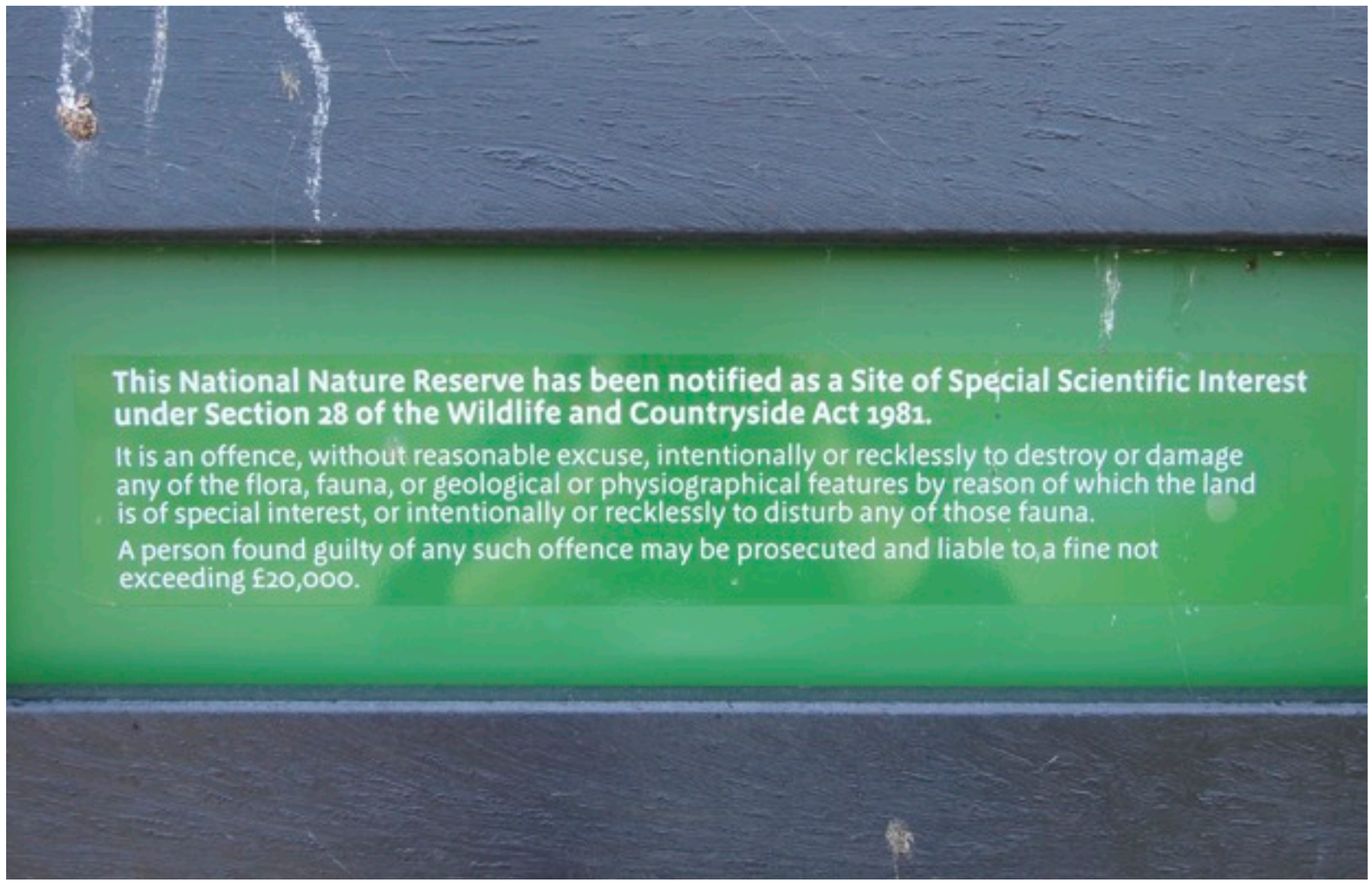
- Further protected **National Parks**

- Protected **rights of way**

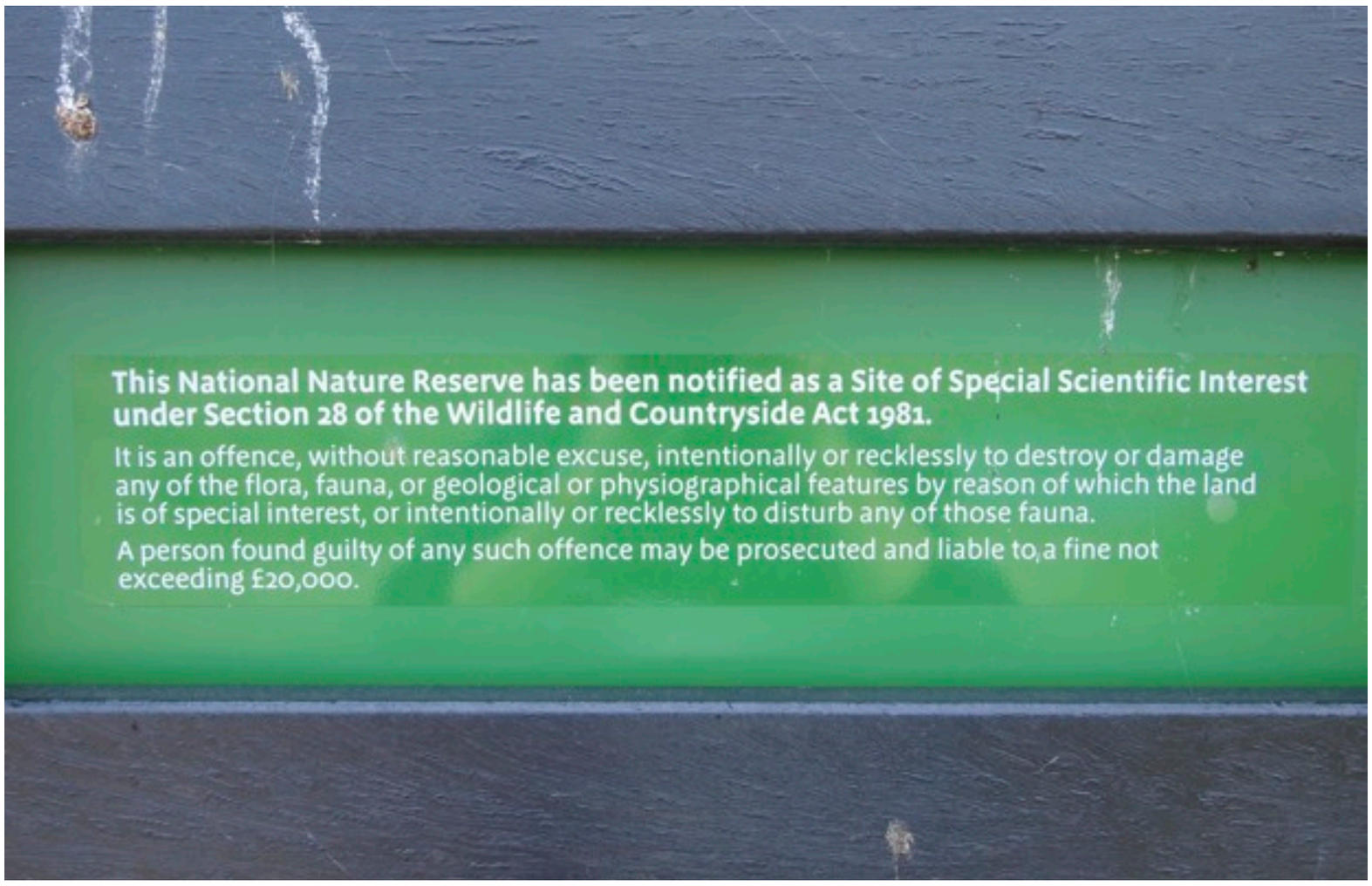
Three species named in the Wildlife & Countryside Act 1981

Trichomanes speciosum	*Apium repens*	*Cypripedium calceolus*
Killarney Fern	Creeping marshwort	Lady's slipper orchid





National Nature Reserves can also be SSSIs



SSSIs can also be working farms

1992 CBD

- Signed in 1992 at the **First Earth Summit** in Rio de Janeiro. A major international agreement ratified by every nation in the World **except the USA, Andorra, South Sudan* & the Holy See**.

- The CBD is a commitment from the Parties to three broad principles:

1. To conserve biological diversity; genetic, species, and ecosystems

2. To use biological resources sustainably

3. To share the benefits derived from biological diversity fairly and equitably

The CBD Approach

Convention on Biological Diversity

- Common concern of humankind
- Sovereign rights
- Countries responsible for conservation
- **Preventative & precautionary approach**
- Priority given to *in situ* conservation
- Backed up by *ex situ* conservation
- Sustainable use

Financial value of biodiversity

Convention on Biological Diversity

	Annual Sales (billion £s)	
Products	**low**	**high**
Pharmaceuticals	75	150
Botanical medicines	20	40
Agricultural produce	300+	450+
Ornamental horticulture	16	19
Crop protection	0.6	300+
Biotech (not health & agriculture	60	120
Personal care & cosmetics	2.8	2.8
Rounded total	**500**	**800**

Non-monetary benefit-sharing

Convention on Biological Diversity

- **Field work:** sharing knowledge & experience; improving national collections; sharing/donating equipment; supporting the local community.

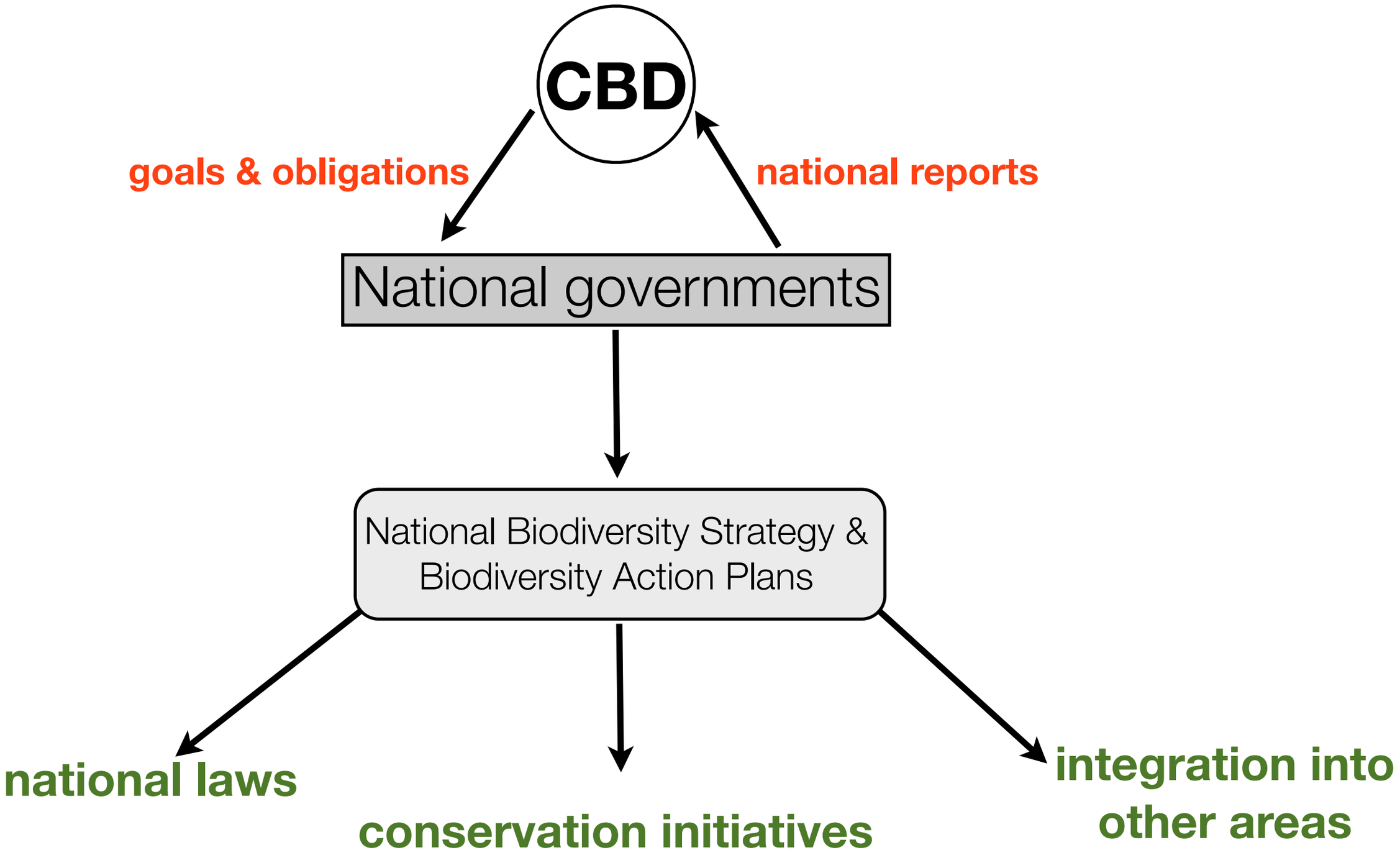
- **Scientific**: joint research & publications; citing sources of material & sending copies; sharing specimen information & images; sending back taxonomic names.

- **Technical**: propagation protocols; reintroduction programmes; staff exchanges; donation of tools, equipment & labels.

- **Education & training**: training courses & workshops; higher education,sharing photos & education materials

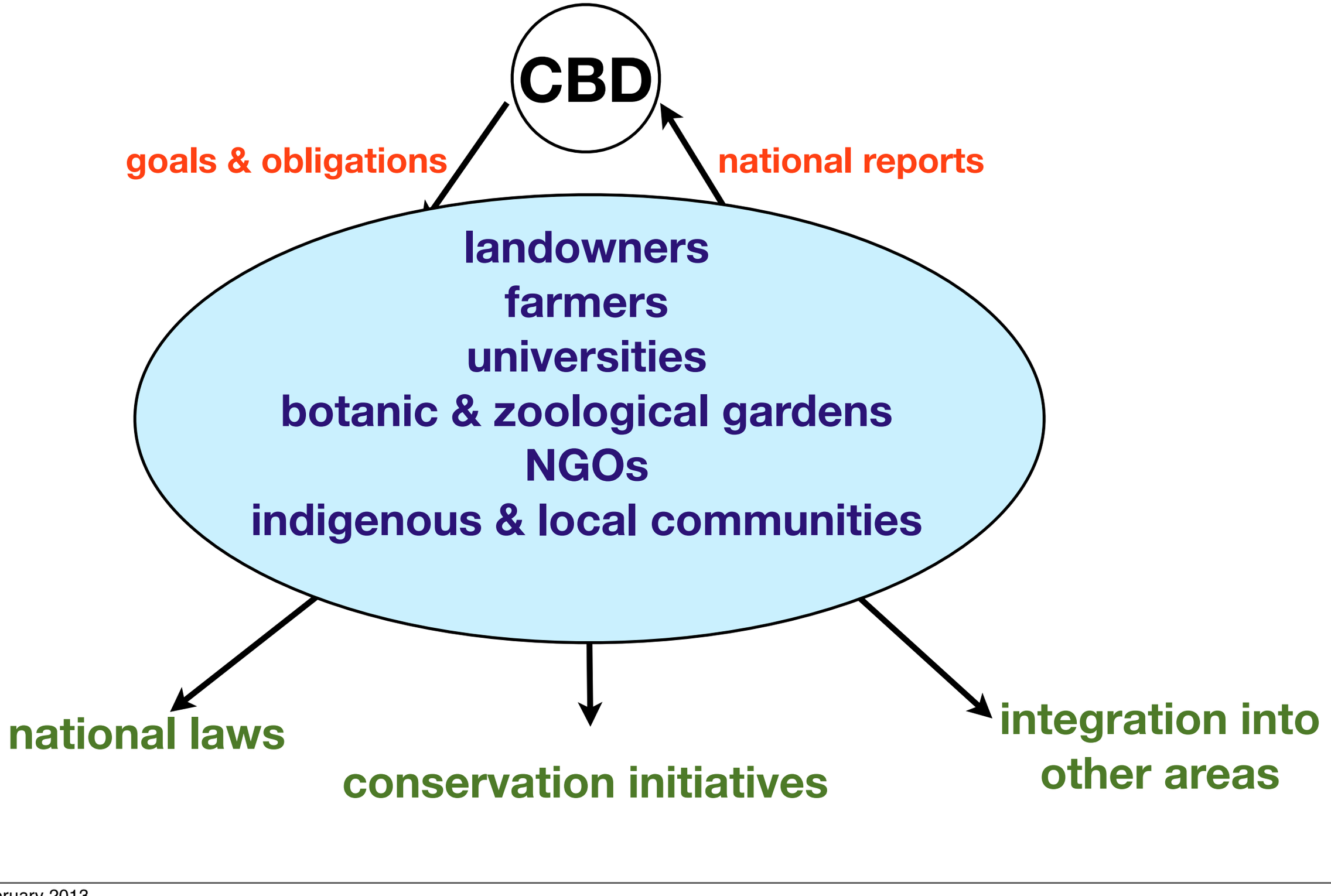
The CBD Approach

Convention on Biological Diversity



CBD Stakeholder Participation

Convention on Biological Diversity



CBD thematic work programme

Convention on Biological Diversity

agricultural biodiversity
biodiversity of i**nland water**
biodiversity of **dry & subhumid lands**
forest biodiversity
marine & coastal biodiversity
mountain biodiversity
island biodiversity

CBD cross-cutting issues

Convention on Biological Diversity

taxonomy
plant conservation
invasive non-native species
access to genetic resources
education & awareness
2020 biodiversity targets
traditional knowledge
climate change
bio-safety

agricultural biodiversity
biodiversity of i**nland water**
biodiversity of **dry & subhumid lands**
forest biodiversity
marine & coastal biodiversity
mountain biodiversity
island biodiversity

1994 EU Habitats Directive

- Followed the 1992 CBD and established the concept of **Biodiversity Action Plans** (BAP)which drives funding for conservation

- From this came **Countryside Stewardship Schemes** that enabled farmers and land owners to manage their land for the preservation of biological diversity

- The Burren in west Ireland is a limestone pavement of international importance - the visitor centre was never built

2000 UN Millennium Development Goals

WE CAN END POVERTY 2015 MILLENNIUM DEVELOPMENT GOALS

United Nations

☐ **1 - To eradicate extreme poverty & hunger**

☑ to halve, between 1990 & 2015, the proportion of people whose incme is less than $1 a day

☑ To achieve full & productive employment and decent work for all, including women & young people

☑ to halve, between 1990 & 2015, the proportion of people who suffer from hunger

2000 UN Millennium Development Goals

WE CAN END POVERTY 2015 MILLENNIUM DEVELOPMENT GOALS

United Nations

☐ 2 - To achieve universal primary education

☑ to ensure that, by 2015, children everywhere, boys & girls alike, will be able to complete a full course of primary schooling

2000 UN Millennium Development Goals

WE CAN END POVERTY 2015 MILLENNIUM DEVELOPMENT GOALS

United Nations

☐ 3 - To promote gender equality and empower women

☑ to eliminate gender disparity in primary & secondary education, preferably by 2005, and in all levels of education no later than 2015

2000 UN Millennium Development Goals

WE CAN END POVERTY 2015 MILLENNIUM DEVELOPMENT GOALS

United Nations

☐ 4 - to reduce child mortality

☑ to reduce by two thirds, between 1990 & 2015, the under-five mortality rate

2000 UN Millennium Development Goals

WE CAN END POVERTY 2015 MILLENNIUM DEVELOPMENT GOALS

United Nations

☐ 5 - to improve maternal health

☑ To reduce by three quarters the maternal mortality ratio

☑ to achieve universal access to reproductive health

2000 UN Millennium Development Goals

WE CAN END POVERTY 2015 MILLENNIUM DEVELOPMENT GOALS

United Nations

☐ **6 - to combat HIV/AIDS, malaria and other diseases**

☑ To have halted by 2015 and begun to reverse, the spread of HIV/AIDS

☑ to achieve, by 2010, universal access to treatment for HIV AIDS for all those who need it

☑ to have halted by 2015 and begun to reverse the incidence of **malaria** and other major diseases

2000 UN Millennium Development Goals

WE CAN END POVERTY 2015 MILLENNIUM DEVELOPMENT GOALS

United Nations

☐ **7 - to ensure environmental sustainability**

☑ To integrate the principles of sustainable development into country policies & programmes and to **reverse the loss of environmental resources**

☑ to **reduce biodiversity loss**, achieving by 2010, a significant reduction in the rate of loss

☑ to halve, by 2015, the proportion of the population without sustainable access to safe drinking water & basic sanitation

☑ to have achieved, by 2010, a significance improvement in the lives of at least 100 million slum dwellers

2000 UN Millennium Development Goals

WE CAN END POVERTY 2015 MILLENNIUM DEVELOPMENT GOALS

United Nations

- ☐ **8 - to develop a global partnership for development**
- ☑ to develop further an open, rule-based, predictable, non-discriminatory trading & financial system
- ☑ to address the special needs of least developed countries
- ☑ to address the special needs of landlocked developing countries and small island developing states
- ☑ to deal comprehensively with the debt problems of developing countries
- ☑ to provide, in cooperation with pharmaceutical companies, affordable essential drugs in developing countries
- ☑ to make available, in cooperation with the private sector, the benefits of **new technologies**, especially information and communications

2000 UN Millennium Development Goals

- What is the relationship between **poverty/affluence** & **conservation**?

- There are potential & real tensions between the eradication of extreme poverty & hunger on one hand and ensuring environmental sustainability on the other (www.undp.org)

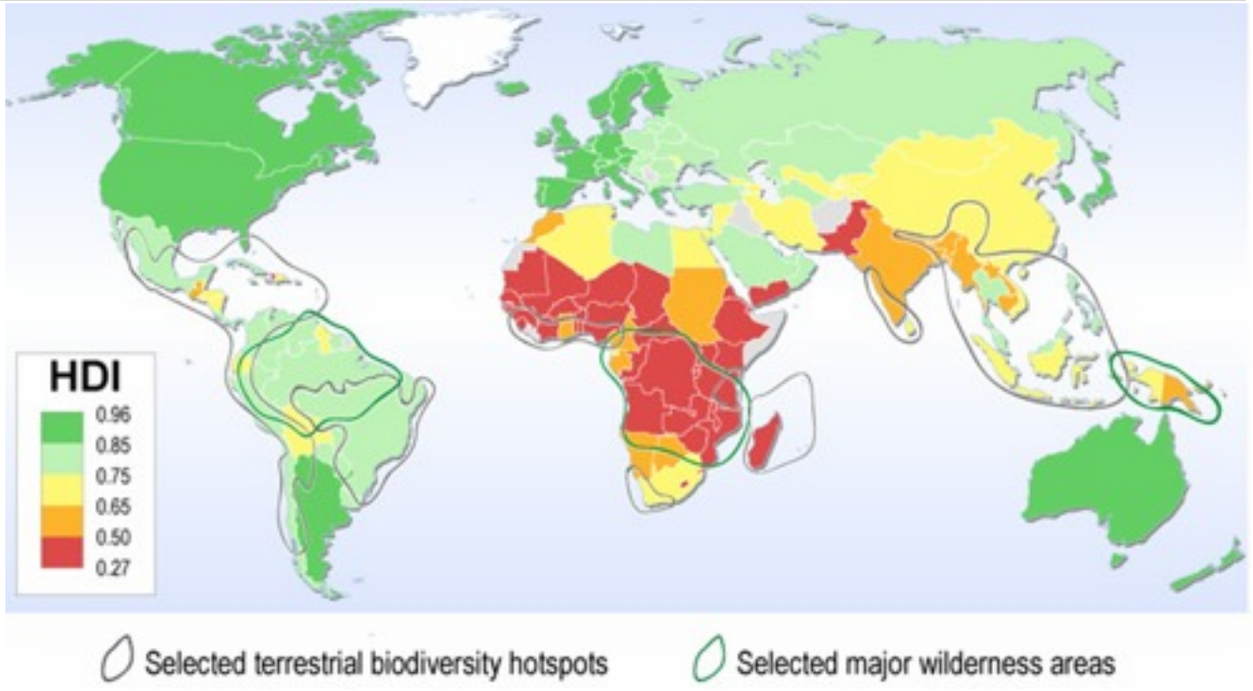
2000 UN Millennium Development Goals

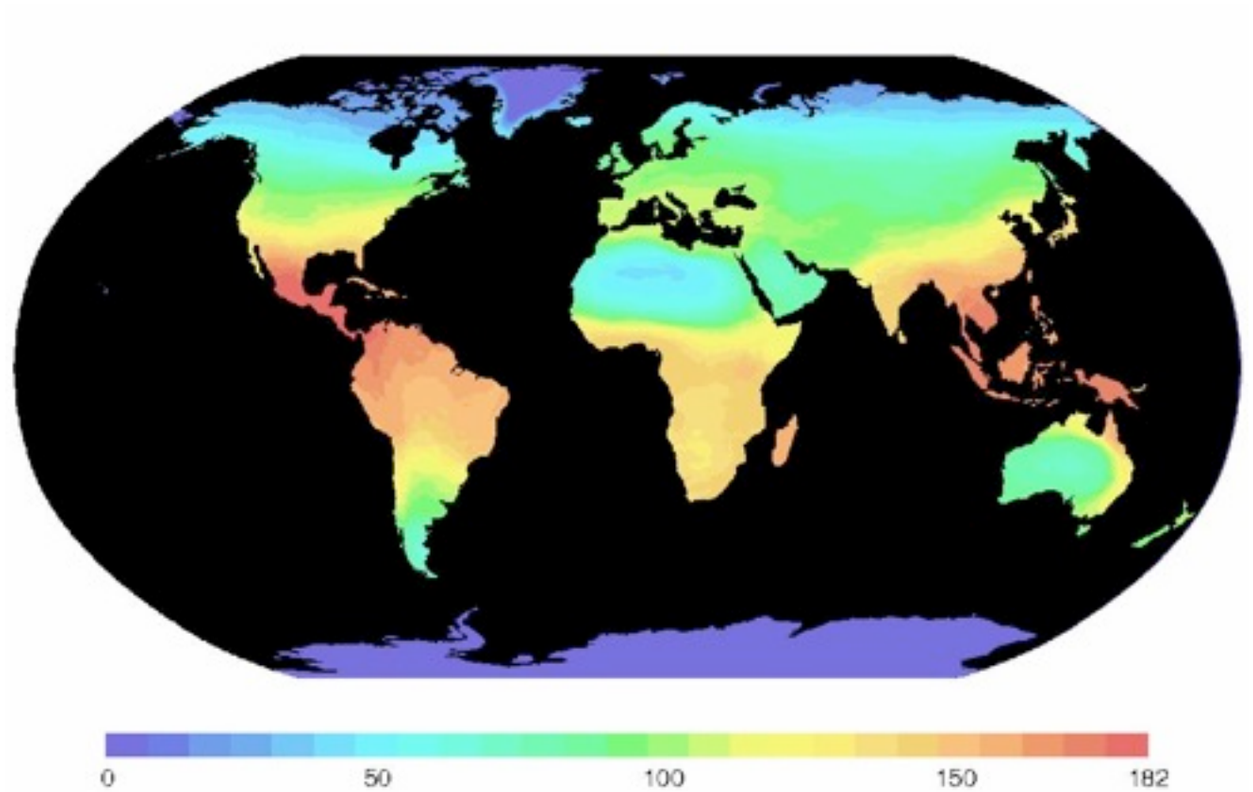
WE CAN END POVERTY 2015 MILLENNIUM DEVELOPMENT GOALS

- A comparison of the **human development index** (HDI) and the distribution of plant diversity.

- HDI (above) is based on life expectancy, knowledge/ education, and standard of living

- Plant diversity (below) is measured in terms of **plant families** as measure of phylogenetic/evolutionary diversity





2000 UN Millennium Development Goals

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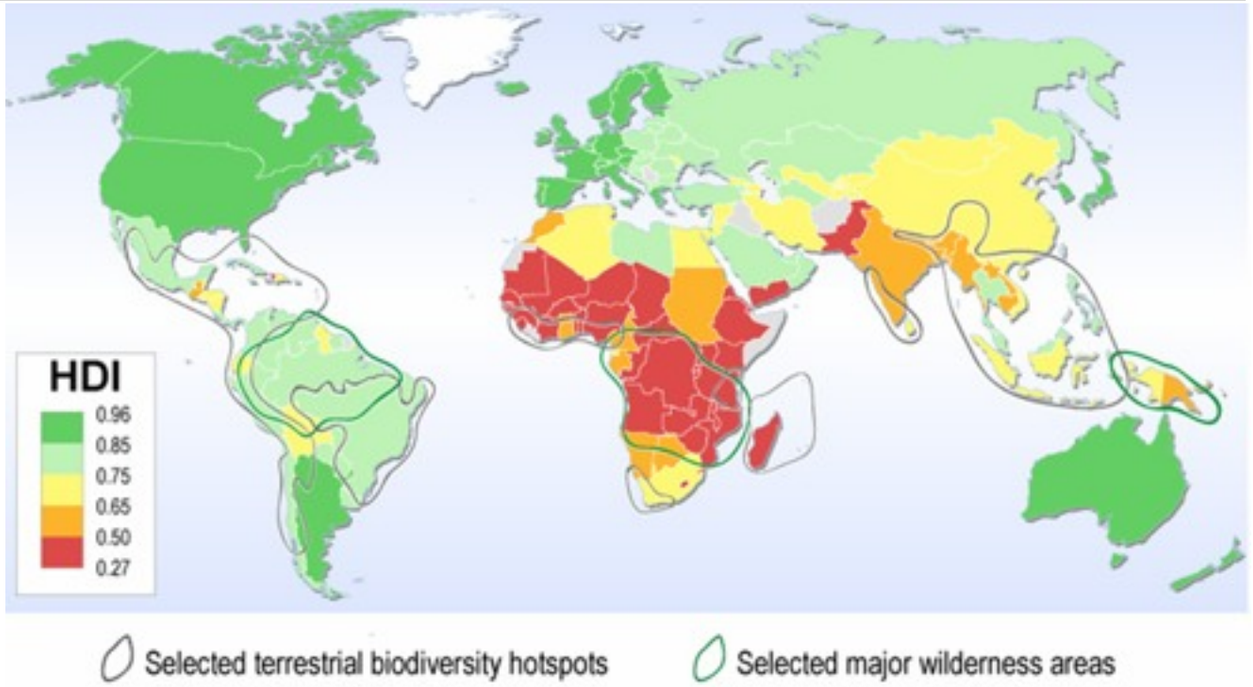
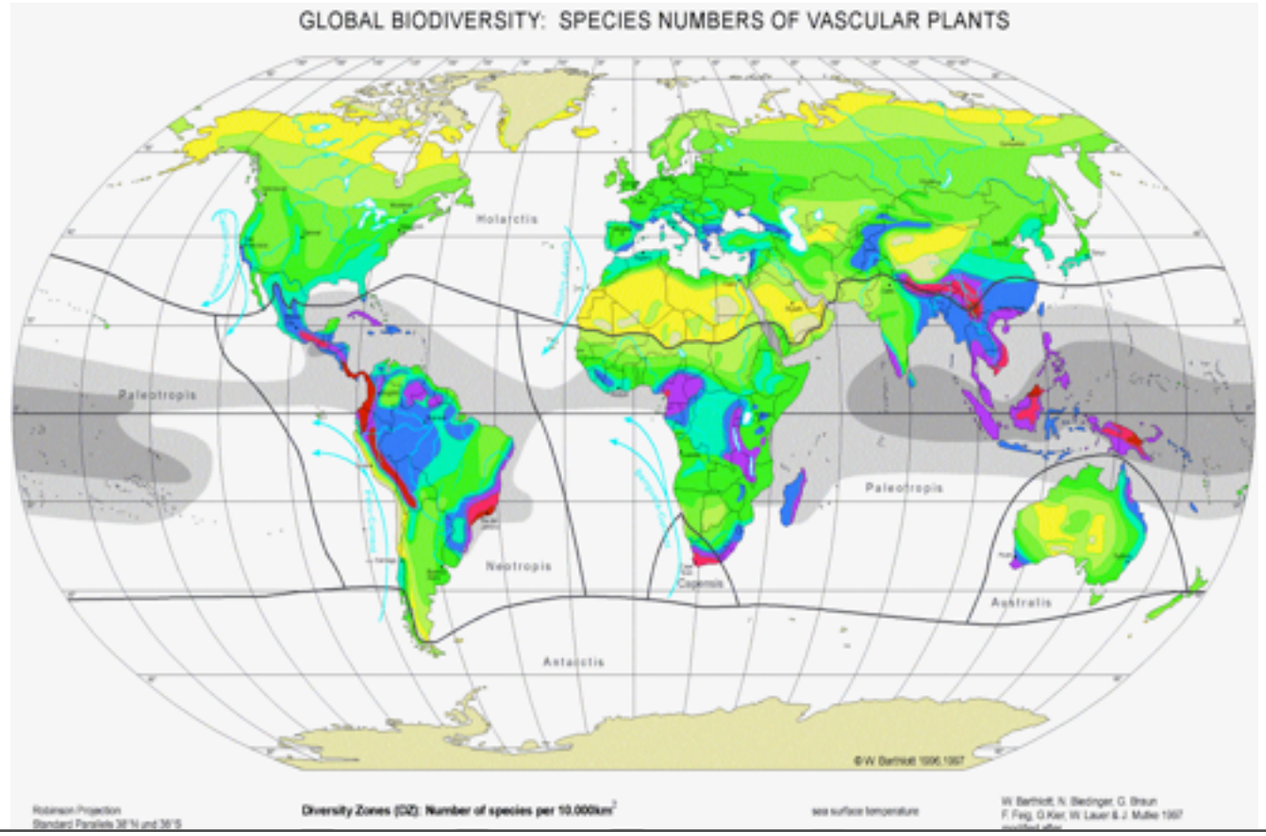




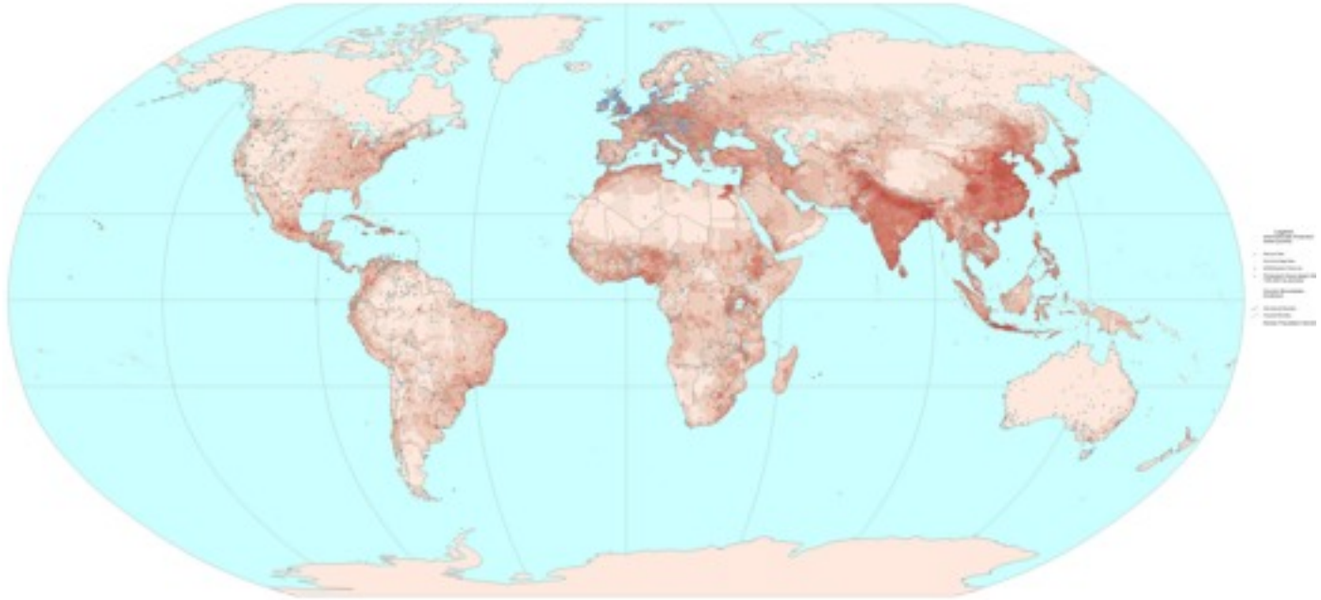
2000 UN Millennium Development Goals

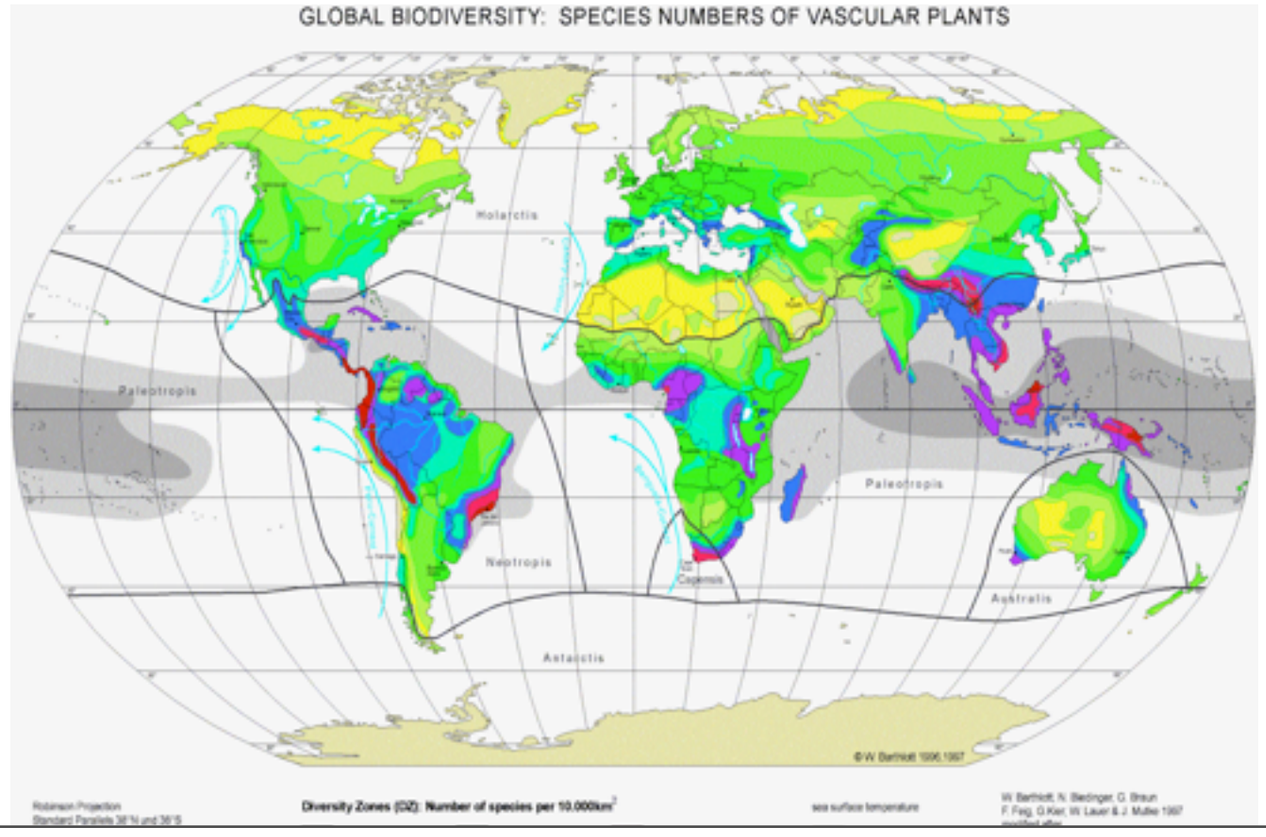
WE CAN END POVERTY 2015 MILLENNIUM DEVELOPMENT GOALS

- A comparison of the **distribution of human beings** and the distribution of plant diversity.

- HDI (above) is based on life expectancy, knowledge/ education, and standard of living

- Plant diversity (below) is measured in terms of **plant species** as measure of plant diversity

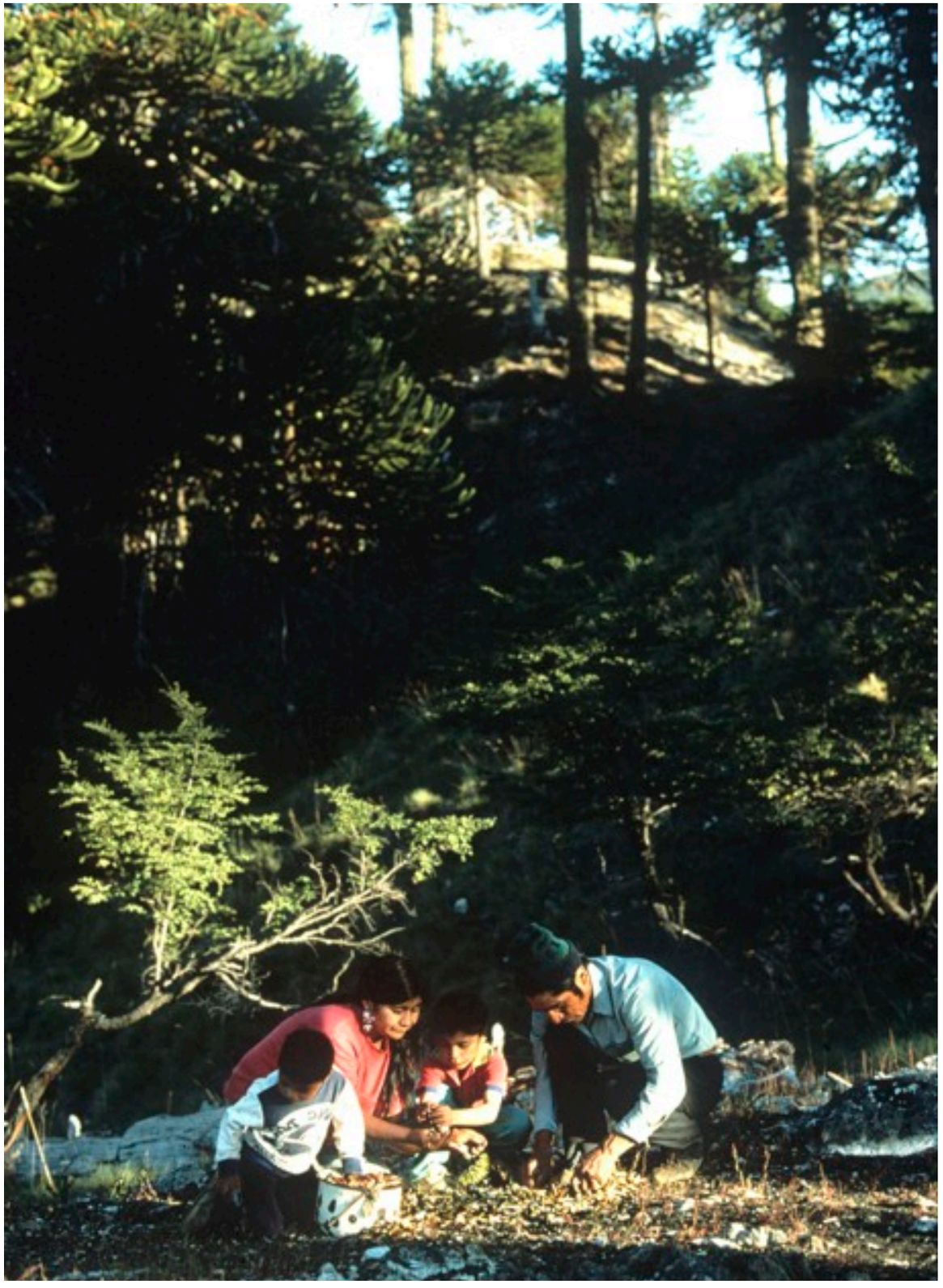




2000 UN Millennium Development Goals

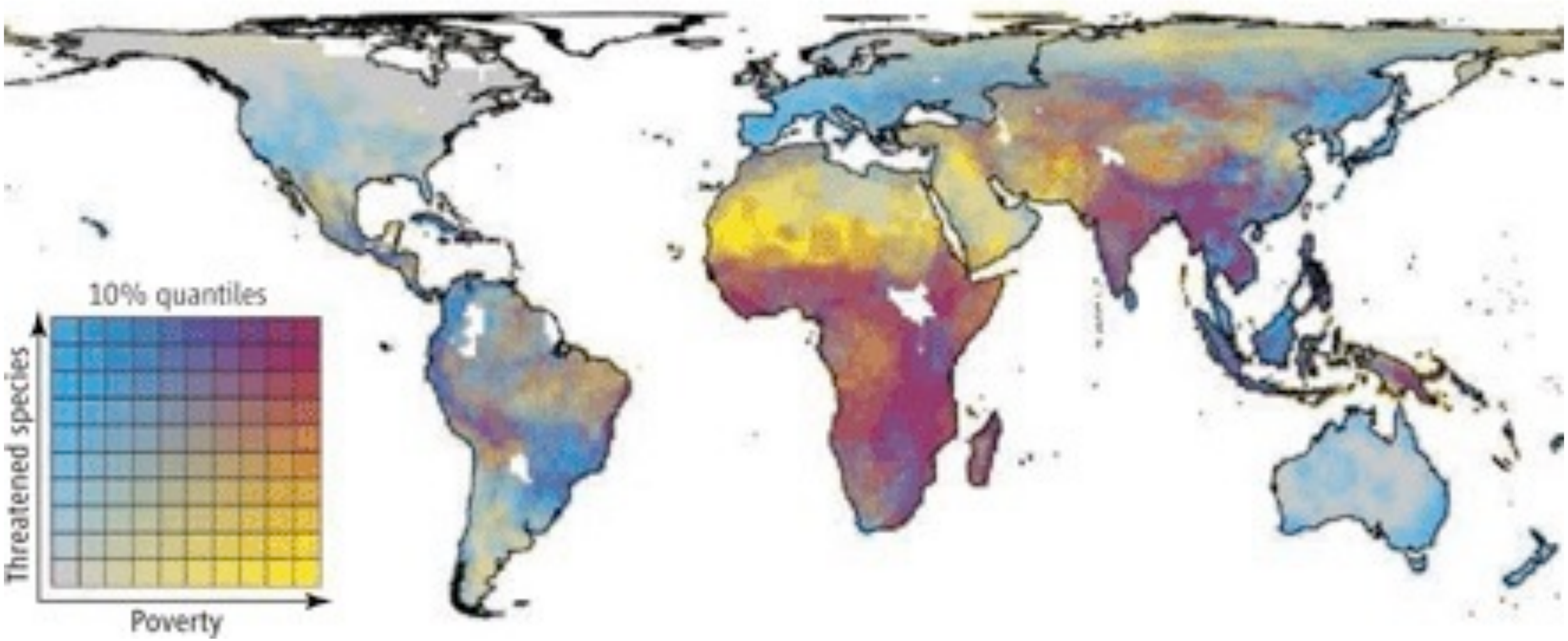
- Poverty & conservation are separate policy realms
- Poverty reduction must not be compromised by resource conservation
- Poverty is a critical restraint on conservation
- Poverty reduction depends on living resource conservation
- Poverty reduction must not compromise resource conservation
- Adams et al. (2004) Science 306 p1147

Chile - deliberately destroyed monkey puzzle forests



The Pehuenche Indians in Chile depended upon 4,000 kg monkey puzzle seeds per family and *Berberidopsis caroliana* for basket weaving

Does affluence reduce threats to species?



Apparently not for mammals, birds & amphibians

Sachs et al (2009) Science **325** **p1502-1503**

Who damages forests?

- 2011 study looked at biodiversity conservation & forest-based livelihoods in 84 sites across East Africa & South Asia. (Persha *et al.* 2011) Positive & negative effects were found but **participation in forest governance institutions by local forest users is strongly associated with jointly positive outcomes for forests**.
- A second 2011 study showed that **poor residents of forests do not cause the most deforestation**. (Nature online 15 June 2011). Data collected from 8,000 households in 24 countries including China, Zambia & Indonesia, showed that firewood accounts for 20% of family income and timber 10%. However, the richest 20% of households in the study caused 30% more deforestation than the poorest 20%. REDD+ will only work if it is implemented from the bottom up.
- REDD = **Reduced Emissions from Deforestation & Forest Degradation**

2002 & 2010 Global Strategy for Plant Conservation

- The GSPC was the first global strategy for a **major group** of organisms
- The GSPC was the first global conservation strategy with **measurable targets**
- The GSPC **model** has been adopted by conservation workers in other areas
- The GSPC has been **extended** for a second decade with new higher targets
- The GSPC has been the **catalyst** of a great deal of new work
- The GSPC has **informed us** where we are succeeding and where we are failing
- The GSPC has been so **successful** that the Parties to the CBD have agreed the Aichi Biodiversity Targets to be reached by 2020

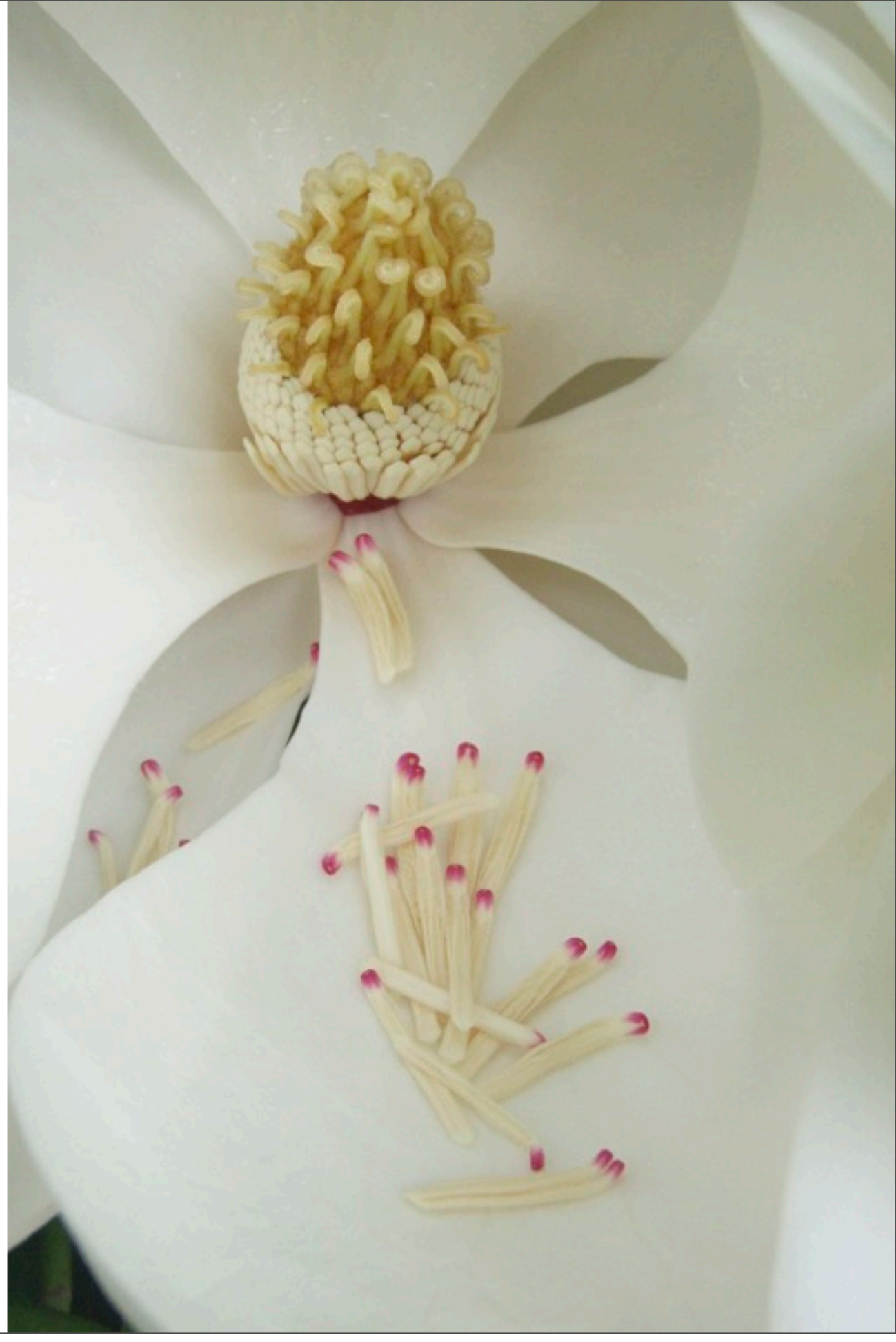
The **Global Strategy** for **Plant Conservation** 2020

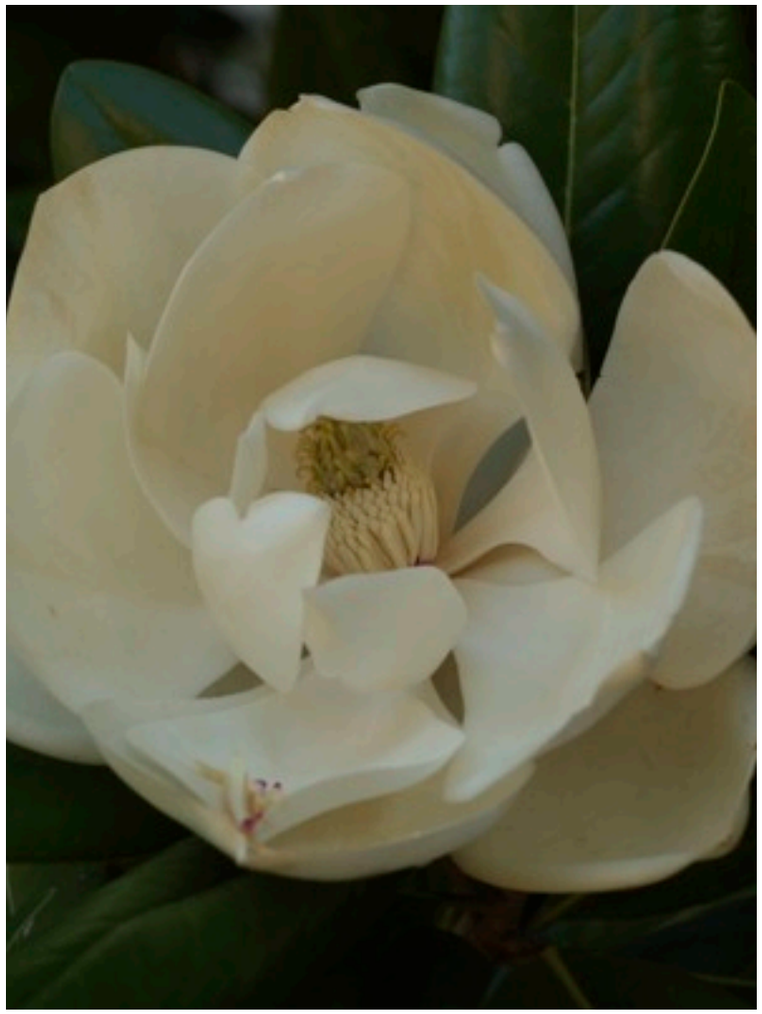
GSPC 20

5 objectives

16 targets

10 years





Objective 1 - To recognize, understand & document plant diversity

Target 1 - **To publish an on-line flora of all known plant species**

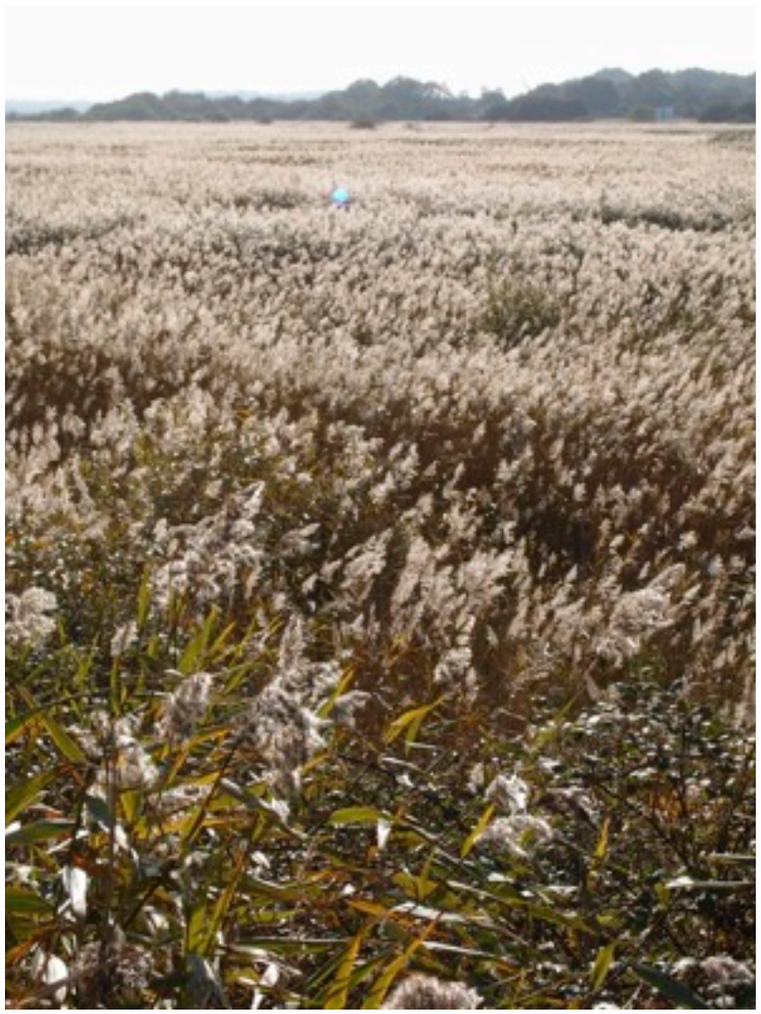
Taxonomists, database designers & IT managers

Target 2 - **An assessment of the conservation status of all known plant species**

Field biologists & amateur naturalists

Target 3 - **To carry out research to develop the methods necessary to implement the Strategy**

Research scientists, land-owners, farmers



Objective 2 - To conserve plant diversity urgently and effectively

Target 4 - **To secure 15% of each ecological region or vegetation type through effective management &/or restoration**

politicians, reserve managers, non-governmental organizations

Target 5 - **To protect 75% of the most important areas for plant diversity with effective management in place for conserving plants and genetic diversity**

Reserve managers, geneticists,

Target 6 - **To manage 75% of production lands in each sector sustainably, consistent with the conservation of genetic diversity**

Farmers, foresters, land owners

Target 7 - **To conserve 75% of known threatened species *in situ* (in habitats)**

land owners, habitat managers, ecologists

Target 8 - **To conserve 75% of known threatened species in *ex situ* collections**

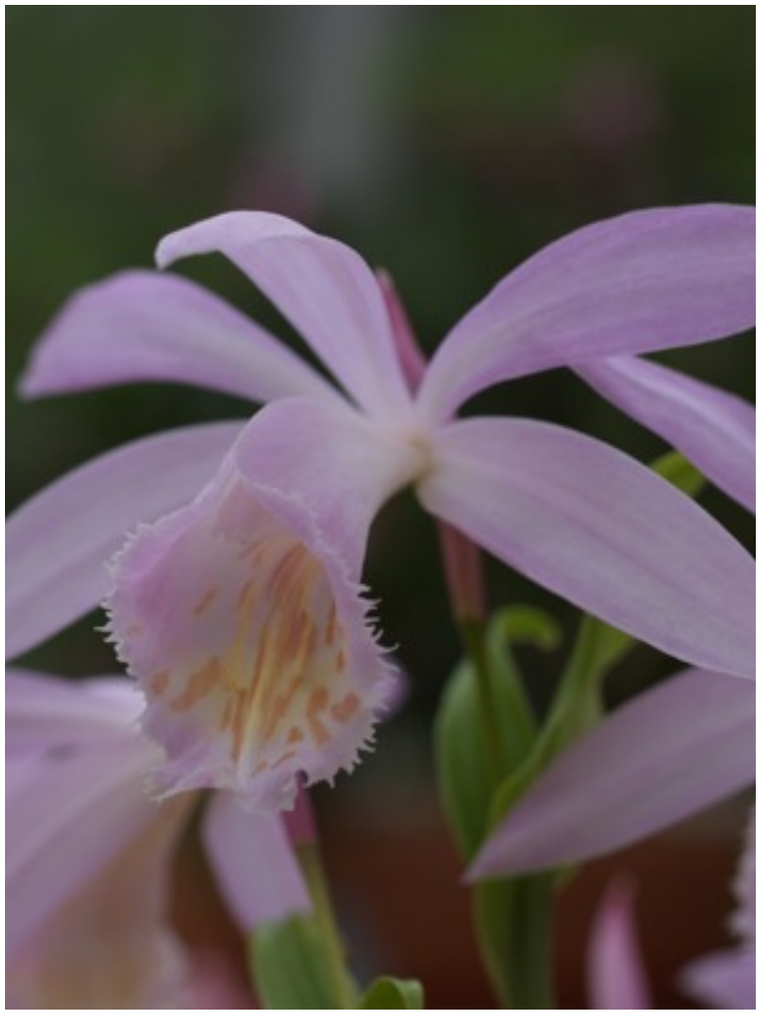
horticulturalists, seed physiologists

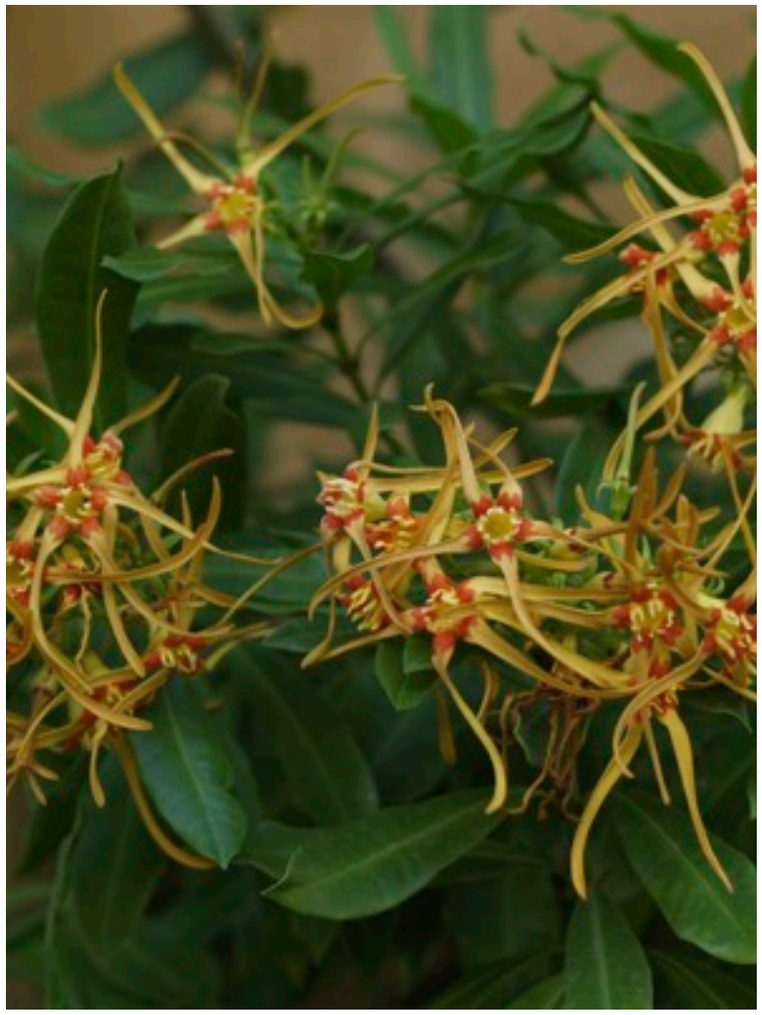
Target 9 - **To conserve 70% of the genetic diversity of crops & their wild relatives, & other socio-economically valuable plants**

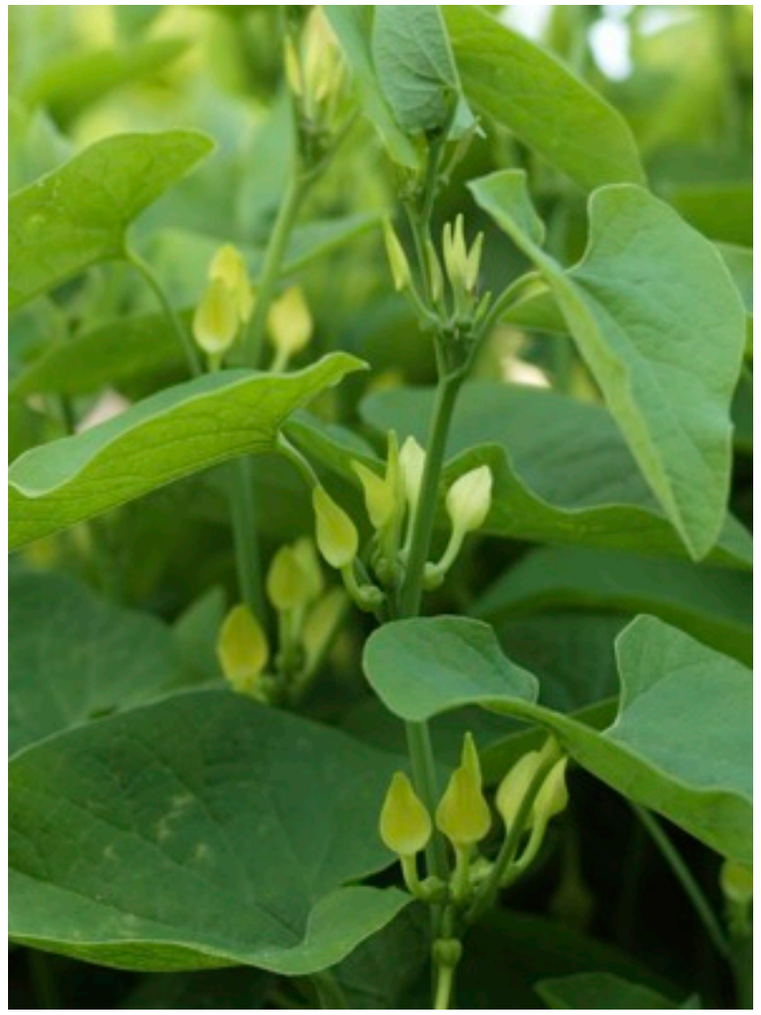
Agriculturalists, seed physiologists

Target 10 - **To prevent new biological invasions and to manage important areas for plant diversity that are invaded**

Reserve managers, plant scientists, & volunteers







Objective 3 - **To use plant diversity in a sustainable & equitable manner**

Target 11 - **To prevent any species of plant being endangered by international trade**

civil servants, customs officials

Target 12 - **To source sustainably, all wild harvested, plant-based products**

civil servants, ethical retailers, well-informed consumers

Target 13 - **To maintain indigenous & local knowledge associated with plant resources to support sustainable livelihoods, food security & health care**

ethno-botanists, sociologists

Objective 4 - To promote education & awareness about plant diversity, its role in sustainable livelihoods, & its importance to all life on Earth

Target 14 - **To incorporate the importance of plant diversity & conservation in education & public awareness programmes**

teachers, science journalists, broadcasters

Objective 5 - To develop capacity & public engagement necessary to implement the Strategy

Target 15 - **To train sufficient numbers of people to achieve the targets of the strategy**

lecturers, students

Target 16 - **To establish or strengthen institutions, networks & partnerships for plant conservation**

committed conservation workers

Plant conservation is not just for bearded anoraks*
16 targets; 28 professions; take your pick

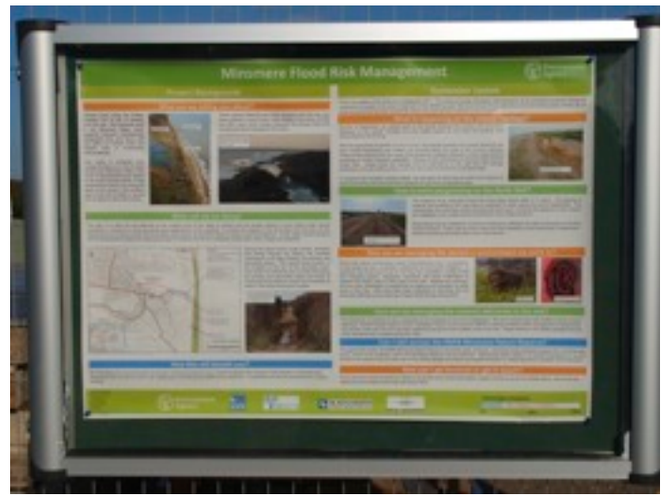
- Agriculturalists
- Amateur naturalists
- Broadcaster/film-maker
- Civil servants
- Conservation scientists
- Customs officers
- Database designers
- Ecologists
- Ethical retailers
- Ethno-botanists
- Farmers
- Field biologists
- Foresters
- Geneticists
- Horticulturalist
- Journalists
- Land owners
- Lecturers
- Non-governmental organizations
- Plant scientists
- Politicians
- Research scientists
- Reserve managers
- Seed biologists
- Sociologists
- Students
- Taxonomists
- Teachers
- **You**

*but we do need bearded anoraks

2010 UK Conservation of Habitats & Species Regulations

- This requires the National Government to propose a list of sites which are important as habitats and/or habitats for important species e.g. East Anglian reed-beds
- These **Sites of Community Importance** (SCIs) will be designated as **Special Areas of Conservation** (SACs) and **Special Protection Areas** (SPAs) which will have greater protection than SSSIs so there will be no high speed train between London & Birmingham we still hope.

for birds
for people
for ever



Habitat management at RSPB Minsmere, Suffolk, UK

Bittern in the managed reed beds at RSPB Minsmere
Bitterns are a BAP species

Four-spotted chaser in the managed reed beds at RSPB Minsmere

Adder in the managed reed beds at RSPB Minsmere
Adders are declining due to a loss of genetic diversity

2011-2020 The Aichi Biodiversity Targets

Convention on Biological Diversity

- http://www.cbd.int/sp/targets/
- Adopted at the COP10 meeting in Nagoya
- 20 very wide ranging targets under 5 strategic goals
- Covers some of the areas that are covered by the GSPC
- Covers some of the areas that are covered by the UN MIllennium Development Goals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White's tree frog, Litoria caerulea, a native of New Guinea, one of the last great forest wildernesses
BRIAN JEVARAJAMY
A giant leap for the natural world
Historic deal aims to halt mass extinctions
By Steve Connor
Science Editor
A HISTORIC deal to halt the mass extinction of species was finally agreed last night in what conservationists see as the most important international treaty aimed at preventing the collapse of the world's wildlife.
Delegates from more than 190 countries meeting in Nagoya, Japan, agreed at the 11th hour on an ambitious conservation programme to protect global biodiversity and the natural habitats that support the most threatened animals and plants.
After 18 years of debate, two weeks

2011-2020 The Aichi Biodiversity Targets & the **2020** GSPC Targets

Convention on Biological Diversity

- Aichi **does not** have targets for species checklists & conservation (GSPC T1 & T2). It does not have targets for training workers & building networks (GSPC T15 & T16)

- Aichi **does** have targets for poverty reduction, fisheries, pollution, coral reefs, terrestrial & inland water, coastal & marine water, access to genetic resources, national policy instruments and financial resources.

- **Aichi does not contradict the GSPC nor the MDG**

Conservation Conventions, Strategies, & Policies.

Do they make any difference?

IUCN
The World Conservation Union

Without these Conventions, Strategies, & Policies there would be

- No **understanding** of levels of threat to plants & animals
- No **control** of the international trade in endangered species
- No attempts to **coordinate** the conservation of species
- No attempts to live **sustainably**
- No fair benefit **sharing** of genetic resources
- No **protected** areas
- No coordinated *ex situ* **conservation** of plants
- No idea if **progress** has been made in the conservation of plants
- No data for **prioritising** the allocation of resources
- No analysis of the **gaps** in current conservation activity
- No coordinated **education** programmes

Next ...
Protecting Plant Species