

To the next 50 years!

The importance of National Red Lists in catalysing biodiversity assessments



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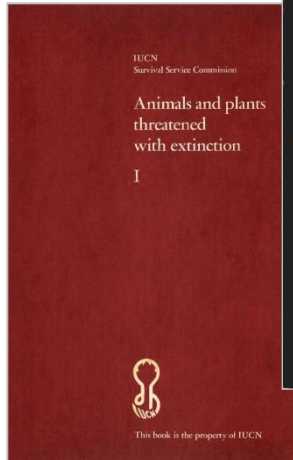
@MonniKaboom



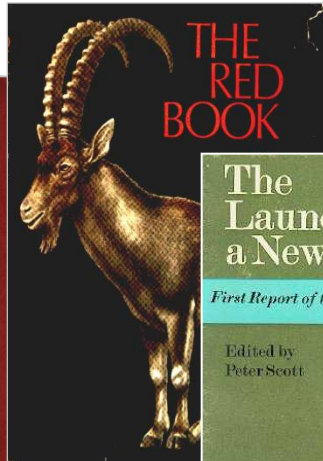
Institute of Zoology

LIVING CONSERVATION

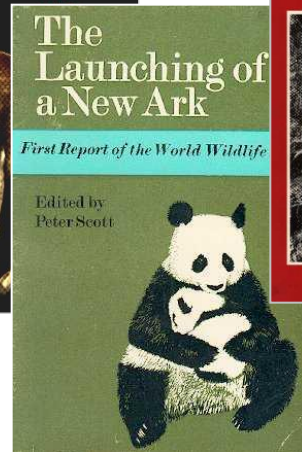
Happy Birthday, IUCN Red List



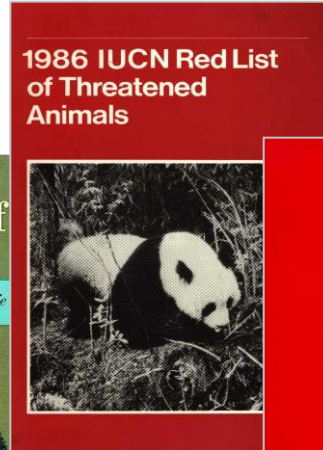
1963



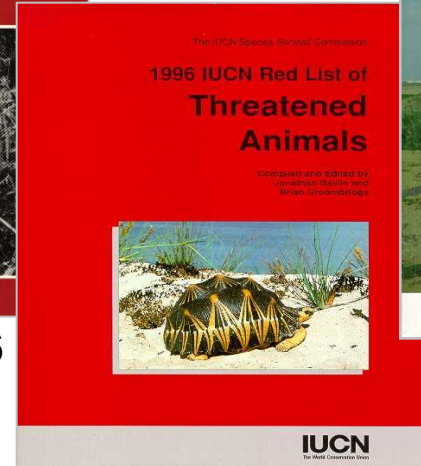
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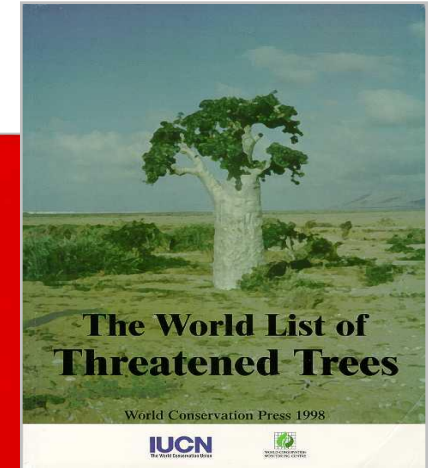
1964



1986



1996

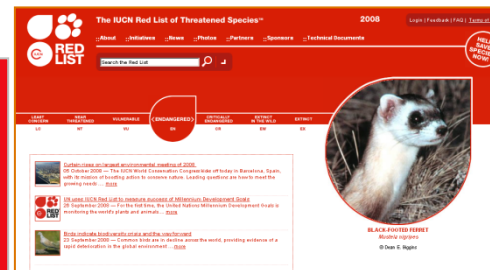


1996

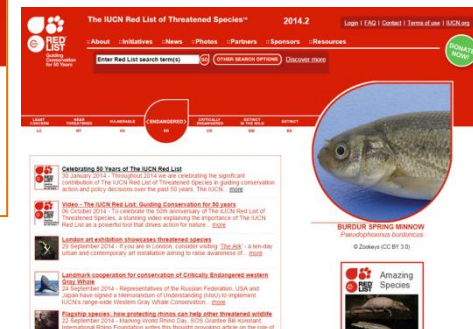
2000



2004



2008



2014

Not the only birthday to celebrate!

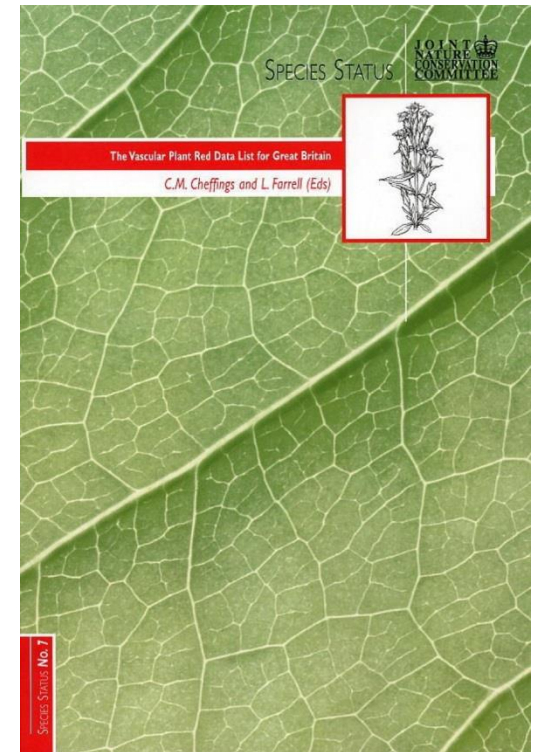
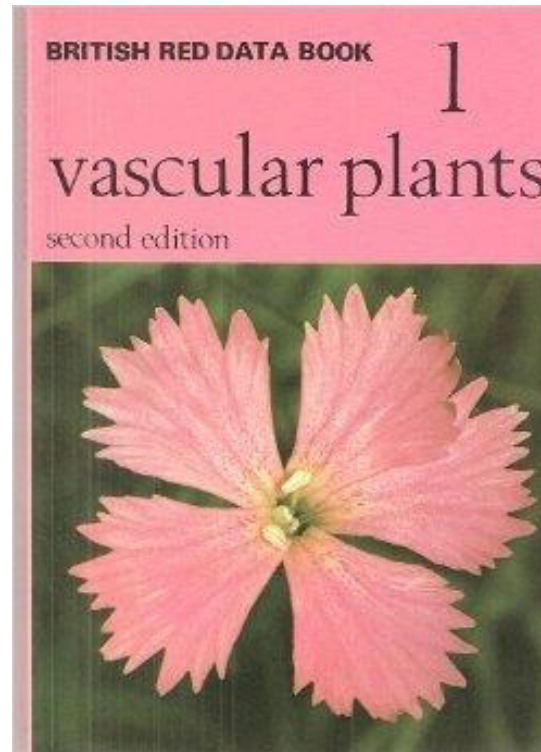
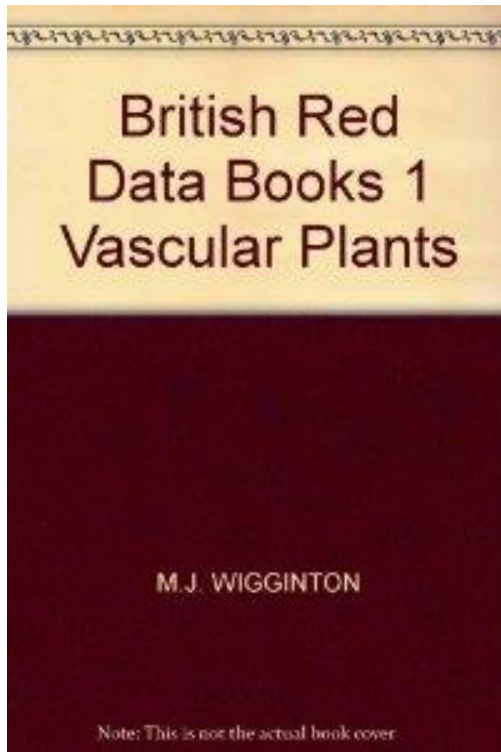


Finnish Red List:
30th birthday next year!

Swiss Red List:
20th birthday!

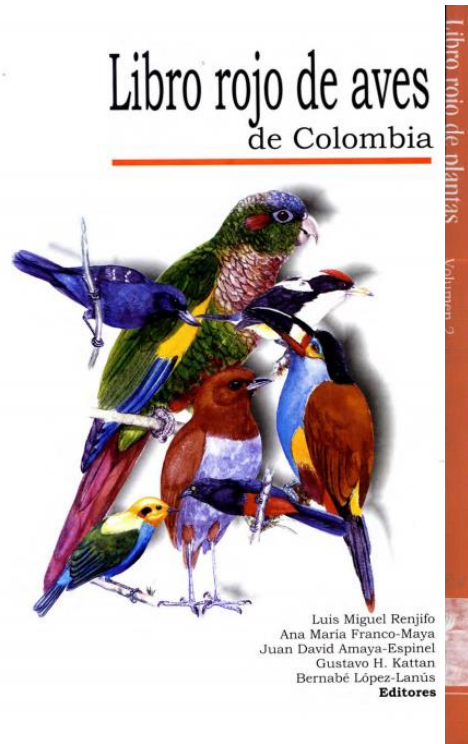


Not the only birthday to celebrate!

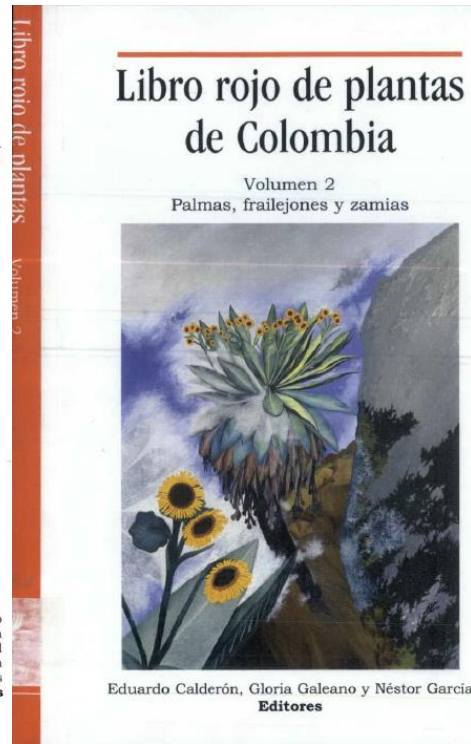


British Red Data Book for Vascular Plants: 1977 - now

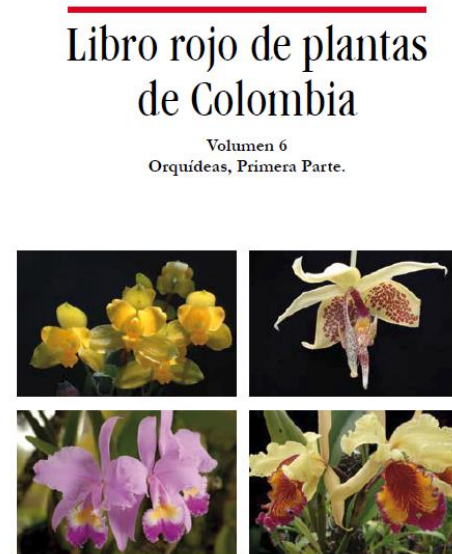
Not the only birthday to celebrate!



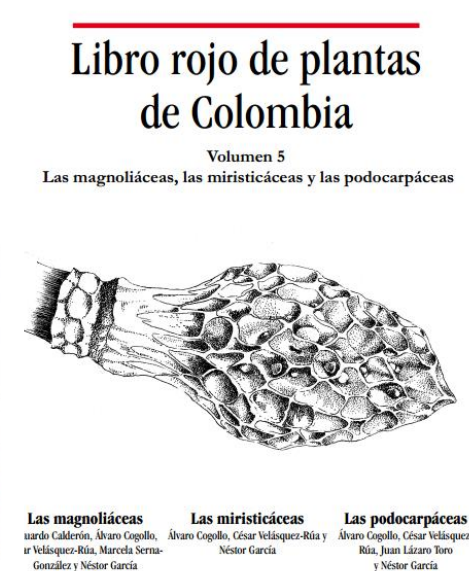
2002



2005



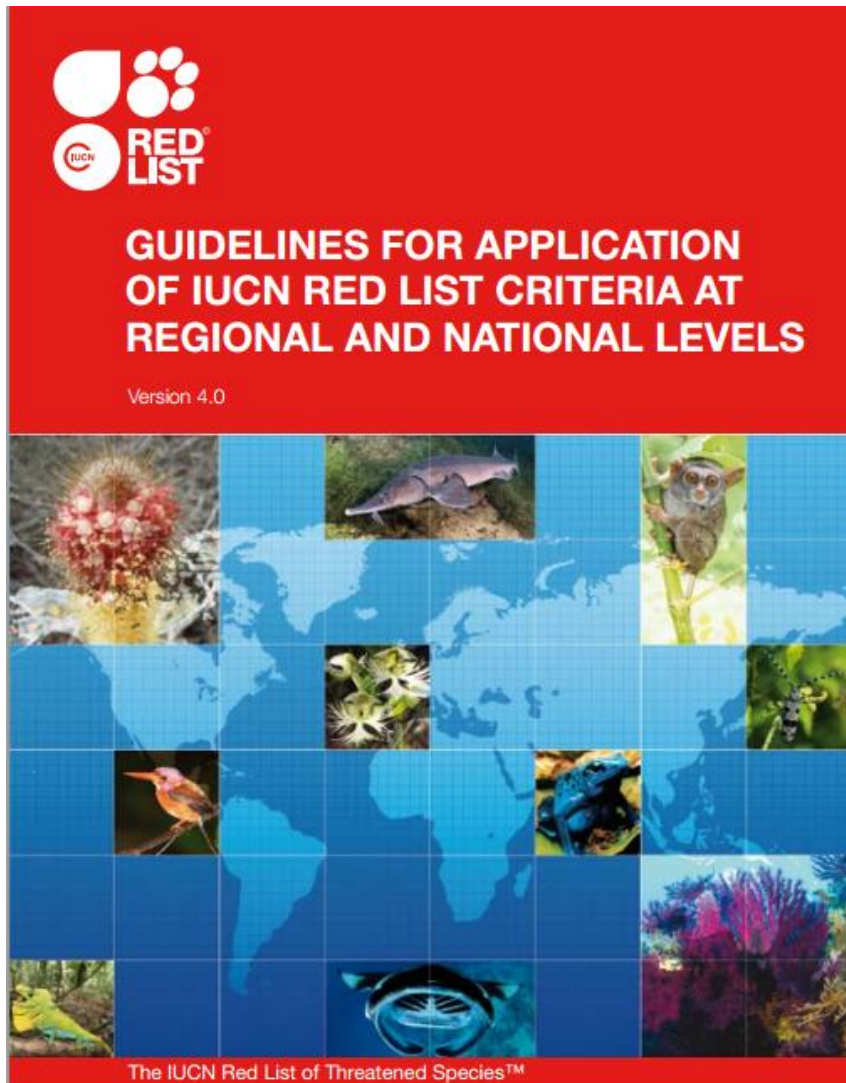
2006



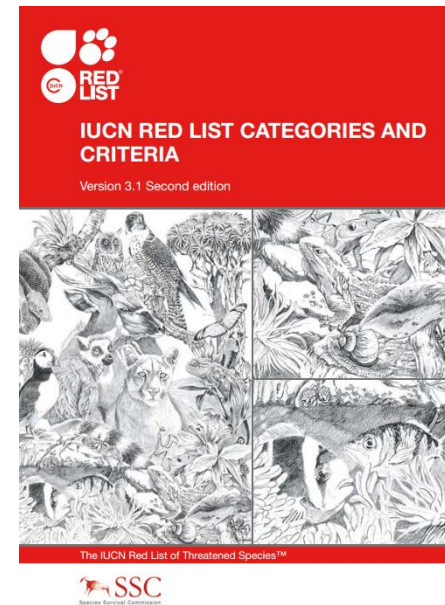
2007

Colombia Red List – happy 12th birthday!

Key development in 2003

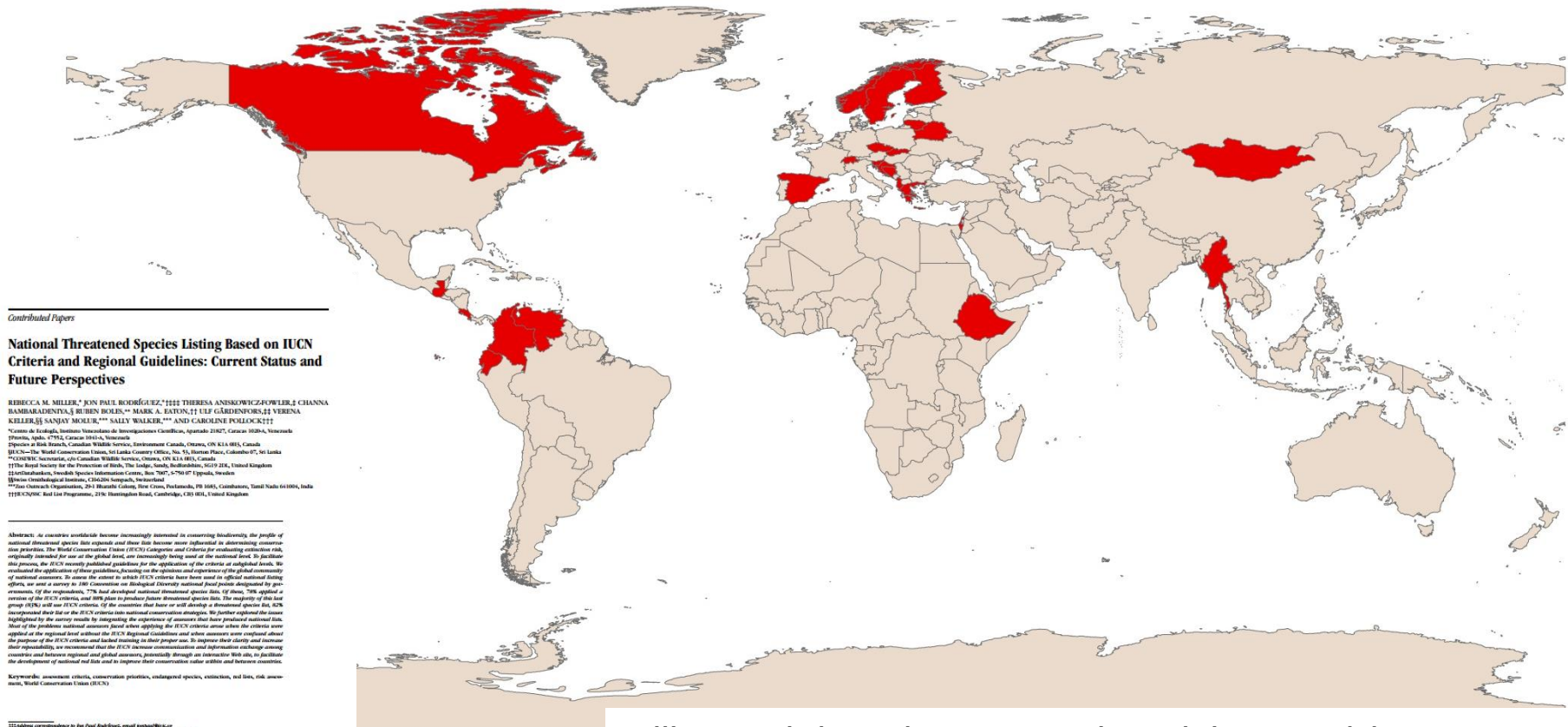


To be used in conjunction with:



+ the latest version of the Guidelines
for Using the IUCN Red List
Categories and Criteria

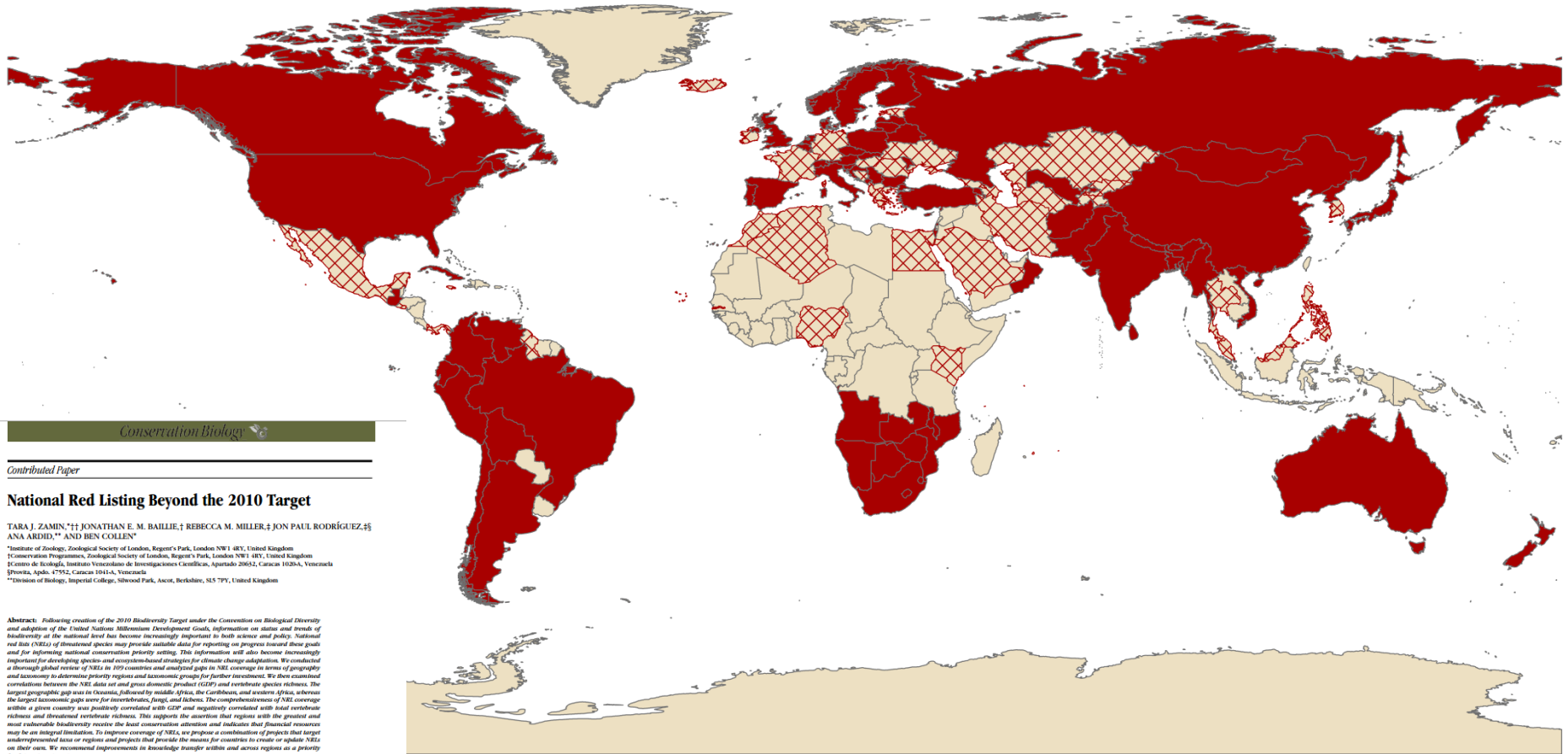
Coverage of National Red Lists



Miller et al. (2007) Conservation Biology 21 (3): 684-696

Countries with National Red Lists using the IUCN Regional Guidelines & Criteria (in 2007)

National Red List coverage in 2010



Conservation Biology

Contributed Paper

National Red Listing Beyond the 2010 Target

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²Conservation Programme, Zoological Society of London, Regent's Park, London NW1 4RY, United Kingdom
³Centro de Ecología, Instituto Venezolano de Investigaciones Científicas, Apartado 20632, Caracas 1020A, Venezuela
⁴Oruña, Apdo. 47952, Caracas 1041A, Venezuela
⁵Division of Biology, Imperial College, Silwood Park, Ascot, Berkshire, SL5 7PY, United Kingdom

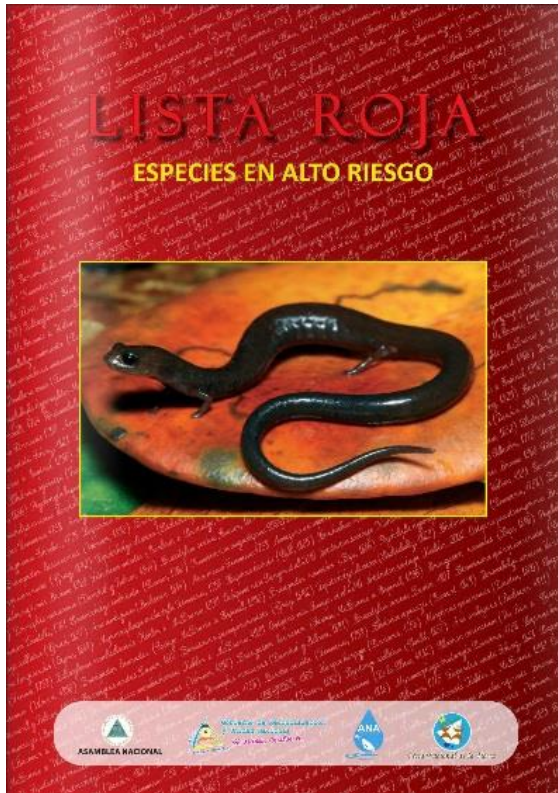
Abstract: Following creation of the 2010 Biodiversity Target under the Convention on Biological Diversity and adoption of the United Nations Millennium Development Goals, information on status and trends of biodiversity at the national level has become increasingly important to both science and policy. National red lists (NRLs) of threatened species may provide suitable data for reporting on progress toward these goals and for informing national conservation priority setting. This information will also become increasingly important for developing species- and ecosystem-based strategies for climate change adaptation. We conducted a thorough global review of NRLs in 199 countries and analyzed gaps in NRL coverage in terms of geography and taxonomy to determine priority regions and taxonomic groups for further investment. We then examined correlations between the NRL data set and gross domestic product (GDP) and vertebrate species richness. The largest geographic gap was in Oceania, followed by middle Africa, the Caribbean, and eastern Africa, whereas the largest taxonomic gaps were for invertebrates, fungi, and fishes. The comprehensiveness of NRL coverage within a given country was positively correlated with GDP and negatively correlated with total vertebrate richness and threatened vertebrate richness. This supports the assertion that regions with the greatest and most vulnerable biodiversity receive the least conservation attention and indicates that financial resources may be an integral limitation. To improve coverage of NRLs, we propose a combination of projects that target underrepresented taxa or regions and projects that provide the means for countries to create or update NRLs on their own. We recommend improvements in knowledge transfer within and across regions as a priority for future investment.

Keywords: 2010 biodiversity target, biodiversity indicators, Convention on Biological Diversity, conservation priorities, gap analysis, Millennium Development Goals, national red lists, regional red lists, threatened species
Lista Roja Naciones Más Allá de la Meta 2010

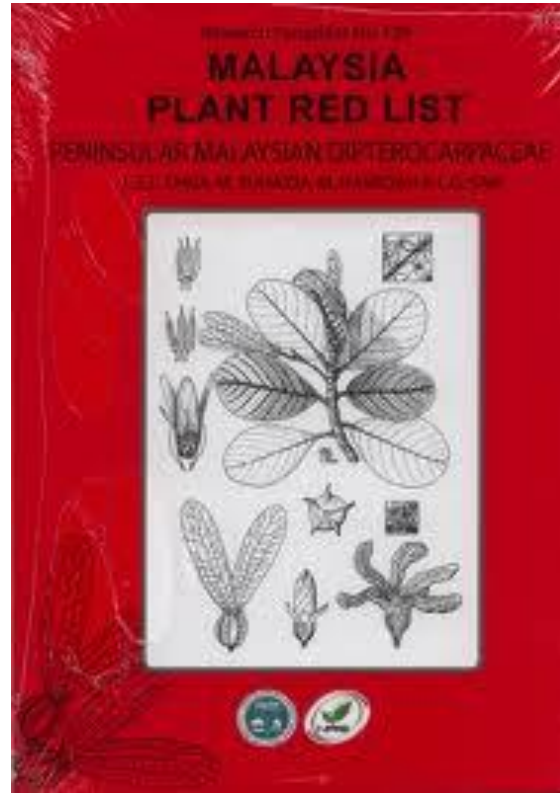
Resumen: Después de la creación de la Meta 2010 de Biodiversidad bajo la Convención de Diversidad Biológica y la adopción de los Metas de Desarrollo Milenio de las Naciones Unidas, la información sobre el estatus y las tendencias de la biodiversidad a nivel nacional cada vez es más importante para la ciencia y la política. Las listas rojas nacionales (LREN) de especies amenazadas pueden proporcionar datos adecuados para reportar el progreso hacia esas metas y para informar la definición de prioridades nacionales de conservación. Esta información también será más importante para el desarrollo de estrategias basadas en especies y en ecosistemas para adaptación al cambio climático. Realizamos una minuciosa revisión global de LREN en 199 países y analizamos las disparidades en la cobertura de LREN en términos de geografía y taxonomía para determinar regiones y grupos taxonómicos prioritarios para inversión adicional. Posteriormente examinamos las correlaciones entre los datos de LREN y el producto interno bruto (PIB) y la riqueza de especies de vertebrados. La mayor disparidad geográfica se localizó en Oceanía, seguida por

Zamin et al. (2010) Conservation Biology

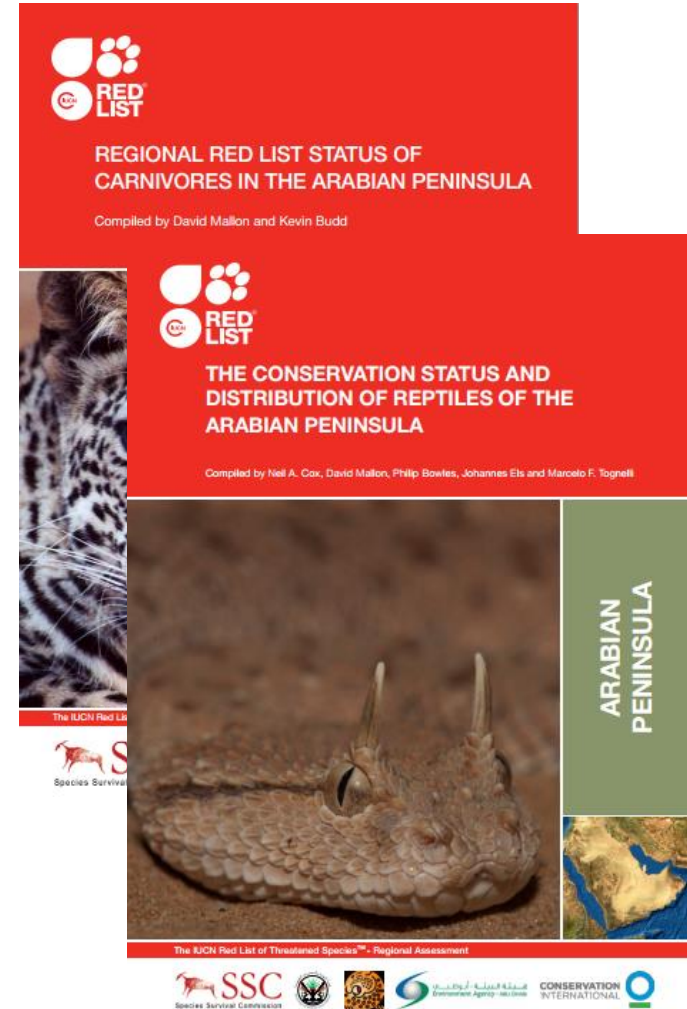
Many new “births” over the years...



Nicaragua Red List
2013

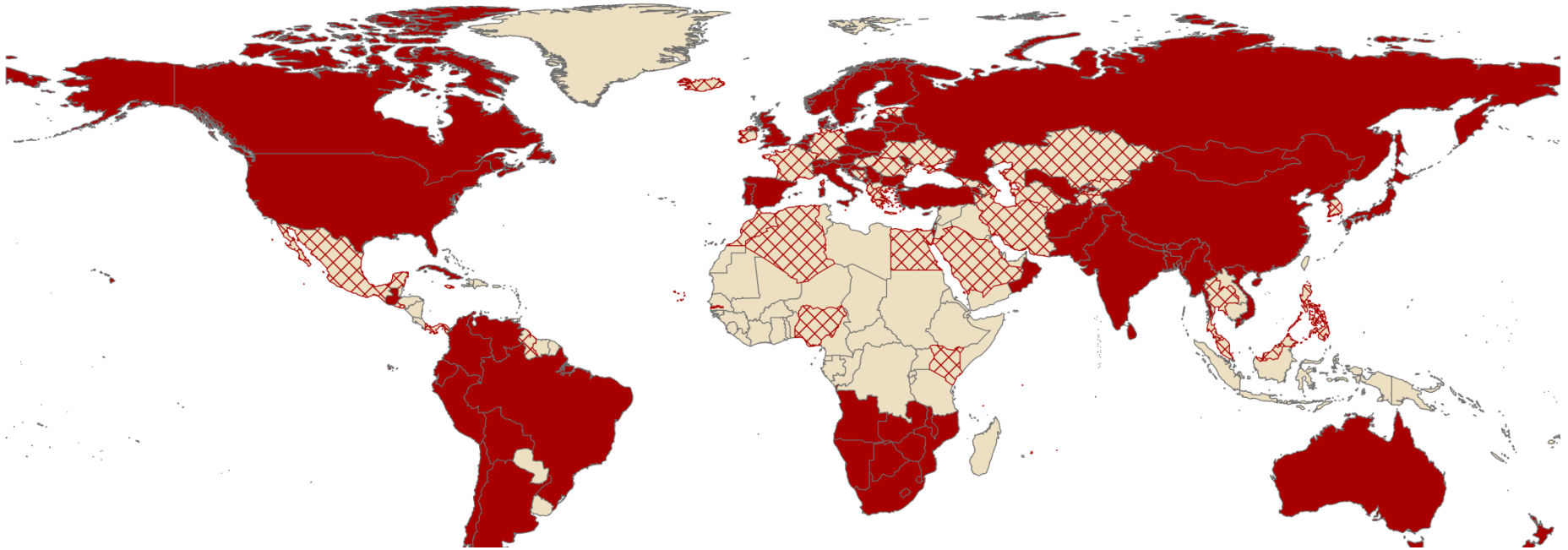


Malaysia Plant Red
List 2010



Arabian Regional Red
Lists 2011/2012

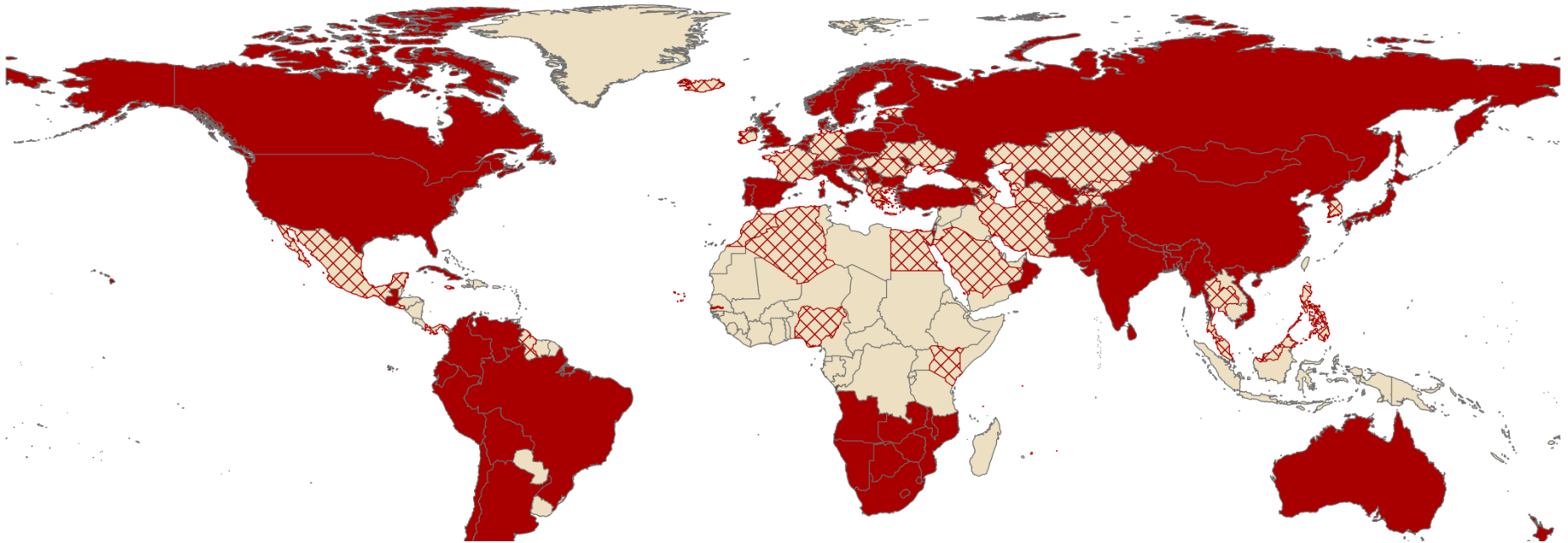
Why are National Red Lists so important?



Tools for:

- Local, national or regional conservation planning
- National-level biodiversity monitoring and biodiversity indicators
- Measuring progress towards the CBD 2020 Aichi Targets

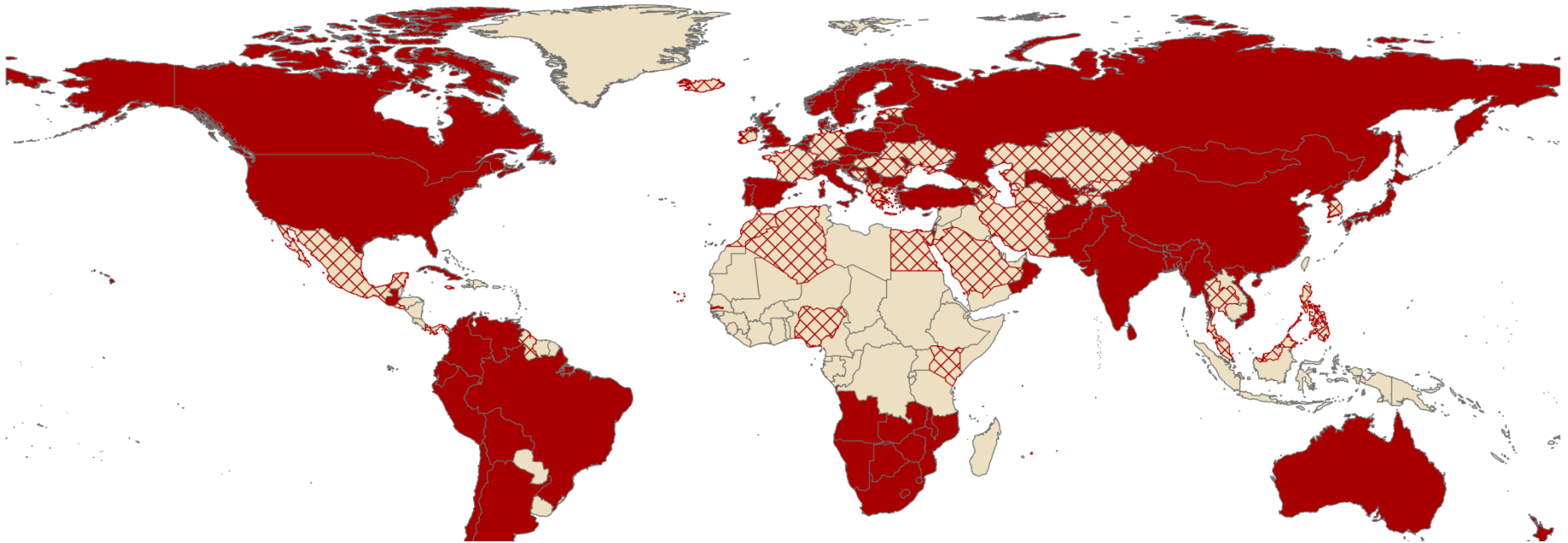
Why are National Red Lists so important?



CBD Target 12:

By 2020, the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

Why are National Red Lists so important?



Global Strategy for Plant Conservation Target 2:

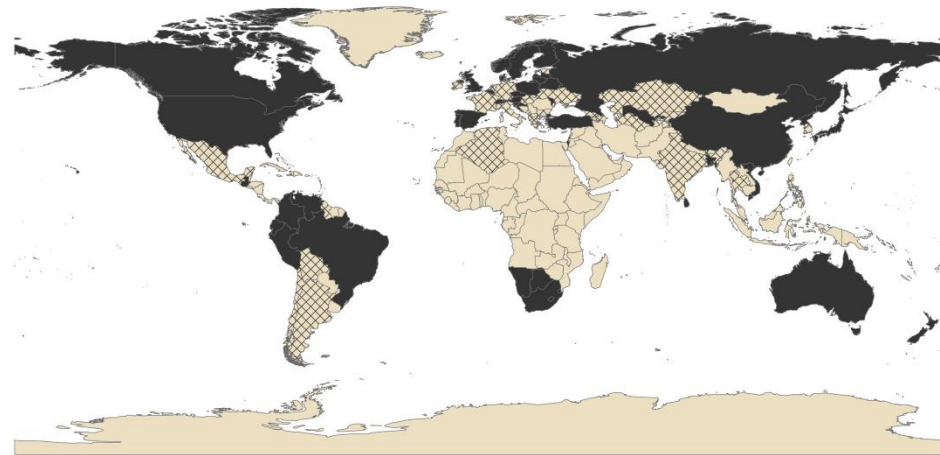
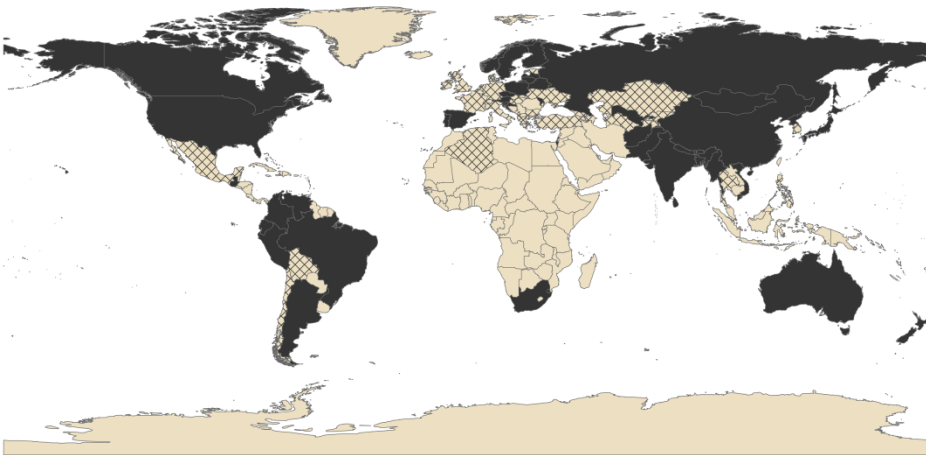
An assessment of the conservation status of all known plant species, as far as possible, to guide conservation action

Changes in coverage of NRLs

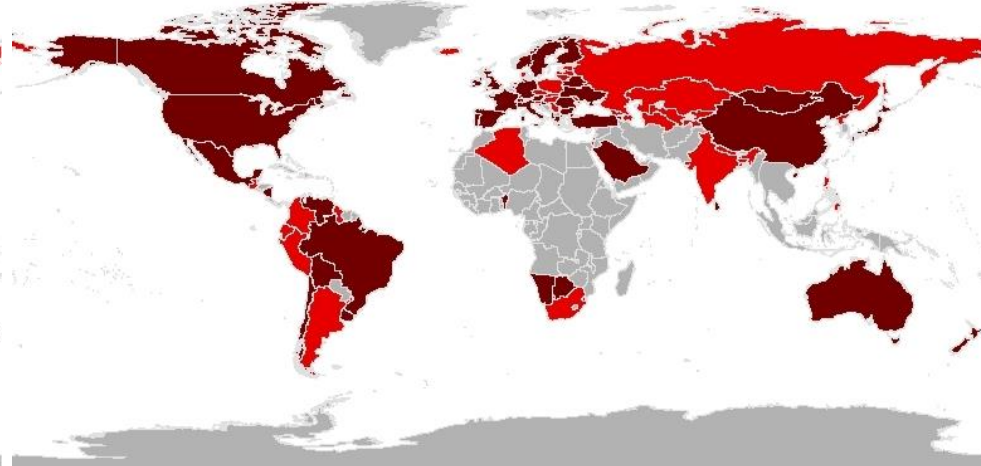
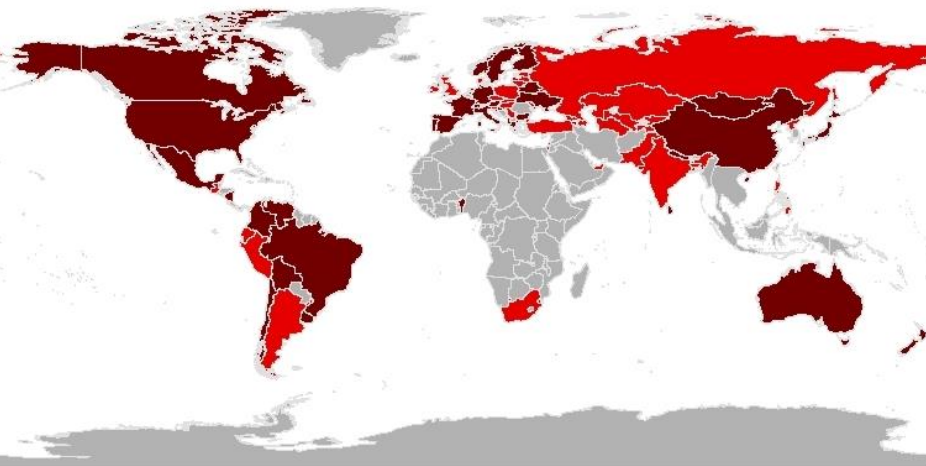


Mammals

Birds



Coverage in 2010



Coverage as of October 2014

Can National Red Lists contribute to the IUCN 'barometer of life'?



SPECIES AND PROJECTED COSTS FOR A BAROMETER OF LIFE

Major taxonomic grouping	Described species*	Species assessed on IUCN Red List by 2009 [†]	FOR THE BAROMETER	
			Provisional target number of species	Estimated cost to complete (US\$)
Chordates	64,788	27,882	61,635	16,000,000
Invertebrates	1,359,365	7,615	45,344	20,000,000
Plants	310,129	12,151	38,521	17,000,000
Fungi and others	165,305	18	14,500	7,000,000
	1,899,587	47,666	160,000	60,000,000

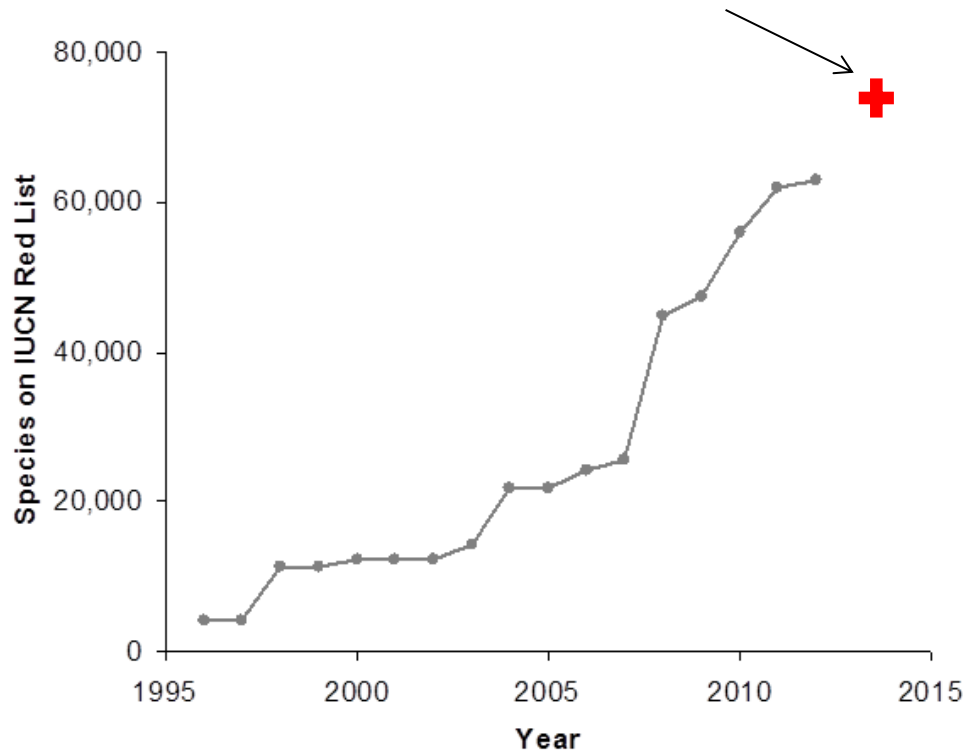
*Data on the number of described species taken from (1). [†]Data on the number of assessed species from www.iucnredlist.org.

Stuart *et al.* 2010 Science 328, 177

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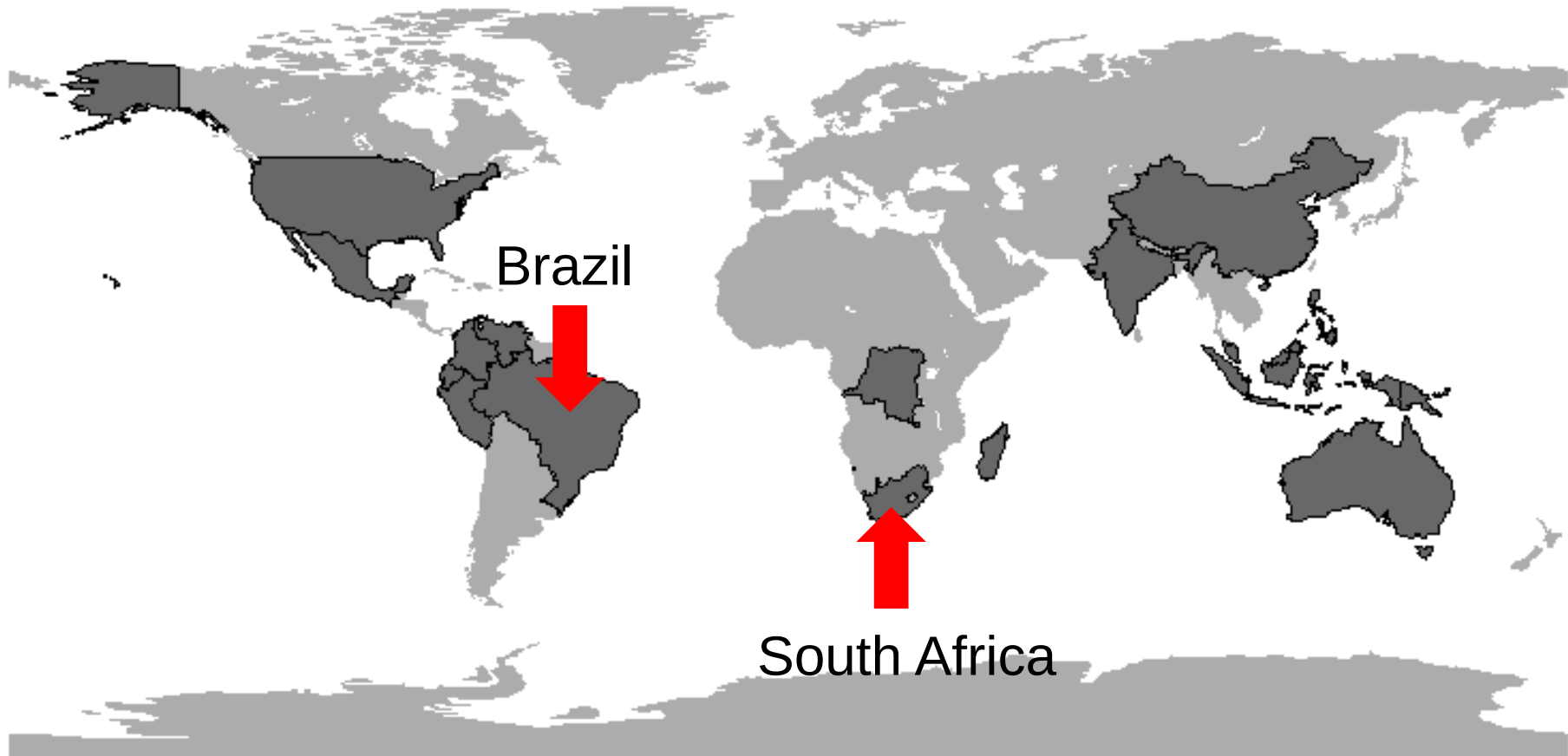
IUCN Red List 2014.2



Total: 74,106 species assessed on global IUCN Red List

	Estimated Number of described species ¹	Number of species evaluated by 2014 (IUCN Red List version 2014.2)
VERTEBRATES		
Mammals ⁵	5,513	5,513
Birds	10,425	10,425
Reptiles	9,952	4,256
Amphibians	7,286	6,410
Fishes	32,800	11,323
Subtotal	65,976	37,927
INVERTEBRATES		
Insects	1,000,000	4,980
Molluscs	85,000	7,109
Crustaceans ⁶	47,000	3,164
Corals	2,175	856
Arachnids	102,248	204
Velvet Worms	165	11
Horseshoe Crabs	4	4
Others	68,658	453
Subtotal	1,305,250	16,781
PLANTS ⁷		
Mosses ⁸	16,236	102
Ferns and Allies ⁹	12,000	359
Gymnosperms	1,052	1,010
Flowering Plants	268,000	17,838
Green Algae ¹⁰	4,242	13
Red Algae ¹⁰	6,144	58
Subtotal	307,674	19,380

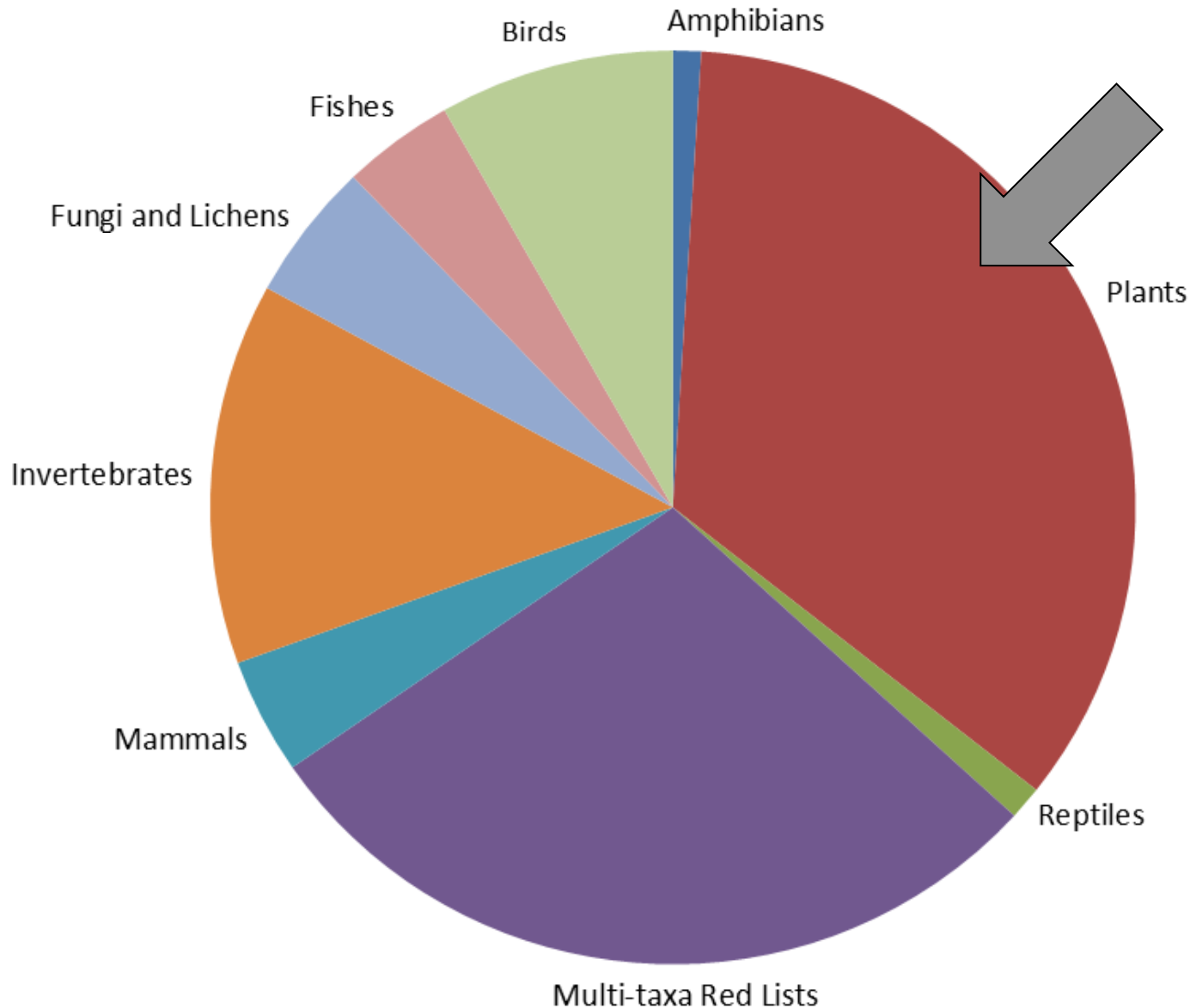
Can National Red Lists contribute to the IUCN 'barometer of life'?



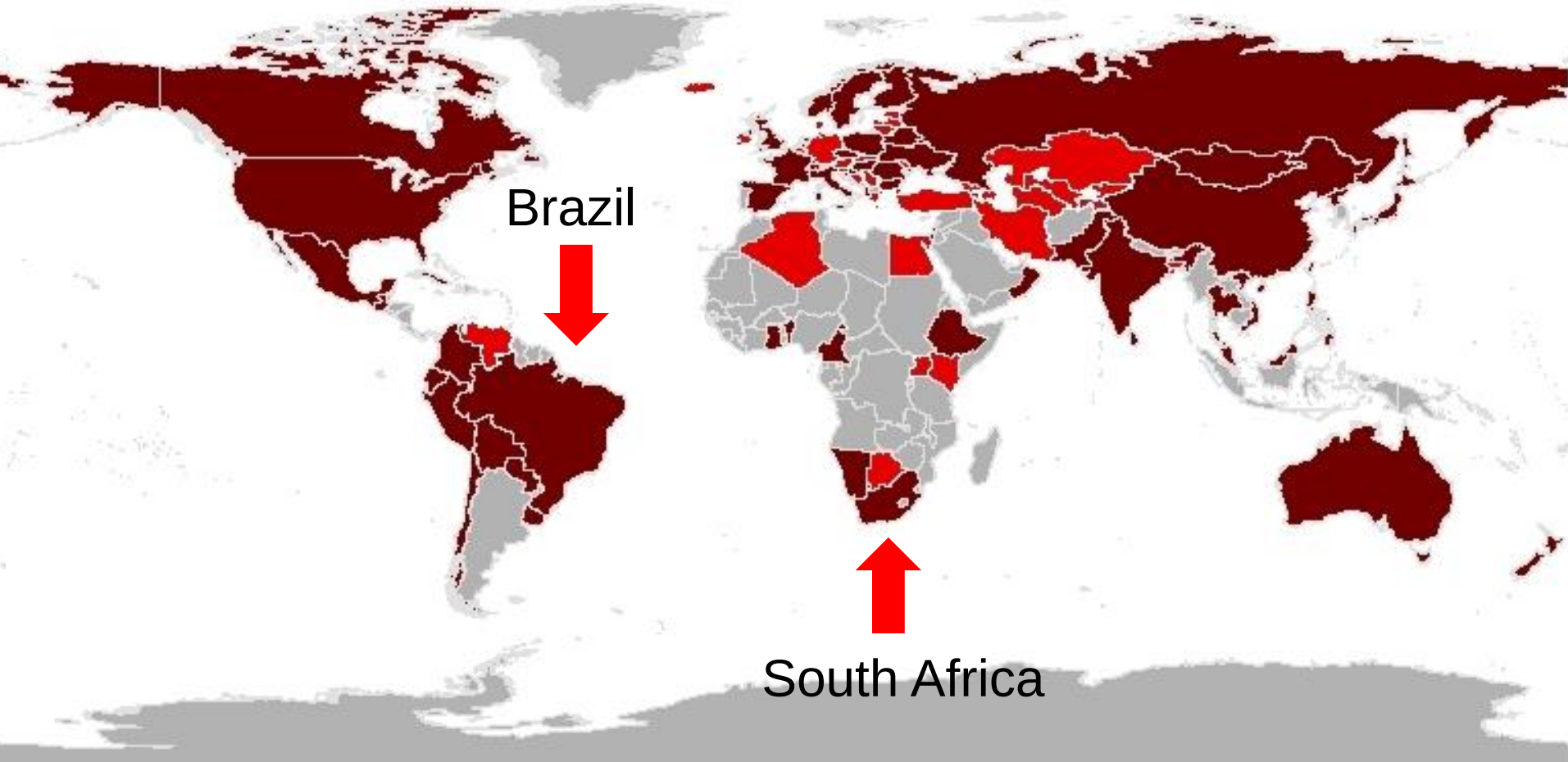
■ **Megadiversity Countries**

Mittermeier, R.A., Robles-Gil, P., Mittermeier, C.G. (Eds) 1997.
Megadiversity. Earth's Biologically Wealthiest Nations.
CEMEX/Agropacion Sierra Madre, Mexico City.

Taxonomic coverage of NRLs since 2005



Spatial coverage of plant NRLs



Vascular plants

www.nationalredlist.org

Can National Red Lists contribute to the IUCN 'barometer of life'?



Total: 74,106 species assessed Plants: 19,380 assessed

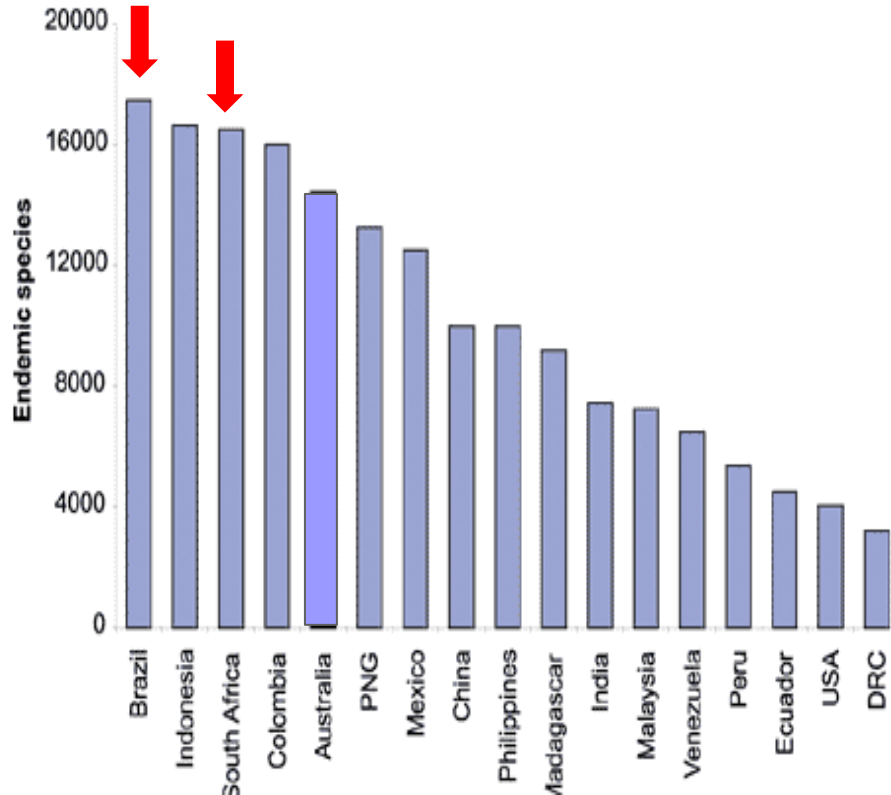
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Stuart *et al.* 2010 Science 328, 177

Plants in megadiverse countries



Country	Total endemic	Total plants	IUCN Red List*	Planned uploads
Brazil**	~17,000	35,000	1,187	~3,000
S. Africa	~16,000	20,000	555	~16,000
Total	~33,000	55,000	1,742	~19,000

* all native plants, not just endemics

** ~5,000 spp already assessed

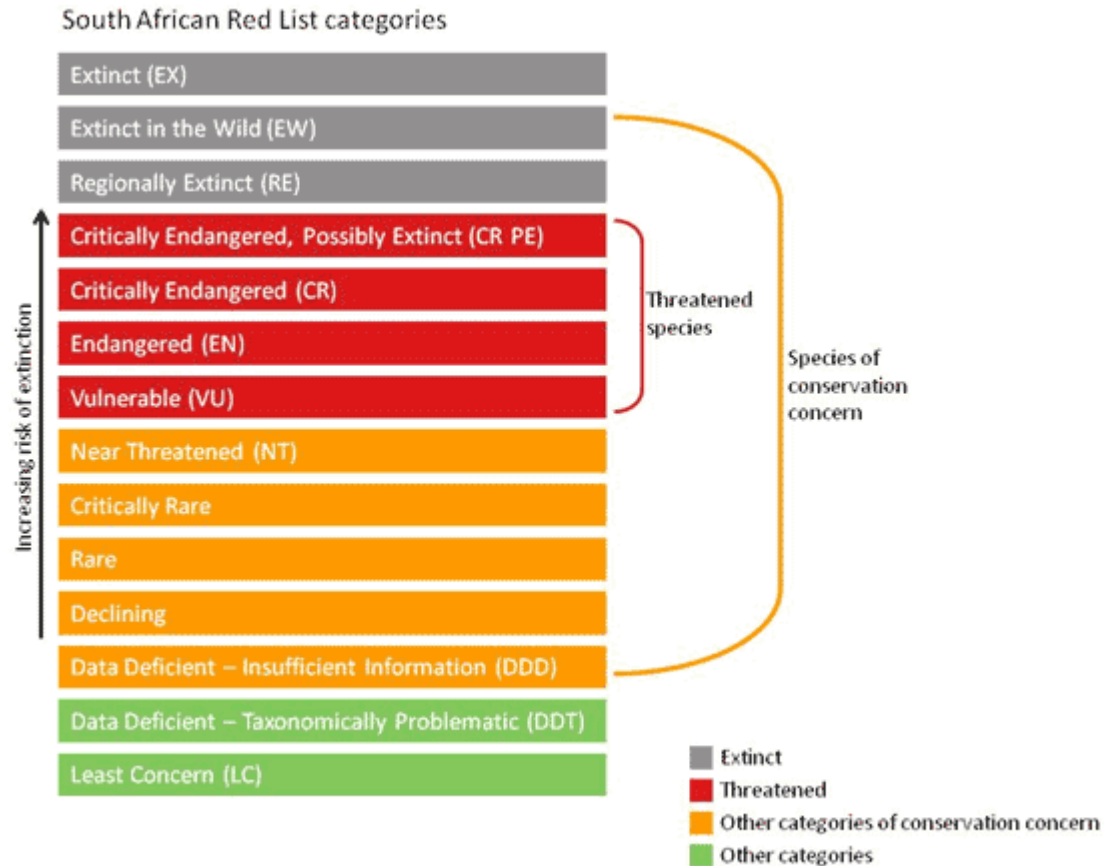
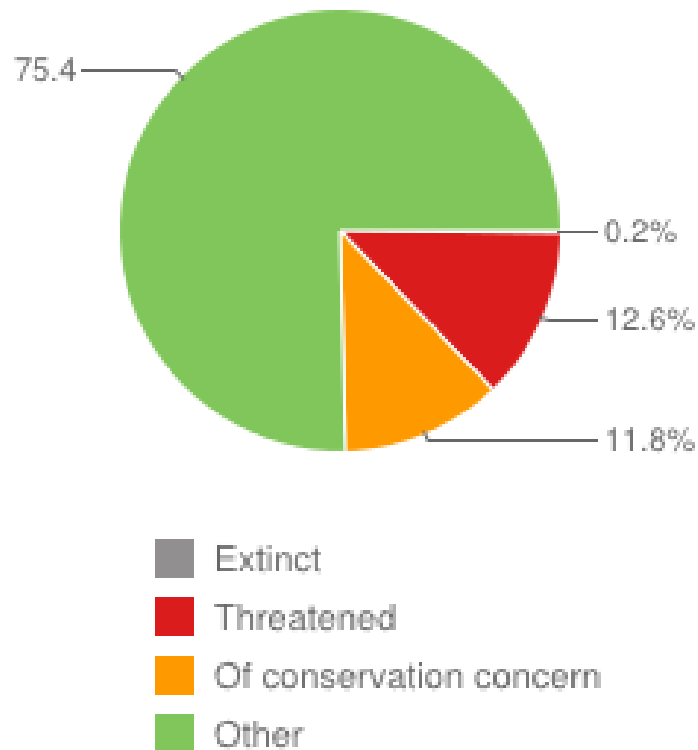
Number of endemic vascular plant species

Source: Conservation International (2000)

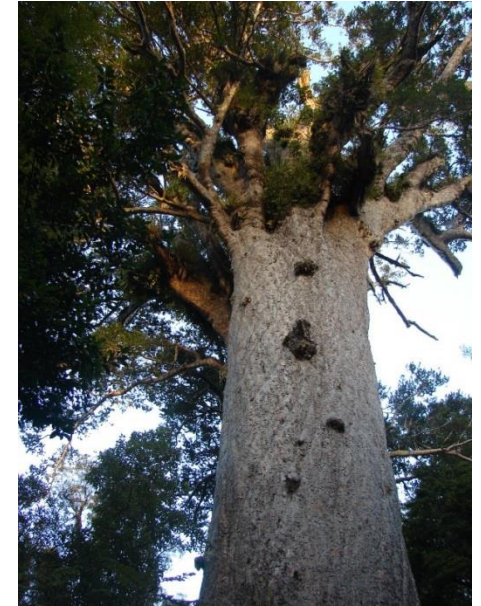
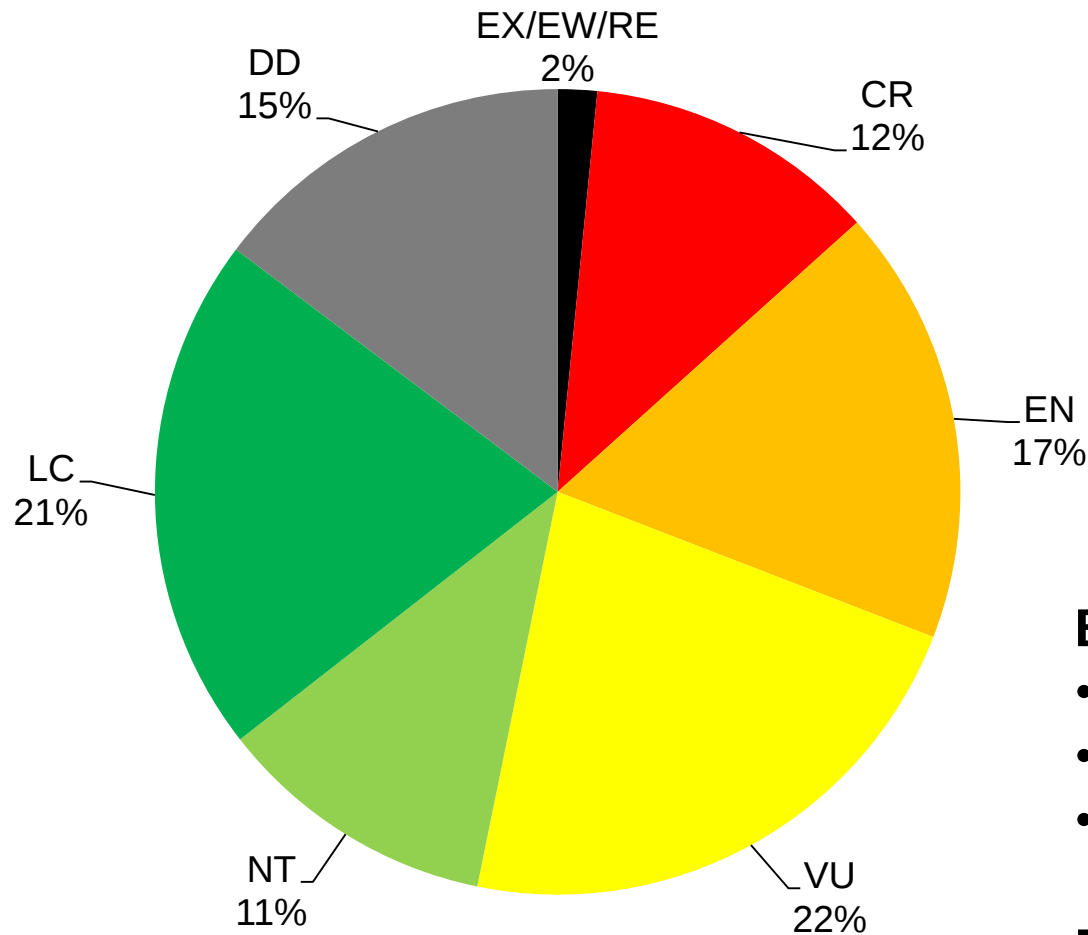
The case of South Africa



The South African flora



What we know so far from plant NRLs



Agathis australis – not threatened (NZ)

Based on:

- 30,710 assessments
- since 2005
- IUCN Categories & Criteria

BUT: extreme bias towards threatened species

Where to next?



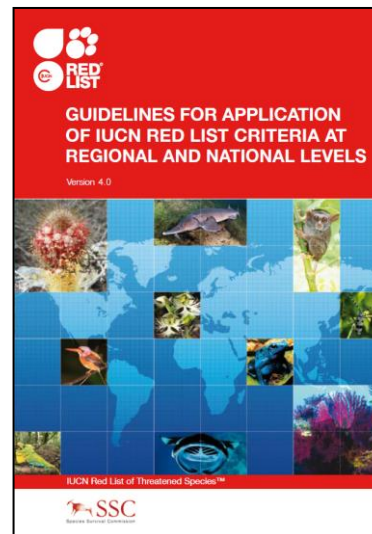
Work with megadiverse (& other) countries

- Inclusion of assessments onto IUCN Red List & NRL website
- Feed global assessments to national processes



Harmonisation of Red Listing

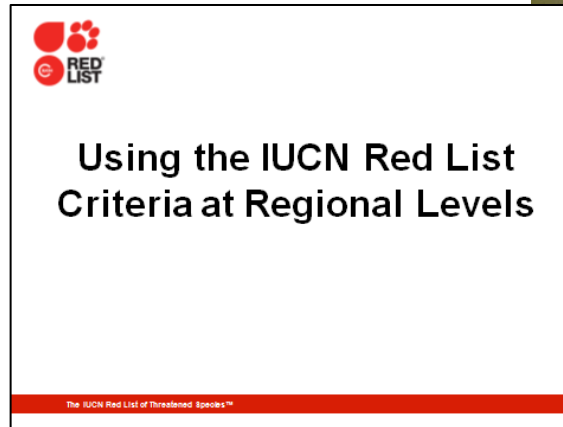
- IUCN Categories & Criteria



Where to next?



- Guidance, training, support



- National Red List Alliance
 - established in 2013 to promote National Red listing
 - help countries monitor their progress towards biodiversity targets
 - capacity building & advice



Acknowledgements



Funders:



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Robert O'Sullivan & Steve Bachman @ Royal Botanic Gardens Kew

Eve Englefield, Katherine Secoy, Noelle Kumpel, Sarah Johnson, Jennifer Mark, Eleanor Smith, Sophie Ledger, Alice Fitch, Steph Landymore & Janine Griffiths @ ZSL

Christina Ieronymidou @ BirdLife International

+ members of the National Red List Alliance (NRLA)



CONSERVATION HACKATHON

15th November

London Zoo

HACK THE REDLIST

www.conservationhackathon.org

@ConsHack

