Three Global Conditions approach to the Post- 2020 Framework for the Convention on Biological Diversity

Stockholm, February 11, 2020

Dr. Harvey Locke, Chair IUCN WCPA, Beyond the Aichi Targets Task Force

Convention on Biological Diversity

2050 VISION

"Living in Harmony with Nature" where "By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people.“

ipbes

Science and Policy
for People and Nature

Nature is declining globally at rates unprecedented in human history

Around 1 million animal and plant species are now threatened with extinction

Human well-being at risk

May 6, 2019

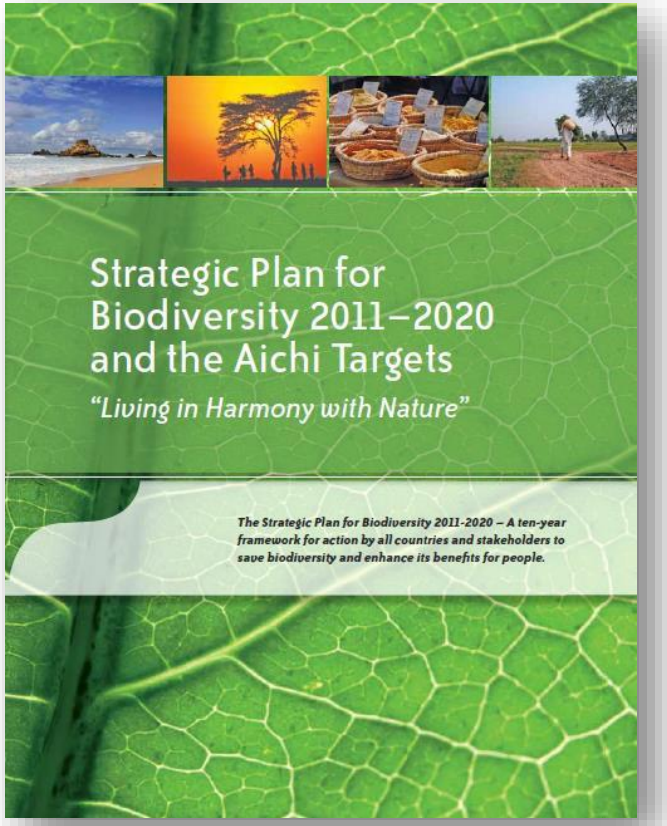
Our Common Future Brundtland Report 1987

triple the worlds protected area estate from 3 to 4% of Earth's surface "if it is to constitute a representative sample of Earth's ecosystems"

UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT

Rio de Janeiro 3 -14 June 1992

2010 Aichi Target 11



By 2020, at least 17 per cent of terrestrial and inland water areas, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.

https://www.cbd.int/sp/

Promise of Sydney

IUCN
WORLD PARKS
CONGRESS
SYDNEY 2014

The Aichi targets were designed as interim targets to halt biodiversity loss and to be implemented by 2020. They are interim targets and do not represent what is actually required for humanity to live in sustainable harmony with nature.

https://www.iucn.org/theme/protected-areas/about/promise-sydney

Beyond the Aichi Targets Task Force has two mandates:

a. ENGAGEMENT

to help build global momentum for the Promise of Sydney to scale up conservation, using protected areas as the key conservation tool, and

a. TECHNICAL ADVICE

on what would be **meaningful spatial conservation targets** for achieving the CBD's basic purpose, which is the conservation of biological diversity and the halting of biodiversity loss.

Vilm scoping meeting

German BfN

The Technical Advice Goal

a widely supported scientific consensus in time for it to mesh with the IUCN position to the CBD and to affect the outcome of the CBD COP in China in 2020.

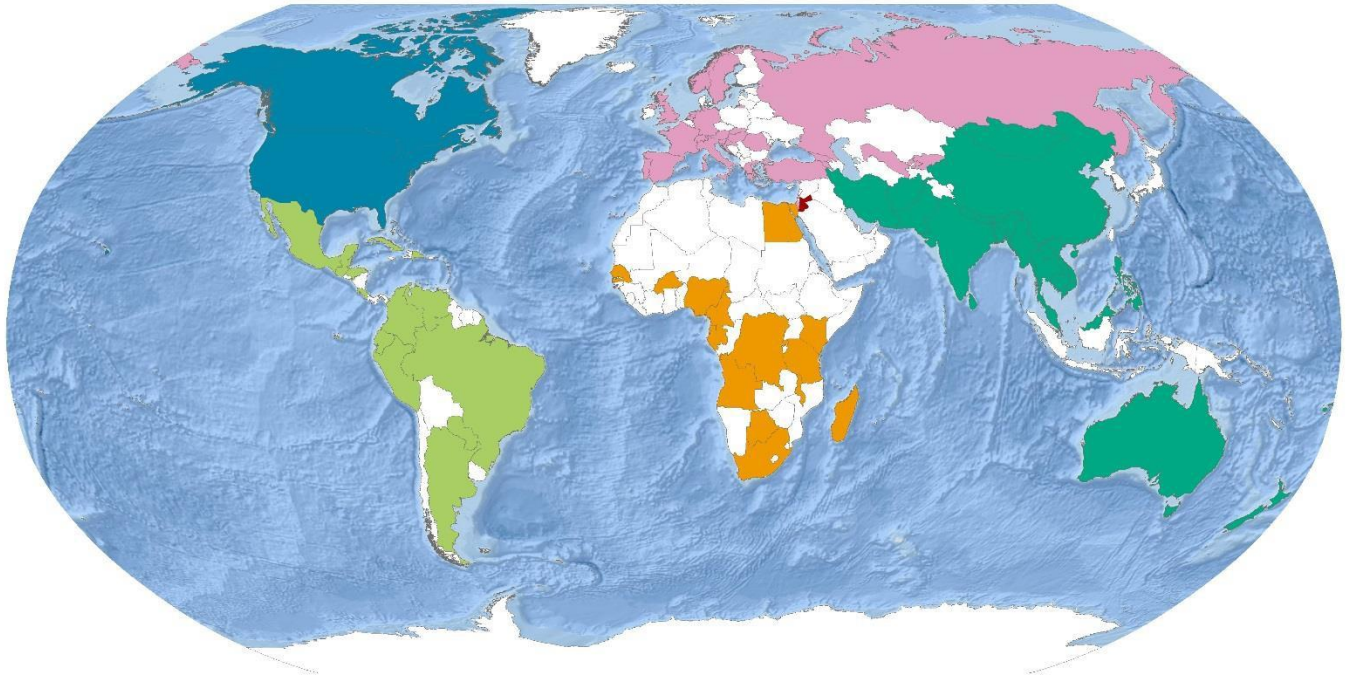
Technical Activities to get towards consensus

Scientific survey

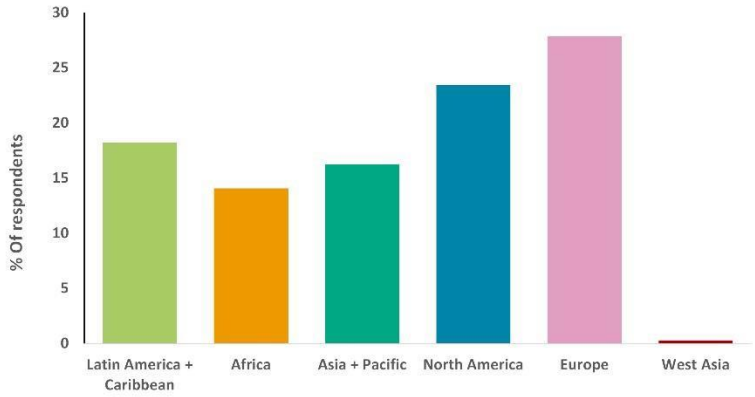
Literature review

Consultations

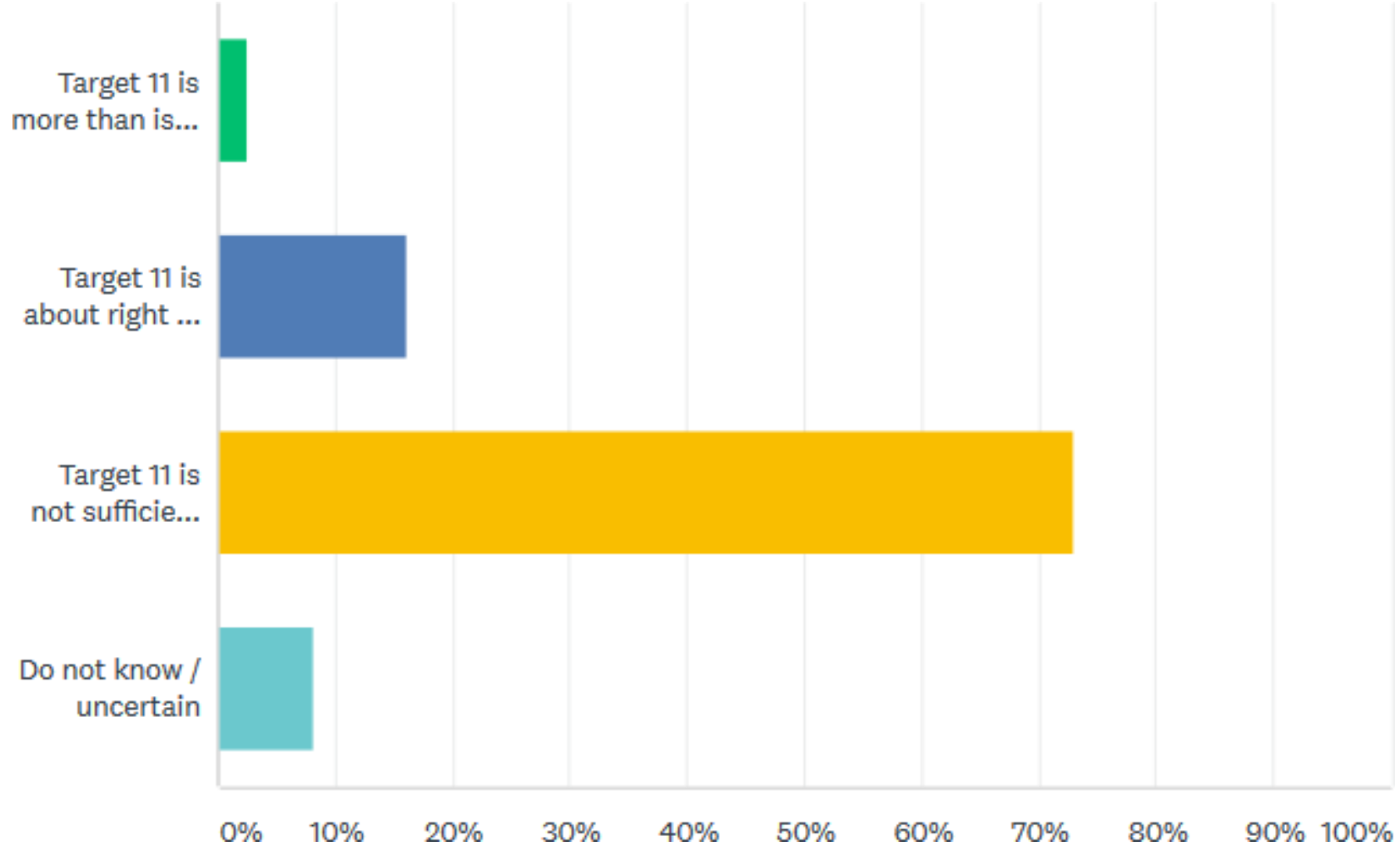
Woodley et al 2019
Global survey of scientists



Responses from
363 scientists,
from 81 countries



What do you think of the level of effectiveness of the current Target 11?



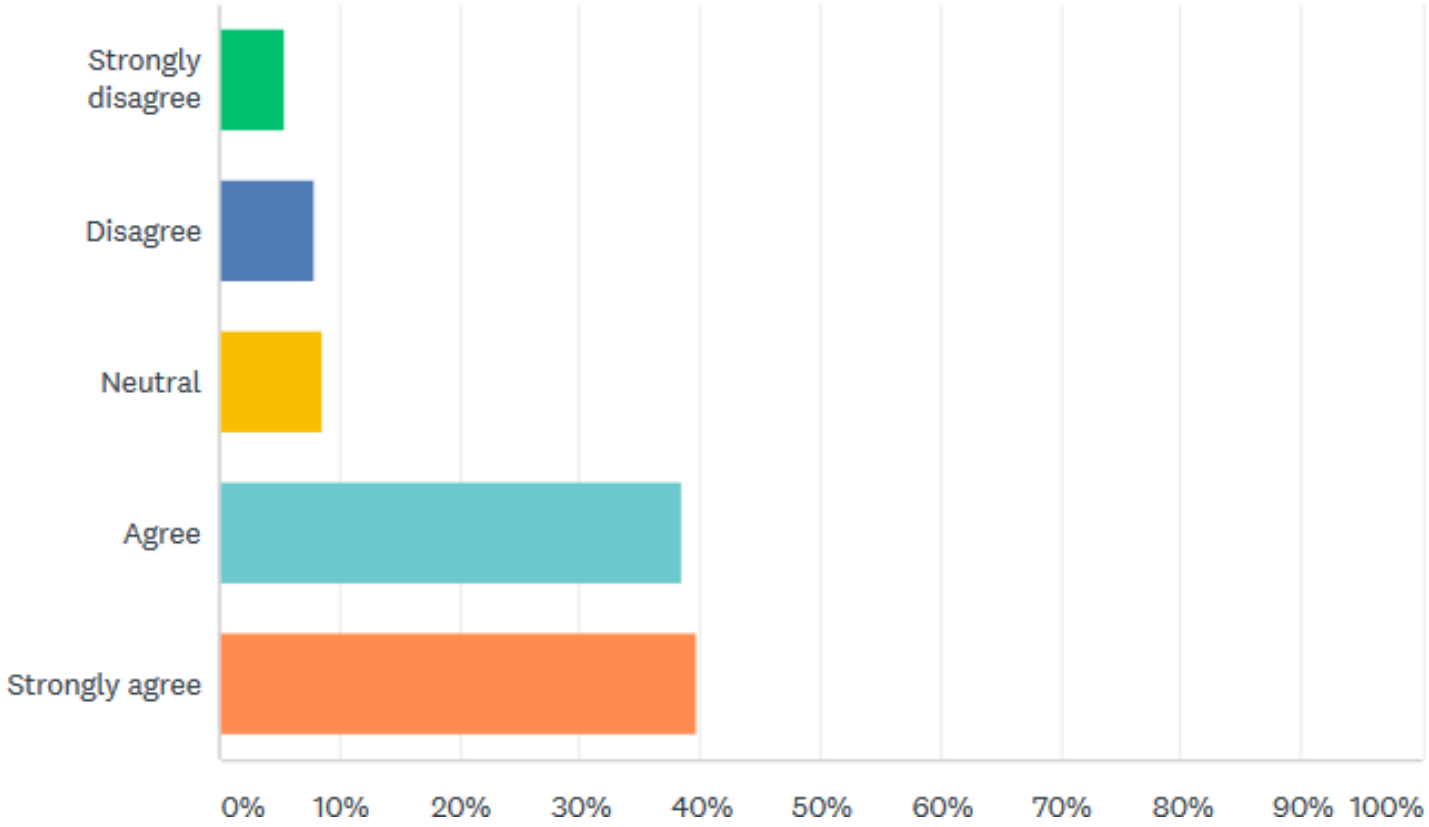
What about large percentage area-based targets?

"In recent years, there have been calls from the conservation community to dramatically scale up area-based conservation. The Nature Needs Half movement calls for at least half the Earth to be protected in an interconnected way (Locke, 2013). A similar target is being proposed by the E.O. Wilson Foundation detailed in the book '*Half-Earth: Our planet's fight for life*' (Wilson, 2016). At the World Parks Congress in 2014, the Promise of Sydney called for full protection of 30 per cent of the oceans.

"To what extent do you agree with large percentage area-based targets?"

To what extent to do you agree with large area-based targets?

Answered: 224 Skipped: 58



Note: 78% agree or strongly agree with large area–based targets for global conservation

Review of scientific literature on percentage targets Woodey et al 2019

"The key conclusion from this review is that calls for the global protection of a minimum of 30% and up to 70% of the land and sea on Earth are supported in the literature…The call for conserving 50% of the Earth is a mid-point of these values and is supported by a range of studies. More importantly there are no studies that argue we can maintain biodiversity with low percentage coverage targets."

WCPA
WORLD COMMISSION ON PROTECTED AREAS

Convention on Biological Diversity

ZERO Draft: Action Targets (spatial)

12 (a) Reducing threats to biodiversity

1. **Retain and restore freshwater, marine and terrestrial ecosystems**, increasing by at least [50%] the land and sea area under comprehensive spatial planning addressing land/sea use change, **achieving by 2030 a net increase in area, connectivity and integrity and retaining existing intact areas and wilderness**.

2. Protect sites of particular importance for biodiversity through protected areas and other effective area-based conservation measures, by 2030 covering at least [60%] of such sites and **at least [30%] of land and sea areas** with at least [10%] under strict protection. **…**

6. Contribute to climate change mitigation and adaptation and disaster risk reduction through nature-based solutions providing by 2030 [about 30%] [at least XXX MT CO2=] of the mitigation effort needed to achieve the goals of the Paris Agreement, complementing stringent emission reductions, and avoiding negative impacts on biodiversity and food security.

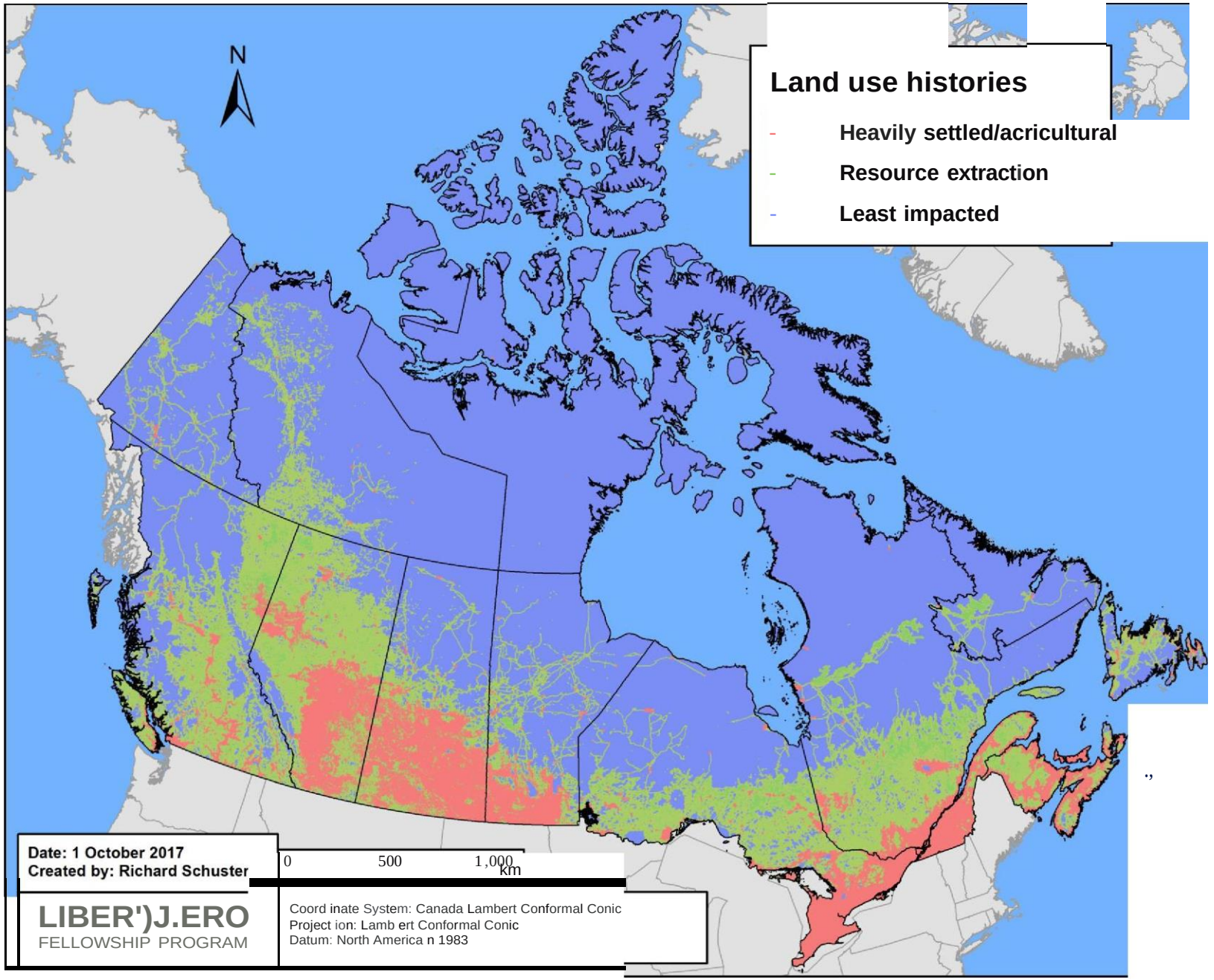
What is A Zero Draft?

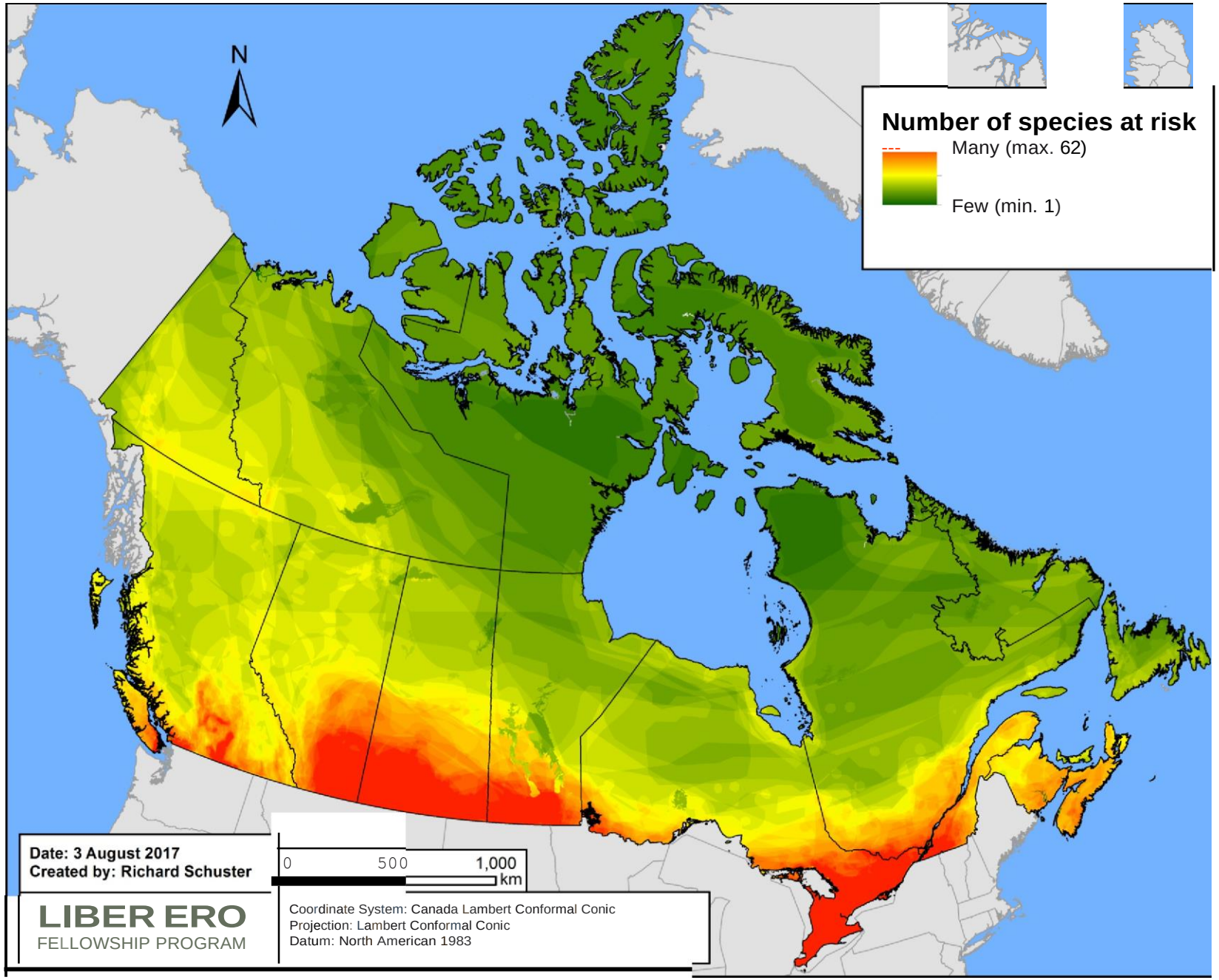
Frist attempt to assemble thoughts related toyour topic.. A more or less unstructured piece of writing… brtom.org

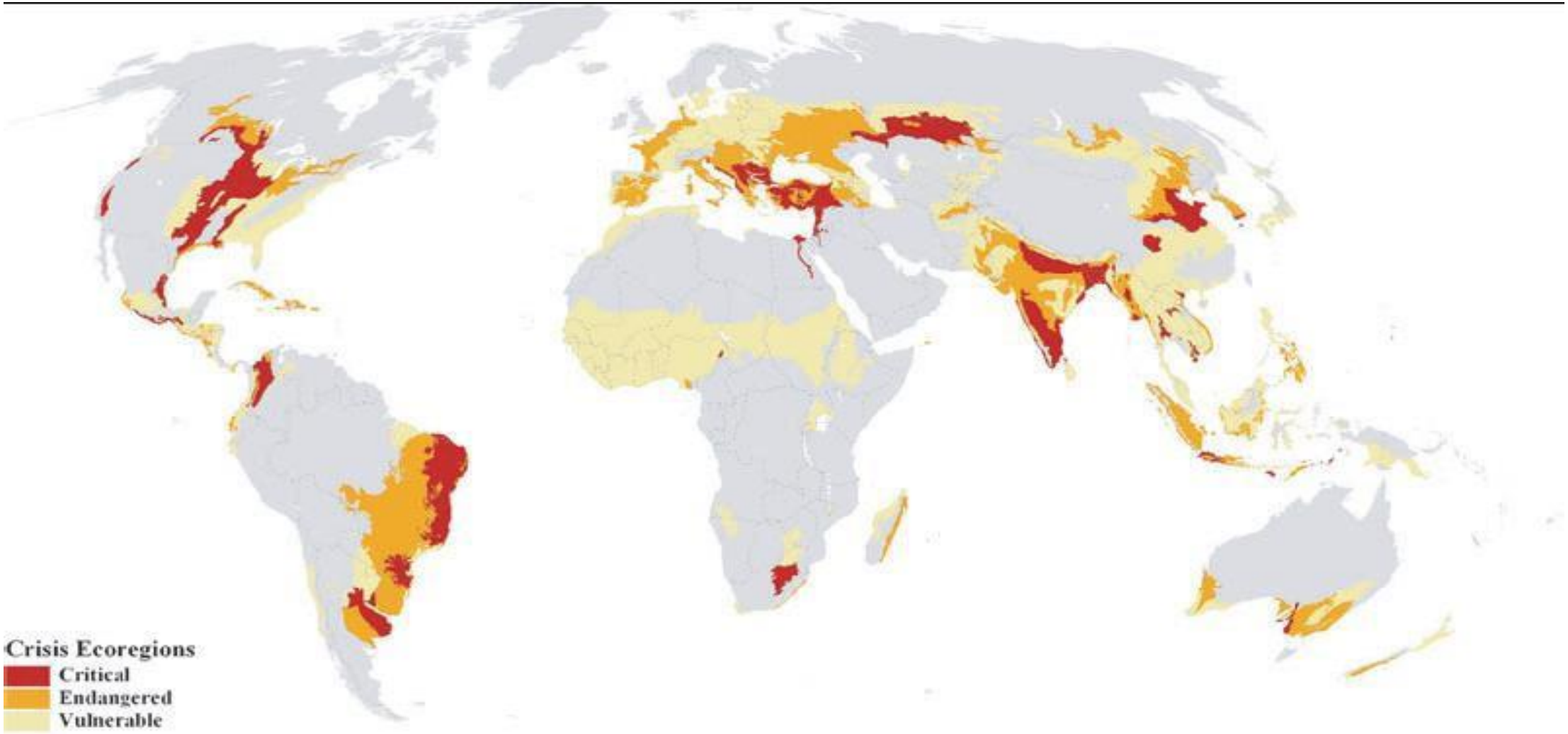
Issue:

How can large area-based target such as 30% be practical given the highly variable conditions of the world?

One size does not fit all


N
Land use histories
Heavily settled/acricultural
Resource extraction
Least impacted
Date: 1 October 2017
Created by: Richard Schuster
0
500
1,000
km
LIBER')J.ERO
FELLOWSHIP PROGRAM
Coord inate System: Canada Lambert Conformal Conic
Project ion: Lamb ert Conformal Conic
Datum: North America n 1983


N
Number of species at risk
Many (max. 62)
Few (min. 1)
Date: 3 August 2017
Created by: Richard Schuster
0
500
1,000
km
LIBER ERO
FELLOWSHIP PROGRAM
Coordinate System: Canada Lambert Conformal Conic
Projection: Lambert Conformal Conic
Datum: North American 1983

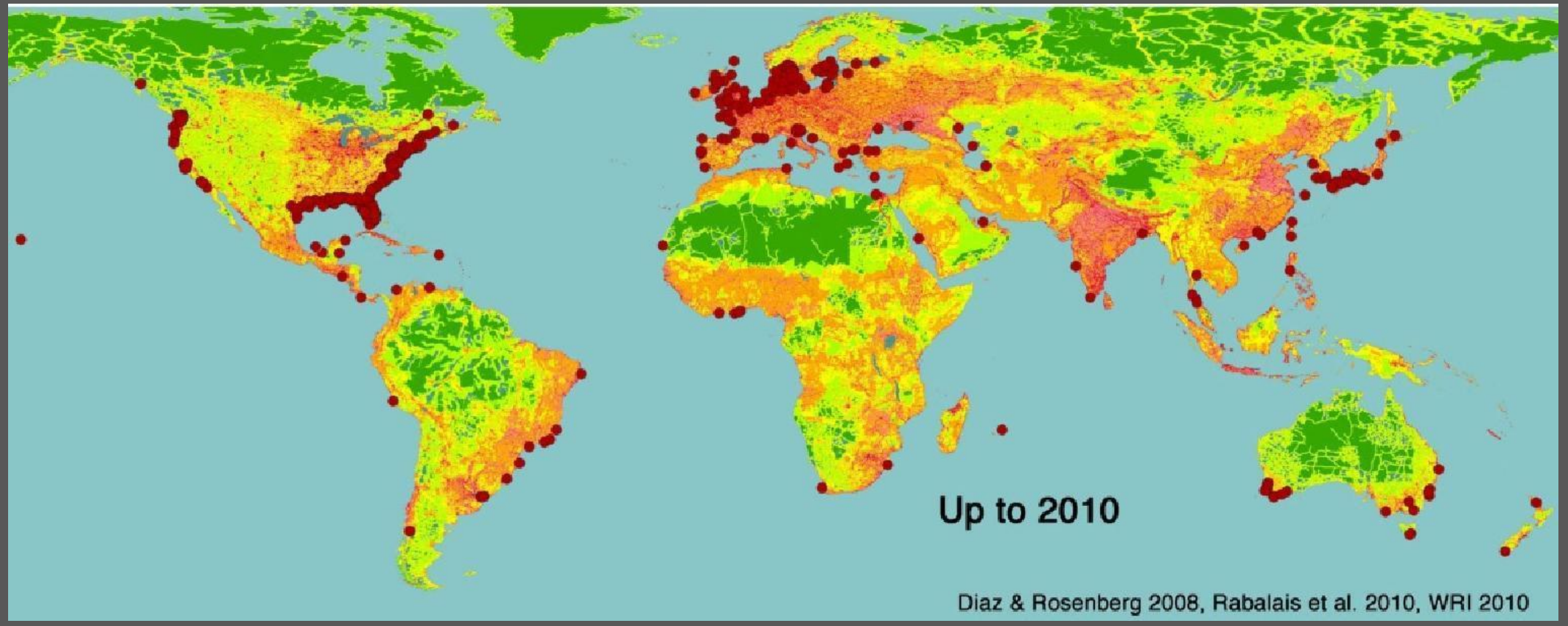


Correspond to intense agriculture and cities

Hoekstra et al (2005) *Crisis Ecoregions*

Land use in crisis ecoregions drives *state* (condition): dead zones in Ocean estuaries

worldwide coastal eutrophication fueled by riverine runoff of fertilizers and the burning of fossil fuels.
Diaz and Rosenberg 2008



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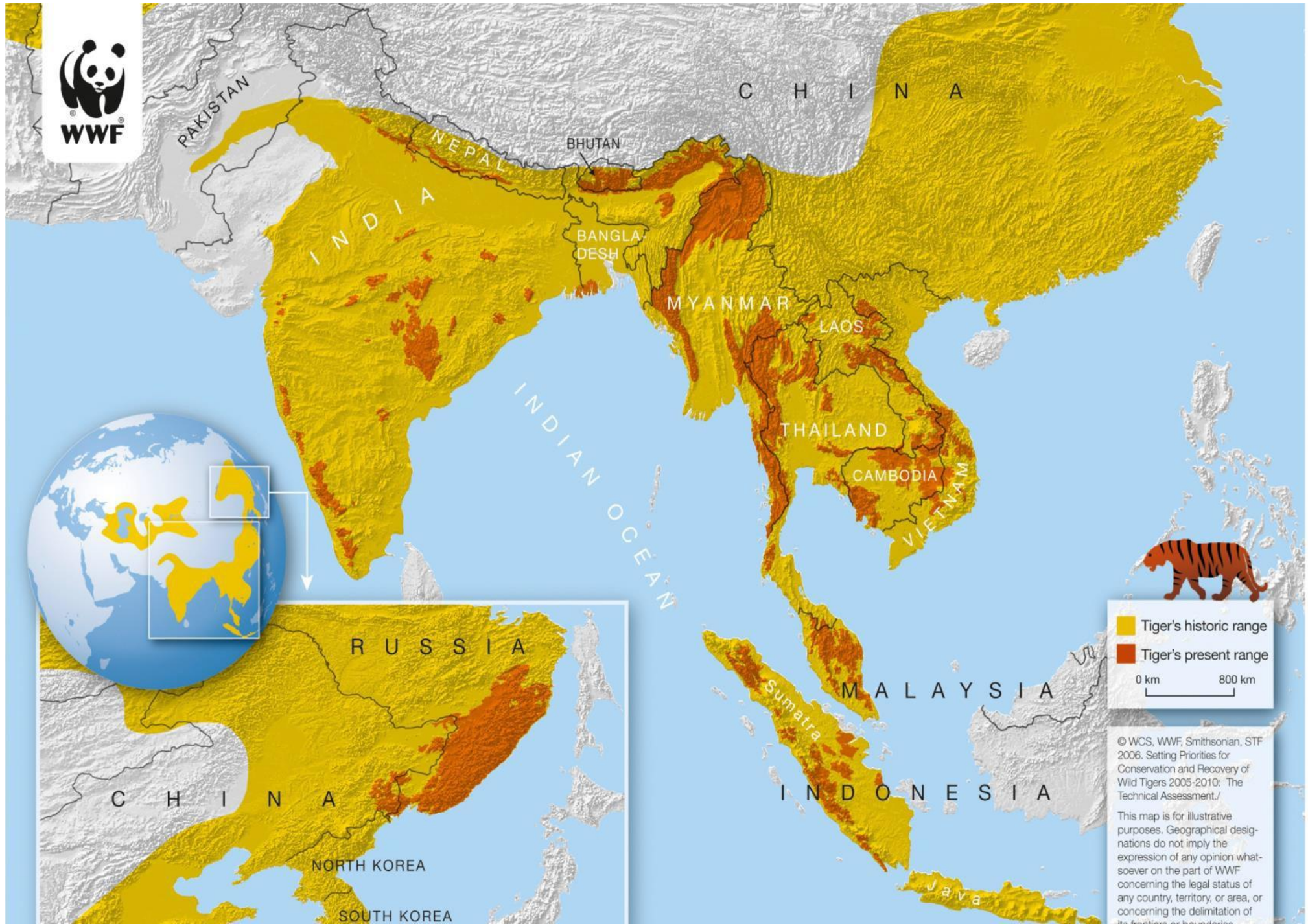
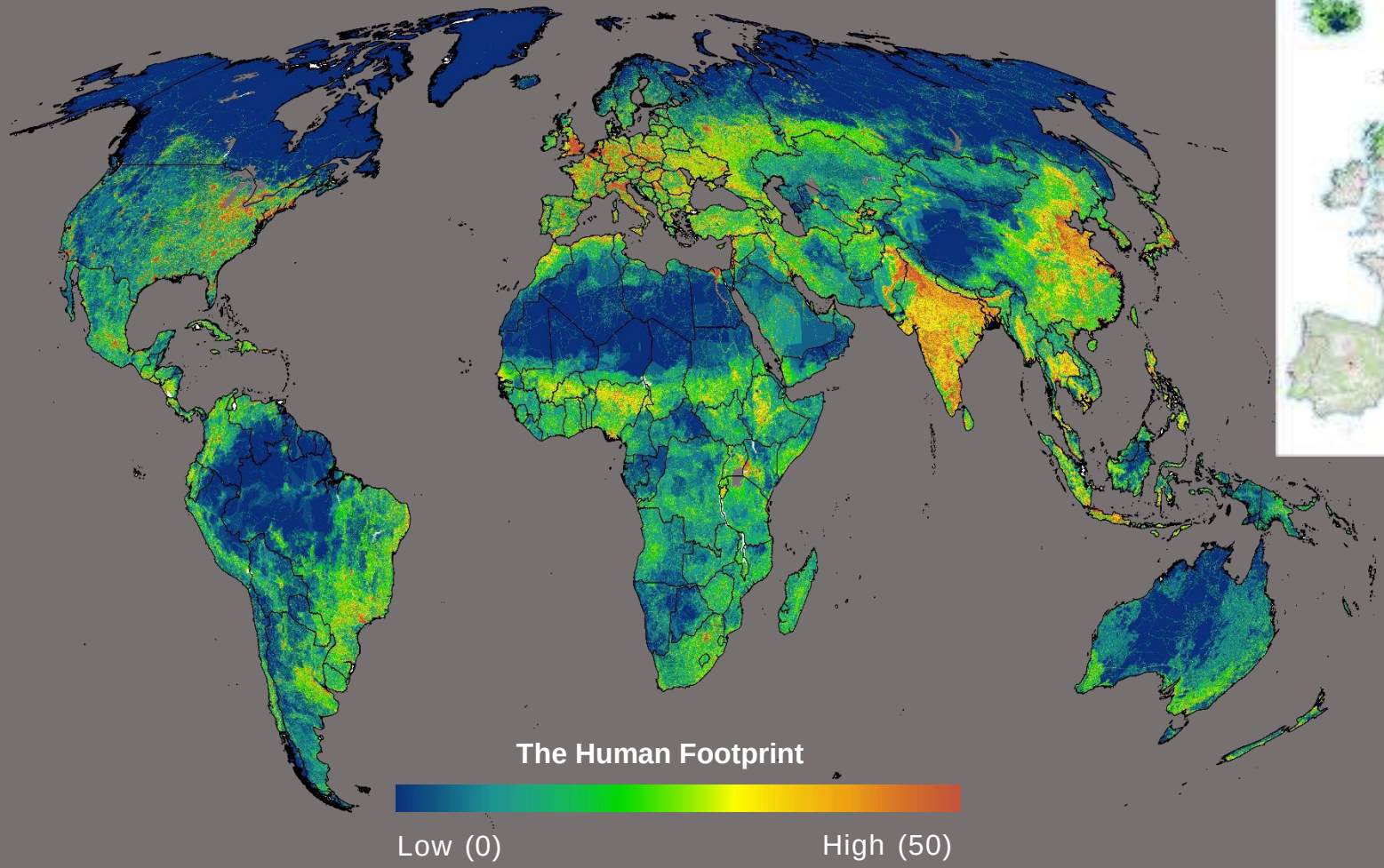
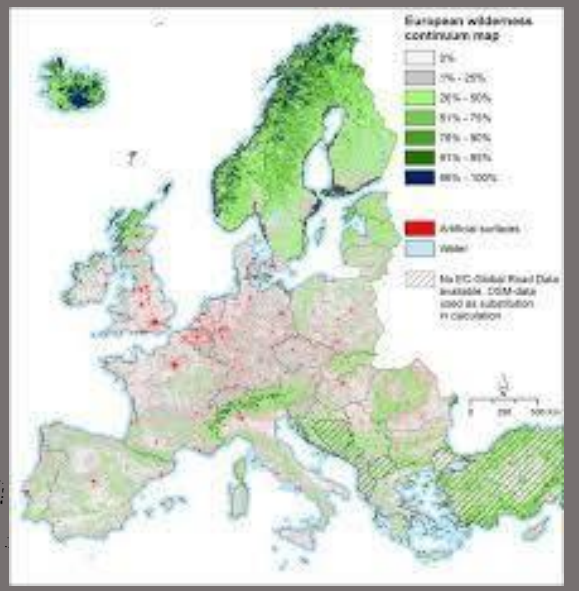

WWF
PAKISTAN
NEPAL
BHUTAN
C H I N A
I N D I A
BANGLA-
DESH
MYANMAR
LAOS
THAILAND
CAMBODIA
VIETNAM
INDIAN OCEAN
R U S S I A
C H I N A
NORTH KOREA
SOUTH KOREA
M A L A Y S I A
Sumatra
I N D O N E S I A
Java
Tiger's historic range
Tiger's present range
0 km
800 km
© WCS, WWF, Smithsonian, STF 2006. Setting Priorities for Conservation and Recovery of Wild Tigers 2005-2010: The Technical Assessment./
This map is for illustrative purposes. Geographical designations do not imply the expression of any opinion whatsoever on the part of WWF concerning the legal status of any country, territory, or area, or concerning the delimitation of

Fragmentation and ecological corridors

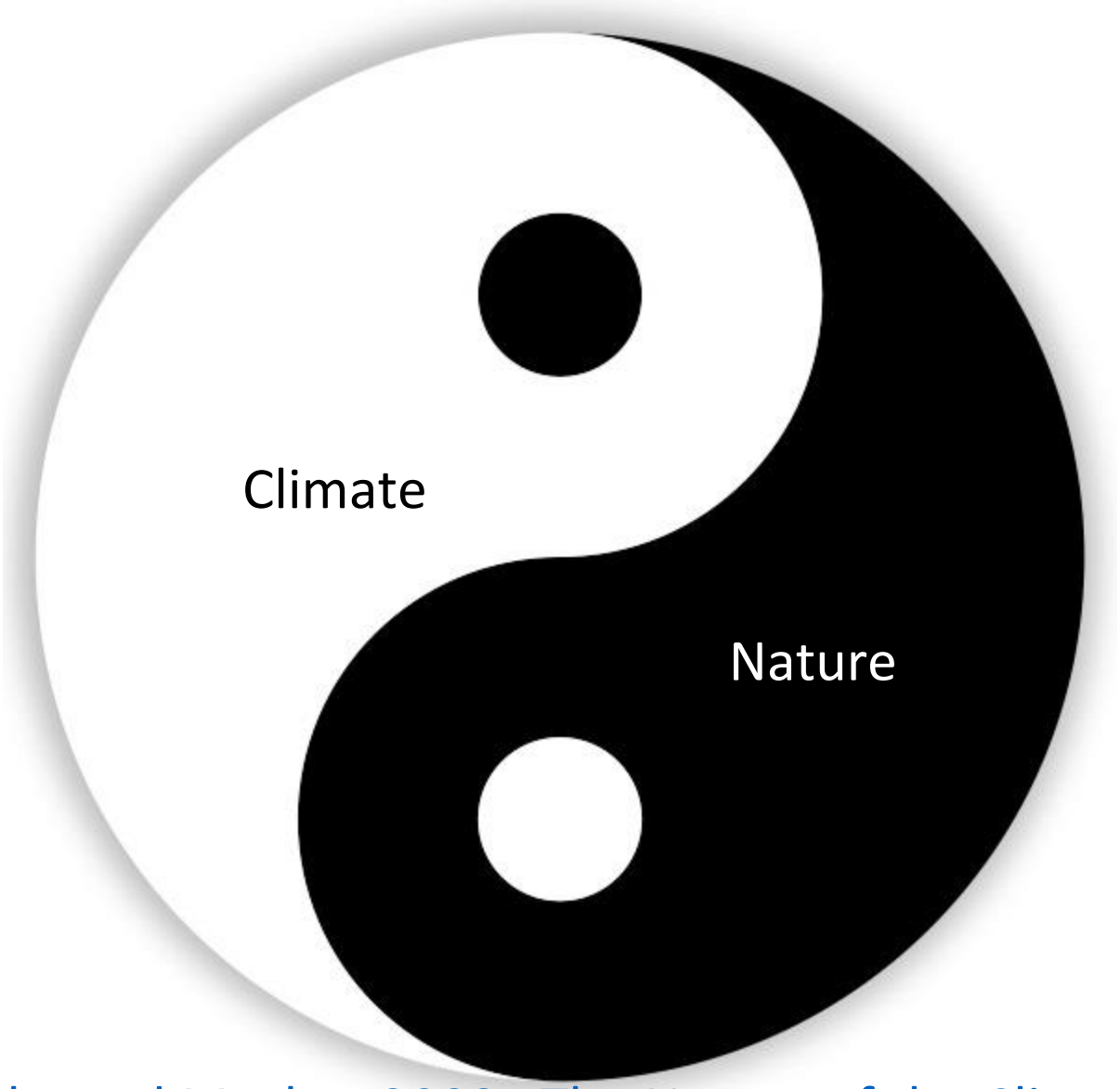
Large wild areas remain all over the world





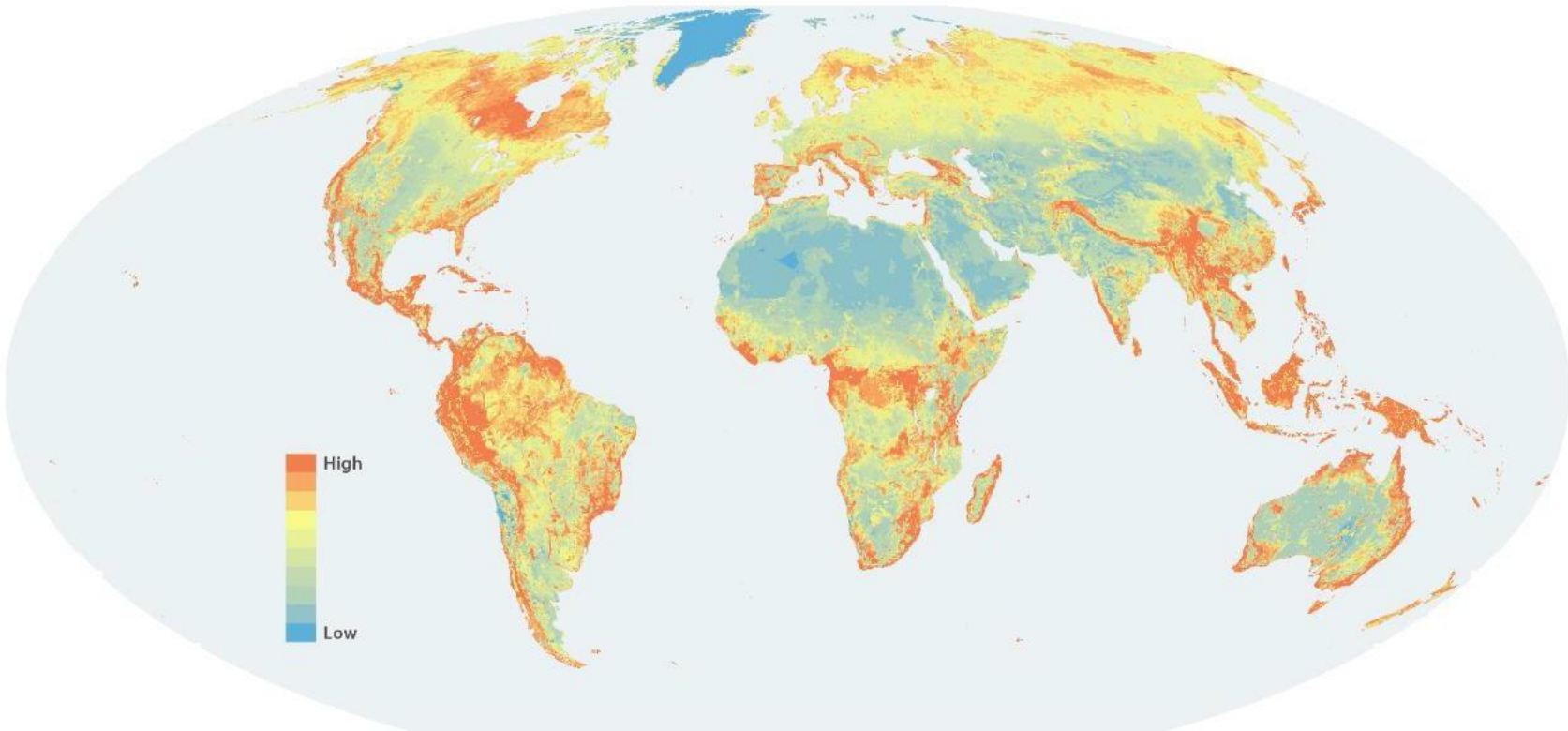
source Venter et al 2016


Globally important processes in large wild areas



Locke and Mackey 2009 The Nature of the Climate

Areas of global significance for biodiversity conservation and carbon storage

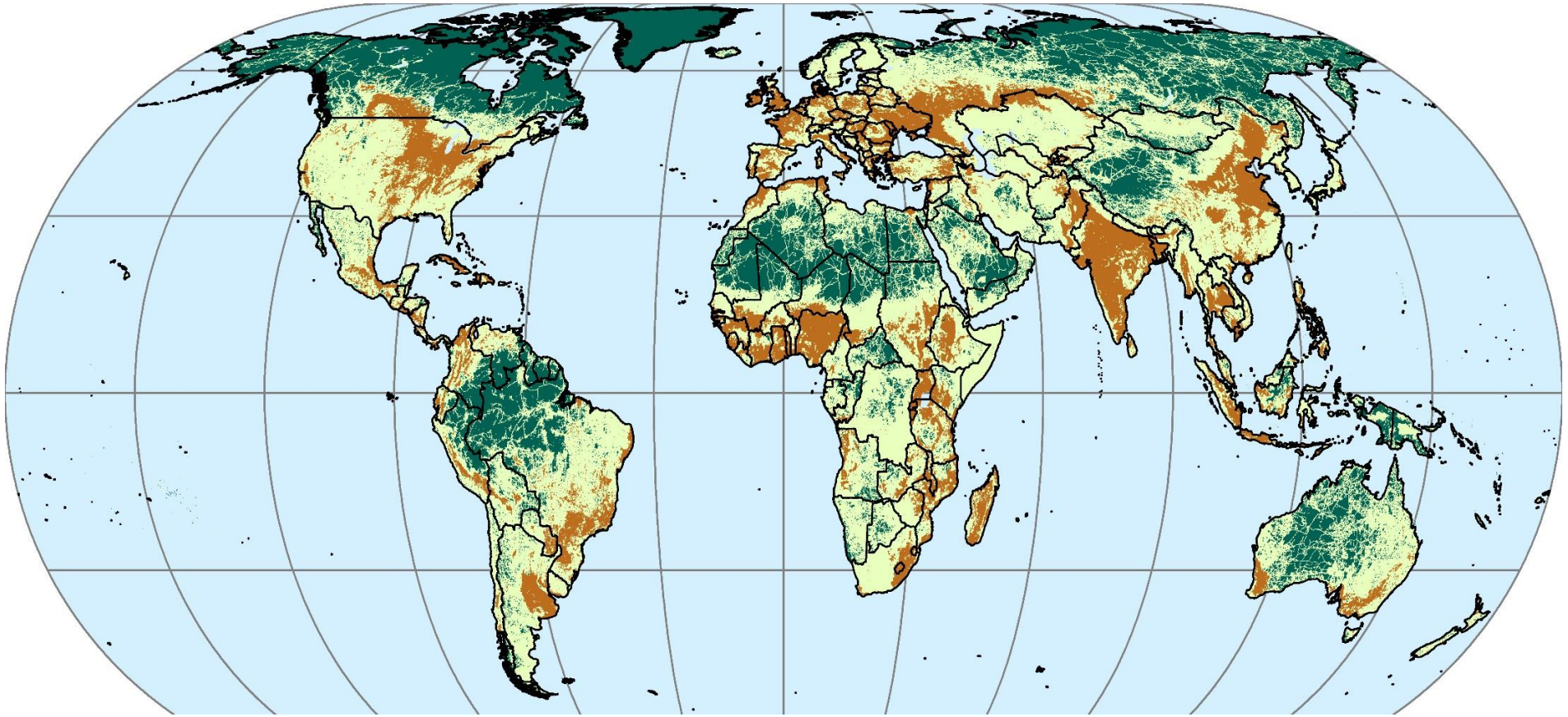


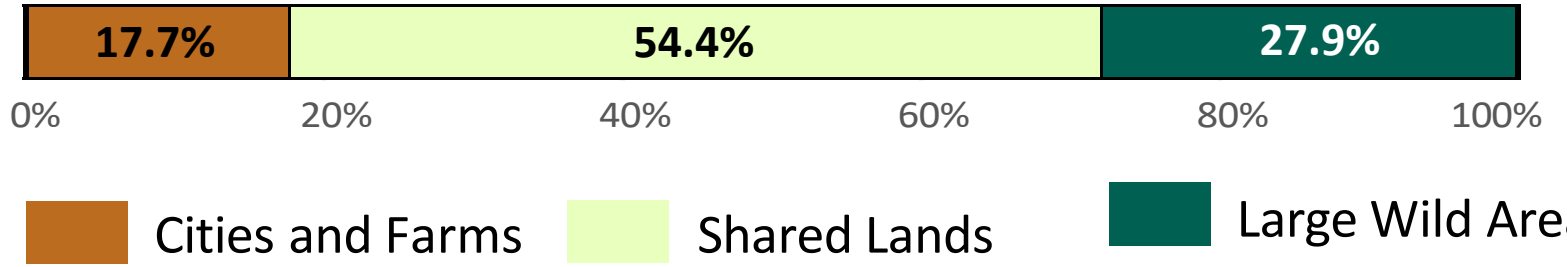
Baseline

“IUCN emphasises that the **targets** should take into account the precise conditions and opportunities of each country (in line with the **Three Global Conditions for Biodiversity Conservation and Sustainable Use developed by the IUCN WCPA**) and be additive across countries to provide clarity on progress achieved at any given time with respect the achievement of the 2030 Mission. “

Three Global Conditions for Biodiversity Conservation and Sustainable Use:

a realistic baseline and framework for appropriate conservation actions and sustainable practises





Eckert IV Projection

Locke et al. (in preparation)

Table 1.

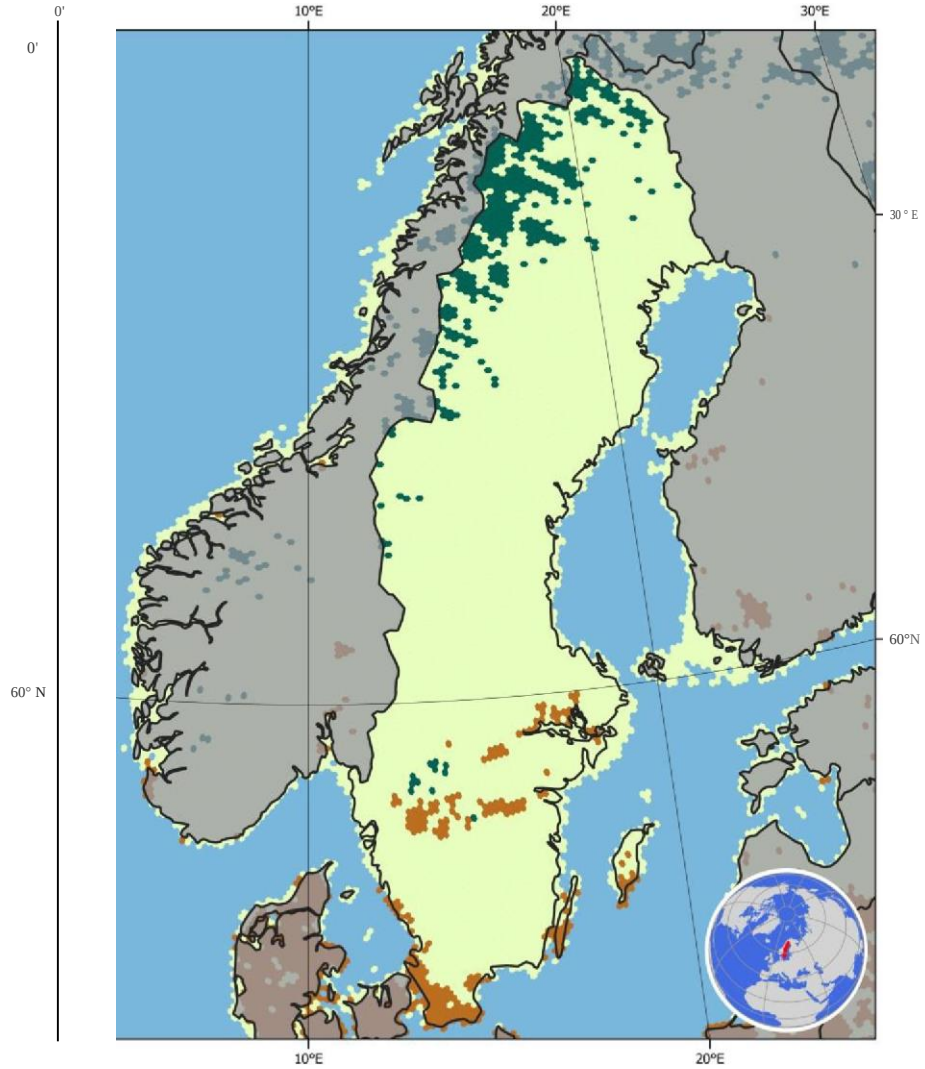
The three global conditions, summary statistics (computations and sources in Supplementary Methods).

	Cities and farms	Shared landscapes	Large wild areas	Whole world
Distribution of land	17.7%	55.7%	26.5%	100.0%
Distribution of human population (2015)	75.2%	24.7%	0.1%	100.0%
Percent of area protected	5.8%	14.4%	24.4%	15.5%
Distribution of key biodiversity areas	10.5%	64.9%	24.6%	100.0%
Food calories produced by farming and ranching	72.0%	27.8%	0.3%	100.0%
Percent global area under indigenous management or tenure	7.8%	48.6%	43.6%	100.0%
Average number of vertebrate species per 100 km^2 area	228.9	193.3	102.3	175.0
Average number of threatened vertebrate species per 100 km^2 area	6.9	5.6	3.3	5.2
Median forest aboveground biomass carbon density, tonnes/ha	13.2	40.1	36.8	33.5
Median soil organic carbon density, tonnes/ha	45.8	42.7	53.0	45.8

All Three Conditions matter but in different ways: simultaneous action

Three sets of common strategies for the Conditions

1. **Cities and farms 18%:** Secure endangered species, protect all remaining primary intact fragments, maintain pollinators, increase ecological restoration. Mainstream sustainable practices such as reduced nitrogen use and good urban planning to retain good farmland. Provide access to nature for urban dwellers' heath and well-being. **(low percentages possible)**.
2. **Shared lands 56%** : Establish "ecologically representative and well-connected systems of protected areas… integrated into the wider landscape" (from Aichi Target 11); restore and maintain ecological processes and viable populations of native species (**increase area protected to 25 to 75%** of ecoregion). Practice Sustainable resource extraction practices outside but that are integrated with well managed and properly funded PA networks and sustainable tourism.
3. **Large Wild Areas 26%** : Retain overall ecological intactness and associated global processes such as carbon storage and rainfall generation, fluvial flows and large migrations; prevent further fragmentation allowing only rare nodes of intense industrial development enveloped in a largely wild matrix. Remove and restore anomalies. Reverse defaunation, and control invasive species where needed. Secure Indigenous knowledge and livelihoods.



Three Global Conditions

- Citi es and Farm s
  Shared Lands
- Large Wild Areas

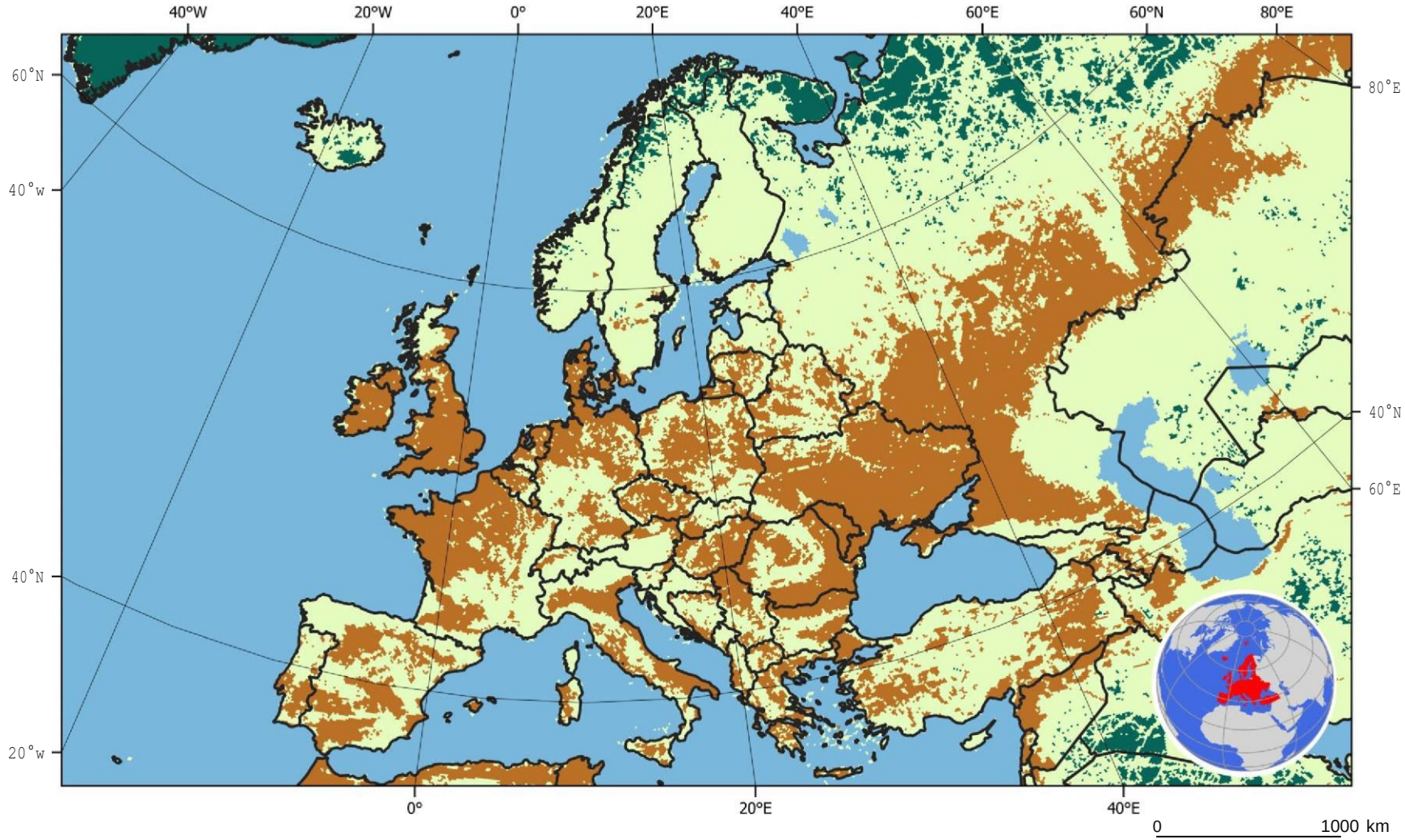
Sweden

Mapped Land Area 444,328 km'

Locke *et al.* (2019) Three global condi tions for bi od iv ersity conse rvatio n and sust ainable use: an imp lementatio n framework. *National Science Review* (in r eview).
http:/ /n atu rebeyond2020.com/ 3condition s

IUCN WCPA

Map produced Ju ne 27, 2019[three conditio m,2015 v4; June 12, 2019]
Canog r aphy by Erle C. Ellis and Tom Hunt, Labor ator'r' for An th ro po genic Land pe Ecology, UMBC



Three Global Conditions

- Cities and Farms
  Shared Lands
- Large Wild Areas

Europe

Euro p e Alber s Equal Area Projection

IUCN WCPA

http://naturebeyond2020.com/3conditions

Map produced June 27, 2019 [three conditions 2015 v4; Jun e 12, 2019)
Cartograp hy by Er le C. Ellis and Tom Hunt, Laboratory for Anthrop ogenic Landscape Ecology, UMBC

Locke *et al.* (2019) Three global conditions for biodiversity conservation and sustainable use: an imp lementati on framework. *National Science Review* (in review).

Rio Principle 7

States shall co-operate in a spirit of **global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem**. In view of the different contributions to global environmental degradation, States have **common but differentiated responsibilities…**. ..

Three Conditions approach

- Rio Principle 7 common but differentiated responsibilities between developed and developing world
- reconciles prioritization debates
- uses existing NBSAP framework but adds global dimension
- protected areas targets vary by the Three Conditions
- sustainable production practises integrated

Website and scientific publications

https://naturebeyond2020.com/3conditions/

https://academic.oup.com/nsr/advance-article/doi/10.1093/nsr/nwz136/5567446?guestAccessKey=d59694c5-95b6-4bc4-93c4-d52a86c83013#supplementary-data

Harvey Locke, Erle C. Ellis, Oscar Venter, Richard Schuster, Keping Ma, Xiaoli Shen, Stephen Woodley, Naomi Kingston, Nina Bhola, Bernardo B. N. Strassburg, Axel Paulsch, Brooke Williams, James E. M. Watson. **Three Global Conditions for Biodiversity Conservation and Sustainable Use: an implementation framework .** National Science Review 2019 6(6). DOI:10.1093/nsr/nwz136.

Dr. Harvey Locke: Harvey@hlconservation.com

IUCN WCPA WORLD COMMISSION ON PROTECTED AREAS