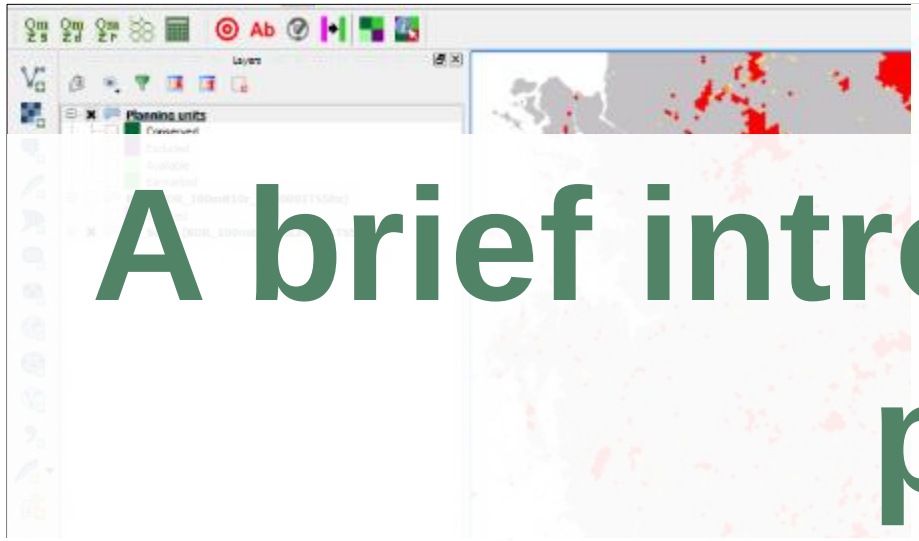
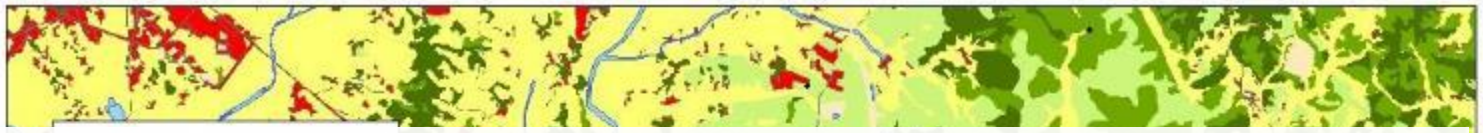
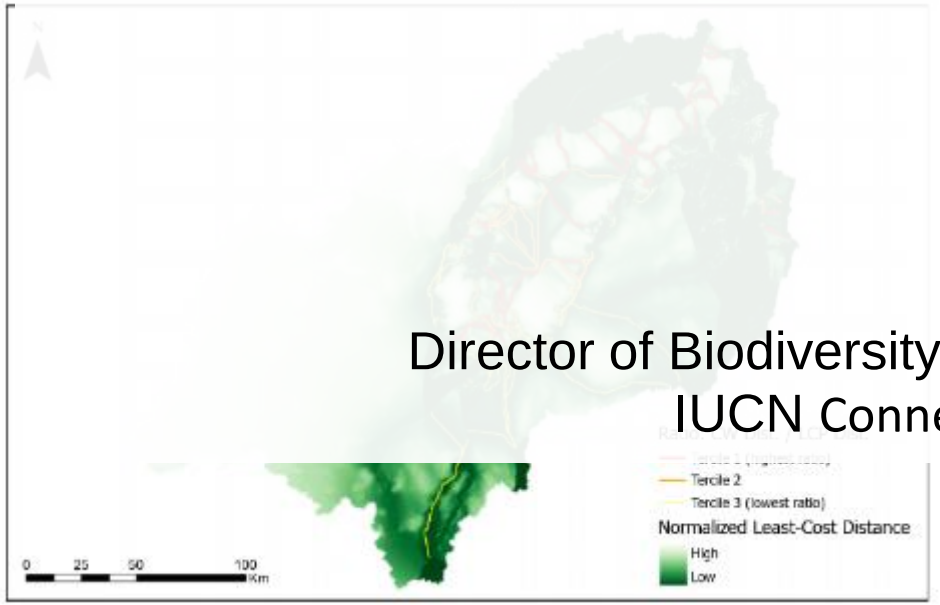


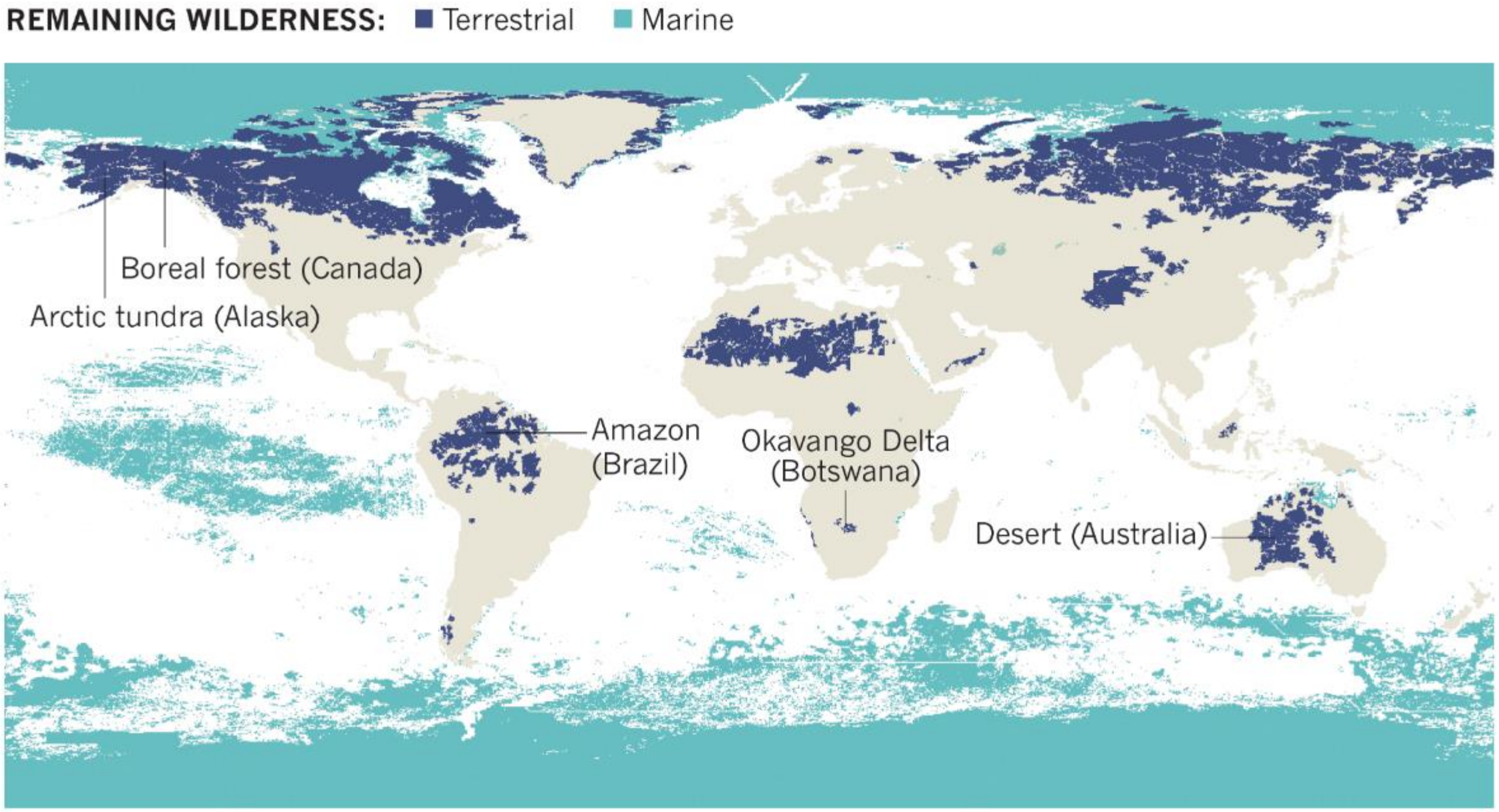


A brief introduction to spatial planning

28 June 2022

Diego Juffe Bignoli,
Director of Biodiversity Decisions and Consultant for the World Bank
IUCN Connectivity Conservation Specialist Group

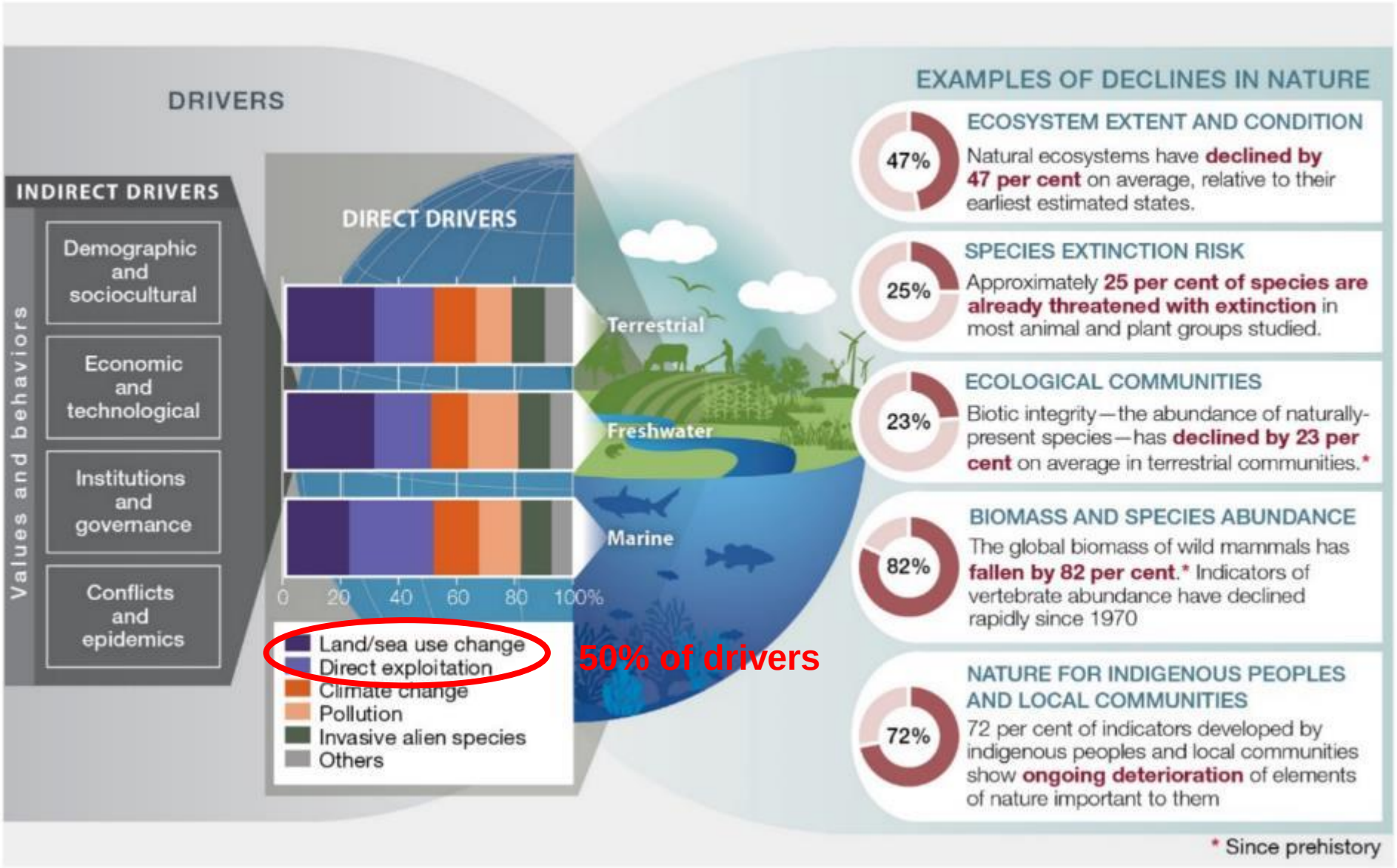




Areas free of human pressure across 10,000 km2 Source: (Watson et al. 2018)

The first Global Assessment Report on Biodiversity and Ecosystem Services compiled the evidence for the biodiversity crisis

https://ipbes.net/sites/default/files/inline/files/ipbes_global_assessment_report_summary_for_policymakers.pdf

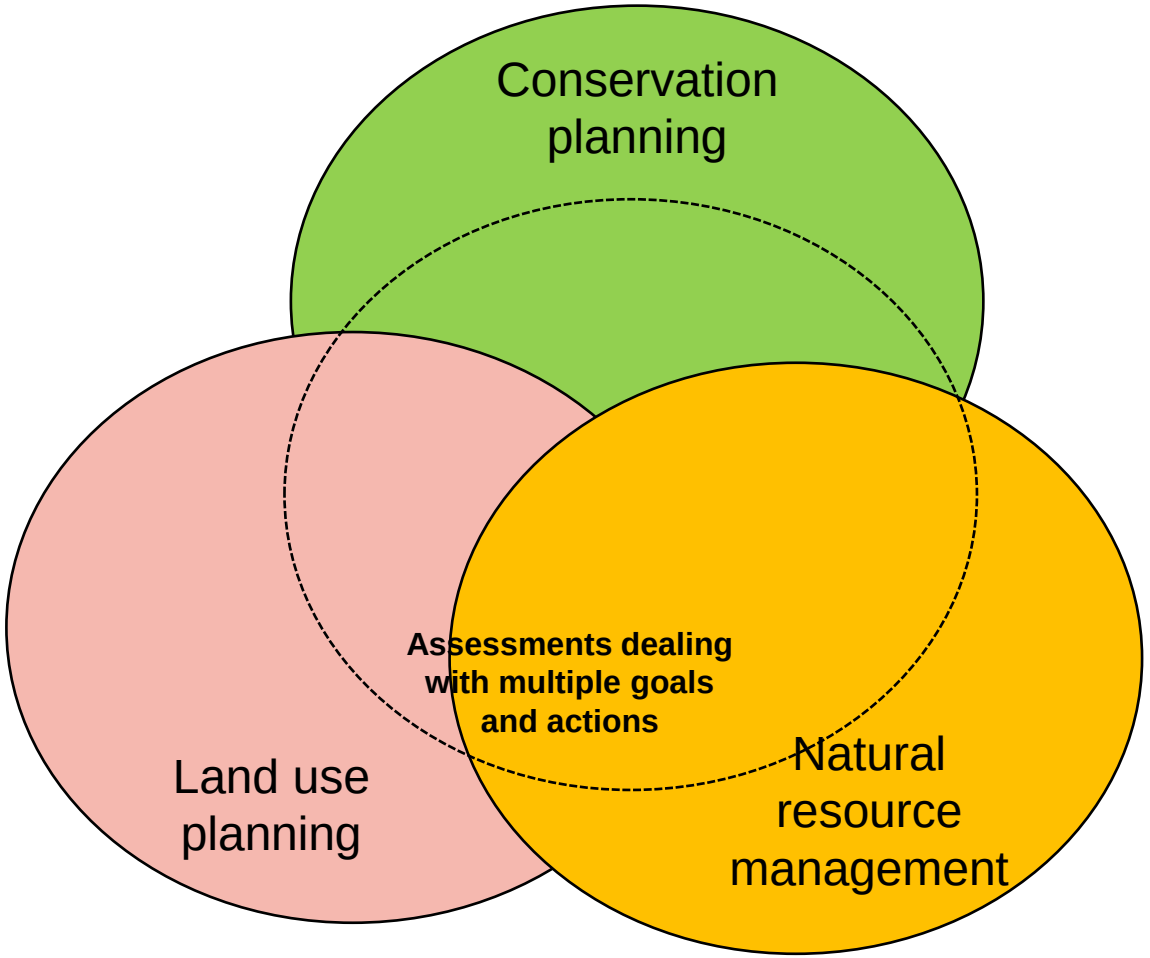


Resources and space are limited

there are many different stakeholders competing for the use of the land

… it is not possible to conserve everything

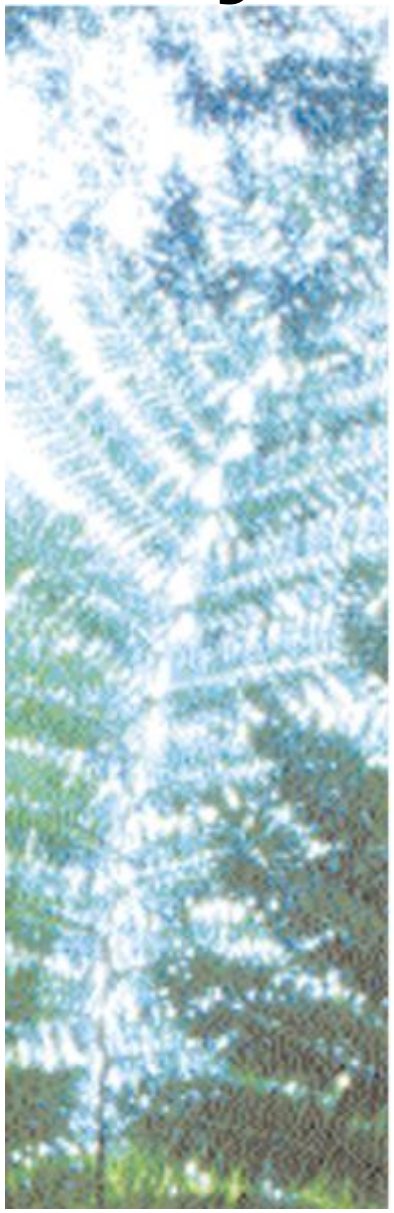
How can spatial planning help?



Source: Adapted from Moilanen et al. 2009

Conservation planning: When and where do we invest time, money and effort to do conservation and how do we allocate resources efficiently?

Systematic Conservation Planning (SCP)



insight review articles

Systematic conservation planning

C. R. Margules* & R. L. Pressey†

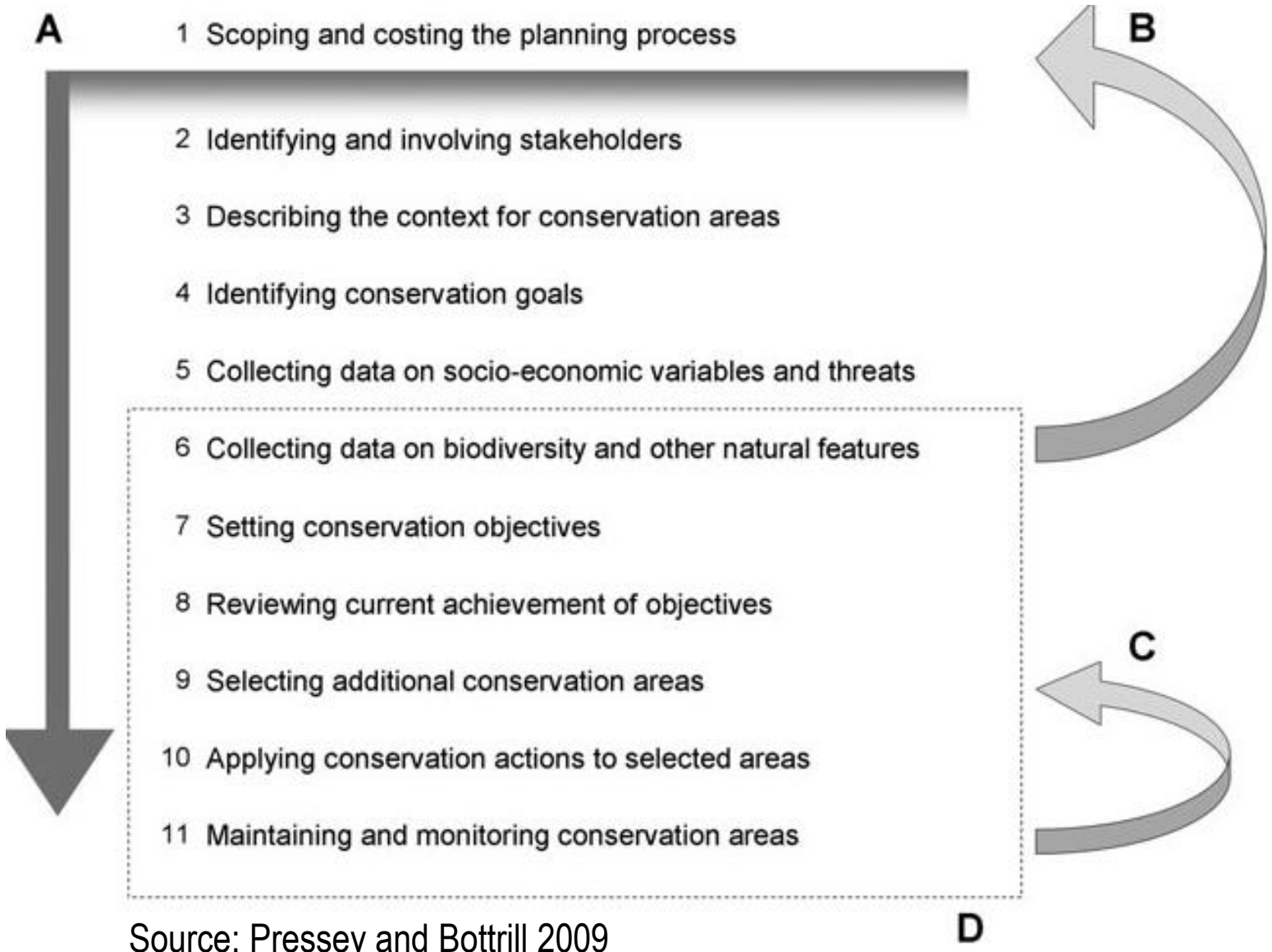
*CSIRO Wildlife and Ecology, Tropical Forest Research Centre, and the Rainforest Cooperative Research Centre, PO Box 780, Atherton, Queensland 4883, Australia

†NSW National Parks and Wildlife Service, PO Box 402, Armidale, New South Wales 2350, Australia

The realization of conservation goals requires strategies for managing whole landscapes including areas allocated to both production and protection. Reserves alone are not adequate for nature conservation but they are the cornerstone on which regional strategies are built. Reserves have two main roles. They should sample or represent the biodiversity of each region and they should separate this biodiversity from processes that threaten its persistence. Existing reserve systems throughout the world contain a biased sample of biodiversity, usually that of remote places and other areas that are unsuitable for commercial activities. A more systematic approach to locating and designing reserves has been evolving and this approach will need to be implemented if a large proportion of today's biodiversity is to exist in a future of increasing numbers of people and their demands on natural resources.

Source: Margules and Pressey 2000

The 11 SCP steps



Source: Pressey and Bottrill 2009

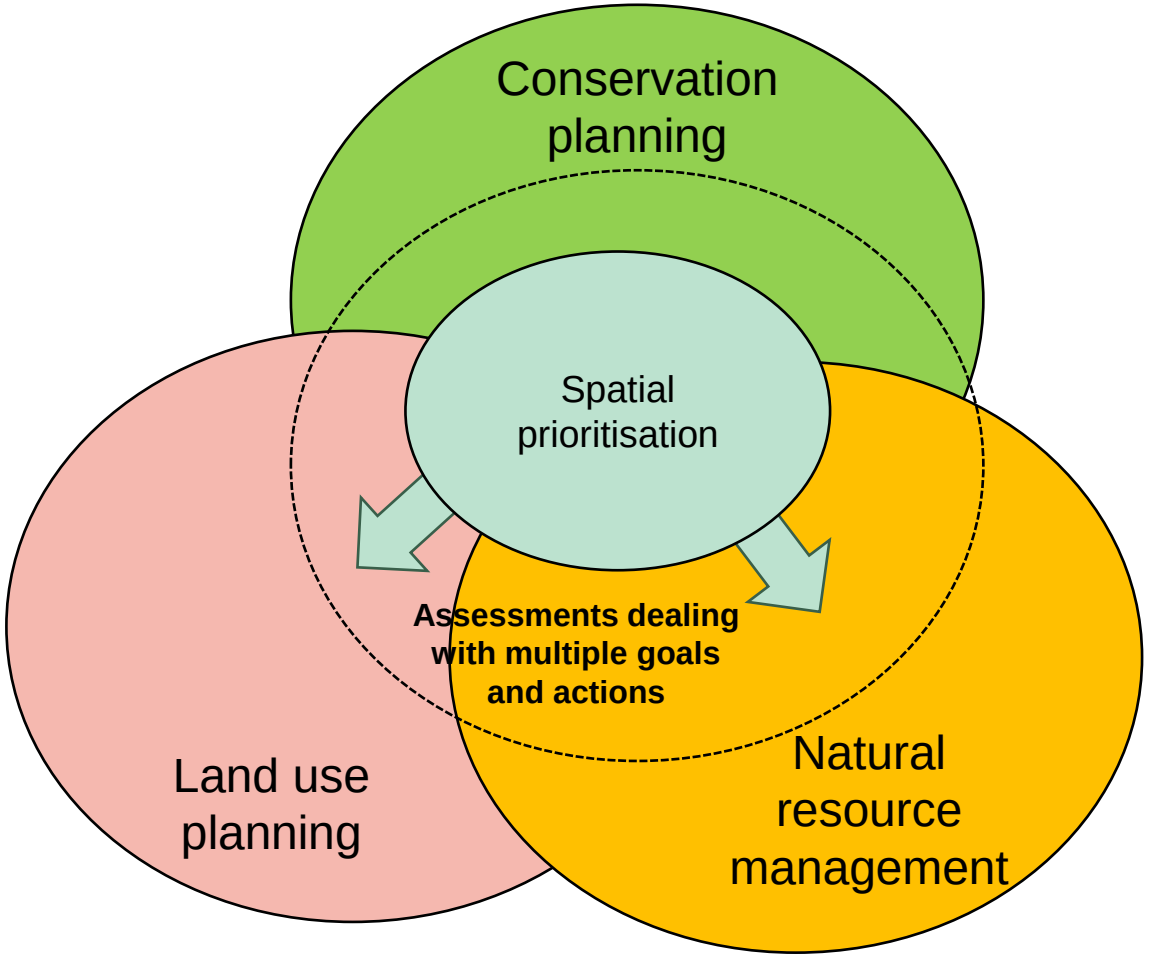
A : Stakeholder engagement throughout the process

B: Revisions on boundaries of planning area based on data collection results

C:Lessons learned from management and monitoring

D:Spatial prioritisation after the social, economic and political context has been defined through steps 1 to 5

Difference between spatial prioritisation and spatial planning



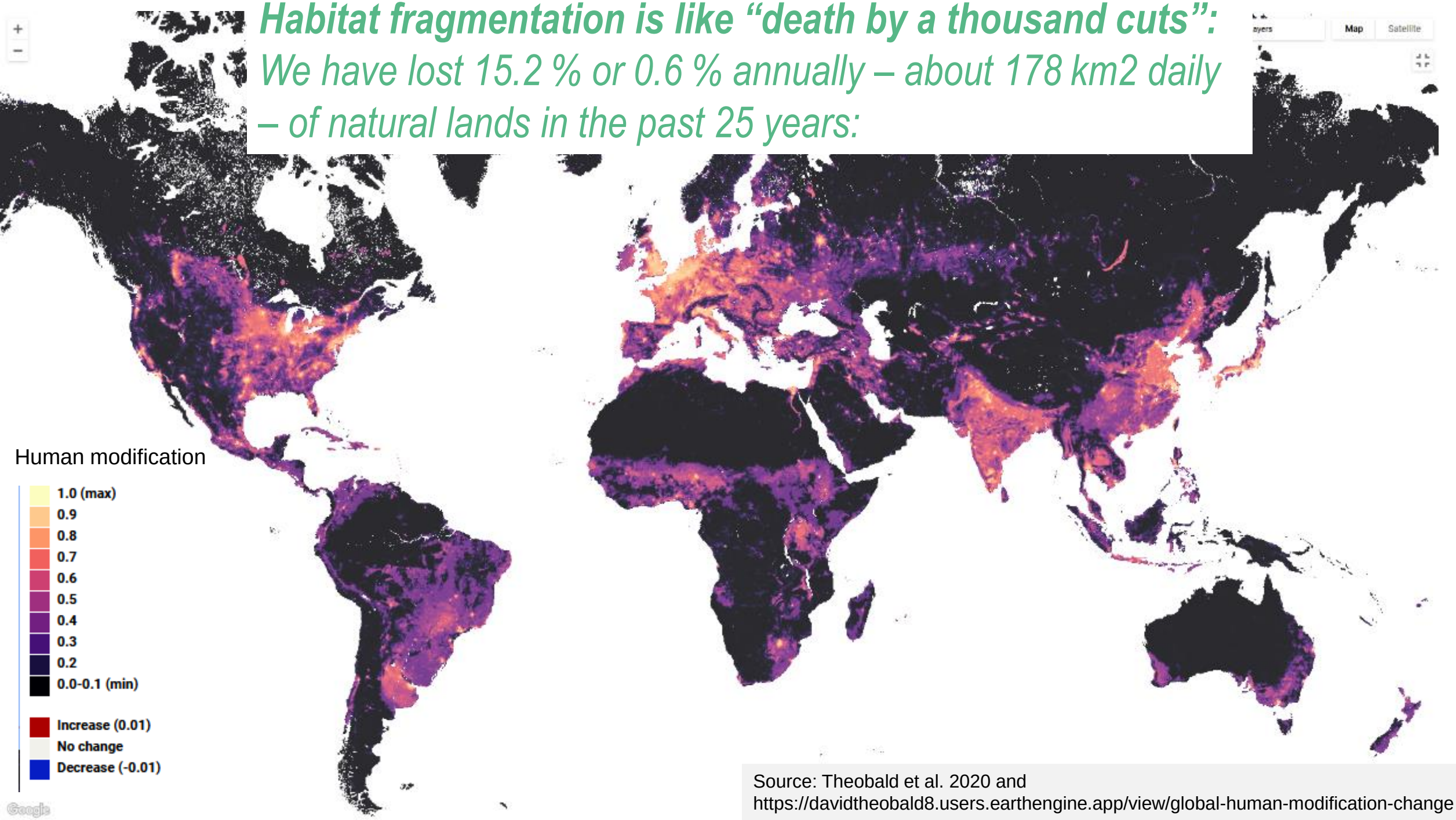
Source: Adapted from Moilanen et al. 2009

Spatial prioritisation: an assessment within the SCP process to inform decision making about the spatial location of actions to be applied across the landscape and seascape (Ferrier and White 2012)

Where does connectivity conservation fit in all of this?

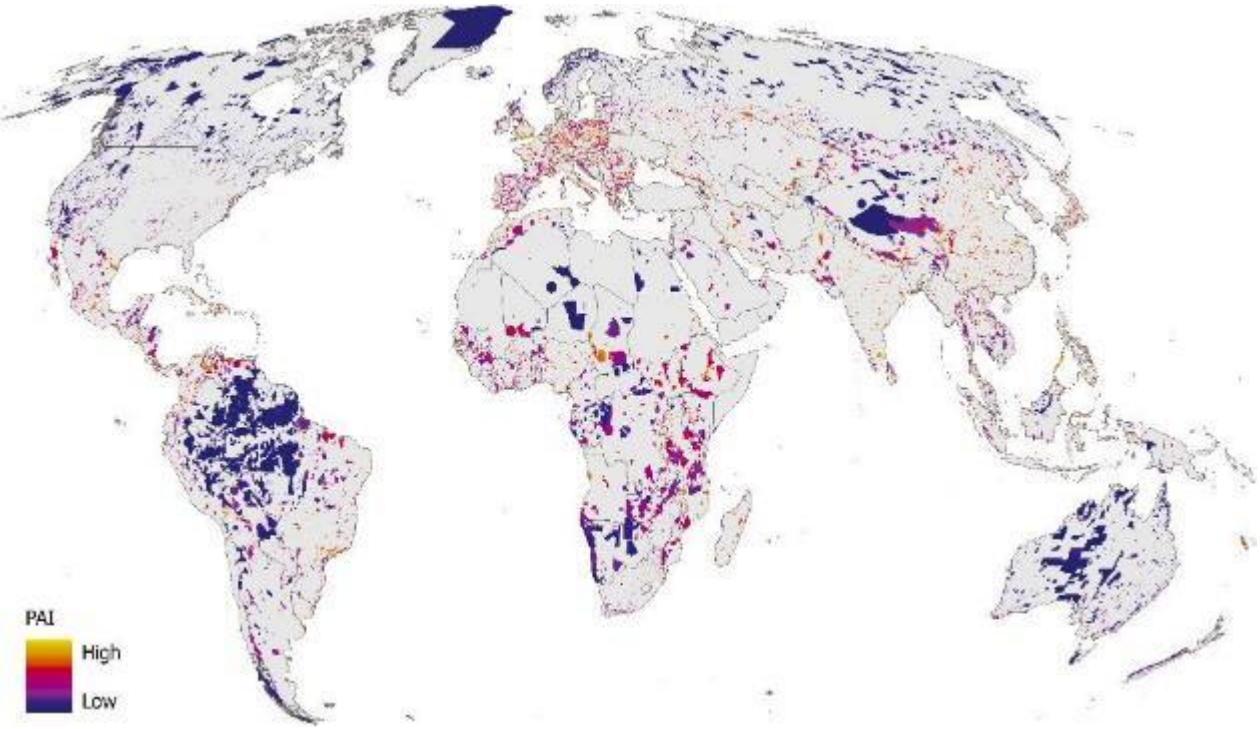
Habitat fragmentation is like "death by a thousand cuts":

We have lost 15.2 % or 0.6 % annually – about 178 km2 daily – of natural lands in the past 25 years:

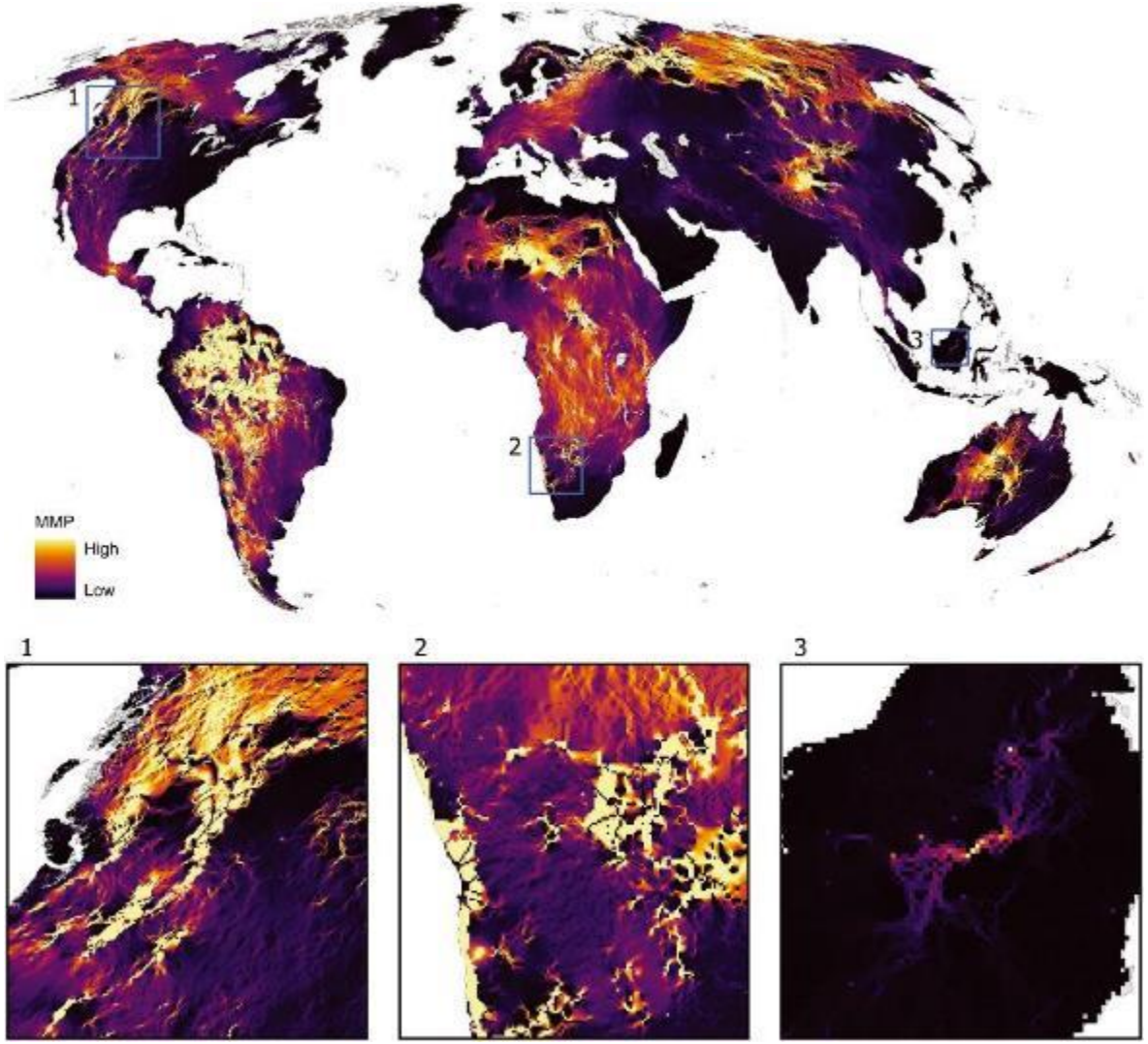


Source: Theobald et al. 2020 and https://davidtheobald8.users.earthengine.app/view/global-human-modification-change

Protected areas are not well connected (Saura et al. 2018, Ward et al. 2020, Brennan et al. 2022)



Protected Area Isolation (PAI)



Global mammal movement probability(MMP) between terrestrial PAs

Source for both maps: Brennan et al 2022: Functional connectivity of the world's protected areas

Connectivity conservation in the planning process

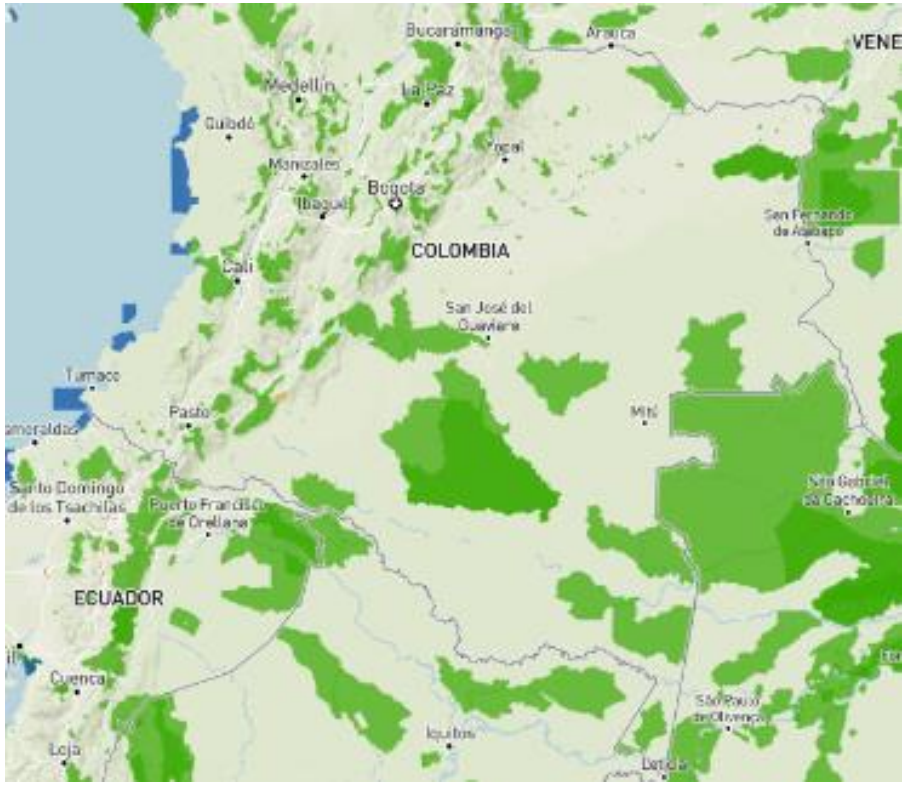
Connectivity conservation provides the "glue" to make the system work and resilient over time

Connectivity analyses are an important input to the spatial planning process.

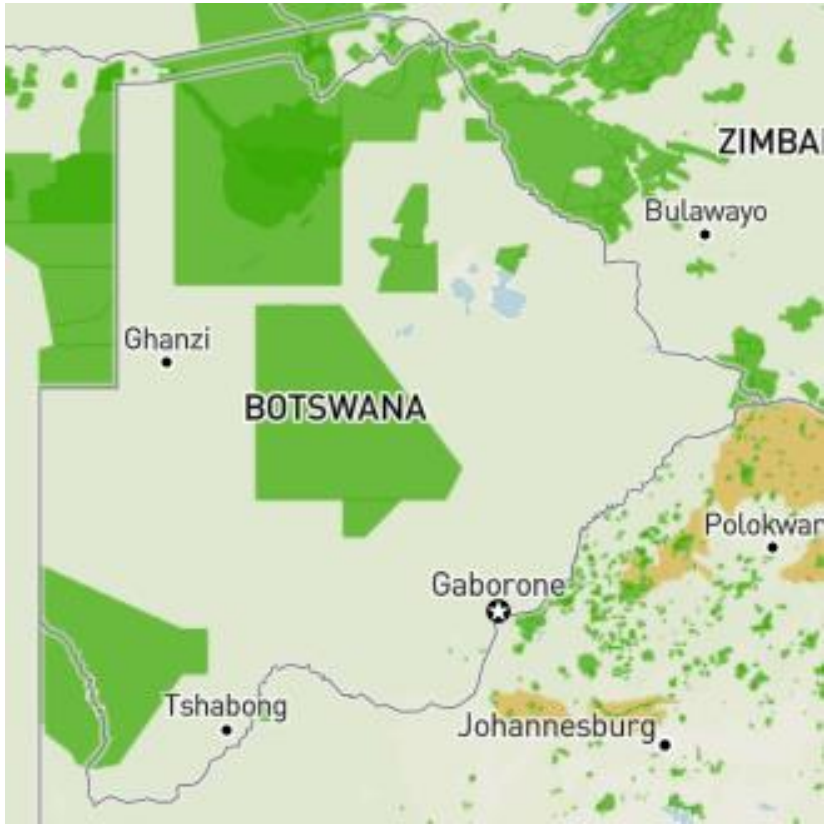
Today, through case studies and deep dive sessions, we will discuss how to define connectivity conservation objectives in a systematic way and how to spatially map connectivity.

Case Studies

Colombia



Botswana



Deep dive sessions: our experts

Dr. Annika Keeley

Center for Large Landscape Conservation
IUCN Connectivity Conservation Specialist Group

Josh Noseworthy

CEO of Global Conservation Solutions
Certified Conservation Coach