BIODIVERSITY - trends, drivers of change, and policy options:

outcomes of the IPBES Regional Assessment for Europe and Central Asia

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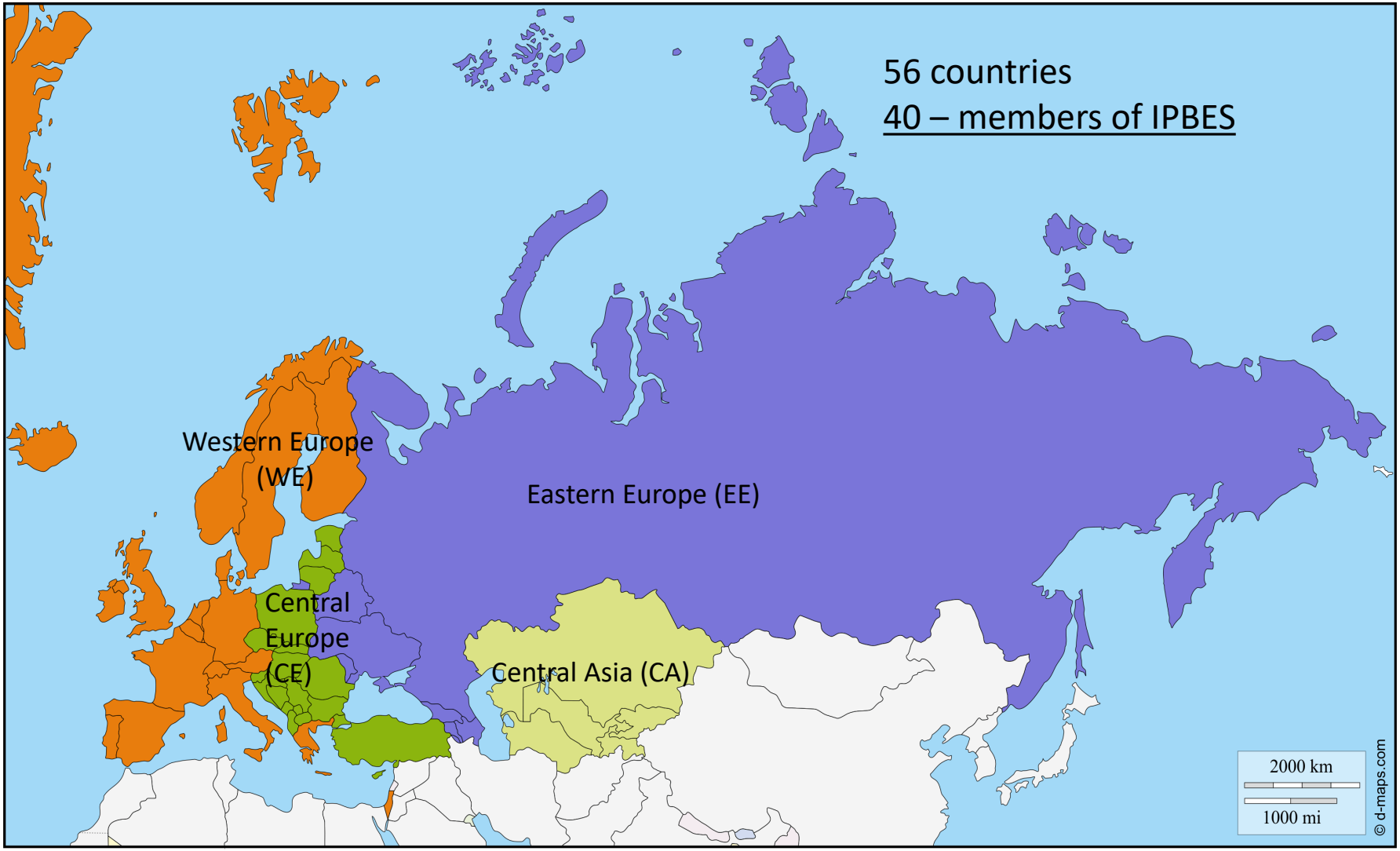
Setting the scene

- Biodiversity continues dangerous decline
- Biodiversity is key to human wellbeing
- The decline is due to multiple interacting drivers, which undermine efforts to achieve the Aichi Targets and the SDGs
- We need more and better scientific information
- IPBES regional assessment

Europe and Central Asia



Biodiversity: Marine/freshwater habitats and species

- The abundance, range and habitat size of many marine species is shrinking:

- *48% of marine animal and plant species have been declining in the last decade*

- Freshwater species and inland surface water habitats are particularly threatened across ECA

- 75% of catchment areas in ECA are heavily modified

- 37% of freshwater fish and 23% of amphibians are currently threatened with extinction in CE and EE

Biodiversity: Terrestrial species

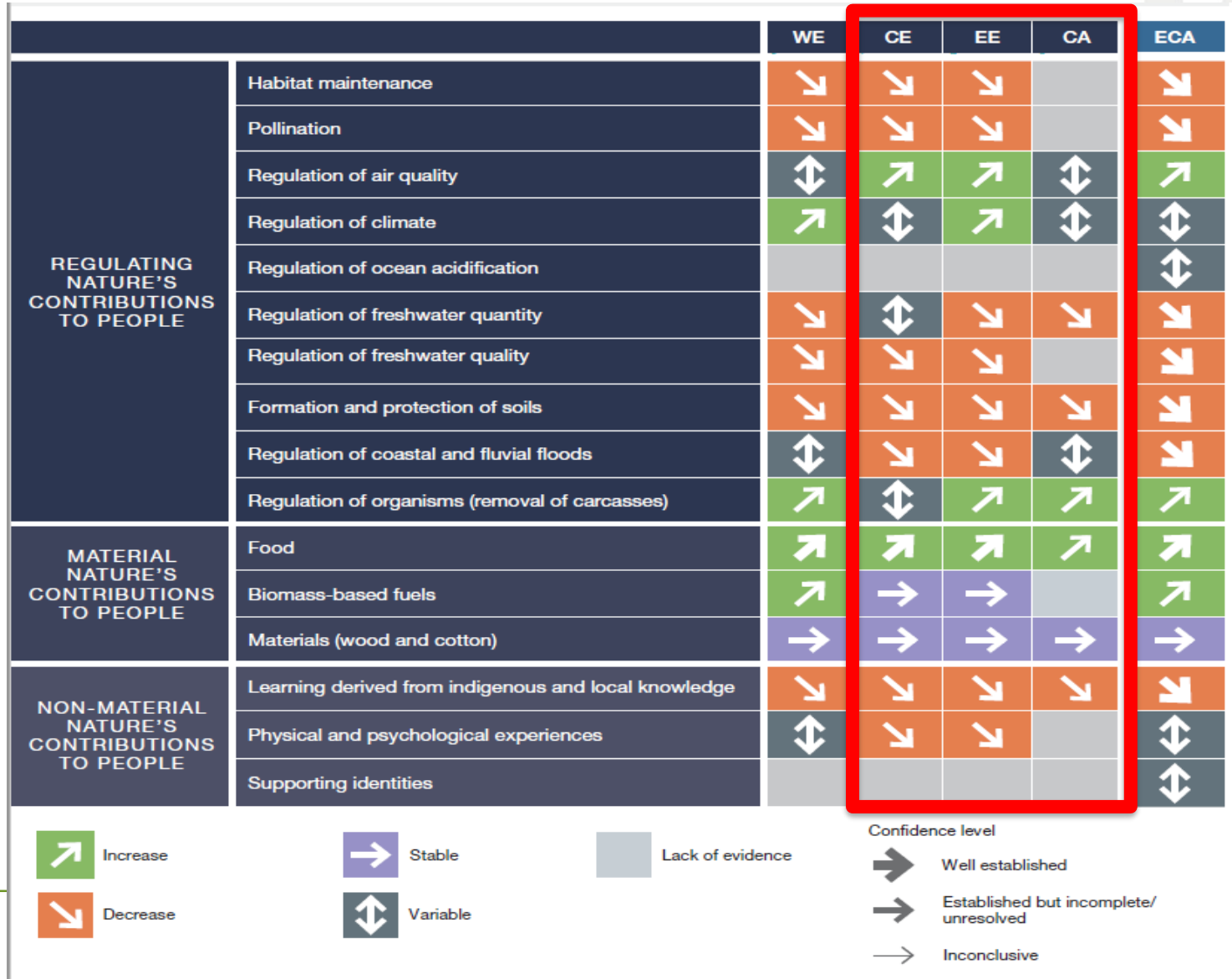
- Terrestrial species and habitats have long-term declining trends in population size, range, habitat intactness and functioning:

- 42% of terrestrial animal and plant species have been declined in population size

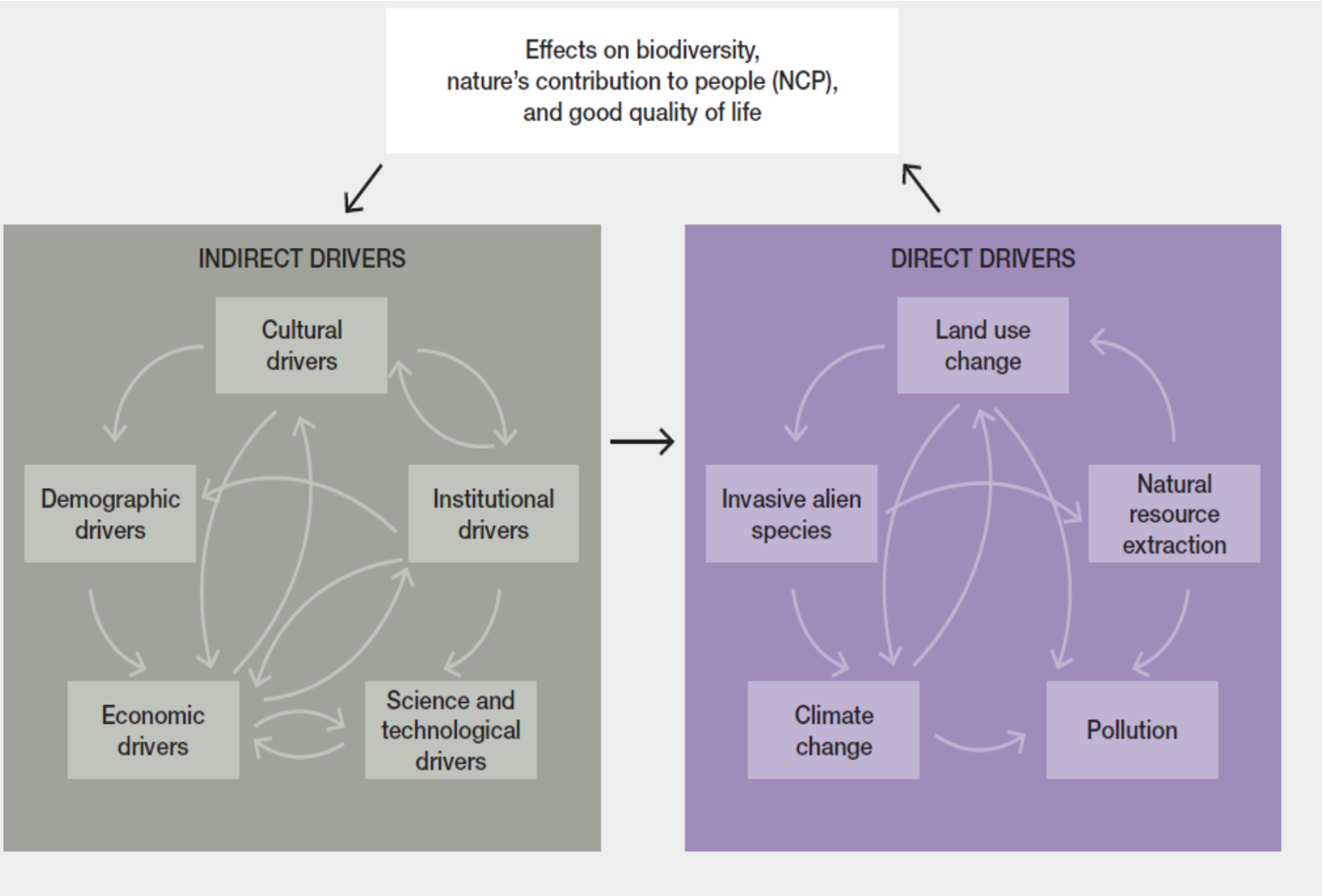
- 75% of local bird breeds and 58% of local mammal breeds are threatened with extinction.

Past (1950-2000) and current (2001-2017) trends

Trends in nature's contributions to people



II. Biodiversity: Driver of change



Land use change: Forestry

Trend 1: Increasing intensity of management on forested land:

- increasing extraction of bioenergy resources
- increasing area of forest plantations
- intensification of forest management

Trend 2: Continuous logging of intact forest landscapes

- Russia is among three countries that comprise 52% of the total reduction of intact forest landscapes

Effects on biodiversity and NCP:

Loss of structural components; Simplified spatial structure;

Simplification of natural processes; Fragmentation of forest habitats

Land use change: Agriculture

Intensification of conventional agriculture:

- Large-scale monocultures
- High level of agrochemical inputs
- Irrigation
- High level of mechanization
- Genetically modified crops

Land use change: Agriculture

Effects of conventional agriculture intensification:

- Transformation and modification of natural and semi-natural habitats physically, biologically and chemically
- Reductions in species richness and diversity of plants, wild bees and birds
- Introduction of genetically modified crops
- Erosion of natural capital (e.g. pollinators, natural enemies of pest, soil biodiversity)

Other drivers of change in biodiversity

- Extraction of abiotic and biotic resources:

- Overfishing

- Extraction of mineral resources (e.g., CA and EE)

- Pollution:

- Have decreased across the ECA, but due to time-lag effects and organic pollution/pesticides - still threaten biodiversity

- Invasive alien species:

- Have increased for all taxonomic groups

Impact of indirect drivers on direct drivers

Biodiversity: Policy options

THREE major directions:

1. ***Mainstreaming*** the conservation and sustainable use of biodiversity and the sustained provision of NCPs into policies, plans, programmes, strategies and practices of public and private actors:

- Raising awareness of the dependence of good quality of life on nature
- Defining policy objectives concerning all sustainability dimensions
- Designing policy instruments and policy mix to support policy implementation

Biodiversity: Policy options

2. Developing ***integrated approaches across sectors***:

- Coordination between sectors and sustainable management practices within each sector
- Measure national welfare beyond current economic indicators, taking into account of the diversity values of nature
- Introduction of ecological fiscal reforms

Biodiversity: Policy options

3. Participation of a wide range actors and stakeholders in governance process:

- Development of public-private partnership, co-management arrangements or even private governance involving many stakeholders
- Increasing funding from both public and private sources, together with innovative financial mechanism (e.g. ecological fiscal transfers)
- Education and training

Conclusions

- Biodiversity loss is due to a complex systems of multiple interacting drivers
- The major trend is increasing intensity of land use and climate change that lead to biodiversity loss which is posing substantial risks for human well-being
- Single-driver and single-sector approaches are likely to misrepresent the direction, magnitude or spatial pattern of impacts on biodiversity, leading to poor management or policy decisions
- Future impacts on biodiversity are underestimated because most decisions/scenarios consider only one or few drivers, and largely ignore interaction between drivers and important feedbacks