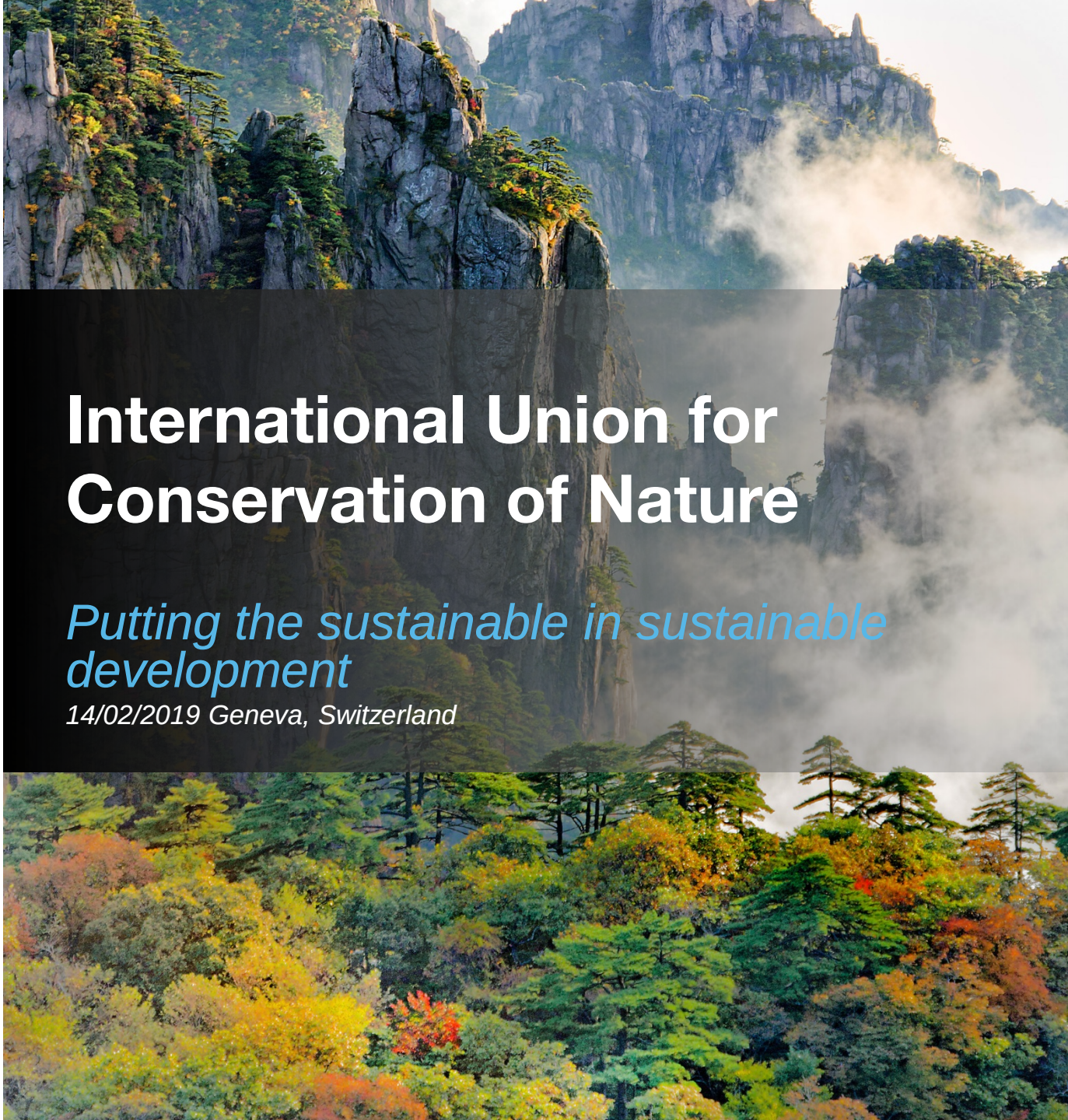

International Union for Conservation of Nature

Putting the sustainable in sustainable development

14/02/2019 Geneva, Switzerland

“Nature-based Solutions: opportunities and challenges ”

- **Daisy Hessenberger**
Nature-based Solutions Support Officer
Ecosystem Management Programme

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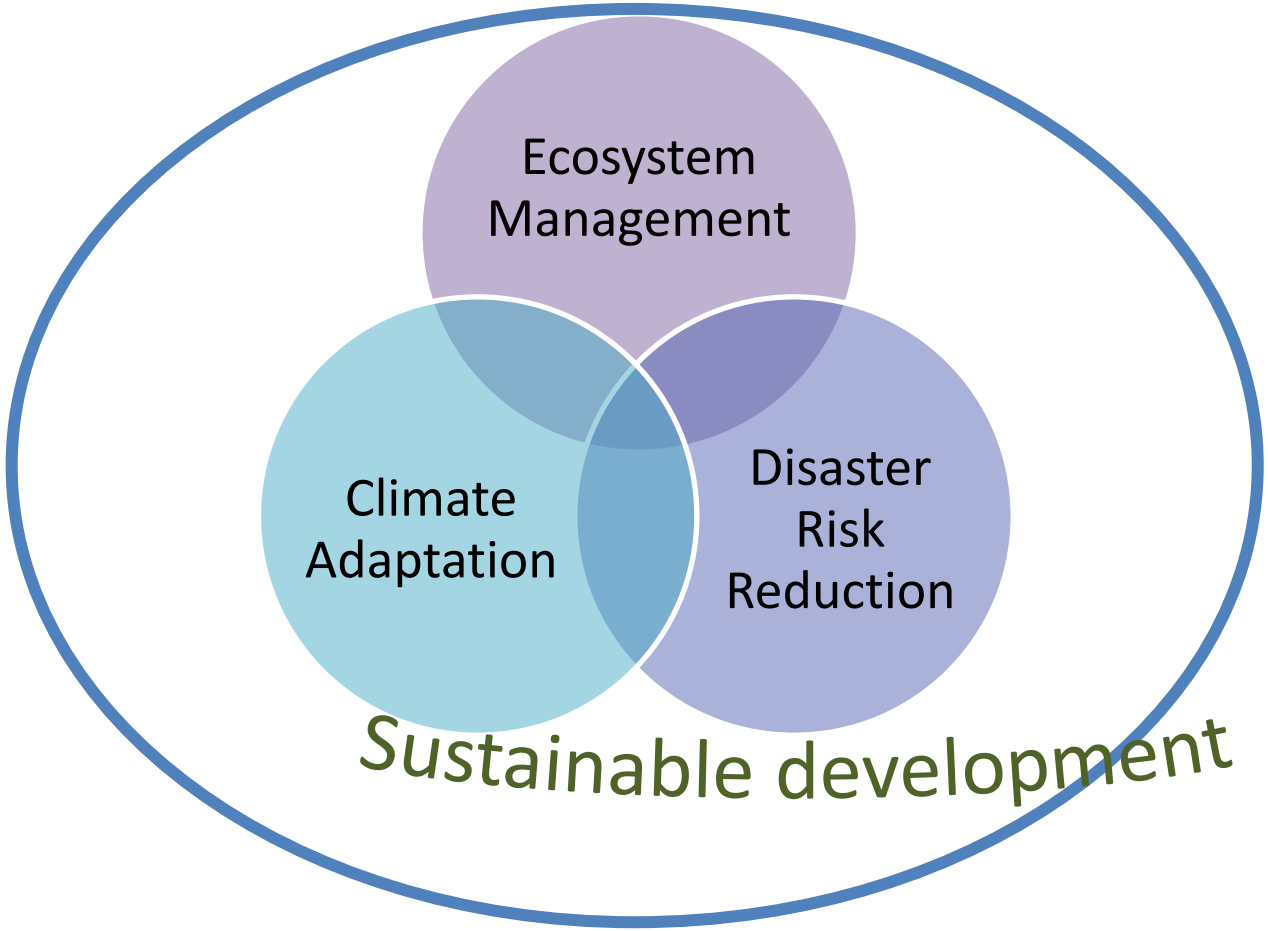
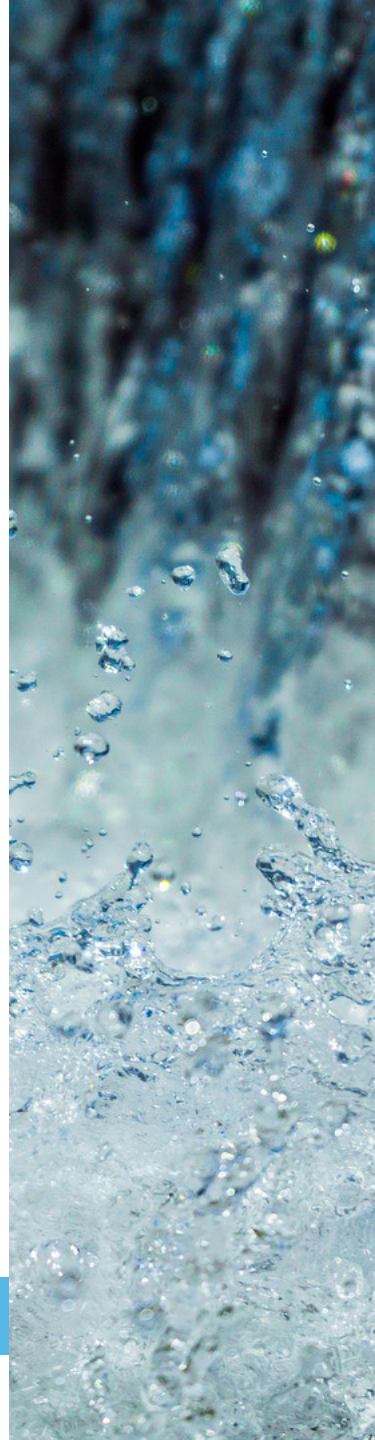
Defining our work

1. Ecosystem restoration approaches
   - ER
   - EE
   - FLR
2. Issue-specific ecosystem-related
   - EbA
   - EbM
   - Eco-DRR
   - CAS
3. Infrastructure-related approaches
   - GI
   - NI
4. Ecosystem-based management
   - EbMgt
5. Ecosystem protection approaches
   - AbC

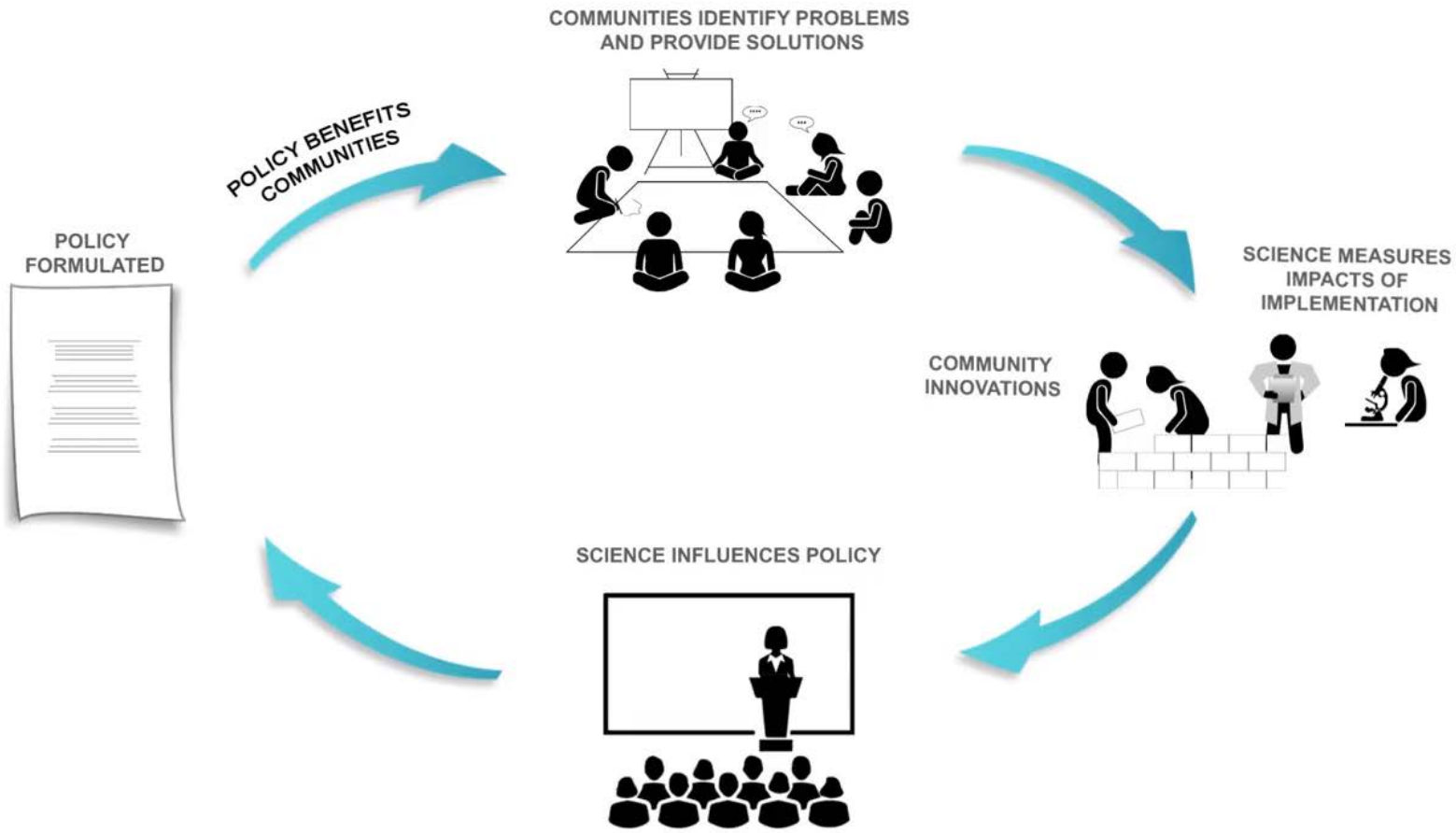
Societal challenges and SDGs

Nature-based Solutions are…



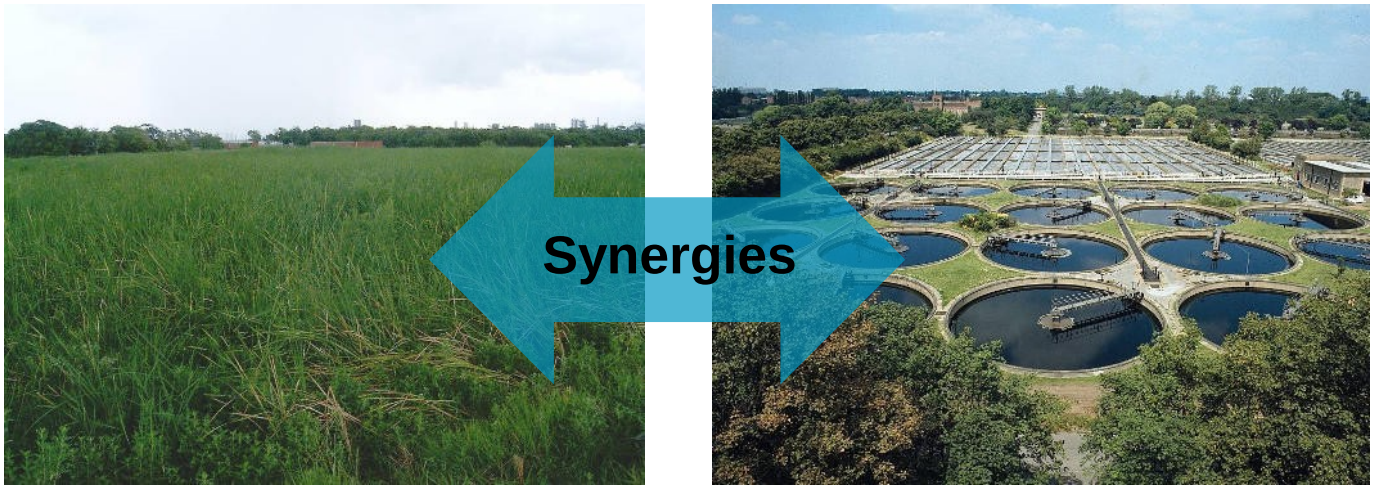


Nature-based Solutions are also…



Nature-based Solutions are also…

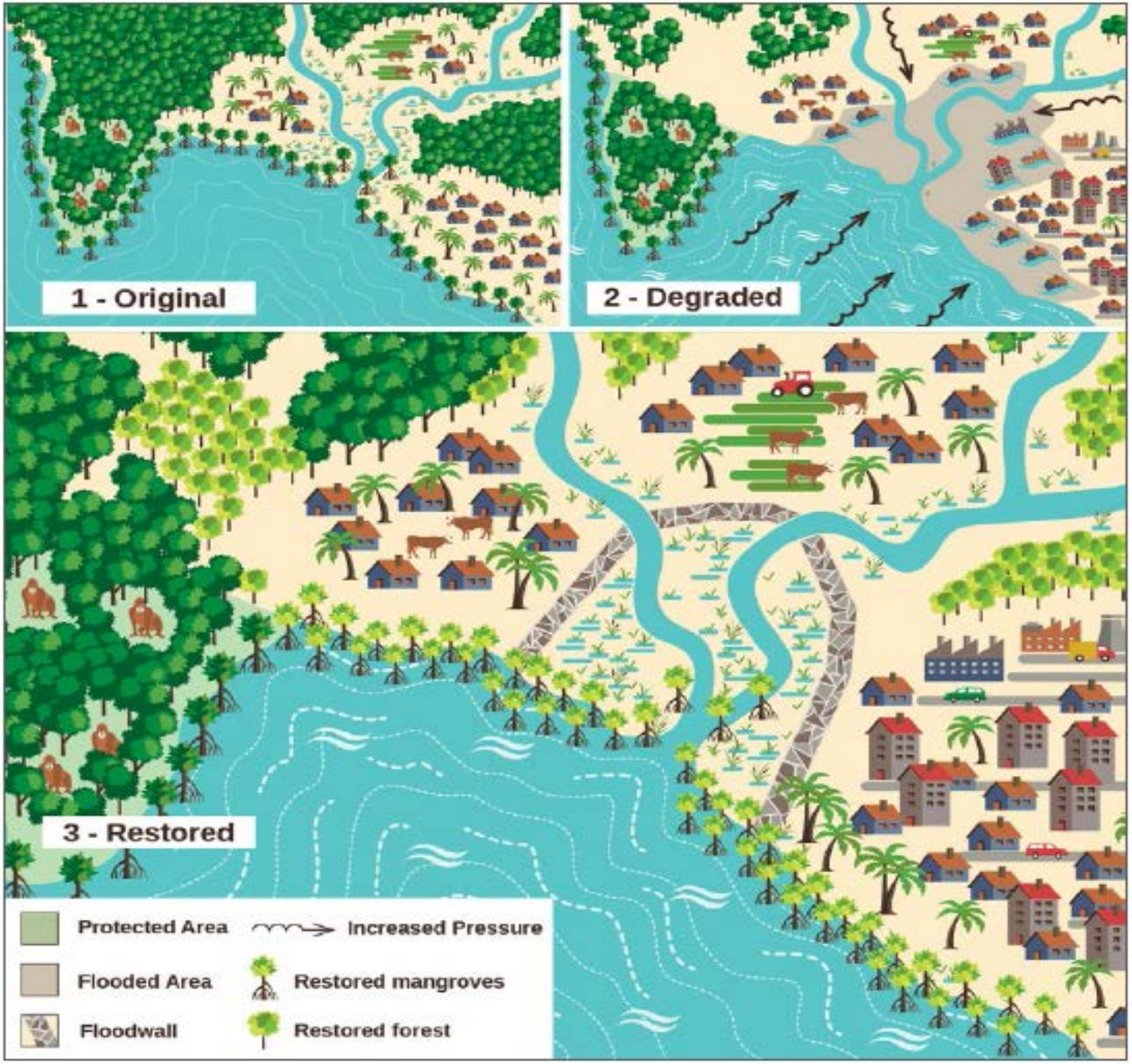
Hybrid approaches, utilizing a **combination** of natural and grey infrastructure



Natural infrastructure

Grey infrastructure

IUCN



INTERNATIO

Nature-based Solutions from local to regional scale

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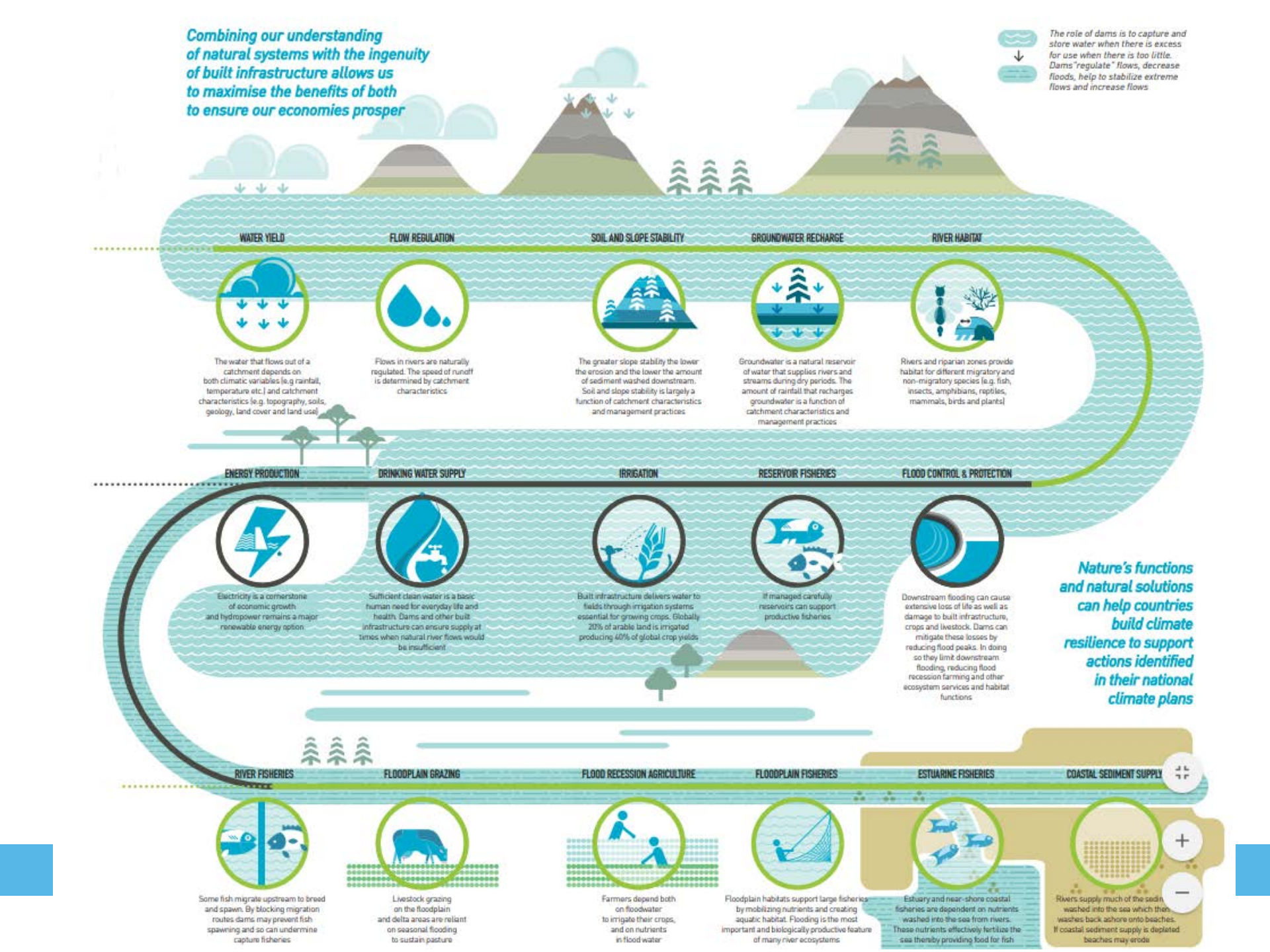
Natural Infrastructure for Water Management

Investing in nature for multiple objectives

*Hybrid solutions that contain built elements that interact with natural features and seek to enhance their water related ecosystem services.

Further information can be found in UNEP (2014) Green Infrastructure Guide for Water Management: Ecosystem-based management approaches for water related-infrastructure projects.


Combining our understanding of natural systems with the ingenuity of built infrastructure allows us to maximise the benefits of both to ensure our economies prosper
The role of dams is to capture and store water when there is excess for use when there is too little. Dams "regulate" flows, decrease floods, help to stabilize extreme flows and increase flows
WATER YIELD
The water that flows out of a catchment depends on both climatic variables (e.g rainfall, temperature etc.) and catchment characteristics (e.g. topography, soils, geology, land cover and land use)
FLOW REGULATION
Flows in rivers are naturally regulated. The speed of runoff is determined by catchment characteristics
SOIL AND SLOPE STABILITY
The greater slope stability the lower the erosion and the lower the amount of sediment washed downstream. Soil and slope stability is largely a function of catchment characteristics and management practices
GROUNDWATER RECHARGE
Groundwater is a natural reservoir of water that supplies rivers and streams during dry periods. The amount of rainfall that recharges groundwater is a function of catchment characteristics and management practices
RIVER HABITAT
Rivers and riparian zones provide habitat for different migratory and non-migratory species (e.g. fish, insects, amphibians, reptiles, mammals, birds and plants)
ENERGY PRODUCTION
Electricity is a cornerstone of economic growth and hydropower remains a major renewable energy option
DRINKING WATER SUPPLY
Sufficient clean water is a basic human need for everyday life and health. Dams and other built infrastructure can ensure supply at times when natural river flows would be insufficient
IRRIGATION
Built infrastructure delivers water to fields through irrigation systems essential for growing crops. Globally 20% of arable land is irrigated producing 40% of global crop yields
RESERVOIR FISHERIES
If managed carefully reservoirs can support productive fisheries
FLOOD CONTROL & PROTECTION
Downstream flooding can cause extensive loss of life as well as damage to built infrastructure, crops and livestock. Dams can mitigate these losses by reducing flood peaks. In doing so they limit downstream flooding, reducing flood recession farming and other ecosystem services and habitat functions
Nature's functions and natural solutions can help countries build climate resilience to support actions identified in their national climate plans
RIVER FISHERIES
Some fish migrate upstream to breed and spawn. By blocking migration routes dams may prevent fish spawning and so can undermine capture fisheries
FLOODPLAIN GRAZING
Livestock grazing on the floodplain and delta areas are reliant on seasonal flooding to sustain pasture
FLOOD RECESSION AGRICULTURE
Farmers depend both on floodwater to irrigate their crops, and on nutrients in flood water
FLOODPLAIN FISHERIES
Floodplain habitats support large fisheries by mobilizing nutrients and creating aquatic habitat. Flooding is the most important and biologically productive feature of many river ecosystems
ESTUARINE FISHERIES
Estuary and near-shore coastal fisheries are dependent on nutrients washed into the sea from rivers. These nutrients effectively fertilize the sea thereby providing food for fish
COASTAL SEDIMENT SUPPLY
Rivers supply much of the sediment washed into the sea which then washes back ashore onto beaches. If coastal sediment supply is depleted beaches may erode

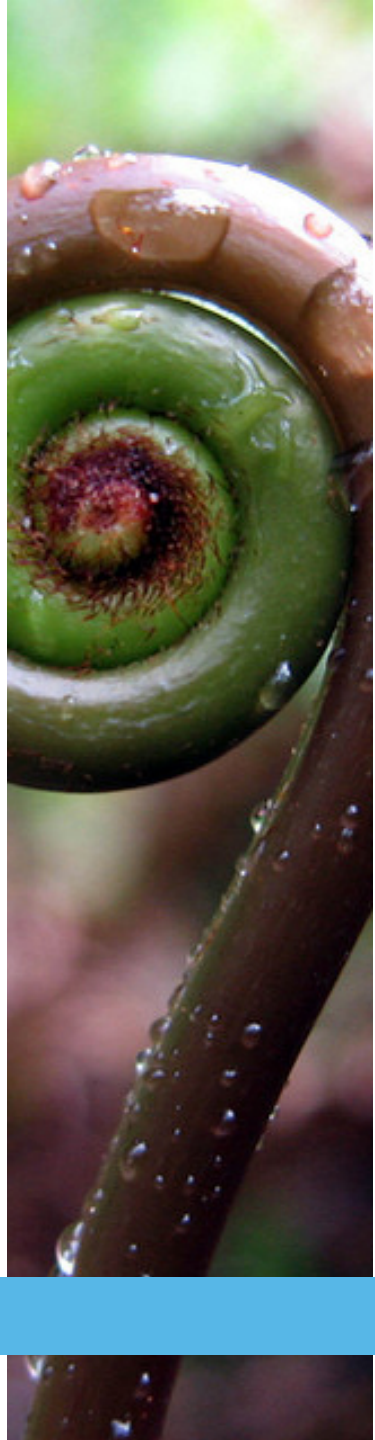
Towards a Global Standards for Nature-based Solutions

INTERNATIONAL UNION FOR CONSERVATION OF NATURE

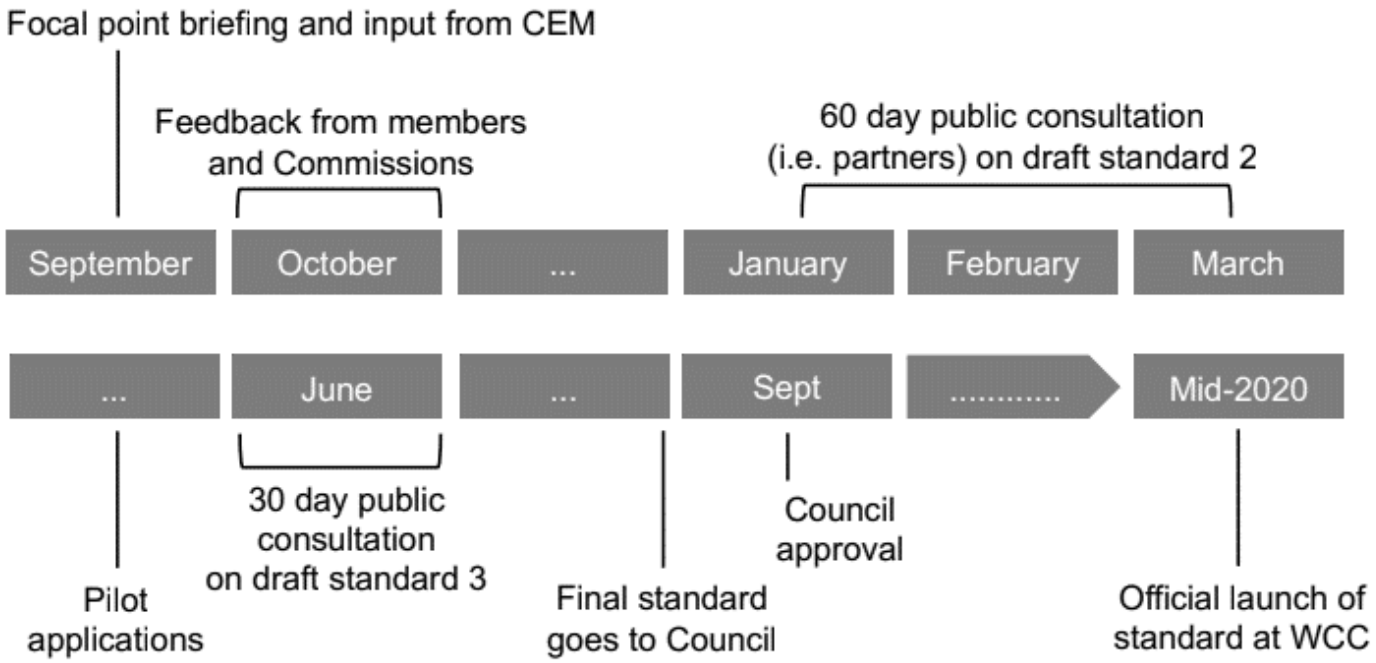
A standard is needed…

Not just to ensure quality, an NbS standard is needed to:

1. Safeguard nature from overexploitation
2. Engage stakeholders
3. Build common language and understanding
4. Increase demand
5. Incentivize positive sustainable change



How to engage



Current seven criteria

1. Nature and biodiversity
2. Transparency and inclusion
3. Adaptive management, governance & monitoring
4. Trade-offs
5. Land/seascape scale
6. Synergies
7. Mainstreaming

Example full criterion:

Criterion 7: NbS are incorporated into policies and regulations

How to engage

- Promote and take part in IUCN public consultation (Jan-March & June 2019)
- Offer a pilot case study (past or current interventions)
- Email nbsstandard@iucn.org with questions and feedback

Questions for you

- Are you doing something that might be considered an NbS?

- Is there a project of yours that might benefit from a hybrid approach?