

FROM NATURE-BASED SOLUTIONS TO **INVESTABLE** WATER LANDSCAPES

Using Ecosystem Service Valuation to Build Better Business
Cases, Public-Private Partnerships and Water Resilience



Kitty Tam
Civic Exchange • Moderator



Susanne Pedersen
IUCN



Marcia Arredondo Rivera
Wageningen Social &
Economic Research / NL2120



Alessandro Leonardi
Etifor | Valuing Nature



Simon Chan
Agriculture, Fisheries and
Conservation Department,
HKSAR Government

Welcoming



Ms Kitty Tam

Programme Lead, Civic Exchange

From Nature-based Solutions to Investable Water Landscapes

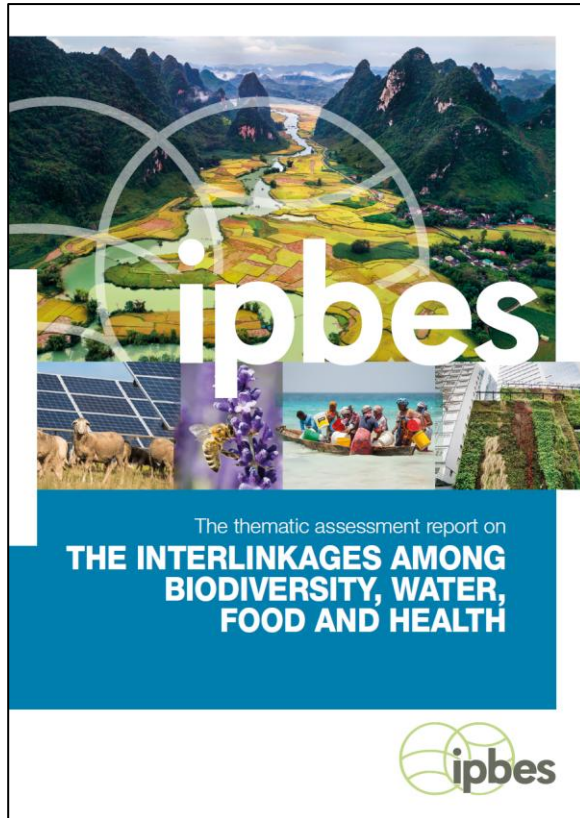
Ms Susanne Pedersen

Director, Centre for Science and Knowledge
Acting Head of Nature-based Solutions
IUCN

22 Oct. 2026 | CBD COP17 | NETHERLANDS PAVILION

Nature-based Solutions for water resilience

Scaling up with integrity



Harrison, P., McElwee, P., & van Huysen, T. (2024). *IPBES Nexus Assessment*

“Biodiversity and functioning ecosystems play a vital role in providing nature’s contributions to people, including regulating the climate and nutrient and hydrological cycles that are essential for providing sufficient and clean water (...)”

“Annual finance flows to NbS of US\$220 billion need to increase more than two and half times from current levels to US\$571 billion by 2030 and to more than triple to US\$771 billion by 2050 to reach Rio targets”

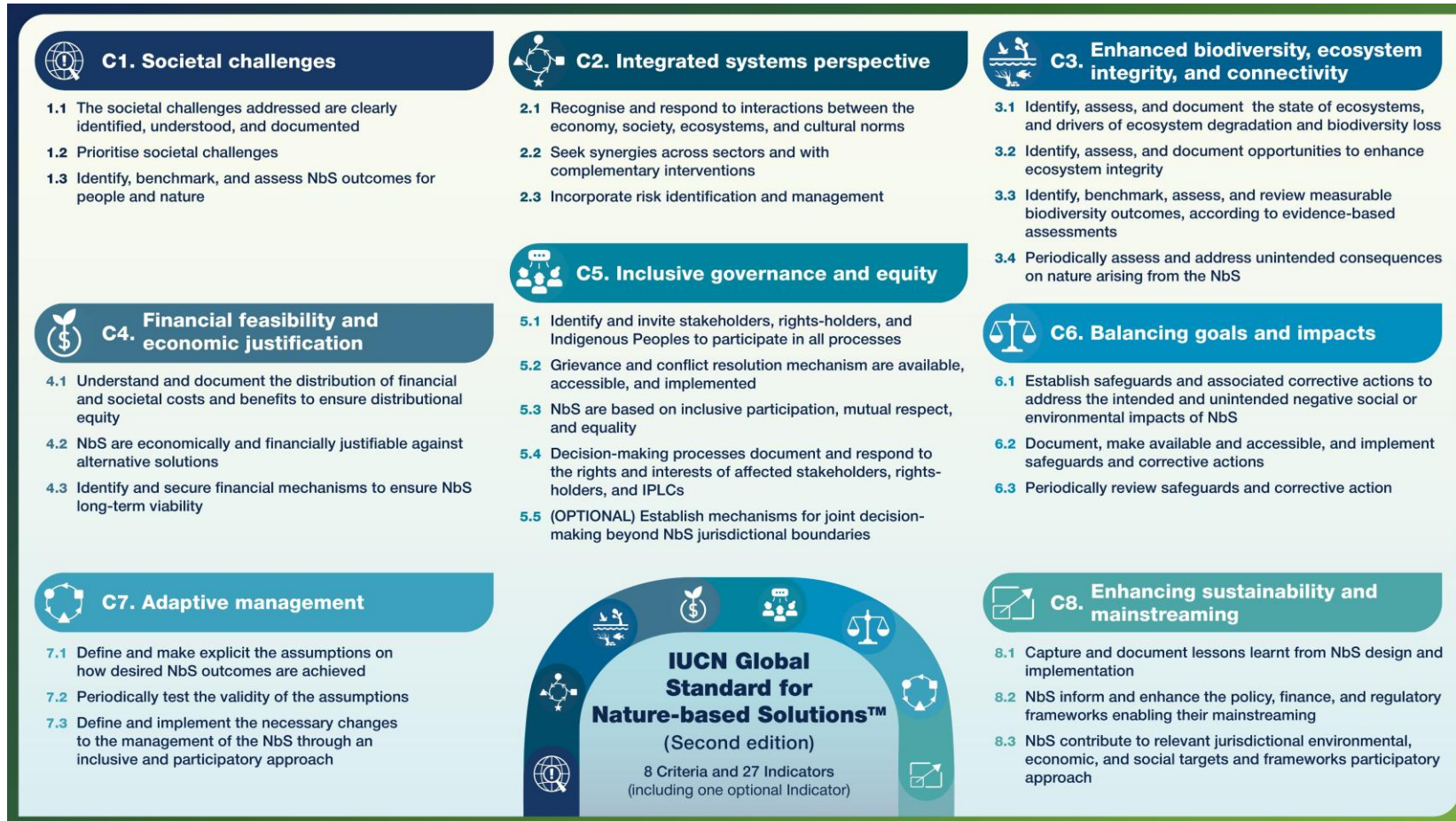


UNEP (2026). *State of Finance for Nature*

Scaling up NbS across the Rio Conventions – without compromising integrity

The IUCN Global Standard for NbS

8 interconnected criteria · 27 indicators



Globally developed
800+ experts and practitioners
from 100+ countries

Designed for action
Guiding the design, assessment
and continuous improvement

Applicable across contexts
Governments, practitioners,
funders and communities

**A practical framework for
high-integrity NbS**

From integrity to investment readiness

What makes NbS credible – and why it matters for investment

What does high integrity mean in practice?



Measurable benefits for people and biodiversity

Real outcomes, not just activities



Inclusive governance and safeguards

Meaningful participation and fair management of trade-offs



A systems perspective

Across the basin and beyond the project site



Long-term performance

Monitoring, adaptive management and lasting benefits

How the Global Standard supports investment readiness

- **Better project design:** identifying strengths, gaps and risks early
- **Economic and financial viability (Criterion 4):** assessing costs, benefits, alternatives and long-term financing
- **Greater accountability and confidence:** a shared basis for governments, donors and investors

High-integrity NbS provide a stronger foundation for investment

THANK YOU!

Ms Susanne Pedersen

Director, Centre for Science and Knowledge
Acting Head of Nature-based Solutions
IUCN

22 Oct. 2026 | CBD COP17 | NETHERLANDS PAVILION



Riverbed erosion in the Waal and the Integrated Multi-Channel System

The challenge

Ongoing riverbed erosion leads to:

Lower groundwater levels and drought

Reduced navigability at low water

Loss of biodiversity

Increased flood risk from higher discharge peaks

The vision: Integrated Multi-Channel System

Measures

Natural longitudinal dams

Year-round side channels

Lower summer dikes

Natural landscaping



Contributes to three national programmes

PAGW
Nature and water quality

HWBP
Flood protection

Room for the River 2.0
Riverbed and navigation



Benefits for the surrounding area

Water security

Water availability

Living environment and recreation

Health and wellbeing

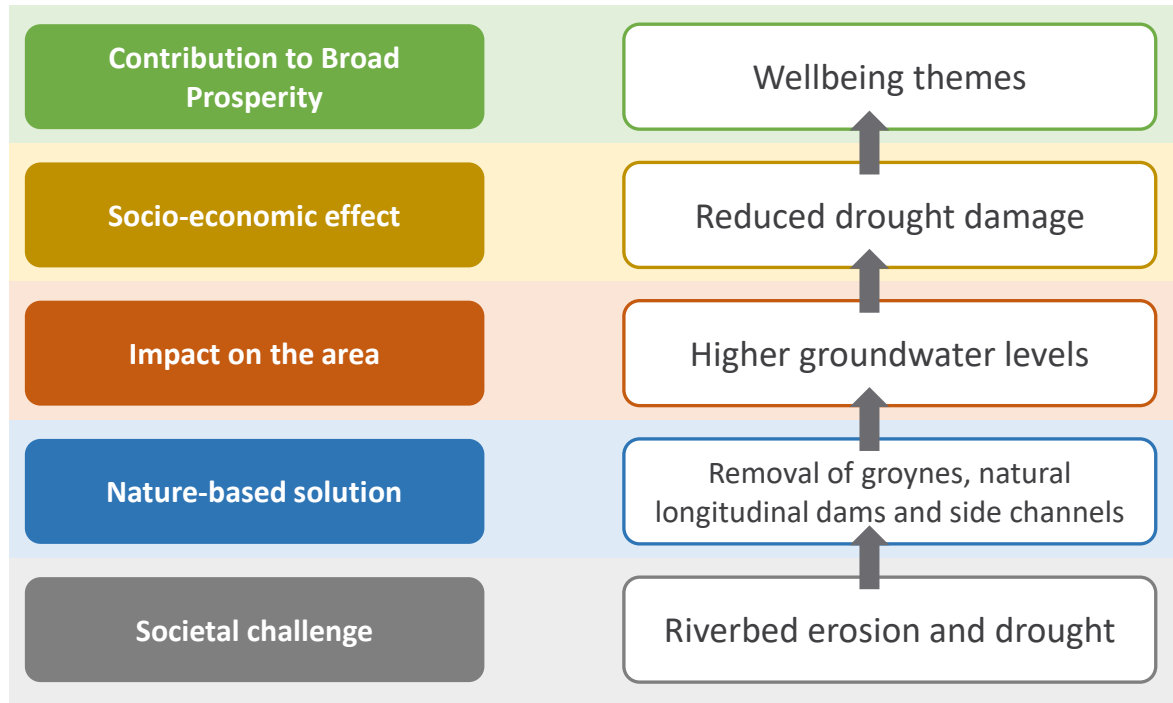
Local economy and nature education

Biggest barriers towards NbS realisation

1. Broad socio-economic effects are not entirely visible
2. Timing of costs and benefits
3. Capturing dispersed benefits

Identifying and valuing the benefits of nature-based solutions

The SEIS chain, with an example



Benefits and valuation methods

Nature targets

Avoided costs of meeting targets elsewhere

Agriculture and property

Avoided drought damage

Ecosystem services

Environmental prices and CO₂ price

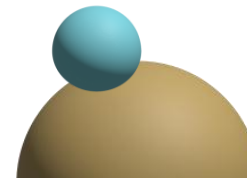
Living environment

Property values: approx. +1%

Flood protection

Avoided costs of dike reinforcement

The SEIS identifies what to value and how; quantification is the next step.



Integrated Multi-Channel System

Contribution to societal challenges (Broad Prosperity themes)

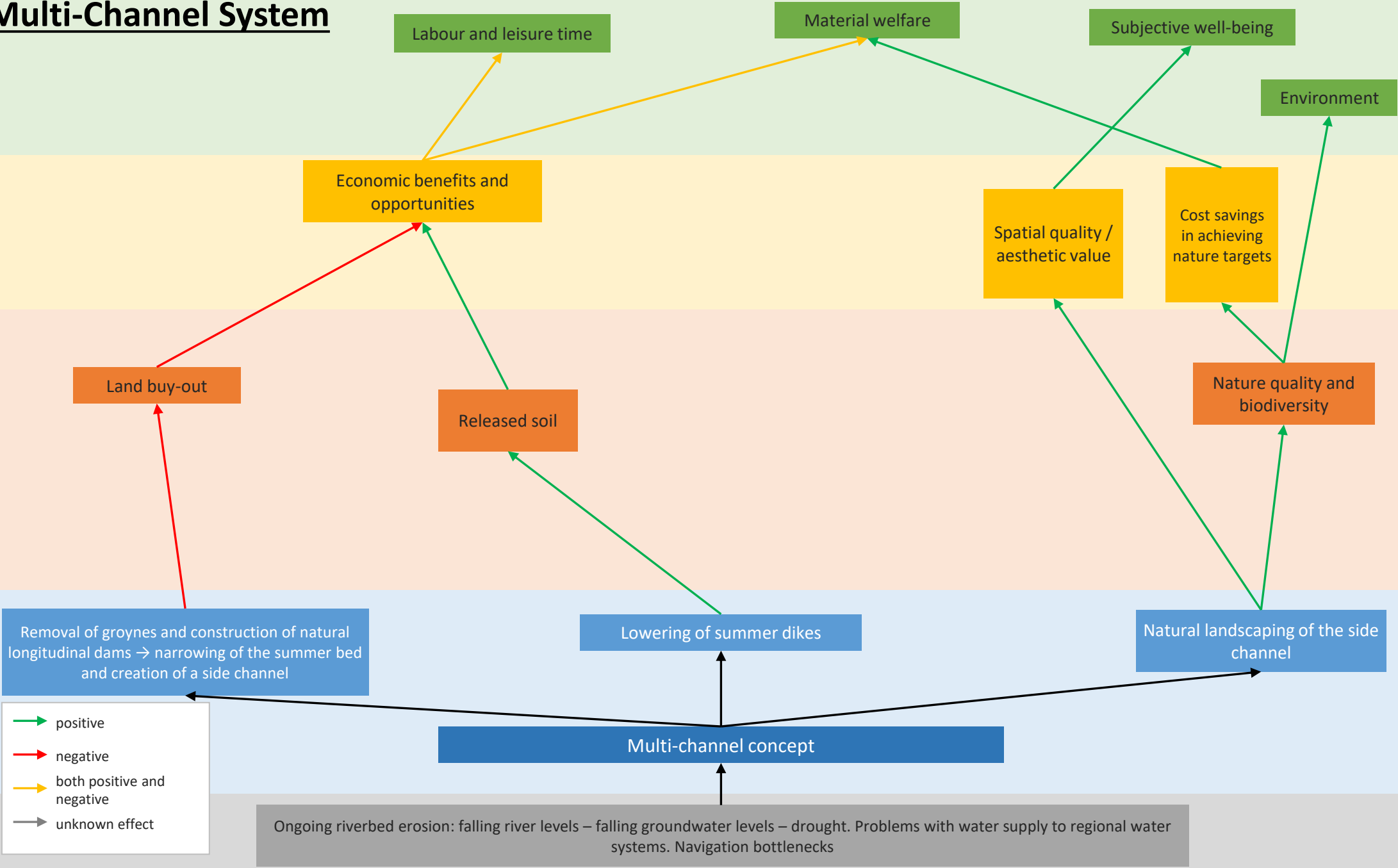
Socio-economic effects

(In)direct impact on the area

Nature-based solution

NbS system solution

Societal challenge (current situation)





NL2120 and PAGW: a science–policy partnership

Partners

PAGW

Policy

Knowledge of the measures, network,
organisation of expert sessions

×

NL2120

Science

SEIS method, expertise on socio-
economic effects

Actors in the landscape

Inland shipping · farmers · residents ·
drinking water companies · industry ·
recreation businesses · municipalities

In-kind contributions

Equal input

Joint ownership of results

Actors involved in the Waal case

Case selection

PAGW, HWBP and Room for the River 2.0

Expert session on the measures

Bureau Strooming and NL2120; water boards, landowners

Expert session on socio-economic effects

Specialists in Wellbeing, e.g. provincial experts

Knowledge base

WUR, Deltares, Arcadis, HKV, Ecorys/Sweco



Joint report

NL2120 & PAGW, February 2026

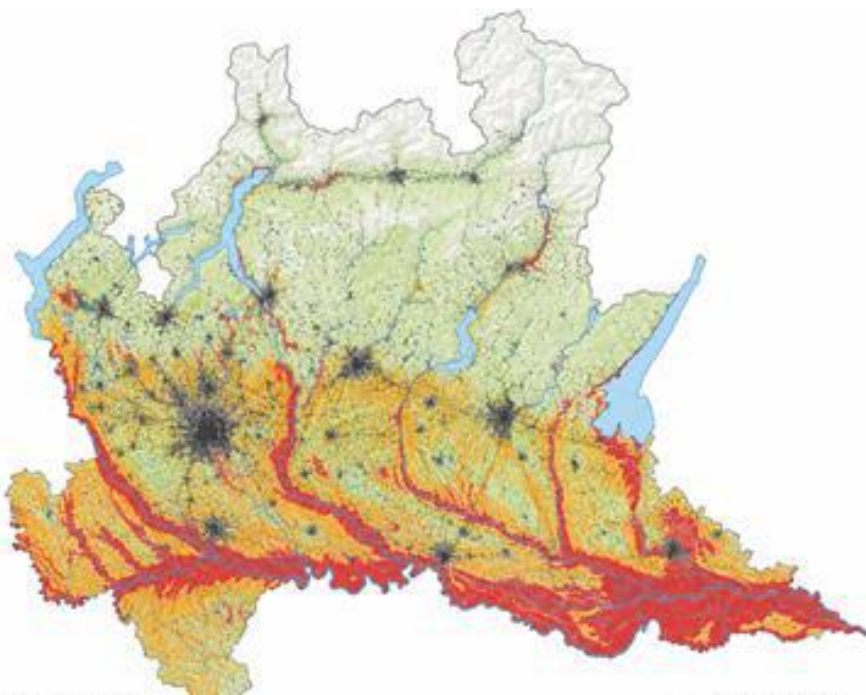
Questions?

Finn.speijer@wur.nl

marcia.arredondorivera@wur.nl

Place and problem: flood risk in Lombardy

Italy · Lombardy Water Resilience Initiative



HYDRAULIC HAZARD (PGRA)

■ P1 – Low hazard Rare floods (return periods up to 500 years)	■ P2 – Medium hazard Infrequent floods (return periods 100–200 years)	■ P3 – High hazard Frequent floods (return periods 20–50 years)
--	--	---

POPULATION DENSITY

■ Low density
■ Medium density
■ High density

Exposure to medium and high flood hazard

20%

of the territory (1 km² in 5)

1 in 5

people living in medium- and high-hazard areas

75,000 (8%)

local production units exposed

80 billion

of productive economic capital exposed

The gap

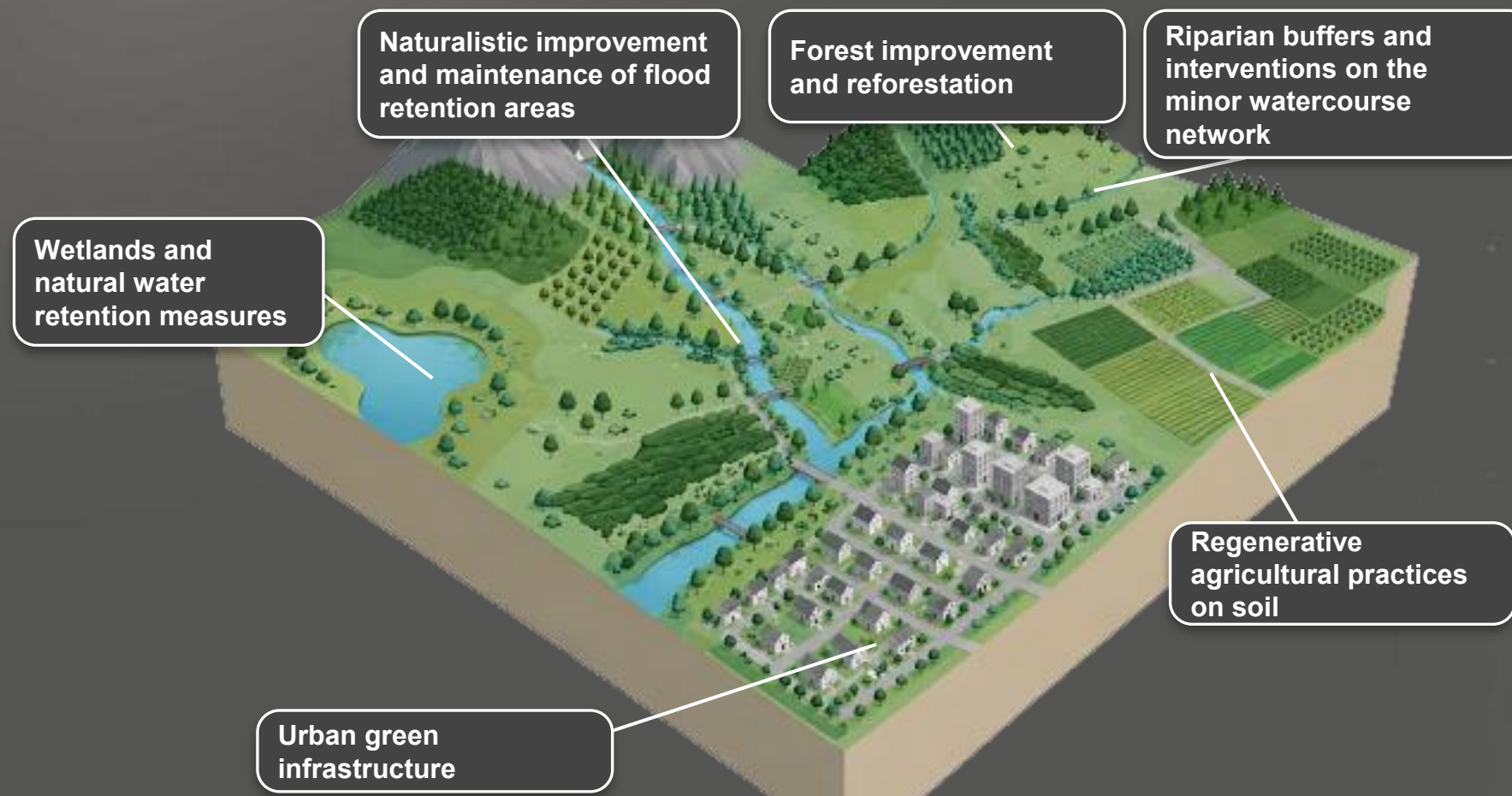
- A plan for **75 flood retention basins**, of which **45 already completed**
- **Borrowing capacity** available for construction (CAPEX), but difficulty in securing funds for **high operating costs** (OPEX)
- Design and construction with **little attention to biodiversity and multifunctionality**; **limited communication** to citizens and businesses

Desired outcome: a public-private collective action with shared challenges and objectives to improve water resilience and generate positive impacts on nature in Lombardy.

Solution and evidence: a multifunctional NbS pipeline

Italy · Lombardy Water Resilience Initiative

Nature-based Solutions and the Nexus approach

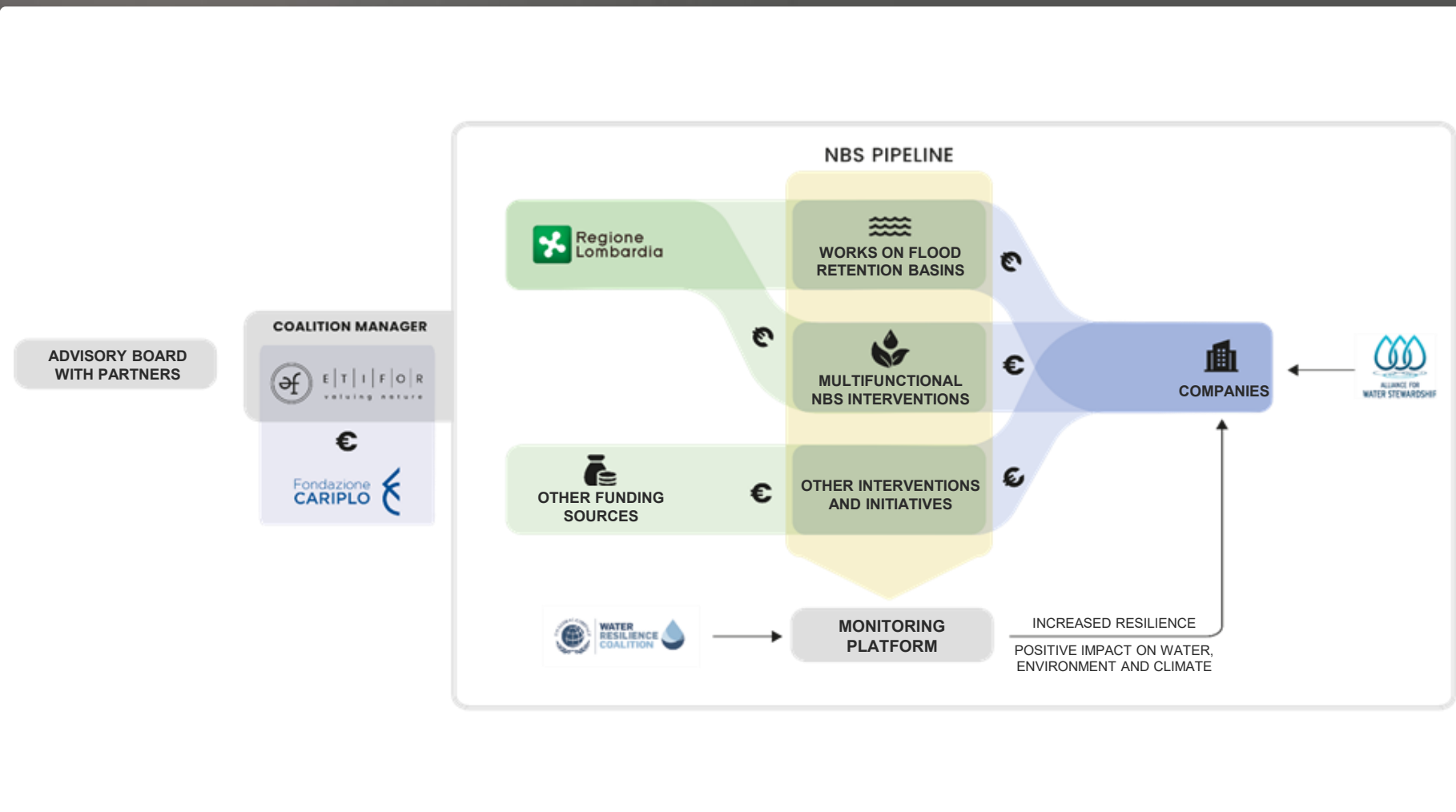


Integrity safeguards

- **Alliance for Water Stewardship (AWS)** standard
- **CEO Water Mandate** governance
- **Water Volumetric Benefit Accounting** (SDG 6) metrics
- **SBTN** science-based targets and **TNFD (LEAP)** nature-risk management
- Aligned with the **Water Framework Directive**, **Po PGRA**, **Nature Restoration Law** and **Natura 2000**

Value and scale: a public-private finance model

Italy · Lombardy Water Resilience Initiative



Beneficiaries and potential payers

Companies (lower flood and water risk, freshwater targets, CSRD/TNFD reporting), the Region and citizens living in exposed areas

Lifecycle cost and stewardship

Construction is fundable through borrowing; **operation and maintenance (OPEX)** needs new co-funding. Blended finance uses **public capital to de-risk** and unlock private finance

Key barrier

Securing long-term funding for **operating costs** and for the biodiversity value of the basins

Next step for replication

Launch with **Founders** in the Advisory Board, regional basin diagnosis and NbS pipeline; same collective-action model as the **Arno Basin Water Resilience Lab** (Tuscany)

Reference standards and methodologies

Governance

CEO Water Mandate

Initiative of the UN Secretary-General and the UN Global Compact for the sustainable management of water resources on a global scale.

Mitigation

SBTN & LEAP Framework

SBTN: Science-based targets for biodiversity and water.

TNFD (LEAP): Proactive management of nature-related risk.

Metrics

Water Volumetric Benefit Accounting

Methodology for measuring the value of water management activities, aligned with the Sustainable Development Goals (SDG 6).

Stewardship

Alliance for Water Stewardship (AWS)

International standard for the responsible and collective use of water through a single reference framework.



Convention on Biological Diversity COP17
Netherlands Pavilion | 22 October 2026

The Mainstreaming of NbS: Hong Kong's Path from Policy Guidance to Urban Implementation

CHAN Kin-fung, Simon
Assistant Director (Conservation)
Agriculture, Fisheries and Conservation
Department, Hong Kong SAR Government



Inside Hong Kong's blues and greens

Restricted Areas
specifically for wild animals protection

Mai Po Ramsar Site
supports **~60,000** waterbirds every year

Marine Parks & Marine Reserve

protecting **>8,500** ha of waters

Land use zonings for conservation

- 67 Sites of Special Scientific Interest
- Conservation Area
- Coastal Protection Area

25 Country Parks & 22 Special Areas

protecting **40%** of total land area

Pressing societal challenges

Super typhoons & coastal vulnerabilities

Increased flood risk

Urban heat island & heat waves

Biodiversity loss



Hong Kong Nature-based Solutions Design Guidelines



A Framework for Practitioners



- Co-published by works and conservation departments
- Provides practical planning and design guidelines for **infrastructure** and **development** projects to address societal challenges, all while delivering biodiversity, resilience and community benefits
- Applicable to different local environments

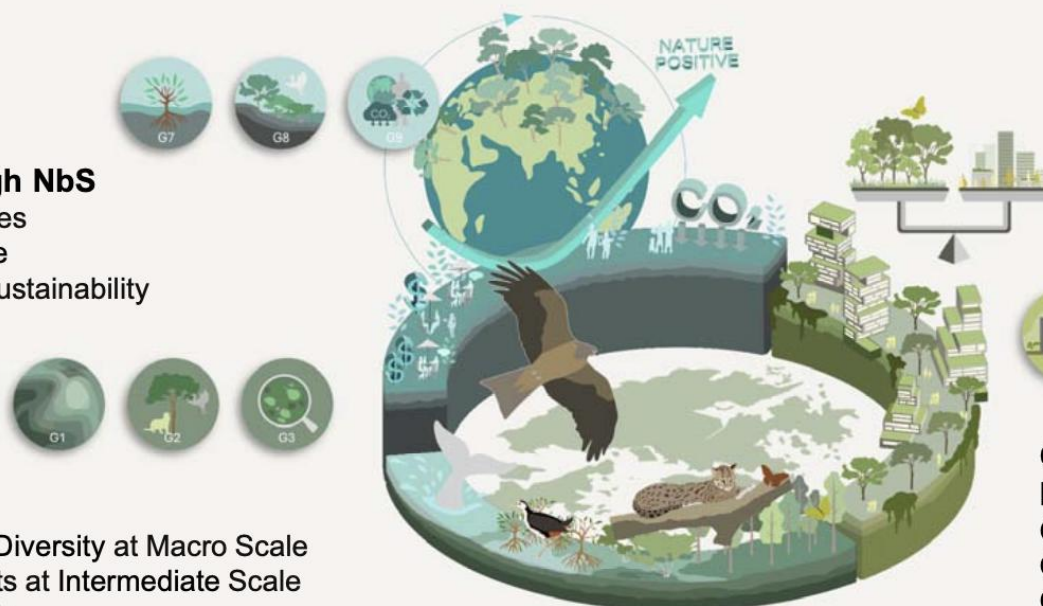


Core Principle III: Improving Resilience Through NbS

G7: Addressing Climate Challenges

G8: Building Ecological Resilience

G9: Promoting Socio-economic Sustainability



Core Principle I: Promoting Ecosystem Diversity at Multiple Scales

G1: Enhancing Habitat and Spatial Diversity at Macro Scale

G2: Diversifying Habitat Components at Intermediate Scale

G3: Creating Complex Micro-habitats

Core Principle II:

Embracing Human-Nature Coexistence for Mutual Benefit

G4: Addressing Societal Challenges through NbS

G5: Designing Human-Nature Composition in Context

G6: Harmonising Urban-Nature Transitions



Hong Kong Nature-based Solutions Design Guidelines

A Framework for Practitioners



Long Valley Nature Park

Restores various types of wetland habitats and manage agricultural fields to support conservation, flood control, water purification, eco-education, recreation



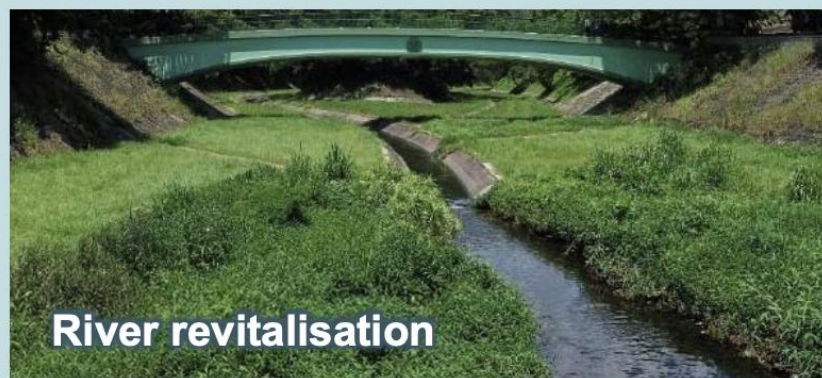
Wetland Conservation Parks System
(under planning and development)

Restore and sustainably manage wetland habitats to promote biodiversity conservation and modern aquaculture



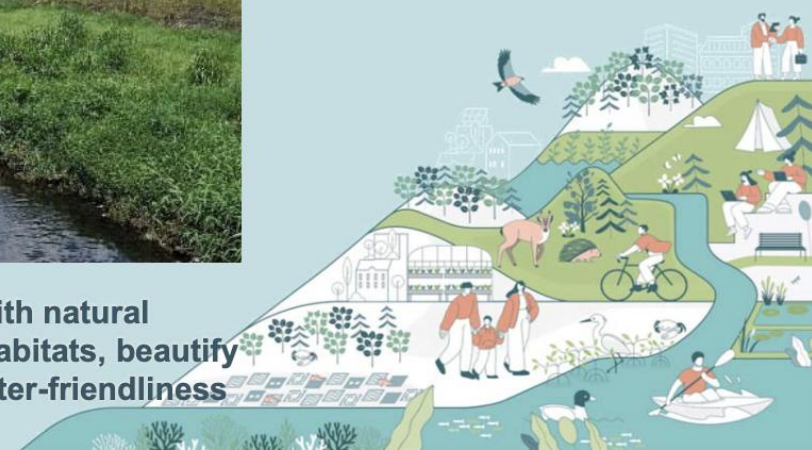
Eco-shorelines

Incorporate mangrove - planting, oyster basket and bio-blocks to strengthen coastal defense and improve coastal habitat diversity



River revitalisation

Re-naturalise concretised channels with natural riverbed and vegetations to restore habitats, beautify the neighbourhoods, and promote water-friendliness



Discussion

**What must be true —ecologically, institutionally and financially—
for a water-related Nature-based Solution to move from a strong concept
to a durable, investable landscape?**



Kitty Tam
Civic Exchange • Moderator



Susanne Pedersen
IUCN



Marcia Arredondo Rivera
Wageningen Social &
Economic Research / NL2120



Alessandro Leonardi
Etifor | Valuing Nature



Simon Chan
Agriculture, Fisheries and
Conservation Department,
HKSAR Government



COP17
YEREVAN ARMENIA
TAKING ACTION
FOR NATURE