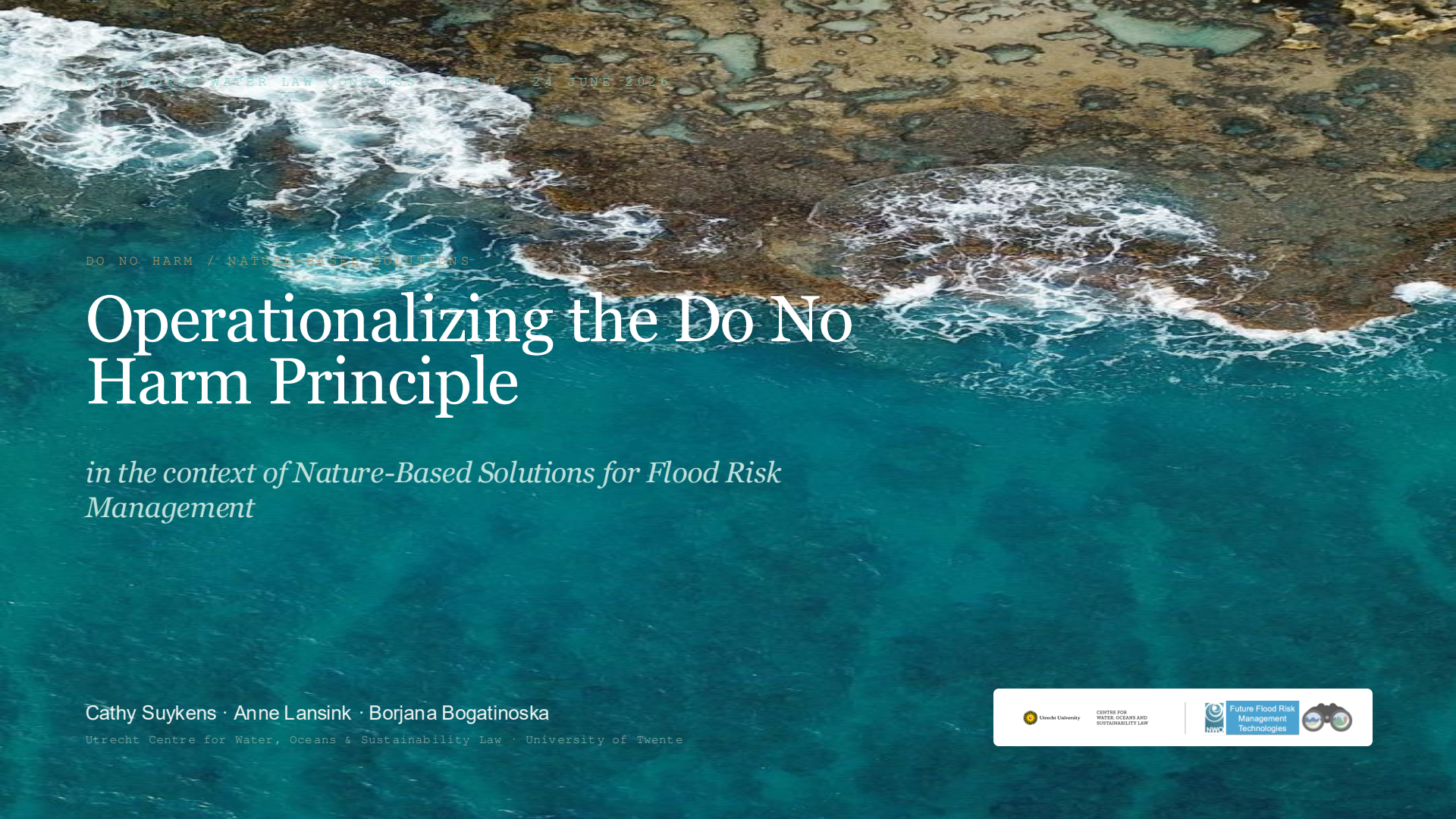


DO NO HARM / NATURE-BASED SOLUTIONS

Operationalizing the Do No Harm Principle

in the context of Nature-Based Solutions for Flood Risk Management

Cathy Suykens · Anne Lansink · Borjana Bogatinoska

Utrecht Centre for Water, Oceans & Sustainability Law · University of Twente

The Challenge

1. NBS implementation in practice remains limited
2. Absence of implementation criteria & guidance
3. The no-harm principle exists in both international and EU water/sustainability law
4. BUT: Rather vague at the international water law level
5. HOWEVER: Corporate sustainability rules (EU Taxonomy) provide a comprehensive framework
6. The Keteldelta concept confirms the practical relevance of the framework and provides a potential test case for further refinement.

What are Nature-Based solutions for Flood Risk Management?

Example UNEA 2022: *"Actions to protect, conserve, restore, sustainably use and manage natural or modified ecosystems which address social, economic and environmental challenges effectively and adaptively, while simultaneously providing human well-being, ecosystem services, resilience and biodiversity benefits."*

Examples

- Floodplain restoration
- River buffers & vegetated zones
- Coastal habitat preservation
- Hybrid grey-green measures

Co-benefits

- Flood risk reduction
- Water quality improvement
- Biodiversity enhancement
- Carbon sequestration

NBS in law and policy: some relevant examples

International

UNEA Resolutions (2022)
Kunming-Montreal Global Biodiversity Framework

EU Level

EU Climate Law
Nature Restoration Regulation
Floods Directive

National

Growing permeation in national legislation
Nationally Determined Contributions (NDCs)

Barriers to NBS implementation

Scientific uncertainty	Effectiveness for flood risk reduction difficult to quantify
Fragmented governance	Multiple institutions across water, nature, spatial planning
Spatial & property demands	Large land areas needed; complex property rights
Cost & accountability	Unclear allocation and long-term responsibility
Lack of standards	**No clear guidelines - risk of greenwashing**

The No-Harm Rule in International Water law

Foundation
Limited territorial sovereignty & equitable utilization

UN Watercourses Convention, Art. 7
"Take all appropriate preventative measures to prevent causing significant harm to other watercourse States"

Approach: Due diligence
Obligation of conduct, not absolute prohibition

Threshold: "Significant" harm
Beyond minor inconvenience - BUT operationally VAGUE

Key Cases

Trail Smelter (1941)
Transboundary pollution

Corfu Channel (1949)
Obligation not to allow territory for acts contrary to rights of other states

Stockholm Principle 21
Responsibility to ensure activities do not cause transboundary damage

The no-harm rule in EU water law

Floods Directive - Solidarity Principle (Art. 7(4))

Flood risk management measures should not significantly increase flood risks in other Member States

- Similar "significance" threshold to international law
- More limited in scope (focused on flood risk transfer)
- Still lacks clear operational guidance for NBS practitioners

The Gap: Both international and EU water law establish the no-harm obligation, but neither provides operational guidance on how to assess harm from NBS specifically.

EU Sustainability Law: a comprehensive framework

EU Taxonomy Regulation

Substantial Contribution

Contributes to 1 of 6 environmental objectives

Do No Significant Harm (DNSH)

Does not significantly harm any other objective

Minimum Social Safeguards

OECD & UN human rights compliance

operationalization

- Technical Screening Criteria provide specific indicators and thresholds
- Links to established legal procedures (EIA, Habitats Directive)
- Quantitative targets (e.g., 70% waste recycling)

The Six EU environmental objectives

1 **Climate change mitigation**

reduce emissions

2 **Climate change adaptation**

build resilience

3 **Sustainable use and protection of water and marine resources**

primary for NBS

4 **Transition to circular economy**

waste & materials

5 **Pollution prevention and control**

reduce pollutants

6 **Protection and restoration of biodiversity and ecosystems**

protect nature

Objective 3 (Water) = primary objective for NBS-FRM; DNSH applies to the other five

EU Taxonomy Applied to NBS for Flood Risk Management

Scope	Planning, construction, extension, and operation of large-scale NBS
Classification	Sustainable use and protection of water and marine resources (Objective 3)
Substantial Contribution	Quantifiable, time-bound targets; no deterioration rule compliance; monitoring
DNSH	Assessment across all five remaining environmental objectives

DNSH Criteria: Operationalizing the No-Harm Rule

Environmental Objective	DNSH Requirement
Climate Mitigation	Avoid degrading ecosystems with high carbon storage capacity
Climate Adaptation	Conduct Climate Risk and Vulnerability Assessment (CCRVA)
Circular Economy	70% waste reuse/recycling target for non-hazardous construction waste
Pollution Prevention	Reduce pesticide use, minimize fertilizers, avoid manure application
Biodiversity	Environmental Impact Assessment + appropriate assessment; invasive species management

Mix of procedural requirements + substantive targets = concrete guidance

Lessons learned from the EU Taxonomy

Two Key Contributions for NBS Assessment

1 **Holistic Set of Environmental Criteria**

Covers all six environmental dimensions systematically, preventing siloed assessments

2 **Links to Specific Legal Procedures & Targets**

Connects to quantitative targets and established procedures (EIA, appropriate assessments)

Together: makes NBS obligations more concrete and tangible, reducing greenwashing risk

CASE STUDY

The Dutch Keteldelta

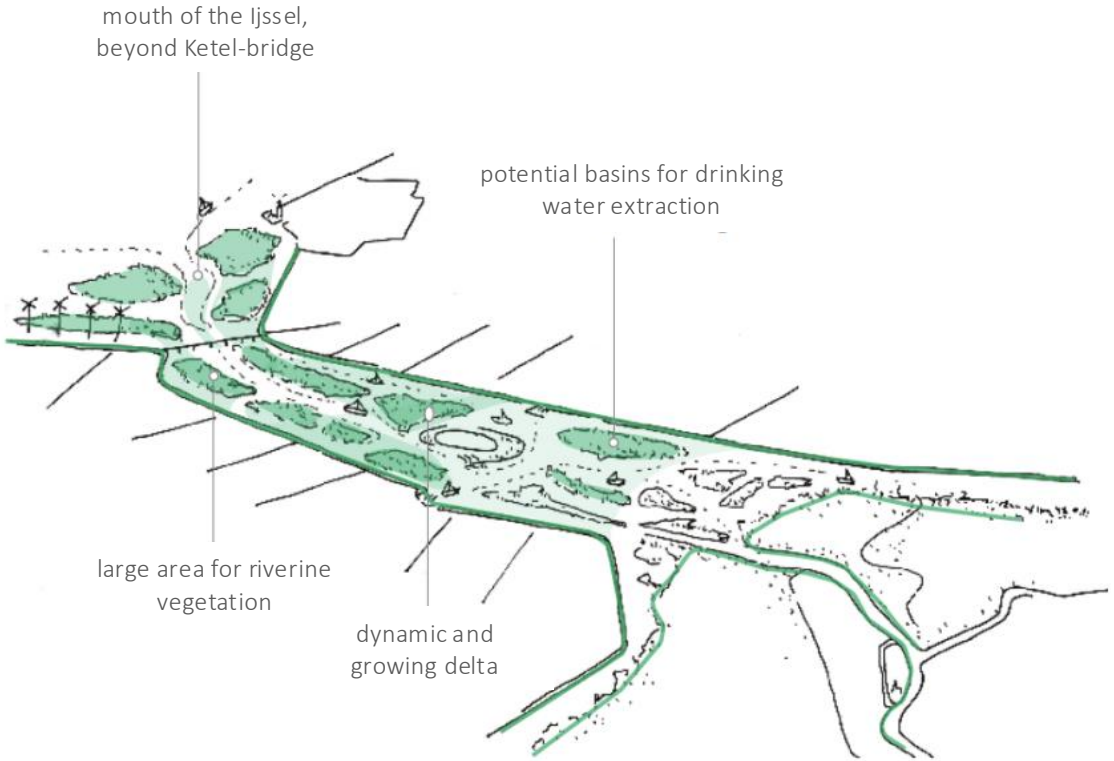
IJsselvecht Delta, Netherlands

Concept
Transform Ketelmeer into a "Biesbosch-like" river-delta landscape

Policy Context
"Water and soil as guiding principles" policy

Key Features

- Reed marshes and wetlands
- Channels and waterways
- Sand bars and platforms
- Floodplain forests
- Ecological land-water transitions



Source: rivierverhalen.nl

Keteldelta: Building Blocks

Morphological / Hydraulic	Ecological	Governance
• Storm surge damping	• Lowland marsh creation	• Synergy platform
• Sediment management	• Land-water transitions	• HWBP integration
• Wave attenuation	• Habitat networks	• PAGW coordination
• Water level regulation	• Species connectivity	• Room for River 2.0

Applying DNSH to Keteldelta

Step 1. Define the assessment dimensions	Step 2. Translate each objective to case-assessment questions
1. Climate change mitigation	Does the intervention disturb carbon-rich soils/sediments? Are there likely emissions from construction, dredging, nourishments, vegetation removal?
2. Climate change adaptation	Does the intervention reduce flood risk under future climate scenarios? Has a climate risk and vulnerability assessment been carried out? Could it redistribute flood or wave risks elsewhere?
3. Sustainable use and protection of water and marine resources	is there a risk of deterioration of ecological or chemical water status? Is the intervention aligned with WFD objectives?
4. Circular economy	Are dredged sediments or excavated materials reused? Is construction waste minimized? Does the design avoid unnecessary material use?
5. Pollution prevention and control	Could nutrient release, contaminated sediments, agricultural runoff, or construction emissions create pollution risks? Are measures proposed to monitor/control these?
6. Biodiversity and ecosystems	What habitats are likely to be created, improved, degraded or displaced? Are Natura 2000 sites affected? Is there risk of invasive species spread? Are trade-offs between open-water habitats and marsh/floodplain habitat explicitly addressed?

Developing an assessment scale (example)

OBJECTIVE	ASSESSMENT QUESTION	EVIDENCE FROM KETELDELTA	PRELIMINARY JUDGMENT	EVIDENCE STRENGTH	KEY LEGAL/PROCEDURAL IMPLICATION
Climate adaptation	Could water levels/wave dynamics shift flood risk elsewhere?	Concept documents mention wave damping and altered morphology	Uncertain / requires modelling	Low-medium	Basin-scale hydrodynamic modelling needed
Water resources	Could sediment mobilization affect water quality?	Dredging/nourishment implied in concept	Potential DNSH risk	Medium	Sediment quality assessment + WFD check
Biodiversity	Could new delta habitats improve biodiversity while harming open-water habitat?	Concept emphasizes reed marshes and floodplain habitats	Mixed trade-off	Medium	Habitat-specific assessment + AA if protected sites affected

Possible categories:
- Likely aligned
- Potential risk
- Uncertain / insufficient evidence
- Likely conflict
- Not applicable

Limitations and Considerations

- Procedures do not guarantee neutral/positive outcomes
- Non-binding nature of some procedures
- Derogation possibilities in appropriate assessments
- Focus on certain nature types may exclude others
- Criteria not written in stone - can be amended with experience

Conclusions

- The no-harm rule provides a clear legal basis in both international and EU law
- EU Taxonomy DNSH criteria offer a comprehensive framework to operationalize it
- Corporate sustainability law provides what water law lacks: specific assessment criteria
- Combination: holistic indicators + legal procedures + quantitative targets
- Structured starting point that can be refined with practice and science

Bridges the gap between ambition and execution for NBS implementation

Way Forward

Principled legal framework

Develop practically implementable criteria grounded in the no-harm rule

Learn from practice

Real-world NBS projects like Keteldelta test and refine criteria

Balance consistency & flexibility

Specific enough to guide, flexible enough for local context

Evolving knowledge base

Scientific understanding and practical experience should continuously refine the framework

Thank you

Questions & discussion

Cathy Suykens
Utrecht Center for Water, Oceans and Sustainability Law
Utrecht University

Anne Lansink
Utrecht Center for Water, Oceans and Sustainability Law

Borjana Bogatinoska
University of Twente, Dept. of Civil Engineering & Management

Corporate sustainability law (EU Taxonomy) can operationalize the vague no-harm principle from international water law

Utrecht University

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