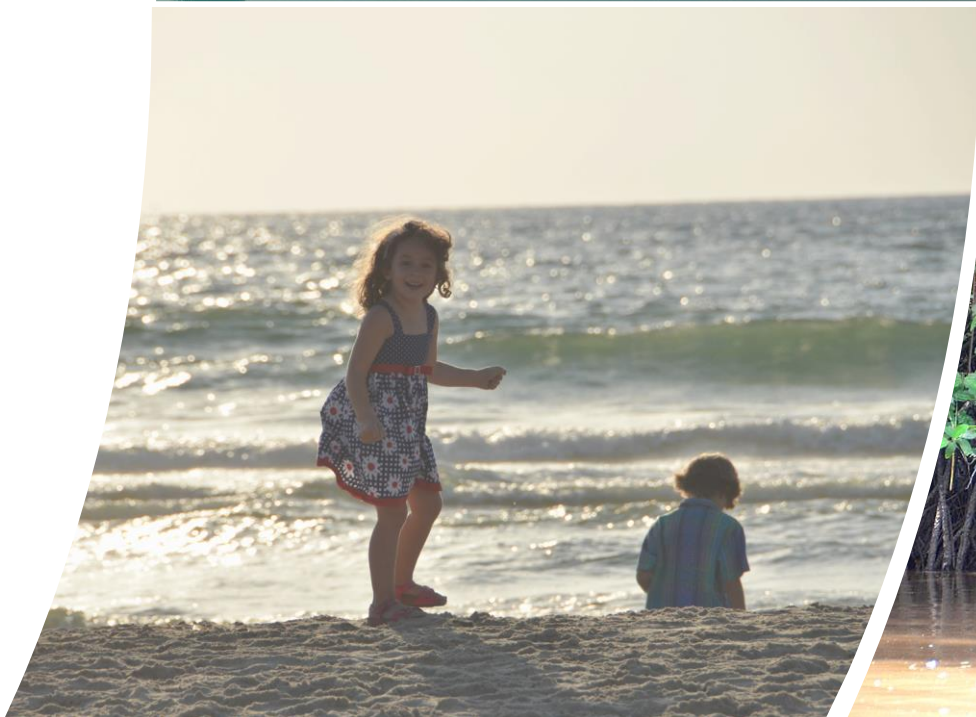


Defining and implementing Nature-based Solutions

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Thematic Group Lead



*Universitat Politècnica de València, Spain
September 22nd, 2022*

Evolution of Nature-based Solutions

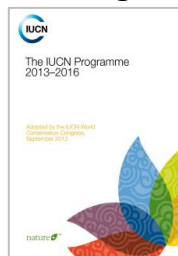
Definitional framework



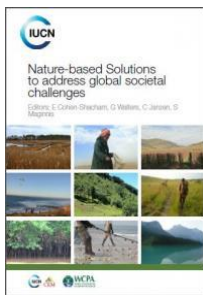
Operational framework



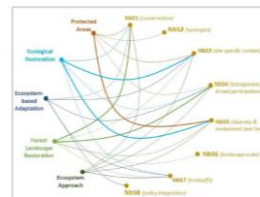
NbS - 1/3 of IUCN's Global Programme



Resolution 069 &



Work on NbS principles



Global Standard for NbS



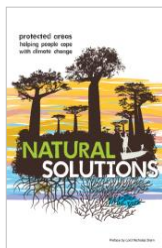
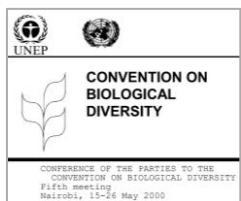
Use of the term

WCC2012

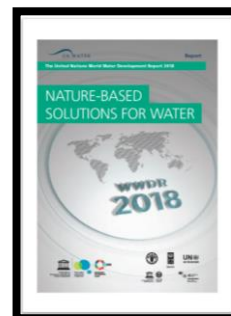
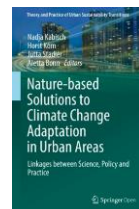
WCC2016

WCC2021

2000 2002 ... 2010 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022



NbS at core of EU Research & Innovation Programme



Global Biodiversity Outlook 5



Scientific literature

Nature-based Solutions Definition:

“Actions to protect, manage and restore natural or modified ecosystems, which address societal challenges, effectively and adaptively, providing human well-being and biodiversity benefits”.



- **Main societal challenges:** climate change, natural disasters, social and economic development, human health, food security, water security, ecosystem degradation and biodiversity loss.
- The CBD **Ecosystem Approach** is the foundation of NbS.



8 principles for Nature-based Solutions

Nature-based Solutions:

1. **Embrace nature conservation**
2. Can be implemented with **other solutions to societal challenges**
3. Are determined by **site-specific natural and cultural contexts**
4. Produce **societal benefits** in a fair and equitable way
5. Maintain **biological and cultural diversity**
6. Are applied at a **landscape scale**
7. Recognise and address the **trade-offs between immediate economic benefits** for development, and future production of ecosystems services
8. Are an **integral part of the overall design**



1. Ecosystem protection approaches

AbC

2. Issue-specific ecosystem-related approaches

EbA

EbM

Eco-DRR

3. Infrastructure-related approaches

GI

NI

4. Ecosystem-based management approaches

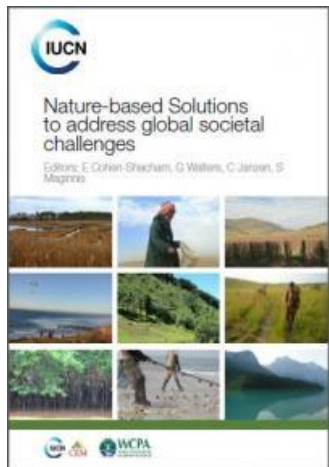
EbMgt

5. Ecosystem restoration approaches

ER

EE

FLR



Links between NbS principles and principles in 5 frameworks

Environmental Science and Policy 98 (2019) 20–29

Contents lists available at ScienceDirect

Environmental Science and Policy

journal homepage: www.elsevier.com/locate/envsci

Core principles for successfully implementing and upscaling Nature-based Solutions

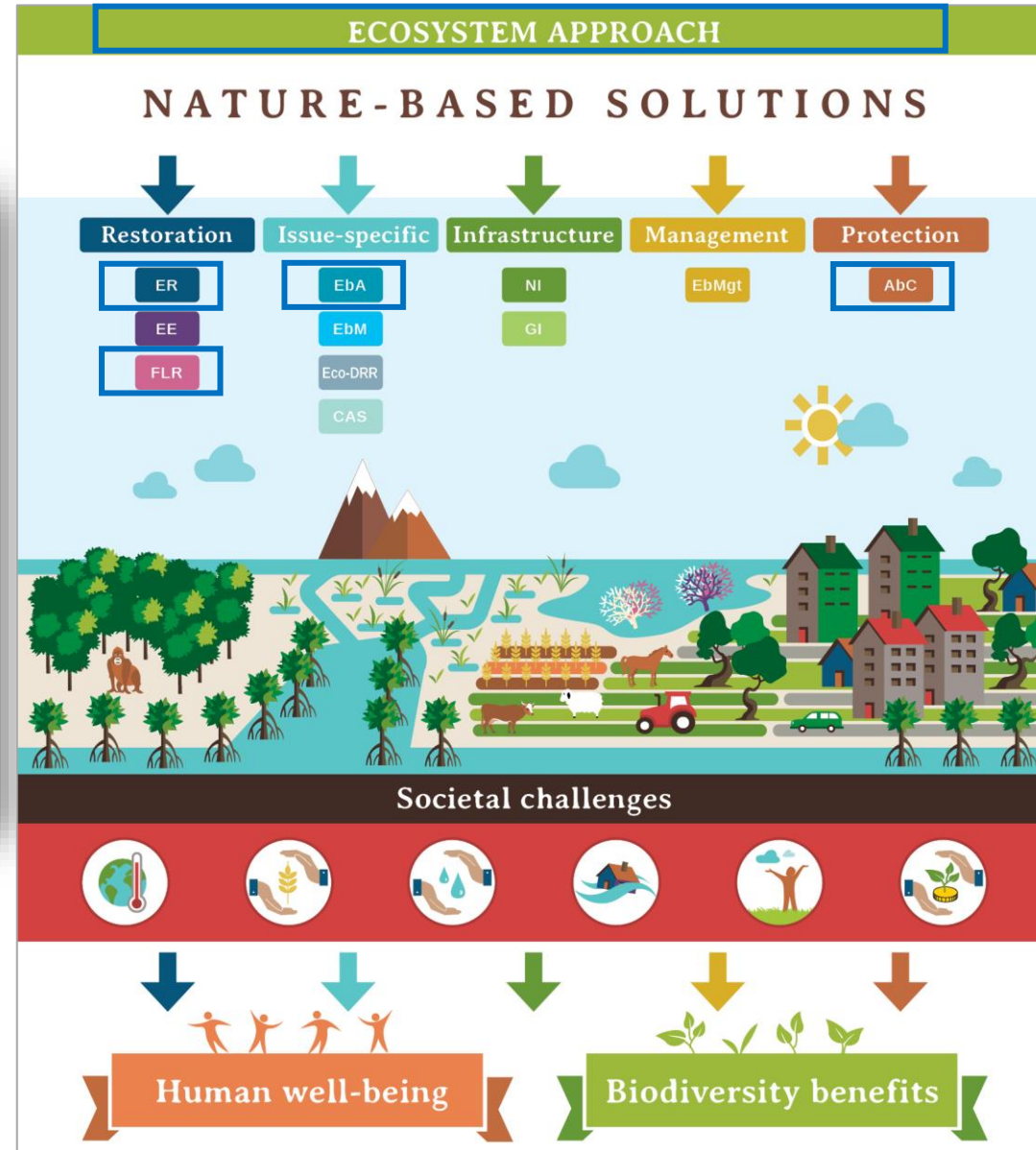
Emmanuelle Cohen-Shacham^{a,b,*}, Angela Andrade^{a,c}, James Dalton^d, Nigel Dudley^{a,f}, Mike Jones^{a,g}, Chetan Kumar^d, Stewart Maginnis^d, Simone Maynard^{a,h}, Cara R. Nelson^{a,i}, Fabrice G. Renaud^{a,j}, Rebecca Welling^d, Gretchen Walters^{d,k,l}

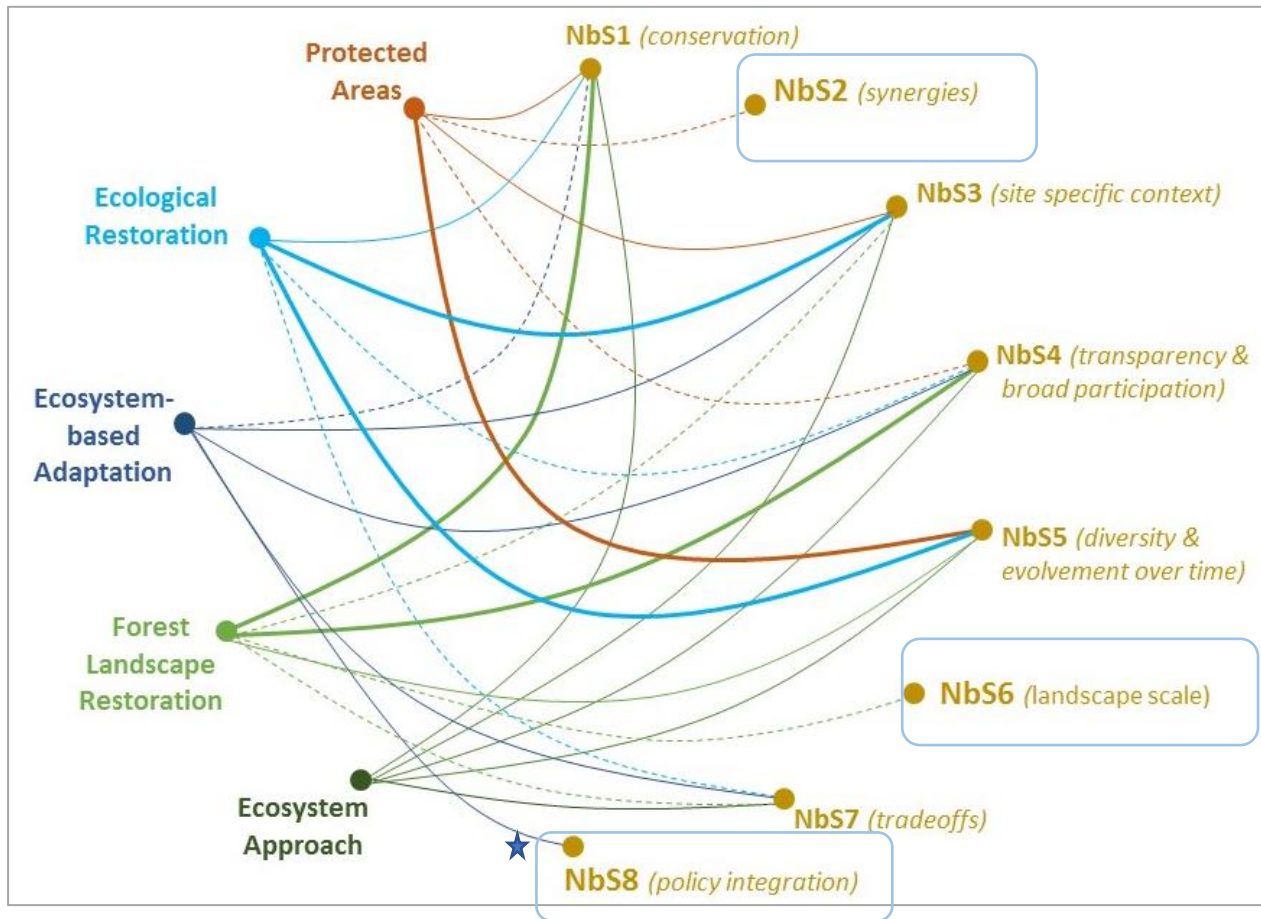
^a Commission on Ecosystem Management, International Union for the Conservation of Nature, 28 Rue Mauverney, 1196, Gland, Switzerland
^b The Steinhardt Museum of Natural History, Tel Aviv University, Israel
^c Conservation International-Colombia, Carrera 13 No. 71-41, Bogotá, Colombia
^d International Union for Conservation of Nature, Nature-Based Solutions Group, 28 Rue Mauverney, 1196, Gland, Switzerland
^e School of Earth and Environmental Sciences, University of Queensland, St Lucia, QLD, 4072, Australia
^f Equilibrium Research, 47 The Quays, Cumberland Road, Bristol, BS1 6UQ, United Kingdom
^g Swedish Biodiversity Center, Almas allé 8, 750 07, Uppsala, Sweden
^h Australian Rivers Institute, Griffith University, Queensland, Australia
ⁱ Department of Ecosystem and Conservation Sciences, Franke College of Forestry and Conservation, University of Montana, Missoula, MT, United States
^j School of Interdisciplinary Studies, University of Glasgow, Dumfries Campus, Bankend Road DG1 4ZL, United Kingdom
^k Department of Anthropology, University College London, WC1E 6BT, London, United Kingdom
^l Institute of Geography and Sustainability, University of Lausanne, Lausanne, Switzerland

ARTICLE INFO **ABSTRACT**

Keywords: Nature-based Solutions

Despite substantial increases in the scope and magnitude of biodiversity conservation and ecological restoration, there remains ongoing degradation of natural resources that adversely affects both biodiversity and human well-





Specific terms **missing / not sufficiently emphasized** in the NbS principles:

- Adaptive management & governance
- Effectiveness
- Uncertainty
- Multi-stakeholder participation
- Temporal scale & Long-term stability

Definitional / Conceptual framework

8 Principles:

1. Embrace **nature conservation**
2. Can be implemented **with other solutions** to societal challenges
3. Are determined by **site-specific natural and cultural context**
4. Produce societal benefits in a **fair and equitable way**
5. Maintain **biological and cultural diversity**
6. Are applied at a **landscape scale**
7. Recognise and address the **trade-offs** between immediate economic benefits for development, and future production of ecosystems services
8. Are an **integral** part of the overall design

2014-2016

Missing terms:

- **Adaptive management & governance**
- Effectiveness
- **Uncertainty**
- **Multi-stakeholder participation**
- **Temporal scale & Long-term stability**

2017-2018

Operational framework

8 Criteria (and 28 indicators):

1. **Societal challenges**
2. Design at **scale**
3. **Biodiversity net-gain**
4. **Economic feasibility**
5. Inclusive **governance**
6. Balance **tradeoffs**
7. **Adaptive management**
8. **Mainstreaming and Sustainability**

2018-2020

& Global Consultation

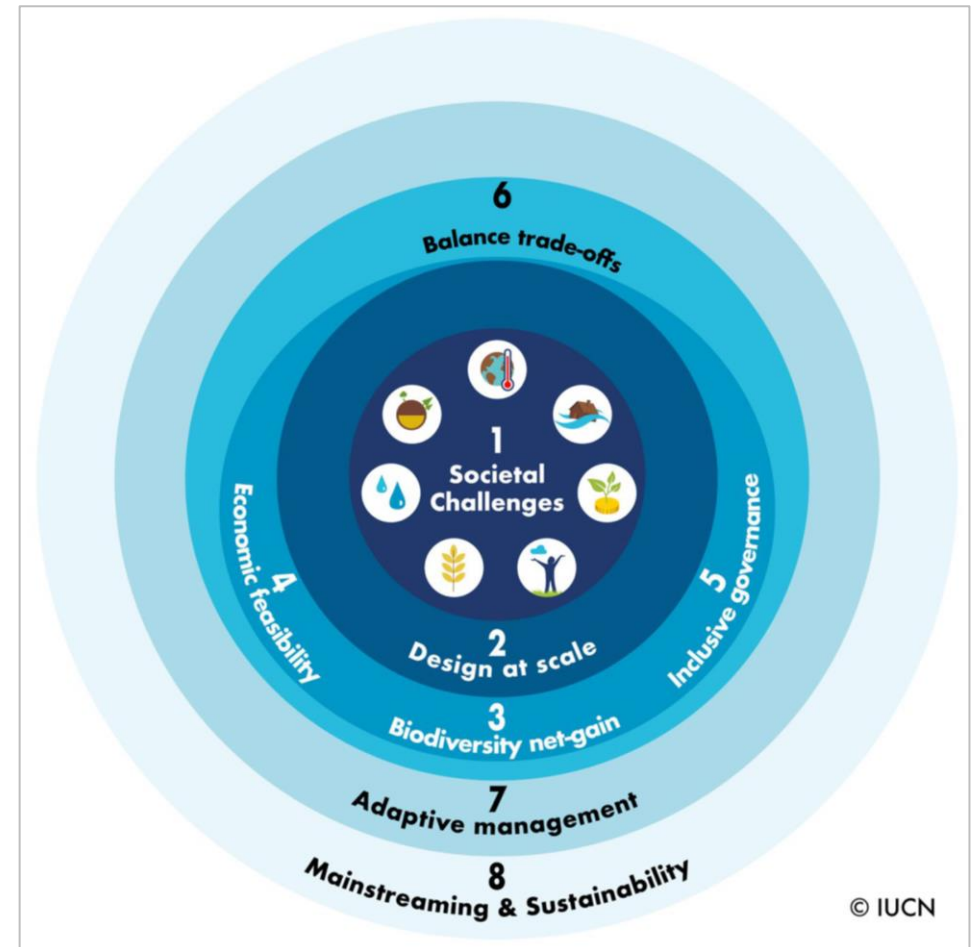


Purpose:

- Set a **common basis of understanding** for NbS
- Provide a **robust framework**, to **design, implement, assess, adapt and improve NbS**

Audience: project managers, landscape planners, development practitioners, conservationists, policy makers, finance sector representatives (donors and investors), governments and planners.

8 Criteria, 28 Indicators



8 Criteria & 28 indicators:

Criterion 1: NbS effectively address **societal challenges**

Criterion 2: **Design** of NbS is informed by **scale**

Criterion 3: NbS result in a net gain to **biodiversity** and **ecosystem integrity**

Criterion 4: NbS are **economically viable**

Criterion 5: NbS are based on **inclusive, transparent** and **empowering governance** processes

Criterion 6: NbS equitably **balance trade-offs** between achievement of their primary goal(s) and the continued provision of multiple benefits

Criterion 7: NbS are **managed adaptively**, based on evidence

Criterion 8: NbS are **sustainable and mainstreamed** within an appropriate jurisdictional context



Global Standard for NbS – 3 products

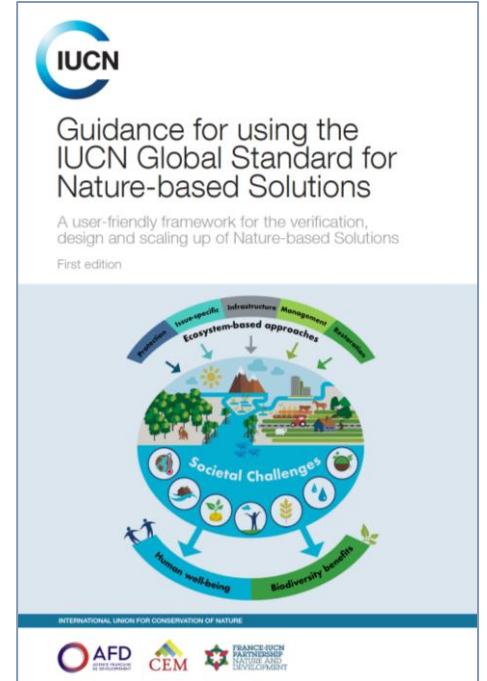
Part I: NbS Standard

Each criterion with brief guidance, indicators, case-study and informative graphic



Part II: Guidance

Detailed descriptions of rationale and requirements behind each criterion and indicator



Part III:

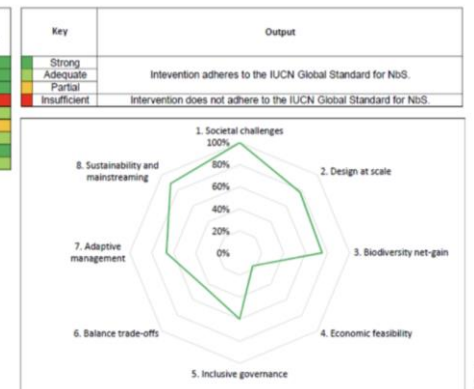
Self-Assessment

Excel sheet with each criterion and indicator, 4 assessment levels and guiding questions for assessment

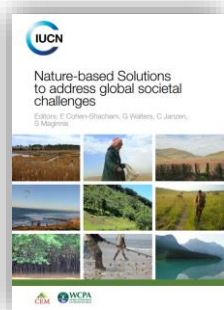
Criterion 2: Design of NbS is informed by scale

Indicator No.	Indicator	Guiding questions	Use drop down menu to input how well intervention matches to indicator.	How well has the indicator been met?			
				Strong	Adequate	Partial	Insufficient
2.1	Design of NbS recognises and responds to the interactions between the economy, society and ecosystems	Are interactions identified between the economy, society and ecosystems? Does that include those within and surrounding the intervention area? Is the change in these interactions considered over time? Are potential knock-on impacts on and from other areas identified? Are these interactions used to design the intervention and decision making processes?	Adequate	Yes. The design of the NbS considers in detail the interactions between the economy, society and ecosystems within and surrounding the intervention area, given its potential knock-on impacts on and from other areas. These interactions are accounted for in the decision-making process throughout the intervention timescale.	The design of NbS recognises specific interactions between the economy, society and ecosystems, and it are accounted for in the NbS decision-making processes, at least once during the intervention period.	The design of NbS recognises and	
2.2	Design of NbS integrated with other complementary interventions and seeks synergies across sectors	Are complementary interventions identified in and around the area? Is the design of the NbS integrated with relevant complementary interventions? Are synergies sought in project management, monitoring and outcomes? Are complementary interventions and synergies re-assessed throughout the intervention time scale?	Adequate	Yes. Synergies across sectors are thoroughly investigated, and all relevant complementary interventions are integrated within the design of the NbS. These are investigated and revisited at relevant points throughout the intervention time scale.	Synergies across sectors are investigated and the most relevant complementary interventions are integrated within the design of the NbS. These are revisited at least once during the intervention period.		
2.3	Design of NbS incorporates risk identification and risk management beyond the intervention site	Have the drivers of internal and external risks been identified? Has scientific and local knowledge concerning those risks been taken into account? Does the design of the NbS take into account possible internal and external risks? Has a risk management plan been integrated into the design of the NbS? Will this risk management plan be revisited throughout the intervention time scale?	Adequate	Yes. The possible risks of undesirable changes and their drivers are identified, taking into account scientific and local knowledge. The management of these risks is integrated into the design of the NbS and revisited throughout the intervention time scale.	Most risks of undesirable change their drivers are identified, taking into account scientific and local knowledge. The management of these risks is integrated into the design of the NbS and revisited at least once during the intervention period.		

Criterion	Your Criterion Score	Maximum Criterion Score	FINAL OUTPUT Your Criterion %age
1. Societal challenges	9	9	1.0
2. Design at scale	7	9	0.8
3. Biodiversity net-gain	9	12	0.8
4. Economic feasibility	2	12	0.2
5. Inclusive governance	9	15	0.6
6. Balance trade-offs	4	9	0.4
7. Adaptive management	6	9	0.7
8. Sustainability and mainstreaming	8	9	0.9
Total			0.7



Useful references and resources



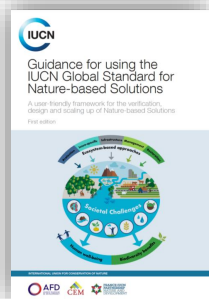
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IUCN CEM Website <https://www.iucn.org/commissions/commission-ecosystem-management>

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