

# Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

## Introduction

Humans and nature cannot be treated separately since a society's development goals and its conservation aspirations are closely linked and depend on each other. Given that the capacity of this planet to provide both is limited, these interdependencies cannot be ignored ([Folke, 2006](#)). In fact, human actions can drive both, conservation successes and economic development gains, at the same time. Local conservation initiatives of IUCN and partners have also demonstrated that wellbeing benefits for local communities and biodiversity gains can be achieved together. Two such examples are IUCN's projects "Ecosystems Protecting Infrastructure and Communities" ([EPIC](#)) and "Water Infrastructure Solutions from Ecosystem Services Underpinning Climate Resilient Policies and Programmes" ([WISE-UP](#)).

Consequently, nature can be a strong ally in meeting development challenges. Ecosystems provide us with vital services such as timber, food, soil formation, purification of water, flood control, climate regulation or recreation. These services can be harnessed to meet societal needs such as food, water, adaptation to climate change and good health. The shift from managing ecosystems for conservation to an approach that allows conservation and development simultaneously will not be easy. We will need to break down silos to achieve transdisciplinary scientific knowledge, rethink policies to establish a facilitating environment and we need to create robust guidance on how the services of nature can be harnessed for biodiversity and society. Despite these challenges, humanity can no longer afford to ignore or undermine the potential of nature as a sustainable development solution.

### Nature-based Solutions for Societal Needs

IUCN is a membership Union composed of both government and civil society organisations. It provides public, private and non-governmental organisations with the knowledge and tools that enable human progress, economic development and nature conservation to take place together. Created in 1948, IUCN has evolved into the world's largest and most diverse environmental network. It harnesses the experience, resources and reach of its more than 1,300 member organisations and the input of some 10,000 experts. At the 2016 World Conservation Congress and members' assembly, IUCN's members adopted a resolution ([WCC-2016-Res-069-EN](#)) which, for the first time, defined the use of nature for simultaneous benefits to biodiversity and societal well-being. According to the resolution, Nature-based Solutions (NbS) are "actions to protect, sustainably manage and restore natural or modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits". This definition is drawn from a more elaborated IUCN publication that outlines the NbS framework ([Cohen-Sacham, 2016](#)). While not a new concept due to their origin and strong foundation in practice and implementation, NbS are a necessary articulation for scaling up win-win initiatives since such initiatives tend to be carried out at pilot or small project scales. As an umbrella and integrative concept, NbS have been further defined, adopted and applied in many different ways by IUCN and other organisations, such as the European Commission. Despite the diversification of the concept, all come across with a common goal: informing the sustainable use of nature as an economic strategy for human development ([Nesshöver, 2017](#)). In doing so, NbS guide the way in moving beyond safeguarding nature to addressing peoples' needs related to challenges such as adaptation to climate change, mitigating climate change impacts, food security, water security, reducing disaster risk, and attaining good health. NbS bring together established ecosystem-based approaches such as ecosystem-based adaptation and

# Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

ecological engineering with the social and economic dimension. They apply to all types of ecosystems, including natural and modified ones. NbS can provide multiple benefits and foster win-win situations, but have to cope with complexities, uncertainties and trade-offs.

## The need for a global standard

Without clear definition and benchmarks that enable effective transfer of NbS approaches from pilot or project scales to significantly larger scales, there is a risk that NbS remain a general metaphor. Additionally, NbS may stay solely within the conservation sector, thereby marginally contributing to solving societal challenges rather than becoming an integral to planning and implementing society's responses to such challenges. Furthermore, if NbS implementation is not guided by robust knowledge and tools, this may pave the way for further overexploitation and unsustainable use of our planet's natural resources.

While NbS hold real potential, the absence of comprehensive guidance may promote ill-considered interventions which subsequently fail to deliver. This then further exposes the very communities they are designed to benefit and undermines government and investor confidence in NbS. Echoing this, IUCN members at the World Conservation Congress and members' assembly 2016 called on IUCN's Director General and the Commissions to finalise the principles, parameters and guidelines for applying NbS, noting that users of the NbS concept need a common definition and guidance on its application, both of which are currently still lacking.

Currently, there is a rapidly growing evidence base on the positive effects of NbS. With robust standards and guidelines, further momentum can be achieved in engaging relevant sectors such as water, food, development and humanitarian aid to systematically incorporate NbS into their decision-making processes. Such standards and guidelines can also help assess the efficiency, effectiveness and sustainability of a particular NbS. This document lays out IUCN's draft NbS standard, describing criteria and indicators for NbS planning, design and implementation. Guidance on how to apply these criteria and indicators will be developed in the next months.

## Purpose and users of the standard

This standard aims to create a common understanding and consensus on what constitutes a good NbS. It is intended to be a simple yet robust hands-on tool that informs the planning, design and implementation of an NbS, especially as an alternative to other types of development interventions such as hard infrastructure. In doing so, the standard will support wider uptake of the NbS concept. The draft NbS standard is currently composed of seven criteria which are broken down into several indicators each. The criteria and indicators are not sequential, but are related to one another and especially adaptive management and stakeholder engagement are cross-cutting issues. Some indicators are about processes and practices and others about outcomes to cover all aspects that contribute to well-defined and, ultimately, successful NbS.

# Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

Together with a verification tool we are yet to develop, the standard will help determine whether and to what degree a project can be considered an NbS, in accordance with the IUCN Resolution and the IUCN framework. It will also allow assessing the efficiency, effectiveness and sustainability of an NbS and point to areas that need correction or can be improved to achieve the best possible outcome for society and nature.

The standard's users are intended to include governments and authorities at all levels, non-governmental organisations, private companies, the financial sector and local communities - basically all parties that may be the creators or implementers of NbS.

## Scope of the draft standard

The NbS draft standard is currently composed of seven criteria which are broken down into several indicators each. These are accompanied by guidance and examples to explain the intent of the indicators. The criteria and indicators are not sequential, but are related to one another and especially adaptive management and stakeholder engagement are cross-cutting issues. Some indicators are about processes and practices and others about outcomes to cover all aspects that contribute to well-defined and, ultimately, successful NbS.

For the purpose of NbS self-assessment, the draft standard suggests means of verification for demonstrating compliance with the indicators and for monitoring NbS projects from inception throughout their lifecycle. However, since NbS can take different forms and can be implemented by a wide range of actors, from practitioners to decision makers, there may be means of verification that are better suited to show NbS compliance than the ones suggested in the draft standard. Where this is the case, the alternative means of verification may be used instead. As mentioned above, NbS are an umbrella for established ecosystem-based approaches. Compliance with the NbS standard may therefore be evidenced, to some extent, through the application of processes described in methodologies, frameworks and guidance on ecosystem-based approaches, such as "[Ecological Restoration for Protected Areas](#)", "[Restoration Opportunities Assessment Methodology](#)" (ROAM) or "[Implementing nature-based flood protection](#)". Methodologies like [Theory of Change](#) or [Logical Framework](#) that are commonly found in non-profit organisations, philanthropy and international development may also serve as means of verification for some indicators. In the private sector, well-established sustainability reporting standards such as those developed by the [Global Reporting Initiative](#) can also be appropriate for demonstrating compliance with a number of NbS standard indicators. The draft NbS standard outlined in this document already references some of these relevant approaches and readers will notice that they appear multiple times.

The self-assessment against the NbS standard should be carried out at different stages of the project cycle, to help identifying non-anticipated outputs, weaknesses and strengths in order to improve or alleviate them. Therefore, the self-assessment should not be seen as a judgement on an NbS project. Rather, it aims to ensure the delivery of the anticipated societal benefits without compromising on nature. The self-assessment will make use of a traffic light system for indicating the status of the different listed indicators where green expresses that an indicator is fully met, orange illustrates partially reached and red, no accomplishment.

# Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

The self-assessment should be conducted as follows:

- Review the indicators, guidance and examples and consider the suggested evidence
- Identify the means of verification that are most suitable for demonstrating to what degree your project meets a respective indicator
- Describe how and to what extent your NbS meets the indicator
- Provide links to the used means of verification (if available online) or attach them to your self-assessment to substantiate your findings
- Choose the appropriate colour coding (see below) for the respective indicator.

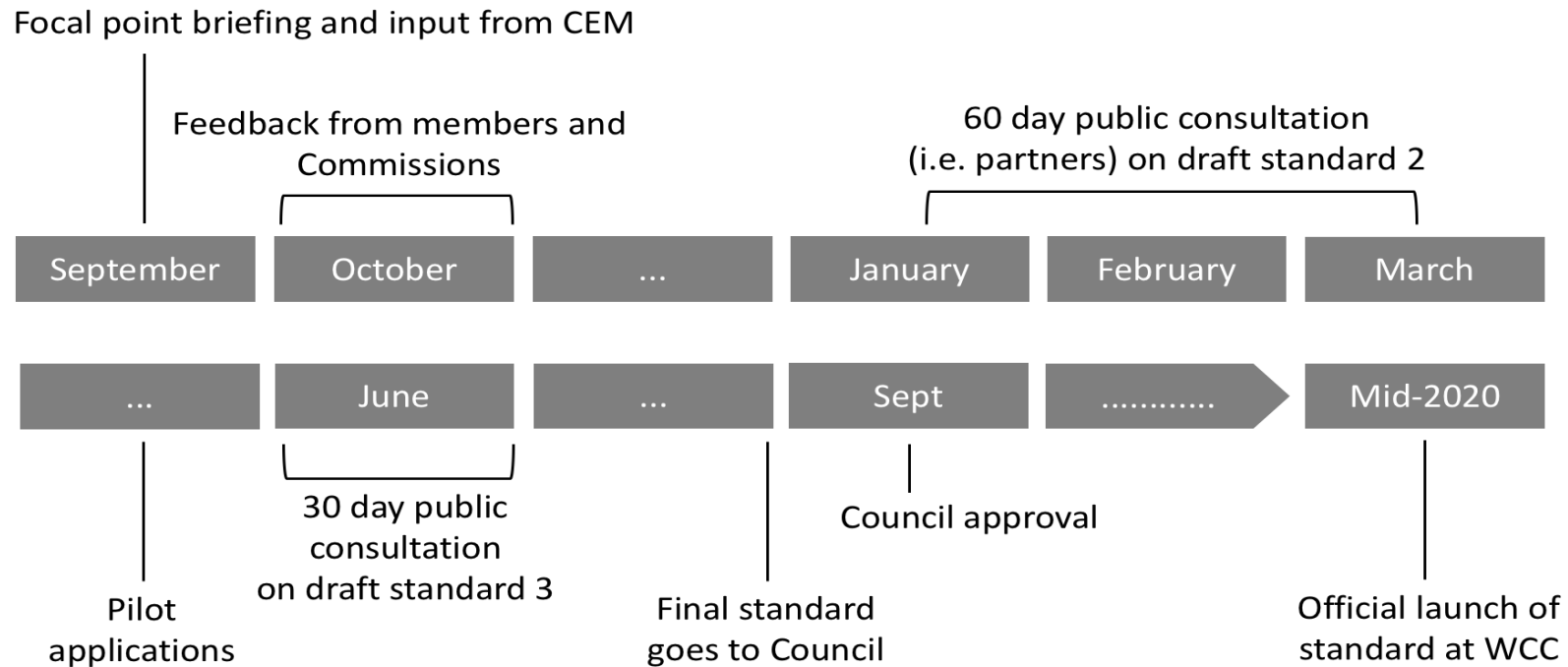
## Timeline for standard development

In October 2018, IUCN staff and members of the IUCN Commission on Ecosystem Management (CEM) were asked to provide feedback on the very first version of the NbS criteria and indicators. Now that we have incorporated feedback from this "internal" consultation, we are releasing the draft standard for public consultation. The consultation will last for 60 days. After taking account of the received feedback, we will launch a second draft version for public consultation. This second version will include the guidance to the criteria and indicators and will also introduce the proposed verification tool.

The consultations will help shape all elements of the standard. They will also help identify which of the Sustainable Development Goals (SDGs) the NbS concept helps address. These will be referenced in the standard once it has progressed further. The standard with its guidance and verification tool will be officially launched in 2020, during the World Conservation Congress in Marseille.

The timeline for developing the IUCN NbS standard can be seen in the following graph.

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions



### Consultation question

We will develop a simple tool to carry out a NbS self-assessment. It may be an Excel document that allows cross-referencing and the compilation of visuals such as a spider web. Currently, we are suggesting to use a traffic light system at indicator level to highlight strong and weak areas of an NbS. The traffic light symbols are common and understood all around the world, which is the main reason for us to propose it. However, we welcome suggestions on equally easy to understand scales that help identify strong and weak areas but that are more granular than the 3-symbol traffic light and also more empowering to facilitate improvement. Our intention is for standard users to take the results of the self-assessment and turn them into an action plan for improving the NbS, so the suggested scale should also lend itself to this purpose.

# Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

## Proposed draft NbS Standard

### Criterion 1: NbS conserve, restore and sustainably use ecosystems to address societal needs

Explanation: Conservation, restoration and sustainable use projects may be considered NbS if they were defined to address societal needs such as food security or disaster risk. However, conservation, restoration and sustainable use projects that were originally created for a purpose other than addressing societal needs, may still be considered NbS if they are altered to also benefit people. Even though NbS focus on addressing societal needs, they never replace or damage ecosystems instead, enhancing them where possible. This will ensure that ecosystems are resilient to future environmental changes and the services they provide are sustainable.

Related Criteria: Criterion 3 (adaptive management, governance and monitoring) and Criterion 4 (trade-offs)

| Indicators   | Guidance and examples  | Suggested evidence  |
|--|--|---|
| 1.1 The societal need(s) the NbS aims to address is described and documented | <p>Examples of societal needs can be classed into climate change adaptation and mitigation, food security, water security, disaster risk reduction, and health effects from changing conditions.</p> <p>In practice, NbS can provide multiple benefits and address different societal needs. For example, mangroves that are planted to reduce disaster risk from flooding can also help secure farmland and thus also contribute to food security. What is important is that the concept and design of the NbS is tailored to the societal need it seeks to address primarily.</p> <p>As such, a protected area that is established to conserve a specific species will not be considered a</p> | <p>Document describing the societal need(s) to be addressed by the NbS. Such a document may be, for example:</p> <ul style="list-style-type: none"> <li>● Theory of Change*</li> <li>● Logical Framework*</li> <li>● Strategy</li> <li>● Management plan</li> <li>● Feasibility study</li> </ul> <p><i>Note that MoV with an asterisk are briefly described in the Annex.</i></p> |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|  | <p>NbS. However, a protected area supporting restoration efforts in a watershed nearby, that are undertaken to address flooding due to deforestation and degradation of coastal wetland, may be considered part of the NbS.</p>  |   |
| <p>1.2 Current and past land/sea use and cultural contexts are described to inform the NbS</p> | <p>NbS can be of the following types: Restoration, conservation or sustainable management. Examples for NbS approaches to these types are Ecosystem-based Adaptation, Green Infrastructure or Ecological Engineering.</p> <p>To choose the most suitable NbS type, a baseline understanding is needed of the current and historic ecosystem state and services provided by the ecosystem. Baseline tools such as the <a href="#">IUCN Red List of Ecosystems</a> (see Annex) may help with this exercise.</p> <p>“Historic” may mean different dates to different projects. However, in ecosystem science this often refers to 1750, which “corresponds approximately with the earliest onset of industrial-scale exploitation of ecosystems” (Keith et al, 2013).</p> <p>"Cultural" refers to spiritual, material, intellectual and emotional features of society or a social group in addition to art and literature, lifestyles, ways of living together, value systems, tradition and beliefs (adapted from UNESCO, 2002).</p> | <p>Document providing the rationale for the NbS type and the underlying analysis of the current and historic natural and cultural contexts. Such a document may be, for example:</p> <ul style="list-style-type: none"> <li>● Theory of Change</li> <li>● Logical Framework</li> <li>● Management plan</li> </ul> |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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| <p>1.3 The activities defined for the NbS aim at sustaining and enhancing ecosystem services provision, while maintaining ecosystem structure, function and composition</p> | <p>While many of the interventions will be “active” NbS with clearly defined activities, if the standard is being used in the design stage then the design of activities should have the same aim.</p> <p>Ecosystem services are “the benefits people derive from ecosystems” (Millennium Ecosystem Assessment, 2005). They are crucial for human well-being and economic development. They can be broadly grouped into:</p> <ul style="list-style-type: none"> <li>● Provisioning: Goods obtained directly from nature (e.g. crops, water, fiber, genetic material).</li> <li>● Regulating: Indirect benefits from nature (e.g. climate regulation, water purification, erosion control, pollination).</li> <li>● Cultural: Intangible benefits from nature (e.g. outdoor recreation, spiritual inspiration, mental health, education).</li> <li>● Supporting: Such as nutrient cycling that maintain the conditions for life on Earth.</li> </ul> <p>The flow of these services are highly dependent on one another and so to support one is to support the others. While in the short term, activities may favour one service, in the long term all ecosystem services should be sustained.</p> <p>Due to uncertainty and external influences, ecosystem structure, function and composition</p> | <p>Document describing the activities that are intended to reach the NbS goal and including the underlying assumptions and outcomes with regards to ecosystem services. Such a document may be, for example:</p> <ul style="list-style-type: none"> <li>● Implementation and maintenance plans</li> <li>● Theory of Change</li> <li>● Logical Framework</li> <li>● Management plan</li> </ul> <p>Such a document may result from processes such as:</p> <ul style="list-style-type: none"> <li>● Ecological Restoration for Protected Areas</li> <li>● Restoration Opportunities Assessment Methodology (ROAM) (particularly for forests)</li> <li>● Implementing nature-based flood protection</li> </ul> |
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## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|   | <p>may change over time but should always be managed to maintain ecosystem health.</p> <p>Ecosystem structure = all living and non-living or physical components that make up an ecosystem.</p> <p>Ecosystem function = the natural ecological processes occurring in an ecosystem. I.e. ecosystem services.</p> <p>Ecosystem composition = the variety of living things found within an ecosystem.</p>   |   |
| <p>1.4 The risk that the NbS contributes to invasive alien species introduction and spread has been considered and minimised</p>                    | <p>“An alien species is a species introduced by humans – either intentionally or accidentally - outside of its natural past or present distribution, however not all alien species have negative impacts,” according to the IUCN Red List of Threatened Species.</p> <p>"An invasive alien species (IAS) is a species that is established outside of its natural past or present distribution, whose introduction and/or spread threatens biological diversity” (CBD). Whether they have been introduced intentionally or unintentionally, they threaten ecosystems and their threat needs to be accounted for.</p> | <p>Documented risk assessment and risk management strategy. Such a document may be, for example:</p> <ul style="list-style-type: none"> <li>● Theory of Change</li> <li>● Logical Framework</li> <li>● Management plan</li> </ul> <p>In addition: A monitoring plan and documented monitoring results confirming that invasive alien species are not introduced or, where they already existed, do not spread</p> |
| <p>1.5 Connectivity of the NbS is considered in the context of the societal needs the NbS seeks to achieve and is established where appropriate</p> | <p>Connectivity refers to the two-way flows that occur between ecological units within a land/seascape, including connections between people, species, communities and the physical environment. They can have both a positive and negative impact on</p>   | <p>Document describing the level of connectivity with nearby ecosystems and within the ecosystem itself that the NbS will establish and that is considered to support the achievement of the NbS goals. Such a document may be, for example:</p>  |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|  | <p>ecosystem services. For example, while connectivity between reefs is important for dispersal and replenishment of biodiversity, it can also increase the risk of disease transmission, invasion or endemism (adapted from the Society for Ecological Restoration).</p> <p>Uncertainty, especially in relation to climate change, must also be accounted for when considering if and how to establish further connectivity.</p> <p>The scale at which connectivity is assessed depends on the goals that have been set for the NbS.</p> <p>Tools such as the IUCN Red List of Ecosystems help determine an adequate level of connectivity.</p> | <ul style="list-style-type: none"> <li>● Theory of Change</li> <li>● Logical Framework</li> <li>● Management plan</li> </ul> |
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### Criterion 2: NbS are transparent and stakeholder-inclusive throughout their lifecycle

Explanation: NbS engage affected stakeholders in all phases of development and implementation to strengthen support for the project and improve management. Stakeholders are engaged in a timely, open and comprehensive manner that is culturally appropriate and embraces equity and gender identity issues.

| Indicators  | Guidance and examples   | Suggested evidence                          |
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| 2.1 Stakeholders that are directly and indirectly affected by or influencing the NbS have been identified and their interests analysed. Where | Stakeholders are persons or groups who are directly or indirectly affected by the project, as well as those who may have interests in the project | Documented stakeholder mapping and analysis |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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| <p>stakeholders are subject to inequity, the underlying causes for this are understood</p> | <p>and/or the ability to influence its outcome, either positively or negatively. In the context of NbS, stakeholders include those who benefit from ecosystem services provision (the beneficiaries) and those who ensure that the ecosystem services are provided. Examples for stakeholders are communities, indigenous peoples, vulnerable and marginalised groups, scientific experts, policy makers and corporate companies.</p> <p>Stakeholders might benefit from the NbS or suffer negative consequences from the NbS. Their insights and activities can help make the NbS a success or lead to its failure. It is therefore important that stakeholder voices are heard and reflected in all stages of NbS planning, design and implementation.</p> <p>To effectively engage stakeholders, they need to be well understood, which is why NbS should conduct a thorough stakeholder mapping and analysis. The mapping and analysis should show at least:</p> <ul style="list-style-type: none"><li>• Who the different affected stakeholder groups are</li><li>• How the NbS would impact them, both positively and negatively</li><li>• What their influence is on the NbS and how strong it is or might be, e.g. proposing new laws</li></ul> |  |
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## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

- What concerns, needs and issues they have with regards to the NbS intervention / implementation of the NbS
- How they might support or hinder the NbS and to what degree

Note that there are often so many individual stakeholders that it is not possible to map and analyse them all. In that case, the NbS should identify representatives for groups of individual stakeholders to understand their views. Representatives may be community leaders, civil society organisations or business associations.

The stakeholder analysis should identify affected stakeholders that are subject to inequity and should capture the underlying causes of inequity. Inequity basically means 'unfairness'. Equity/inequity is determined by three key dimensions: distribution (of benefits and costs), procedure (such as participation, accountability, dispute resolution) and recognition (of relevant stakeholders and their rights, knowledge and values). This understanding of equity/inequity challenges the rather outdated and top-down notion that people simply need to be given tangible benefits to address inequity. While benefits are important, so are respect and fair processes. Inequity can stem from power imbalances, lack of access to resources, gender identities and their situations, just to name a few. Inequity can be real

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|   | <p>or perceived. A sense of equity is integral to subjective well-being, and a sense of equity or inequity shapes the opinions and actions of individuals. For example, a sense of inequity can be a significant motivation for poaching and other illegal activities. (Adapted from Social Assessment for Protected and Conserved Areas (SAPA), <a href="http://pubs.iied.org/pdfs/14659IIED.pdf">http://pubs.iied.org/pdfs/14659IIED.pdf</a>)</p> <p>Note that Criterion 4 covers benefits and trade-offs, which are closely related to equity/inequity.</p>   |  |
| <p>2.2 The composition of the entities entrusted with NbS governance reflect the diversity of the affected stakeholder groups</p> | <p>Governance is the exercise of institutional or political authority regarding strategic direction and decision-making, financial planning and bylaws. It is not to be confused with management, which refers to the day to day decisions and administrative work of the NbS. Governance should in fact guide the management of the NbS. A clear description of the entities that govern the NbS and their roles and responsibilities should be part of each NbS and should be defined in a collaborative way that involves all affected stakeholder groups.</p> <p>Note that in some jurisdictions representation of stakeholders might be defined by laws or policies (i.e. the formal institutions) that the NbS must adhere to. However, the NbS may be able to go beyond the provisions of laws and policies where</p> | <p>Document describing the governance arrangements of the project and the principles for stakeholder engagement. Such a document may be, for example:</p> <ul style="list-style-type: none"> <li>● Theory of Change</li> <li>● Bylaws</li> <li>● Policies</li> </ul> |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|  | <p>these pose a constraint to stakeholder involvement in governance mechanisms.</p> <p>If the NbS works across jurisdictional boundaries to manage resources like water, this may require the creation of new entities and institutions to govern the NbS.</p> <p>Institutions: Society is made up of a myriad of rules, some formal, others informal such as cultural practices. These rules guide the ways in which people interact with the ecosystems around them and are referred to as institutions. Formal institutions are codified rules such as constitutions, laws, organised markets, and property rights. Informal institutions include, for example, rules that express the social and behavioural norms of a family, community, or society.</p> |  |
| <p>2.3 Affected and influencing stakeholders are engaged throughout the lifecycle of the NbS</p> | <p>Stakeholder engagement is characterised by two-way dialogue, open-mindedness about differing views, being prepared to accommodate concerns and being ready to change opinions and plans where better or more suitable options are available. In other words, stakeholder engagement is a continuous and genuine effort to come to mutual understanding and find the approaches that are most beneficial for both the ecosystem(s) and affected people.</p> <p>Stakeholder engagement also needs to be broad and comprehensive to account for the fact that</p>  | <p>Documented stakeholder engagement plan or strategy</p> <p>In addition:</p> <ul style="list-style-type: none"> <li>● Evidence of communications with stakeholders</li> <li>● Evidence of information shared with stakeholders</li> <li>● Stakeholder meeting minutes circulated to stakeholders</li> </ul> |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|  | <p>societal needs and biodiversity management are complex issues with many interactions, side-effects and implications.</p> <p>As mentioned above, there are often so many individual stakeholders that not all of them can be engaged as it would outstrip the capacities of the NbS. At the same time, NbS need to be aware of inequities and of potential conflicts of interest that stakeholders may face. Sometimes, affected stakeholders may want to engage but are not able to, for example due to lack of capacity. In other cases, it might be challenging to keep already engaged stakeholders active. The level of engagement and decisions on stakeholder representation should therefore reflect the scale and size of the NbS. Stakeholder views, concerns and needs have to be carefully sought, weighed and balanced. The NbS should also consider how it can help build capacity with stakeholders where needed and what incentives it can offer to keep stakeholders engaged.</p> <p>Effective engagement is helped by a clear understanding of the roles of stakeholders in defining, implementing and monitoring the NbS. It is advised that the roles are defined together with stakeholders and communicated to everybody engaged with the NbS</p> <p>Stakeholder engagement is not a trivial task and those responsible for it should have relevant</p> |  |
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## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|   | <p>experience or receive training where needed to organise and implement good participatory processes.</p> <p>The NbS should have a jointly developed stakeholder engagement plan that outlines:</p> <ul style="list-style-type: none"> <li>● At what spatial and institutional levels engagement will be conducted</li> <li>● How to build and foster relationships with and among stakeholders</li> <li>● How to share information</li> <li>● How to recognise stakeholder concerns and aspirations</li> <li>● How to undertake consultation with them</li> <li>● How to secure their support and get them actively engaged in the NbS.</li> </ul> <p>There is a lot of advice available on engaging and collaborating with stakeholders. Two examples of useful resources are:</p> <ul style="list-style-type: none"> <li>● <a href="#">Stakeholder engagement. Participatory Approaches for the Planning and Development of Marine Protected Areas</a></li> <li>● <a href="#">Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets</a></li> </ul> |  |
| <p>2.4 Stakeholder consultation is conducted in a manner that is sensitive to gender identities</p> | <p>Gender-sensitivity means aiming to understand and take account of the societal and cultural factors that result in gender-based exclusion and</p>   | <p>Documented stakeholder engagement plan or strategy referencing gender-sensitivity</p> |



## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|  | <p>discrimination (adapted from the <a href="#">European Institute for Gender Equality</a>). The NbS should ensure that the different gender identities are approached and involved in an adequate manner.</p> <p>Gender situations and approaches will differ depending on where the NbS is carried out. Individuals working with the NbS will therefore need to possess cultural awareness and the interpersonal skills necessary for managing social complexity. They must also keep in mind that gender encompasses more than men and women.</p> <p>One example of being gender-sensitive in NbS implementation is the organisation of separate workshops for women in cultures where this might be more appropriate. Some gender identities in some cultures might also be hesitant to openly communicate with outsiders. The NbS should consider offering alternative ways of engaging with them.</p> <p>A useful practical resource on gender-sensitivity, even if limited to the specific needs and interests of women and men, is <a href="#">Gender pays off! Gender-Responsive Project Management. A practical Guide</a>.</p> | <p>In addition:</p> <ul style="list-style-type: none"> <li>● Evidence of communications with stakeholders</li> <li>● Evidence of information shared with stakeholders</li> <li>● Stakeholder meeting minutes circulated to stakeholders</li> </ul> |
| <p>2.5 Where indigenous peoples are affected, the principle of free, prior and informed consent (FPIC) is applied in NbS design and implementation</p> | <p>There is no universally accepted definition of indigenous peoples and they may also be referred to as indigenous ethnic minorities, aboriginals, hill</p>   | <p>Documented stakeholder mapping and analysis showing if there are indigenous people or not</p>   |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|  | <p>tribes, minority nationalities, scheduled tribes, first nations or tribal groups.</p> <p>Indigenous peoples are social groups with identities that are distinct from mainstream groups in national societies. They possess the following characteristics in varying degrees:</p> <ul style="list-style-type: none"> <li>● Self-identification as indigenous peoples at the individual level and accepted by the community as their member</li> <li>● Historical continuity with pre-colonial and/or pre-settler societies</li> <li>● Strong link to territories and surrounding natural resources</li> <li>● Distinct social, economic or political systems</li> <li>● Distinct language, culture and beliefs</li> <li>● From non-dominant groups of society</li> <li>● Resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities.</li> </ul> <p>(Adapted from the <a href="#">UN Permanent Forum on Indigenous Issues</a>)</p> <p>Indigenous peoples are often among the most marginalised and vulnerable segments of the population. In many cases, their economic, social, and legal status limits their capacity to defend their (often traditional and customary) rights to, and interests in, lands and natural and cultural resources, and may restrict their ability to participate in and benefit from development. As a</p> | <p>Where so, there must be documented evidence of the FPIC principle being embedded in the project. Such documentation may be, for example:</p> <ul style="list-style-type: none"> <li>● Minutes of meetings and agreements with indigenous peoples demonstrating that the FPIC principle was applied and circulated to indigenous peoples</li> </ul> |
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## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|  | <p>consequence, indigenous peoples may be more vulnerable to impacts than non-indigenous communities. This vulnerability may include loss of identity, culture and natural resource-based livelihoods, as well as exposure to impoverishment and diseases (Adopted from <a href="#">IFC Performance Standards on Environmental and Social Sustainability</a>).</p> <p>The principle of free, prior and informed consent (FPIC) has been defined with all of this in mind to adequately account for the special situation of indigenous communities. FPIC means that ‘all peoples have the right to self-determination’ and ‘all peoples have the right to freely pursue their economic, social and cultural development’. There must be no coercion, intimidation or manipulation. Consent must be sought in a timely manner in advance to any authorisation or start of activities. And, the information that is provided must be comprehensive and accessible.</p> <p>When engaging with indigenous peoples, NbS should consider appropriate ways of orally communicating with indigenous peoples in their own language, should grant them sufficient time for consulting with one another before coming to conclusions (without NbS personnel present), and should consider the best means of circulating relevant information and receiving responses from indigenous peoples.</p> |  |
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## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|  | <p>FPIC is a challenging concept to implement. It does not necessarily require unanimity and may be achieved even when individuals or groups within the community explicitly disagree.</p> <p>Note that access to and use of traditional knowledge and practices of indigenous peoples also requires the application of FPIC.</p> <p>To help with FPIC, NbS should consult the useful guidance that has been produced, such as <a href="#">Indigenous Peoples' Rights and the Role of Free, Prior and Informed Consent</a>.</p>   |  |
| <p>2.6 All relevant information on the NbS is disclosed to stakeholders in a timely and appropriate manner, taking account of confidentiality issues</p> | <p>In this context, "relevant information" includes project-related risks and uncertainties, the nature, size, pace, reversibility and scope of any proposed project or activity as well as its purpose and duration.</p> <p>"Appropriate manner" means that the channels and practices used for disclosure correspond to stakeholder technical capacity, can be understood and are culturally appropriate.</p> <p>NbS should note that the appropriate level of transparency might differ in different cultural contexts. For example, in some indigenous cultures male and female issues might need to be non-transparent to one another.</p> | <p>Stakeholder engagement plan or strategy describing disclosure practices</p> <p>In addition:</p> <ul style="list-style-type: none"> <li>● Evidence of dissemination to stakeholders</li> <li>● Stakeholder meeting minutes circulated to stakeholders</li> </ul> |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

### Criterion 3: NbS are governed and managed adaptively

Explanation: NbS need adaptive management based on continuous monitoring and evaluation to be able to take account of uncertainty, ecosystem complexity and changes over time. Adaptiveness also needs to be anchored in the institutions and organisations that govern the NbS.

| Indicators  | Guidance and examples  | Suggested evidence   |
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| <p>3.1 The scale at which the NbS is governed corresponds to the ecological scale at which the natural resources function and to the societal scale at which the NbS affects people</p> | <p>The societal impact that the NbS can have depends on the natural scale at which it is implemented. Governance arrangements need to reflect the natural scale and align it with the societal scale. For example, a NbS using a transboundary watershed will affect local populations of all countries bordering the watershed. Governance arrangements should therefore engage local actors of all relevant countries to facilitate a transboundary approach to governance. Often, transboundary and large-scale projects are governed by government officials, big donors and other powerful players. They lack local inclusion which makes it difficult to establish a sense of local ownership and secure genuine local participation.</p> <p>When defining the governance arrangements, the scales above and below should also be considered to become aware of potential barriers to NbS implementation and to identify enabling factors such as financial resources or relevant knowledge.</p> | <p>Document describing the governance arrangements of the project and the principles for stakeholder engagement. Such a document may be, for example:</p> <ul style="list-style-type: none"> <li>● Theory of Change</li> <li>● Bylaws</li> <li>● Policies</li> </ul> |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|  | <p>Clarity on roles and responsibilities of the individuals and bodies involved with governance will support good decision-making.</p>   |  |
| <p>3.2 Monitoring focuses on the societal need(s) the NbS seeks to address primarily, and considers all three dimensions of sustainability</p> | <p>The three dimensions of sustainability are social, environmental and economic.</p> <p>Monitoring is particularly important due to uncertainty about future developments. Recurrent monitoring helps identify deviations from anticipated developments and thus allows changing course where needed.</p> <p>However, recurrent monitoring requires a constant flow of resources and it is usually impossible to monitor everything. NbS should therefore focus monitoring on a small number of key indicators that are responsible for driving or regulating system change. The indicators should be clearly related to the societal need(s) the NbS seeks to address and should meet the information needs of NbS management. Monitoring should start from baseline values to understand the situation at the onset of NbS activities and to be able to identify changes. Setting targets will help determine how successful the NbS is.</p> <p>The key indicators are best described in a monitoring plan. This should also outline roles and responsibilities in monitoring, as well as the used methods and duration of monitoring.</p> <p>The indicators used for monitoring should be:</p> | <p>Documented monitoring plan</p> <p>A monitoring plan could result from processes such as:</p> <ul style="list-style-type: none"> <li>● Ecological Restoration for Protected Areas</li> <li>● Implementing nature-based flood protection</li> <li>● IUCN Red List of Ecosystems</li> <li>● Logical Framework process</li> </ul> |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|  | <ul style="list-style-type: none"> <li>● Relevant: Specific to the context and the outcomes to be achieved (e.g. clear links to the NbS Theory of Change)</li> <li>● Measurable: In a quantitative rather than qualitative manner, if possible</li> <li>● Achievable: Monitoring the indicator should be feasible given the available resources and technical capacity</li> <li>● Sensitive: Able to rapidly detect even small changes and responsive to both positive and negative change</li> <li>● Intuitive: Easy to understand for stakeholders</li> <li>● Available: Necessary information is available, especially if past measurements are used</li> <li>● Time-bound: Monitoring frequency needs to be specified.</li> <li>● The IUCN Red List of Ecosystems (RLE) can help monitor changes to ecosystems and NbS are encouraged to use them where they are available.</li> </ul> |  |
| <p>3.3 Monitoring takes account of traditional and scientific knowledge and is part of the entire lifecycle of the NbS</p> | <p>Monitoring should be based on scientific approaches. To ensure that it is informed by the best available knowledge, it should incorporate both scientific research and traditional knowledge.</p>   | <p>Documentation of traditional knowledge<br/>In addition: Documented monitoring plan referencing the information sources drawn from and monitoring indicators that reflect traditional and scientific knowledge</p> |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|  | <p>Traditional knowledge refers to knowledge, innovations and practices of indigenous and local communities. Developed from experience gained over centuries and adapted to the local culture and environment, traditional knowledge is transmitted orally from generation to generation. It tends to be collectively owned and can take the form of stories, songs, folklore, proverbs, cultural values, beliefs, rituals, community laws, local language, and agricultural practices (adapted from the CBD). Traditional knowledge can provide valuable insights, for example on seasonal patterns, drivers of change, and threats, and local actors are those most likely to detect changes early on.</p> <p>Traditional knowledge is often not documented. Where it is relevant for the NbS, the NbS should engage in an exercise to document the traditional knowledge.</p> <p>How to best integrate traditional knowledge with science is a relatively new field. For example, what to do if traditional and scientific knowledge are in conflict can be a challenging question to answer. Guidance on how to integrate traditional knowledge can be found <a href="#">here</a>, using the example of IUCN Red List assessments. NbS should note that access to and use of traditional knowledge requires free, prior and informed consent, which is covered in indicator 2.5.</p> |  |
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## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|   | <p>The experiential knowledge of NbS managers and other stakeholders can also be a valuable source of information.</p>  |  |
| <p>3.4 The governance arrangements adapt over time where necessary to respond to the changing needs of ecosystem services beneficiaries and providers</p> | <p>"Ecosystem services beneficiaries" are those individuals, groups or entities that use or are likely to use the benefits from the provided ecosystem services. Examples of beneficiaries are local communities, Indigenous Peoples, forest dwellers, downstream water users, tenure and use rights holders, including landowners. (Source: adapted from FSC Principles and Criteria for Forest Stewardship.)</p> <p>"Ecosystem services providers" are those individuals, groups or entities that need to act so that the ecosystem service is delivered.</p> <p>Governance arrangements need to be flexible to react to change, meaning they need to link knowledge with decision-making and stakeholders (ecosystem services beneficiaries and providers) with governance arrangements. Responding to change can increase the likelihood of the NbS to become a permanent rather than a temporary solution. Adaptive governance approaches facilitate a number of functions including: interaction across organisational levels, experimentation, new policies for ecosystem management, novelty in cooperation and relationships among agencies and stakeholders, new ways to promote flexibility, and new</p> | <p>Documented analysis of costs, benefits and trade-offs with reference to monitoring results. The analysis may be conducted using, for example:</p> <ul style="list-style-type: none"> <li>● Ecological Restoration for Protected Areas</li> <li>● Restoration Opportunities Assessment Methodology (ROAM) (particularly for forests)</li> <li>● Economic impact analysis</li> <li>● Cost-benefit analysis supplemented with trade-off analysis</li> <li>● Risk-benefit analysis</li> </ul> |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|   | <p>institutional and organisational arrangements. Further guidance can be found, for example, in <a href="#">Assessing Resilience in Social-Ecological Systems: Workbook for Practitioners</a>.</p>  |   |
| <p>3.5 NbS strategy, management and activities are adapted based on insights from monitoring and evaluation and acknowledge uncertainty</p> | <p>‘Adaptive management is about learning how systems function and how to adapt to environmental change. It is about learning what enhances and what degrades ecosystem resilience and what makes a system shift from one state to another.</p> <p>Uncertainty cannot really be accounted for in complex systems since change is spontaneous, sometimes slow, sometimes fast, sometimes small scale, sometimes large scale. The NbS should use what knowledge is available to assess the risk of systemic failure and consider measures to either reduce risk of failure or change its course.</p> <p>Adaptive management identifies uncertainties, and then establishes methodologies to test hypotheses concerning those uncertainties. It uses management as a tool not only to change the system, but as a tool to learn about the system.</p> <p>In reality, adaptiveness is more often claimed than practised since it is very different from a typical management approach of 'informed trial-and-error' which uses the best available knowledge to generate a risk-averse, 'best guess' management</p> | <p>Monitoring reports discussing project progress and plans describing activities to change or improve the NbS project. Such plans may be, for example:</p> <ul style="list-style-type: none"> <li>● Implementation plans</li> <li>● Maintenance plans</li> <li>● Action plans</li> <li>● Work plans</li> </ul> |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|  | <p>strategy, which is then changed as new information modifies the 'best guess'.</p> <p>Adaptive management must be a social as well as scientific process. It must focus on the development of new institutions and institutional strategies just as much as it must focus upon scientific hypotheses and experimental frameworks. Adaptive management attempts to use a scientific approach, accompanied by collegial hypotheses testing to build understanding, but this process also aims to enhance institutional flexibility and encourage the formation of the new institutions that are required to use this understanding on a day-to-day basis.</p> <p>Adaptive management will require close cooperation of NbS governance and management. To avoid conflicts and ensure effectiveness of NbS implementation, the roles and responsibilities of governance and management should be clear.</p> <p>Uncertainty can have many sources. It can derive from e.g. a lack of information, conflict about available knowledge or uncertain projections of human and natural behaviour. It can, however, be accounted for to a certain extent. Adapting to uncertainty is an active process occurring throughout the NbS life cycle.</p> |  |
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## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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| <p>3.6 Evaluation shows that the NbS sustains ecosystem services while maintaining ecosystem structure, function and composition</p> | <p>Ecosystem services are defined as nature’s contribution to people and are complex. Usually, not all ecosystem services can be managed for and monitored at the same time. It is therefore advised that the NbS intervention focuses on the ecosystem services needed to address a specific societal need. Simultaneously supporting and regulating services need to be conserved in order to contribute to the above. Where evaluation shows that the NbS does not achieve this indicator, management needs to adapt to change course.</p> | <p>Monitoring reports discussing progress of the NbS project</p> |
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### Criterion 4: NbS produce societal benefits while seeking to balance trade-offs

Explanation: NbS identify current and future benefits and trade-offs with the aim of ensuring that an ecosystem is not changed in favour of a particular ecosystem service or resource. NbS provide a process for fair and transparent negotiation of trade-offs and compensation for loss of local opportunities.

| Indicators  | Guidance and examples   | Suggested evidence  |
|---|---|---|
| <p>4.1 The potential NbS costs, benefits and trade-offs at the NbS site and at the larger landscape/seascape are considered throughout the project life cycle</p> | <p>Project life cycle includes initiation, planning, execution and closure. By definition a project has a definite beginning and end but NbS interventions can be implemented in perpetuity.</p> <p>Costs, benefits and trade-offs include financial as well as non-financial factors.</p> <p>Trade-offs may arise when favouring a particular ecosystem service or group of people at the expense of another. Some trade-offs are the result</p> | <p>Documented analysis of costs, benefits and trade-offs. The analysis may be conducted using, for example:</p> <ul style="list-style-type: none"> <li>● Ecological Restoration for Protected Areas</li> <li>● Restoration Opportunities Assessment Methodology (ROAM) (particularly for forests)</li> <li>● InVEST (Integrated valuation of ecosystem services and tradeoffs) (for large interventions)</li> <li>● Environmental and Social Impact Assessment</li> </ul> |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|   | <p>of deliberate decisions. Others occur without knowledge or awareness. For example, the implementation of NbS-related activities upstream may have effects on downstream communities, and at different times.</p> <p>Trade-offs have a spatial, temporal and reversibility dimension. The spatial dimension refers to whether the effects of the trade-off are felt locally or at a distant location. Temporal refers to whether the effects take place relatively rapidly or slowly. Reversibility expresses the likelihood that the perturbed ecosystem service may return to its original state if the perturbation ceases. All three dimensions should be considered.</p> <p>Project management should also take into account cumulative and indirect effects where possible and needs to ensure cost efficiency of the NbS.</p> <p>Note that criterion 6 is about considering conventional technologies and engineering solutions.</p> | <ul style="list-style-type: none"> <li>● Economic impact analysis</li> <li>● Cost-benefit analysis supplemented with trade-off analysis</li> </ul> <p><i>Note that the MoVs are briefly described in the Annex.</i></p> |
| <p>4.2 The rights, usages and responsibilities of the different stakeholders regarding resource access and land use are respected throughout the NbS life cycle</p> | <p>Especially the legal and usage rights of vulnerable and marginalised groups need to be respected.</p> <p>Rights, Responsibilities, Revenues (benefits) of stakeholders and the Relationships between stakeholder groups may be analysed and assessed using the tool "<a href="#">The four Rs</a>".</p>   | <p>Reflection of stakeholder rights and responsibilities in planning and implementation documents</p>   |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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| <p>4.3 Trade-offs resulting from the NbS are agreed with and among affected stakeholders in a transparent and equitable process</p>     | <p>It may be difficult to communicate the complexity of various trade-offs and so a common understanding and political will may be required first.</p> <p>Agreement “represents the degree at which the stakeholder concurs with, or accepts, the project.” (Bragantini &amp; Caccamese, 2015) It can be an element of a stakeholder mapping exercise to inform this indicator.</p> <p>If, over time, monitoring indicates that the tradeoffs from the NbS are not the ones agreed upon upfront, affected stakeholders can be re-convened. A transparent grievance mechanism (indicator 4.5) and governance mechanism assists with this.</p> <p>Note that Criterion 2 is about transparency and inclusivity.</p> | <p>Document describing the governance arrangements of the project and the principles for stakeholder engagement. Such a document may be, for example:</p> <ul style="list-style-type: none"> <li>● Theory of Change</li> <li>● Logical Framework</li> <li>● Strategy</li> <li>● Bylaws</li> <li>● Policies</li> </ul> <p>Written documents may not be sufficient, as true inclusion of stakeholders can be verified as well by observing interaction and nonverbal communication.</p> <p>In addition:</p> <ul style="list-style-type: none"> <li>● Reflection of process outcomes in planning and implementation documents</li> <li>● Stakeholder meeting minutes circulated to stakeholders</li> </ul> |
| <p>4.4 Strategies to mitigate trade-offs, and share costs and benefits of the NbS are developed together with affected stakeholders</p> | <p>When defining mitigation strategies for the NbS, the mitigation hierarchy as defined by the <a href="#">CSBI</a> should be followed: "the sequence of actions to anticipate and avoid impacts on biodiversity and ecosystem services; and where avoidance is not possible, minimize; and, when impacts occur, rehabilitate or restore; and where significant residual impacts remain, offset," where allowed.</p>   | <p>Document describing the governance arrangements of the project and the principles for stakeholder engagement. Such a document may be, for example:</p> <ul style="list-style-type: none"> <li>● Theory of Change</li> <li>● Bylaws</li> <li>● Policies</li> </ul> <p>In addition:</p> <ul style="list-style-type: none"> <li>● Reflection of agreed strategies in planning and implementation documents</li> </ul>   |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|   |   | <ul style="list-style-type: none"> <li>Stakeholder meeting minutes circulated to stakeholders</li> </ul>   |
| 4.5 There is a grievance mechanism that is equally open to all stakeholders to arbitrate and reconcile conflicts                          | <p>A grievance mechanism is a formal, legal or non-legal complaint system made up of procedures, roles and rules for receiving complaints and providing remedy. The grievance mechanism should be legitimate, accessible, predictable, equitable, transparent, rights-compatible, adaptively managed and based on engagement and dialogue.</p>  | <p>All of the following are necessary to full meet this indicator:</p> <ul style="list-style-type: none"> <li>Documented description of grievance mechanism</li> <li>Evidence of communication to stakeholders about grievance mechanism and how to access it</li> <li>Link on where to find grievance mechanism</li> <li>Records of grievance mechanism utilisation and outcomes thereof</li> </ul>   |
| 4.6 Where traditional practices relevant to the NbS are beneficial to nature and human well-being alike, the NbS revives or supports them | <p>Traditional practices are those carried out by local and indigenous people, informed by traditional knowledge. As traditional knowledge of practices may not be documented, this relies on the involvement with indigenous and local communities. Note that 2.5 requires the application of the principle of free, prior, and informed consent (FPIC) for the access to and use of traditional knowledge and practices of indigenous peoples and 3.3 addresses the integration of traditional knowledge with scientific knowledge.</p> <p>Traditional cultural practices are, for the most part, ecologically sustainable however traditional practices may need to be assessed for their impact on nature and human well-being within the scale</p> | <p>Description and analysis of traditional practices relevant to the ecosystem where the NbS is implemented and how they are taken into account</p> <p>In addition:</p> <p>Monitoring reports discussing project progress and plans describing activities to revive or support beneficial traditional practices. Such plans may be, for example:</p> <ul style="list-style-type: none"> <li>Implementation plans</li> <li>Maintenance plans</li> <li>Action plans</li> <li>Work plans</li> </ul> |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|  | <p>of the NbS. For example, the practice of swidden may be sustainable when carried out at small scale, but can have a detrimental effect when not managed well at a large scale. Swidden is a practice where wild or forested land is clear cut and any remaining vegetation is burned. The resulting layer of ash provides the newly-cleared land with a nutrient-rich layer to help fertilise crops.</p> |  |
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### Criterion 5: NbS are planned and implemented at a landscape/seascape scale

Explanation: NbS are implemented at a landscape/seascape scale that is sufficient to address the societal need(s), creating impact beyond the immediate boundaries of the intervention. To achieve this, NbS are rooted in a common understanding, achieved through participatory system assessment, of the ecosystem they concern. This understanding covers both natural and cultural contexts because the interactions between ecological, social, and political systems are complex and are considered part of the land/seascape. NbS are framed to maintain ecosystem services in the long-term.

| Indicators   | Guidance and examples  | Suggested evidence  |
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| <p>5.1 The NbS is based on a land/seascape-wide analysis of the socio-economic, natural, and institutional conditions and their interactions</p>     | <p>As there is no universally accepted definition of "landscape scale" or "seascape scale", the land/seascape will have to be defined for each project. However, it will usually consist of a cultural, ecological and a geographic scope.</p> | <p>Documented baseline analysis</p>   |
| <p>5.2 The analysis in 5.1 informs the scale for designing and implementing the NbS so that it has greatest possible impact on the societal need</p> | <p>Ecosystems are highly dependent on the larger enabling environmental processes. Often, ecosystems cannot be sustained by managing individual sites in isolation.</p>  | <p>Documented justification of the scale of implementation. This must be specific to the societal need addressed. The documentation may be contained in, for example:</p> |



## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|  | <p>In addition, ecosystems do not necessarily relate to political or administrative units, or to the scale in which the private sector operates.</p> <p>Note that the area defined may be transboundary, (a river catchment, a forest, an agroecosystem, a watershed, etc.). Defining the scale that achieves greatest impact while taking account of the project's financial and institutional limitations is a key task in NbS design.</p> <p>The NbS can also be made up of a series of site-level projects.</p> <p>The following are two examples on how to find adequate means of verification:</p> <ol style="list-style-type: none"> <li>1. To deal with flood protection, an entire watershed needs to be considered and not just the flooding site.</li> <li>2. For human health, a scale that takes into account vectors of disease might be used.</li> </ol> <p>A mapping of all areas within the land/seascape that are considered for the NbS and of all stakeholders that may influence the area can help here. This should include stakeholders that sit outside of the areas</p> | <ul style="list-style-type: none"> <li>● Theory of change</li> <li>● Strategy</li> </ul>   |
| <p>5.3 Knowledge and learning from the NbS are shared to encourage NbS upscaling, where appropriate, and uptake of the NbS concept</p> | <p>Addressees of dissemination should include governments, authorities, NGOs, and the financial and corporate sectors.</p>   | <p>Documentation showing that sharing of knowledge and learning is embedded in the lifecycle of the project. The documentation may be contained in, for example:</p> |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|  | <p>While upscaling of NbS is generally desired, this might not always be beneficial or possible.</p> <p>An external review of the project could be useful for defining lessons learned.</p> | <ul style="list-style-type: none"> <li>● Strategy</li> <li>● Implementation plan</li> </ul> <p>In addition:</p> <ul style="list-style-type: none"> <li>● Evidence of communication products shared and/or published</li> <li>● General analysis of lessons learnt for example in the project report</li> </ul> |
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### Criterion 6: NbS seek synergies with other types of interventions where necessary to meet societal needs

Explanation: NbS use ecosystems and the services they provide, but can also be complemented by other types of solutions (e.g. technological and engineering) where this increases the likelihood of effectively addressing the societal need. For example, a coastline might be protected from ocean surge through a mix of mangroves and seawalls.

| Indicators  | Guidance and examples  | Suggested evidence   |
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| <p>6.1 During the design phase of the NbS, synergies with other types of solutions are assessed</p> | <p>In this context, "synergy" means that the combination with the NbS solution leads to more effective outcomes than a purely nature-based solution.</p> <p>An integrated assessment may be necessary.</p> | <p>Documentation of assessment results. There are several tools that may help assessing synergies, for example:</p> <ul style="list-style-type: none"> <li>● <a href="#">ProjectSelect</a></li> <li>● <a href="#">Protected Areas as Tools for Disaster Risk Reduction</a></li> <li>● <a href="#">Green Infrastructure and Valuation Toolkit</a></li> <li>● <a href="#">Rapid Benefits Indicators (RBI) Approach</a> (for restoration projects)</li> </ul> |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|  |   | <ul style="list-style-type: none"> <li>• <a href="#">Natural and Nature-Based Flood Management: A Green Guide</a> (for projects addressing flooding)</li> <li>• Environmental and social impact assessment</li> <li>• Feasibility study</li> </ul> |
| 6.2 Where synergies exist, the short and long-term costs, benefits and risks are assessed to ensure that the combined solutions do not have negative impacts on ecosystems or people | "Negative impact on ecosystem" means that the conventional solution disrupts ecological processes. Positive impacts and benefits should be maximised.   | Same as above  |
| 6.3 If other types of solutions are implemented as part of the NbS, these are integrated into the NbS monitoring programme   | Monitoring and evaluation is defined by ISEAL as "An ongoing process through which an organisation draws conclusions about its contribution to intended outcomes and impacts. A monitoring and evaluation system consists of a set of interconnected functions, processes and activities, including systematic collection of monitoring data on specified indicators and the implementation of outcome and impact evaluations." | Monitoring plan and monitoring reports discussing project progress   |

### Criterion 7: NbS are integrated into policies and regulatory frameworks

**Explanation:** It is important that NbS are not only undertaken in the field, but are integrated in policies and regulatory frameworks so they can result in noticeable positive change over the long term. Policy and regulatory integration should happen at the appropriate operational level.

| Indicators | Guidance and examples | Suggested evidence |
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## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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| <p>7.1 Land use and sectoral policies and/or regulatory frameworks that are relevant for NbS are reviewed to identify gaps, obstacles, synergies and opportunities for NbS mainstreaming</p> | <p>"Mainstreaming" means incorporating into policies, regulatory frameworks and related actions.</p> <p>NbS projects sometimes fail because they are not coherent with policies and regulatory frameworks and thus lack political support. Policies and regulatory frameworks can also give rise to drivers of ecosystem change and biodiversity decline such as pollution and the loss of species habitats.</p> <p>The review of policies and regulatory frameworks needs to happen at the level that corresponds to the scale at which the NbS is implemented. E.g. where the NbS spreads across different countries, relevant policies and regulatory frameworks of those countries as well as transboundary policies and regulatory frameworks need to be reviewed since differences in policy frameworks across countries can lead to varying levels of support for NbS.</p> <p>Sectoral policies and regulatory frameworks may also affect NbS and need to be mapped too to avoid conflicts. For example, where an NbS aims to address food security, agricultural and food-related policies and regulatory frameworks will be relevant. Since NbS work with nature to address societal needs, policies and regulatory frameworks related to natural resources and the environment will also be relevant.</p> | <p>Report on policy review, identifying gaps, obstacles and opportunities. This may be contained in, for example:</p> <ul style="list-style-type: none"> <li>● Theory of change</li> <li>● Logical Framework</li> <li>● Strategy</li> </ul> |
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## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|   | <p>Whether the NbS engages at the policy and/or regulatory frameworks level might depend on who designs and implements the NbS. For example, corporate companies might find it more appropriate to promote changes to regulatory frameworks.</p>  |   |
| <p>7.2 The NbS promotes changes to policy and/or regulatory frameworks that support NbS mainstreaming</p> | <p>"Promoting" in this context means reaching out to policy makers and other relevant entities such as think tanks and advocacy groups to raise awareness for necessary changes in policy and/or regulatory frameworks.</p> <p>Policy and regulatory framework change can be a lengthy process that largely depends on political willingness to change. To effectively promote relevant policy and regulatory framework changes, the case for NbS needs to be built and policy makers need to see how the NbS concept will support them in achieving their own stated goals.</p> <p>Where the NbS does not have sufficient capacity or leverage to promote mainstreaming in policy or regulatory frameworks on its own, it should think about allies that could support its activities, for example civil society groups that work to address the same societal need. The extend of activities here will depend on the size and scale of the NbS.</p> <p>Promoting changes to policy and regulatory frameworks will require building capacity with policy makers on the concept of NbS and should</p> | <p>Minutes of meetings with policy makers and other relevant entities</p> |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|  | include both institutional as well as human capacity development.   |  |
| 7.3 The NbS contributes to the development or change of policies or regulatory frameworks that reconcile trade-offs between biodiversity and human well-being benefits | <p>Policies and regulatory frameworks related to NbS can be cross-sectoral or they can apply to different sectors but align with each other. The operational level at which policy and regulatory framework integration of NbS should happen does not necessarily have to be the national level. Note, however, that policy and regulatory framework support both at subnational and national levels are important for NbS continuation and up-scaling, so both should be aimed for.</p> <p>Usually, it will be difficult to clearly attribute new or changed policies or regulatory frameworks to a particular NbS. However, the efforts of the NbS and, potentially, of its allies in promoting the NbS concept to policy makers can be assumed to have an influence on policy making and regulatory frameworks.</p> <p>Note that strong NbS performance under Criteria 3 and 4 should help achieve this indicator.</p> | References to agreements and/or regulatory frameworks or bylaws that were created as a result of the NbS |
| 7.4 The NbS contributes to the delivery or creation of overarching environmental and sustainability objectives   | "Overarching objectives" refers to those that are linked to global agreements and conventions such as the <a href="#">Convention on Biological Diversity</a> (CBD), the <a href="#">Sustainable Development Goals</a> (SDGs), the <a href="#">United Nations Framework Convention on Climate Change</a> (UNFCCC) or the <a href="#">Sendai Framework for Disaster Risk Reduction</a> . At the national level, overarching   | Reference to a national commitment that was made in the relation to the NbS                              |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|  | <p>objectives may be reflected in e.g. National Biodiversity Strategies and Action Plans (NBSAPs).</p> <p>Being able to show that the NbS contributes to achieving these objectives can greatly support upscaling of the NbS concept overall. Successful NbS implementation can also drive the creation of new environmental and sustainability objectives and NbS should promote these where possible. Note that strong NbS performance under Criteria 3 and 4 should help achieve this indicator and that activities conducted to achieve indicator 7.3 will support 7.4.</p> <p>Again, where the NbS does not have sufficient capacity or leverage to promote the creation of new objectives, it should think about allies that could support its activities, for example civil society groups that work to address the same societal need. The extend of activities here will depend on the size and scale of the NbS.</p> <p>National objectives may be reflected in e.g. National Biodiversity Strategies and Action Plans (NBSAPs).</p> |  |
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# Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

## Annex

### Key terms and concepts

| Term                               | Definition   |
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| <b>Adaptive Management</b>         | A systematic process of continually improving management policies and practices by learning from the outcomes of existing programmes.  |
| <b>Appropriate</b>                 | Suitable or proper in the circumstances, which will depend on the context of the NbS.  |
| <b>Benefit</b>                     | Positive change in 'well-being' from the fulfilment of needs and wants (TEEB 2010).  |
| <b>Biodiversity</b>                | Biodiversity or biological diversity is the variability among living organisms from all sources including, <i>inter alia</i> , terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems (Convention on Biological Diversity Text, 1992).  |
| <b>Connectivity</b>                | Connectivity refers to the two-way flows that occur between ecological units within a landscape and which can have both a positive and negative impact on ecosystem services. For example, while connectivity between reefs is important for dispersal and replenishment of biodiversity, it can also increase the risk of disease transmission, invasion or endemism (adapted from the Society for Ecological Restoration). |
| <b>Conservation</b>                | COMMENT: Please refer to the definition of conservation in the IUCN World Conservation Strategy. Conservation is management for human benefit and both restoration and sustainable utilisation are attributes of the conservation.   |
| <b>Cost-benefit-analysis</b>       | Requires quantitative measures of the value of achieving the program objectives (the benefits). Because the benefits and costs are expressed in similar units, one can compare these directly on an absolute scale.  |
| <b>Cost effectiveness analysis</b> | Incorporates the estimation of costs along with some measure of effectiveness for more than one project, allowing a comparison or ranking of projects.   |
| <b>Criterion</b>                   | In the context of the IUCN NbS standard, a high-level statement expressing a desired practice or outcome.  |
| <b>Ecological Restoration</b>      | The process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed (SER, 2004).  |



## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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| <b>Ecological Restoration for Protected Areas</b> | A framework for protected areas and surrounding lands and waters. Helps define restoration problem, assess condition of ecosystem and identify reference ecosystem, develop outcomes and objectives, consider a range of options and select the most suitable one, develop an adaptive implementation plan, develop monitoring plans, including criteria and indicators, engage stakeholders and communicate with them.   |
| <b>Ecosystem</b>                                  | A dynamic complex of plant, animal and microorganism communities and their non-living environment interacting as a functional unit (Convention on Biological Diversity Text, 1992).   |
| <b>Ecosystem services</b>                         | Benefits people derive from ecosystems (Mooney <i>et al.</i> 2004; Millennium Ecosystem Assessment (MEA), 2005). Ecosystem Services are divided into four main categories: provisioning ( <i>e.g.</i> provision of food, water and raw material); regulating ( <i>e.g.</i> climate regulation, erosion prevention and water treatment); cultural ( <i>e.g.</i> recreational and spiritual services); and supporting services ( <i>e.g.</i> nutrient cycling, primary production) (MEA, 2005).   |
| <b>Ecosystem-based Adaptation</b>                 | The use of biodiversity and ecosystem services as part of an overall adaptation strategy to help people to adapt to the adverse effects of climate change (CBD, 2009).  |
| <b>Ecosystem-based disaster risk reduction</b>    | The sustainable management, conservation and restoration of ecosystems to provide services that reduce disaster risk by mitigating hazards and by increasing livelihood resilience (PEDRR, 2010).   |
| <b>Ecosystem-based Mitigation</b>                 | Enhance the benefits for, and avoid negative impacts on biodiversity from reducing emissions, taking into account the need to ensure the full and effective participation of indigenous and local communities in relevant policy-making and implementation processes, where appropriate. Enhance the conservation, sustainable use and restoration of marine and coastal habitats that are vulnerable to the effects of climate change or which contribute to climate-change mitigation (CBD, 2010).  |
| <b>Environmental and Social Impact Assessment</b> | A process for predicting and assessing the potential environmental and social impacts of a proposed project, evaluating alternatives and designing appropriate mitigation, management and monitoring measures.  |
| <b>Equitable/Equity</b>                           | It seeks people's access to equal opportunities and the development of basic capacities; this means that the barriers hindering economic and political opportunities, as well as the access to education and basic services, should be eliminated, so that the people (women and men of all ages, conditions and positions) may be able to enjoy such opportunities and benefit from them. It means justice; that is, giving each one what is rightfully theirs, recognizing the specific conditions or characteristics of each person or human group (sex, gender, class, religion, age); it is the recognition of diversity, without giving reason to |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|                                 | discrimination<br><a href="https://www.iucn.org/downloads/en_iucn__glossary_definitions.pdf">https://www.iucn.org/downloads/en_iucn__glossary_definitions.pdf</a>  |
| <b>Human well-being</b>         | Human well-being is assumed to have multiple constituents, including the basic material for a good life, such as secure and adequate livelihoods, enough food at all times, shelter, clothing, and access to goods; health, including feeling well and having a healthy physical environment, such as clean air and access to clean water; good social relations, including social cohesion, mutual respect, and the ability to help others and provide for children; security, including secure access to natural and other resources, personal safety, and security from natural and human-made disasters; and freedom of choice and action, including the opportunity to achieve what an individual values doing and being. (MEA 2005).   |
| <b>Impact</b>                   | Negative or positive effect on individuals, society and environmental resources resulting from environmental change (from: Potschin-Young et al. 2018; Modified from Harrington et al. (2010)).  |
| <b>Indicator</b>                | In the context of the IUCN NbS standard, one requirement or a number of requirements expected to be met by NbS projects.   |
| <b>InVEST</b>                   | Integrated valuation of ecosystem services and trade-offs. A suite of free, open-source software models used to map and value the goods and services from nature. Helps assess quantified trade-offs associated with alternative management choices and to identify areas where investment in natural capital can enhance human development and conservation. Only suitable for larger projects (need to define what "large" is). See <a href="https://naturalcapitalproject.stanford.edu/invest/">https://naturalcapitalproject.stanford.edu/invest/</a>  |
| <b>Land use</b>                 | "Land use refers to how a specific piece of land is allocated: its purpose, need or use (e.g. agriculture, industry, residential or nature). (CBD Toolkit Glossary)"   |
| <b>Landscape/seascape scale</b> | "There is no single accepted definition of 'landscape scale'; rather, it is a term commonly used to refer to action that covers a large spatial scale, usually addressing a range of ecosystem processes, conservation objectives and land uses. The 'right scale' might need to take account of the particular interest of those involved locally, aesthetic or cultural characteristics, natural features such as river catchment areas or particular habitats, or recognised areas such as the 159 National Character Areas. Landscape scale conservation is characterised by the pursuit of multiple benefits across a defined area (e.g. water quality, biodiversity and access). The best examples also make links to wider economic and social priorities, where enhancing nature can provide benefits to the local economy and quality of life. There are strong links between the landscape scale approach and an 'ecosystems approach', which encourages an integrated approach to land management, considering the costs and benefits of land use decisions, and pursuing those that minimise risks and maximise opportunities for people, for nature and for the |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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|                              | <p>economy.”<br/> <a href="https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/228842/8082.pdf">https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/228842/8082.pdf</a></p> <p>The CBD define landscape scale as part of the land, as perceived by local people or visitors, which evolves through time as a result of being acted upon by natural forces and human beings. It is a spatial scale which is important in terms of a continuous flow of key ecosystem services (CBD SBSTTA, 2011).</p>   |
| <b>Logical Framework</b>     | <p>Methodology mainly used for designing, monitoring, and evaluating international development projects. Uses the form of a four-by-four project table with goal, outcome, outputs, activities on the vertical left and summary, indicators, means of verification, and risks/ assumptions in the top horizontal. See <a href="http://www.tools4dev.org/resources/logical-framework-logframe-template/">http://www.tools4dev.org/resources/logical-framework-logframe-template/</a></p>  |
| <b>Nature-based Solution</b> | <p>Actions to protect, sustainably manage and restore natural or modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits (World Conservation Congress 2016, WCC-2016-Res-069-EN).</p>   |
| <b>Protection</b>            | <p>IUCN defines a protected area as: “A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values” (Dudley, 2008). Effective protection can also take place elsewhere and IUCN leads a process to define “other effective area-based conservation mechanisms” in recognition of this (Jonas et al., 2014).</p>   |
| <b>ROAM</b>                  | <p>Restoration Opportunities Assessment Methodology for forests. Flexible framework to answer the following questions at country or regional level: Where is restoration socially, economically and ecologically feasible? What is the total extent of restoration opportunities? Which types of restoration are feasible? What are the costs and benefits associated with different restoration strategies? What policy, financial and social incentives exist or are needed to support restoration? Who are the stakeholders to engage? What options exist to unlock finance for restoration? How can we scale up restoration?</p> |
| <b>Societal need</b>         | <p>In the context of the NbS standard, challenges of global relevance such as climate change, food and water security or natural disasters.</p>  |
| <b>Standard</b>              | <p>The set of criteria and indicators that, if met in full, are expected to deliver successful NbS.</p>  |

## Nature based Solutions for Societal Needs - a standardised approach for design and verification of interventions

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| <b>Sustainable use</b>  | Use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations. (Convention on Biological Diversity (CBD), 1992).  |
| <b>Theory of Change</b> | Defines the conditions and activities that are required to bring about a given long-term outcome. It uses backwards mapping, starting from the long-term goal to the intermediate and then early-term changes that are required to cause the desired outcome. See <a href="http://www.theoryofchange.org/what-is-theory-of-change/how-does-theory-of-change-work/">http://www.theoryofchange.org/what-is-theory-of-change/how-does-theory-of-change-work/</a> |
| <b>Trade-off</b>        | Trade-offs may arise when favouring a particular ecosystem service or group of people at the expense of another.  |

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