Draft 2:

Because NbS are an intersectional solution, it is important that we gather feedback from

Criterion 1: NbS effectively address one or more societal challenges

1. Guidance

NbS must be designed to effectively and efficiently address specific societal challenges. These include climate change (adaptation and mitigation), food security, water security, disaster risk reduction, social and economic development and healthy and secure lives. Three main types of conservation actions can be used (standalone or in combination) to address the societal challenge – conservation through protection, restoration and/or sustainable use and governance. The design needs to include specific outcomes that directly and explicitly target societal challenges and contribute to human well-being.

A prerequisite for any ongoing intervention to be considered as an NbS is that a socio-economic baseline has been established before the intervention started. This is important so that the type and appropriateness of the proposed NbS can be properly identified and fully understood.

Even though NbS focus on addressing societal challenges, the activities defined should also aim to sustain and enhance ecosystem services while maintaining ecosystem structure, function and composition (see Criterion 3). The reason for this is that greater ecosystem integrity conveys enhanced resilience and durability and thus improves the long-term effectiveness of the NbS in question to address the societal challenge/s. An NbS that simplifies ecosystem structure, function and composition is more likely to deliver short-lived outcomes and eventually collapse. By enhancing and maintaining ecosystem structure, function and composition, we ensure ecosystems are resilient to future environmental changes and that the NbS they provide are sustainable.

1. Indicators

1.1 The one or more societal challenges the NbS aims to address are described and documented

The NbS intervention must address the societal challenges that directly impact a specific group of people (e.g. an NbS to control coastal erosion that is endangering a specific municipality) or indirectly impacts society as a whole (e.g. an NbS to sequester carbon as a climate mitigation option). However, an NbS intervention around one particular societal challenge often yields multiple societal benefits, such as job creation and, wherever appropriate, the societal challenges these additional benefits address should also be described, documented and accounted for. While the IUCN definition of NbS specifies six societal challenges, namely,

climate change adaptation and mitigation, disaster risk reduction, human health, socio-economic development, food security and water security, other challenges may be identified and solved using NbS interventions, for example, clean energy or human-wildlife conflicts.

Equally, this means that not all conservation int ET (an)] TJ ET Q q 0.000009 /2nsesollhe

Criterion 2: Design of NbS is informed by scale

2. Guidance

Landscapes and seascapes are mosaics of interacting socio-ecological systems. Although they can occur at any spatial scale, over large geographic areas they are composed of overlapping ecological, social, cultural and economic activities and values and yield important ecosystem services such as water regulation and climate mitigation. NbS must be applied at a landscape scale because ecosystems are affected by and have effects on the larger land and seascape in which they are embedded and cannot be managed in isolation. Furthermore, because ecosystem goods and services often accrue at the land- or seascape scale, for NbS to effectively provide benefits to human well-being while safeguarding or enhancing ecological integrity, NbS activities must be strategically deployed across the larger landscape.

This requires operating at levels of the biological hierarchy above the individual ecosystem scale and explicit consideration of: the types and proportions of ecosystems within the landscape, the spatial organisation of the units, and linkages among landscape composition, structure and functions. In fact, managing functions, flows of energy, nutrients, and other ecological subsidies through the landscape may be as or more important than managing for the composition and structure within individual ecosystem units, especially for the delivery of ecosystem services. Therefore, the assessment, planning, implementation, and monitoring of activities intended to impact ecosystem goods and services that benefit society at large (water, climate mitigation and adaptation, etc.) require landscape-scale approaches and integrated implementation and monitoring of site-specific measures. For these reasons, at each phase of the development and execution of NbS, the larger land/seascape must be considered.

2. Indicators

2.1 Design responds to the scale of the economic, social and ecological systems

While NbS does not need to be implemented at scales above the target site level, the interventions, including those that occur at single sites or small spatial scales, must be considered in the context of larger landscape planning, in order to ensure that activities are strategic, maximise benefits to people and ecosystems, while minimising adverse effects on adjacent ecosystems and human population3(q)-8(e)3( )-4e

context that has considered the trade-offs, options and scenarios. Monitoring at the landscape/seascape level will not only include measures of site-specific effects but also impacts among sites and multiple stakeholders

2.2 Design and scale embrace complementarities with a range of interventions and sectors

NbS can be implemented alone or in an integrated manner with other types of solutions to address societal challenges (e.g. technological, engineering solutions, communication related tools). While NbS are different from more conventional conservation types of approaches, since the vast majority of NbS interventions are hybrid solutions, between nature-based and grey type solutions, NbS synergies with other types of solutions are not usually made automatically and should be explicitly planned for. It is important to have a solid basis in science and an integrative approach for monitoring, as part of the co-design of the solution, when NbS are implemented in complementarity with other types of solutions.

Links between a broad range of sectors to broaden the scope of societal challenges to be addressed will also support long-term synergies amongst different challenges, promote joint approaches for interdependent challenges, sustainability and ownership of the approach, reduce risks of negative unintended consequences and facilitate overall mainstreaming of NbS into national policies and sectors. Some illustrative examples could include reaching out to and incorporating the agriculture or crop insurance sectors to better address food security; or the health sector to better address human health in cities; or infrastructure to address disaster risk from flooding on a coastline (through a mixture of protecting mangroves and seawalls).

2.3 Design and scale incorporate risk identification and management

Credible design processes require an assessment of how external factors may influence the intended outcome of a project or initiative, especially negative impacts as well as those arising from a larger scale, thus beyond the control of the intervention. This is particularly(t)-4(he)14( )] TJ be explibe a

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e) Does the NbS itself introduce potential risks or additional pressures on the support ecosystem (e.g. risk of introduction or spread of invasive species)?

outcomes with natural systems and processes. It is therefore prudent that NbS proponents periodically review for adverse non-target effects in target and adjacent ecosystems. Towards that end, an evidence-based review of the potential risks and impacts of the main NbS interventions on the area's biodiversity should be detailed in the NbS operational plan, along with the specified frequency of periodic reviews and a framework response procedure to be followed if negative secondary impacts are detected.

3.4 Opportunities to enhance ecosystem connectivity are considered at scale and, where appropriate and possible, incorporated into the NbS plan

Ecosystem connectivity refers to the two-way flows of biotic (i.e. living) components of ecosystems that otherwise would be separated across a landscape by physical barriers. Contributing to improved ecosystem connectivity may often be a conservation objective that can be relatively easily facilitated by NbS. The scale at which connectivity is addressed in the planning depends on the goals that have been set for the NbS intervention.

There is also a strong social perspective on ecosystem connectivity, and in this respect some of the most promising opportunities for NbS interventions relate to the urban demand for green spaces and recreational opportunities.

Other examples of connectivity include planned corridors linking ecosystem patches across a landscape to accommodate ungulate migrations, and municipalities that have for several decades invested in the purchase and management of headwater landscapes to secure sustainable supplies of water for resiipdts J ET Q q 0.00000912 0 612 792 re W* n BT /F1 11.04 4f 1 0 0 1

solutions can inform on the most effective way forward in regard to addressing the societal challenge/s as well as understanding the key interests.

4.3 NbS provide an analytical framework to support the choice of NbS

An analytical framework can come in the form of a basic cost-effectiveness study, cost-benefit assessment, or a multi-criteria economic analysis. The appropriate analytical framework will depend on the knowledge and capacity to make these predictions. There are a number of methods and examples to develop cost-effectiveness studies and at the very least an attempt to do so will assist greatly in informing Criterion 6 on trade-offs.

4.4 A business/economic plan for the NbS is developed to assess and ensure the economic and financial feasibility of NbS in both the implementation stage and long-term

A long-term business/financial plan should be developed to address the economic/financial feasibility and constraints of NbS. This plan should also look beyond the timeframe of the planning and implementation phase. If financial considerations are only thought of within these limits, the short-term cost could outweigh the long-term benefits or vice versa. A solution may then not be deemed economically viable through time. Therefore, planning should consider the implementation stage but also include a degree of forward-looking thinking with the above criterion.

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

5. Guidance

Governance of an NbS intervention involves social structures and decision-making processes. All NbS need to have an inclusive approach when identifying and establishing social structures throughout the lifecycle of the intervention and beyond. A rigorous stakeholder mapping process may be conducted in order to identify the range of stakeholders who will be affected by the NbS and how. All stakeholder groups must be represented and their stakes considered when making decisions concerning the NbS intervention. Doing so can minimise the risk of marginalising a particular stakeholder group or worse, affecting them negatively with the NbS intervention. On the other hand, a lack of such an inclusive approach will lead to decision-making based on limited, skewed and narrowed perspectives, which could lead to increased social and/or economic inequalities amongst stakeholders. This is especially possible due to the inherent power differences amongst stakeholders who may be involved or affected. Furthermore, lack of an inclusive approach may exacerbate the risks highlighted in indicators 2.3 and 3.3, and limit the extent to which adaptive management can be practised.

Furthermore, transparency is critical in ensuring that resources (financial, human and natural) are being used fairly and efficiently for the benefit of the beneficiary group(s) that have been collectively identified and agreed upon by all stakeholders involved. Transparency on the part of the external actors who may be driving the intervention is needed for local stakeholders and especially local communities to understand the immediate and long-

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

6. Guidance

Even though the overarching objectives of an individual NbS must prioritise the resolution of specific societal challenges (Criterion 1), the supporting ecosystem will continue to deliver a range of services that are important to society as a whole (Criterion 3). Indeed the ability to deliver multiple benefits simultaneously is a major attribute of NbS. In some cases, the 'stacking' of key benefits (e.g. water protection, carbon sequestration and public health through recreation) is an important determinant as to whether an NbS is economically viable (Criterion 4).

However, this fundamental attribute of ecosystems can also provide a challenge to the NbS proponent. Maximising the provision of multiple benefits from any one NbS risks a commensurate reduction in the key ecosystem benefit that is instrumental for addressing the societal challenge at hand. Conversely maximising the provision of the key ecosystem benefit will almost certainly result in a reduction of the quality and quantity of other ecosystem benefits. Such trade-offs are very often an inherent feature of natural resource management and arise when a particular ecosystem service or stakeholder preference (e.g. clean drinking water)

among stakeholders. Such analysis must not be restricted to the planning phase but be built into the entire NbS life cycle, including initiation, planning, execution and closure, acknowledging that NbS interventions can be implemented in perpetuity.

Trade-offs have a spatial, temporal and reversibility dimension. The spatial dimension refers to whether the effects of the trade-offs 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. Furthermore, benefit-sharing arrangements that have been mutually agreed must be established to ensure equitable balancing of benefits and trade-offs from policies and investments.

6.2 The rights, usage and responsibilities of the different stakeholders regarding resource access and land use are acknowledged and respected

The legal and usage rights of vulnerable and marginalised groups need to be respected. Rights, use and responsibilities of stakeholder groups may be analysed and assessed using appropriate tools, building on the outcomes of stakeholder analysis or mapping. Particularly, when dealing with Indigenous communities, free, prior and informed consent (FPIC) must be used (aligned to Criterion 5).

6.3 Established safeguards are in place to prevent mutually agreed limits of trade-offs being exceeded or trade-offs destabilising the entire ecosystem or land/seascape

Many related policies, such as REDD+, have explicit safeguard policies (see for example the UNFCCC (Cancun Agreement Appendix 1). Voluntary carbon projects have often followed the

Criterion 8: NbS are mainstreamed beyond standalone, time bound interventions

8. Guidance

Given that NbS is a relatively new and emerging concept, in order to increase demand and supply of NbS, it must be possible to scale up and replicate individual NbS. Both of these processes will add evidence for and understanding of the NbS approach, further enabling the design of even more effective, affordable and sustainable NbS.

NbS are designed and managed to be complementary to institutional structures, policy, plans, laws, regulations and nearby interventions (see Design at Scale Criterion 2 and Adaptive Management Criterion 7 respectively). However, while an NbS intervention may be time bound (for example, where specific actions such as planting mangroves is limited to five years), the NbS overall, including the resulting framework and impact, continues outside these boundaries. The purpose of this criterion is to ensure that NbS enable their own mainstreaming for solutions to persist through time.

In supporting the uptake and scaling of NbS across time and well beyond the timeline of the intervention, NbS proponents ensure that NbS have a long-term trajectory that spans several decades. There are varied approaches to mainstreaming NbS, however all rely on strategic communications and outreach. Audiences to consider include individuals (the general public, academics), institutions (national government, start-ups, organisations) and global networks (Sustainable Development Goals, Paris Agreement).

8. Indicators

8.1 NbS share and communicate their design, implementation and lessons learnt

For an NbS approach to be scaled up and replicated, it is important that the process of design and implementation, along with lessons learnt, are made available and accessible to relevant individuals. Audiences for this communication include individuals such as decision makers, investors and other NbS proponents and the general public. Examples include news articles on lessons learnt, press releases on partnerships formed, capacity trainings on design or implementation, policy briefs and Examples ikdie rnt-4(d4p.04 Tf 1 0 0 1 72.024 531.43 Tm)-8(an)3(i50 1 473

Scale Criterion 2). Failure to do so may risk the durability of the NbS over the long term if, for example, it requires actions or interventions that contravene or are otherwise incompatible with established land-use strategies and practices. There may also be situations where existing land-use policies undermine one another and therefore present additional challenges to NbS implementation. Under these circumstances, NbS can provide the opportunity to highlight these incompatibilities to policy makers and act as a trigger to amend regulations in order to ensure sustainability and durability.

On occasions, contradictions between the objectives or requirements of different land-use or sectoral policies may be encountered which have the potential to reduce the effectiveness and/ or efficiency of NbS implementation. These should be fully documented along with options to resolve or work around any such obstacles both for monitoring purposes and for the consideration of policy makers. In order to improve the design and facilitate effective policy alignment of future NbS, monitoring and evaluation outcomes as well as other forms of lesson learning, should be maintained and remain easily accessible within the public domain.

8.3 Where relevant, NbS contribute to national and global targets for human well-being and biodiversity

NbS are aimed at contributing to global societal challenges. Individual NbS build on this momentum, by recording their progress towards increasing human well-being and tackling the biodiversity crisis. Where NbS impacts contribute to relevant national and global targets (mapped in Design at Scale Criterion 2), the bodies responsible for these targets are informed so that this impact is documented. Targets to consider informing include:

[1] Brondizio, E.S., Settele, J., Díaz, S. and Ngo, H.T. (eds.) (2019). *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.* Bonn, Germany: IPBES.

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