



# NBSI NEWSLETTER

May 2019, Issue 2

Reflecting the literature and news so far this year, this newsletter focuses on the efforts being made to shift the concept of Nature-based Solutions (NbS) from merely a ‘great idea’ to an innovation that can be scaled up. Our science, policy, practice and news updates highlight the potential, and increasing urgency, for NbS to be mainstreamed into global governance, and rural and urban landscape planning. With the publication of the IPBES report, the upcoming UN Climate Summit, the development of new NbS standards by the IUCN, and the launch of a major new “natural climate solutions” campaign led by George Monbiot and endorsed by Greta Thunberg, 2019 is an exciting, dynamic year for NbS.

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## NBS SCIENCE

This month, we introduce you to three interesting pieces of NbS research:

- a study showing the importance of restoring foreshores to enhance the resilience of tropical beaches and the communities that depend upon them;
- a conceptual paper that sets out how NbS can be better integrated into land management policy; and
- an article that distils practical NbS implementation lessons from 15 urban experiments across Europe.

**Maintaining tropical beaches with seagrass and algae: a promising alternative to engineering solutions** | James et al. (2019) *Bioscience*

Erosion of tropical beaches, exacerbated by climate change and coastal development, is resulting in coastal flooding, loss of income from tourism, and loss of habitat for wildlife across the globe. In this study, the authors determined the long term effectiveness of natural

vegetation in stabilizing the foreshore and attenuating wave velocity, combining data from field flume experiments with information from the literature. They demonstrate that sediment stabilization by seagrass in combination with sediment-producing calcifying algae in the foreshore forms an effective mechanism for preventing erosion. The dominant management approaches, such as hard infrastructure and sand nourishment, were found to be short term solutions that undermine a beach's resilience and often disrupt natural sediment transport. [Read more](#)

**Addressing societal challenges through Nature-Based Solutions: How can landscape planning and governance research contribute?** | Alberts et al.

(2019) *Landscape and Urban Planning*

This paper explores how river landscape planning and governance research enhance understanding of the ways NbS can alleviate societal challenges. It also presents a conceptual framework for how planning and governance can help assess NbS effectiveness. NbS sometimes take more space and time than tech alternatives, require intensive coordination and cooperation efforts, and altered funding and insurance schemes. However, they provide many advantageous co-benefits. Scientists and policymakers should critically assess the extent to which expected outcomes address the targeted problem, and the resulting benefits and trade-offs. Landscape planning provides robust, salient and legitimate spatial information for this NbS assessment, while governance research provides insights on actors and institutions. [Read more](#)

**Seven lessons for planning nature-based solutions in cities** |

Frantzeskaki (2019) *Environmental Science and Policy*

Recent research on urban NbS tends to highlight the benefits of NbS, but not investigate implications for policy planning and governance. To address this gap, this paper analyses 15 urban experiments across 11 European cities that have implemented NbS projects and identifies lessons on how NbS may be chosen, designed, implemented, communicated and transferred. The lessons range from the need for NbS to be aesthetically pleasing for citizens to accept them, to how a collaborative governance approach is needed, and they are empirically observed and backed up by the literature. [Read more](#)

For more recent papers on Nature-based Solutions, [visit our interactive NbS bibliography](#)

## NBS IN POLICY



### **United Nations Secretary General’s Climate Summit – NbS coalition**

NbS are one of nine core themes for the upcoming UNSG Climate Summit. The NbS Coalition is being led by China and New Zealand, includes Costa Rica, Fiji, Norway, Portugal and Tajikistan, and is being supported by UN Environment, the CBD and coordinated by David Nabarro. The NbS coalition is calling for more systemic understanding of the interconnections between human and nature, as well as concrete actions to integrate natural systems to mitigate and adapt to climate change. [Read more](#)

### **Nature-based Solutions highlighted in the IPBES Report**

The much anticipated global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) was launched on May 6th. The report paints a bleak picture. While our dependence on natural resources has grown dramatically, the capacity of nature to provide these resources is being severely diminished due to accelerating rates of biodiversity loss. This is largely being driven by industrial agriculture, overexploitation and climate change, and fuelled by perverse subsidies and a flawed financial system. To address these issues, the report emphasizes the urgent need to incentivise environmental responsibility, remove perverse subsidies, strengthen the rule of law and promote NbS. Indeed, NbS and “nature-friendly” solutions are highlighted as a cost-effective way of meeting the Sustainable Development Goals, and the report is clear about the fundamental role of natural ecosystems in “reducing vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters”. However, it urges great caution around land-based

mitigation, stating that “large-scale bioenergy plantations with carbon capture and storage and widespread afforestation of non-forest ecosystems would have negative impacts on biodiversity and would threaten food and water security and local livelihoods, including by intensifying social conflict”. [Read more](#)

## **UN resolution passed calling for urgent action on peatlands**

This March, a UN Resolution was passed that urges member states to conserve, sustainably manage, and restore their peatlands. This is a welcome development because peatlands are found in 180 countries, cover approximately 3% of the Earth’s land area, and provide habitats for diverse flora and fauna. Moreover, peatlands store vast amounts of soil carbon and are a major sink for carbon dioxide. [Read more](#)

## **NBS IN PRACTICE**



## **Opportunities to improve infrastructure planning for social-ecological resilience**

Last year the OECD declared that “an unprecedented transformation of existing infrastructure systems is needed to achieve the world’s climate and development objectives”. In response, the World Wildlife Fund for Nature, in conjunction with the German government, published a brief setting out how NbS can provide cost-effective “resilience services” that complement grey solutions for climate change adaptation, but only if they are effectively integrated into the planning system. In particular, NbS need to be considered at

the earliest stage of planning before detailed masterplans are drawn up. Decision-makers need to be able to consider the benefits of intact ecosystems in land-use planning processes and evaluate the services they provide. The paper makes seven key recommendations, including experimenting with planning approaches on the ground, enshrining NbS in regulatory frameworks, and developing cross-sector collaboration between ministries of finance, planning and environment through training in “futures thinking”. [Read more](#)

### **IUCN Global Standard for Nature-based Solutions**

In an effort to scale-up NbS, the IUCN is developing a global standard that sets out criteria and indicators for NbS planning, design, and implementation. This is intended to overcome the lack of common understanding of NbS and unlock their powerful role in helping us meet development goals. The standard will enable assessment of NbS throughout their lifecycle. It is composed of seven criteria which are broken down into several indicators, plus cross-cutting issues such as adaptive management and stakeholder engagement. The standard will be aligned with the Sustainable Development Goals and launched in 2020, during the World Conservation Congress in Marseille. The decision to establish a global standard at this time speaks to the urgent need for the careful stewardship of natural ecosystems to play a more central role in development planning. Society can derive both economic gains and conservation success, as demonstrated by numerous IUCN programmes that both build community wellbeing and meet biodiversity goals, e.g. [EPIC](#) and [WISE-UP](#). [Read more](#)

# NBS EVENTS

**Valuing our Life Support Systems 2019**  
21-22 May, London, UK

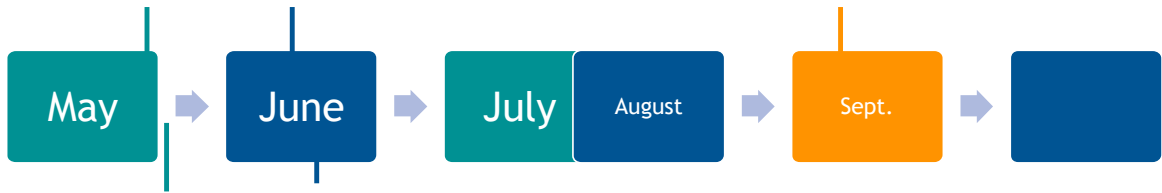
The Natural Capital Initiative's 10th anniversary summit offers an independent platform for people in science, policy, NGOs, businesses and local communities to discuss and debate innovative natural capital solutions that enhance the environment and strengthen society. It builds on two influential summits in 2014 and 2009, which helped to shape natural capital thinking in the UK.

**Global Nationally Determined Contribution Conference Berlin**  
11-14 June, Berlin, Germany

Co-organised by the Climate and Development Knowledge Network is, with GIZ, UNDP, NDC Partnership, International Climate Initiative, LEDS GP, Initiative for Climate Action Transparency and Partnership on Transparency in the Paris Agreement.

**UN Climate Action Summit of the Secretariat General**  
23 September, New York, US

"UN Secretary-General António Guterres is calling on all leaders to come to New York on 23 September with concrete, realistic plans to enhance their nationally determined contributions by 2020, in line with reducing greenhouse gas emissions by 45 per cent over the next decade, and to net zero emissions by 2050."



**4th European Climate Change Adaptation conference**  
28-31 May, Lisbon, Portugal

As the first to be hosted in southern Europe, the 4th ECCA brings researchers, policymakers and practitioners together to discuss advances in climate change adaptation, find solutions and inspire collective action to increase Europe's resilience.

**UNFCCC Bonn Climate Change Conference**  
17-27 June, Bonn, Germany

## NBS IN THE NEWS



### **NbS endorsed by Greta Thunberg and others in a letter to the Guardian as a new campaign is launched**

In early April, [George Monbiot](#), Greta Thunberg, Naomi Klein, Margaret Atwood and others published an [open letter in the Guardian](#) endorsing nature's role as a major ally in the fight against climate change. The letter calls on governments around the world to implement policies that sequester atmospheric carbon using ecosystem restoration and forms part of a new campaign called [Natural Climate Solutions](#). The mission of this campaign is to “catalyse global enthusiasm for drawing down carbon by restoring ecosystems”, and it is bringing together many groups working in this rapidly growing, multidisciplinary field, including our [initiative](#).

### **Almost half of forest restoration pledges are monoculture plantations with few climate benefits**

As we pointed out in our paper in [Nature Climate Change](#) earlier this year, the focus on forests for climate mitigation can be risky if it is not informed by sound science. In a comment for [Nature](#), Lewis et al. show that almost half (45%) of national pledges towards the 2011 [Bonn Challenge](#) target of restoring 350 million hectares of forest by 2030 will be vast commercial monoculture plantations. These plantations are harvested every 10-20 years, and the stored carbon is then released back to the atmosphere as the short-lived products (e.g. chipboard and paper) decay. If the whole 350 Mha area was allowed to

regenerate to natural forest it would store 42 billion tonnes of carbon, but if it was all plantation it would store only 1 billion tonnes, making it impossible to deliver the 1.5 degrees C target this way. Lewis et al. conclude that some countries are misinterpreting the concept of “forest restoration”, by failing to address biodiversity and long term climate risks. They advocate prioritising the protection and restoration of natural forests in tropical regions, funded by international payments while focusing plantations and agroforestry on natural grasslands.

### **NBS vs NCS**

*Nature-based solutions (NbS) and natural climate solutions (NCS) are similar concepts, but they are not interchangeable. NbS involve working with and enhancing nature to help address a wide range of societal challenges, with solutions such as urban green infrastructure, protecting and managing natural ecosystems, and innovation of agricultural systems through ecosystem-based principles. NCS, a term introduced by [Griscom et al. \(2017\)](#), is a subset of NbS that is specifically focused on harnessing the potential of ecosystems for global emissions reductions, especially through using forests for carbon storage.*



## NBS INITIATIVE

NBSI is an interdisciplinary programme of research, policy advice, and education aimed at increasing the sustainable implementation of NbS through the application of science. In April the NBSI Director, [Prof. Nathalie Seddon](#), attended the [Paris Forum on Nature-based Solutions](#), a Horizon 2020 initiative by ThinkNature. In her opening keynote, she stressed that the extent to which NbS reduce risk and bring societal benefits depends on how we implement them. She emphasized the fundamental importance of actions that support biodiversity-based resilience and involve local stewardship.

Meanwhile, just ahead of IPBES, NBSI and IIED co-published a [Policy Brief](#) and a [Rapid Review](#) of Evidence describing the many ways in which biodiversity loss is a development crisis and advising on the urgent actions needed from the development community.

NBSI continues to build collaborative links across the ever-growing NbS community. We are delighted to announce our new partnerships with the [NDC Partnership](#) and [Nature4Climate](#).

We have also been working in different ways to support the NbS proposition for the [UNSG summit](#). We are proud to support the [Youth4Nature](#) movement: Nathalie Seddon gave a webinar on the importance of nature for addressing societal challenges and why uniting youth movements for climate and nature is so important as part of the launch of the Youth4Nature campaign on 14th May.

Finally, we warmly welcome Alison Smith as a new Senior Associate, and the WCS, Robin Chazdon, Andy Hector, and Constance McDermott as new allies and expert advisors.

To learn more about how you can work with us, visit: [www.naturebasedsolutionsinitiative.org](http://www.naturebasedsolutionsinitiative.org)