

Nature based Solutions

'NbS'



CONAMA LOCAL TOLEDO MARCH 2019

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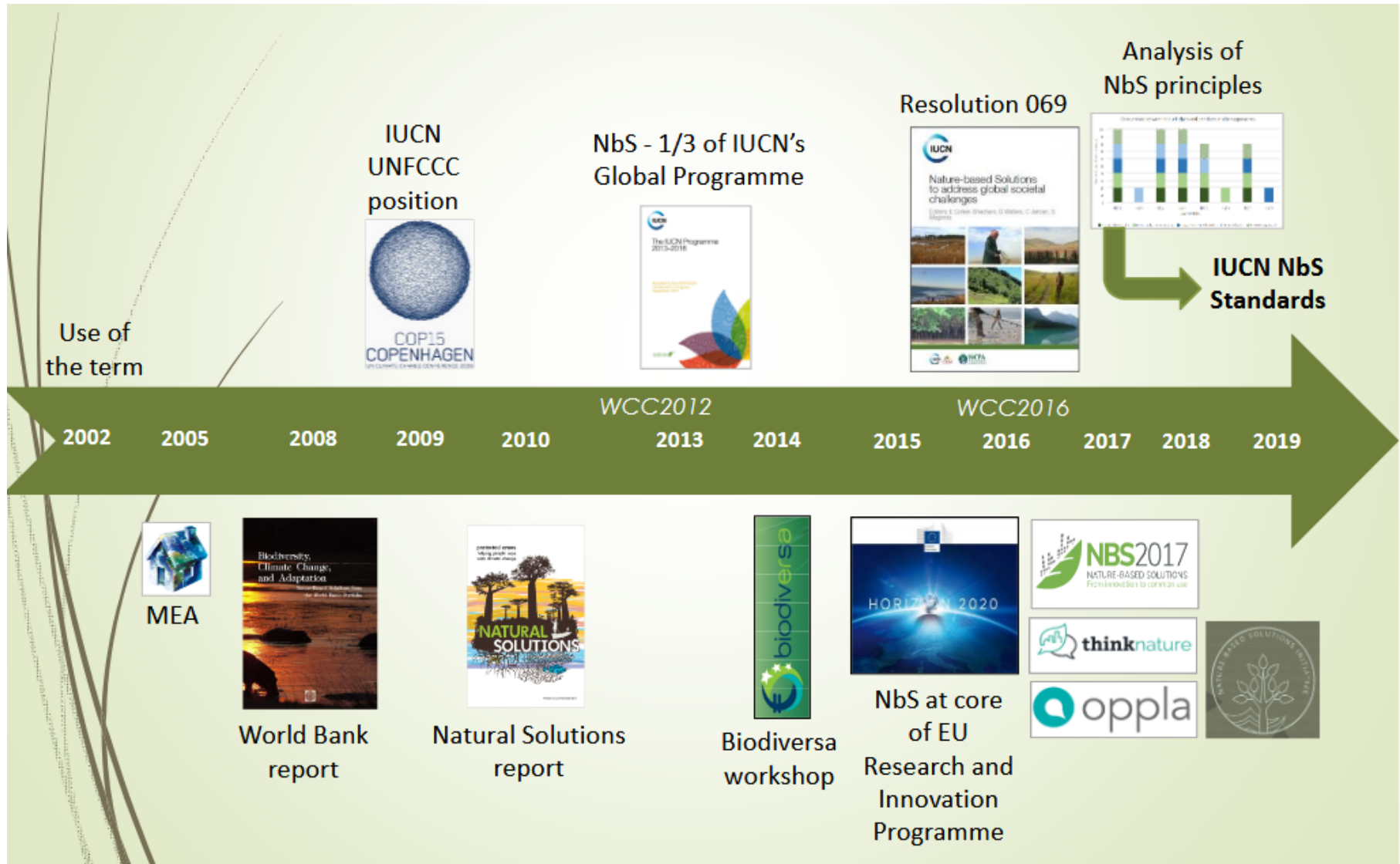
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EVOLUTION OF THE NATURE-BASED SOLUTIONS CONCEPT



Use of the term

IUCN UNFCCC position



NbS - 1/3 of IUCN's Global Programme



Resolution 069



Analysis of NbS principles



IUCN NbS Standards

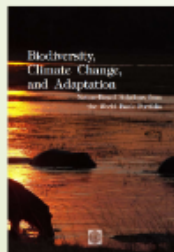
2002 2005 2008 2009 2010 2013 2014 2015 2016 2017 2018 2019

WCC2012

WCC2016



MEA



World Bank report



Natural Solutions report



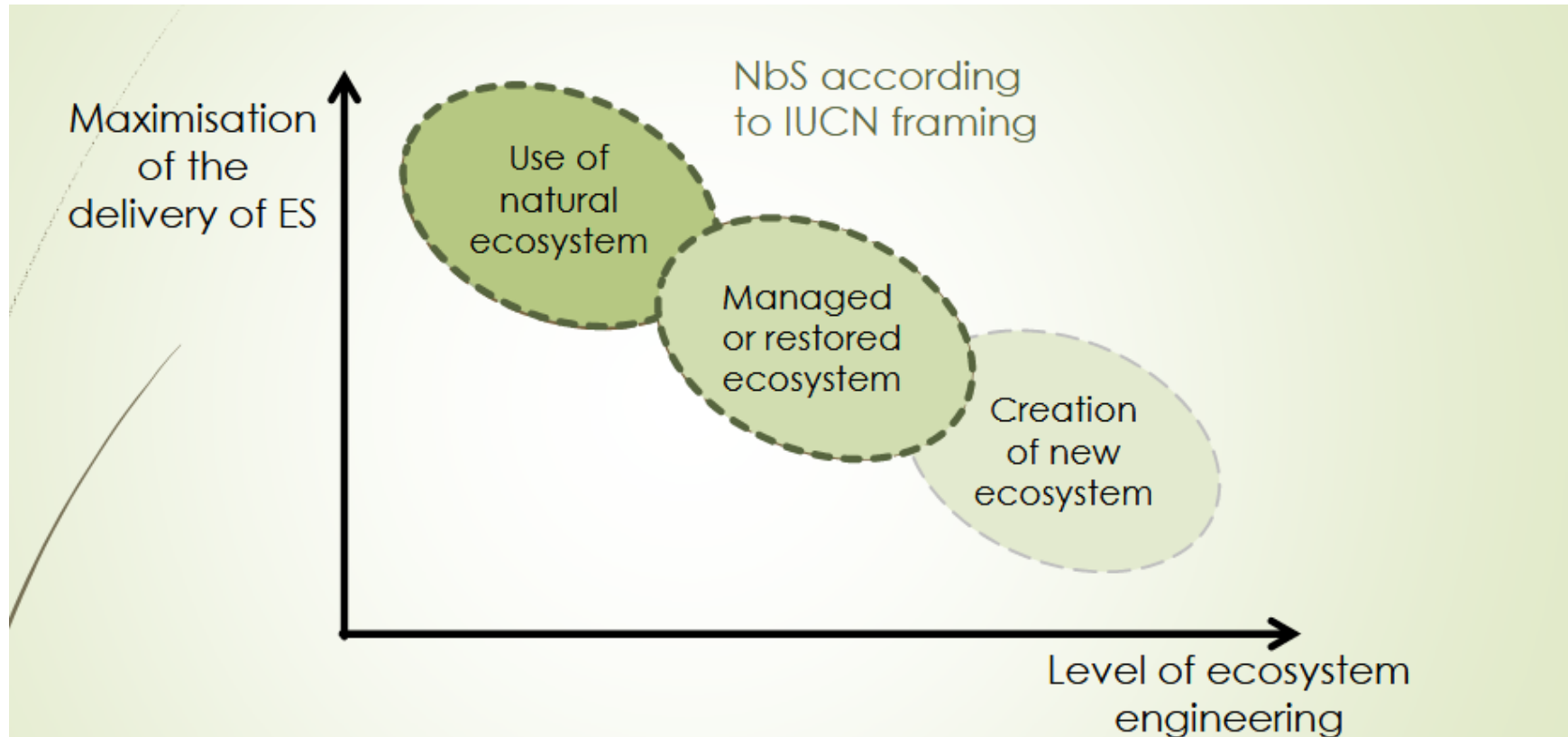
Biodiversa workshop



NbS at core of EU Research and Innovation Programme



TYOLOGY OF NBS



Adapted from: Balian E. et al., 2014. *Outputs of the Strategic Foresight workshop "Nature-Based Solutions in a BiodivERsA context"*, Brussels. BiodivERsA report, 45 pp

DEFINITION OF NBS

Nature-based Solutions (NbS) are defined by IUCN as *“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”*.

(WCC-2016-Res-069-EN)



***Societal challenges: climate change, food security, water security, human health, natural disasters, social and economic development**

PRELIMINARY PRINCIPLES FOR NATURE-BASED SOLUTIONS

Nature-based solutions:

- **Criterion 1. NbS conserve, restore and sustainably use ecosystems for the benefit of people without compromising natural values**
- **Criterion 2. NbS maintain native biological and cultural diversity**
- **Criterion 3. NbS are adaptive to enable society to respond to change**
- **Criterion 4. NbS produce societal benefits while seeking to balance trade-offs**
- **Criterion 5. NbS are planned and implemented at an appropriate scale**
- **Criterion 6. NbS may be complemented by other types of interventions**
- **Criterion 7. NbS are integrated and mainstreamed into relevant policy and regulatory frameworks**



NBS IN GLOBAL ENVIRONMENTAL POLICY



➤ NbS can address several SDGs:



NbS could be incorporated as a major tool to mainstream biodiversity, and for joining the three Rio conventions (UNCCD, UNFCCC, CBD) (Side event #2864 – CBD COP – Dec 2018)

NBS CAN ADDRESS SEVERAL SDGS



NBS-relevant SDGs and MSSD Objectives		
Theme	UN SDG #	MSSD Objective
Climate Change	SDG 13 (Climate Action)	Objective 4: Addressing climate change as a priority issue for the Mediterranean
Food Security	SDG 1 (No Poverty) ; SDG 2 (Zero Hunger)	Objective 2: Promoting resource management, food production and food security through sustainable forms of rural development
Water Security	SDG 6 (Clean Water and Sanitation)	Cross-cutting, mostly addressed under Objective 2 (see above)
Urban Areas	SDG 11 (Sustainable Cities and Communities)	Objective 3: Planning and managing sustainable Mediterranean cities
Ecosystems	SDG 14 (Life below Water); SDG 15 (Life on Land)	Objective 1: Ensuring sustainable development in marine and coastal areas ; Objective 2 (SD 2.1, 2.3)
Health & Well-being	SDG 3 (Good Health and Well-being)	Cross-cutting, addressed under several Objectives

WHAT ARE WE STANDARDIZING?



➤ **The use of Nature as solution for societal challenges.**

• **Why do we need a standard for NbS?**

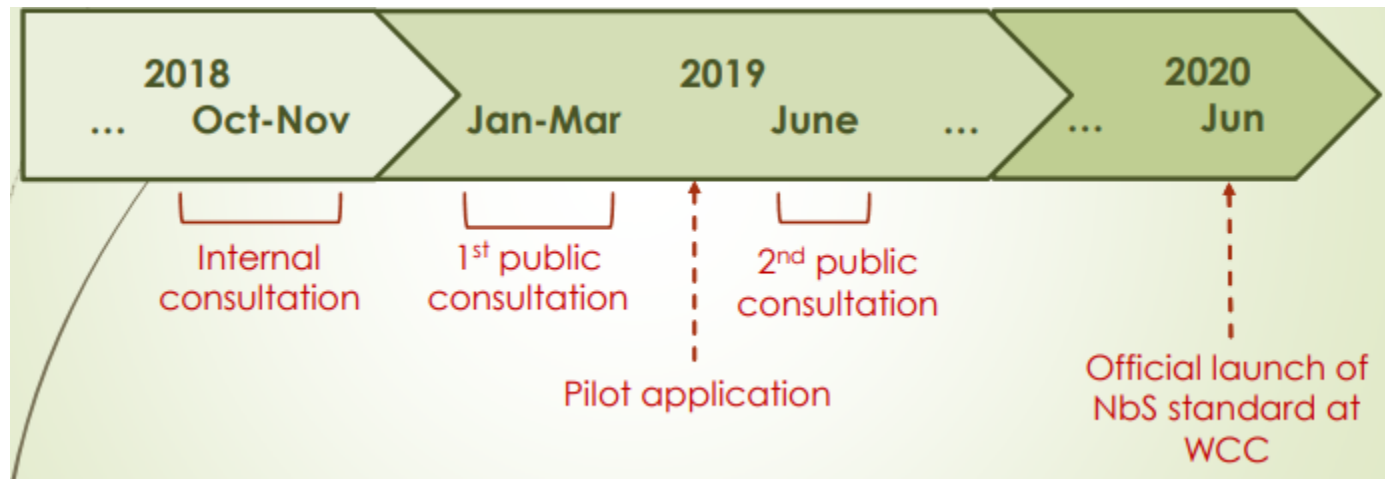
- Ensure quality of the NbS interventions
- Safeguard nature from overexploitation
- Build common language and understanding
- Incentivize positive sustainable change
- Engage stakeholders

Why are we setting a global standard?

- Apply it across a wide range of contexts and sectors
- Guide policy formulation
- Be relevant to the private sector
- Actions and impact at scale



TIMELINE FOR FINALISING THE NBS STANDARD



Interested in reviewing NbS Standard / testing standard in your case-study?

nbsstandard@iucn.org

EXAMPLES OF NATURE-BASED SOLUTIONS IN PRACTICE



Example of Mediterranean Nature-based solution: The Alboran Biodiversity Island

The seven most suitable species for Mediterranean greening



Radius = 25m
Area = 700m²
3moles CO₂ (0,128kg) / 1mcl H₂O
Total fixation per Bd Island = 5.Tm

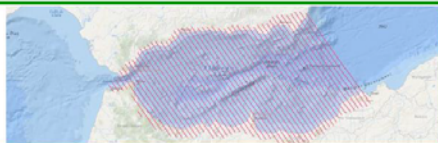
Rosemary <i>Rosmarinus officinalis</i>	Laurestinus <i>Viburnum tinus</i>	Olive <i>Olea europaea</i>	Carob tree <i>Ceratonia Siliqua</i>	Laurel <i>Laurus nobilis</i>	Strawberry tree <i>Arbutus unedo</i>	Lavender <i>Lavandula dentata</i>
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The project:

- Issue of Climate change: loss of biodiversity, colonization by invasive species, erosion, loss of soil fertility
- Type of ecosystem: urban abandoned land
- Type of NbS: Ecosystem restoration
- Project leader and partners: University of Malaga, IUCN Centre for Mediterranean Cooperation, The City of Malaga
- Calendar: started 2016



⇒ **The Alboran Arch**
A hot spot for terrestrial and marine biodiversity between Europe and Africa, heavily affected by climate change



Current work: Adapt the Alboran Biodiversity Island to wetlands

The use of autochthonous plant species is a NbS with easy implantation, low cost and almost zero maintenance. The current work is investigating the suitable model of the Alboran Biodiversity Island adapted to wetlands, to combat problems in rivers, like exotic species invasion by *Arundo donax* (when washed downstream, it causes blocks in pipelines and eutrophication in the river mouth).



A.E. Salvo Tierra (UMA), L. Lázaro, A. Alcántara, I. Ben-Satti, K. Aikas (IUCN-Centre for Mediterranean Cooperation)

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Original study: Estudio de SbN aplicables a un proyecto de zona verde: Modelo de Islas de Biodiversidad Alborán para el Parque Comandante Benítez (Málaga) Salvo et al. 2018



NATURE BASED SOLUTIONS (NbS)

ASSOCIATED TO RIPARIAN VEGETATION IN URBAN ENVIRONMENT

K. Aikas (1), A.E. Salvo Tierra (UMA), A. Alcántara (1), 1=IUCN-Centre for Mediterranean Cooperation)



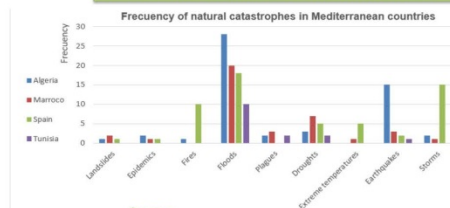
UNIVERSIDAD DE MÁLAGA



Urban Riparian Vegetation Act (URVA):

- Type of ecosystem: urban riparian vegetation. Type of NbS: Ecosystem restoration.

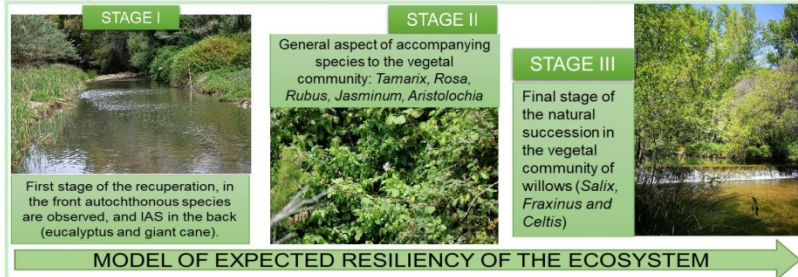
NECESSITY OF NbS TO AVOID CATASTROPHES BY INVASIVE ALIEN SPECIES



- LOSS OF BIODIVERSITY
- INCREASE IN THE VELOCITY AND TORRENTIALITY OF THE RIVER
- INCREASE IN TRANSPORT AND EROSION BY HEAVY BLOCKS
- OBSTRUCTION OF BRIDGES AND ALTERATION OF INFRASTRUCTURES
- DESPROTECTION OF FARMING LANDS
- INCREASE IN CATASTROPHES BY FLOODS AND LANDSLIDES
- SERIOUS PERSONAL AND MATERIAL LOSS

CONSEQUENCES OF THE INVASION

INVASIVE ALIEN SPECIES



MODEL OF EXPECTED RESILIENCY OF THE ECOSYSTEM

Correspondence: Katja Aikas, katjaaikas@gmail.com

Original study: Nature-based solutions associated to urban riparian vegetation. K. Aikas et al. (2019)

www.igcmalaga.com

BUILDING ON EXISTING WORK



Conservation

Red List of Threatened Species

Red List of Ecosystems

Protected Areas & World Heritage

Restoration

Red List of Threatened Species

Red List of Ecosystems

Protected Areas & World Heritage

ROAM

Mangroves for the Future

Sustainable Use & Management

RLTS, RLE, CITES protocols

NRGF

EcoDRR/EbA

SLM

NbS standard

Global standard for Nature-based Solutions

7 proposed criteria (and 33 indicators):

1. Nature and biodiversity
2. Transparency and inclusion
3. Adaptive management, governance & monitoring
4. Trade-offs
5. Landscape/seascape scale
6. Synergies (with other types of interventions)
7. Policy integration

NBS GLOBAL STANDARD

➤ NbS Global Standard - Public Consultation

<https://www.iucn.org/news/ecosystem-management/201901/informing-global-standard-nature-based-solutions>

IUCN is creating a standard aiming 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. A public survey is currently open:

<https://www.surveygizmo.com/s3/4757394/IUCN-Global-Standard-for-Nature-based-Solutions>



THANK YOU!



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