Natural Climate Buffers in the Netherlands – a multiple benefit approach

natuurlijke klimaatbuffers

Paul Vertegaal

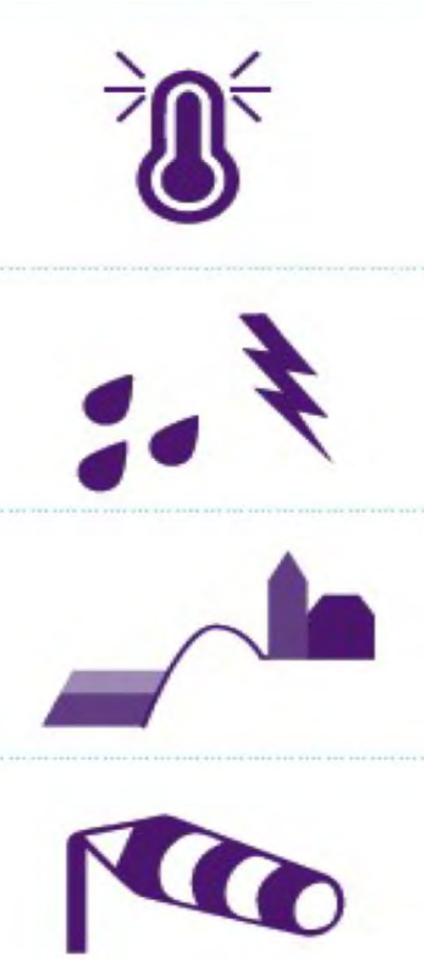
Workshop on Implementation of
Nature-based Solutions to tackle climate change

Marseille (France)
22-24 January 2019

Introduction

- **Issue of Climate change**: floods, erosion, drought, heat, carbon sequestration
- **Type of ecosystem**: coast, marine, rivers, fens, regional inland waters
- **Type of NbS**: Ecosystem restoration, infrastructure related, ecosystem based management, etc.
- **Project leader and partners**: NGO's
- **Calendar**: 2008-2022
- **Funding:** mostly government (95%), shifting to market (mineral extraction, carbon credits) and EU funds.

A changing climate – inevitable?



The extreme year 2018


TOPICS NIEU

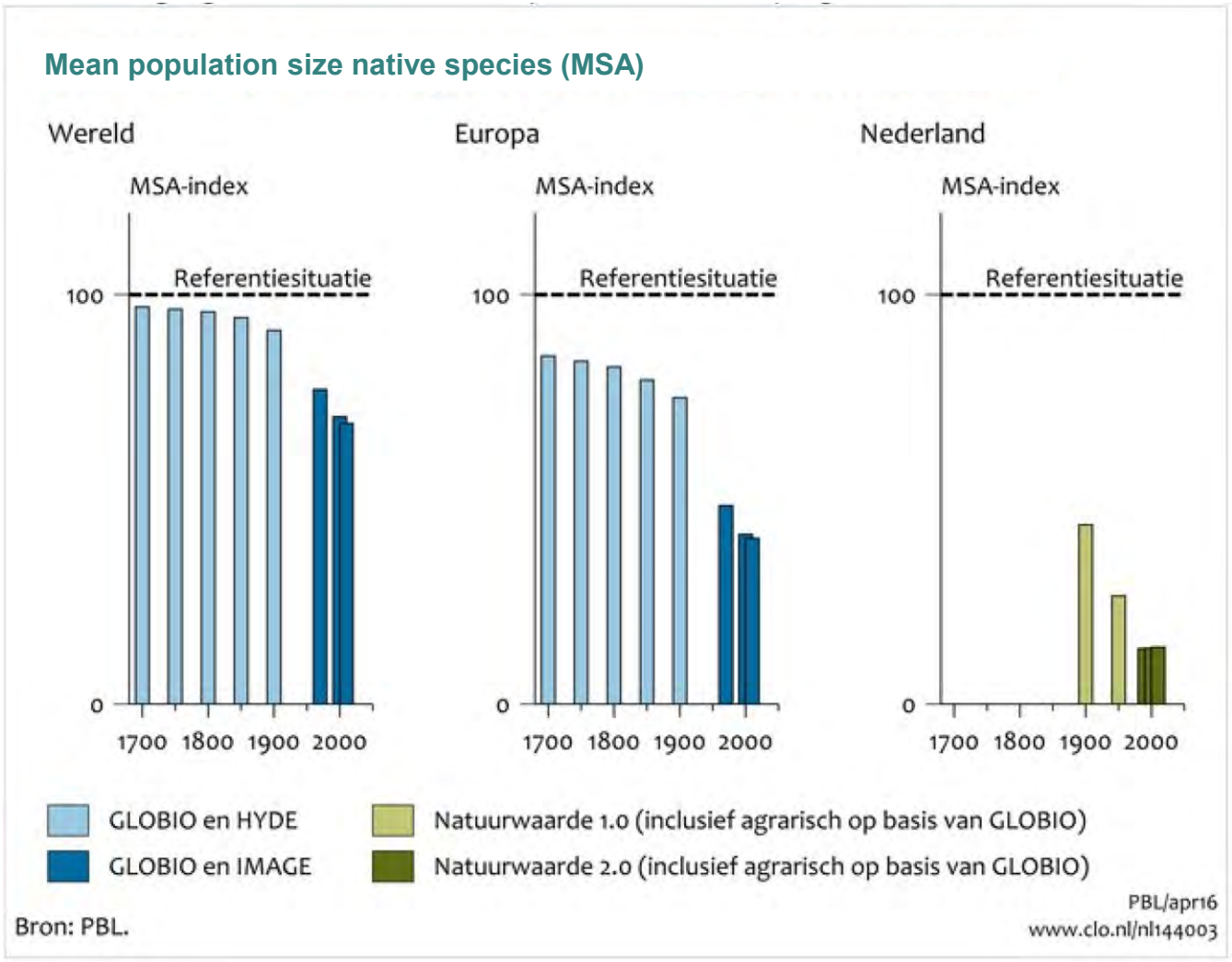
Vrij, Onverveerd

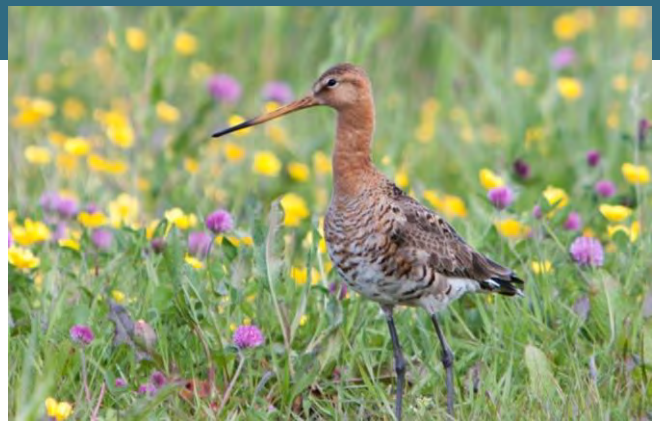
Het Parool

HOME AMSTERDAM OPINIE S

Noord-Holland krijgt zoet water per schip

Biodiversity crises





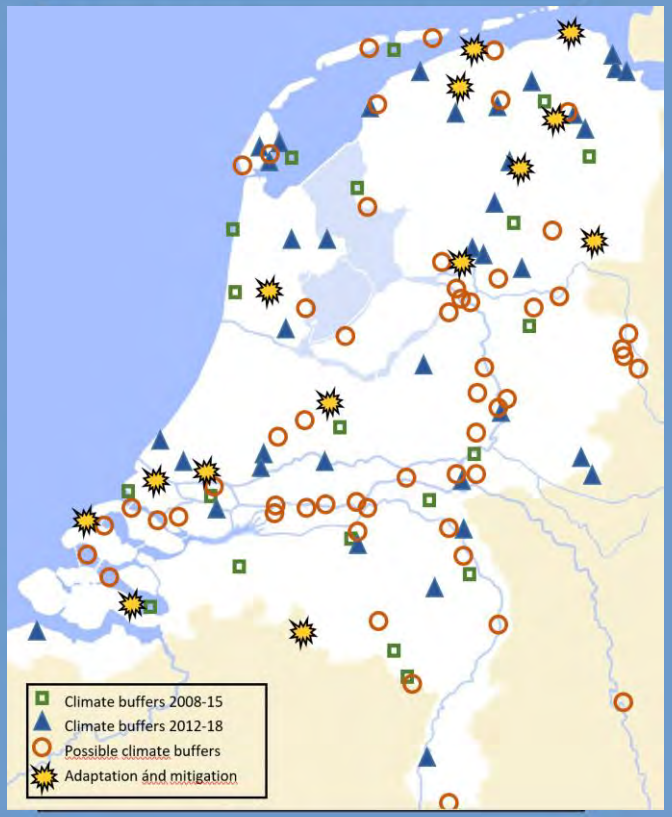
Natural climate buffers – the concept

Natural climate buffers

Natural climate buffers are *areas* where *natural processes* get space. So they adapt to climate change and improve quality of both natural and human life. They contribute to restoration of biodiversity.

www.klimaatbuffers.nl

Nature-based solutions
Building with nature
Etc.



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Vogelbescherming NEDERLAND · de 12 Landschappen · WWF · ARK · Waddenvereniging · Natuurmonumenten · de natuur en milieufederaties

UN environment · Plan Bleu · IUCN · Conservatoire du littoral · UICN Comité Français · MedWet · Wetlands International

Principle 1 – ecosystem services

bio builders

carbon sink

green airco

natural sponge

living coast

blue-green space

Principle 2 – Integrated project designs

Shared function	E.g.…
recreation	swimming, cycling, walking, canoeing
public health	cooling the city, sport and fitness
agriculture	reconstruction/reallocation, nature inclusive agriculture, salty crops, paludiculture
fisheries	spawning/recruitment habitats, small-scale shared use, sport fishing
raw materials	drinking water, building mineral extraction

Natural Climate Buffers in the Netherlands

Climate buffers 2008-2016

The first pilots

Learning by doing
2008-2016

Coast and estuaries
Rivers and lakes
Below sea level
Hills and sandy soils
Urban environment

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20 pilots in the field

www.eurosite.org/eurosite-highlights/natural-climate-buffers-study-tour-follow-up/

Example 1 – Tidal marshlands

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Noord-Friesland

- 2.000 ha revitalized
- re-opened to the sea
- growing faster than sealevel rise
- lowering waves
- carbon-sequestration

Blue carbon in the Netherlands

Sum emissions all sources NL ca	200 Mt CO2-eq/j
Emissions peat soils	7 Mt CO2-eq/j
Uptake in nature	4 Mt CO2-eq/j
Uptake in tidal marshlands (10.000 ha)	0,1 Mt CO2-eq/j
Sequestration rate tidal marshlands	5-15 t CO2-eq/ha/j
Sequestration rate NW-EU forests	1-10 t CO2-eq/ha/j
Sum stock NL soils	ca. 1300 Mt CO2-eq
Sum stock NL nature	ca. 400 Mt CO2-eq
Stock tidal marshlands (10.000 ha)	11 Mt CO2-eq
Carbon certificates voluntary market	*20-80 €/t CO2-eq/j*

Example 2 – Space for water and nature

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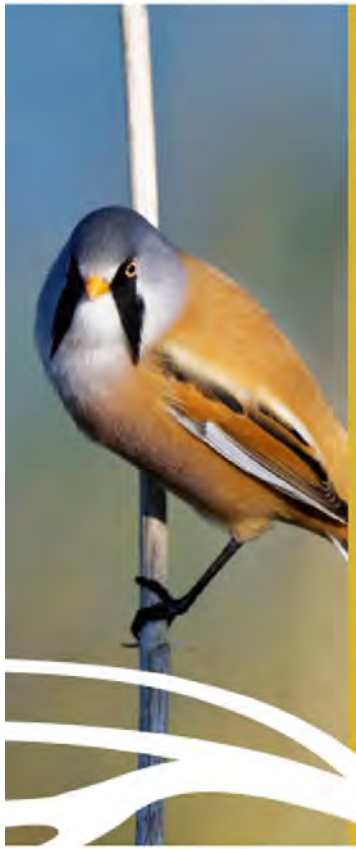

De Onlanden

- 2.500 ha new fen habitat
- down-stream water retention area (NW storms)
- total costs 33 mln € (excl. 9 mln € recreation facilities)
- alternative: 105 mln € (higher regional dikes)
- carbon sequestration

De Onlanden

UN environment · Plan Bleu · IUCN · Conservatoire du littoral · UICN Comité Français · MedWet · Wetlands International

Disaster?

Blessing!

January 2012

water level Groningen – 40 cm/24h

Costs – 16 pilots

contributor	**Mln €**	**%**
nature management organizations	2,14	1%
research & industy	0,01	< 1%
local authorities/communes	17,38	11%
regional authorities/provinces	60,66	38%
national government	61,19	39%
→ regional water boards	***11,76***	***7%***
drinking water firms	0,10	< 1%
charity funds, lotteries	2,20	1%
others	0,39	< 1%
EU-funds	2,03	1%
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TOTAL	157,90	100%

From pilots to mainstream

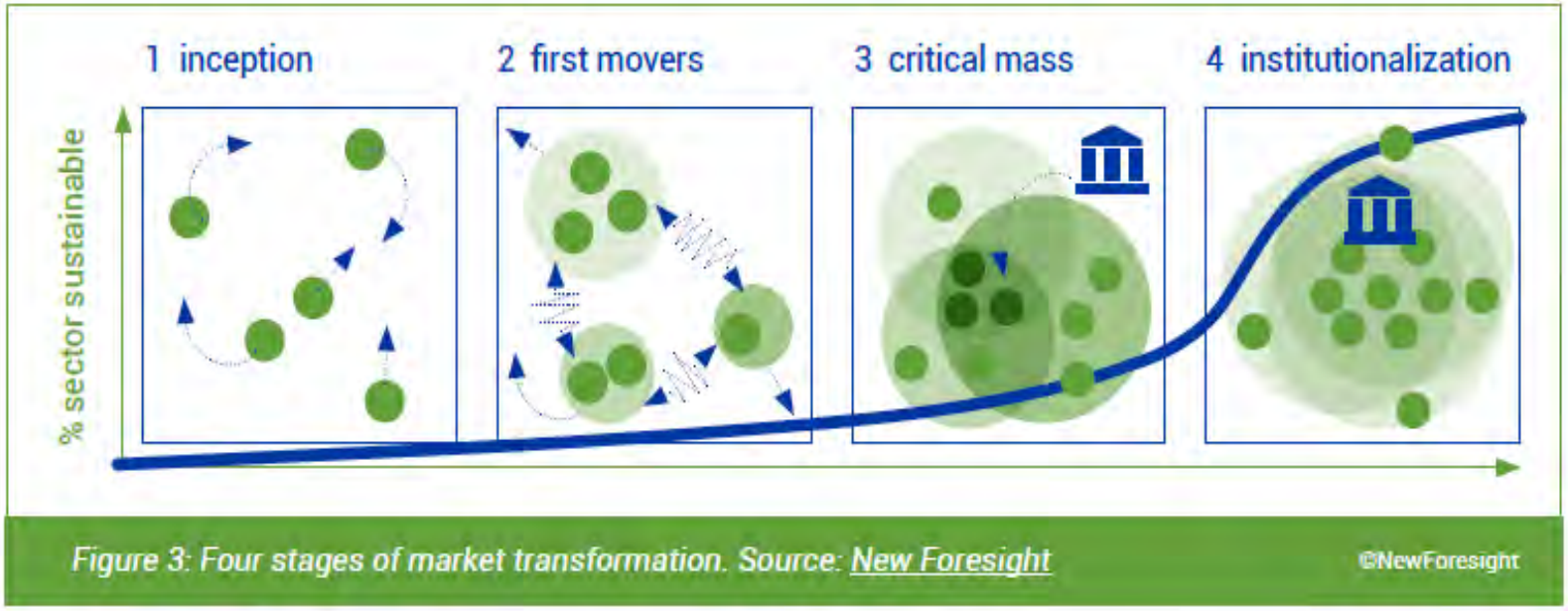


Figure 3: Four stages of market transformation. Source: New Foresight

Natural Climate Buffers 2.0

Climate buffers 2017-2022

From pilots to mainstream

Main goal: *In 2022 natural climate buffers have become 1st choice policy. A transition towards nature-based solutions which contibute to climate adaptation and biodiversity together is not far away now. Our lessons learned are shared with others.*

1. Lobby

Cooperation with other interests and influencing water policy

2. Projects

Upscaling and multiplying concrete projects

3. Knowlegde

Developing and exchanging knowlegde

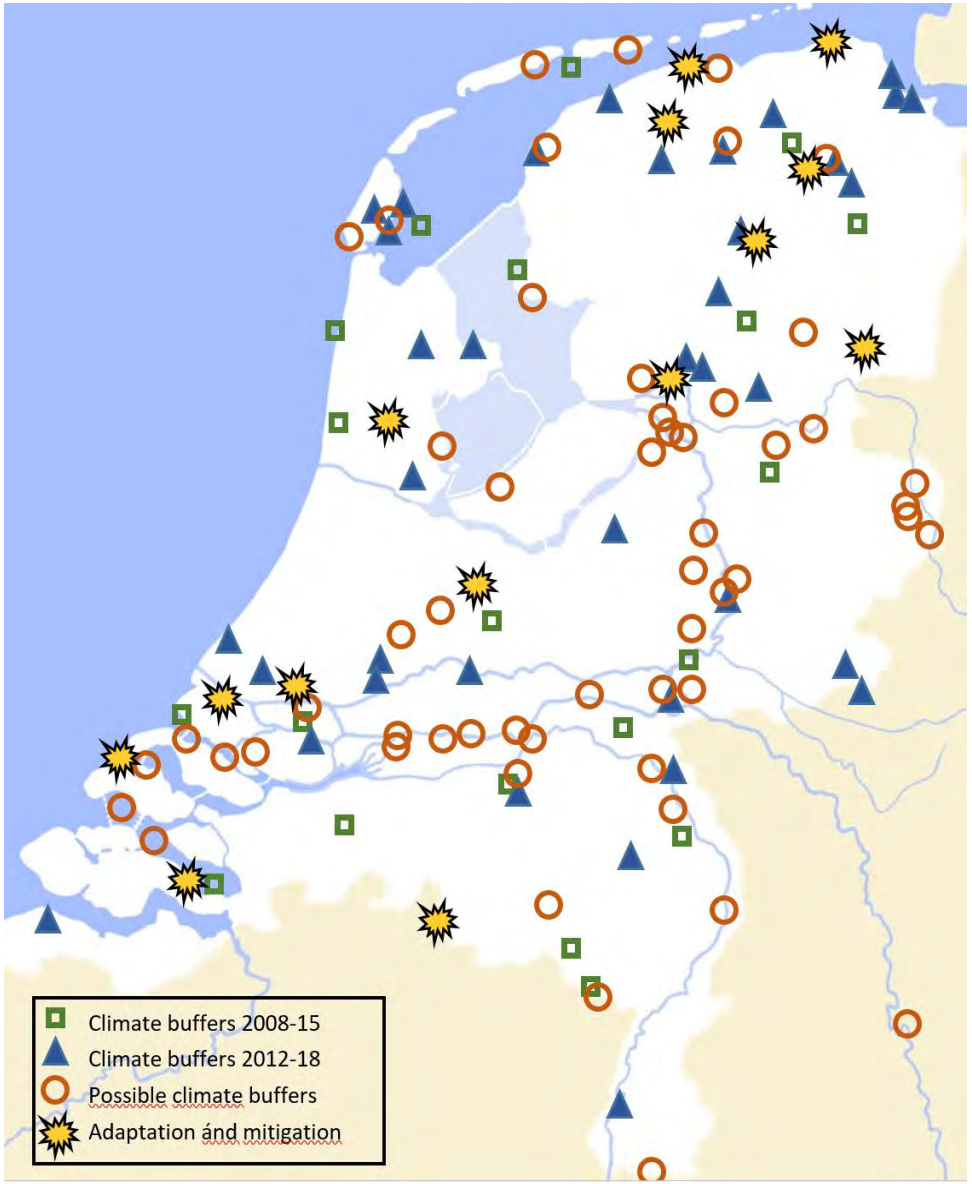
4. Communication

Communication and dissaminiation

Climate buffers 2019 and future possibilities

Climate buffers in practice

- 56 projects ready or on execution
- 57 serious ideas, on exploration or planning
- 14 ‘squared’ climate buffers: adaptation and mitigation



Conclusions & recommendations

Conclusions

- nature-based solutions *effective*!
- integrated approach: broad *support*
- integrated approach: per actor *cheaper*
- building with nature: *more flexibele* & cheaper

Recommendtions

- Learning by doing – proving by doing!
- Framing nature conservation: from victim to solution

Autumn 2019
Natural Climate Buffer Tour Scotland
www.eurosite.org

Thank you

For more information :

www.eurosite.org/dutch-climate-buffers/

www.klimaatbuffers.nl

p.vertegaal@natuurmonumenten.nl
anne.kruft@wing.nl

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