Upscaling Building with Nature in river environments

Jeroen Rijke PhD MSc

EcoShape Building with Nature Conference, 27 June 2018

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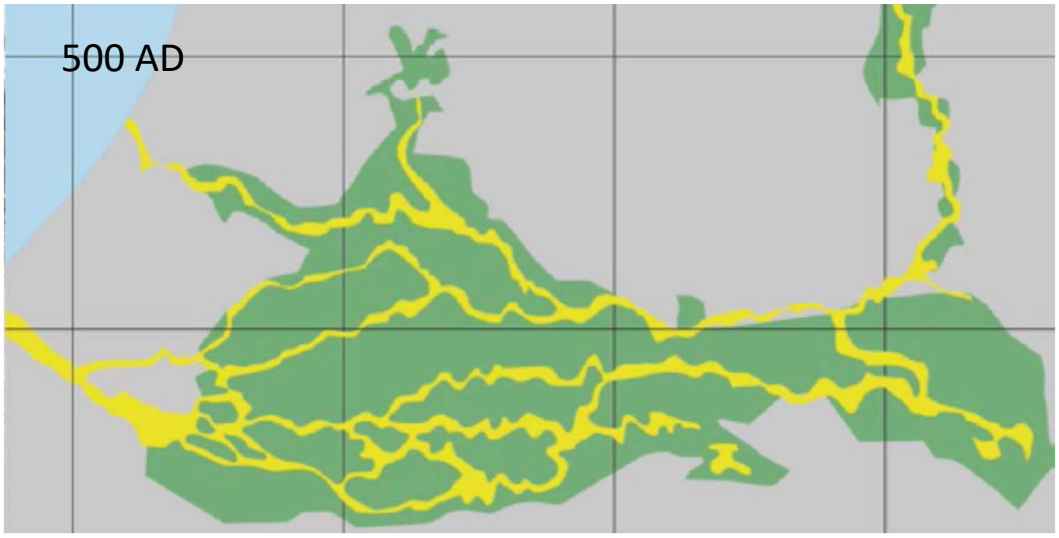

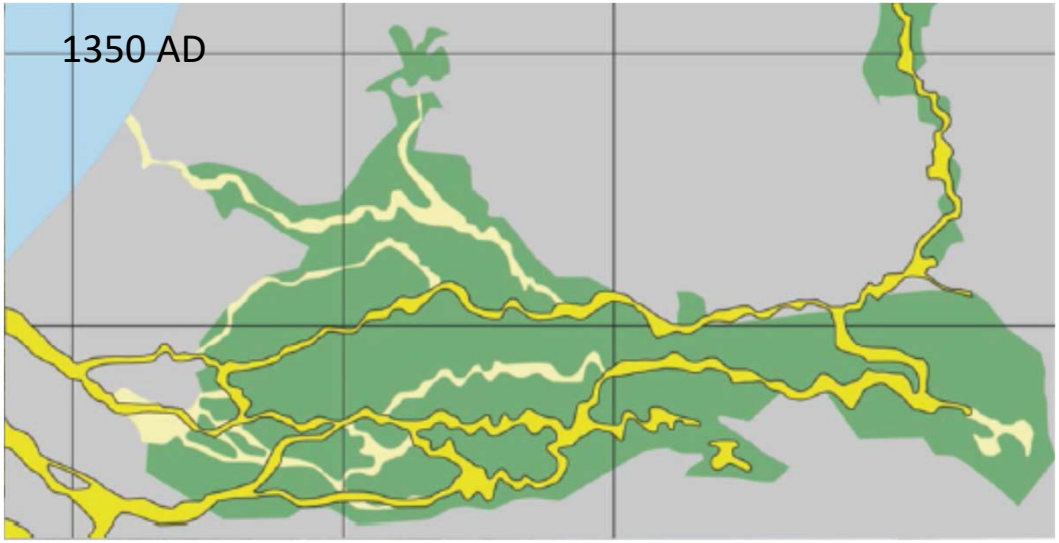

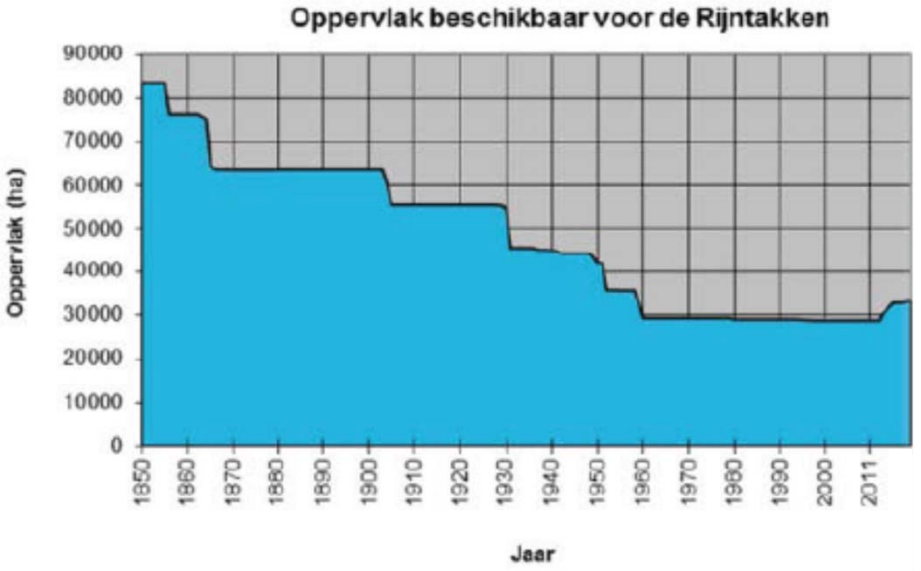

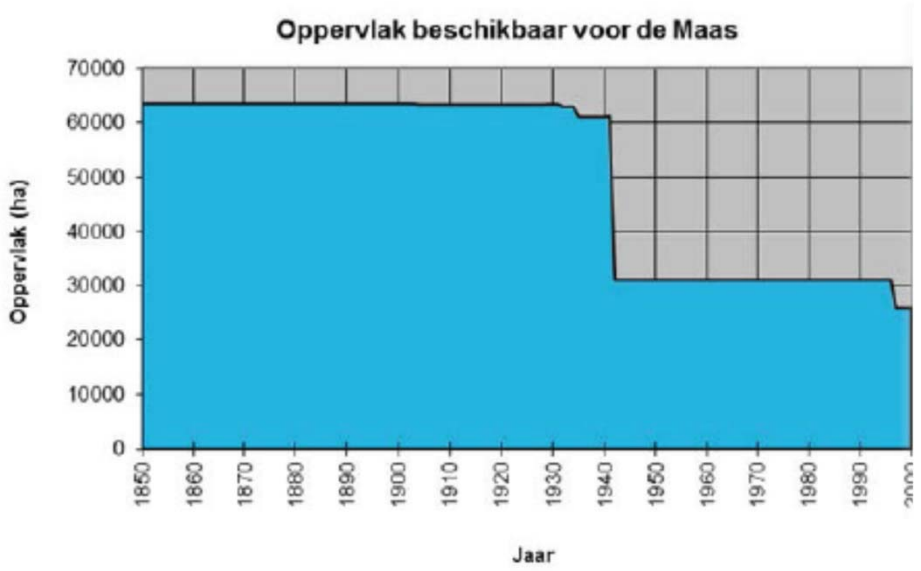

Klijn et al (2017)

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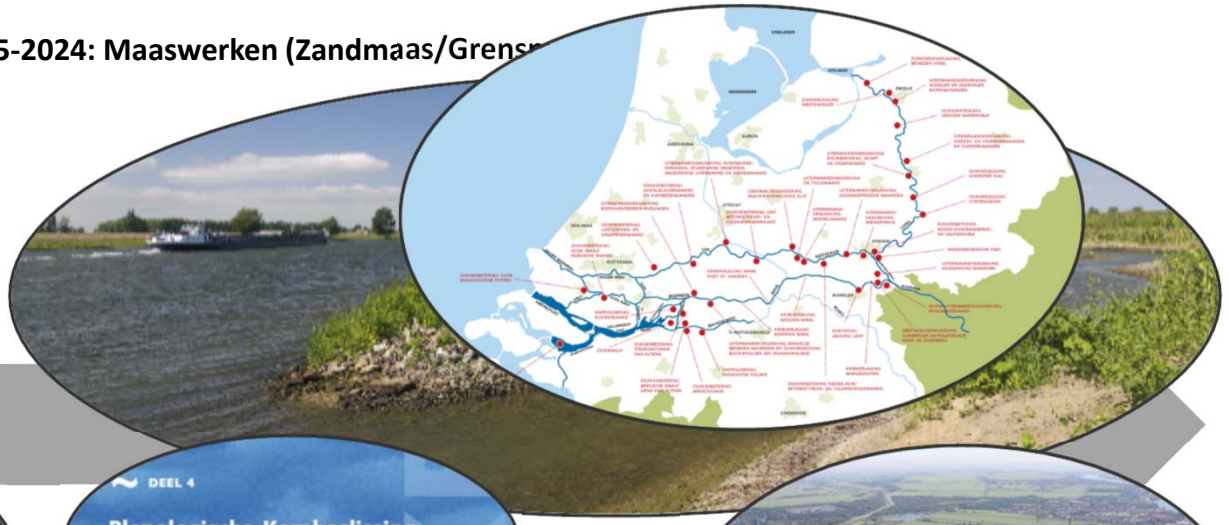
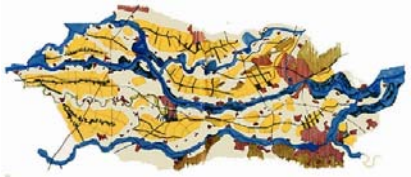
Early 1990s: Demonstration
E.g. Blauwe Kamer, Millingerwaard, Duursche Waarden

2005-2024: Maaswerken (Zandmaas/Grens



2007-2017: Room for the River



1986: Ideation
Plan Ooievaar

1993/95: Near-miss floods

2006: Politcal and policy commitment
Dual objective established in PKB Room for the River

2010-2027:
EU Water Framework Directive

TRANSITION COMPLETE?

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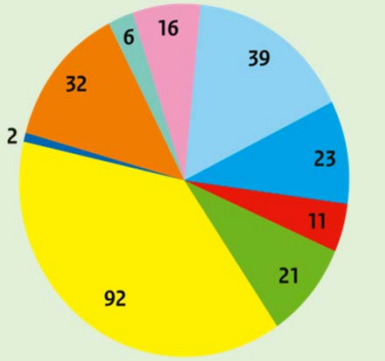
FLOOD PROTECTION

HWBP

- Expected scope: ± 1900km
- Everything, except the blue

ENVIRONMENT



- Geulen
- Natuurvriendelijke oever
- Wetland
- Inrichting
- Sanering
- Onderzoek
- Beheer
- Vispassage Rijk-Regio
- Vispassage

EU WFD (Tranche 2)

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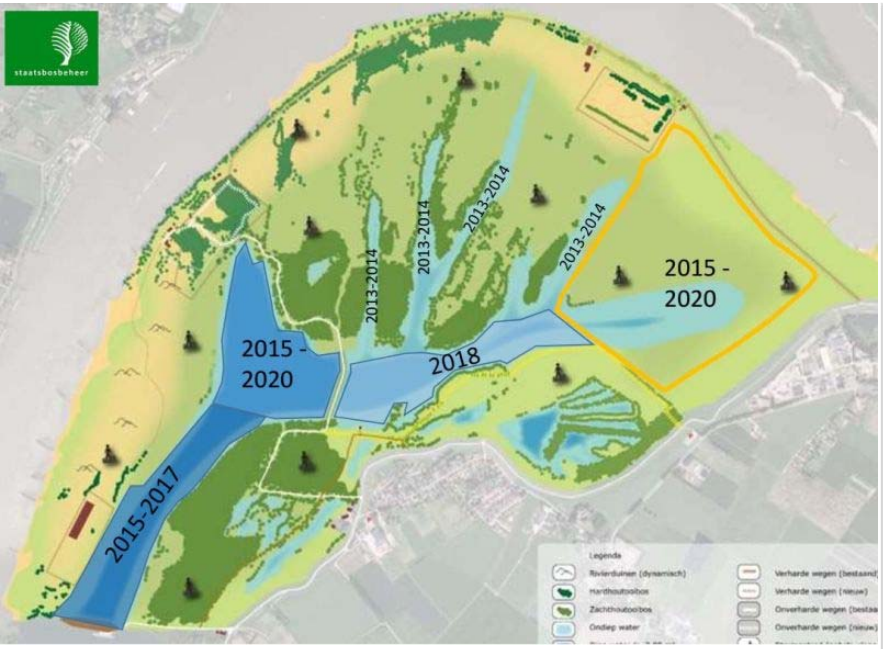
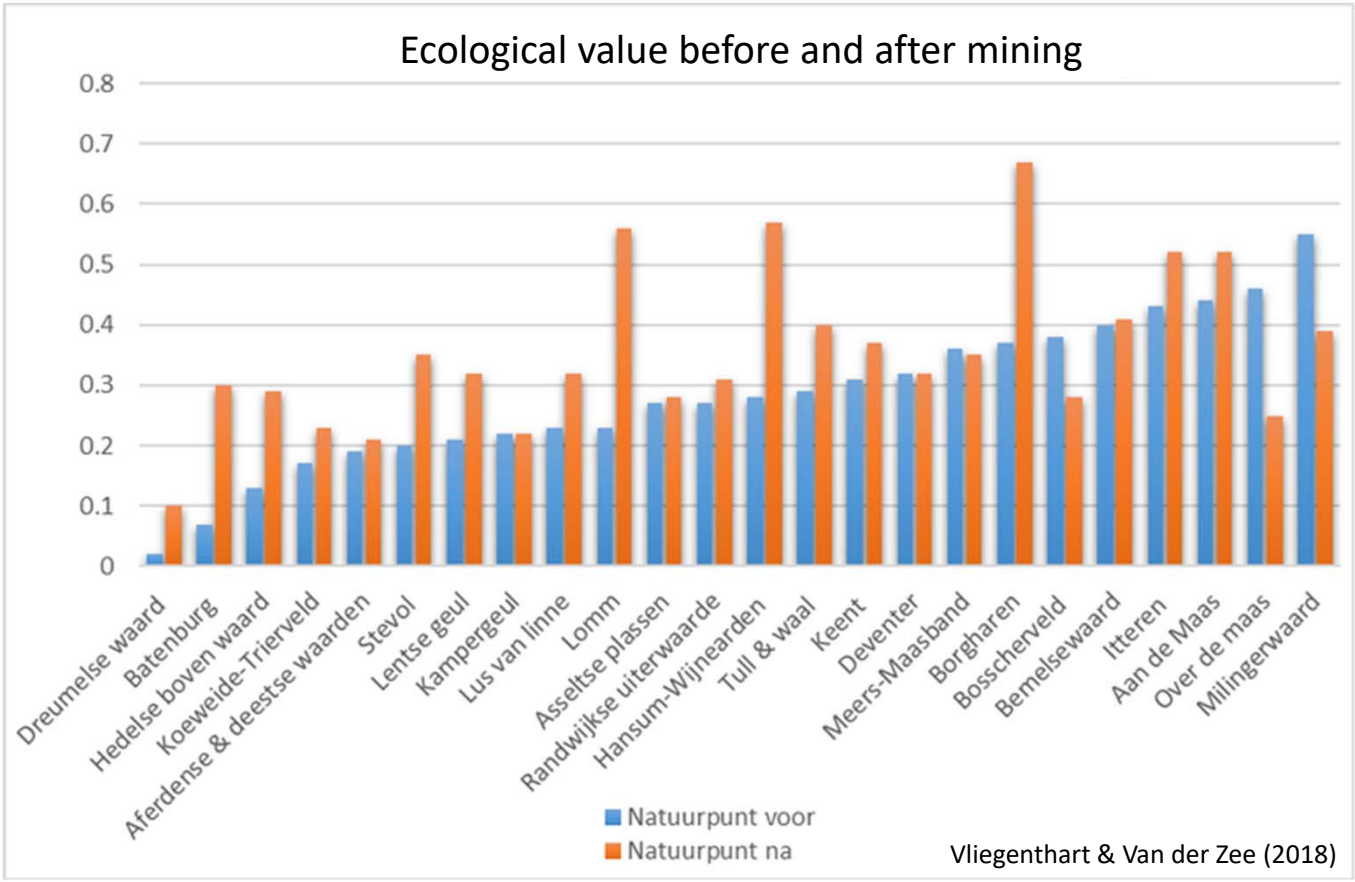
Mining and building back better





Vliegenthart & Van der Zee (2018)

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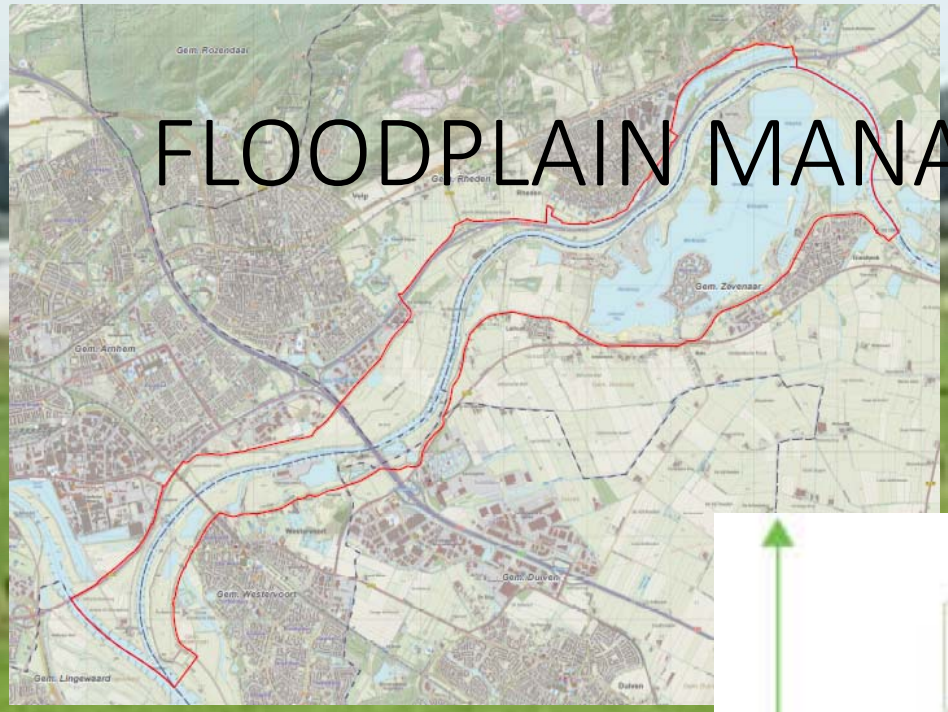
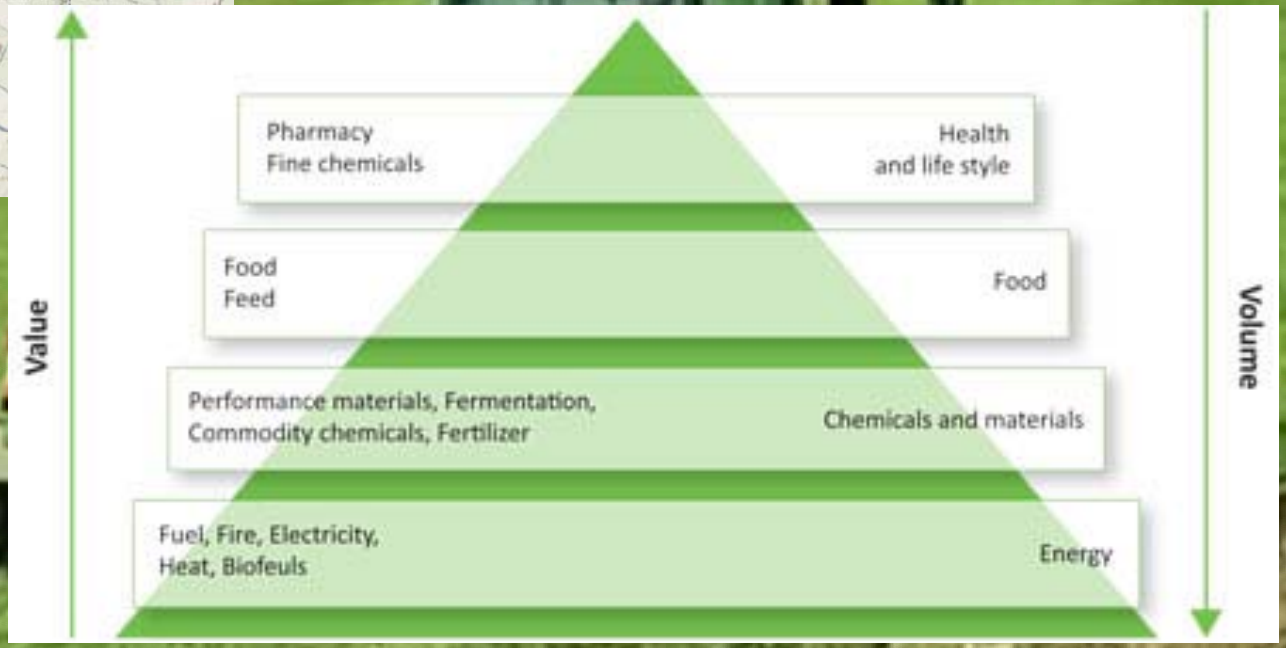
THE ROAD AHEAD FOR REBUILDING NATURE?

OR

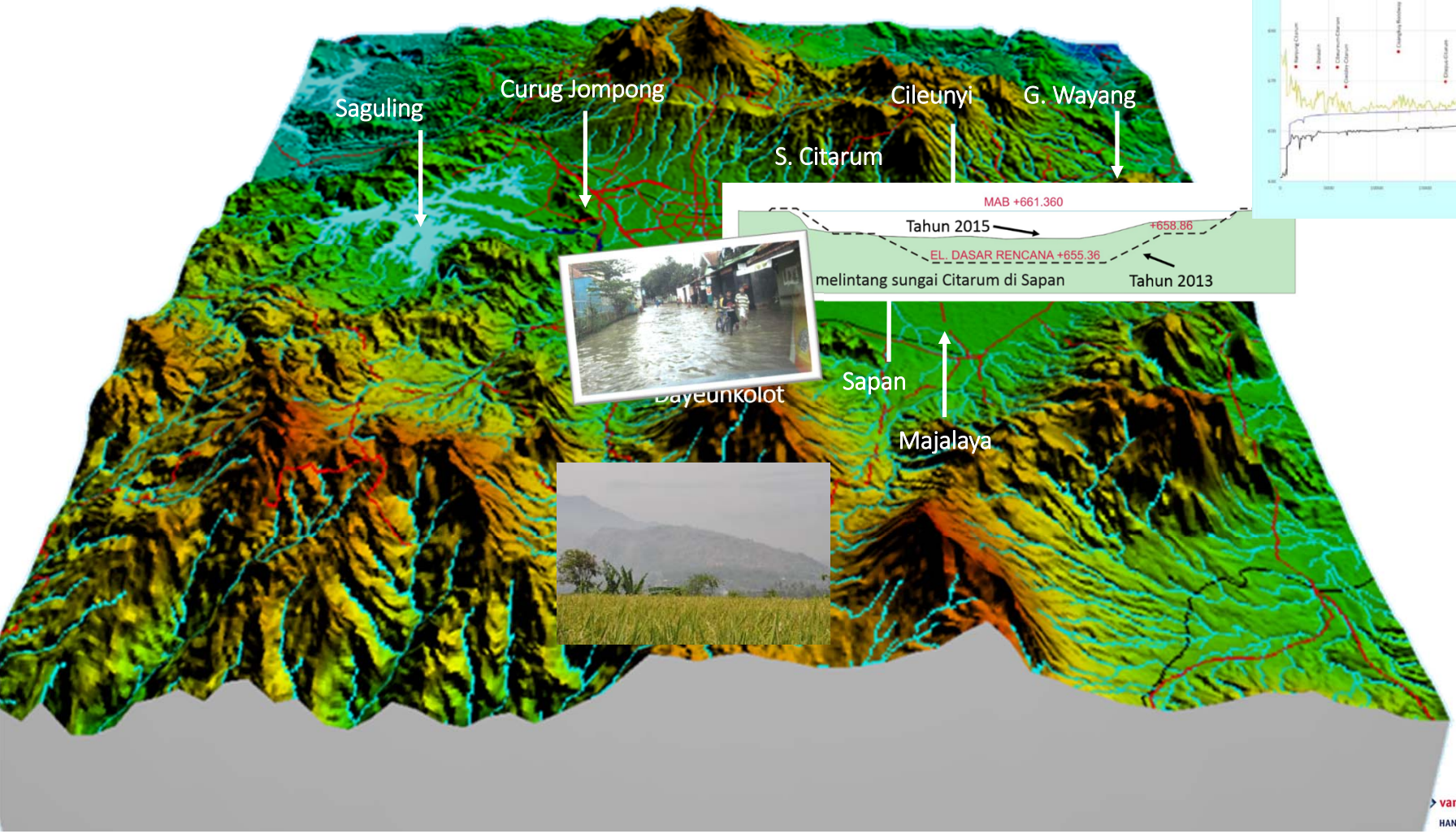
FLOODPLAIN MANAGEMENT

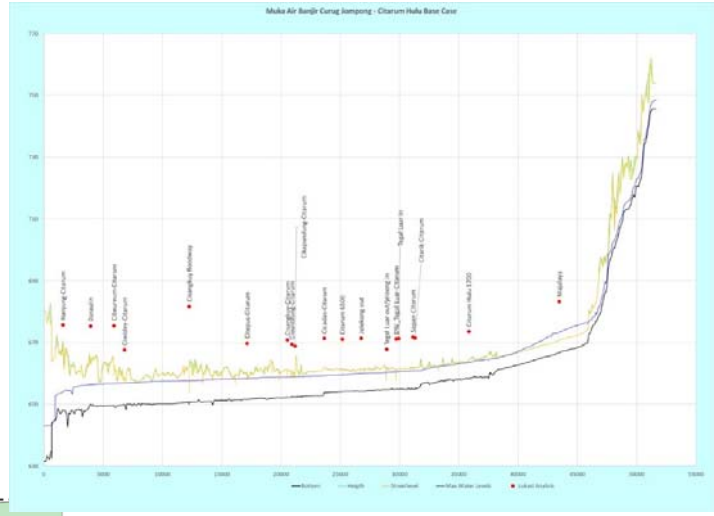





Upper Citarum, Indonesia

Upper Citarum





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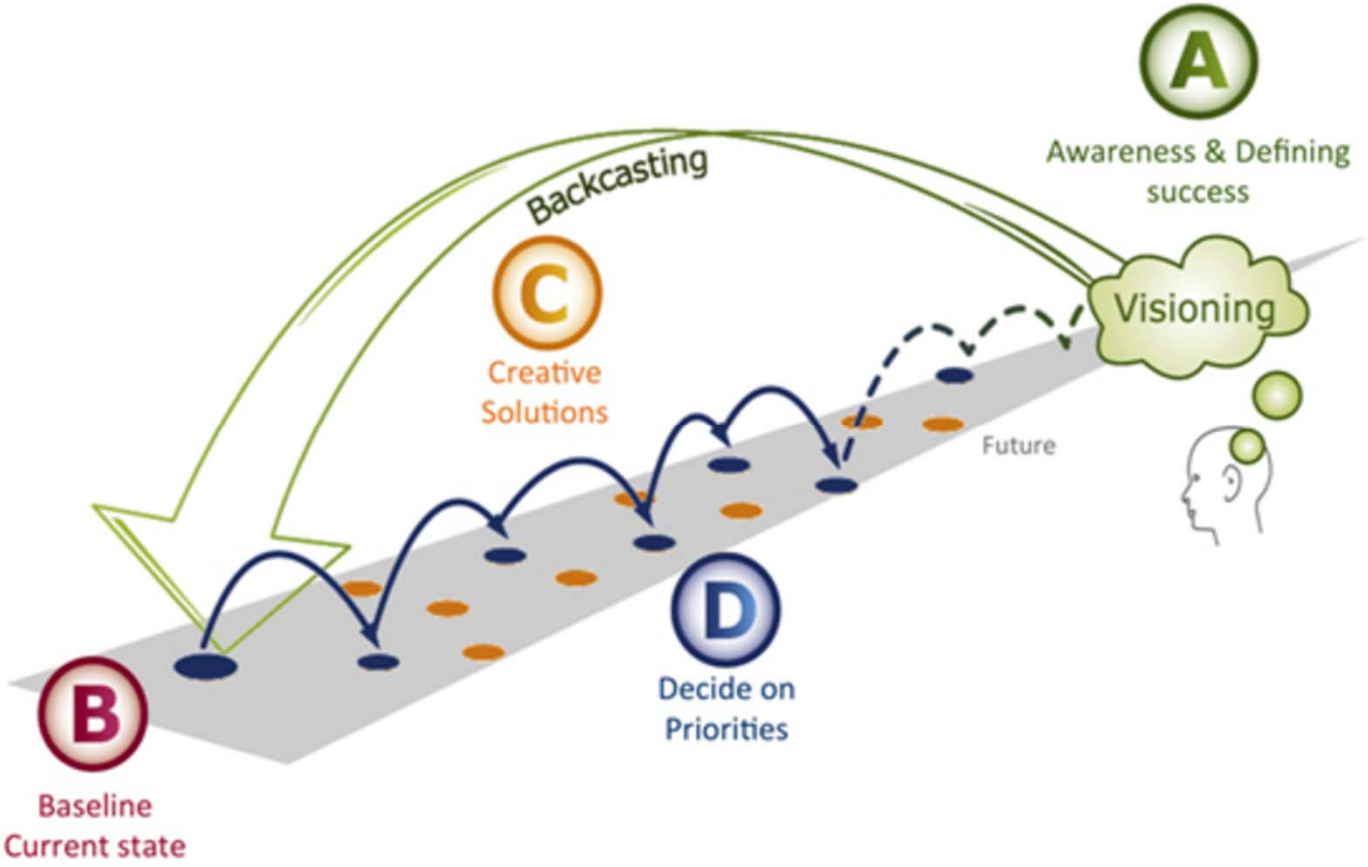
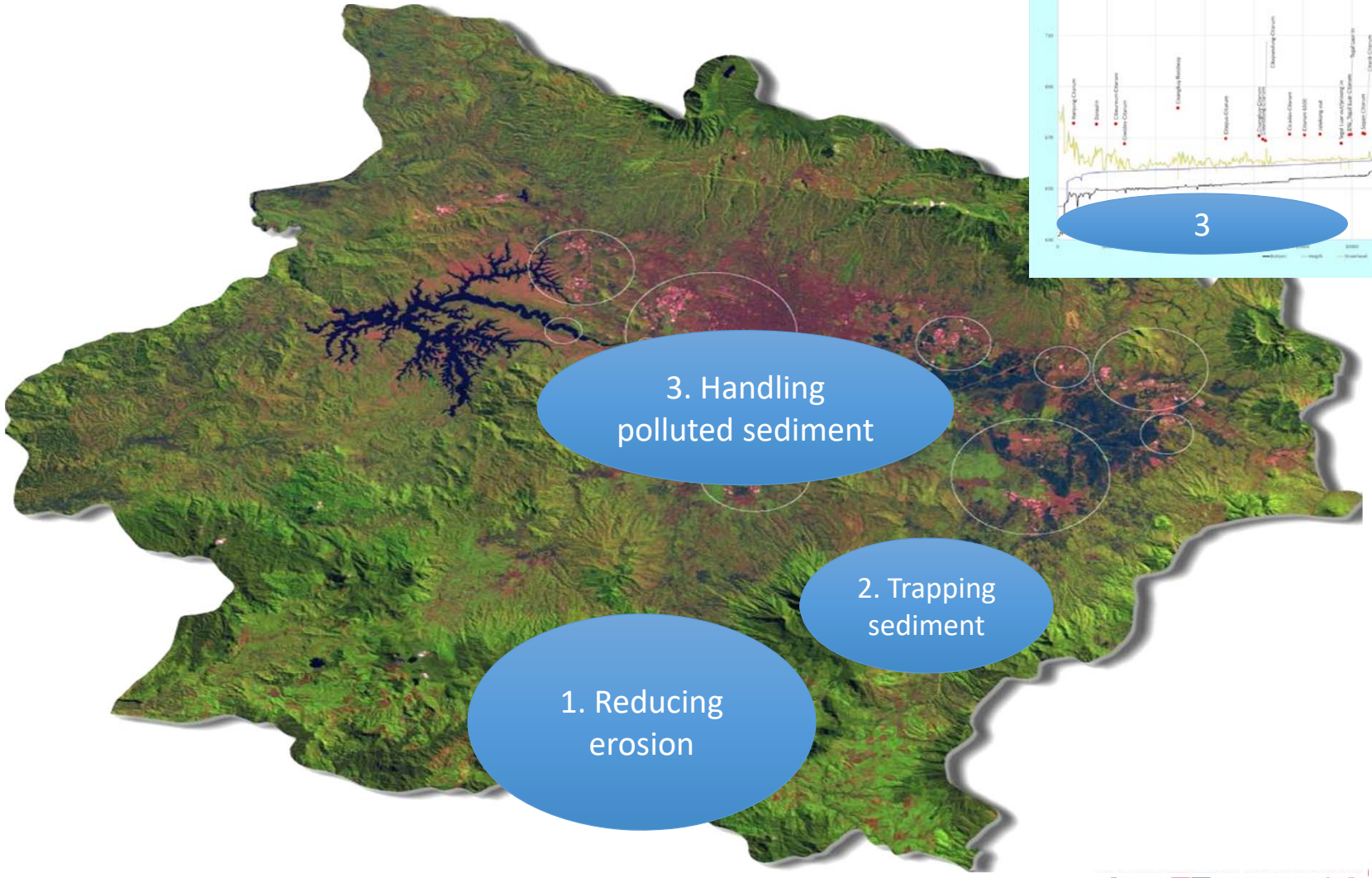
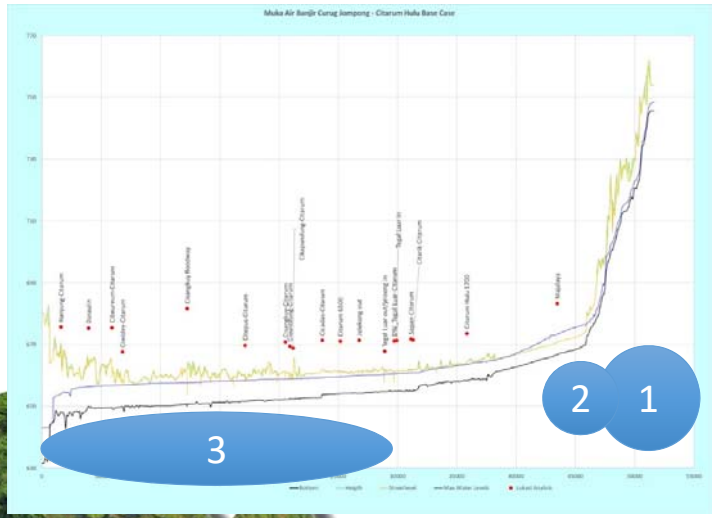

A
Awareness & Defining success
Backcasting
C
Creative Solutions
Visioning
Future
D
Decide on Priorities
B
Baseline
Current state





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PERSPECTIVES

ENVIRONMENT

A looming tragedy of the sand commons

Increasing sand extraction, trade, and consumption pose global sustainability challenges

By Aurora Torres,[1,2] Jodi Brandt,[3] Kristen Lear,[4] Jianguo Liu[5]

Between 1900 and 2010, the global volume of natural resources used in buildings and transport infrastructure increased 23-fold (*1*). Sand and gravel are the largest portion of these primary material inputs (79% or 28.6 gigatons per year in 2010) and are the most extracted group of materials worldwide, ex-

of activities that demand the use of increasing amounts of sand. In the following, we identify linkages between sand extraction and other global sustainability challenges.

ENVIRONMENTAL IMPACTS

Sand extraction from rivers, beaches, and seafloors affects ecosystem integrity through erosion, physical disturbance of benthic habitats, and suspended sediments (*5*). Thus, extensive mining is likely to place enormous

systems may disrupt the productivity of both

Science, 8 September 2017