

An aerial photograph of a wetland landscape in the Netherlands. The scene features a complex network of water channels and green fields. A small boat is visible in the water on the left side. The text is overlaid on the top portion of the image.

**Let's synergize and really start building with nature!  
Three examples of sediment reuse in The Netherlands**

**10th International SedNet Conference  
"Sediments on the move"**

**Chiel Lauwerijssen  
June 16th 2017**

**Sed  
Net**

# Why using sediments as a resource?

- Sustainability
- Lower costs
- CO<sub>2</sub> reduction
- Time
- Reduced nuisance for surroundings



# Shallow lakes of Wormer- and Jisperveld

- Uninterrupted peaty grassland near Amsterdam
- Long history of different activities
- Need for sediment management



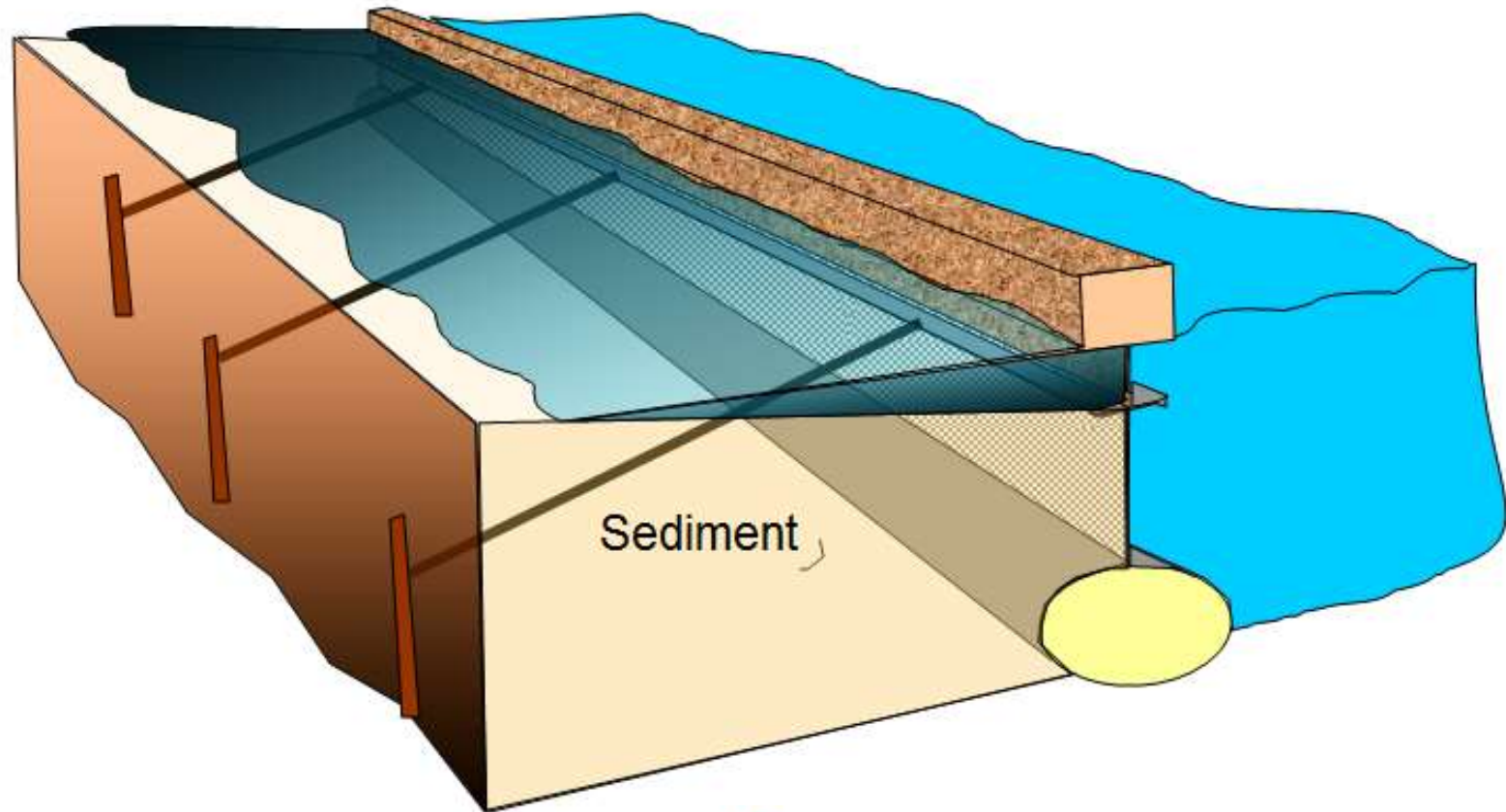
Tauw



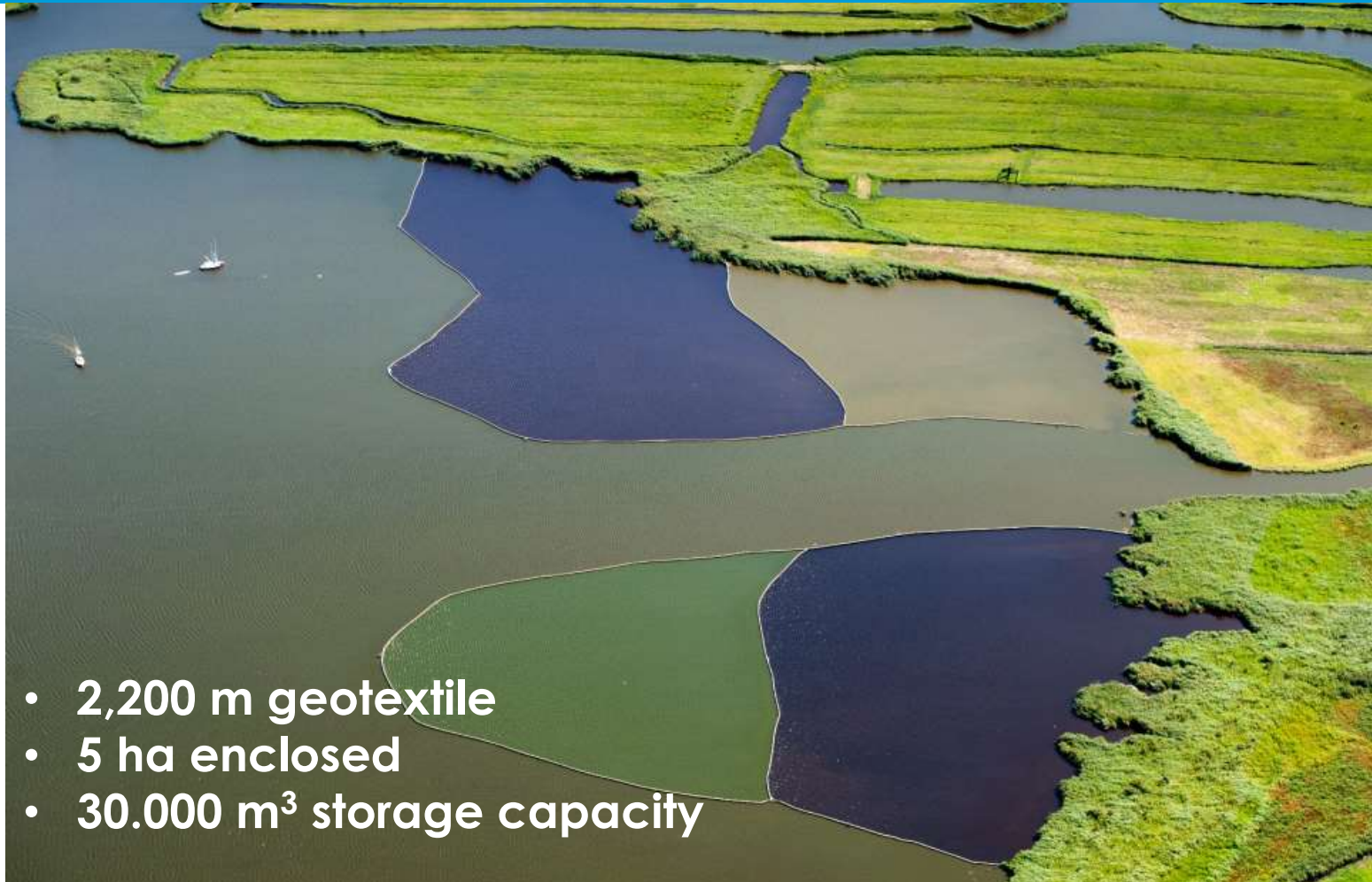
Hoogheemraadschap  
Hollands  
Noorderkwartier

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materials that make a difference

# Sediment Storer



# Sediment Storers in lake De Marken



- 2,200 m geotextile
- 5 ha enclosed
- 30.000 m<sup>3</sup> storage capacity



# Results



Tauw

# Results



# Deep lake

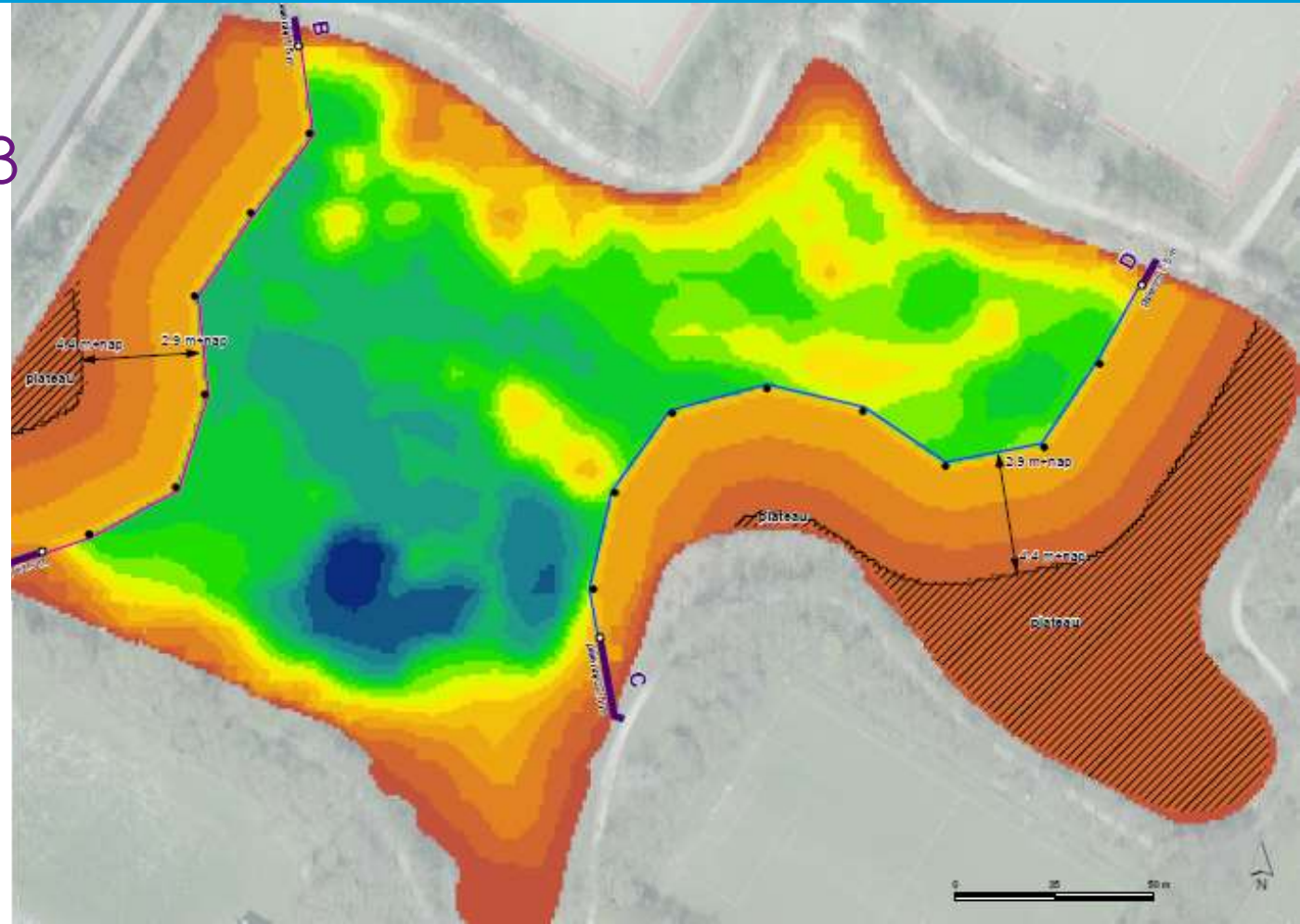
- Urban area
- Steep shores
- Poor water quality
- Lack of vegetation



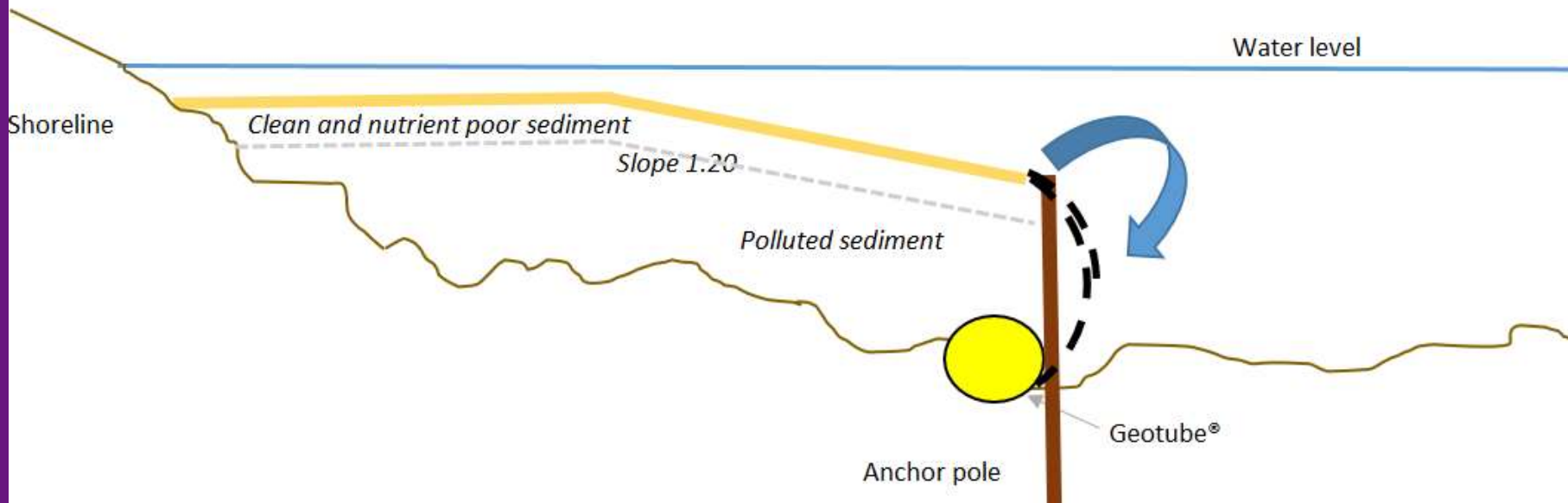


# Design

- 1,7 ha
- 34.000 m<sup>3</sup> storage



# Phased approach



# Anchor poles



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# Geotextile construction



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# Sediment on its way!

- Coagulant (FeCl<sub>3</sub>)
- P/Fe < 0,055
- P < 1,36 (g/kg)
- P < 0,68 (g/kg)



# Canal Gramsbergen

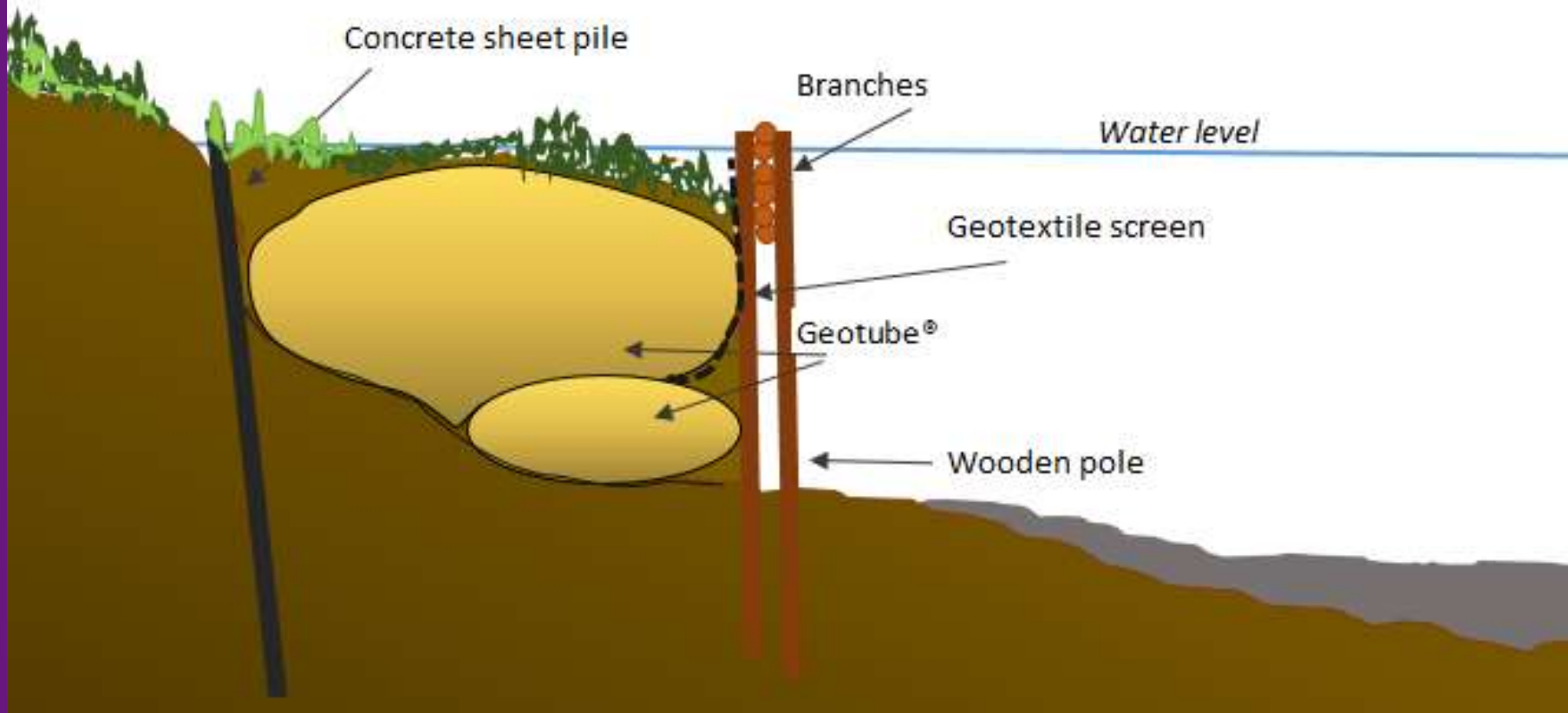


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# Concrete sheet pile



# Construction





# Willow branches



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# Take home message

- Make more use of nature's services!
- Both physical and chemical sediment characteristics are important to define reuse possibilities
- Material choice is crucial





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Sediment Storer

