Building with Nature in urban areas:
River as a Tidal Park

Presented by: Victor Beumer
Short personal introduction

- Work for Deltares as landscape ecologist
- Work on green infrastructure, nature-based solutions, eco-engineering, Building with Nature

- Deltares is member of the Ecoshape consortium (our second lustrum).
- EFRO financed project ‘Knowledge valorisation: BwN in the city’.
**Building with Nature**

- Building with Nature shows how to utilize natural processes and provide opportunities for nature while realizing hydraulic infrastructure.

- Building with Nature offers solutions which enable us to combine the needs of people and our natural environment in a cost effective way.

- Building with Nature contributes to:
  - Water safety
  - Nature development (biodiversity)
  - Everyday surroundings (well-being)
  - Improvement of water quality
  - Climate proof city
  - Economy/image
From ‘City greening’ to ‘Building with Nature’

Gardening of ‘green’ (bring in plants to green the city)

Liveability increase (feel-good)

Recreation (actively enjoying)

‘Natural’ surrounding (flowers → butterflies)

Local approach (project boundaries)

Climate adaptive (dry feet)

Awareness of surrounding natural system (understanding climate problems)

Natural values (realization of suitable conditions for nature development)

Self-reliance of the natural system (minimalization management)

System approach (city/regional boundaries)
Climate adaptation & Rotterdam

Rotterdam lies in a delta which makes it vulnerable to the consequences of climate changing:

- more extreme weather conditions (rainstorms/drought/heatwaves)
- Higher water levels (sea and river)
BwN in urban areas:
River as a tidal park
Current situation: steep and stoney river banks (70%)
Current situation: ecological poverty
Water safety issue: dikes 2050

- hoogtetekort of overschot ten opzichte van HBN 2050 REF
- klimaat + zetting + nieuwe norm als er niets aan de dijken zou worden gedaan ten opzichte van de referentiesituatie 2015
- overslagcriterium 0,1 l/m/s met uitzondering van Rivierenland en HHSK (zonder Hollandsche IJssel): 1,0 l/m/s
River as Tidal park: bringing together city and nature.
Program River as a Tidal Park

Dutch State Water Service (RWS) → Obligation for EU Water Framework Directive to construct natural shores (2.5 km in the Rotterdam area).

WWF (WNF) → Biodiversity goal, increase of tidal nature area in the estuarium of South-Holland.

Port of Rotterdam (Havenbedrijf Rotterdam) → looking for balance in their economic expansion and a healthy environment, also interested in the re-use of dredged material.

Municipality of Rotterdam → sustainable and liveable city, climate adaptation measures, recreation and awareness of the tidal system.

Province of South-Holland → increase space for biodiversity, experiencing ‘green’, and agricultural entrepreneurship.

Ecoshape → to show BwN that it works and develop knowledge

Dutch Ministry of Infrastructure and the Environment → water safety
Also involved since end of March 2015:
Waterboard ‘Delfland’ & ‘Schieland and the Krimpenerwaard’
Municipality of Ridderkerk
Opportunity map for BwN: potential locations within the city of Rotterdam
Showcase Tidal River
BwN goals showcase Tidal River:

1) Learning from the implementation process BwN in Rotterdam/integrate the BwN Design Guideline

2) Input of BwN knowledge, designs

3) Quickscan BwN possibilities in the region

4) Evaluation of critical size/distance of BwN measures
Thank you for your attention

More information?

www.ecoschape.nl