EWT | Eco Web Town | ISSN: 2039-2656 | http://www.ecowebtown.it

Edizioni SUT - Sustainable Urban Transformation, Università degli Studi "G. d'Annunzio" di Chieti-Pescara
Editor Director: Alberto Clementi, Editor in chief: Flippo Angelucci | Reg. Tribunale di Pescara n°9/2011 - 07/04/2011

The river as a Tidal park

Strootman Landschapsarchitecten

Description

The landscape in the Maas-Rhine delta was originally an estuary. It is a dynamic landscape characterised by gradual transitions from salt water to fresh water, from deep to shallow, and from wet to dry. The landscape is subject to erosion and sedimentation under the influence of the major rivers and the sea. As a result, the landscape is rich in flora and fauna.

The dynamism of the estuary has been increasingly shackled by human intervention through the centuries, a process that was accelerated with the development of Rotterdam as a port. The infrastructure of the Delta Works keeps the water outside the polders. The banks of the Maas are to a large extent hard and the depth of the riverine routes has to be maintained for shipping. The river serves the docks and thereby has an enormous economic value, but at the same time has little recreational and ecological value.

Strootman Landschapsarchitecten and De Urbanisten have worked in conjunction with regional parties to develop a landscape framework that offers inspiration and reflects the ambition to turn the river into a Tidal Park. The objective is to make the river more natural, enjoyable, accessible and attractive in the urban setting.

The framework is based on four characteristics that are determinant for how the Tidal Park can be implemented:
Specific tidal environments are distinguished that differ from one another in terms of the quantity of salt and nutrients, the water fluctuation and the available space.
It is important to enlarge the contact zone between water and land as much as possible to create tidal nature, and to make use of the hydrodynamics of the river in the process.
The adjoining landscapes are very different from one another. Each of them makes contact with the river in a different way. They differ in terms of their subsoil (sea clay, peat, dunes), but also as a result of human intervention (onshore polders, urbanisation and development of the docks).
The Tidal Park relates to the urban context in various ways. On the northern side lies a series of tidal environments, connected with one another by the dike that links the various green urban spaces and

landscapes. On the southern side the river is further away, mostly because of the (large-scale) operative harbour between the city and the river.

Relevance

With the development of Rotterdam as a port, the dynamism of the estuary has been increasingly shackled. Influence of the Delta Works, hard banks and shipping decrease the recreational and ecological value of the rivers shores.
The framework is based on four characteristics that are determinant for how the Tidal Park can be implemented:

- distinguish different tidal ecosystems
- utilize hydrodynamic of the river
- increase contact tidal river - surrounding landscape
- better connection tidal river - urban context.

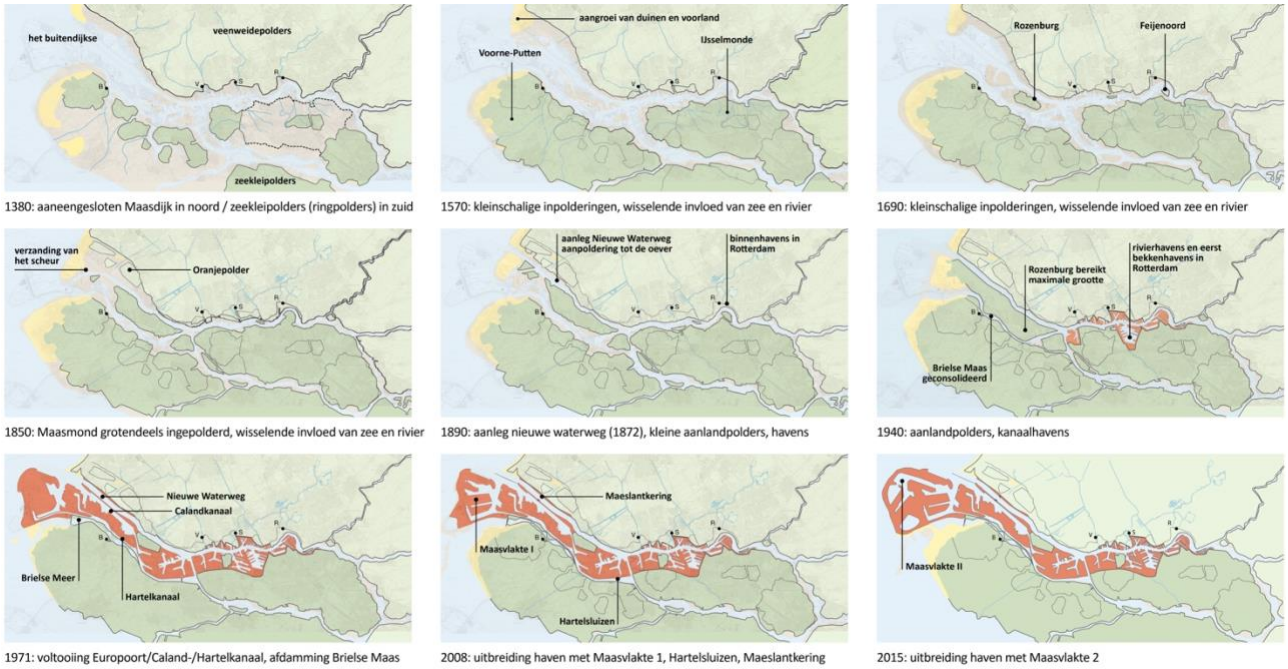
Using the landscape framework and design principles that have been developed, work can go ahead in the coming decades, creating a sustainable river with an added value for the city in the field of ecology and recreation, community, economy, research and water security.

Information

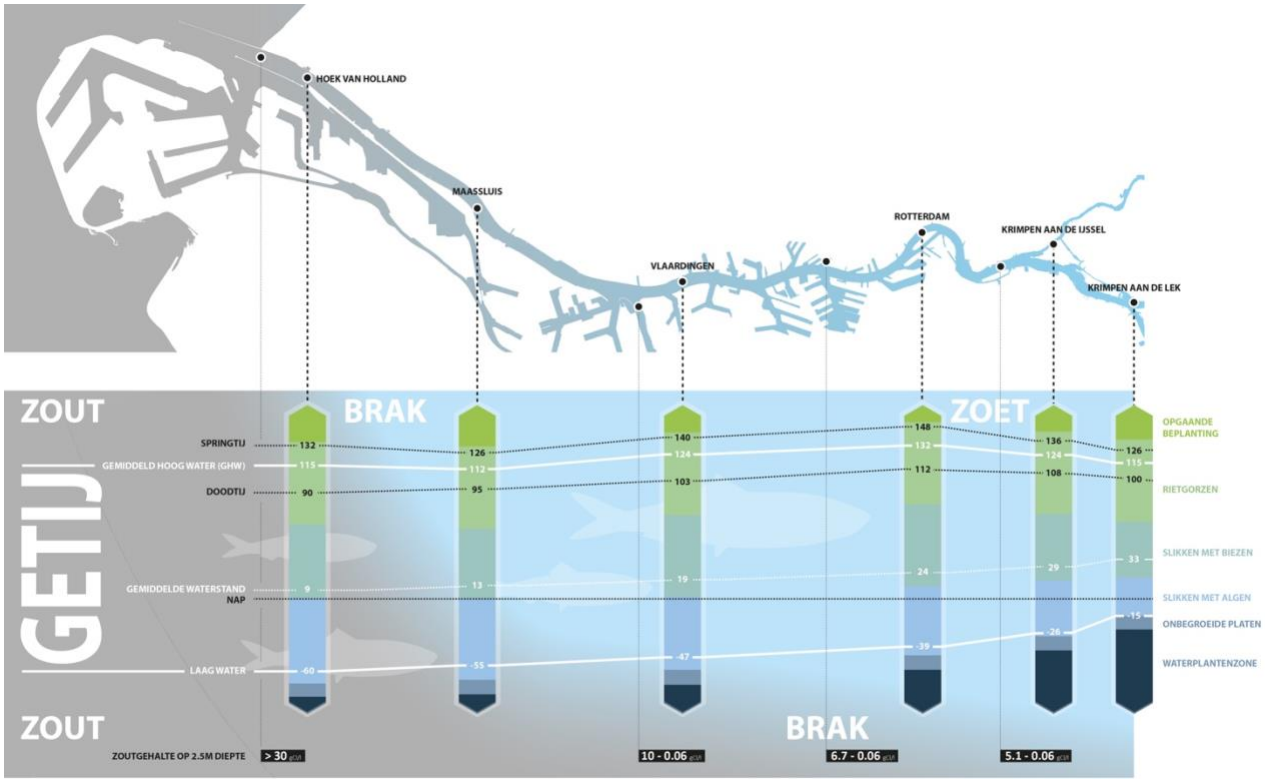
- Location: Maas-Rhine delta between Hook of Holland and Kinderdijk, The Netherlands
- Designer(s): Strootman Landschapsarchitecten. In collaboration with: De Urbanisten, WNF/ARK, Rotterdam Local
- Commissioned by: Rotterdam Local Authority
- Area: approx. 30,000 ha
- Period of design: 2015/2016
- Implementation period: 2017– (subsidiary projects subsequent to the framework)

(Fig. 1) The landscape framework is formed and tested during a regional workshop and three expert sessions together with the municipality of Rotterdam, WNF/ARK and Ecoshape.

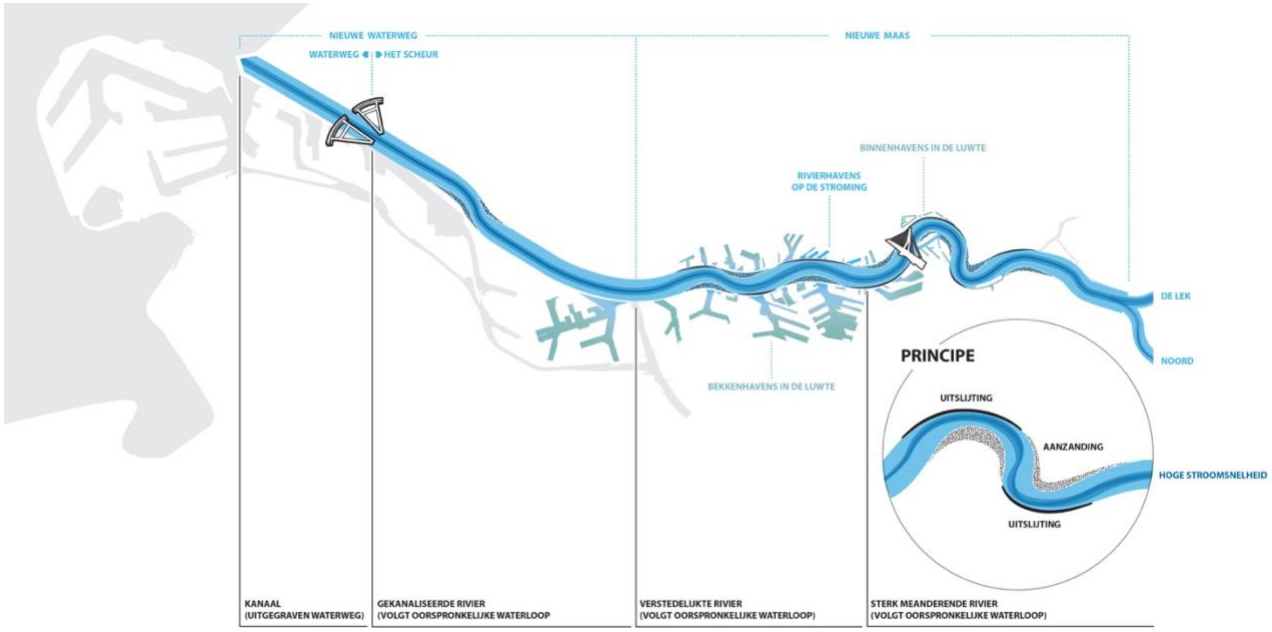
(Fig. 2) The desired image for the river as a Tidal park. The Tidal park connects the city with the river, makes the water more accessible, the tide more observable and creates space and value for man and nature.



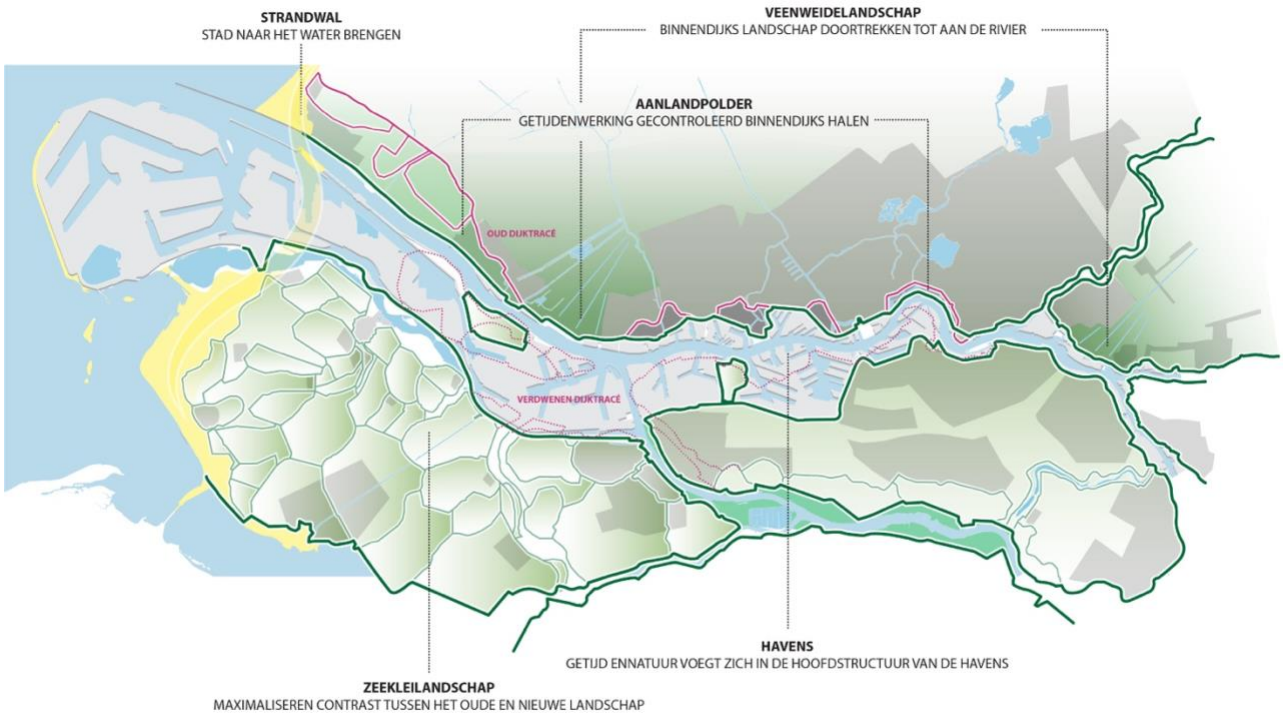
(Fig. 3) Development of the Maas estuary



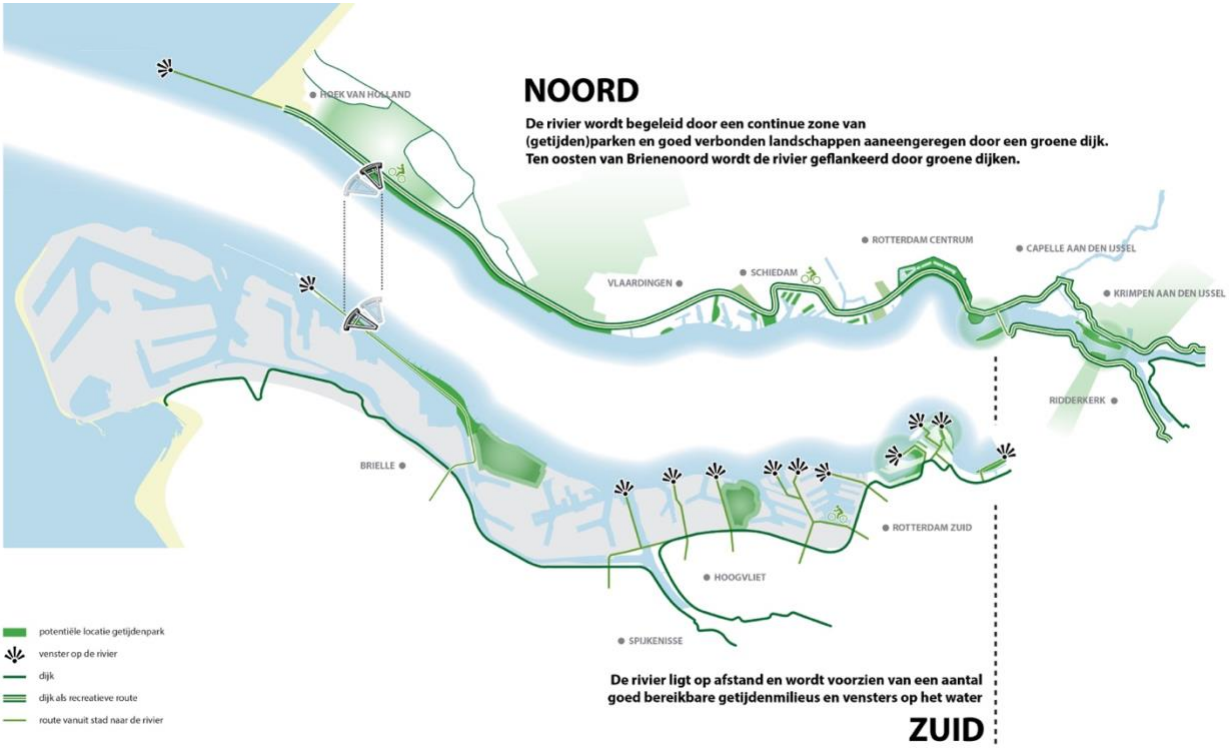
(Fig. 4) The Tidal park has a rich variety of tidal-related flora and a salt-fresh gradient that is legible.



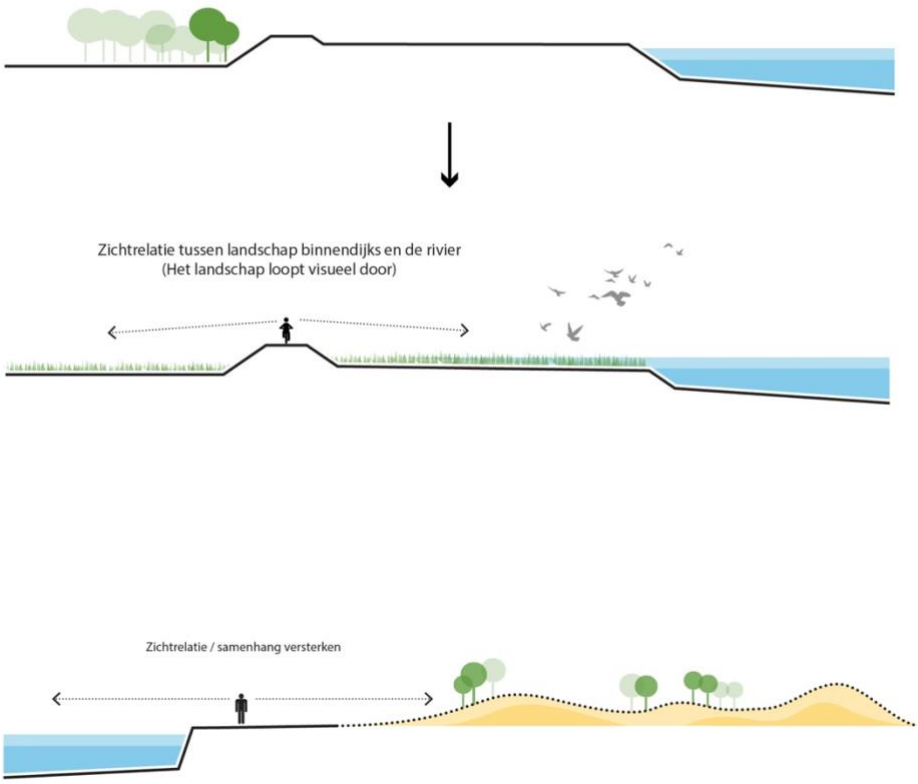
(Fig. 5) The Tidal park both uses and responds to the hydrodynamics of the river.



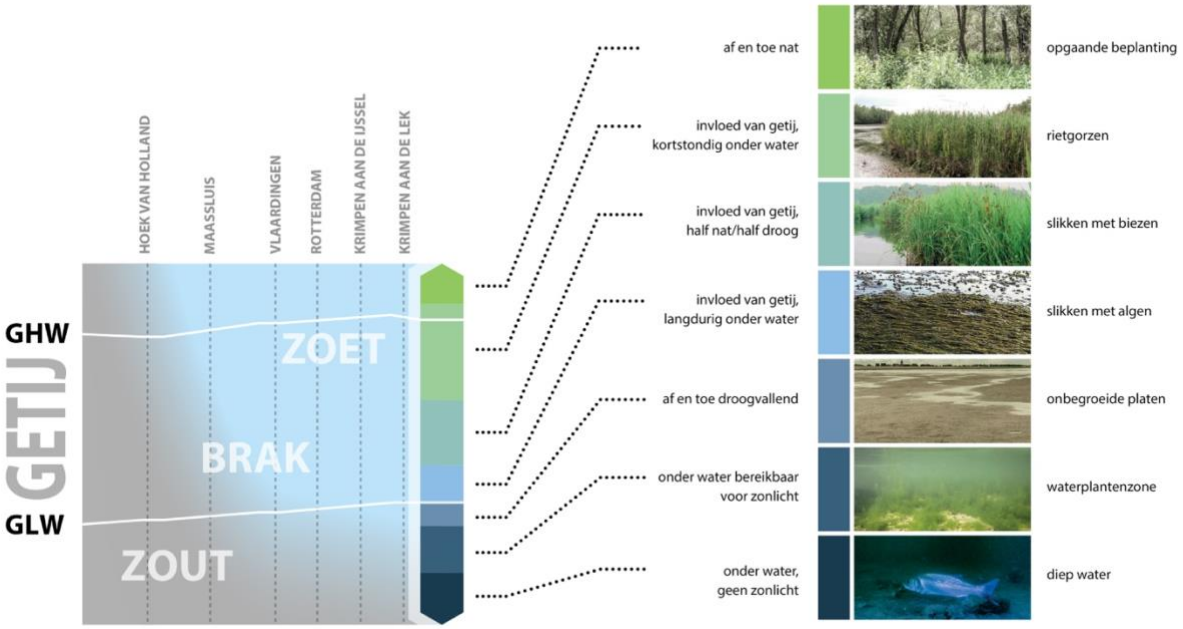
(Fig. 6) The Tidal park forms connections with the natural and historical landscape



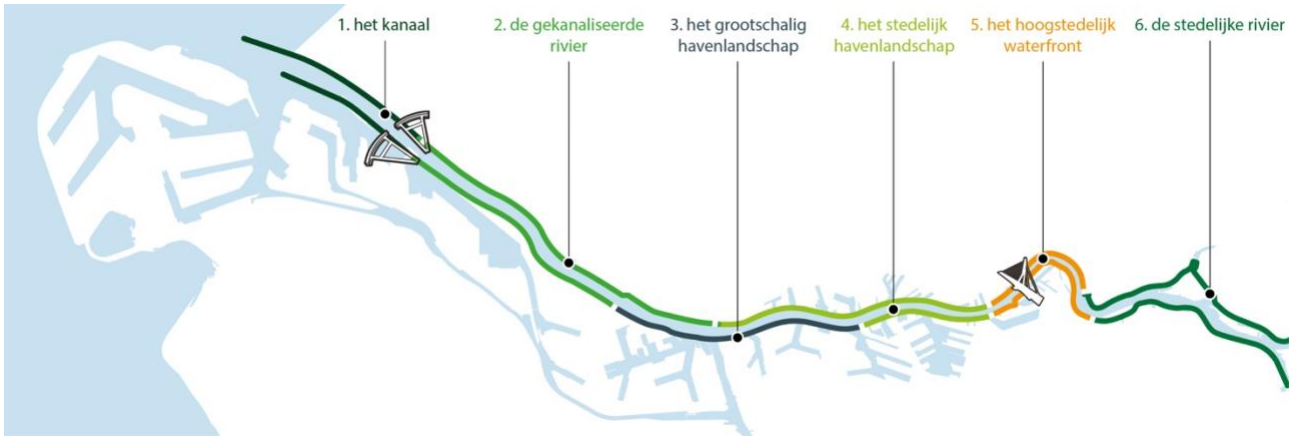
(Fig. 7) The Tidal park has different ways of connecting to the urban tissue



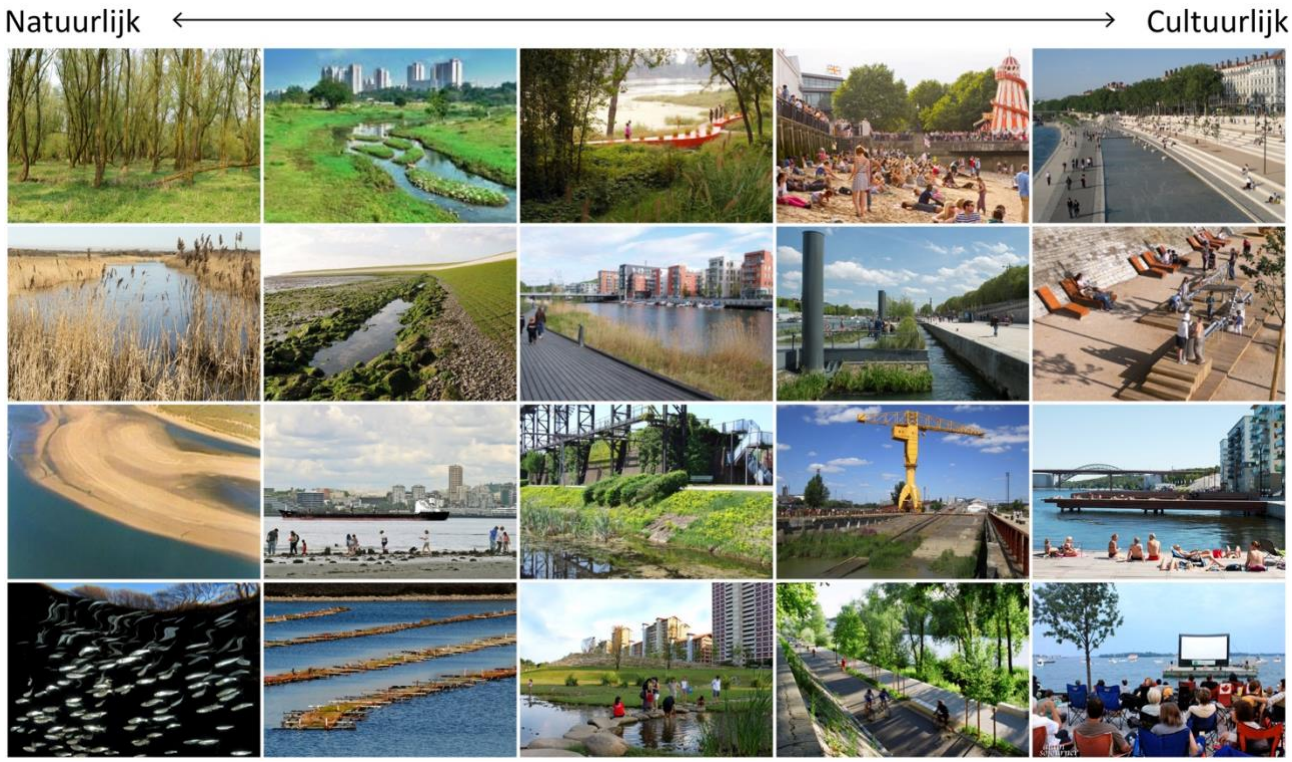
(Fig. 8) a. Design guidelines: Making the landscape and its context legible
b. Strengthens the relationship between the river and the landscape behind the dike.
c. Creating a Boulevard at Hoek van Holland, in connection with the dunes behind it.



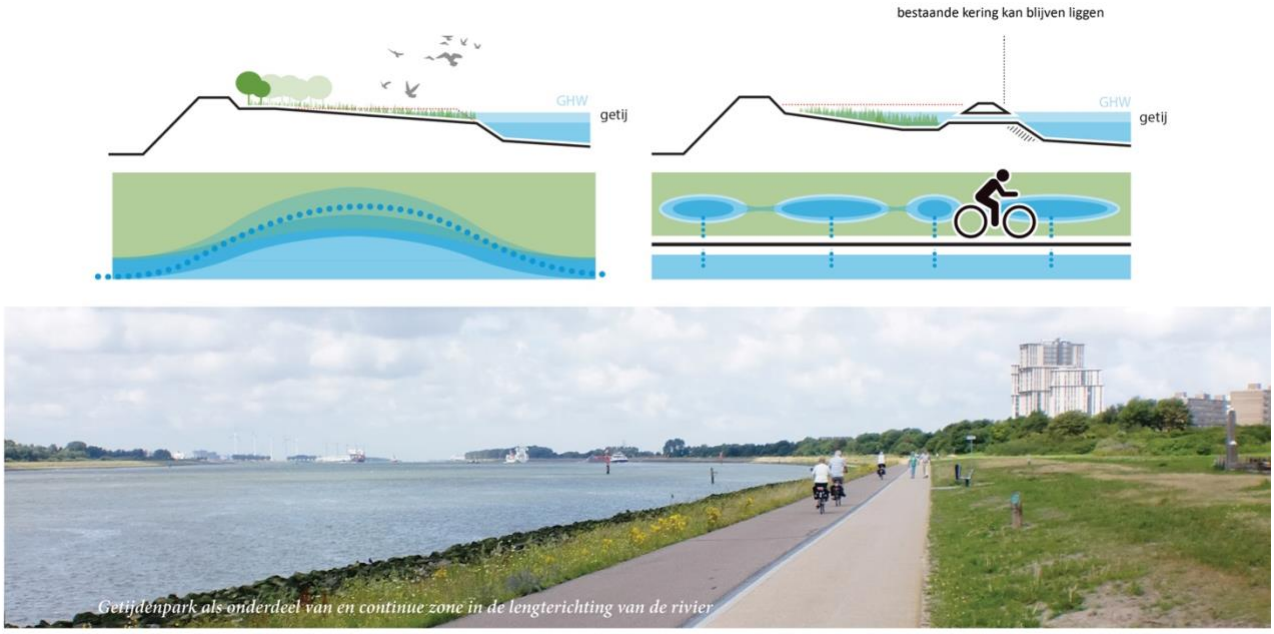
(Fig. 9) Design guideline: Creating the right conditions for nature development



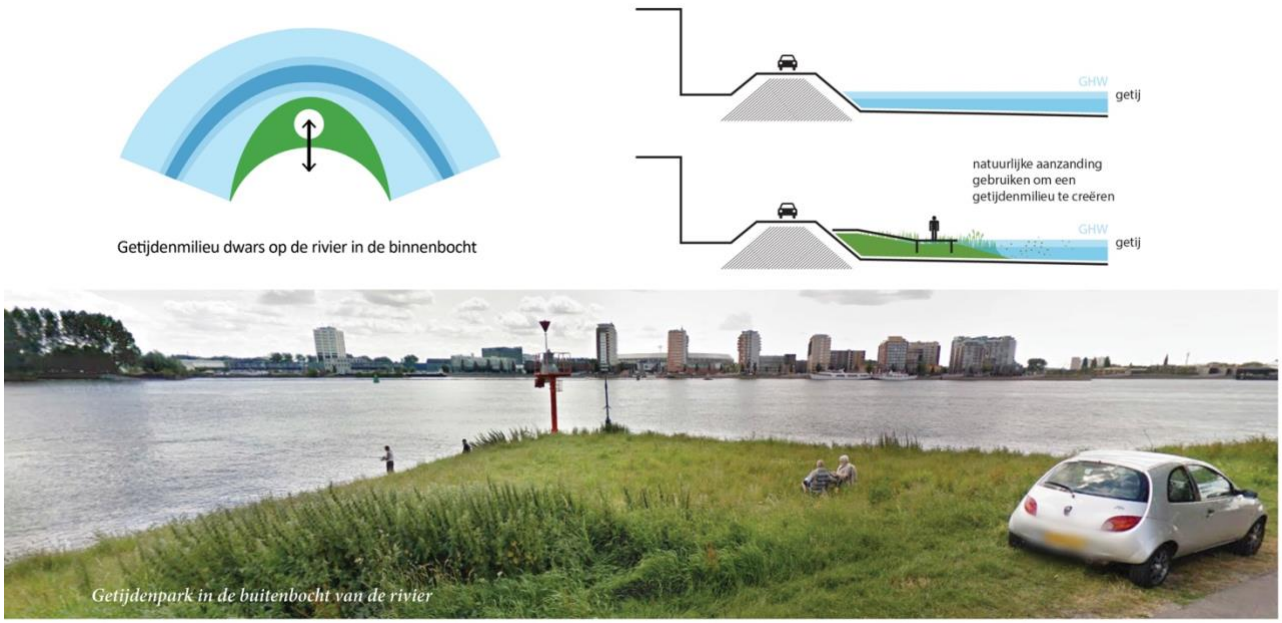
(Fig. 10) Design guideline: Using clear design-units, interventions are related to the size and scale of the river



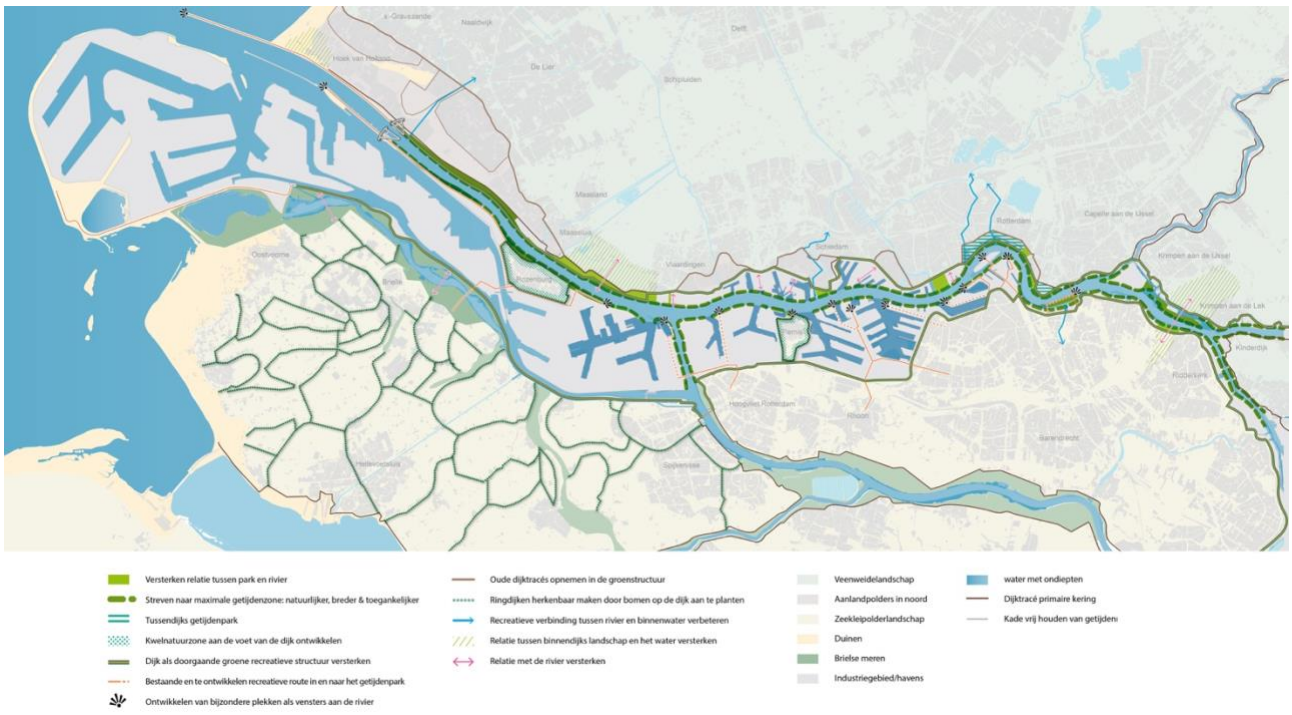
(Fig. 11) Design guideline: The riverbanks provide a well-considered mix of nature and culture



(Fig. 12) Example of design guideline ‘raising and excavating land’



(Fig. 13) Example of design guideline ‘raising and excavating land’



(Fig. 14) The four characteristics form a basis for the desired image ‘the landscape framework’. This map shows the ambition to substantially enlarge the tidal zone along the banks of the river and to make the river more accessible and legible.