

Working with Nature Project database



General information

Name of navigation or waterborne transport infrastructure project	Creation of a new tidal area Spadenlander Busch / Kreettsand in the context of the Tidal Elbe Concept
Country	Germany
Project location (nearest town or city)	Hamburg
Key project objectives	To safeguard seaward access of the Port of Hamburg the Hamburg Port Authority (HPA) and the Federal Waterways and Shipping Administration set up an innovative concept for a sustainable development of the tidal Elbe River. The objective is to dissipate tidal energy and decrease flood current in order to reduce upstream sediment transport and dredging necessities. HPA is presently creating a new tidal area which is suited to moderate tidal action and also to serve nature conservation objectives.
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Position	Responsible person for planning river development projects
Organisation	Hamburg Port Authority (HPA)

Project data

Characteristics of environment	
	Marine
	Urban
	Temperate
	Protected areas
Key project dates	
Project is not in the planning phase. Date project planning started	May 2008
Project has consents/approvals. Date approval was obtained	
April 24, 2012	

Project construction started. Date construction started

June 2012

Project not yet completed

Type of project

Other

Pilot project of the concept for a sustainable development of the Tidal Elbe estuary as an artery for the metropolitan Region of Hamburg

Brief description

As a pilot project for the creation of new shallow water areas the Hamburg Port Authority (HPA) will open up an area of 30 ha for the tides directly in Hamburg and thus create additional 1 Mio m³ of tidal volume. Although the dyke in front of the so called Spadenlander Busch/Kreetsand area was realigned already 10 years ago, the present foreland is not subject to the daily tides. The excavation of 2 Mio m³ of soil will allow free oscillating tides and set the stakes for future developments. The soils consist of natural ground and filled up material with a different degree of contamination. Roughly one third cannot be re-used and has to be brought to disposal sites. Large parts of the residual soil will be used in upcoming harbor construction measures. A barge pier is build at the measure site to minimize truck traffic and use the shortest route to the re-assembly site. Fractions of excavated material in good conditions might also be put on the market, to be used in other construction projects. The integrative planning process has combined interests and needs from port uses, water management, nature conservation and local recreation simultaneously and advantageously. The essential planning criteria besides hydraulic efficiency and stability have been aspects of nature and landscape planning, an integrative concept of soil management as well as safety and perceptibility of the new tidal region for the public. The higher objectives in line with the concept for a sustainable development of the tidal Elbe River are a reduction of tidal range and of the tidal pumping effect, thus reducing the amount of dredged material and preventing further silting up of anabranches and side banks. This project is designed as a pilot for a new river engineering concept and as an exemplary model for future measures of similar purpose. Additionally, this practical example of sustainable river engineering shall be used to improve a new understanding of tidal systems and estuaries.

Indicative size

More than 10 million US\$

Working with Nature philosophy

Were steps taken to understand the environment before any work was started on the development of the design of the project?

Yes

Analysis for protected properties that could be found in the development area were carried out before starting the planning phase. For the assessment existing data and field mapping were combined. An important significance was ascribed in defining and describing the habitats that belong to the NATURA 2000 network so that the planning could be adjusted to their needs. Beyond that a digital model gave awareness of currents and sedimentation processes that occur in the planning field.

Were stakeholders or potential partners involved from the very beginning in the initial process of identifying potential options or solutions and agreeing on a preferred option (i.e. instead of being consulted on already defined options)?

Yes

HPA set up a new communication strategy for the planning and execution phase of the project. One important aim of the communication concept was to ensure an early and

continuous involvement (personally and directly right from the start) of the local inhabitants and other authorities being responsible for special aspects like nature conservation or water quality, in order to engage them in the process of developing ideas and to make them familiar with the project's overall background.

Was a solution identified which provided a clear 'win-win'?

Yes

The degree of synergistic effects is high, because the agreement with all appropriate organizations was not only to create a retention area but also to create a new valuable shallow water area with a natural riparian shape and vegetation. Therefore the measure will not only lead to the estimated benefits for maintenance dredging activities in harbor basins and fairways but also to positive effects on nature conservation (the area is assigned as a nature protected area) and on local recreation.

Was the project designed to work with and make use of natural processes (e.g. 'letting nature do the work')?

Yes

Did the project include benefits for nature or other environmental enhancements beyond what was legally required?

Yes

Beyond the creation of shallow water areas, a very useful area for nature conservation is going to be established. Marsh habitats, mudflats and other ecological valuable areas will be developed in the area Spadenlander Busch/Kreetsand. A new spawning area and nursery ground for fish will arise. Furthermore habitats for the endemic plant 'Elbe Water Dropwort' (*Oenanthe conioidea*) which is protected by EU legislation will be developed in order to ensure the coherence of the NATURA 2000 network.

Did the project follow, in order, the steps described in the Working with Nature Position Paper?

Yes

Right from the start of the project it was clear that an integrative planning process was needed to combine different interests and needs from port uses, water management and nature conservation simultaneously and advantageously. Therefore the steps described in 10.a. were carried out right at the start accompanied by first informative contacts to stakeholders. After that the first planning phase started. Nevertheless one must be aware, that it is impossible to reach all aims hundred per cent.

Reasons/motivation for taking this approach

This project is designed as a pilot for a new river engineering concept and as an exemplary model for future measures of similar purpose. Additionally, this practical example of sustainable river engineering shall be used to improve the public understanding of the function of tidal systems and estuaries. To foster these intentions and bearing in mind the understandable fear of the local inhabitants concerning dyke security and flood protection, it was clear that only with a diversified planning process taking seriously into account all needs and concerns of the different stakeholders and setting up an above-average communication strategy, the project would be successful and effective as a good-practice example.

Cost implications

Costs were not lower than the conventional approach to this type of project (i.e. no cost savings were made)

No additional funds were provided from third parties

Extra costs compared to conventional approach

Costs were not marginally or significantly higher than a conventional approach to this type of project

Other cost implications

As this project is a very new approach and was applied from the beginning to reach as many stakeholder needs as possible, a comparison with an execution without Working with Nature elements is not up for debate. Therefore the cost implications can not be announced.

Did existing legislation help or hinder your application of the Working with Nature philosophy?

The approach adopted helped to meet legal obligations

As habitats that belong to the NATURA 2000 network were affected by the project execution, the Working with Nature approach helped in handling the implementation of the project in highly valuable habitats as compensation inside the area was possible in an acceptable way. As the new tidal area is part of a newly established nature conservation area a target-oriented cooperation of relevant authorities was applied in setting up conservation objectives that matched both nature and hydro-morphology.

What was done did not exceed legal requirements

No problems were experienced with existing legislation

The approach was not taken despite legal requirements

Legal requirements did not prevent the Working with Nature philosophy being applied

Further information

http://www.tideelbe.de/files/strategiepapier_tideelbe_komplett_english_final_020408.pdf
http://www.tide-toolbox.eu/measures/spadenlander_busch/
http://www.tideelbe.de/files/htg-beitrag_meine_gutbrod_kongress2009.pdf (in German)
http://www.hamburg-port-authority.de/de/hamburg-port-authority/strategische_themen/wasserwege/Seiten/default.aspx (in German)