

WORKING WITH NATURE IN GERMANY

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Legal Constraints for WwN

Germany

- Federal Nature Conservation Act (BNatSchG)
- Federal Soil Protection Act (BBodSchG)
- Federal Water Act (WHG)
- Environmental Impact Assessment Act (UVPG)
- Administrative Law (legal plan approval procedure)

Europe

- EC-WFD
- Biodiversity Strategy







Internal Constraints for WwN

Waterways- and Shipping Administration



- HABAG
- HANATSCH
- WaWiU

Handling of Dredged Material Handling of Natural Asset Ecological Amelioration (according to EC-WFD)







Individual Incentive

Waterways- and Shipping Administration



- Problems and Delay in Plan Approval Procedure
- Come to Convenience with Stakeholders
- New Findings: Engineering + Ecology + Sociology
- Societal Acceptance of Navigation Projects
- Avoid "I am the disturber" Image
- be one of the Modernists
- PIANC WwN







Example Projects

Source

• Database German Federal Institute of Hydrology

Case Studies for the Improvement of the Ecological Status of Federal Waterways





Database BfG

Navigating

New Millennium

N PORTE WATERWERS ENVIRONMENT

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WORLD CONGRESS

San Francisco 2014

June 1 to 5



68 Projects

in Germany

48 compensation (not WwN)



WwN Main Criteria

The Project ...

 understands the environment before design begins
 works with natural processes
 delivers a net gain for environment
 uses stakeholder engagement to identify win-wins (integrated project planning)







Example 1 Inland Waterway







Example 1 Inland Waterway



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a prove warrename underland

Flood Spillway Rees

River Rhine

WSV NRW City of Rees







Flood Spillway Rees – Rhine



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Flood Spillway Rees - Rhine

Navigational Targets

- maintain navigable water levels
- reduce risk of bed erosion
- minimize expensive bed load supply
 Win-Win Targets
- relieve City of Rees from danger of flood damage
- enhance nature's value within construction area
- societal integration of recreation, farming, nature conservation





Flood Spillway Rees – Rhine

WwN related issues

- recording natural asset and processes
- pre-planning + stakeholder involvement
- selection of ecological meaningful alternative
- detailed engineering including "nature"
- clear win-win-situations
- monitoring from the beginning





Flood Spillway Rees – Rhine

WwN Main criteria

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understands the environment before design begins
 works with natural processes
 delivers a net gain for proment
 uses stakehold





Example 2 Inland Waterway







Example 2 Inland Waterway



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proper storestory participates

Stabilisation Concept River Bed

River Elbe

Waterways- and Shipping Administration















Navigational Targets

- restore navigable water levels / navigation channel
- reduce risk of bed erosion
- "reconstitute" balanced sediment budget
- minimize expensive bed load supply
- miminize investments for training constructions





Win-Win Targets

- avoid ecological damage (Natura2000, UNESCO)
- enhance ecological development
- ensure drinking water abstraction
- ensure potential for farming and forestry
- ensure potential for fishery
- facilitate potential for tourism
- societal integration of recreation, farming, nature





WwN related issues

- integrated planning
- multi-institutional-administrational committee
- hydro-eco-morphological pre-checks
- mutual set up of realization concept
- selection of preferred areas and local pilots
- monitoring





WwN Main Criteria

Navigating

New Millennium

understands the environment before design begins
 works with natural processes
 delivers a net gain for enconment
 uses stakeholder





Example 3 Inland Waterway







Example 3 Inland Waterway



Tentative technialbiological Bank Protection

River Rhine

WSV.de

WSV









Pilot Project

initial rip-rap

plots 4 rip-rap + tech.-biol. 4 technical-biological

1 pristine

illustration: WSA Mannheim





Navigational Targets

- (nature like) bank protection
- sustaining waterway's functionality and safety of navigation

Win-Win Targets

- net gain for nature in waterway's adjancencies
- legal task of maintenance according to EC-WFD
- integration of recreation and nature conservation





WwN related issues

- initial recording of bank ecological asset
- near bank habitat sucession partly involved
- stakeholder consultation
- monitoring





WwN Main Criteria

understands the environment before design begins
 works with natural process
 delivers a net gain
 uses stakehold





Example 4 Coastal / Maritime









Example 4 Coastal / Maritime



Fish Pass Weir Geesthacht tidal **River Elbe** Energy Company

VATTENFALL 🔁







compensation for coal-fired power plant

lenght 550 m 45 pools

45 species 1,2 mio (since 2010)

VATTENFALL





Navigational Targets

- navigation related legal obligation
- establish longitudinal fish connectivity due to WHG according to EC-WFD

Win-Win Targets

- net gain for aquatic nature (fish)
- legal task of maintenance according to EC-WFD
- integration of tourism





WwN related issues

- analyses of fish asset and individual needs
- expert consultation (e.g universities)
- monitoring





WwN Main Criteria

understands the environment before design begins
 works with natural process
 delivers a net gain from ment
 uses stakeholde





Example 5 Coastal / Maritime







Example 5 Coastal / Maritime



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proper descenter, pagingraphics

New Tidal Area Kreetsand

River Elbe

Hamburg Port Autority













shallow water 0.12 sq mi

1 mio m³









shallow water 0,12 sq mi

1 mio m³







Navigational Targets

- sustaining waterway's and port's functionality
- reduce dredging necessities
- prevent further silting up by reducing upstream sediment transport
- effect: enlargement of tidal volume, decrease flood current, dissipate tidal energy





Win-Win Targets

- Concept for a sustainable Development of the tidal River Elbe
- integrate tasks of Natura2000
- net gain for marsh development and river morphology
- development metropolitan area (IBA Hamburg)
- flood protection
- societal integration of recreation and nature





WwN related issues

- initial analyses of natural asset and processes
- overlying innovative river engineering concept
- integrated planning process
- clearly defined stakeholder involvement
- win-win for port users, water management, nature conservation and local recreation
- beneficial use of dredged material
- monitoring





Main WwN Criteria

understands the environment before design begins
 works with natural processes
 delivers a net gain for ment
 uses stakeholder





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Navigating New Millennium



GERMANY