



## SKINT: from conception to results

SKINT Final Conference  
Hamburg, 18<sup>th</sup> September 2012

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European Union



The European Regional Development Fund

# Skills Integration and New Technologies

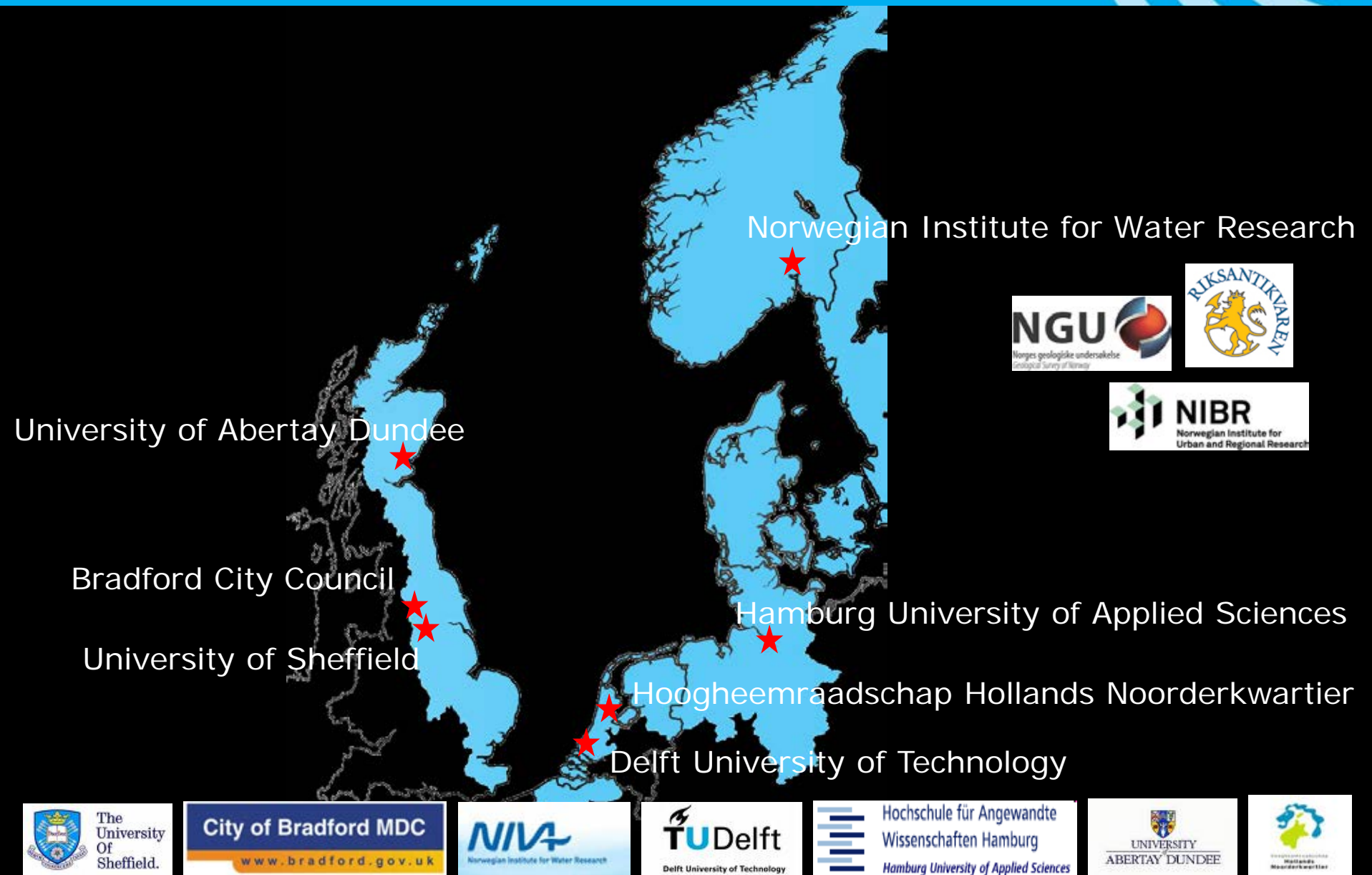
October 1, 2008

September 30, 2012



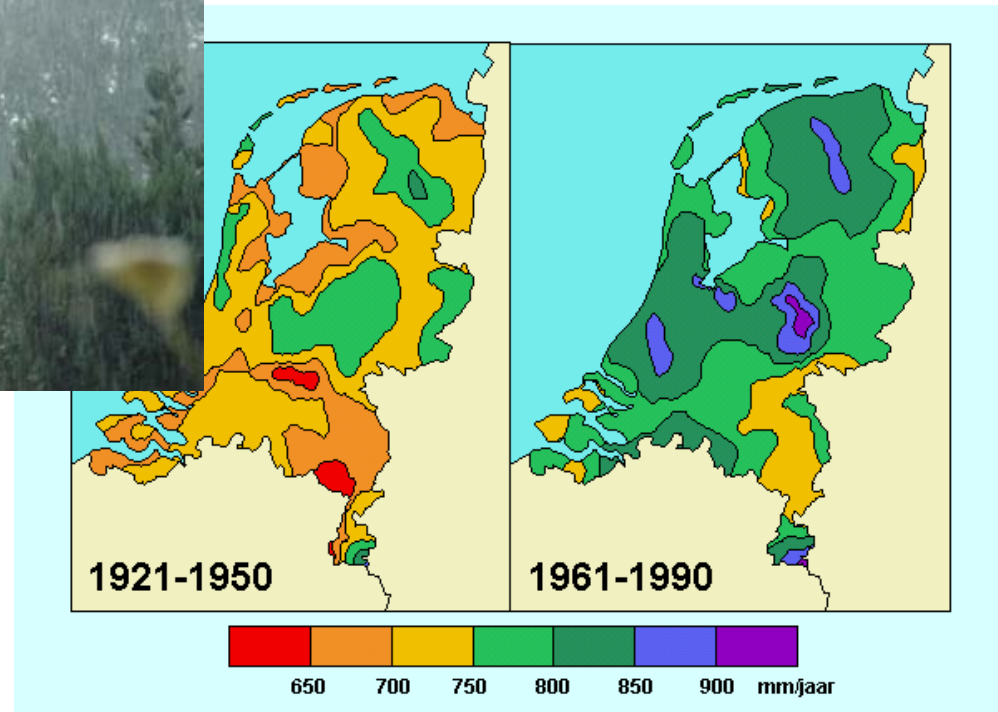
*Speaking a multidisciplinary language to integrate the worlds of spatial planning and water management. Encouraging the implementation of innovative technical and sustainable solutions which have already proved to be successful.*

# Beneficiaries



# Rationale – More severe rainfall

- 1:100 – 3 hours rain shower      40 → 50 mm
- 1:100 – 24 hours rain shower      75 → 83 mm





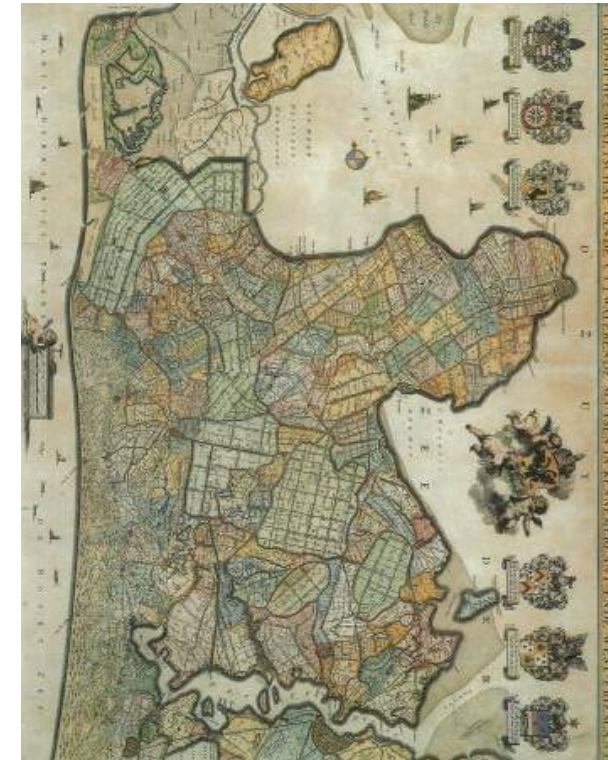
# Rationale – Less water storage



1520



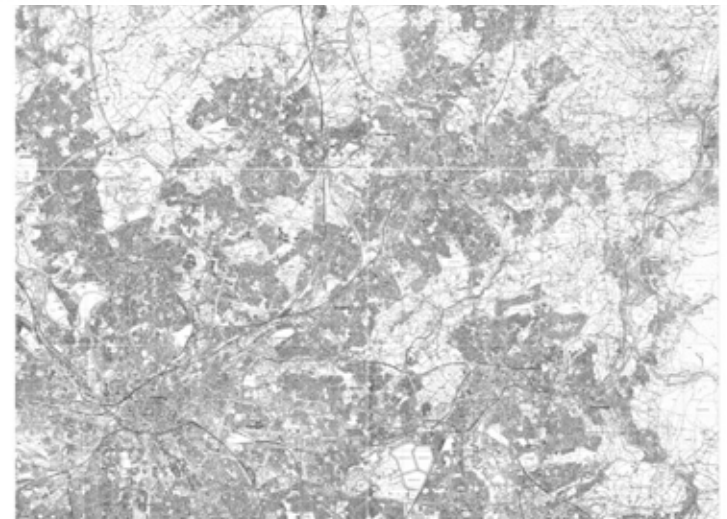
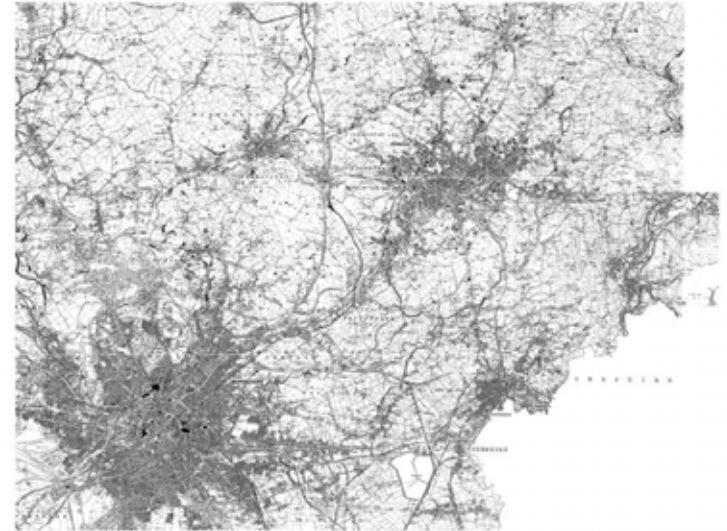
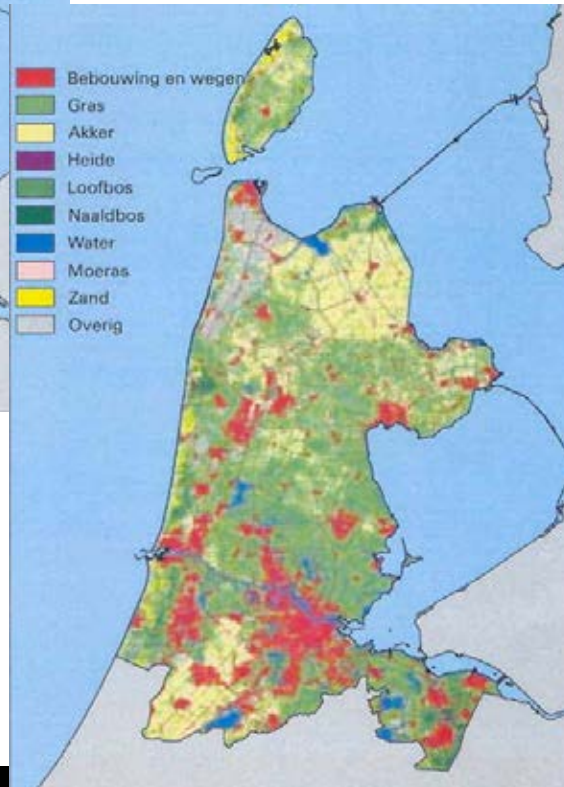
1600



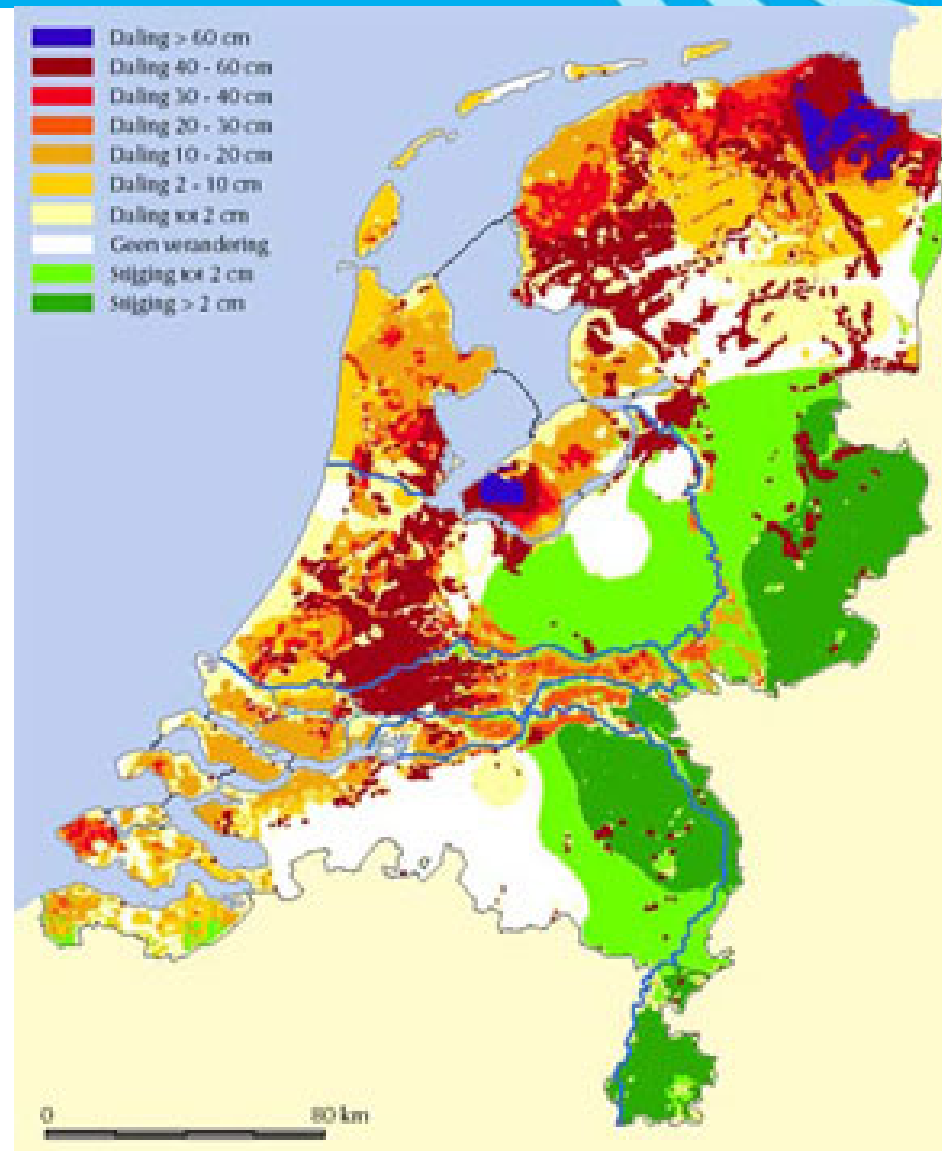
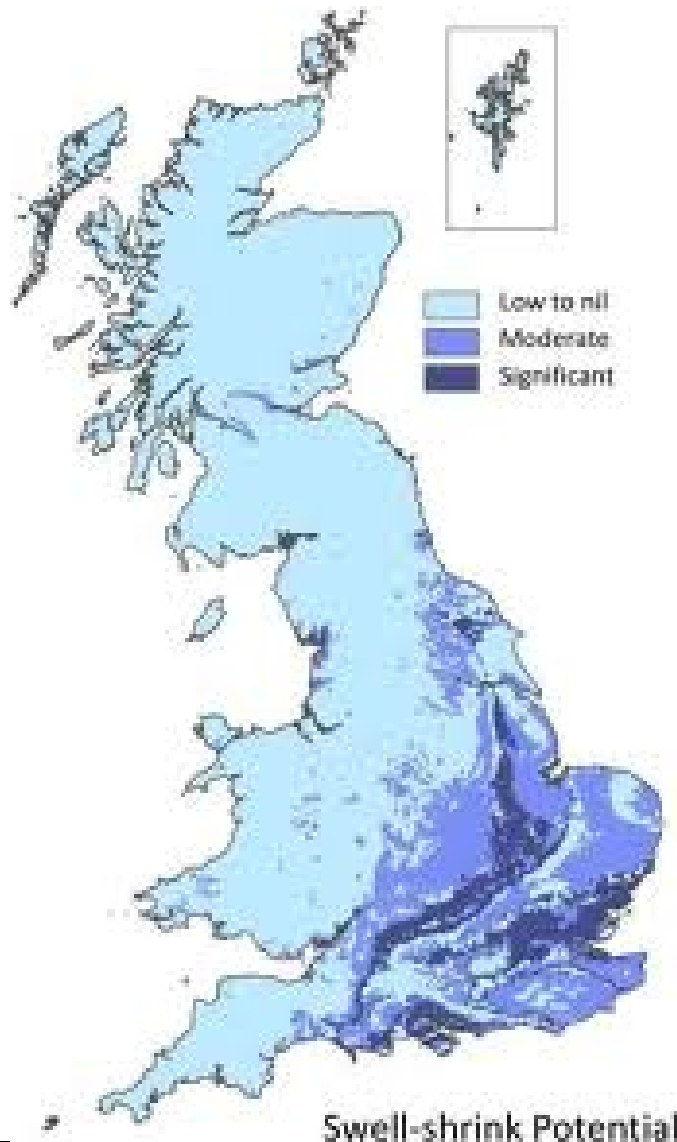
1685



# Rationale – Increased urbanisation



# Rationale – Subsidence





# Rationale – FD and WFD



Short term  
interests



of local politics



vs. long term  
interests



of water  
management





# Objectives

- Skint is about solutions
- Skint improves the implementation of the WFD and FD into the spatial planning process
- Skint gathers knowledge and experience from successful initiatives and provides (communication) tools for water managers and spatial planners
- Skint contributes to the improvement of water quality and to the reduction of flood risk in urban areas

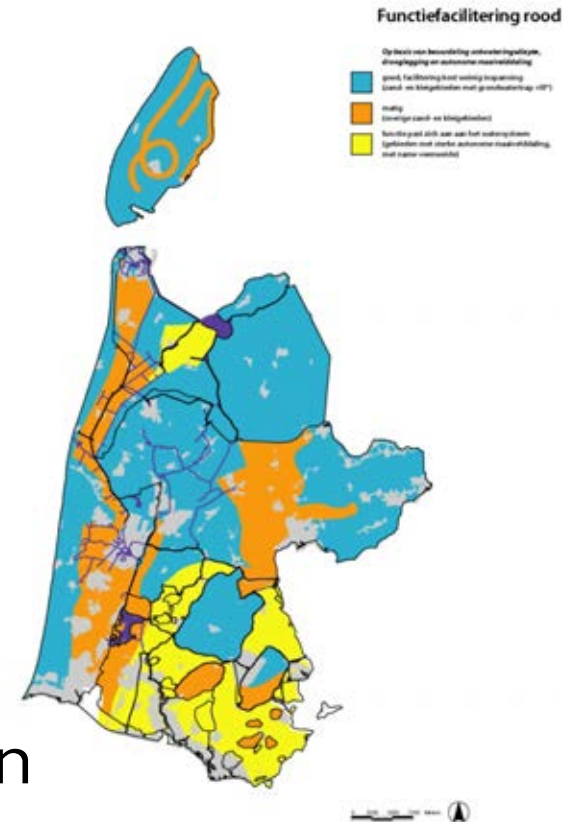
*Towards sustainable urban water management*

# Results

Communication tools to facilitate the involvement of water managers and spatial planners in multidisciplinary processes

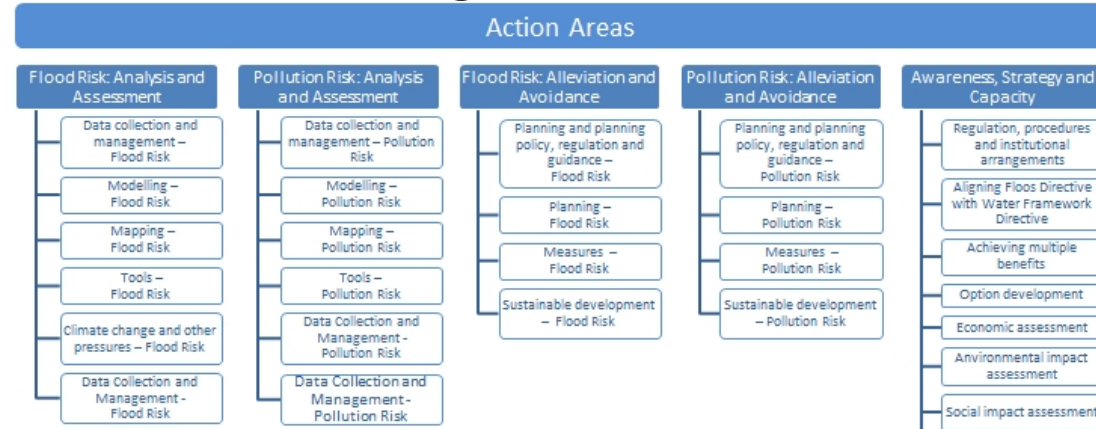
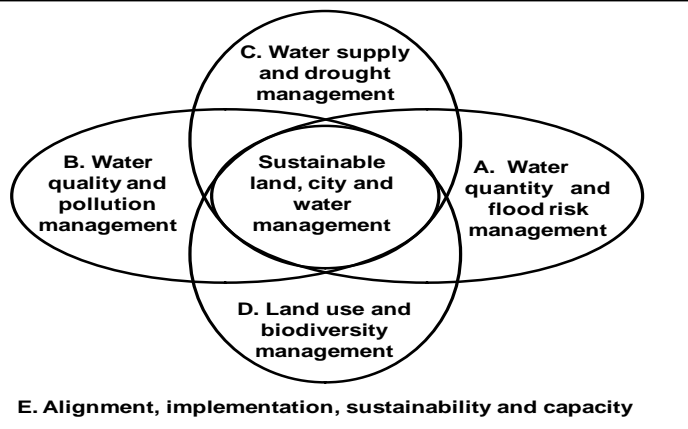


“Modern technology can significantly improve communication and cost-efficient decision-making, thereby facilitating a better integration of urban land and water management”

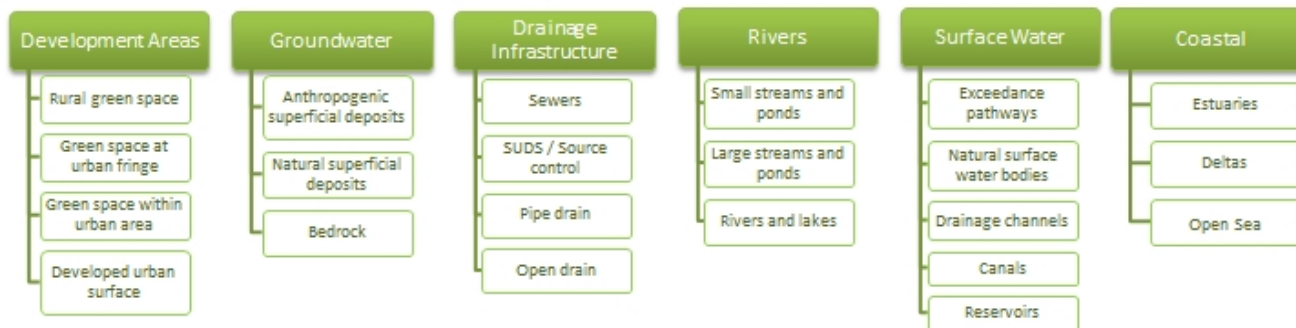


# Results

A permanent user-driven water portal with examples of excellent processes and practices of sustainable urban water management



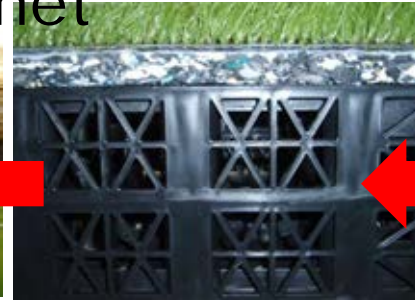
## Area Types





# Results

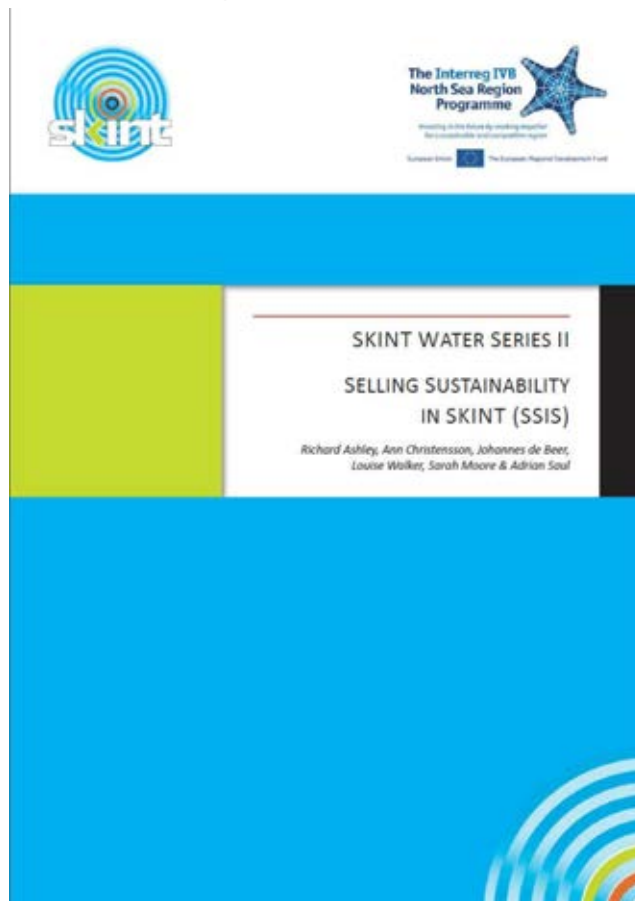
Better management of the built environment of urban areas → the needs of integrated land and water planning are better met



“Successful integration of land and water management and real sustainable water management is characterised by multiple benefits rather than by the direct benefits of improving surface water quality or reducing floods alone”

# Results

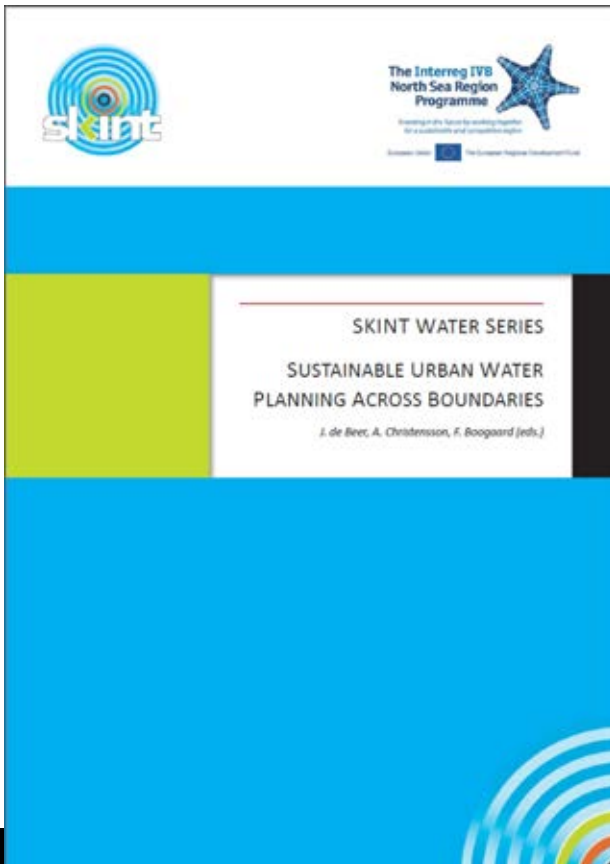
## Raised awareness on sustainability amongst decision makers



Category	Benefit	Level 1: Overview Assessment of Benefits to:						Level 2: Quantitative Analysis			Level 3: Financial Valuation
		Environment (e.g. EU biodiversity strategy)	Economy	Society	Energy use	Cultural heritage	EU Directive fulfillment (line with)	Regulation/ Directive measures for land planning?	Direct quantitative analysis possible?	Indirect quantitative analysis possible?	
Protection of environment	Improves water quality <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Increases water recycling <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Reduces need for grey infrastructure <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Reduces need for grey infrastructure <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Improves green infrastructure <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Improves green infrastructure <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Reduces water consumption <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Air quality regulation <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Increases photosynthesis (production of atmospheric oxygen), soil formation, nutrient cycling and/or primary production <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Breaks in regulation <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
Flexibility and adaptability to climate change	Supports pollution <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Reduces flood risk <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Reduces risk of sea level rise <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Reduces risk of sea level rise <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
Contribution to local/global economy	Increases labour productivity <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Provides food crops, fibre & fuel, genetic resources, bioactive compounds, natural medicines, pharmaceuticals, and/or ornamental resources (shell, flowers etc.) <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Post and/or disease regulation <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
Life cycle cost	Low life cycle costs	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Investment <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
Attractability	Has secure funding	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Low risk of failure	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
Public participation engagement	Integrates land and water management <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Provides educational opportunities <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Involves citizens in decision making	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Increases visibility of water <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
Accessibility provision	Provides recreational opportunities <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Increases accessibility <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Improves accessibility <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
Acceptability	Has the potential to be replicated <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Is used/supported by local community	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
Benefits to local economy	Is positively reported <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
	Contribution to local / global economy	Enhances tourism <sup>1</sup>	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N
Preserves/creates/creates heritage <sup>1</sup>		H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
Spiritual and religious value <sup>1</sup>		H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
Inspiration of art, fiction, architecture <sup>1</sup>		H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
Enhances human capacity: builds knowledge, traditions, implicit/ tacit knowledge <sup>1</sup>		H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
Social relations (e.g. fishing, grazing, cropping communities) <sup>1</sup>		H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
Enhances urban environment: efficient urban regulation (e.g. water, land, landscape etc.) <sup>1</sup>		H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
Enhances urban environment: efficient urban regulation (e.g. water, land, landscape etc.) <sup>1</sup>		H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
Enhances urban environment: efficient urban regulation (e.g. water, land, landscape etc.) <sup>1</sup>		H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N
Enhances urban environment: efficient urban regulation (e.g. water, land, landscape etc.) <sup>1</sup>		H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	H/M/U/N	WFO/RY/OTHER	WFO/RY/OTHER	Y/N	Y/N	Y/N

# Results

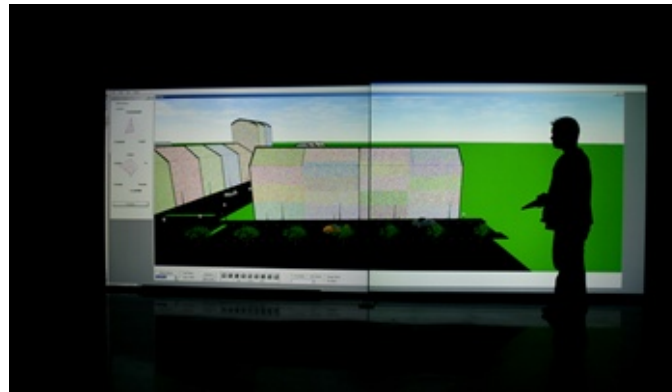
Dissemination of the findings from Skint to water and urban land use professionals in ways specified by those professionals





# Results

A web-based face-to-face training programme for water and urban land use professionals

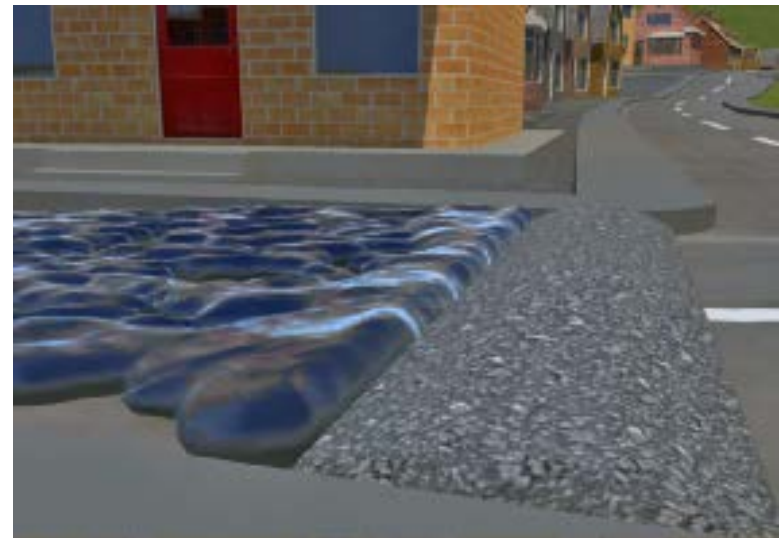


“Local champions, supported by consistent political support, long-term working relationships and mutual trust are key success factors for the integration of land and water management”

# More results

## WaterTown

- Serious game
- To help decision-making



# More results

## Heuckenlock

- Flood plain conservation in Wilhelmsburg
- New ways to integrate environmental protection and sustainable urban water management into urban planning schemes



The river Elbe dividing into the "Noderelbe" and the "Süderelbe" (photo: HAW Hamburg)



fresh water mud flat in the nature protection area "Heuckenlock" (photo: HAW Hamburg)



# More results

## Bryggen

Rain water infiltration bij SUDS →  
Ground water recharge →  
Prevention from subsidence →  
Protection Unesco World Heritage site!!!



# More results

## Oudenarde Village

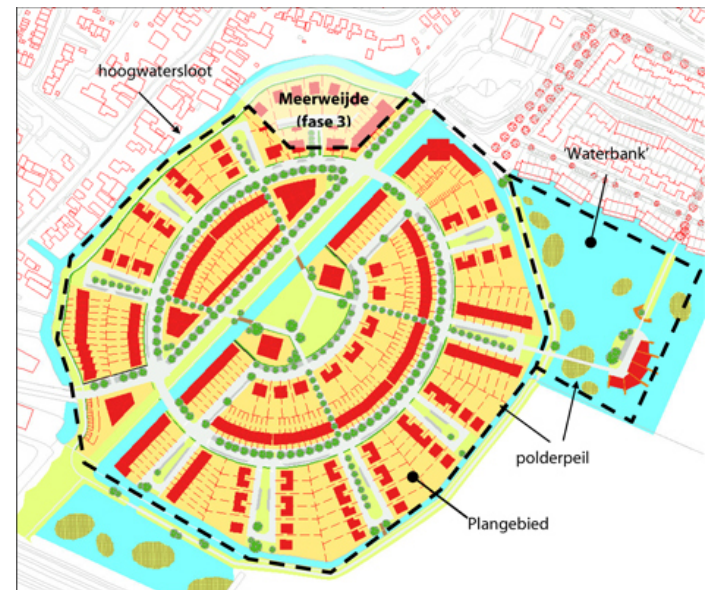
- Providing housing to contribute improving quality of life and community well-being
- Enhancing biodiversity potential as project is nearby local access route to river Earn
- Successful → best practice techniques applied from SUDS and biodiversity enhancement to resource efficient housing



# More results

## Obdam Polderweijde

- Amplifying existing water structure and promoting recreation and nature development
- Oversized water storage as a 'credit' for future spatial developments → Waterbank





# More results

- Wauchope → redevelopment to new public parks, woodlands and open space
- Eastern Dunfermline → drainage improvements to facilitate the expansion
- Gartloch hospital
- Devonshire park and Mayfield road → flood alleviation
- Bergen → flood mapping and flood control
- J4M8 Distribution Park
- North Hamilton → SUDS with emphasis on design and amenity and biodiversity

# More results

- Job rotation
- Research on SUDS
- Transnational knowledge exchange
- SUDSnet conferences
- Training courses
- ...
- ...
- ...

