

AMICE – WP3

Transnational cooperative water management to cope
with uncertainties related to climate change

M. LINSEN

Rijkswaterstaat, the Netherlands

max.linsen@rws.nl



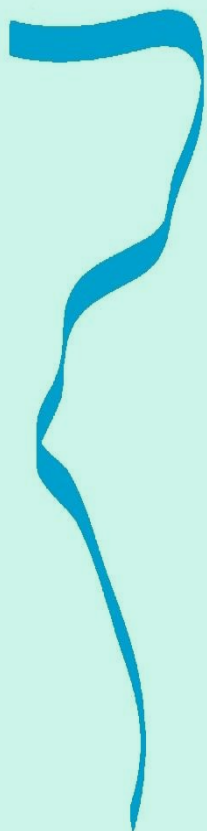
Adaptation of the Meuse to the Impacts of Climate Evolutions



This project has received
European Regional
Development Funding
through INTERREG IV B.



INTERREG IVB



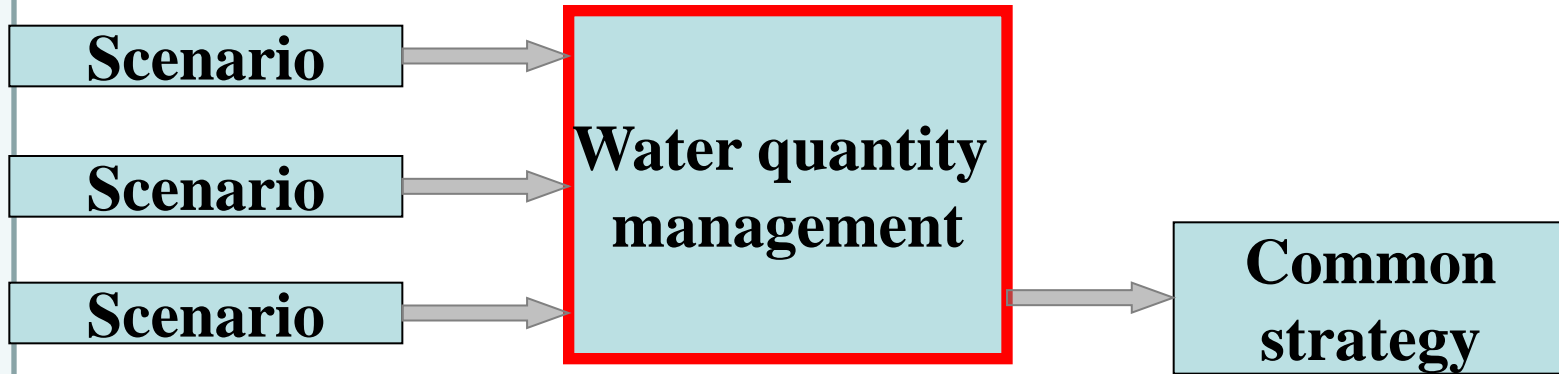
□ Context

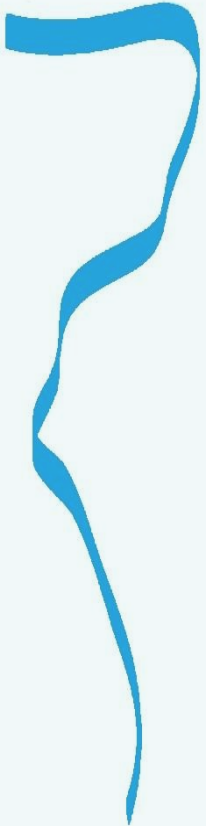
- Uncertainties with respect to consequences of climate change
- Guideline
 - How to adapt policies
 - (Transnational) Cooperation
- Investments: 3 examples
 - HOWABO
 - Pumping stations lock of Ham
 - Rur catchment: reservoir modelling and risk assessment



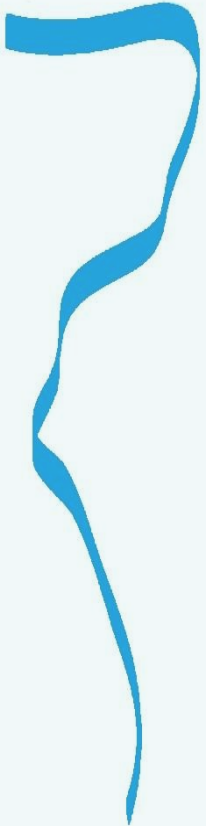
□ Uncertainties

- Climate change
- What will happen to extreme discharges?

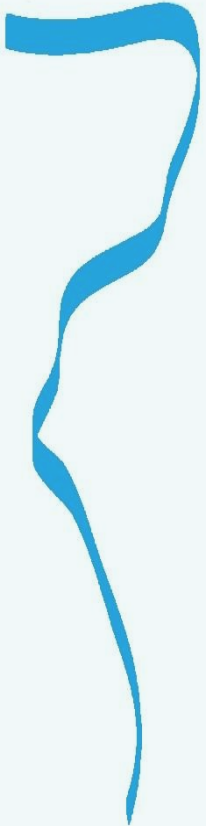




- Guideline
 - Contents
 - Problem description
 - Investments overview
 - Operational aspects
 - Relations
 - Cooperation
 - River Basin Management
 - Exchange with other Work Packages
 - Advice
 - Conclusions and future perspective



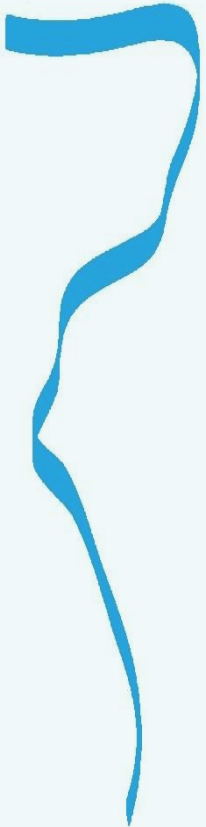
- Guideline
 - Contents
 - **Problem description**
 - Investments overview
 - Operational aspects
 - Relations
 - Cooperation
 - River Basin Management
 - Exchange with other Work Packages
 - Advice
 - Conclusions and future perspective



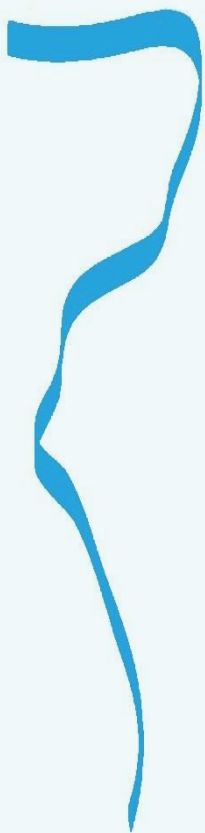
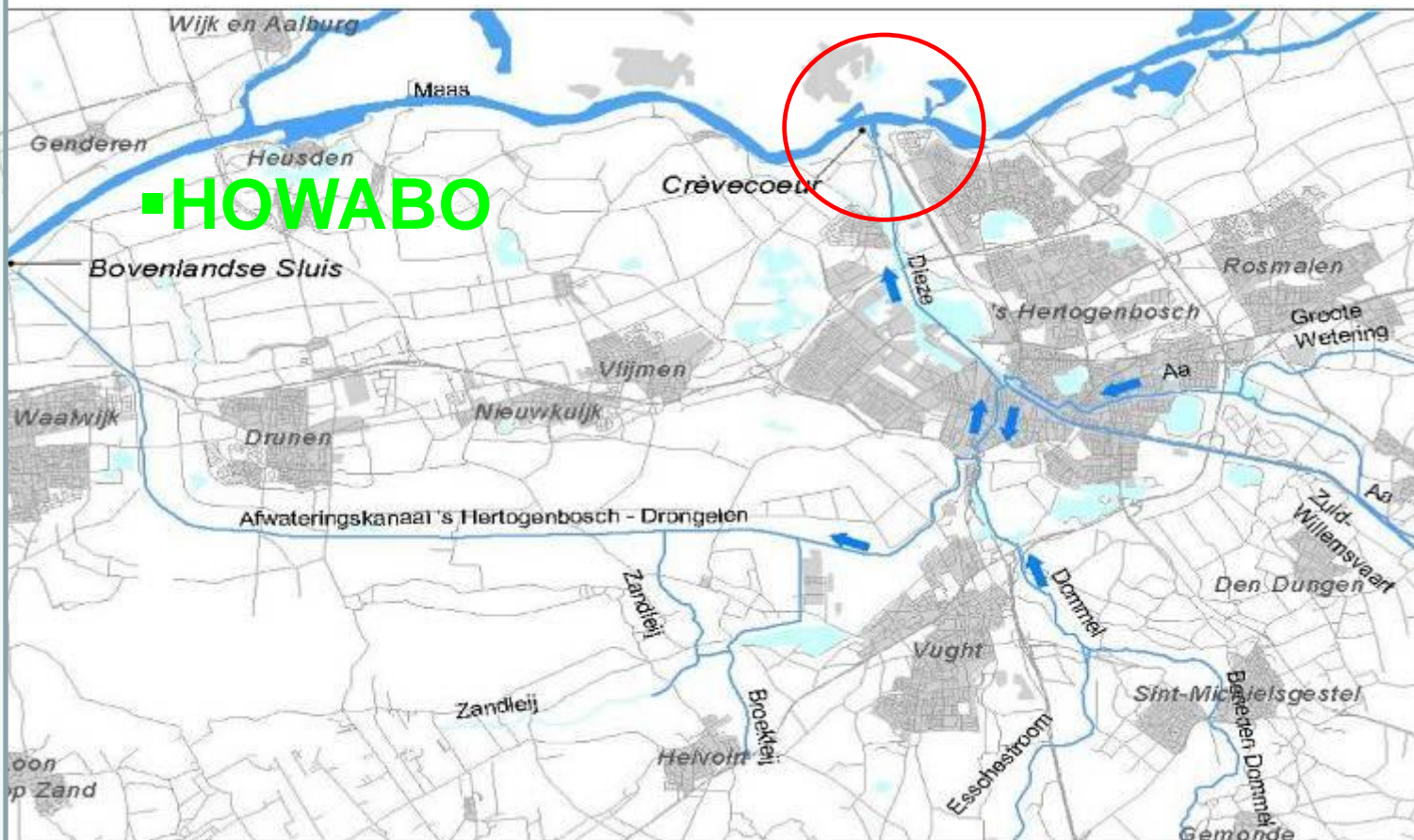
- Guideline
 - Contents
 - Problem description
 - **Investments overview**
 - Operational aspects
 - Relations
 - Cooperation
 - River Basin Management
 - Exchange with other Work Packages
 - Advice
 - Conclusions and future perspective

- Investment overview

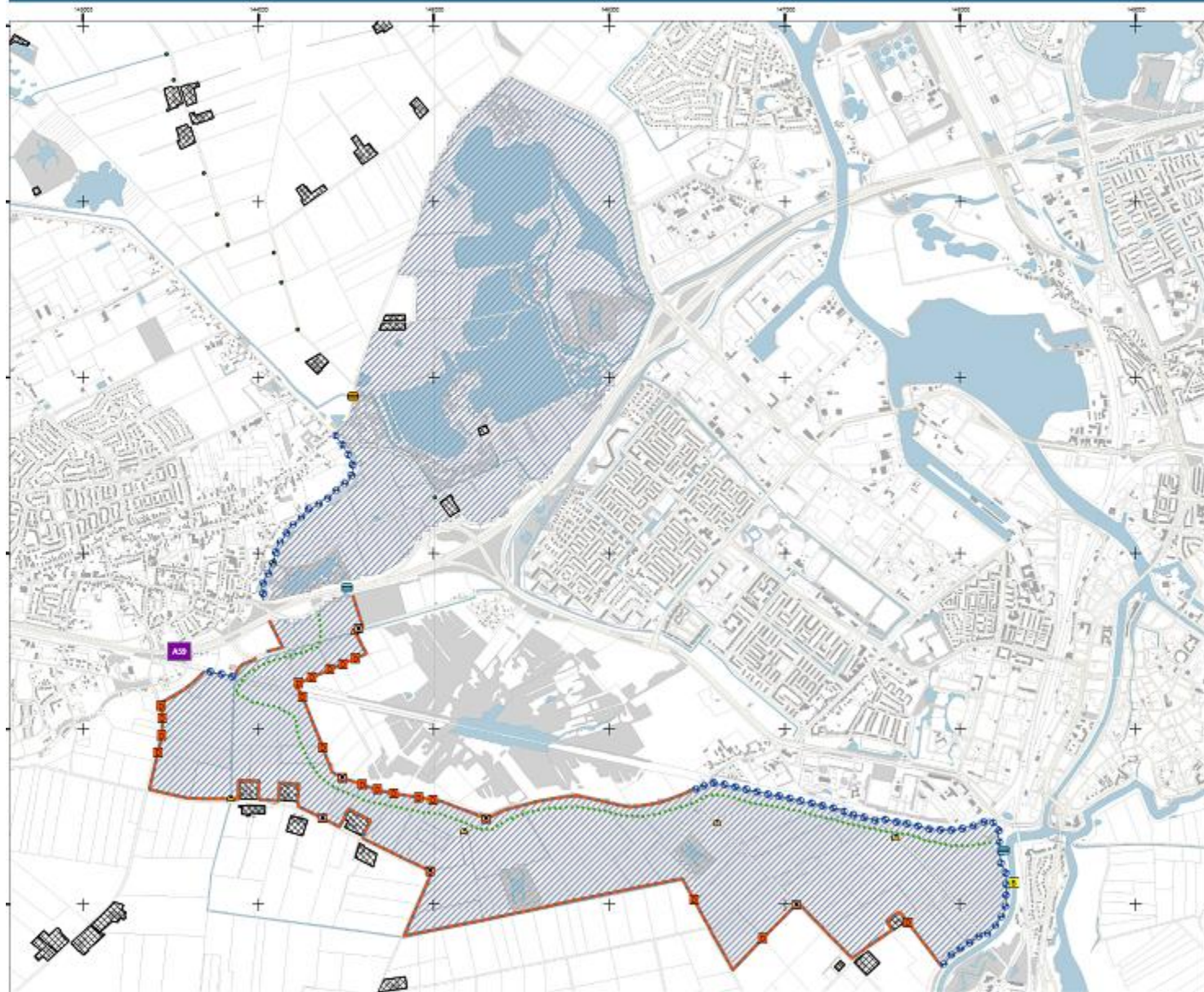
- HOWABO
- Pumping station lock of Ham
- Rur catchment: reservoir modelling and risk assessment



■ HOWABO



Groene Rivier (Kadehoogte 3.75 m + NAP)



Legenda

- uitlaat 1.6
- inlaat 1.4+1.10
- inlaat/uitlaat
- afsluitbare duiker 1.9
- verplaatste bodemval 3.6
- nieuw aan te leggen kade 2.1-2.4
- verbetering bestaande dijk
- inspectie bestaande kade of hooggelegen
- waterdoorlaat 3.1
- Bouwblok
- Innundatiegebied (variant Groene Rivier)
- duiker
- kunstwerk 1
- coupure
- weg over ka

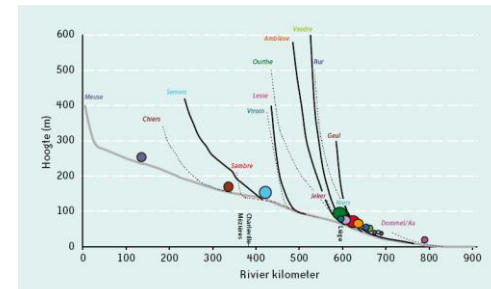
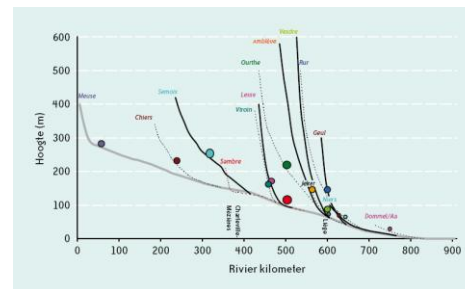
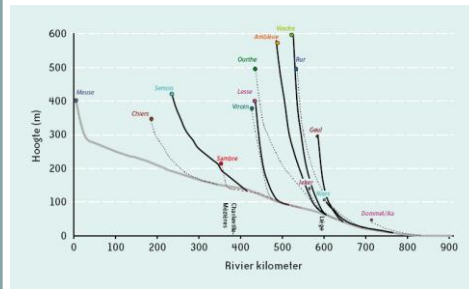
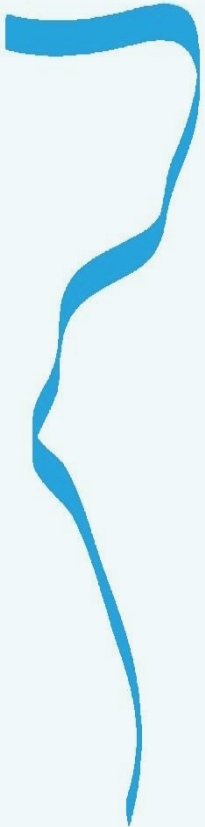


Opdrachtgever: Waterschap Aa en Maas
Project: HOWABO - Studie Varianten
Onderwerp: Groene Rivier (Kadehoogte 3.75 m + NAP)
Getekend: Susan Buyx
Datum: 13 juni 2008
Schaal: 1:22.000
Projectie: Rijksdriehoekstelsel
Projectnummer: 110502 201066 008
Papierformaat: A3 - liggend
Kaartnummer: 1 van 1

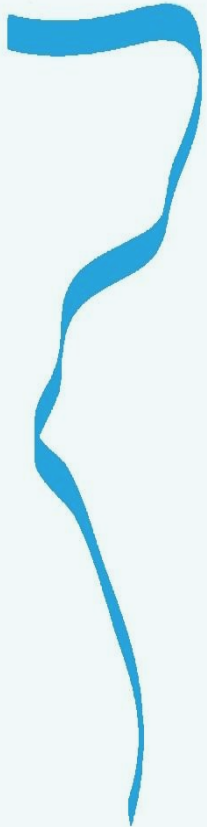
0 250 500 1.000
Meter

■ HOWABO

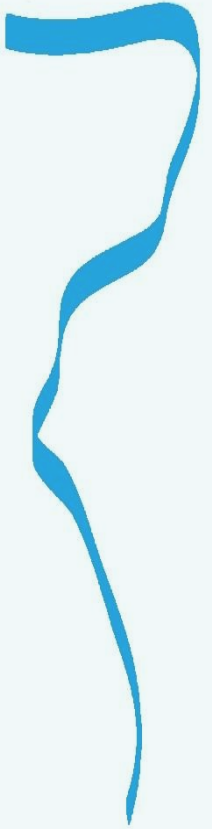
- (Temporary) storage
- Amice: inlet construction



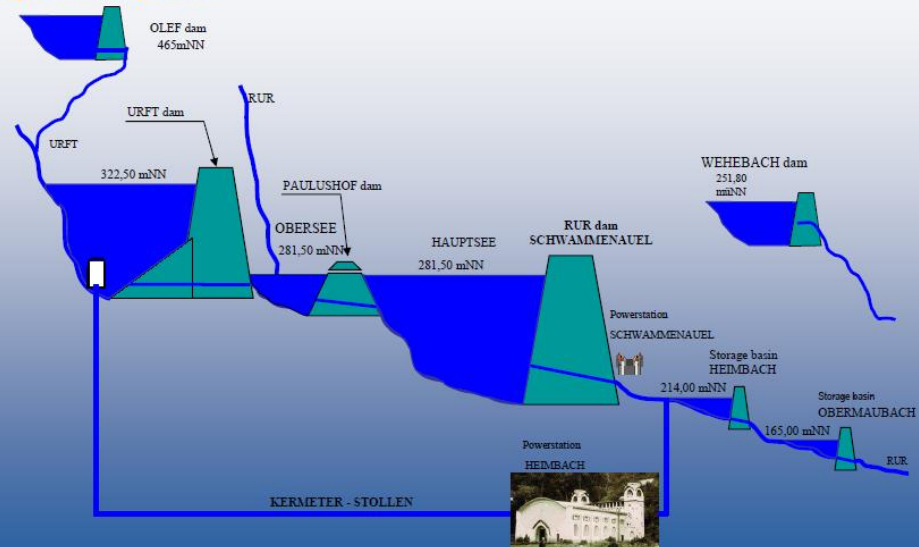
Gouttes de pluie, flux de Meuse, M. de Wit



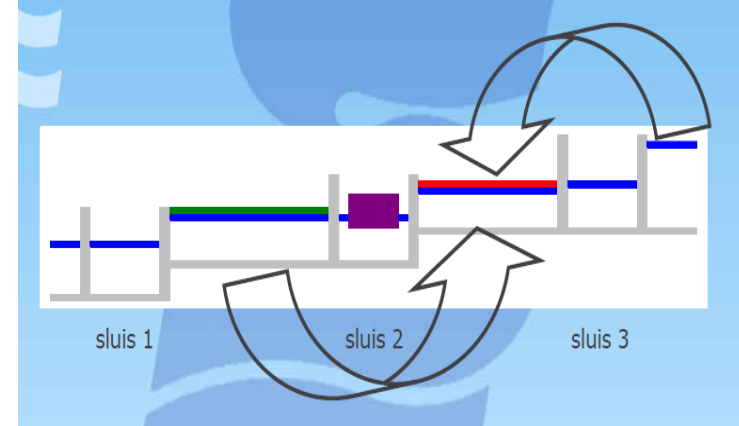
- Rur Catchment: highlights:
 - Reservoir modelling
 - Regulating both high and low Q
 - Risk assessment
 - Adaptation of existing risk assessment procedures to **low flow** problems
 - Analysis of the main focusses of **damage** potentials and vulnerability due to flood and low flow
 - Risk analysis for **floods** and low flow for the Meuse/rur catchment area
 - Adapted dam **operation** rules and implementation into TALSIM for the benefit of the Meuse/Rur catchment area
- Low flow, floods, damage, operation



Large Dam System



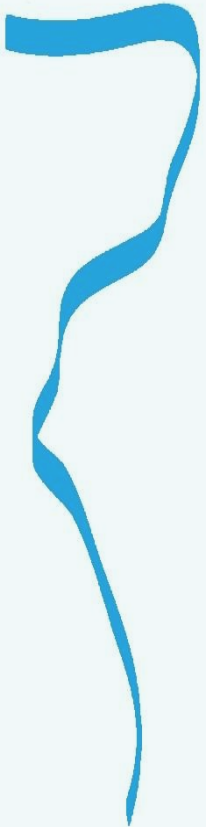
- Locks of Ham



- Safeguarding discharge
- Saving water
- Noise, fish migration, cost and benefit



- Conclusions
 - Uncertainties
 - Investments: flexibility!
 - Floods
 - Low flows
 - (prevention of (ecological) damage)



Adaptation of the Meuse to the Impacts of Climate Evolutions



This project has received
European Regional
Development Funding
through INTERREG IV B.



INTERREG IVB

