

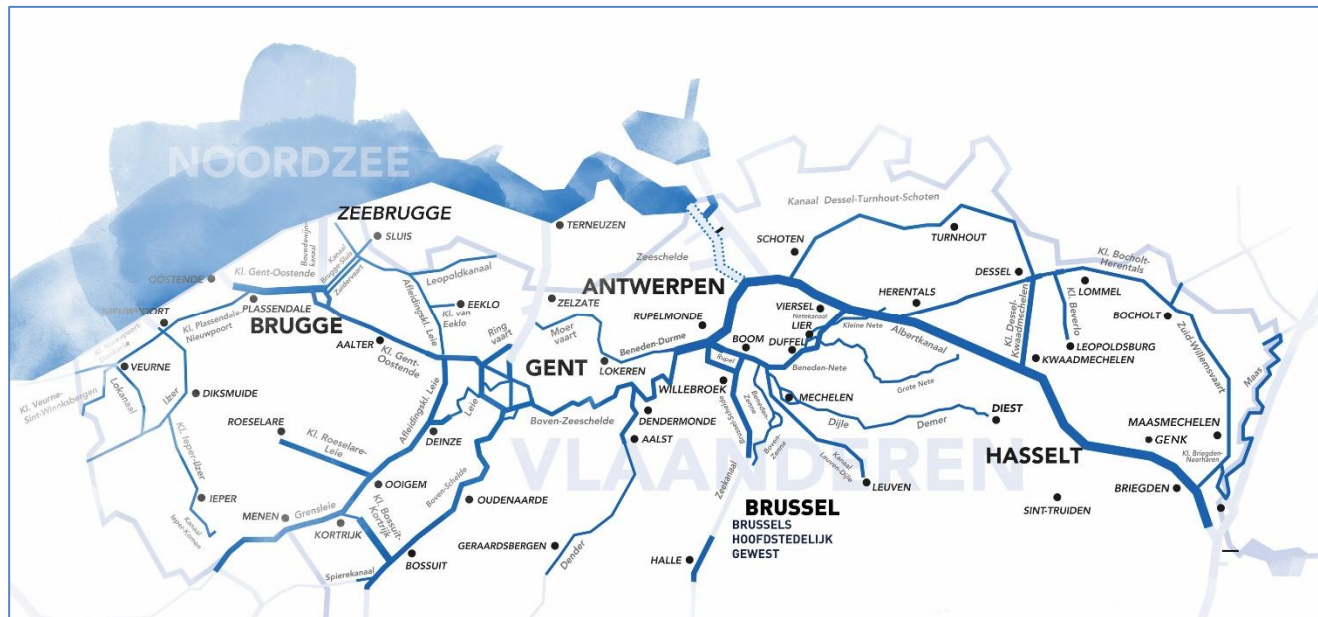


dr. ir. Niels Van Steenbergen
Project engineer

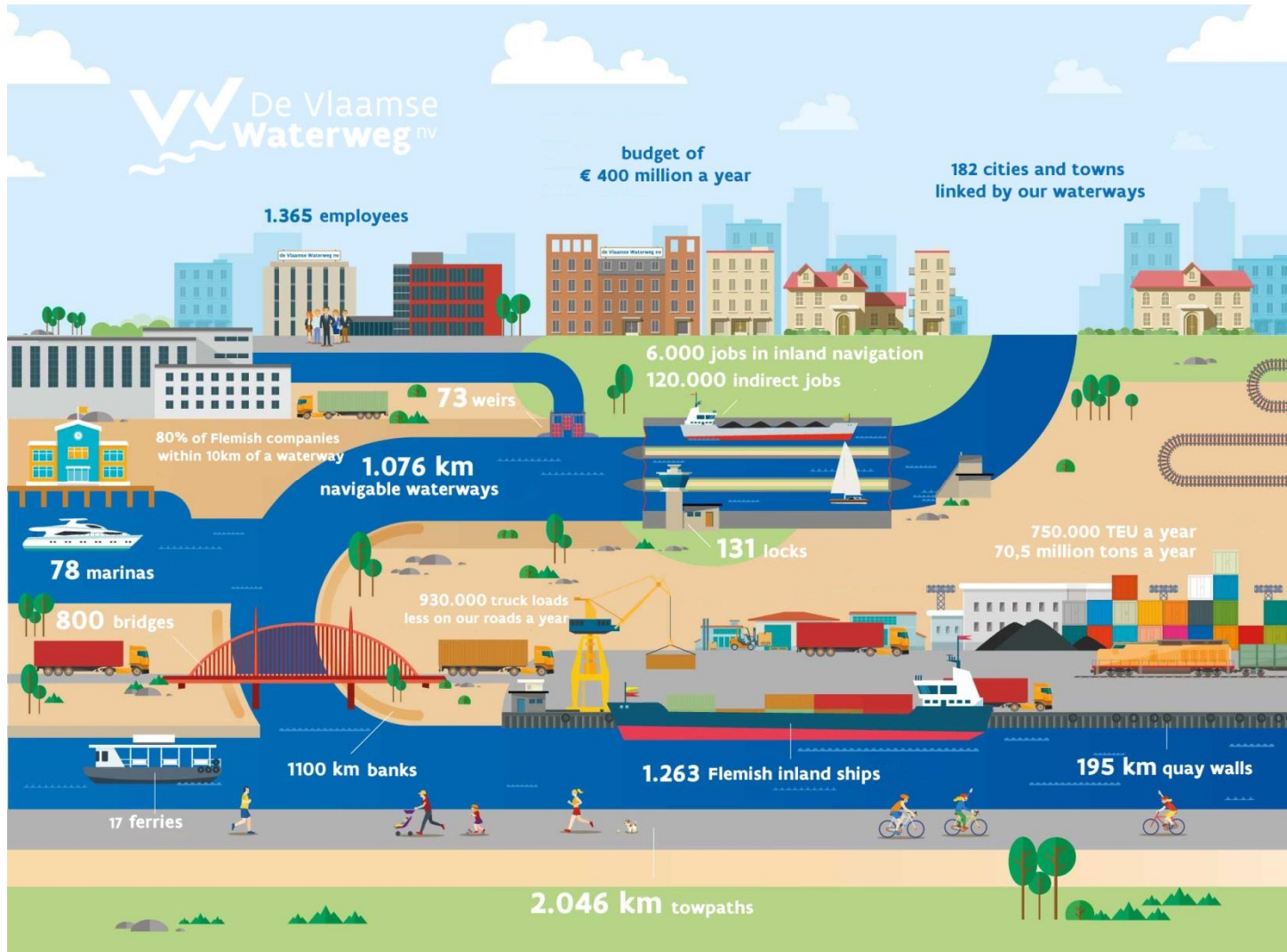
**Low water in the Albert Canal:
You've got to pump it up!**



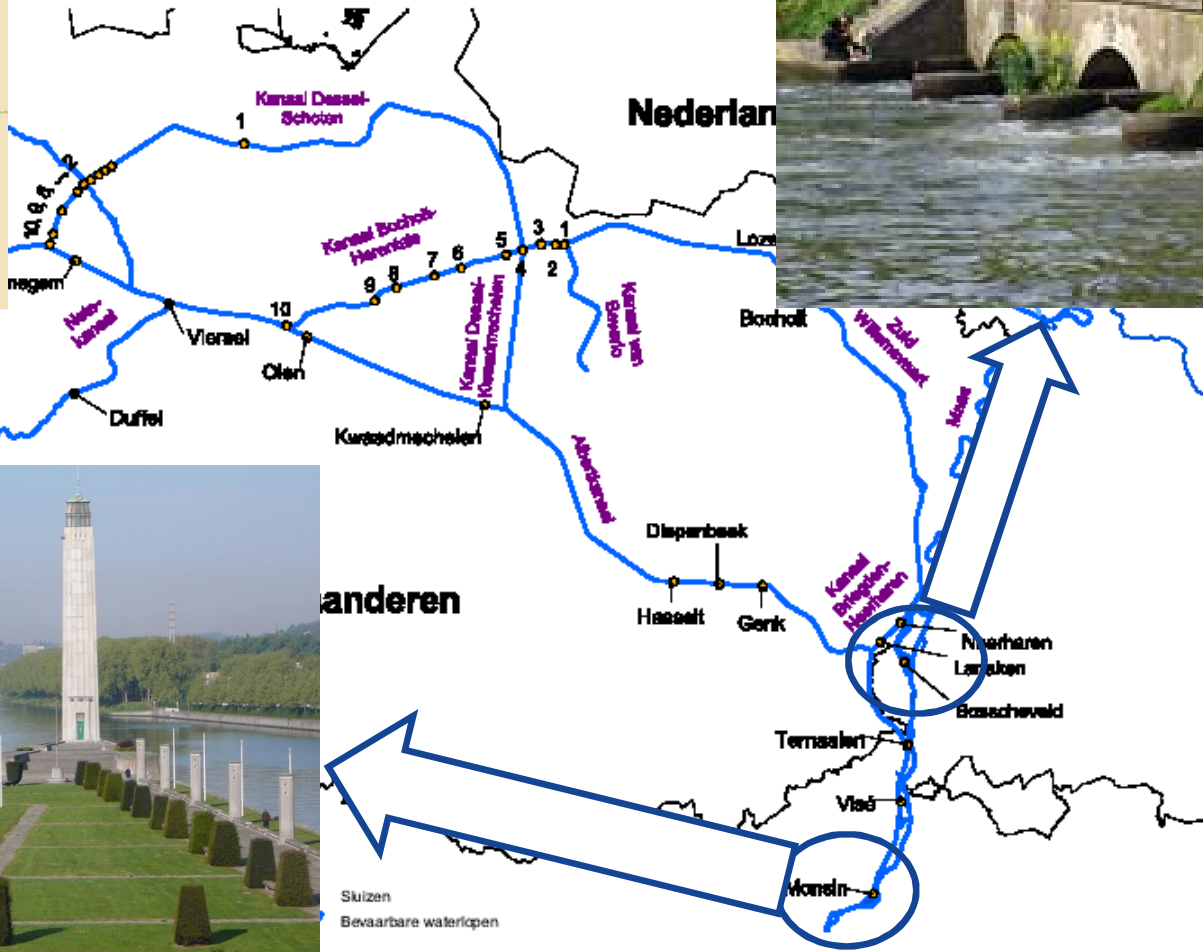
De Vlaamse Waterweg nv



De Vlaamse Waterweg nv



Network



anderen

Skizen
Bevaarbare waterlopen

Functions of the waterways



X 6000 each day

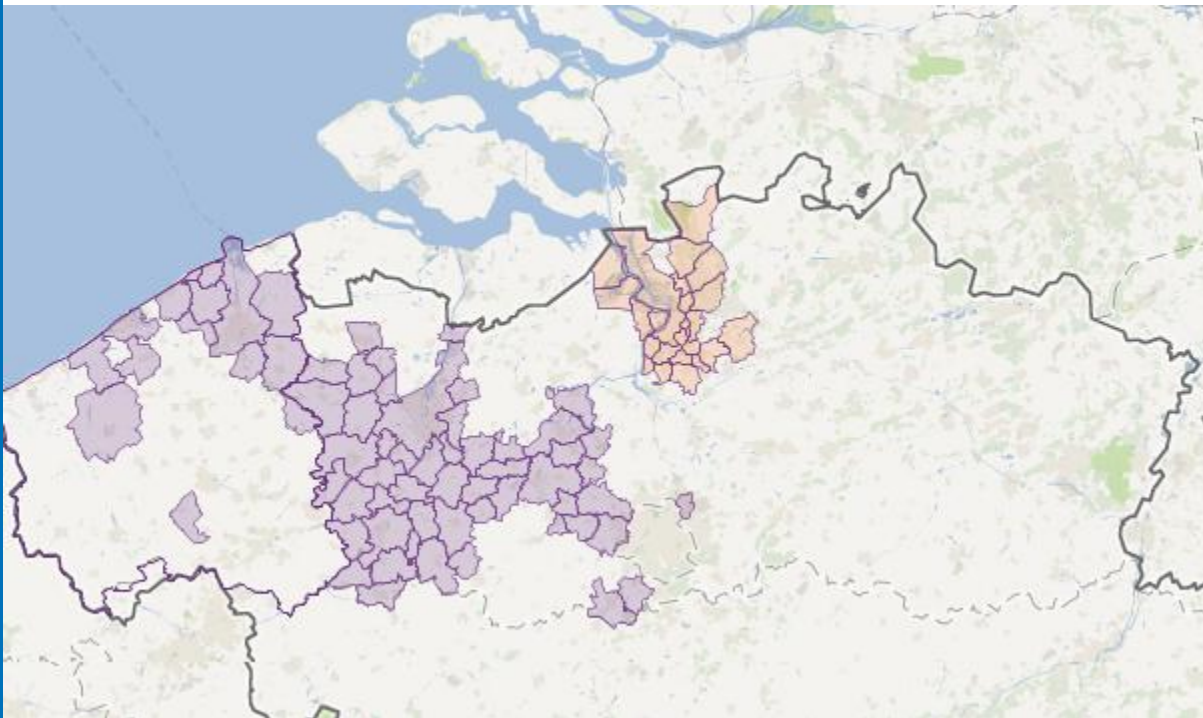
Functions of the waterways



Functions of the waterways



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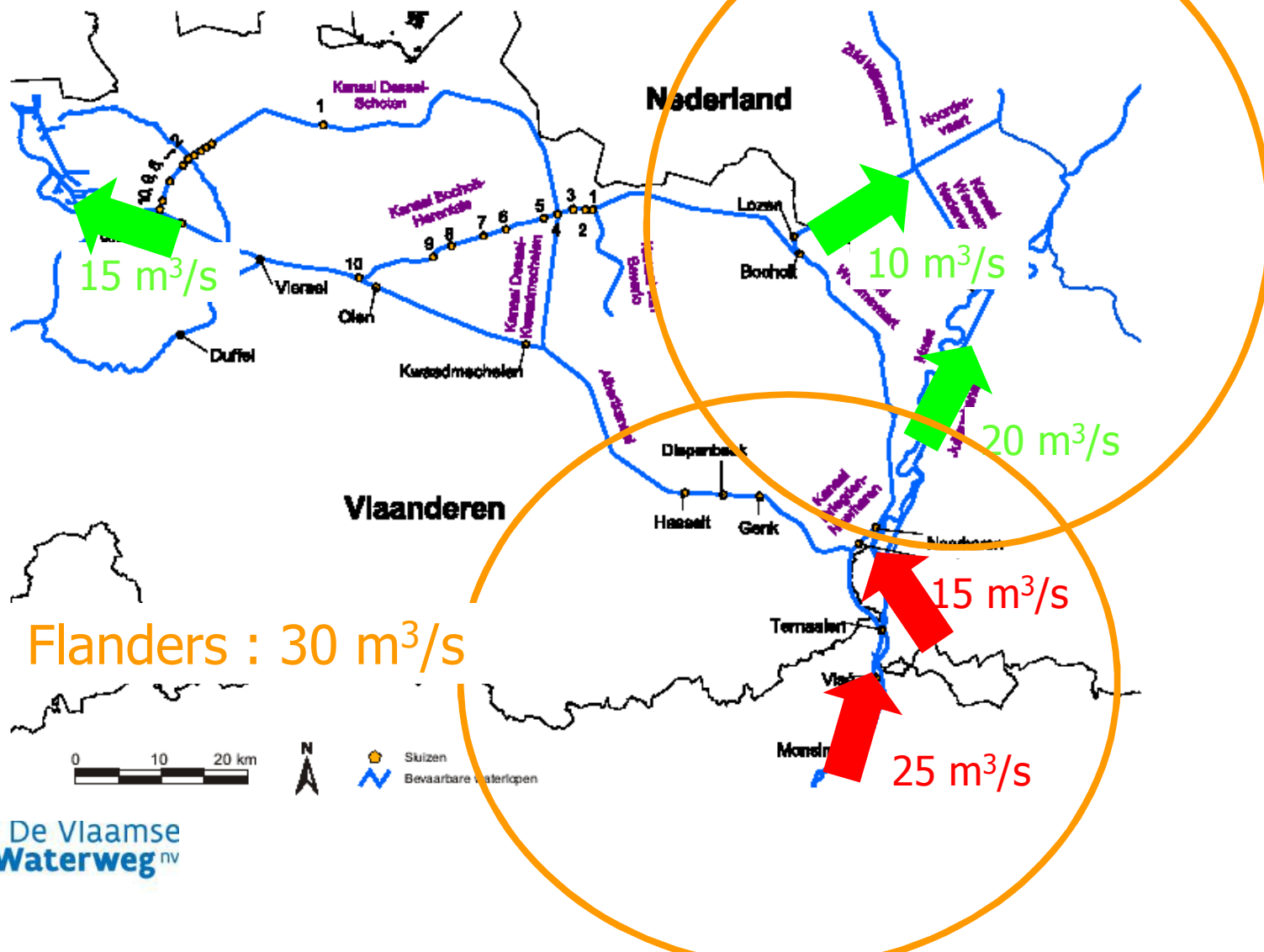


Functions of the waterways



Consumption

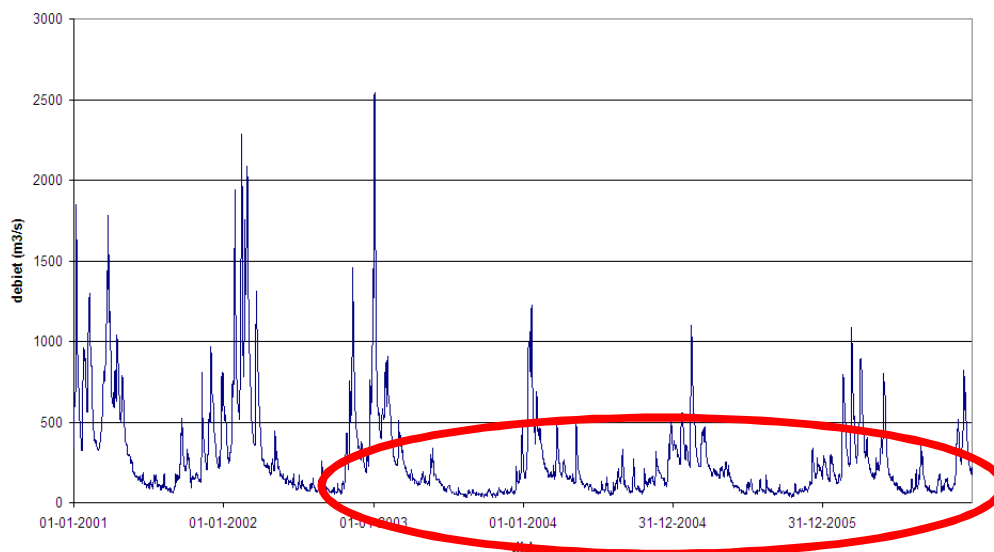
Netherlands : 30 m³/s



Low flows



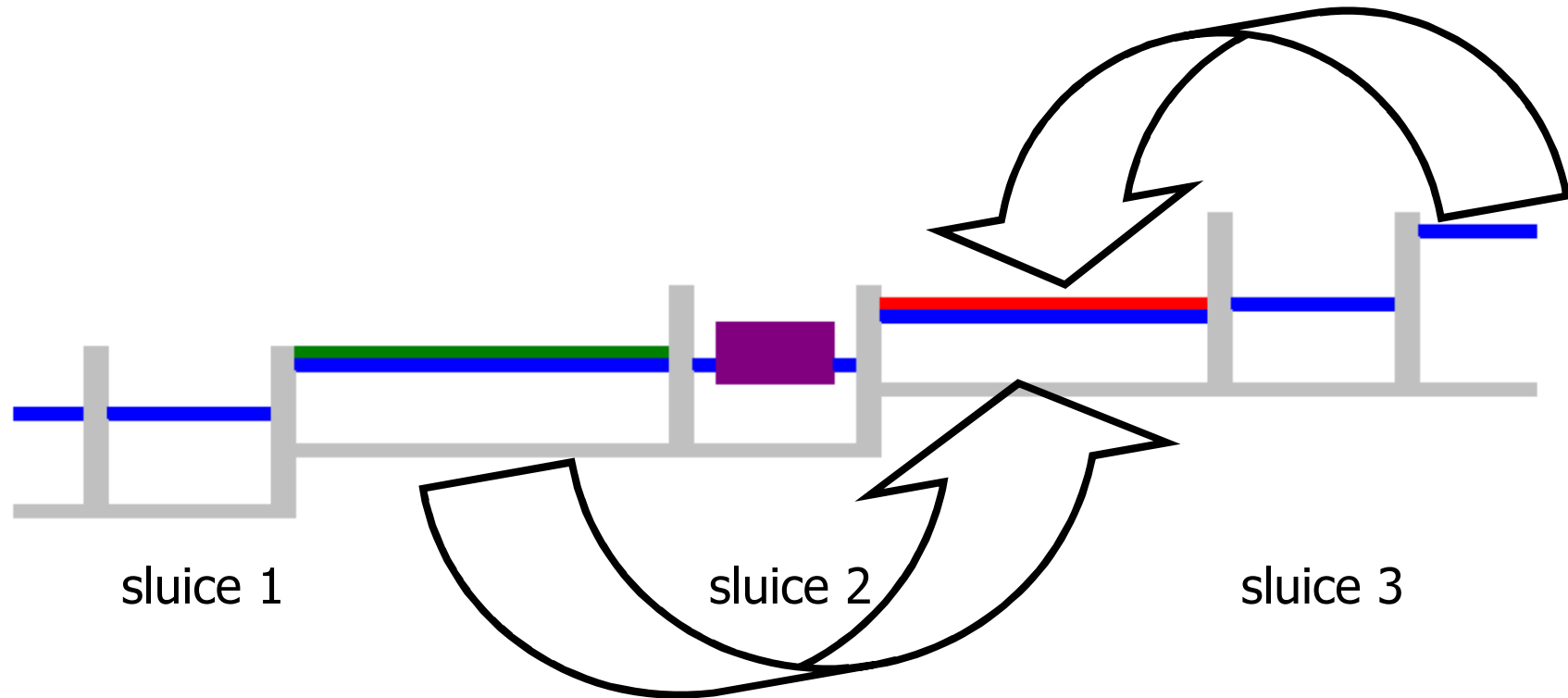
Maas/Luik



Bilateral Treaty on the Meuse discharge (1995)

	Meuse (Sint-Pieter + Kanne) (m ³ /s)	Common Meuse (m ³ /s)	Consumption Flanders (m ³ /s)	Consumption Netherlands (m ³ /s)
	$>= 120$ $>= 115$	$>= 60$ $>= 55$	$<= 35$ $<= 30$	$<= 35$ $<= 30$
Pre-alarm phase	100	$>= 50$	$<= 25$	$<= 25$
Alarm phase	60 50 40	$>= 10$ $>= 10$ $>= 10$	$<= 25$ $<= 20$ $<= 15$	$<= 25$ $<= 20$ $<= 15$
Crisis phase	30 20	10 6.7	10 6.7	10 6.7

Water consumption of sluices



1 sluicing = 50.000 m³ water

The construction of pump- en waterpower installations on lock complexes



The construction of pump- en hydropower installations on lock complexes

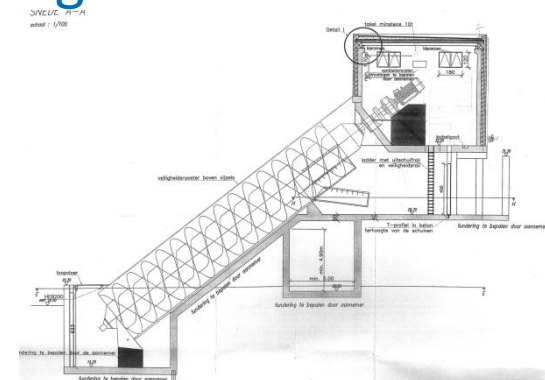
- Investing in reliability: ensuring the water supply when low supply from the Meuse
 - A part of the water is reused in periods of drought
- Investing in durability
 - Generating energy from the water power when high supply from the Meuse: 3 million kWh

➔ Installations operational on the lock complexes of Ham and Olen

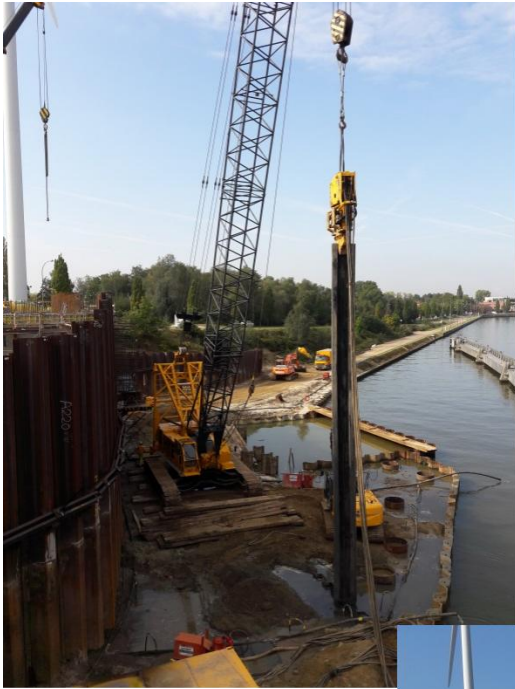


The construction of pump- en hydropower installations on lock complexes

- ° 2015
- 3 Archimedes screws
 - Length: 28 m
 - Diameter: 4,3 m
 - Weight: 85 ton
- Capacity: 3 x 5 m³/s
- Circulation canal: 363 m
- Fish-friendly design
- 2017 – 2020: similar installations alongside the other lock complexes of the Albert Canal



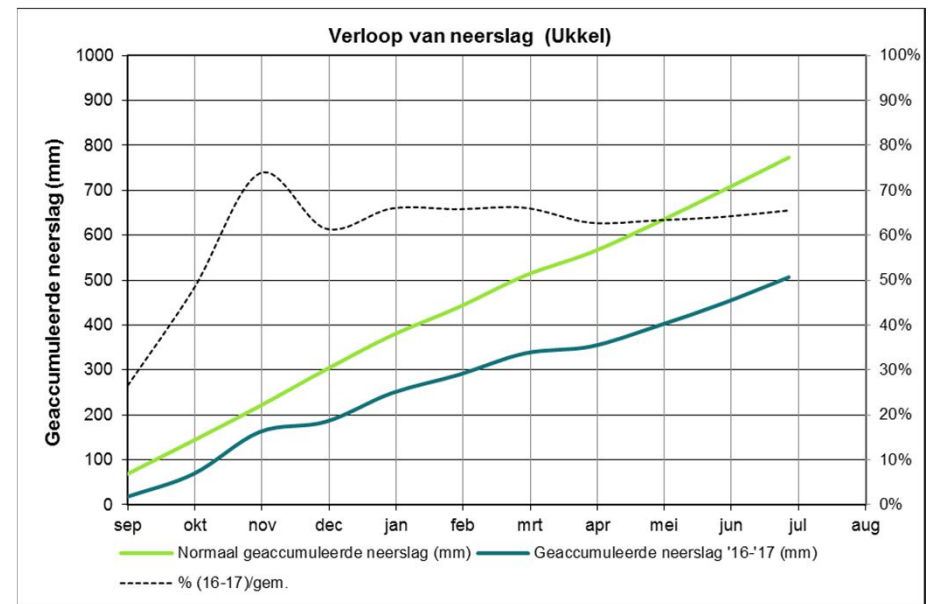
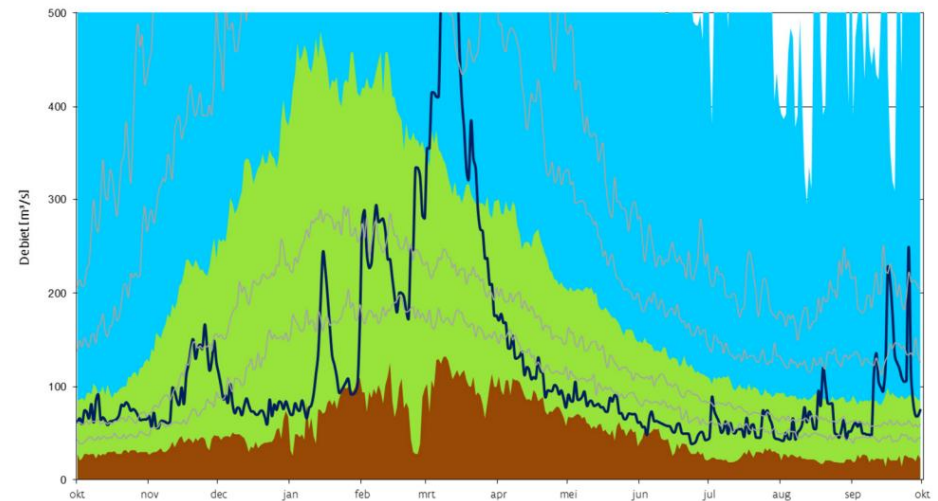




- Current construction of hydro powerplant / pumps at sluice Hasselt

Summer 2017

- Shut down of hydro power plant at Sluice Wijnegem
- Pumping at sluices Ham and Olen (up to 10m³/s)
- Reduction of irrigation water for agriculture (80%)
- Combined sluicing for recreational vessels (Zuid-Willemsvaart and Canal Bocholt-Herentals) (max. waiting time of 2h)
- Combined sluicing at sluice Wijnegem (max. waiting time of 1h)
- All licenced users of water captations were addressed to reduce their water use
- Due to all these measures no draft limitations were executed on the Albert Canal or the Campine Canals



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