



belini

LIFE Platform meeting FOCUS ON WATER RESILIENCE STRATEGY

LIFE Strategic Integrated Projects implementing River Basin
Management Plans practices

PLENARY presentations

**Lindsay Geerts &
Sophie D'hondt (VMM)**

14-15 October 2025
Brussels

This meeting is
organised by



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LIFE Belini

Belgian initiative for making a leap forward towards good status in the river basin district of the Scheldt

Belini



Co-funded by
the European Union

Project title: LIFE Belini



RBMP targeted: 2nd RBMP of the Scheldt (2016-2021), incl. the FRMP, for the three regions involved (Flanders, Brussels & the Walloon Region)

Beneficiary/ies: 8 partners

(VMM, LB-BE, SPW, VBR, VLM, Vivaqua, DVW, De Watergroep)

Total Budget: € 18.111.366

Start and end dates:

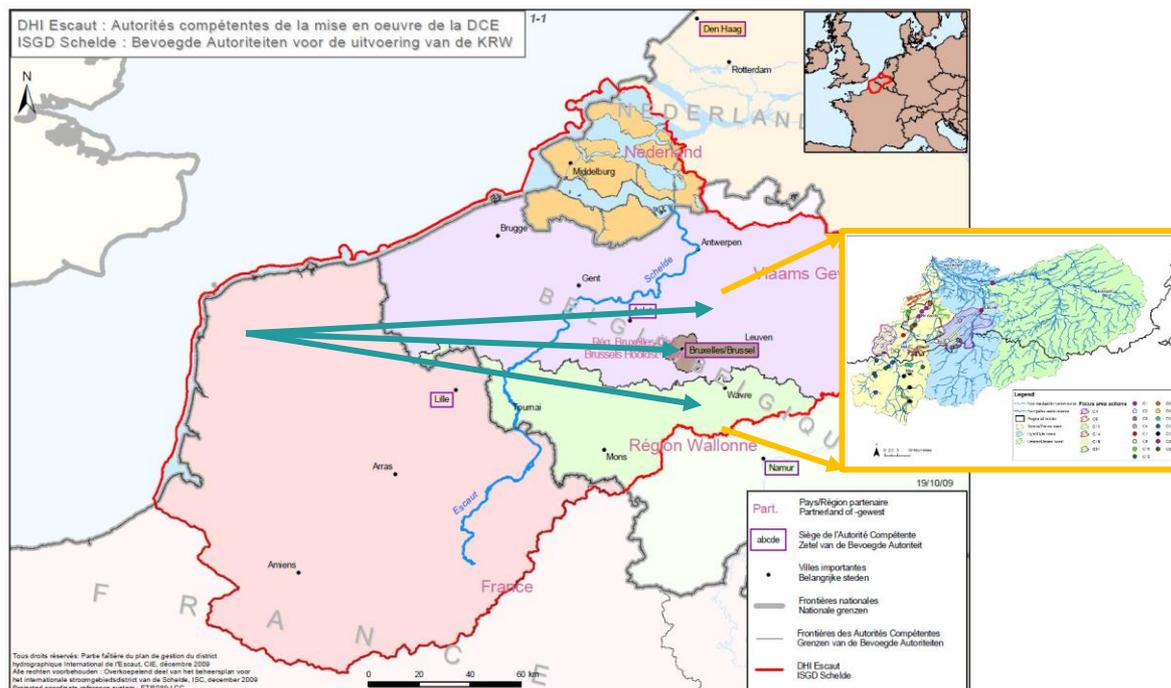
2016-2026

Presented by:

Lindsay Geerts & Sophie D'hondt

Beneficiary

Flanders Environment Agency (VMM)



Project title: LIFE Belini



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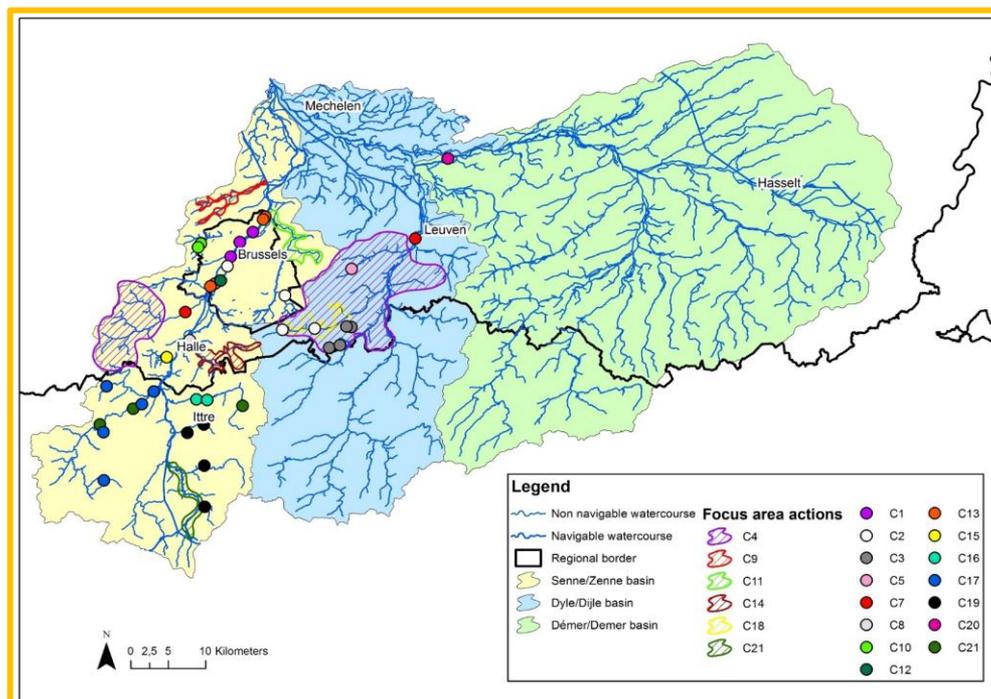
2016-2026

Presented by:

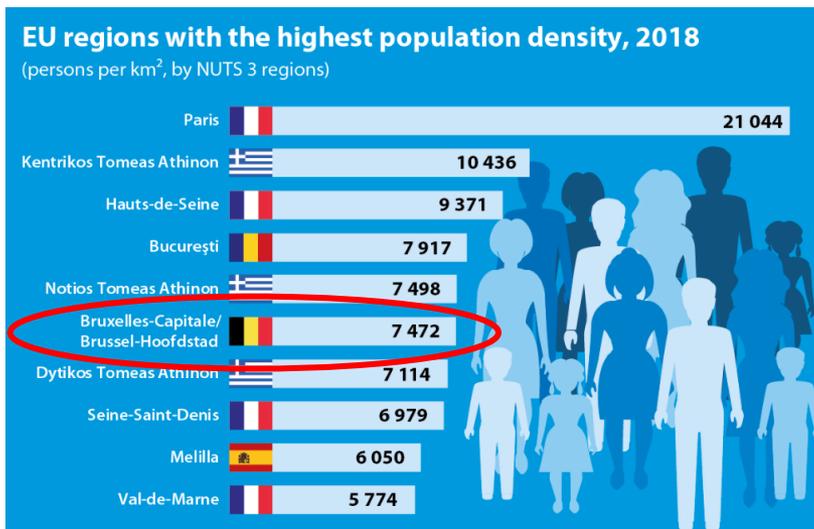
Lindsay Geerts & Sophie D'hondt

Beneficiary

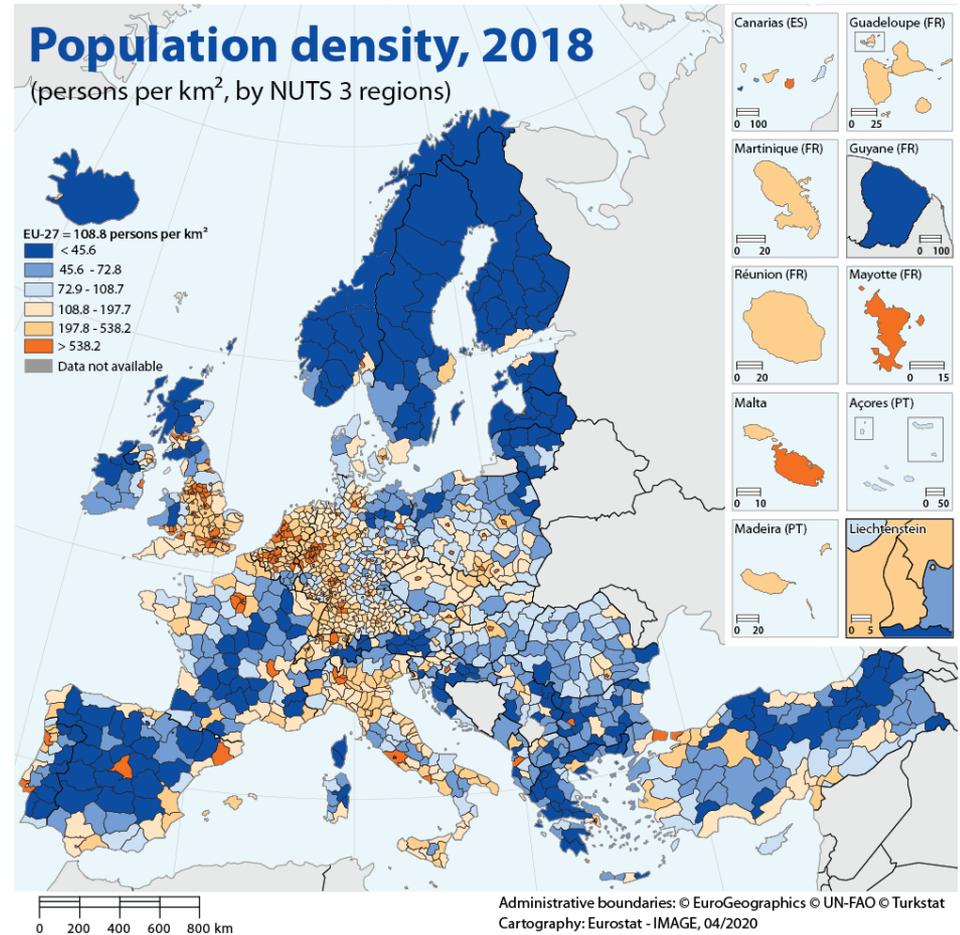
Flanders Environment Agency (VMM)



Why LIFE BELINI is needed for Belgium



Belgian 385 inh/km²
Flanders 504 inh/km²
Walloon Region 219 inh/km²



ec.europa.eu/eurostat

Ref.: <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20200430-1>

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High pressures



Reference picture: <https://www.ion.be/nl/projecten/wol-u>

High pressures



Reference picture: © Tom De Bie

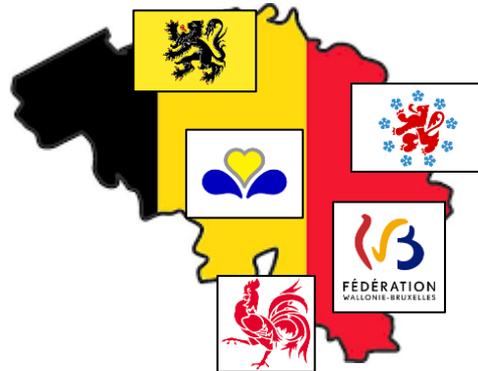
High pressures



Reference picture: © VMM (in house drone pictures)

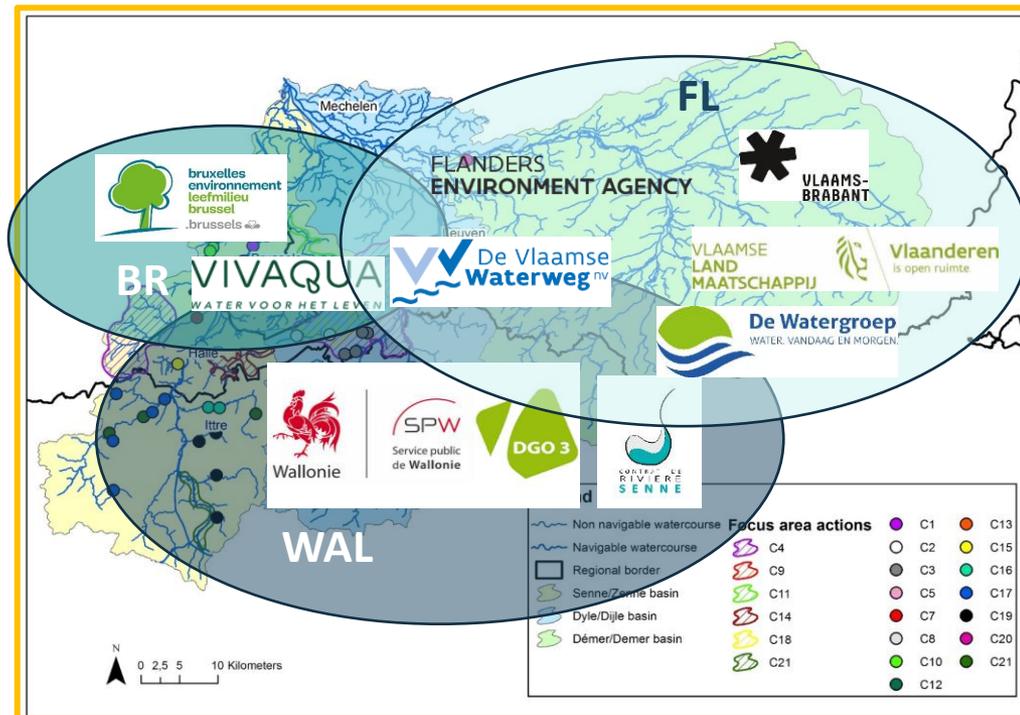
Interregional cooperation

- Three River Basin Management Plans for the Scheldt (Flanders, Brussels, Walloon Region); incl. Flood Risk Management Plans
- In execution of the Water Framework Directive (2000/60/EC)
- Water not bound by administrative boundaries

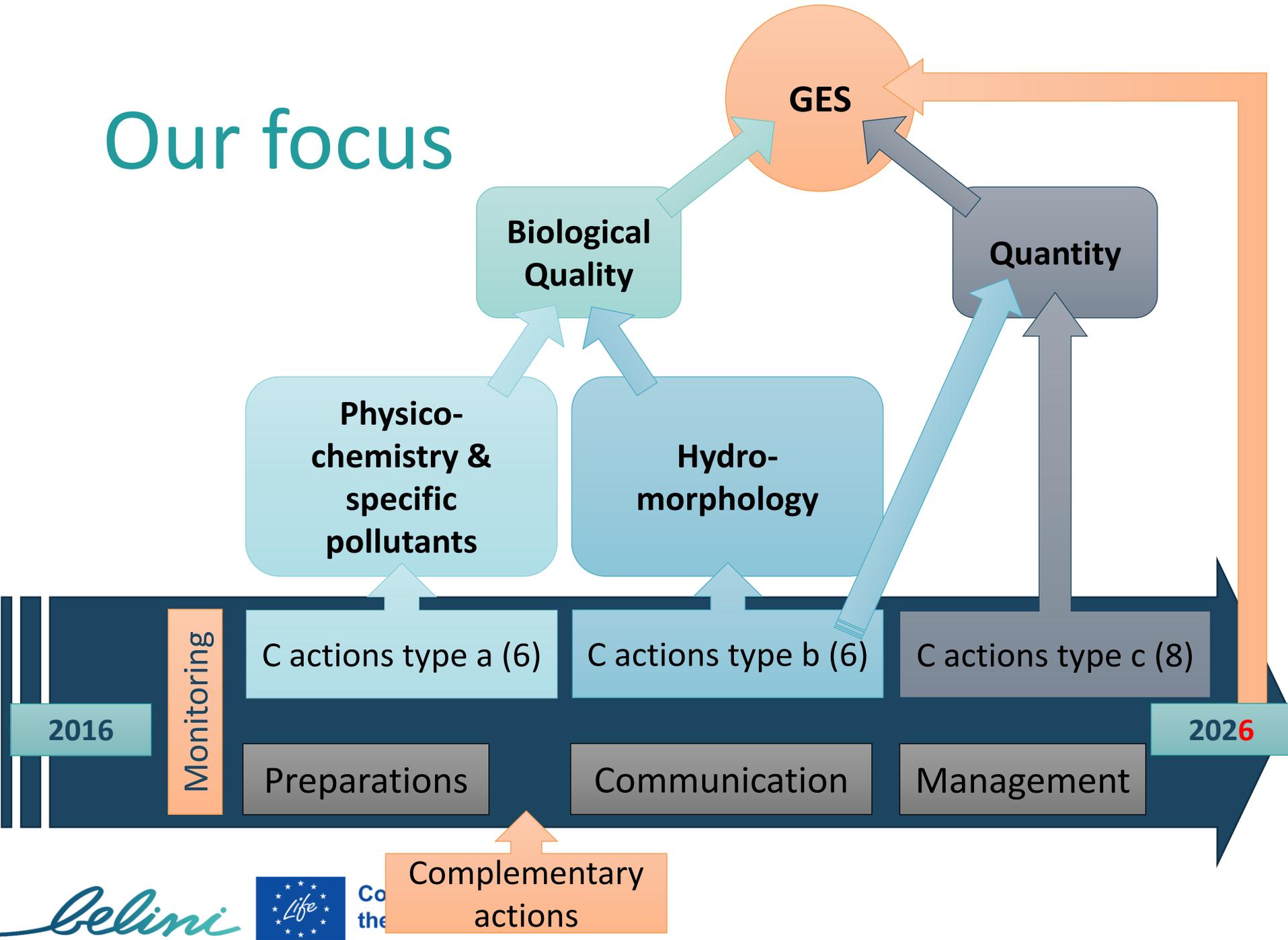


Dyle-Senne-Demer as pilot

- 8 partners, distributed among the three regions working for a good ecological status together

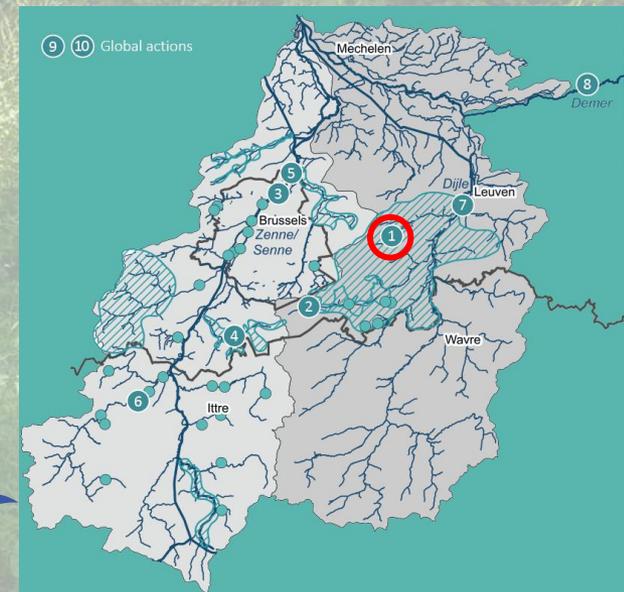
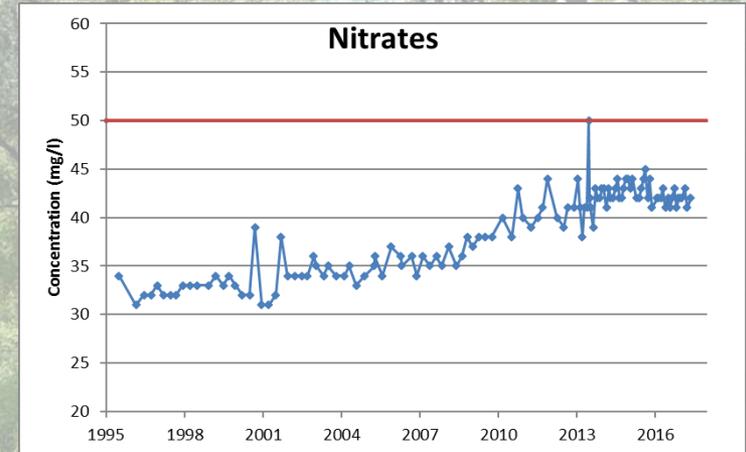


Our focus



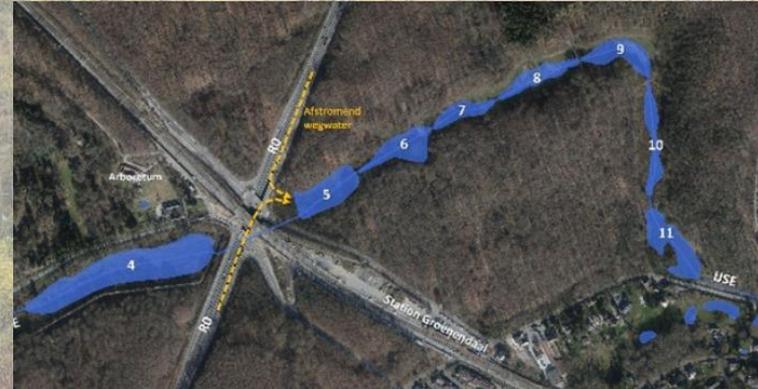
Water quality: nitrate pollution

- Nitrate too high in groundwater and drinking water
- Istopic study revealed complex situation
- No clear spatial variation
- Manure (younger water) + sewage (older water)
- Groundwater model will not have added value
- Stakeholder consultation -> action plan



Water quality: pollutants

- Heavy metals, PAH, oil together with SS end up in rivers and nature areas by runoff from roads
- Revised UWWTD – 2033 !
- Impact for the IJse valley from highways shown
- Implementing a solution in Belini (pilot)
- Works started in August 2025
- Related action by Leefmilieu Brussel (study – urban runoff roofs)
- Networking: RRR, Aquatuur, StopUP





Hydromorphology: restoring rivers' natural character



- Solve fish migration barriers
- Restore river banks
- Create extra river length
- Increase suitable habitats for fish and vegetation



- Good ecological status despite “lower” phys-chem (Work Session Innovation/digitalization - day 2, ELMO)
- Increase buffer capacity
- Example pic.: Molenbeek (Senne)
- Integrated approach (Work Session Finances - day 2, Land Development)





Hydromorphology: restoring rivers' natural character

- Solve fish migration barriers



FLANDERS ENVIRONMENT AGENCY

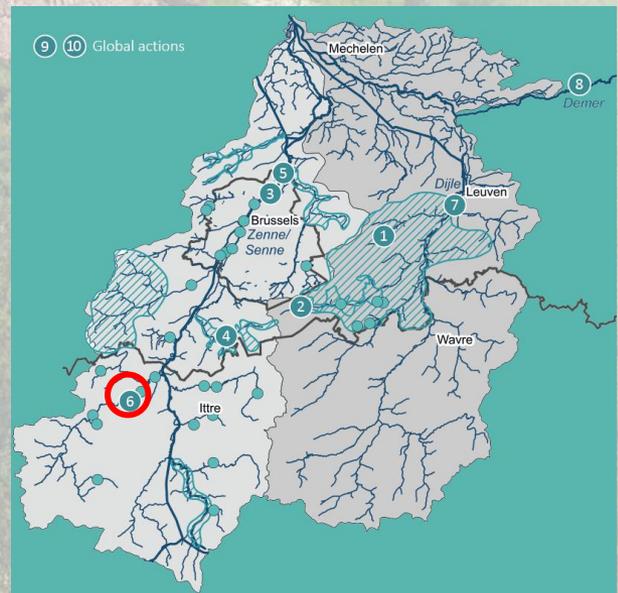
- Dyle 4th arm - > 1,60 cm height difference (weir) is now bypassed by 23 steps of 7 cm



Quantity: NWRA's



- NWRA's Coeuq, Brancart, Gaesbecq, Cafeniere →
- Work with LIFE BNIP near Val du Coeurq
- Natural flood plains with more than 350.000 m³ of water storage in the Senne valley
- Restore ecology, biodiversity, recreational value (ecosystem service based approach)





Quantity: NWRA's



• NWRA's Cafeniere →



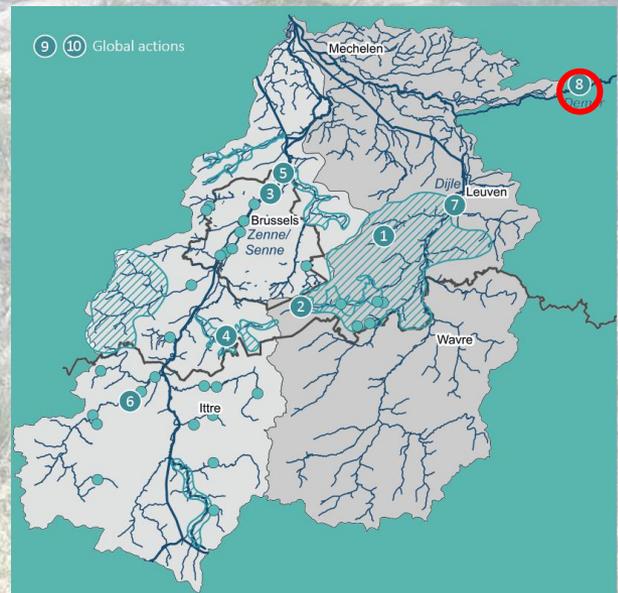
• After flooding 2021 (Vesder); NWRA's outside of Belini emerged across the WR



Quantity: remeandering



- Diest, Demer, Vinkenberg
- 1st meander of 30 meanders along a 33 km stretch
- By spring 2025, seven additional meanders will be created between Betekom and Werchter (Sigma-works)

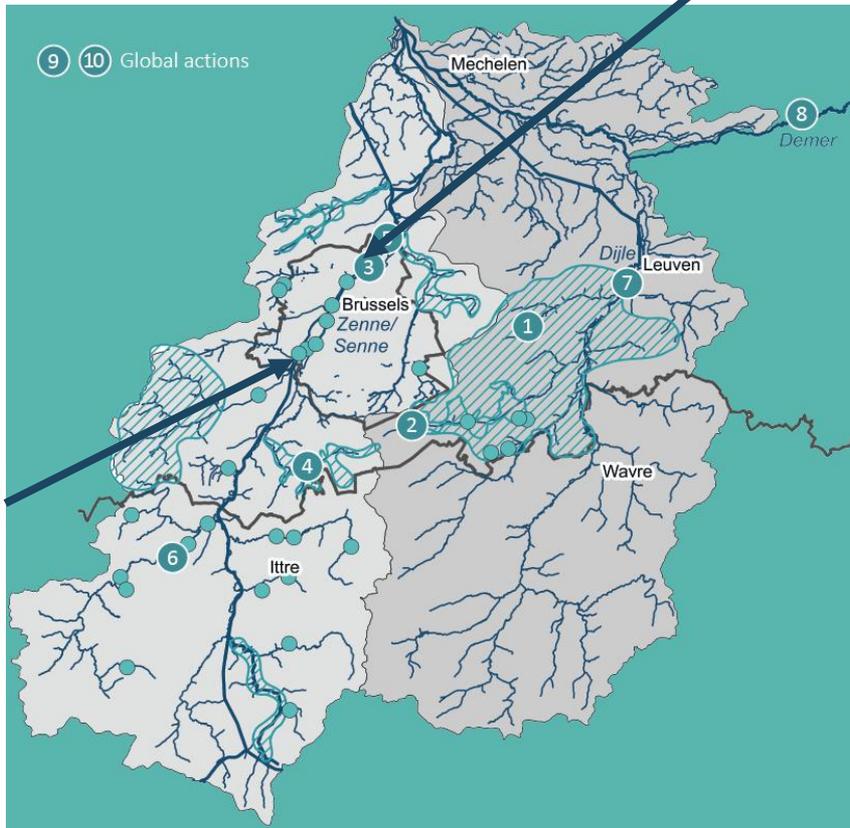


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Many more...



Fieldtrip
Senne !!!



Many more...



Fieldtrip
Woluwe!!!



FLANDERS
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DE WERKVENNOOTSCHAP

Outside Belini



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the European Union

Many more...



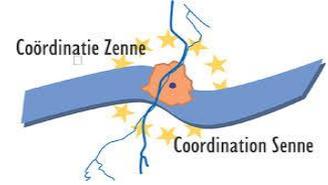
VIVAQUA
WATER VOOR HET LEVEN



bruxelles
environnement
leefmilieu
brussel
.brussels



Fieldtrip walk Senne !!!



Creating public support



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Impact by monitoring and indicators

	Stakeholders involved	> 300
	Number of metres of rivers reopened	> 1.000
	Number of metres of banks restored	> 2.800
	Number of fish migration barriers resolved	2
	Number of square metres of green space created	> 45.000
	Number of square metres of natural ponds constructed	> 24.000
	Flood mitigation through construction of additional water storage facilities in cubic metres	> 275.000
	Biodiversity- number of species observed	> 1.000
	Number of metres of footpaths created	> 2.000
	Number of public events organised	> 60

Some LIFE challenges

- **Changes during the long lifetime of an integrated project which surpass political terms**
- **Changed framework of “working”**
- **Changes in stakeholders interest**
- **Difficulties/strong delays in procedures related to permits**
- **Increase in budget: Covid, war -> caused an overall increase in 20% costs**
- **Overall budget deficit -> risk of reduce to day-to-day work**

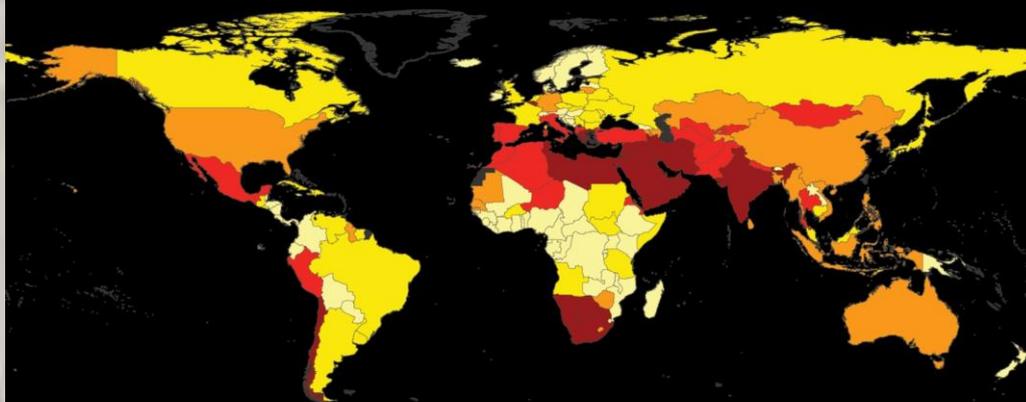
But many necessary opportunities

- The LIFE integrated program allows to work on larger investment projects that often take 6 to 8 years
- LIFE projects offer a platform to develop best practices
- LIFE allows to work both horizontally and vertically between and within organisations (cross-sectoral, bottom-up and top-down)
- LIFE allows to innovate by pilots that go beyond the regular day-to-day work of organisations, taking into account future challenges
- LIFE IP supports and accelerates the formation of new coalitions in larger scale and local stakeholder networks
- LIFE IP succeeds in setting a clear objectives within the framework directives that surpass political mandates , which than again may be challenging
- LIFE IP delivers oxygen to organisations working on water, nature and climate objectives in times of budget deficits
- LIFE IP allows to respond to changes (20% flexibility) + amendment possibility within the objectives of the legislative framework of implementation

Future considerations

25 COUNTRIES ARE CURRENTLY EXPOSED TO EXTREMELY HIGH WATER STRESS ANNUALLY

BASELINE WATER STRESS



Source: wri.org/aqueduct.

23.08.02

AQUEDUCT

WORLD RESOURCES INSTITUTE

NATIONAL WATER STRESS RANKINGS

Search for a country...

BASELINE WATER STRESS COUNTRY RANKING, 2019

Extremely High (>80%)

- 1. Bahrain 2. Cyprus 3. Kuwait 4. Lebanon 5. Oman 6. Qatar 7. United Arab Emirates 8. Saudi Arabia
- 9. Israel 10. Egypt 11. Libya 12. Yemen 13. Botswana 14. Iran 15. Jordan 16. Chile 17. San Marino
- 18. Belgium 19. Greece 20. Tunisia 21. Namibia 22. South Africa 23. Iraq 24. India 25. Syria

High (40-80%)

- 26. Mexico 27. Morocco 28. Eritrea 29. Spain 30. Algeria 31. Pakistan 32. Peru 33. Turkmenistan
- 34. Uzbekistan 35. Thailand 36. Andorra 37. Albania 38. Niger 39. Turkey 40. Afghanistan 41. Italy
- 42. Kyrgyzstan 43. Portugal 44. Nepal 45. Djibouti 46. Mongolia 47. Macedonia

Medium-High (20-40%)

- 48. Armenia 49. Lesotho 50. Luxembourg 51. Australia 52. China 53. Mauritania 54. Guyana 55. Indonesia
- 56. Bangladesh 57. United States 58. Kazakhstan 59. Azerbaijan 60. South Korea 61. Sri Lanka
- 62. Tajikistan 63. North Korea 64. Senegal 65. Zimbabwe 66. Lithuania 67. Myanmar 68. Vietnam
- 69. Germany 70. Philippines

Low-Medium (10-20%)

- 71. Japan 72. El Salvador 73. France 74. Tanzania 75. Cambodia 76. Czech Republic 77. Argentina
- 78. Uruguay 79. Venezuela 80. Timor-Leste 81. Somalia 82. Suriname 83. Poland 84. Cuba
- 85. Burkina Faso 86. Slovakia 87. Dominican Republic 88. Haiti 89. Netherlands 90. Sudan 91. Bulgaria
- 92. South Sudan 93. Ukraine 94. United Kingdom 95. Moldova 96. Serbia 97. Canada 98. Estonia
- 99. Romania 100. Belarus 101. Russia 102. Angola 103. Brazil 104. Malaysia 105. Guatemala

Low (<10%)

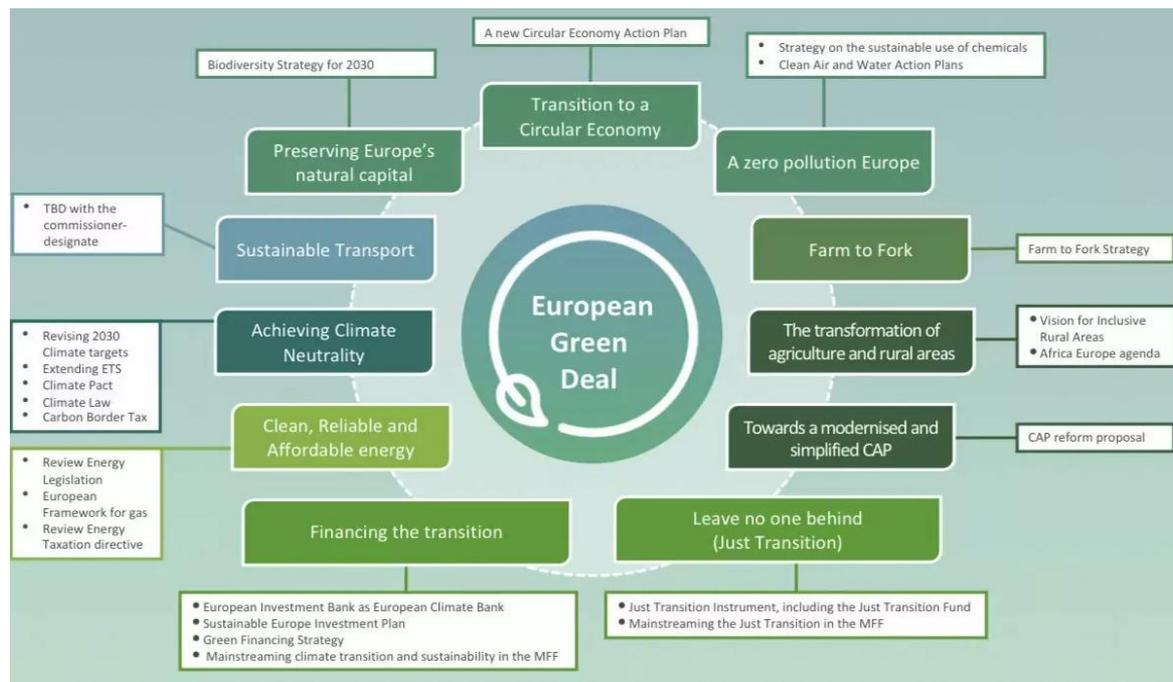
- 106. Ethiopia 107. Denmark 108. Georgia 109. Madagascar 110. Chad 111. Zambia 112. Liechtenstein
- 113. Finland 114. Nigeria 115. Kenya 116. Sweden 117. Malawi 118. Panama 119. Laos 120. Montenegro
- 121. Mali 122. Ecuador 123. Costa Rica 124. Latvia 125. Slovenia 126. Colombia 127. Hungary
- 128. Switzerland 129. Bosnia and Herzegovina 130. Mozambique 131. Bhutan 132. Ireland 133. Guinea
- 134. Swaziland 135. Guinea-Bissau 136. Austria 137. Nicaragua 138. Uganda 139. Norway 140. Croatia
- 141. Bolivia 142. Honduras 143. Ghana 144. Belize 145. New Zealand 146. Gambia 147. Republic of Congo
- 148. Democratic Republic of the Congo 149. Central African Republic 150. Cameroon 151. Benin 152. Togo
- 153. Paraguay 154. Burundi 155. Brunei 156. Côte d'Ivoire 157. Gabon 158. Equatorial Guinea 159. Iceland
- 160. Jamaica 161. Liberia 162. Papua New Guinea 163. Rwanda 164. Sierra Leone

Source: wri.org/aqueduct

AQUEDUCT WORLD RESOURCES INSTITUTE

<https://www.weforum.org/stories/2023/08/countries-extremely-high-water-stress/>

Future considerations



- **Zero pollution objectives**
- **Building a water-smart circular economy**
- **Anticipate water-related climate risks**
- **Support disruptive research & innovation activities**
- **Leverage digital water opportunities**

After LIFE: always looking for new opportunities

- Building further on the LIFE Belini consortium
 - Projects with Brussels environment, the Service public de Wallonie, The Flemish Waterway and the Flemish Land Agency



Aquatuur: het creëren van een robuust watersysteem

Het doel van het project Aquatuur is om de zandoverschikbaarheid te verminderen door enerzijds in te zetten op aanpak van overbodige door de rivier aan de oeverzijde van de rivier te verwijderen.

Aquatuur: wat en waarom?

De rivier is nu verongelukkig en is onderhevig aan de rivieroverstromingen. Het is noodzakelijk om de rivier te herstellen en de rivier te herstellen. Het is noodzakelijk om de rivier te herstellen en de rivier te herstellen. Het is noodzakelijk om de rivier te herstellen en de rivier te herstellen.

Doel van het project

Het project heeft tot doel de rivier te herstellen en de rivier te herstellen. Het is noodzakelijk om de rivier te herstellen en de rivier te herstellen. Het is noodzakelijk om de rivier te herstellen en de rivier te herstellen.



FlashFloodBreaker focuses on greater water safety

In the Haring project FlashFloodBreaker 13 partners from the Netherlands, Belgium, Germany, Luxembourg and France are working together to combat flooding and increase water safety.

Goal of the project

The project focuses on early predictions and greater awareness. The project focuses on early predictions and greater awareness. The project focuses on early predictions and greater awareness.



WATSUPS transformeert water tot publieke ruimte in Mechelen

The project WATSUPS (Water As the Source of Urban Public Space) aims to give the citizens an active role in the water management process.

Project description

The project aims to transform water into public space. The project aims to transform water into public space. The project aims to transform water into public space.



ClimASed works on a climate-proof sediment approach in watercourses

The project ClimASed (Climate-Adapted Sediment) aims to develop a climate-proof sediment approach in watercourses.

Project description

The project aims to develop a climate-proof sediment approach. The project aims to develop a climate-proof sediment approach. The project aims to develop a climate-proof sediment approach.



WIJ-WATER project maakt watersystemen klimaatadaptiever

The project WIJ-WATER (Water is Us) aims to make water systems climate-adapted.

WIJ-water: naar een klimaatrobust en veerkrachtig landschap

The project aims to make water systems climate-adapted. The project aims to make water systems climate-adapted. The project aims to make water systems climate-adapted.



Weerbare Westhoek

The project Weerbare Westhoek (Resilient West Coast) aims to make water systems climate-adapted.

Wat doet de VHM?

The project aims to make water systems climate-adapted. The project aims to make water systems climate-adapted. The project aims to make water systems climate-adapted.



LIFE RIPARIAS takes integrated and rapid action against invasive alien species

The project LIFE RIPARIAS (River Invasive Plant Action Response) aims to take integrated and rapid action against invasive alien species.

What and why?

The project aims to take integrated and rapid action against invasive alien species. The project aims to take integrated and rapid action against invasive alien species.



Co-funded by the European Union

After LIFE: always looking for new opportunities

- **Building further on the LIFE Belini consortium**
 - Example: Aquatuur – Interreg Vlaanderen Nederland
 - Increasing water storage in a nature-based way
 - Construction, monitoring and evaluation of a constructed wetland



After LIFE: always looking for new opportunities

- **Building further on the LIFE Belini consortium**
 - Example: LIFE RIPARIAS
 - 11 project partners, measures against invasive alien species, across regional boundaries



After LIFE: always looking for new opportunities

- **Current funding programmes**

- LIFE
- Horizon
- ERDF
- Interreg France-Wallonia-Flanders
- Interreg Flanders-Netherlands
- Interreg North Sea
- Interreg North West Europe
- Interreg Europe
- Interreg Meuse-Rhine
- European Urban Initiative

- **See website:**

- <https://vmm.vlaanderen.be/projecten/internationaal>



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Interreg
Vlaanderen-Nederland



Gefinancierd door
de Europese Unie

Interreg
North Sea



Co-funded by
the European Union



CLANCY: beheer van uitheemse invasieve Chinese wolhandkrabben

Het Europese CLANCY-project vergroot de grensoverschrijdende capaciteit om klimaatadaptatie, biodiversiteit en ecosystemen in stand te houden door middel van het beheer van de Chinese wolhandkrab.

BEHEER WATERLOPEN



DISCO: Digitale oplossingen voor klimaatadaptatie

Het Interreg North Sea-project DISCO wilt klimaatadaptatie in de Noordzeeregio versnellen door de ontwikkeling en implementatie van digitale oplossingen.

KLIMAATADAPTATIE



WIJ-WATER project maakt watersystemen klimaatadaptiever

We willen het afwateringslandschap transformeren tot een systeem dat zoetwater kan vasthouden en bufferen, om watertekorten te verminderen, grondwaterstanden te verhogen en verzilting tegen te gaan.

KLIMAATADAPTATIE BEHEER WATERLOPEN
KWALITEIT WATERLOPEN



Topsoil brengt verzilting in kust- en poldergebied in kaart

De VMM onderzocht in de zomer van 2017 de verzilting van het grondwater in het kust- en poldergebied. Dat onderzoek gebeurde per helikopter en kaart. In het Europese Topsoil-project en leverde nieuwe verziltingskaarten op.



CARE+ werkt samen met landbouwers aan betere waterkwaliteit

Binnen het grensoverschrijdende Care+-project werken we samen met diverse partners om duurzaam waterbeheer te bevorderen. We richten ons niet alleen op het verbeteren van de waterkwaliteit, maar ook op het betrekken van landbouwers bij de ontwikkeling en uitvoering van effectieve oplossingen.

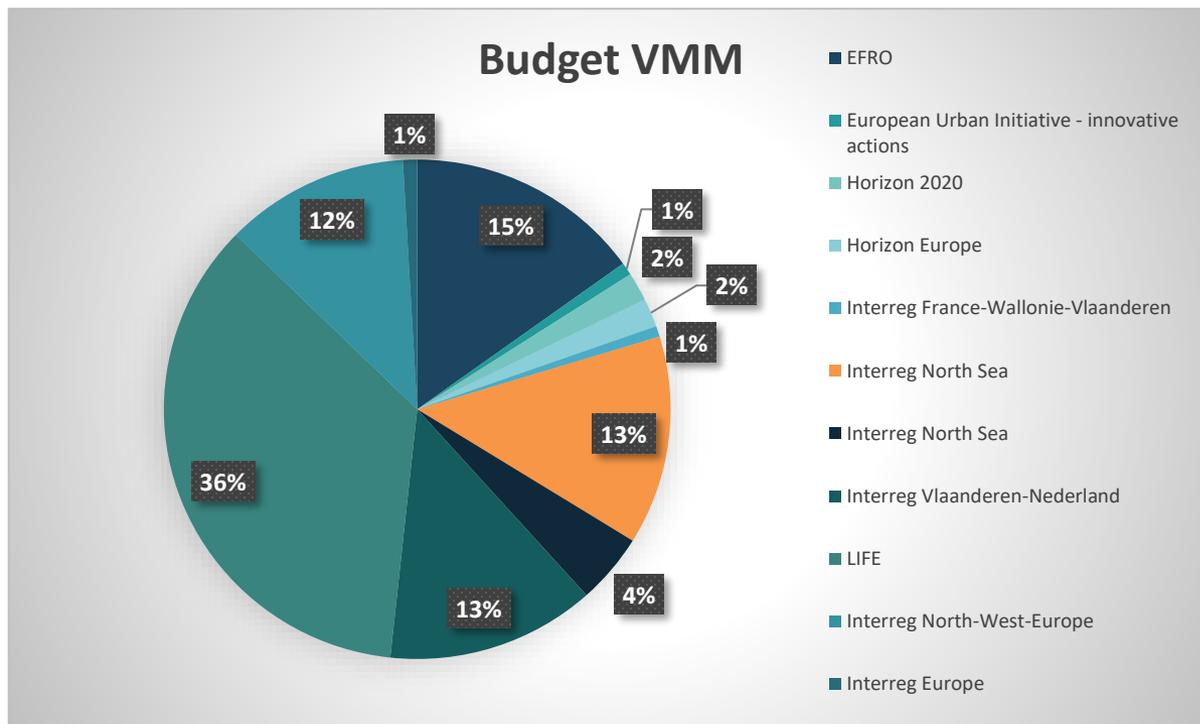


Wetlands als natuurlijke klimaatbuffer

In het LIFE-project Wetlands4Cities werkt de VMM samen met 6 projectpartners aan het herstel en de versterking van wetlands als natuurlijke klimaatbuffers.

After LIFE: always looking for new opportunities

- Current portfolio VMM: distribution across programmes
→ 36% LIFE!



After LIFE: always looking for new opportunities

- Examples of LIFE projects in which VMM participates or leads



LIFE CityTRAQ: together for better local air quality

In the LIFE CityTRAQ project, we are working together with 3 partners on data from traffic monitoring and air quality measurements.



Project details	
Area:	Belgium
Location:	Brussels, Brussels Capital Region
Funding:	LIFE
URL:	www.citytraq.be/

CityTRAQ: what and why?

According to the World Air Quality Index, air pollution is the **largest environmental health risk** in Europe. Air quality limits are often exceeded, affecting a large portion of the population in an urban environment. In order to **ensure the quality of the air** in Brussels and Flanders, there are different approaches in monitoring air quality, using sensors for the detection of air quality. These different devices to inform citizens based on air quality indices.

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Purpose of the project

The project gives local authorities a better understanding of where measurements they need to be taken, so they can start the development of:

- **improving local policy measures** can identify locations with poor air quality (hotspots).



LIFE NARMENA creates wetlands on the Laak and Winterbeek rivers

In the LIFE project NARMENA, nature-based demarcation of metal pollutants in nature areas to increase water storage capacity. The Flanders Environment Agency (VMM) and a project partners are looking for solutions to combat historical metal pollution.



Project details	
Area:	Belgium
Location:	Antwerpen, Antwerp
Funding:	LIFE, Programme
Project web:	None
URL:	www.narmena.be/

What and why?

In the NARMENA project, demarcation projects are planned in the vicinity of **three watercourses contaminated with metals** in the core city of Antwerp (eastern region) and the Laak (eastern region), by separating phytoecological banks and constructed wetlands, as well as regularly cleaning the watercourses, thereby reducing or eliminating potential metal to the ecosystem. An additional objective is to create a **new watercourse**, which will work with other partners to create constructed wetlands in these areas.

Purpose of the project

The study and implementation of wetlands will result in (1) **developing a framework for the application of these nature-based remediation techniques**. These results will be compared with conventional remediation techniques and the findings documented within this life, so we can encourage the competent authorities to apply these techniques from other in-water remediation areas.

NARMENA en de omgeving



Wetlands as a natural climate buffer

Wetlands provide an important contribution to the fight against climate change in Flanders. Wetlands protect against flooding and water scarcity. They also function as carbon sinks and green air conditioning in urbanized urban areas. Over the past 50 to 60 years, Flanders has lost 70% of its wetlands. In the LIFE project WETLANDS, the Flanders Environment Agency is working with six project partners to restore and strengthen wetlands as natural climate buffers.



Project details	
Area:	Belgium
Location:	Brussels, Brussels Capital Region
Funding:	LIFE
URL:	www.wetlands.be/

What and why?

The impact of climate change from a very long list of problems in medium-sized European cities such as Mechelen and Tilburg. The regional authorities are fighting a new enemy: water. Through a new interdisciplinary, interdisciplinary team, **to make urban centers more sustainable and resilient to climate change**, by restoring its urban water infrastructure and **to restore the surrounding natural wetlands**. Restoration will restore a total area of wetlands that are in Mechelen and Tilburg with the goal of increasing their resilience, ensuring that they have better flood protection and creating more recreational opportunities.

Goal of the project

Restoration will restore a total of wetlands that are in the Mechelen region and in Tilburg with the aim of increasing their resilience, ensuring the best flood effects, increasing biodiversity and creating more recreational opportunities.



WATSUPS transformeert water tot publieke ruimte in Mechelen

The project WATSUPS Water & the Source of Urban Public Space focus on up the children and reduce public space. Along the river de Oude in Mechelen, the co-creation project set two banks, tussen verschillende watergebruikers en maken we verbinding tussen mensen, natuur en de stad.



Project details	
Area:	Belgium
Location:	Mechelen, Brussels Capital Region
Funding:	European Union, Flanders
Project website:	None
URL:	www.watsups.be/

Project WATSUPS (what about you?)
 Speak Up **Interreg North Sea** **Co-funded by the European Union** **EUROPEAN UNION** **U.S.B.A.N. INITIATIVE**

Hoer en waarom?

We believe water gives a unique insight into the urban environment. Restored water in the center can be used as a public space, for an urban environment and a public space. The project focuses on restoring and creating an innovative approach to water in the urban environment. The project focuses on restoring and creating an innovative approach to water in the urban environment. The project focuses on restoring and creating an innovative approach to water in the urban environment.

Projectdoelstelling



LIFE PFASTER tackles PFAS pollution in Willebroek

Eleven partners are joining forces to tackle PFAS contamination in and around the site of the former paper factory in Willebroek and to protect the surrounding area.



Project details	
Area:	Belgium
Location:	Antwerpen, Antwerp
Funding:	LIFE, Programme
Project web:	None
URL:	www.pfaaster.be/

What and why?

Eleven partners are working together in this project to tackle PFAS contamination in and around the former paper factory in Willebroek, the area located on the west bank of the river.

Objectives and approach

Willebroek is one of the most polluted regions in Belgium. The project focuses on restoring and creating an innovative approach to water in the urban environment. The project focuses on restoring and creating an innovative approach to water in the urban environment. The project focuses on restoring and creating an innovative approach to water in the urban environment.

Research and innovative remediation techniques

The LIFE project involves collaboration between public authorities, private partners and research institutions. The research focuses on the comparison and distribution of



LIFE RIPARIAS takes integrated and rapid action against invasive alien species

In the LIFE project RIPARIAS, the Flanders Environment Agency and the Flanders Environment Agency are working with 11 project partners to take integrated and rapid measures against invasive alien species across regional borders. The VMM is coordinating the control campaigns.



Project details	
Area:	Belgium
Location:	Brussels, Brussels Capital Region
Funding:	LIFE
URL:	www.riparias.be/

What and why?

Wetlands also provide an important contribution to the fight against climate change in Flanders. Wetlands protect against flooding and water scarcity. They also function as carbon sinks and green air conditioning in urbanized urban areas. Over the past 50 to 60 years, Flanders has lost 70% of its wetlands. In the LIFE project WETLANDS, the Flanders Environment Agency is working with six project partners to restore and strengthen wetlands as natural climate buffers.

Purpose of the project

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After LIFE: always looking for new opportunities

- **LIFE Wetlands4cities**

- Vrouwvliet - Naturalising banks of watercourses
- Restore and strengthen wetlands as natural climate buffers



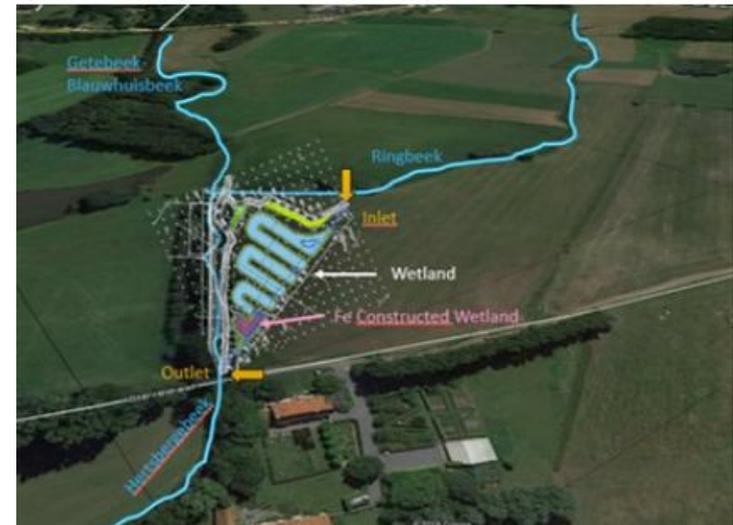
After LIFE: always looking for new opportunities

- **Building a resilient future for the next generation**
- LIFE Wetlands4cities



After LIFE: always looking for new opportunities

- **VMM wants to work together!**
- **Themes: air, water and climate (adaptation)**
 - Water quality and quantity
 - Wastewater and drinking water
 - Groundwater and surface water
 - Air quality
 - Climate adaptation
 -
- **Active in:**
 - Monitoring and modelling
 - Field actions incl. work on unnavigable waterways: re-meandering, daylighting waterways, combating exotic species, creating wetlands, etc.
 - Studies, planning, policy
 - Digitalization, data spaces, AI
 - ...



Schets constructed wetland

After LIFE: always looking for new opportunities

- Interested in working together?
- Please contact us at
 - projectsupport@vmm.be
 - s.dhondt@vmm.be



Thank you

visit www.life-belini.be

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