

Wal-Zwijn Project



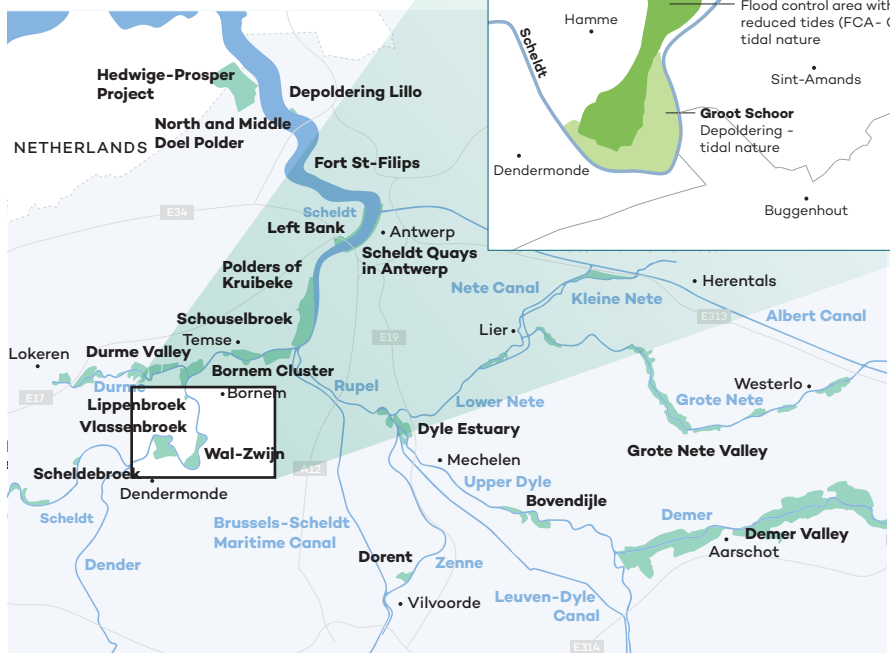
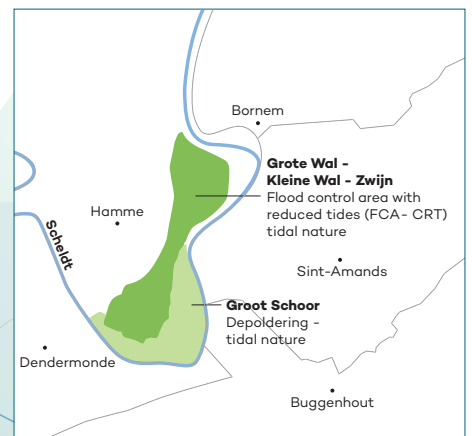
The Sigma Plan protects Flanders from flooding while bolstering estuarine nature.

The Scheldt is a tidal river. Twice a month, the ebb and flow dynamic causes a spring tide, and when that happens water levels are very high. If this coincides with a northwesterly storm at sea, the water swells even more and it becomes a storm tide. The Gale of January 1976 is a well-known example of a storm tide. Causing severe damage in the Belgian provinces of Antwerp and East Flanders, the storm convinced the government that better protection was needed. This resulted in a large-scale water safety project called the Sigma Plan.

Sigma Plan project Wal-Zwijn: a small oasis and a major safety asset

The Hamme region has always been very sensitive to flooding. We are changing this by giving the Scheldt more room to (over) flow. At the moment the works in Wal-Zwijn are well underway: the ring levee is completed, the Groot Schoor area has been depoldered to the Scheldt and the two combined drainage and inlet sluices are in place. One of the things still on the planning is the construction of the overflow levee. A few years from now, Wal-Zwijn will be a fully fledged flood control area with typical tidal nature.

The Sigma Plan was updated in 2005. The objective remains protection against flooding but at the same time the Flemish government will restore and further develop the tidal nature along the river. Wal-Zwijn is part of the updated Sigma Plan.



Location

Province of East Flanders, Hamme

Surface area

165 hectares

River

Scheldt

Measures

- Flood control area with reduced tides
- Depoldering

Why?

- Flood protection
- Development of tidal nature (European conservation objectives)

What measures are being taken?

We are bolstering water safety in the region.

The sub-areas **Grote Wal, Kleine Wal** and **Zwijn** are being converted into a flood control area with reduced tides. Together they will buffer dangerously high water levels at storm tide. To protect the surrounding area from flooding, a ring levee was constructed on the west side of Wal-Zwijn to stop the water flowing into the flood area.

Completed in the summer of 2021, this sturdy ring levee is six metres high and three kilometres long. The new levee is an excellent vantage point from which to admire the changing Scheldt landscape. Three types of soil were used to construct the new levee: compacted

sand from the Durme river, soil freed up by the ecological landscaping works in Wal-Zwijn and, finally, soil brought in by ship. The result is an environment-friendly, sustainable levee.

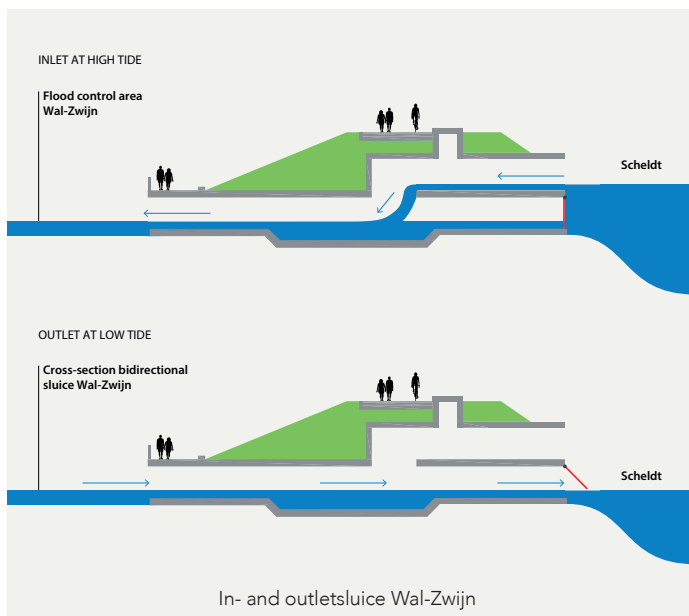
In 2023 construction of the inlet and outlet sluices was also completed. Every day they will drain and let in small quantities of water from and into the area.

Depoldering **Groot Schoor** has given the Scheldt 25 hectares of extra space to flow and the tides now have free rein again. This approach harnesses the power of the water, which reduces the risk of flooding.

Controlled reduced tide (CRT)

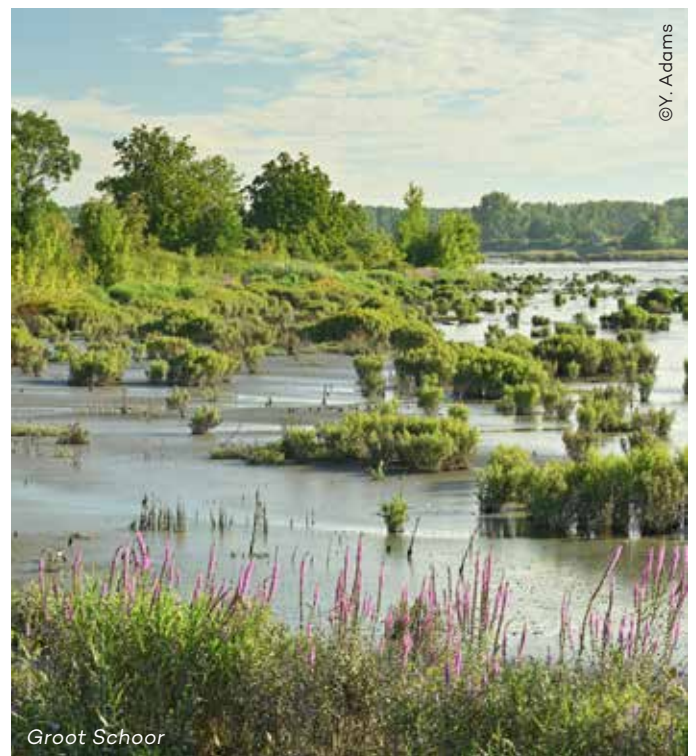
A flood control area (FCA) is an area of flat land alongside a river that buffers water under extreme weather conditions. The water flows over an overflow levee and onto the plain. A ring levee always protects the hinterland to prevent any residential areas from getting flooded as well.

A flood control area with reduced tides provides a smart sluice system in the overflow levee as an added safety. At high tide, a high inlet sluice lets in a limited quantity of water, just enough to trigger the development of tidal mudflats and tidal marshes. At low tide, the water slowly flows back through a low outlet sluice and on to the River Scheldt. The area therefore ensures water safety while fostering the development of tidal nature.



Depoldering

Depoldering means giving back land to the river. First we construct a new levee inland. Then we make openings in the old levee, creating additional room between the old and the new levee where the river can (over)flow. This reduces the power of the water and the water level of the river while limiting the risk of flooding in the region. As the tides are given free rein again, this also gives rise to valuable tidal nature.



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Groot Schoor



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LIFE Sparc

Thanks to the Sigma Plan, the Scheldt valley is better equipped to deal with the consequences of climate change, such as rising sea levels and periods of heavy rainfall. In Europe the Sigma Plan is regarded as a model project.

That is why a number of Sigma Plan areas including Wal-Zwijn receive additional EU funding through the LIFE Sparc project (life-sparc.eu).



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Oystercatcher



©H. Willcox

Avocet



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Little ringed plover

**At the same time,
we are restoring
freshwater marshes
and mudflats.**

The area will be exposed to the tides by making an opening in the existing Scheldt levee, creating freshwater mudflats and marshes, which are rare in Europe. In turn, they attract a variety of plants and animals.

Typical Scheldt nature is developing in Groot Schoor as well. Initially these are mainly tidal mudflats. Next are tidal marshes with reed and tidal willow forests. This developing nature area gives the ecosystem a boost. Countless special animals such as the avocet, the oystercatcher and the little ringed plover feel at home here.



-  freshwater marshes and mudflats
-  overflow levee
-  ring levee
-  paved
-  unpaved
-  in- and outlet sluice
-  ferry



Project name	Project status	Surface area	Municipality	Duration	River	Measure
Grote Wal, Kleine Wal and Zwijn	Underway	140 hectares	Hamme	2010-2025	Scheldt	Flood control area with reduced tides
Groot Schoor	Concluded	25 hectares	Hamme	2007-2021	Scheldt	Depoldering