

HAAPSALU ESTONIA

BSR NOAH: January 2019 - December 2021



NOAH ACTIONS

A Stormwater Management Model (SWMM)

of the pilot area was created to estimate the amount of urban run-off in Haapsalu. In addition, water flow measurements and sampling were carried out.

A Smart Weirwall System (SWS) was built to replace the old manually closable gates in the wetland. The system utilizes water level sensors to get real-time information about the wetland and seawater levels.

The system helps with flood protection by preventing seawater backflow in case the sea level rises higher than the water level in the wetland. It also allows sufficient retention time for the urban stormwater to be purified in the wetland before releasing the water to the sea!

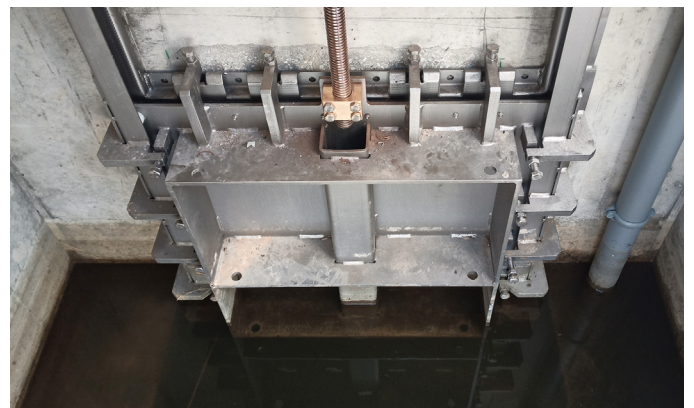
The Extreme Weather Layer (EWL) is a new tool created in the NOAH project and is used for planning in the town of Haapsalu. The tool assists in spatial planning and flood risk prediction in urban areas.

ABOUT THE PILOT SITE

- ◆ Haapsalu is a town located on the west coast of Estonia
- ◆ Total area of 10.6 km², 67% covered by greenery
- ◆ Separate sewage and stormwater systems

CHALLENGES

- ◆ Haapsalu is open to seawater flooding due to its coastline length and low ground elevation.
- ◆ Due to old drainage systems, pipeline bottlenecks and poor wetland dam conditions, seawater can cause a burden on the stormwater system and increase flood risk in the city.



NOAH IMPACT

- ◆ With NOAH actions, financial damages can be reduced, and flood risks mitigated.
- ◆ Consequently, wastewater spillages and overflows are reduced, resulting in less pollutants and excessive nutrients flowing to the Baltic Sea.



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