The Low-Hanging Fruit of a Rain Garden

In the past, the car park in front of the indoor swimming pool in Braniewo, Poland, was heavily sealed – an urban heat island in summer and, in spring, an exacerbating factor for flooding. Today, a rain garden stores water, cools the surroundings, and enhances the area. So simple, so important, so transferable across the entire Baltic Sea Region.

Completed in late summer 2025, the rain garden in the middle of the indoor pool's car park immediately catches the eye. With its naturally shaped topography of gently contoured basins, long, stone-lined depressions planted with perennials, it is not only beautiful to look at, it is functional. When the first heavy rain arrived again in mid-September, Jerzy Butkiewicz pulled out his smartphone and hurried over. He had overseen the WaterMan project for the Braniewo municipal administration from day one and reached the site in time to capture the moment. And there it was, exactly as intended: lots of water streamed from the surrounding asphalt through the designated openings in the kerb and collected in the basins, where the soil matrix stores it and gradually releases it to the groundwater.

Municipal indoor swimming pool "Zatoka" in Braniewo

Consistently putting the obvious and proven into practice – that, too, is progress

Sometimes progress is not found in the newest technology but in the courage to tackle the obvious and proven – and to implement it well. In Braniewo, a small town in northern Poland, the rain garden in the car park of the municipal indoor swimming pool "Zatoka" is no spectacular high-tech project, but a visible measure with real impact. The starting point was fairly unremarkable, essentially everyday urban management. The "Zatoka" is surrounded by concrete surfaces and

asphalted car parks. A setting which has become increasingly problematic with climate change. In summer, temperatures here could exceed 40 degrees Celsius. And when it rained, the water ran straight off the asphalt into the sewer system and on to the flood-prone Pasłęka River. At the same time, the few existing green islands visibly withered during dry spells unless they were watered regularly with valuable drinking water.

It is a situation familiar in many places today. Yet the right measures are not taken everywhere with the same resolve. Braniewo's rapid shift from municipal debate to decisive action owed much to a new optimism about water recycling, born of a fortunate alignment of factors. The Institute of Civil and Environmental Engineering at Gdańsk University of Technology, under the leadership of Professor Magdalena Gajewska and contributing to the WaterMan project, identified the indoor pool as an ideal site for two pilot measures at once: the world's first facility for recycling swimming-pool backwash water and, next door in the car park, a much-needed rain garden as a nature-based solution. High-tech at one end, low-tech at the other: two points on a scale where future effectiveness in water recycling can grow. Added to this was Jerzy Butkiewicz, who oversaw both measures on site for the Braniewo municipal administration, supported implementation, and was there with his smartphone at the decisive moments. As the city administration's water lead, he was the local champion who, quite literally, set things in motion.

Magdalena Gajewska
Gdańsk University of Technology

The key is to use the existing topography wisely

Together with Jerzy, Gajewska and her research team developed a rain garden for the Zatoka indoor pool's car park. The basic idea is longstanding: rain gardens are landscape systems that retain stormwater on site and let it infiltrate gradually into the soil. That eases pressure on the sewer system, waters the planting, and cools the microclimate. Yet despite being well established, rain gardens are not plug-and-play. "Every site brings different requirements, from soil and slope to water

flows," explains Magdalena Gajewska. To achieve the desired storage and cooling effects, water routing must be carefully designed and tailored to local conditions. That means nature-based design, plant diversity, and hydrological elements such as retention swales and sediment barriers. "The trick is to make smart use of the existing topography. Ideally, you place a rain garden where there is already a slight gradient." Exactly the case at the Zatoka car park.

Rain garden in the parking lot

Everything flows. That may be true once a rain garden is finished, but not always during planning and construction. In Braniewo, too, the process wasn't entirely frictionless. "Some technical details were debated quite passionately between the university and the landscape contractors, for example, the height of the troughs or the use of large natural stones instead of concrete," recalls Butkiewicz. As on-site coordinator, he managed the coordination between the university, the planners and the contractors, ensuring theory and practice moved in step – and that, after some hard-fought compromises, everyone could shake hands again. "It was a pilot tested under real-world conditions, with the aim of learning from it and passing the concept on."

Now everything is in place: a flower meadow of around 400 square metres; a 210-square-metre retention bed and additional planting; lampposts with greenery; a planted retaining wall; and new green islands.

An ideal location for communication as well

The site was ideally suited not only because of its natural slope and its proximity to the Recycling of Pool Water pilot measure, but also as a platform for communication and education. Many residents of Braniewo and the surrounding area visit the indoor pool regularly, and school classes come here daily for swimming lessons. In future, visitors will pass the rain garden and the newly installed information boards on their way in. These explain infiltration,

evaporation and water cycles. They also illustrate why the large natural water cycle now needs to be complemented by small water-recycling loops if we are to adapt our water management to climate change. Further educational activities and events are planned, such as a family picnic around the rain garden. “What we are showing here, too, is that you can get started without huge investments or years of planning,” explains Gajewska. “The elements are simple, the technology is available, and the impact is immediately measurable.” This could be a blueprint for other municipalities looking for quick, visible solutions, Butkiewicz adds. Here in Braniewo, it is also about maintaining a liveable, green urban space through more frequent dry periods, without wasting valuable drinking water. “We want not only to retain water here but also to share knowledge and inspire enthusiasm for smart solutions.” Delivering the two measures, rain garden and swimming-pool water recycling, simultaneously and right next to each other increases local visibility and demonstrates a holistic approach to urban water resilience.

A practical invitation to other cities to do the same

Igor Kaniecki, a member of WaterMan’s international project management team who supports a wide range of pilot measures, also underscores the value of seemingly simple solutions: “In the Baltic Sea Region, no one will die of thirst in the next 50 years. That’s out of the question. What will become more difficult to maintain are the pleasant, familiar things: public gardens, greened city centres.” These nice-to-have elements risk becoming a municipal burden under climate change – unless we consciously decide, in good time, to change course and stop using valuable drinking water for every application. “Every drop counts,” says Kaniecki. Often you don’t need large volumes to secure the local water supply in the short and medium term. And in humid areas like the Baltic Sea Region, this also includes solutions you might not immediately associate with the term “water recycling”.

So it doesn’t have to start with multi-million-euro facilities. It can begin in a car park, with a few square metres of ground, a budget of just over €60,000, thoughtful planning, and a willingness to collaborate. The approach is scalable and directly applicable. A practical invitation for other cities simply to go ahead and get started.

About the WaterMan project

WaterMan promotes a region specific approach to water recycling, which intends to use the alternation of too much and too little water that has become typical in the Baltic Sea Region to make the local water supply more resilient, and supports municipalities & water companies in adapting their strategies.

More information: *https://www.eurobalt.org/WaterRecyclingToolbox/*
http://interreg-baltic.eu/project/waterman

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