

Moving Ahead with a Clear Focus

Because of recurring droughts and its already limited groundwater reserves, the question in Västervik, Sweden, is no longer whether water recycling is needed, but how best to do it. And even that question has now largely been answered. The municipality has made a clear strategic choice in favour of one resource: rainwater from retention ponds equipped with extraction points. This approach has been steadily developed and refined over time. The result is a model strategy that shows how far a clear focus can take water recycling.



Västervik Municipality / Sweden

Much would be easier today if, hundreds of years ago, people had not begun draining the many bogs, pools and wetlands around Västervik in order to cultivate the land. The large amount of surface water that used to shape this landscape would be a valuable resource today. A reason for regret? Hardly. Where water once collected, the ground is still naturally suited to creating ponds in the same places again

today. The soil layers still have the right properties to hold and store water. That means ponds can be created at these sites without the costly rubber liners used elsewhere to prevent seepage.

That is why historical maps of Västervik have been brought back out of the archives to identify where such surface water storage areas once existed. And if these places are also located close to potential users of recycled rainwater, there is every chance that the next retention pond with an extraction point will soon be created there. In Västervik, this is now known as a next-generation Mini Multi-dam.

An initiative that does not run dry

Both the name and the concept are the result of a longer development process and of a model strategy focused on a single resource: the persistent optimisation of rainwater recycling. Just as water has not disappeared from the places suited to holding it, the initiative behind this form of water recycling has never run dry in Västervik either. And it has already taken the municipality a long way. Six retention

ponds have been created, supplying fit-for-purpose water for a wide range of applications – from irrigating green spaces and sports fields to providing process water for industry and producing artificial snow for a popular cross-country ski trail.

But first, a look at where this began. Anders Fröberg of Västervik Municipality, who developed the model strategy together with his colleague Ingela Karlsson, explains: “In recent years, we have experienced a clear increase in periods of drought associated with temporary water shortages. Our soil structure adds to the challenge, as it means we have relatively small groundwater bodies to begin with.” The case for water recycling has become common sense here, much as it has in Kalmar, a little further south. Here, the question is no longer whether water recycling is needed, but how best to implement it. And because retention ponds for flood protection are already well established here – as in many other parts of the Baltic Sea Region – attention quickly turned to these water reservoirs. Only one small addition was needed: extraction points. With those in place, retention ponds could immediately serve a wide range of uses that do not require drinking water quality. This basic insight has shaped thinking in Västervik for years and underpins all subsequent measures. The term “Multi-dams” captures exactly this shift in thinking: with one small addition – extraction points – retention ponds take on crucial new functions at low cost.

From Multi-dams to Mini Multi-dams

“Multi-dams are no high-tech solution, but a simple tool for everyday water management,” says Fröberg. “We use them both to fill tankers for street cleaning and to irrigate sports fields.”

Because Fröberg and his team stuck with this concept and were determined to gain experience with it, another important insight soon emerged. It turned out that transporting the water to where it was needed was the main source of both cost and complexity. So instead of continuing to build large retention ponds only in geologically suitable locations, the municipality shifted towards creating many small Multi-dams in places that were geologically suitable and close to as many potential users of recycled water as possible. This lowers logistics costs and creates a robust decentralised supply. That is how the Multi-dam concept evolved into Mini Multi-dams.

Today, it is an established part of Västervik’s local water supply strategy not only to use historical maps to identify geologically suitable sites for Mini Multi-dams, but also to look systematically for potential users. To generate demand, the municipality initially focused on actors within or close to the municipal administration, such as the municipal housing company and the facility management teams of public buildings. Later, Fröberg and his team also brought

private and commercial users into the dialogue, encouraging them either to develop their own systems or to draw water from the public extraction points.

Municipal water experts now also need to communicate effectively

With typically Swedish pragmatism, the municipality has followed a three-stage model. Stage one: measures with high impact and little effort. These include street cleaning as well as the irrigation of municipal sports grounds and urban green spaces. Stage two: the creation of public extraction points for municipal gardeners, landscaping businesses and residents with private gardens. Stage three: the involvement of private companies and larger users. Information campaigns and dialogue formats are intended to encourage people to make use of rainwater themselves and to open up the possibility of drawing water from public extraction points for process or cooling purposes.

Municipal water experts are now also expected to communicate their case effectively. In Västervik, the municipality relies on classic channels such as websites, brochures, social media and newsletters. Financial incentives are intended to provide additional momentum and spread the word about water recycling as quickly as possible across the municipality and the wider region. Those who retain rainwater on their own property – for example through simple storage or infiltration solutions such as Mini Multi-dams instead of discharging it entirely into the sewer system – can reduce their stormwater fee by up to 50 percent. In addition, Västervik uses capacity-based water tariffs: the larger the water meter size – in other words, the greater the reserved connection capacity – the higher the fixed costs. This creates an incentive to use drinking water more sparingly and to switch to other sources wherever drinking water quality is not required.

Already rooted in everyday practice before the strategy was written

“Rainwater and retention measures are now also taken into account in spatial planning and building permits. As a result, Multi-dams and smaller multifunctional retention ponds are being integrated into the municipality's spatial development more systematically than before. They contribute not only to flood protection and the use of rainwater as a resource, but also to climate adaptation and ecological qualities such as recreation and biodiversity.

This model strategy emerged through a municipally driven process led by Västervik Municipality, with Fröberg and Karlsson taking the lead. The basis was an assessment of challenges and opportunities carried out through a survey. It also drew on the work of a joint project group bringing together the municipality, water companies and the housing sector, as well as on the results of information

and exchange formats with different user groups. The result is a concept that is strategically sound and operationally well connected – one whose individual elements, such as the use of rainwater from Multi-dams, are already part of everyday practice. Fröberg and Karlsson continue to ensure that all affected stakeholders work closely together as implementation moves forward.

A focus on one resource as a sign of strategic maturity

Asked whether municipal wastewater recycling might also become an option in future, Fröberg replies: “We decided to focus first on the potential of rainwater and Mini Multi-dams. And it is becoming clear that this already takes us a very long way in our region.” While he does not rule out the possibility that wastewater recycling could one day become necessary in specific contexts, neighbouring Kalmar to the south shows just how great that potential can be. Wastewater recycling has the advantage of being even more reliable and predictable than rainwater recycling, because it is less dependent on current precipitation levels. But in general, it also involves higher investment and operating costs. By contrast, with its strategy of building Mini Multi-dams at former water sites, Västervik has found a particularly cost-saving approach to retention ponds. In a sense, it is able to draw on topographical assets.

Västervik’s water recycling strategy is anything but a distant vision, and it is no abstract concept either. It has emerged and taken shape around a highly practical measure for a new everyday approach to water management. The conscious decision to focus on a single resource is, in itself, a sign of strategic maturity: over the years, many options were considered, Multi-dams were clearly prioritised, and the concept was developed consistently.

The relevance of this model strategy for large parts of the Baltic Sea Region has already become clear within the WaterMan project itself. The Klaipėda region in Lithuania, for example, followed Västervik closely when building a multi-use retention pond in the town of Gargždai. It was Lithuania’s first water recycling project – a pioneering effort in which having a concrete model and direct exchange with the people behind it was of great value. This shows how transferable Västervik’s strategy is. Other regions are very welcome to follow suit.

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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