Interreg Baltic Sea Region

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SUSTAINABLE WATERS City Blues

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City Blues pilot in Malmö

D 2.1 Reports on the implemented watershed pilots

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Summary

The City Blues Malmö pilot focuses on developing a strategic, catchment-based plan for the Riseberga Stream, a key watercourse in eastern Malmö that faces growing challenges from flooding, erosion, poor water quality and an expanding city. Unlike other pilot areas in the City Blues project, Malmö's pilot does not construct new Nature-Based Solutions (NBS) but instead establishes a framework for future implementation across an entire watershed.

Malmö has decades of experience in open stormwater management and climate adaptation, with several light house projects. Yet many older urban areas still rely on outdated, pipe-based drainage systems. Within the Riseberga catchment there are some older wetlands, ponds, green roofs and swales but the problems with flooding and erosion has not yet been solved.

The pilot aims to:

- Develop an integrated plan for the Riseberga catchment.
- Identify feasible sites for NBS such as retention ponds and stream restoration.
- Improve coordination among stakeholders and align city processes.
- Build a foundation for long-term resilience and sustainable water management.

The project brought together city departments, the municipal utility company, developers, NGOs, and citizens to jointly assess existing conditions, identify knowledge gaps, and align ongoing initiatives. Key achievements include a revised water quality monitoring programme, proposed sites for future NBS and the creation of a hydraulic model to support future design and permitting. The pilot also enhanced cooperation between city departments, introduced innovative monitoring methods such as drones and sensors, and promoted community engagement through educational events. The results will all be composed to a development plan for the Riseberga catchment area, becoming the foundation for future decisions in the area.

By integrating water management, climate adaptation, and urban planning at the catchment scale, Malmö is preparing to move from planning to practical action, advancing its vision of a greener, more resilient, and climate-smart city.

1. Planning of the pilot

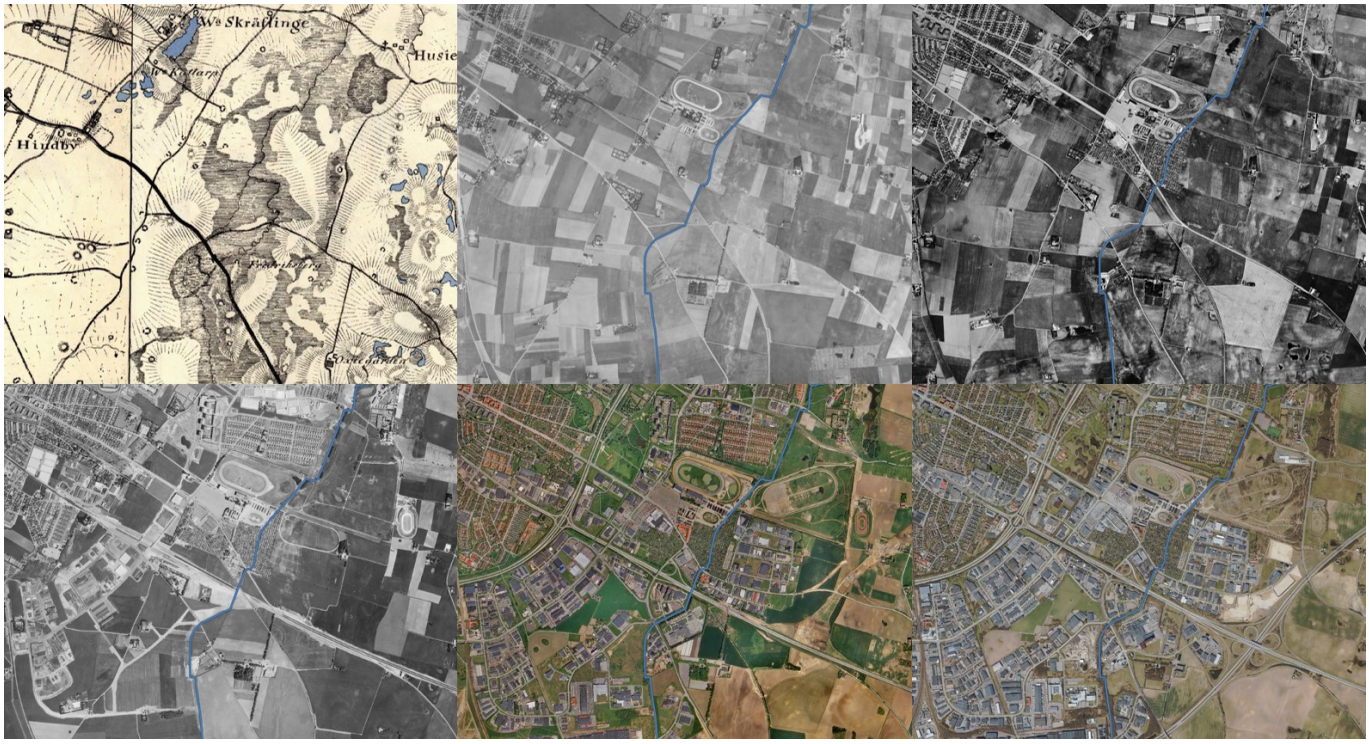
1.1 General planning

The City of Malmö has set ambitious political objectives for climate action and environmental sustainability. Its comprehensive master plan, nature conservation program, environmental strategy and annual city budget all emphasize the goal of creating a greener, bluer city with richer biodiversity and greater resilience to climate change.

Malmö's geography presents both opportunities and challenges. The city lies by the sea on one side and is bordered by agricultural land on the other—two essential land uses that Malmö aims to preserve. As the city continues to grow, densification has become the only viable option for expansion. However, the increasing competition for land makes it difficult to translate high-level sustainability goals into physical reality. In the City Blues project Malmö seeks to address some of these challenges by applying a catchment-based planning approach into a development plan of the Riseberga stream.

Malmö pilot

Aside from its coastal waters, Malmö's internal water network consists mainly of man-made ponds, lakes, and a few small streams. The largest of these, the Riseberga Stream, flows through the eastern part of the city. Over the past 150 years, it has been transformed from a natural, free-flowing stream into a straightened and channelised ditch. Originally drained to create farmland, it now forms part of the urban landscape and receives roughly one-third of Malmö's stormwater.



The development of the Riseberga stream from a free-flowing stream in 1812 to today's channelized ditch

This land use transformation has caused problems with flooding, erosion and poor water quality, and with climate change and a growing city these challenges will escalate.

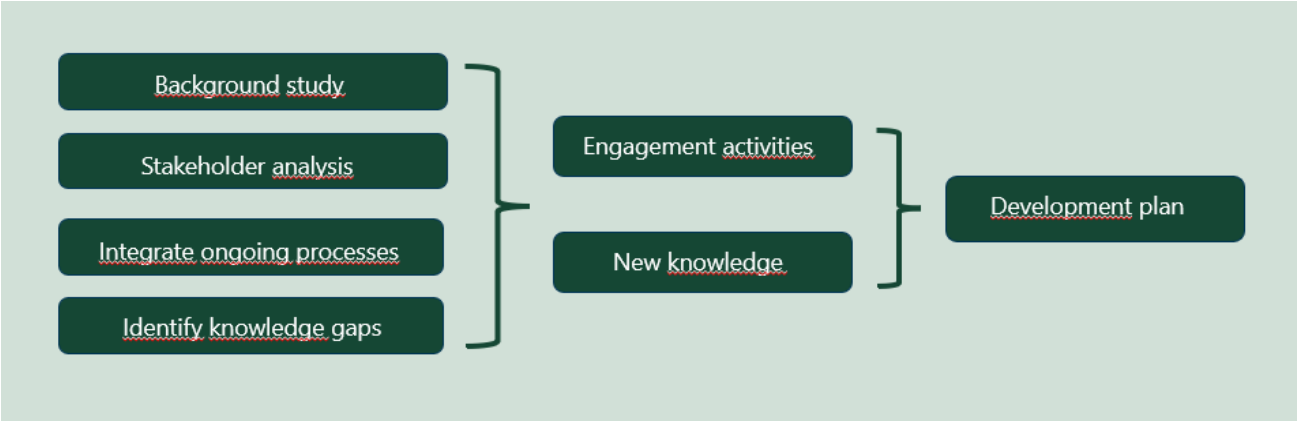
To address these issues, the Malmö pilot develops a plan for the Riseberga stream catchment area. The plan describes current conditions, identifies key problems and opportunities, and highlights potential sites suitable for implementing Nature-Based Solutions. Its purpose is to guide future decisions and ensure that the project's findings continue to influence planning and investment after the City Blues project concludes.

Creating a development plan at the scale of an entire catchment requires close collaboration with a wide range of stakeholders. The first step was therefore to compile and review all available information—historical data, previous studies, existing analyses, and ongoing projects—to establish a baseline understanding of the catchment. Although much work has been done over the years, it has often lacked a holistic perspective, leaving many issues unresolved and woresened by city growth and climate impacts. The city now recognises the need for a strategic, integrated approach to water management, embedding the catchment perspective within municipal planning processes. The Malmö pilot aims to lay the foundation for this new way of working.

Understanding stakeholder needs, aligning ongoing processes, getting relevant input and defining shared goals required active stakeholder engagement. Because not all stakeholders have equal influence, impact or concern, Malmö conducted a stakeholder analysis to prioritise engagement efforts and identify key actors. This analysis also helped coordinate participation in existing projects and align overlapping initiatives.

After consolidating available data, the team identified knowledge gaps—critical missing information needed to advance the work toward implementation. These insights formed a series of activities, including consultant analyses, internal coordination meetings, citizen input sessions, NGO collaborations, and multi-stakeholder dialogues that all contributes to the end result.

The figure below illustrates the workflow leading to the development plan. Integration with the city's ordinary planning processes is a continuous work throughout the project to ensure coherence between plans and decisions across departments.



An illustration showing the steps taken towards developing a plan for the Riseberga stream catchment area

1.2 Detailed planning

As part of Work Package 1, all pilot cities developed multi-risk scenarios to estimate and understand the potential impact of the nature-based interventions on storm water management. For Malmö, this exercise formed a central component of the pilot's general planning phase.

The Malmö pilot has primarily focused on flood risk and water quality, as these represent the most pressing challenges and are driven by strong regulatory and legal incentives. Future NBS planning within the Riseberga catchment will prioritise these issues while also considering biodiversity and recreational values as important co-benefits.

From the general planning phase several knowledge gaps were identified and further explored in the detailed planning phase. Stakeholder roles and integration of ongoing processes are described in more detail in the chapter on stakeholder engagement.

All information collected throughout the planning phase, whether newly generated or drawn from earlier work, will be consolidated into the final deliverable: a development plan for the Riseberga Stream catchment area.

Water quality

The Riseberga stream has not yet been included under the Water framework directive (Wfd) but is being assessed by the authorities and is expected to be set with environmental quality standards during the next cycle of the wfd. Although water quality has long been a local concern, this designation will elevate the issue's regulatory importance and make it a municipal priority.

Monitoring program

The City of Malmö operates an ongoing monitoring program for surface waters, measuring parameters such as nutrients, pH, oxygen levels, turbidity, and biological indicators like fish and benthic fauna. However, the existing program leaves out several critical stormwater pollutants, including metals, PFAS, and PAH, all needed for a more accurate assessment of the stream's ecological and chemical status.

During the planning phase, the city identified the need to revise the monitoring program. A working group reviewed the existing setup and proposed a new framework and an additional sampling site upstream in the Riseberga stream. With additional municipal funding, the city conducts a screening of previously unmonitored pollutants, establishing a robust baseline for future assessments. The results will guide decisions on sampling frequency and monitoring priorities in the future. Coordination with the local water board ensures alignment and avoids duplication of monitoring efforts.

	Water chemistry	Metals	Pesticide	Environmental toxins	Benthic fauna	Electro-fishing	Diatoms
Risebergabäcken downstream and upstream	Annual sampling	Once per wfd cycle	Once per wfd cycle	Once per wfd cycle	Every 3 years	Every 3 years	Once per wfd cycle

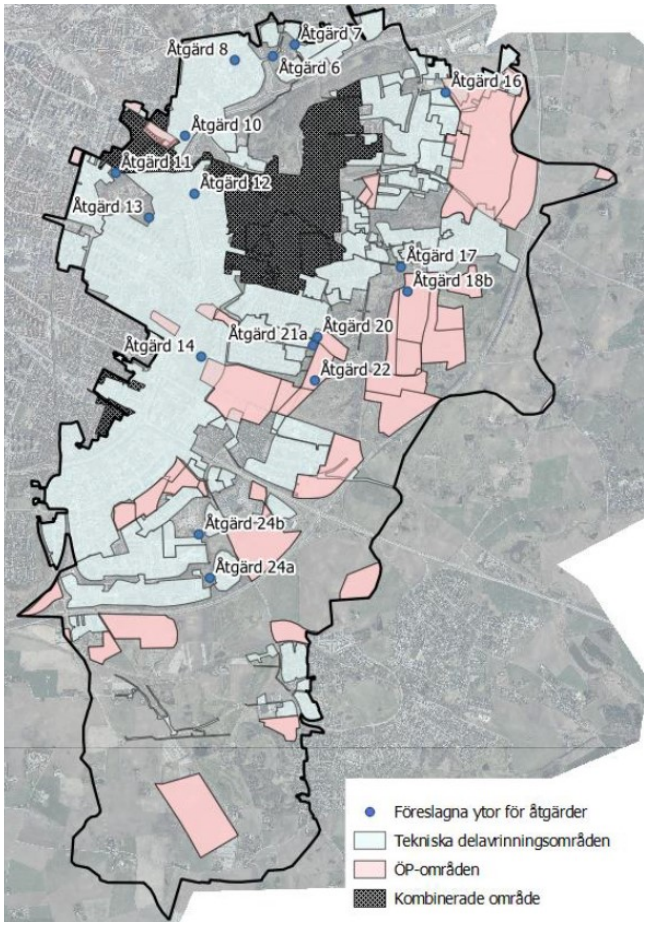
An overview of the new monitoring program in Riseberga stream

Stormwater treatment ponds

In newly planned urban areas, stormwater is usually delayed and treated in open retention ponds. However, most of the Riseberga catchment consists of older urban environments lacking such systems, resulting in negative effects on water quality. Calculations show that approximately 1380 kg phosphorus per year currently enter the stream from already built environments. If all future developments outlined in the city's comprehensive master plan will be developed, another 440 kg phosphorus per year will be added.

To address this, the municipal utility company, in collaboration with the city, identified potential sites for new stormwater treatment ponds within the catchment. Preliminary studies suggest that a few larger ponds downstream would be more cost-effective and efficient, both in terms of treatment performance and maintenance, than numerous small ponds in each sub-catchment.

The work to date has focused on strategic site identification, field visits, and internal coordination to locate feasible areas with minimal land-use conflicts. These findings provide critical input to both the Riseberga Stream development plan and Malmö's next general master plan, ensuring that suitable land is reserved for stormwater treatment purposes. Further technical feasibility studies will be required in later phases to confirm the potential for implementation.



Förslag	Rening (kgP/år)	Investering (milj kr)	Investeringlivslängd (kr/*renat kg P*)	Drift (tkr/år)
Åtgärd 6	240	20-74	4 200- 15 400	45
Åtgärd 7	96	5	2 600- 2 300	45
Åtgärd 8.1	80	*4,8 – 10,5*	3 000- 6 300	55
Åtgärd 8.2	12	2,3- 8,7	9 600- 36 300	45
Åtgärd 10	68	*5,2- 9,3*	3 800 – 6 800	55
Åtgärd 11	17	2,5- 8,4	6 900 – 23 300	45
Åtgärd 12	120	*10- 14,3*	4 200 – 6 000	55
~~Åtgärd 13~~	31	*7,3- 12,8*	11 800 – 20 700	55
Åtgärd 14	110	*4,7- 10,6*	2 100 – 4 800	55
Åtgärd 16	9	5-6,2	29 400 – 36 500	45
Åtgärd 17	19	3,9-18,8	10 300 – 49 500	45
Åtgärd 18b	300	12- 37,8	2 000 – 6 300	45
Åtgärd 20	18	1,9- 3,4	5 300 – 9 500	45
Åtgärd 21	12	1- 3,7	4 200 – 15 400	45
Åtgärd 24a	26	1,9- 2,8	3 700 – 5 400	45
Åtgärd 24b	7	2,1- 5,6	15 700- 41800	55

The map illustrates identified treatment sites and their estimated investment and maintenance cost.

Flooding

Background studies revealed that flooding and erosion have been persistent issues in the Riseberga catchment for decades. Despite previous reports and partial interventions, the problems remain largely unresolved.

Nature-based solutions

To explore how Nature-Based Solutions could address these challenges, Malmö commissioned a consultant study to identify potential NBS locations along the stream. The work began in Jägersro, an area currently under redevelopment, and later expanded to the rest of the catchment. Within the Jägersro detailed master plan, several of the proposed NBS measures—such as stream restoration, flood storage, and ecological enhancement—have already been discussed and integrated into planning documents now under public consultation.

The consultant's final deliverable will include maps showing proposed NBS sites and a technical report describing each intervention in more detail.

Map over part of the catchment area with suggested sites for NBS.

Hydraulic model

Although Malmö maintains detailed models for urban flooding, cloudbursts, and sea-level rise, it has lacked a hydraulic model for flowing water systems like the Riseberga Stream. Such a model is essential for assessing and prioritising future NBS interventions, estimating discharge and flow capacity, and evaluating flood risk mitigation potential.

In collaboration with the Technical Department and Malmö's utility company, the city procured a technical consultant to develop this hydraulic model, which is scheduled for completion by the end of 2025. Once finalised, an additional procurement will be initiated to engage an expert consultant to assess potential NBS scenarios and support the next phase of planning.

Legal considerations

Because the Riseberga Stream was historically drained for agriculture, it remains subject to an environmental permit managed by the agricultural drainage organisation. This legal framework must be addressed before implementing any measures that alter the stream's hydromorphology.

A workshop with colleagues from the Technical Department was held to clarify these legal prerequisites and the implications of modifying the existing permit. The situation is complex, involving multiple interests: the stream functions both as a stormwater recipient and as an ecologically significant habitat. Future interventions must therefore balance both roles.

Once Malmö determines which NBS measures to advance, it may be necessary to engage a legal consultant to review and potentially update the environmental permit under the Swedish Environmental Code to secure future implementation.

Lessons learned from planning:

- Reviewing older documents, analyses, and reports provides valuable historical context and reveals previous attempts and lessons.
- Mapping all ongoing processes within the catchment helps identify synergies and key stakeholders.
- A catchment-based approach requires broad participation and a shared vision among many actors.
- Legal constraints must be considered early, as permit revisions can be time-consuming.

KPIs

- Recommendations for future NBS
- Development of a hydraulic model
- Integration of the development of Riseberga stream catchment area into the technical departments operational planning

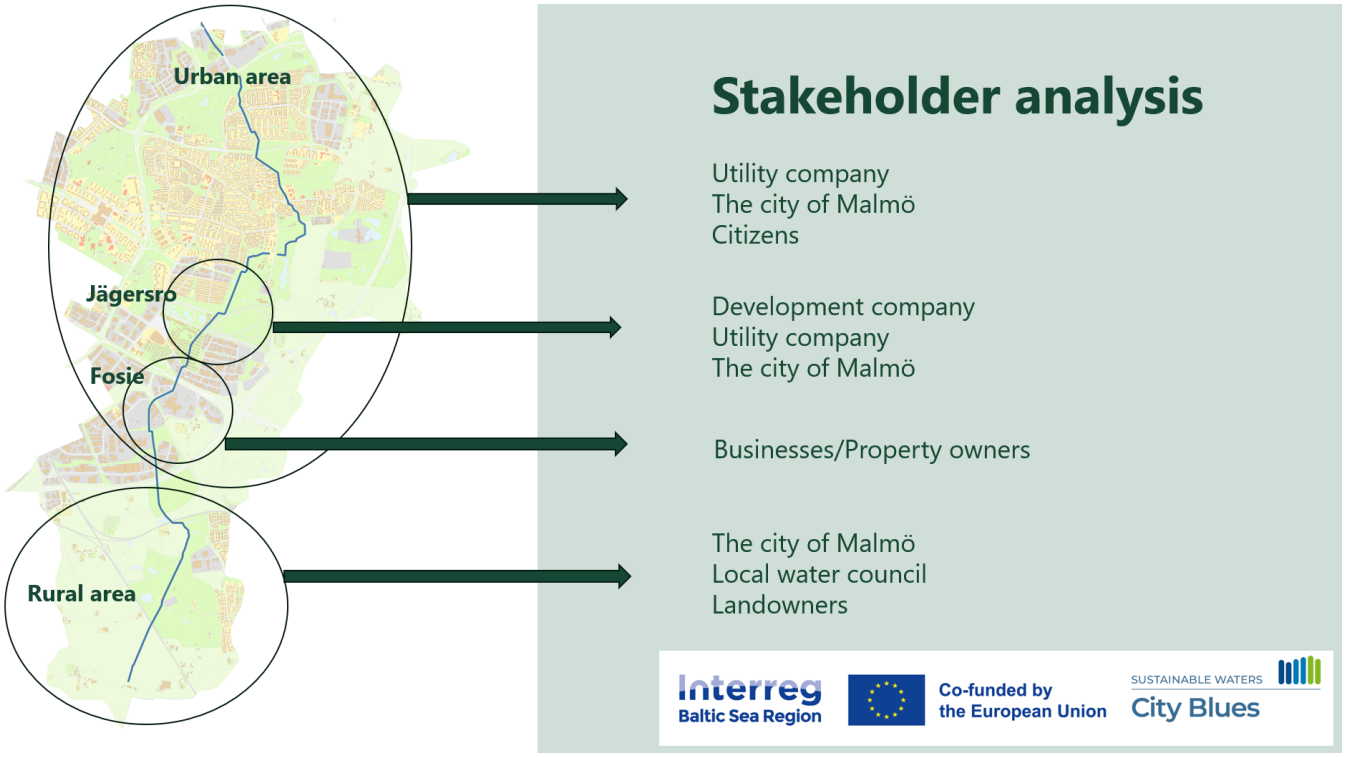
2. Construction phase

The Malmö pilot does not include any direct construction or physical implementation. Instead, the project focuses entirely on planning, analysis, and strategic preparation for future Nature-Based Solutions.

The objective is to produce a comprehensive development plan that identifies suitable NBS sites, supports future decision-making, and ensures that the groundwork for later implementation is robust and well-informed.

3. Citizen and stakeholder engagement

Given the broad scope of the Riseberga catchment, stakeholder engagement is a cornerstone of the Malmö pilot. A stakeholder analysis was conducted early in the project to prioritize engagement and focus resources where they would have the greatest impact. The catchment has a quite distinct boarder between urban and rural area with significant differences, requiring tailored engagement strategies. Although the rural area is included, the urban context was prioritised due to its higher population density and more acute stormwater challenges.



The picture illustrates the result of the stakeholder analysis

Through the stakeholder analysis Malmö identified three key forms of stakeholder interaction:

1. Collaboration and coordination

   Building long-term cooperation with internal departments and strategic partners such as the utility company to ensure acceptance and continuity of pilot outcomes.

2. Input

   Gathering local knowledge and insights from citizens and community groups to ensure that future NBS are socially acceptable and reflect real user needs.

3. Influence and knowledge dissemination

   Engaging property owners, developers, and businesses to encourage voluntary actions on private land, since public land alone cannot accommodate all necessary measures.

Stakeholder events

Collaboration and coordination

- *Dialogue with utility company and city departments*

Effective collaboration between municipal departments and the utility company is crucial for integrating the pilot's outcomes into long-term planning. These actors play key roles in urban development, stormwater management, environmental issues and the operation of the agricultural drainage organisation responsible for maintaining the Riseberga Stream and its environmental permit.

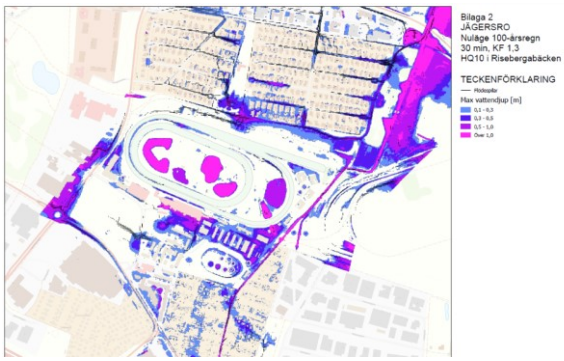
Throughout the pilot, numerous joint meetings, field visits, and dialogues were held to align objectives, share analyses, and coordinate consultant work. New ideas to explore and knowledge gaps to address have been identified and the pilot served as a catalyst for stronger collaboration, resulting in the creation of a new strategic water group composed of city and utility representatives. While the initial focus is on the Riseberga catchment, this structure will later expand to include other catchments across Malmö, ensuring continuity beyond the project's lifetime.

- Dialogue with development company

Jägersro is an urban development area, developing a former horse racetrack into a new residential area. The land is privately owned by a development company, while the city is responsible for producing a detailed master plan. The Riseberga stream runs through the east parts of the area and is in its current state a straight and deep ditch with steep slopes, offering limited recreational or ecological value and presenting persistent flooding and erosion problems.

Prior to the pilot, planning discussions primarily treated the stream as a stormwater recipient, focusing on hydraulic performance rather than ecological or social value. Thanks to the City Blues pilot, the status and restoration potential of the stream were brought into the conversation. Both the city and the developer share strong sustainability ambitions, and their collaboration has led to the inclusion of stream restoration, recreational pathways, and flood management elements in the Jägersro master plan, now under public consultation.

The challenge has been to balance multiple spatial requirements, stormwater management, ecological restoration, and public access, within a constrained urban layout. Nevertheless, integrating these features into the official planning documents represents a significant step toward future implementation and sets a precedent for similar projects.



Current state of the stream in Jägerso and a mapover a rain event with a 100-year return period.

Input and feedback

- *Citizen engagement*

Engaging citizens in an early planning stage, when specific interventions are not yet defined, focuses on understanding local perceptions, experiences and aspirations. While citizen engagement can be resource-intensive, Malmö sought an approach that was both informative and participatory. The city organised a family-friendly event in partnership with three NGOs, the Local Water Board, the Swedish Society for Nature Conservation, and the Swedish Anglers' Association. Each organisation hosted an educational activity, and the city coordinated logistics and communication.

Around 60 residents of different ages, backgrounds, and genders attended the two-hour event. Participants learned about the City Blues project, explored aquatic life in the stream, and completed a brief survey where they were asked what they appreciate about the area, how they use it, and what they feel is missing.

The chosen stretch of the stream was easily accessible and retained more natural hydrology than other sections. Feedback showed that residents value the stream as part of their daily routines—walking dogs, playing with children, observing wildlife, or simply enjoying the scenery. Most were satisfied with the site's recreational value but expressed concern about water quality. The stream engage people and restoring sites adds to an areas attractiveness.

The event was viewed as a success by all partners, fostering enthusiasm to make it an annual activity and to develop the area into a "learning site" with educational signage, benches, and support for school and community use. The feasibility of this idea will be explored further.

Photos from the citizen engagement activity

Input and knowledge dissemination

- *Engaging businesses and property owners*

Under Swedish law, property owners are responsible for protecting their own land from climate-related risks. The city cannot implement measures that solely benefit private property, making private participation essential.

The Riseberga catchment includes a large industrial area with significant impermeable surfaces, generating both stormwater and pollutants. Businesses in this area were identified as key actors capable of implementing on-site NBS to reduce runoff and improve water quality.

The city reached out to the local business association, which represents companies within the industrial zone, to propose a collaborative event. Together they developed a programme focused on climate adaptation and water management, as well as updates on the Jägersro master plan. The event aims to inspire and educate business owners about sustainable practices while collecting their perspectives on challenges and opportunities.

Although the event was planned during the reporting period, it had not yet been held at the time of writing.

Fosieby företagsgrupp och Malmö stad bjuder in till ett lunchföredrag om hur vi tillsammans kan göra Malmö mer robust och anpassad till ett förändrat klimat. Vi pratar också om vilka effekter den fördjupade översiktsplanen för Jägersro får för Fosie.

Program

- Hej och välkomna
- Ett förändrat klimat – översvämningar och dagvattenhantering, Malmö stad och VA Syd
- Exempel på åtgärdsarbete, Segeåns vattenråd
- Fördjupad översiktsplan för Jägersro, Malmö stad

Malmö stad stannar kvar till 13.30 för den som vill ställa frågor och diskutera vidare.
👉 Anmäl dig här

Varmt välkommen!
Fosieby företagsgrupp & Malmö stad

Lunchföredraget arrangeras inom projektet City Blues som medfinansieras av EU.

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Invitation sent out to businesses and property owners in the area.

Lessons learned:

- It is impossible to engage every stakeholder in a large catchment. A prioritised stakeholder analysis helps focus efforts effectively.
- Different stakeholder groups require tailored communication and engagement formats.
- Collaboration with key organisations amplifies outreach and creates mutual benefits—each partner reaches wider audiences and builds lasting relationships.
- Feedback from stakeholder events gives valuable input and can be integrated into city planning and decision-making processes.

KPI

- Identification and prioritisation of key stakeholders.
- Number of participants in engagement events
- Feedback from participants

4. Risk management

The City of Malmö has assessed a wide range of climate risks city-wide, forming a strong foundation for climate adaptation work and for this pilot. Combined with real-time observations of recent extreme weather events, the risks facing both the city today and under future climate scenarios are well understood.

Because the Malmö pilot focuses on planning rather than construction, a formal risk management plan for implementation was not required at this stage. However, the pilot highlighted a significant gap in risk modelling, the lack of a dedicated hydraulic model for the Riseberga Stream. In addition, existing tools do not currently integrate flow from the catchment, sea-level rise, and rainfall into combined assessments—something that is increasingly important as climate risks interact. Another identified gap in risk management relates to water quality and the lack of clear routines within the city's environmental supervision regarding discharge of environmentally hazardous substances to the stream. This has not been addressed by City Blues yet but might be under 2026.

Modeling process in the City of Malmö

Malmö has a long history of modelling various climate-related hazards, including:

- Pluvial flooding from heavy rainfall and cloudbursts
- Coastal flooding due to sea-level rise and storm surges
- Urban heat risks from prolonged heatwaves

For urban development projects, detailed flood modelling is mandatory to ensure that new areas are protected up to a 100-year rainfall event, including a climate safety margin. For coastal districts, modelling includes storm floods up to a 200-year return period.

In Malmö mainly three tools are used for analyses:

Tool	Purpose	Notes
Municipal GIS platform	Displays results of city-wide flooding models	Shows maximum water levels during simulation
Scalgo Live	Maps topography, low points, and flow paths	Does not account for drainage system capacity or infiltration
MIKE+ (detailed hydraulic modelling)	Simulates flow, volume, and water levels through sewer system and landscape	Allows adjustments to infiltration and drainage parameters

Depending on the project, different tools and detail of modeling is needed. Scalgo is commonly used for smaller development areas or road reconstruction projects to ensure changes do not worsen flood risk. Mike+ is used for bigger and more complex analyses, creating 3D representations to model current and future flow conditions, including the effects of new stormwater measures

Modeling climate risk in the pilot area

The Riseberga catchment area is included in Malmö's existing city-wide pluvial flood model, and detailed cloudburst models are available for some key districts, such as Jägersro. Additional studies, including ecosystem services assessments and habitat mapping, have also been conducted in parts of the catchment.

However, since the city lacked a hydraulic model of the stream itself, it has been difficult to evaluate:

- The capacity of the stream to convey stormwater
- How different NBS options affect flow, discharge, and flood reduction
- The hydromorphological effects of proposed interventions
- Adaptive measures required to secure the stream's environmental permit under the Swedish Environmental Code

To resolve this, Malmö has commissioned a new hydraulic model for the Riseberga Stream, developed within the City Blues pilot. Once completed, the model will be combined with the city's wider modelling tools to enable integrated flood- and climate risk assessments and evaluation and prioritisation of proposed NBS. This modelling foundation is a critical step toward transitioning from planning to actual implementation in the coming years

5. Maintenance, monitoring, and retirement plans

In Malmö, the maintenance of Nature-Based Solutions (NBS) is integrated into the city's standard routines for managing green and blue infrastructure. Responsibilities are shared between the municipal departments and the utility company, depending on function and ownership.

For example the utility company maintains the *hydraulic function* of stormwater facilities , including inlets, outlets, slopes, and water areas. The city manages *the surrounding landscape*, such as park areas, vegetation, and public amenities located above the slopes.

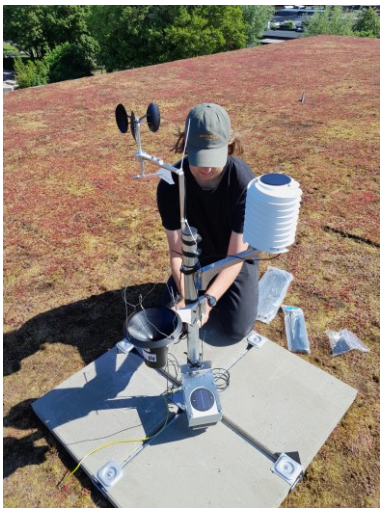
Parks, playgrounds or other facilities designed to temporarily store or redirect stormwater during heavy rainfall are maintained by the city as part of its regular green infrastructure program.

Facility functionality (e.g., inlets and outlets) is visually inspected annually or upon reports of malfunction. Vegetation management occurs regularly during the growing season.

Currently, biodiversity and social values are not monitored explicitly as part of NBS maintenance, but Malmö operates city-wide monitoring for selected indicator species. Water quality monitoring is generally limited to natural recipients rather than individual stormwater ponds.

Monitoring campaign for the pilot

As part of the pilot, Malmö collaborated with KWB (Kompetenzzentrum Wasser Berlin), the utility company, and city staff to test innovative monitoring approaches at selected existing NBS sites within the Riseberga catchment.



Three pilot sites were chosen for sensor-based monitoring, drone surveys, and digital inspection forms during the summer of 2025. In June, a weather station was installed on a nearby rooftop, and drones and sensors were deployed for data collection.

However, the campaign faced several challenges, resulting in fewer flights and less data collection than expected. Because of last minute changes (original site was too close to a police station) the sensors were no longer in the same position as the flight area making the data not as relevant. The manual inspection protocol was used alongside drone flights, but drone imagery is still pending official approval for use.

Key challenges encountered:

- Authorization delays:

  The drones used in the campaign differed from those Malmö previously operated, requiring new authorization from Lantmäteriet (the Swedish mapping, cadastral, and land registration authority). Processing delay due to summer holidays affected the timeline.

- Weather limitations:

  Malmö is known for its windy conditions, which constrained flight opportunities. Adjustments to KWB's original flight parameters were necessary, potentially influencing analytical consistency.

- Distribution permissions:

  Under Swedish law, drone imagery must receive distribution approval from Lantmäteriet before it can be shared or published. The process can take up to 90 days, delaying feedback and analysis.

- Privacy restrictions:

  Regulations prohibit capturing identifiable individuals without consent, making flights over populated areas more complex.

Despite these challenges, the campaign was valuable for building interdepartmental experience and technical capacity. It also inspired plans for a citywide knowledge exchange platform where departments using or interested in drones can share lessons and best practices.

Furthermore, Malmö leveraged synergies with another EU project, NBS+ (funded by Biodiversa+), which also focuses on the Riseberga Stream. That project is conducting biodiversity assessments using nematode and lichen sampling, along with citizen science activities to study how residents use existing NBS. The results can also provide valuable input for the Riseberga catchment development plan.

Lessons learned:

- The campaign fostered collaboration across departments and built new technical skills
- Even with prior preparation, Swedish regulations for drone operations proved difficult to navigate.
- Starting earlier would have allowed regulatory issues to be resolved before staff vacations.
- Combining expertise and aligning efforts across projects (e.g., City Blues and NBS+) maximises efficiency and output.
- Despite operational setbacks, the pilot demonstrated the value of cross-departmental learning and coordination in environmental monitoring.

6. Pilot investments

The Malmö pilot did not include the implementation of any physical solutions; therefore, no direct investments were made during the project. The focus has been on strategic planning, analysis, and capacity building—laying the groundwork for future investment in Nature-Based Solutions (NBS).

Reports, consultant analyses, and data collection funded through the City Blues project have filled crucial knowledge gaps and now serve as the evidence base for decision-making in the city's future water management and planning processes.

If Malmö's decision-makers move forward with implementation after the project concludes, it will confirm that the analyses, documentation, and partnerships developed through City Blues have provided a sufficient foundation for investment and long-term action.

7. Governance model of NBS in Malmö

Malmö is a dense low-lying city surrounded by agricultural land in one end and the sea in the other. Urbanisation and densification make it a pressing issue securing space for urban green and blue values—both above and below ground. In dense urban areas, competition for space is high, with underground infrastructure such as utilities, sewage systems, and transport networks often restricting the planting of trees and other vegetation and constructing wetland and ponds. Simultaneously, above-ground constraints, such as limited public space and expensive land, further complicate large-scale efforts and water management.

Despite these constraints, Malmö maintains strong political ambitions to be a green city that leads the climate transition and are resilient to climate change. The political objectives are reflected throughout the city's strategic documents.

Malmö's journey with sustainable stormwater management began in the early 1990s, when the city pioneered the use of open stormwater systems and recognised stormwater as a valuable resource. Since then, numerous innovative projects and demonstration sites have been developed across the city.

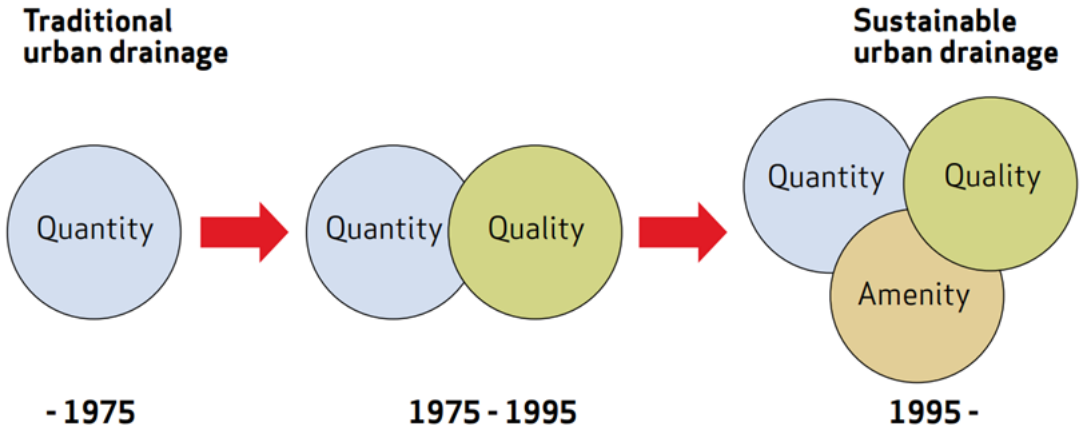


Illustration from the report blue-green fingerprints in the city of Malmö, showing Malmö's journey with sustainable stormwater management.

The city is responsible for urban planning, while the utility company manages stormwater. In new development areas, the city and utility company jointly made sure measures such as swales, retention ponds, and constructed wetlands have become standard practice. However, in existing urban areas, retrofitting old, pipe-based drainage systems into NBS remains a significant challenge due to limited space and conflicting land uses. While there are examples of successful retrofits elsewhere in Malmö, none currently exist within the Riseberga catchment, making the pilot's strategic planning particularly relevant.

Legislation

Legislation plays a crucial role in shaping Malmö's governance model for climate adaptation and green-blue infrastructure, although Swedish law currently lacks direct regulations specifically governing NBS.

- The Swedish Planning and Building Act mandates climate adaptation in urban planning. While it indirectly encourages NBS by promoting stormwater retention and risk reduction, it does not specify or require particular solution types.
- The Swedish Environmental Code protects existing natural values but generally does not promote the creation of new ecosystems unless as compensation for environmental impacts. The EU Water Framework Directive (WFD) is integrated into this legal framework.
- The emerging EU Nature Restoration Regulation is expected to introduce stronger requirements for green and blue infrastructure in cities, potentially providing new legal and policy drivers for implementing NBS.

Together, these frameworks provide a supportive foundation for Malmö's work on sustainable stormwater management, climate adaptation and catchment-based planning. The City Blues pilot contributes to this progress by developing practical methodologies and strategic tools that can align with national and EU legislation.