

# Co-governance and co-creative working methods for improved waters



Results and learnings from the Water Co-Governance project in Sweden



Swedish Agency  
for Marine and  
Water Management

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## Results and learnings from the Water Co-Governance project in Sweden

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This report was produced on behalf of the Swedish Agency for Marine and Water Management and the Skagerrak and Kattegatt Water District Authority within the project Water Co-Governance for sustainable ecosystems. The author is responsible for the content and the conclusions of the report. The content of the report does not imply a position from the public authorities mentioned above.

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ISBN: 978-91-89329-19-5 Cover photo: All photos by Peter Nolbrant unless states otherwise.

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## Preface

The EU Water Framework Directive contains rules to protect and improve water quality in the EU. The Water Framework Directive emphasises the importance of collaboration and involvement among stakeholders at all levels. The directive also emphasises the need for access to information and public hearings. The Water Co-Governance project is a collaboration that includes the Swedish Agency for Marine and Water Management (SwAM), the Skagerrak and Kattegatt Water District Authority (SKWDA) and the Mölndalsån, Himleån and Ätran water councils and aims to investigate how local involvement in water issues can be increased. One of the many lessons learned from the project is that local anchoring increases the quality of measures and facilitates implementation.

The road to an ecologically sound aquatic environment demands decisive action. The lessons learned from practical experience are essential when developing grant forms and policy instruments. The report shows that the impact of forums and time reserved for collaboration should not be underestimated. On the contrary, it is only when we fully utilise the unique expertise of all parties involved that the best solutions are developed. This is a lesson we need to consider and apply together, based on our different responsibilities and roles, and a lesson that also needs to be disseminated to others. The conclusions that emerged from the project are that the water councils, which are already an important forum for many local actors, should be better utilised and developed into the type of forum that is needed. Authorities and municipalities, which currently have more clearly defined responsibilities and roles than the water councils, need to take action to support broader efforts with a greater emphasis on the local level.

The Swedish Agency for Marine and Water Management (SwAM) and the water district authorities share a great responsibility to coordinate and implement the work of achieving our goals for the aquatic environment. There are currently a number of active initiatives involving work in pilot areas and increased learning at the local level. In this respect, the Water Co-Governance project has contributed to a greater understanding of the importance of local anchoring in the concrete work to implement effective measures.

We would sincerely like to thank all of those who have been involved in the project; the lessons we have learned will now serve to benefit our future work and society as a whole.

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## Summary

Water Co-Governance (WaterCoG) is an Interreg EU project in which the UK, Germany, the Netherlands, Denmark and Sweden participated from 2016 to 2020. Each participating country has implemented pilot projects to investigate how to best increase local *participation* and *collaboration* to improve aquatic environments. This report is about the project work carried out within Sweden. The pilot projects in Sweden have been carried out by three water councils, who have independently defined problems while developing visions and work areas. The councils have approached this work differently and looked at different questions/issues. As a result, the projects cover a wide range of areas and work practices. The project has included a number of different people, organisations, meetings, networks and sub-projects. This has revealed a number of recurring patterns, which are highlighted in the report:

**There is a tremendous degree of involvement** in the pilot groups and a clear desire to work cooperatively to increase knowledge and identify solutions. The level of involvement around a particular place, where people live or own land, is particularly evident. There is often a desire to include more people in the groups and create a climate where everyone can have their say. Groups that contain this kind of diversity offer a broader knowledge base and a variety of perspectives. The level of confidence within the groups gradually increases when participants learn from each other and see the results of what they can create together.

**Issues relating to water** are often expanded to include the environment and biodiversity, both in aquatic environments and terrestrial environments. Issues raised also relate to sustainable use through agriculture, forestry and electricity production. Ecosystem services, such as the province's water level management, water purification and access to recreation and learning, are also relevant. The groups often emphasise the connection to the cultural heritage around water. Another important issue highlighted in the groups is local influence. Collaboration and participation on issues relating to water will therefore be a starting point for sustainable development and democratic development.

**There is a need for forums that transcend borders** between different groups and stakeholders, between authorities and the local community – including landowners, businesses and residents. These forums are needed to facilitate collaboration, to develop a holistic view and to identify new, creative solutions. The water councils are clearly already functioning as forums, but they also have tremendous potential to be developed further.

**Water councils need access to an increased number of stable platforms with greater continuity.** This needs to be carried out, for example, through long-term funding, by creating time for meetings and by increasing the visibility of the water councils so they can secure a more clearly defined role. It is also important adopt work practices or tools that help create a climate characterised by listening, dialogue

and openness where individuals can participate on equal terms and where no individual stakeholders or persons take precedence.

**A lack of time among participants and need for coordinators** are issues that are repeatedly highlighted. Someone needs to handle invitations, summarise notes, prepare meetings, submit applications for funding and provide continuity. Compensation may also need to be arranged for individuals who set aside working hours to attend water council meetings.

**The importance of networking and communication is clear.** The forums that the water councils create are a part of, and have an important role in, the cooperative networks of, for example, landowners, businesses, schools, local householder's associations, consultants, associations and authorities. For networks to function effectively, communication is key. When problems arise, it is often due to a lack of communication. Effective communication is clear, easy to understand and based on dialogue instead of one-way communication.

**The project has yielded many results.** Around 650 people have participated in a variety of ways. Significantly more people have been informed about the work in the project. Over 20 sub-projects have been developed within the three water councils. Grant applications and grants awarded for various projects amount to SEK 6.6 million. There is a significant increase in invested funds. For the funding the water authority has allocated to support the water councils, including the grant received through Water Co-Governance, twelve times as much money has flowed in through, for example, approved applications for other grants. To this we can add all the hours allocated on a voluntary basis or within the framework of an individual's employment for municipal officials or private employees who work with water issues as part of their position.

This work has yielded a number of results, including inventories, water sampling, information materials and education/training. A variety of measures have been implemented, such as the opening up of fish migration routes, restoration of biotopes in watercourses, construction of wetlands, structural liming of fields, decontamination of environmentally hazardous waste, controlling stormwater discharge and saving dead wood and trees by watercourses. This strengthens ecosystem services, such as food production, water purification, water retention landscapes, drinking water, biodiversity, pollination and recreation.

**Measures have often been implemented** on the initiative of individual landowners, but increased local collaboration in applying for funding and the implementation of measures has been highlighted as an important aspect. Through the forums created by local water groups and water councils during the project period, networks have formed consisting of landowners, consultants, authorities and water council members, which have contributed to the initiation of measures.

**The exchange of knowledge** that has occurred thanks to the forums and dialogue between people with different interests and backgrounds has added new

perspectives while increasing interest and knowledge about water issues and the activities of other participants. The river walks have been an especially positive development, where participants are able to explore the natural environment together. The walks have helped build relationships, both with the natural environments and each other, which provides a source of inspiration and increased knowledge.

**Municipalities, authorities and the state need to support**, facilitate and understand the value of these forums for participation and collaboration. This may include recognising the water councils and the local community as a major resource that is able to engage with issues, such as community planning, at an early stage. It could also mean that the state significantly increases long-term funding and strives to avoid rapid changes in grants and rules. Sudden cuts to funding or short-term increases creates a risk of reduced quality, inefficiency and stress. Administrative hurdles should also be reduced, for example, by establishing long-term grant rules, simplifying grant and procurement rules and reducing micromanagement. There is also a need for increased collaboration within and between authorities by allocating more time for internal collaboration and dialogue, with broader competence. By ensuring better collaboration at all levels, the work is likely to become more efficient, creative and sustainable.

**The effort is a long-term learning process**, which makes it essential that structures are created to allow knowledge to be carried over, rather than starting from scratch in new projects. This will also contribute to the creation of context and meaningfulness, which is a key to the willingness to participate.

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## Introduction

### Purpose of the project and the report

The EU Water Framework Directive of 2000 emphasises the importance of local participation by landowners, business, associations and residents in the work to ensure clean water and living aquatic environments. The question at hand is what the local *participation* and *collaboration* that is called for in the directive means in practice and how the measures to achieve the goals through collaboration should be increased.

Water Co-Governance is an EU Interreg project for the North Sea Region between 2016 and 2020. The project aims to answer the above questions through local pilot projects in Denmark, Germany, the Netherlands, the United Kingdom and Sweden. In Sweden, the Swedish Agency for Marine and Water Management's (SwAM) and the Skagerrak and Kattegatt Water District Authority (SKWDA) have participated. The local pilot projects in Sweden have been carried out in the water councils for Mölndalsån, Himleån and Ätran.

### Report layout

The report contains results from the Swedish pilot projects. It begins with a background on water, the Water Framework Directive and participation. The results of the pilot have generated a number of ideas about how to move forward and what needs to be done. The proposed changes that are needed to realise the potential identified in the projects are presented at the end of the report.

The report is intended for anyone who works with water in some capacity, including those in water councils, authorities, politicians, associations and businesses, as well as landowners. The questions and issues presented are universal and are also vital for other areas that do not directly relate to water issues.

To assist with the pilot projects, a resource person has been assigned who participated throughout the project and who is also an author of this report. A participant observer with an outsider perspective has also followed the project to evaluate the work. For those who would like to read more in depth, reference is made to two other reports (in Swedish) that have been done within Water Co-Governance (Prutzer, 2020; Prutzer & Soneryd, 2016). All Swedish reports are available on the Swedish Agency for Marine and Water Management's (SwAM) website <https://www.havochvatten.se/water-co-governance> . Information on the pilot projects from other countries is available on the International Water Co-Governance website <https://northsearegion.eu/watercog/>.

## **Thank you to everyone who participated**

We are especially grateful to all those who participated in the work. We would especially like to thank the many people involved in the water councils and water groups who have contributed to this effort and all of those who have shared their thoughts and ideas. The experiences and reflections you shared are the prerequisite for results that we can learn from and carry with us in our future work.

## Background

### Water – the source of life

All living things are dependent on water. We humans are 70 percent water, and we cannot survive for more than just a few days without it. Natural ecosystems provide us with clean water, a hospitable atmosphere and fertile soils. These ecosystem services are essential for our health, economy and our very survival. Threats to the planet's ecosystems have increasingly come into focus: global warming, environmental toxins, trash, destroyed biotopes, overfishing, eutrophication, acidification, etc. The loss of biodiversity is now considered one of the biggest environmental problems we face today. Since access to clean water is a priority issue and more comprehensive EU legislation was needed, the Water Framework Directive was introduced in 2000. Twenty years later, we can now see that there is still more work to be done to achieve the directive's aims of better water and increased local participation.

#### Infobox 1

**Catchment area:** Water that falls as precipitation over a certain area of land will eventually collect in a place like a river, a lake or an ocean. The entire area upstream is the catchment area of this body of water.

**Biodiversity:** The diversity of organisms, species, and populations and the genetic variation among these. There are about 60,000 known species in Sweden and a total of 1.2 million species known on earth. The real number is likely around ten million species. Most have yet to be discovered.

**Biotope:** A special habitat such as a river, stream, lake, meadow or spruce forest.

**Ecosystem:** A geographic area where species live together in a complex system including the water, weather and soil.

**Ecosystem service:** Healthy ecosystems provides us with services and products, including oxygen, clean water, climate regulation, water regulation, food, materials, medicines and recreation.

### The catchment area provides a holistic view

Water does not observe municipal or national boundaries. The Water Framework Directive therefore emphasises the need for a holistic approach based on collaboration within each catchment area. Europe is divided into water districts, which follow the boundaries of different catchment areas. Sweden is divided into five water districts, each with its own water authority that is tasked with coordination and

support in the implementation of the Water Framework Directive at the regional and local level. Sweden is divided further into 119 main catchment areas (Fig. 1, Infobox 1).

The Water Framework Directive is based on a holistic view of water and the landscape. It therefore has an impact on lakes, watercourses, floodplains, coastal waters and groundwater. Everything that happens in the catchment area ultimately has an impact on water and the aquatic environment. Work that concerns water therefore needs to have a holistic perspective, where sectors that work with, for example, agriculture, forestry, planning, transport, water and sewage, hydropower and industry take an active role, as well as individual households. This concerns decisions made at all levels, from the Riksdag to the municipal councils. The number of actors involved makes work with water issues complex and requires a broad level of participation that involves different competencies, societal sectors and decision-making levels.

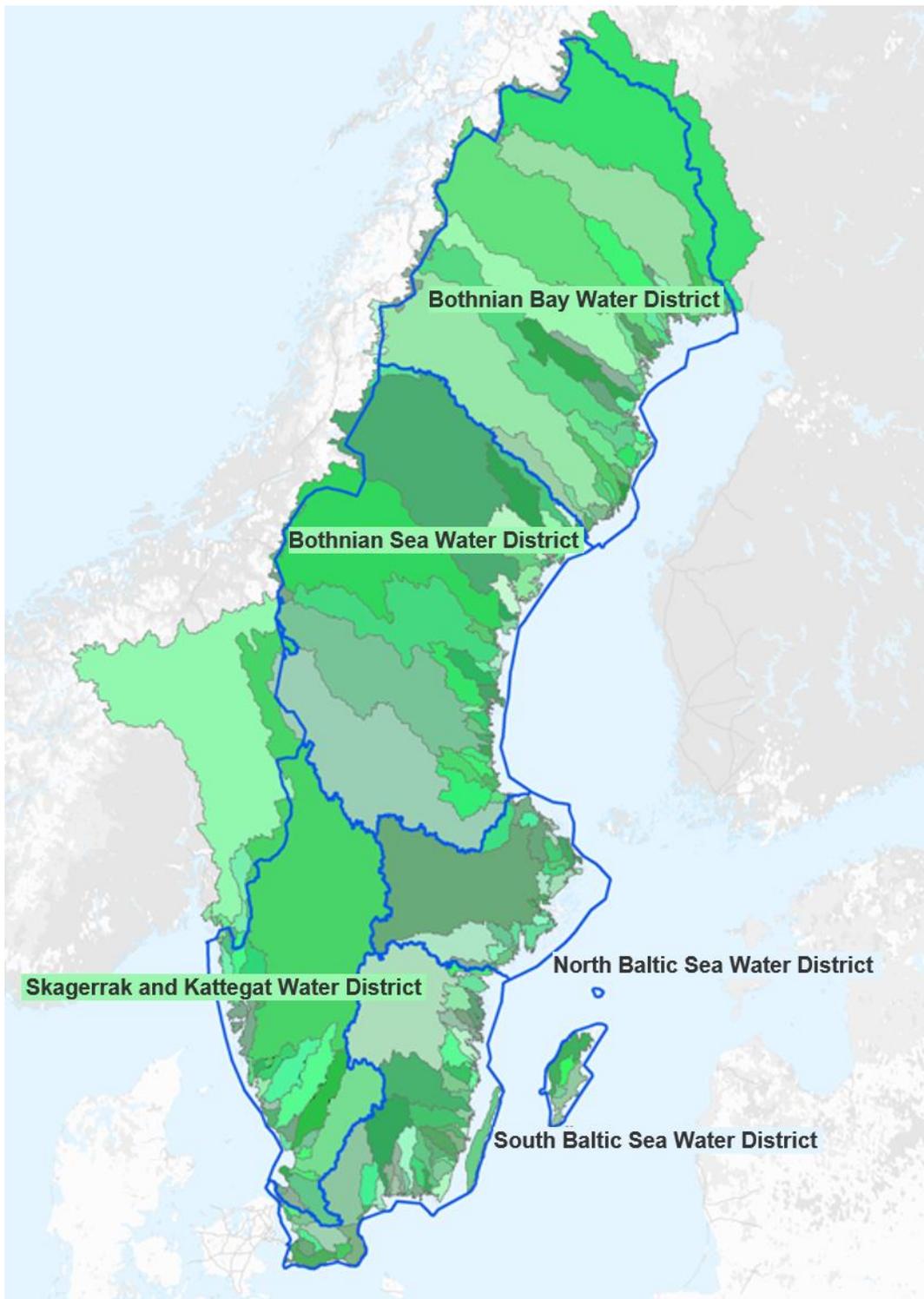


Figure 1. Sweden is divided into 119 main catchment areas which vary in size. Europe is divided into water districts, which follow the boundaries of the catchment areas. Sweden is divided into five such districts (Skagerrak and Kattegatt Water District Authority).

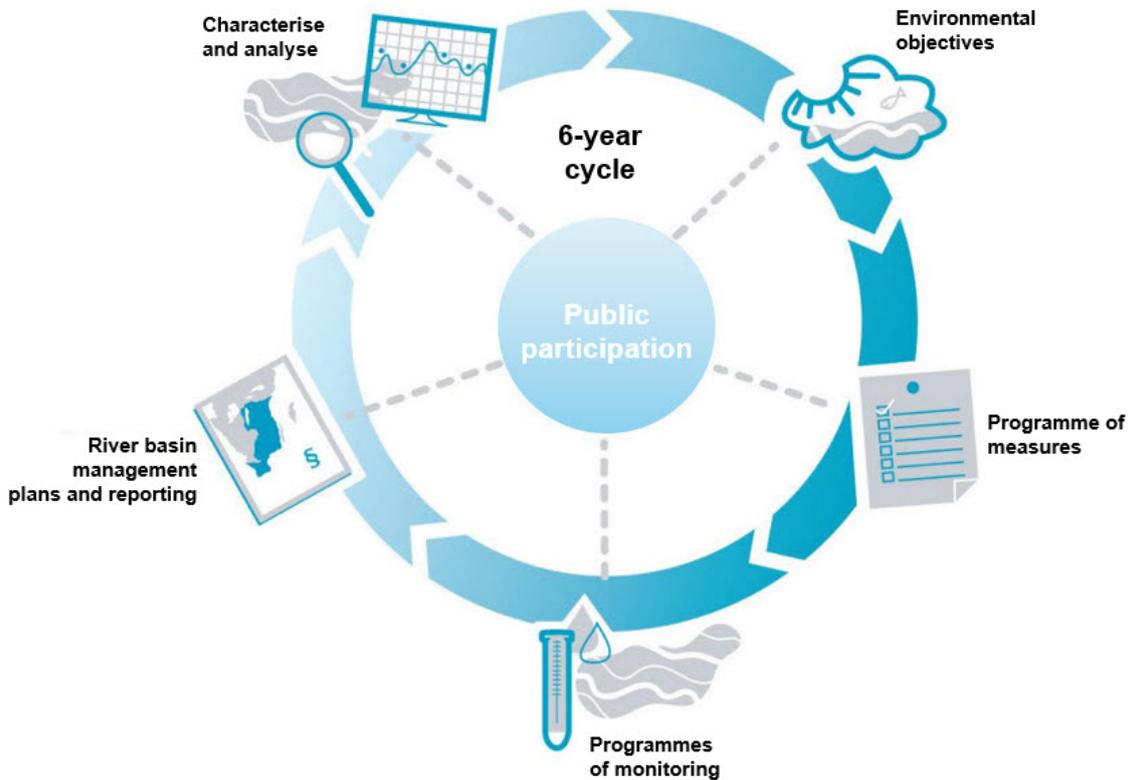


Figure 2. The six-year cycle for the water framework directive.

## The objective of the Water Framework Directive

The overall objective of the Water Framework Directive is to provide water protection to all waters, surface waters and groundwater; achieving “good status” for all waters (Infobox 2). There must also be no deterioration in the status of any waters. There are exceptions for certain waters, namely heavily modified waters bodies (HMWB), which are deemed to offer other high value for, for example, hydropower, and are of such significant public interest that it is not possible to achieve the objective of the directive.

The water authorities’ water management (administration) work takes place in a six-year cycle, where the permit (status) is reviewed, the environmental quality standards to be achieved are drawn up and programmes of measures are drawn up, as well as follow-up and reporting to the EU (Fig 2).

## Infobox 2

**Water Framework Directive:** The EU Water Framework Directive contains rules to protect and improve water quality in the EU. The Water Framework Directive stipulates that:

- Water quality must not be deteriorated.
- Aquatic environments affected by the directive shall be protected, improved and restored.
- All pollution caused by priority hazardous substances must cease and the drinking water supply must be ensured.
- Management within the catchment areas must lead to sustainable water consumption and the protection of aquatic environments.

**Ecological status:** Describes the condition of a particular stretch of a watercourse, lake or coastal area. In assessing the status of a body of water, plant and animal life, water chemistry and the appearance of the watercourse are examined. The status is assessed on a five-point scale (status classification): High, good, moderate, poor and bad. The goal is for all water bodies to achieve a minimum of good status. The status must also not deteriorate from, for example, high to good status. Groundwater is also assessed using this five-point scale.

**Environmental quality standards (EQS):** A bar for the quality of water that must be achieved for the status to be considered good. These are legally binding.

**Programme of measures:** Various measures aimed at municipalities, county administrative boards and other authorities in order to ensure the achievement of the objectives in the Water Framework Directive. The measures in the programme of measures are also legally binding.

**Consultation:** Status classifications, environmental quality standards and programmes of measures are sent out in order to obtain opinions from, for example, water councils.

## Participation and collaboration are essential

The Water Framework Directive requires that information be made available and that public hearings be held regarding the implementation of the directive. The Water Framework Directive also emphasises the importance of collaboration and involvement among stakeholders at all levels. For example, landowners on the local level hold a great deal of knowledge about the condition of aquatic environments, both in terms of the current condition and historical conditions. The local community is also a tremendous resource for ideas on how to make improvements. By making use of this knowledge and working in collaboration, we can create a more holistic understanding and develop better measures, greater acceptance and increased

sustainability. This point is emphasised in the wording used by the European Commission (Infobox 3). The Commission states that authorities may need to modify their working methods and attitudes in order to engage stakeholders in the decision-making process as well as during implementation. Authorities need to adopt an attitude where they are open to receiving knowledge, insights and solutions from all stakeholders.

In June of 1998, Sweden also signed on to the UN Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention). In order for information to be accessible, it must be open, disseminated and understandable to everyone.

### **Infobox 3**

**Article 14 of the Water Framework Directive:** Ultimately, the success of this Directive depends on close collaboration and collaboration at the Community, Member State and local level. It also requires the dissemination of information and public hearings, including users, as well as public participation.

**Guide (European Commission 2003, p. 52):** Sharing the management responsibility for natural resources with the people who depend on these resources for their livelihoods can help develop a form of management that is more sustainable, more efficient and less expensive, while increasing the likelihood of public acceptance.

This means that the competent regulatory authority may have to change its own organisational perspectives in terms of the value of engaging stakeholders in the decision-making process as well as during implementation. If the relevant authority takes a dominant stance, it can inhibit the participants. On the other hand, participants can be encouraged to engage when authorities are open to receiving knowledge, insights and solutions from all partners (stakeholders) in order to produce high quality catchment area management plans.

In order for those holding positions of power to adapt to an open-minded, non-domineering attitude, staffing changes may also be necessary. This presupposes that water administrators should be technical experts and process managers. Adopting an attitude that defines water issues first and foremost as a human issue rather than technical issues is a good way to start appreciating the perspectives of other stakeholders.

## **The national environmental objectives and global goals**

The work to implement the Water Framework Directive is a central part of achieving many of the 16 national environmental objectives established in Sweden. These were

adopted by the Riksdag in 1999, and there are essentially eight environmental objectives that are linked to the Water Framework Directive: *Flourishing lakes and streams, a balanced marine environment, flourishing coastal areas and archipelagos, good quality groundwater, thriving wetlands, zero eutrophication, a non-toxic environment, natural acidification only and a rich diversity of plant and animal life.* The environmental quality standards and the programme of measures within the water administration are important legally binding tools to ensure the achievement of Sweden's environmental objectives.

The global goals are also important international goals. These 17 sustainable development goals (SDGs) were adopted by the UN in 2015. The three goals that are most relevant to the Water Framework Directive are: *Clean water and sanitation, Life below water* as well as *Ecosystems, and Life on land.* Goals such as *Affordable and clean energy, Decent Work and economic growth, and Responsible consumption and production* also have a significant connection to the directive. In Sweden, the environmental objectives constitute the environmental side of sustainable development and are thus an important part of the Sweden's responsibility to meet the global SDGs.

When the follow-up of environmental objectives was carried out in 2019, it was determined that only one (or perhaps two) of the 16 national environmental objectives can be achieved in 2020. None of these concern water. Much more work remains to be done: additional resources and creativity are needed to achieve the objectives.

## **The organisational structure in Sweden**

The five water authorities have overall responsibility for the implementation of the Water Framework Directive, coordinating the work through the five water districts (Fig. 1), performing status classifications and drawing up proposals for environmental quality standards and programmes of measures. Status classifications for watercourses, lakes, groundwater and coastal waters, as well as proposals for measures can be found in the Water Information System (VISS), which is available on the web <https://viss.lansstyrelsen.se> .

The programmes of measures are intended for and are binding on municipalities, county administrative boards and state authorities. They will in turn implement measures through their operations as well as through supervision and advisory activities for operators in agriculture, forestry, industry and others.

To assist in this effort, the water authorities have a planning secretariat at each county administrative board that prepares a knowledge base and submits proposals.

Decisions on environmental quality standards and programmes of measures are made by the water delegations. Each water district has a water delegation which serves as the water authorities' decision-making body. The delegation consists of experts appointed by the state. The chair is the governor of the respective county.

The experts serve in their positions by virtue of their expertise, but must be appointed such that the delegation, when taken as a whole, has a broad degree of competence in both the areas of water and civil society.

The state authorities, the Swedish Agency for Marine and Water Management and the Geological Survey of Sweden, are authorised to issue regulations (rules that supplement the laws) concerning surface water and groundwater. These are also the authorities responsible for reporting to the EU regarding Sweden's compliance with the Water Framework Directive.

## **Water councils and other water organisations**

Many of the water councils were formed around 2007. A council is a voluntary form of collaboration for different catchment areas. The organisational structure and composition vary, but participants typically include representatives of municipalities, agriculture, forestry, hydropower, sport fishing and nature conservation. Often, there is also a contact person from the county administrative board. It is common for water councils to be organised as non-profit or economic associations with their own statutes, annual meetings and a board. There are also water councils that act more as informal networks. The water councils do not serve in the role of supervisory authority, but function as a link to the local community and a forum for local collaboration. The role and tasks a water council undertakes are not broadly defined, but have evolved differently according to local conditions, participants and stakeholders.

The water councils in the Västerhavet district receive an annual grant from the water authority and in return, they undertake to hold local collaboration meetings on the proposals for environmental quality standards, status classifications and action plans that the water authority proposes. Some water councils also charge membership fees and municipal service fees to create a budget that allows them to hire coordinators and cover fees and meeting costs. This, in turn, can make it possible for the council to apply for funding for various types of investigations and measures. The southern water districts currently have water councils in the vast majority of catchment areas. The northern parts of the country do not have as many water councils. Many catchment areas are quite large, especially in Norrland. This makes it difficult for a water council to get a good overview and to maintain a local anchorage to the different parts of the water system.

Additionally, there are a number of other older water organisations that have sometimes been reorganised into water councils or that act as water councils. A *Vattenvårdsförbund* (Water Quality Association) is a non-profit association with local chapters, some of which were formed around 1960. They generally include municipalities and industries that are required to carry out water sampling (recipient control) because they affect the aquatic environments through discharges from, for example, treatment plants and industrial processes. As it is more cost-effective to collaborate when performing sampling in the catchment area, water quality associations were formed, which originally carried out *coordinated recipient control*.

Some water councils have taken over this activity when the water quality associations were reorganised into water councils. The statutory recipient control differs from the water council's non-profit cooperative work.

A Vattenförbund (Water association) is another type of water organisation. These were formed in accordance with a law from 1976 in order to create collaboration on the clearing of watercourses, level regulation or other water measures adopted to ensure the appropriate utilisation of a body of water.

## **Objectives for the Water Co-Governance project**

Within Sweden, the project has investigated issues concerning *participation* and *collaboration* by following the practical work of three water councils between 2016 and 2020. The three water councils are the Mölndalsån, Himleån and Ätran water councils. There have been pilot projects carried out in each water council since that time. The same approach has been used in the other participating countries. Water Co-Governance should not be seen simply as a project but as part of a learning process. The water councils that participated in the project have been working with relevant issues long before Water Co-Governance was initiated and will continue the process after the conclusion of the project.

In Sweden, the following questions have been a focus of the work:

1. How can the implementation of measures to achieve good ecological status be increased?
2. How can we increase local participation and thereby implement Article 14 of the Water Framework Directive?
  - a. Can water councils take increased responsibility for water management (administration), and are they willing to do so?
  - b. Can authorities hand over corresponding responsibility to the water councils, and is this a desirable outcome?
3. What needs to be done to increase participation and implementation?  
Working models? Tools? Approaches? Organisation? Support? Guidance?
4. What role can the water councils play?

**Challenges and objectives from the international project description:**

By using ecosystem services as a starting point and new working methods for participation and co-management, a number of challenges can be solved at the same time, such as:

1. The need for growth, sustainable agriculture and forestry as well as renewable energy systems with biodiversity, good water quality, water supply and climate measures.
2. Greater integration and implementation of current EU directives in order to strengthen ecosystem services.
3. The need for working methods and tools that can be used in the North Sea Region to improve the quality of ecosystems.

**Overall goals:**

1. To increase the understanding of ecosystem services.
2. To develop new solutions to achieve the goals set for water-related ecosystem services.
3. To improve the integration of various EU directives.
4. To provide additional social, economic and environmental benefits.
5. To create a platform for disseminating effective working methods developed in the project to areas outside those affected by the pilot projects.

**Other goals:**

1. New solutions and approaches will be evaluated in the pilot projects.
2. A toolbox will be developed that can also be used outside the pilot projects.
3. Tools will be developed to promote the inclusion of more participants and organisations.
4. New approaches to participation will be investigated and integrated ecosystem views will be developed.

## **Participation – a word we keep coming back to**

In many societal contexts, the need for *collaboration* and a *holistic view* to create *long-term sustainable* solutions is seen as a must. Collaboration is dependent upon both a *willingness* and *opportunity* for *active participation* among organisations, businesses, landowners and residents. It also requires that authorities are actually willing to *provide conditions* for local participation.

The need for participation is raised in the work to address many other societal issues, such as citizen participation in community planning, rural development or the

management of nature reserves. It is also a prerequisite for work on sustainable development in accordance with UN Agenda 21 (from the UN Earth Summit in 1992) and Agenda 2030. The opportunity for participation and influence is also a fundamental need in public health work (SOU 2017:47). Participation forms the basis for the development and deepening of democracy (SOU 2016:5).

At the same time, society faces complex challenges that further reinforce the need for participation. Polarisation between groups, distrust of authorities and politics, short-sightedness, tunnel vision, stress and social, ecological and economic challenges are all things that highlight this need.

It is easy to talk about the importance of participation but more difficult to translate that sentiment into practical measures. If we are able to develop working methods that explicitly create participation, collaboration and a holistic view, we can solve several complex issues simultaneously without creating new problems and ensuring better quality outcomes.

#### Prerequisites for participation

A great deal of research has been done to examine the concept of participation. There has also been a great deal of discussion about different levels of participation in connection with citizen dialogues, where residents are engaged in community planning work. This has been visualised, for example, as a participation ladder (Fig. 3). Which step of the ladder is appropriate may depend on the situation and context as well as the local willingness to participate. The Water Framework Directive also describes different forms of participation, where the dissemination of information and consultation with all stakeholders must be ensured. In addition, active participation should be encouraged (Fig. 4).

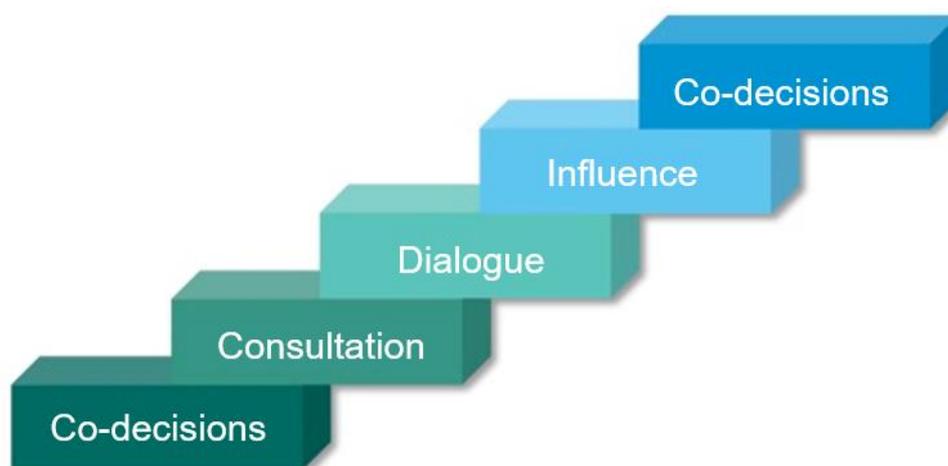


Figure 3. The participation ladder as interpreted from a version from the Swedish Association of Local Authorities and Regions (SALAR) 2011. For more information, also see Oliveira e Costa & Tunström 2018.

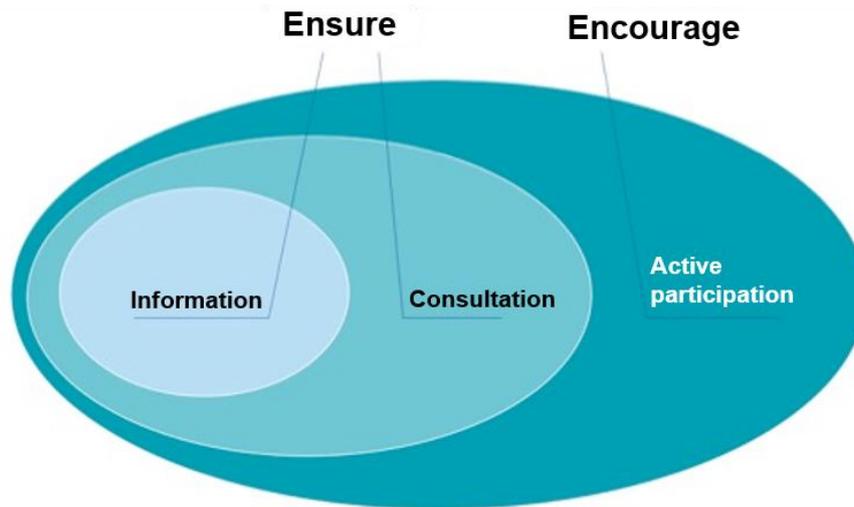


Figure 4. Different forms of participation described in the Water Framework Directive (see Jonsson 2005) (Illustration: Vattenmyndigheterna, S Kinberg).

A deeper kind of participation includes co-creation, where the participants are engaged and define the problems, while helping establish the process, objectives, results and follow-up (Abrahamsson 2015 and 2016).

Issues concerning water present complex societal challenges. These issues cannot be resolved through traditional planning practices alone. When facing complex challenges, a diverse array of actors and networks must be engaged right from the start to create an accurate picture of the issues at hand. Adaptable working methods are needed and should be developed gradually, and the right methods can look different from one place to the next.

Researchers have highlighted a few basic conditions for local participation: *access*, *space* and the ability to *influence* (Read more in Prutzer & Soneryd 2016). This requires clear structures and approaches. For example, participation may require an approach characterised by openness and listening that can create dialogue. A dialogue where individuals are invited to express themselves and participate on equal terms lays the foundation for *trust*, which can have a snowball effect and open the door to more dialogue and collaboration. This is essential for addressing particularly complex or difficult issues. It also requires context and the adoption of a *long-term perspective*, where authorities create the opportunity to influence processes, plans and decisions.

## The three water councils

The three water councils for Mölndalsån, Himleån and Ätran have participated by running pilot projects (Fig. 5). All three water councils are located within the Skagerrak and Kattegatt Water District Authority. Still, both the catchment areas and the water areas differ in a number of ways.

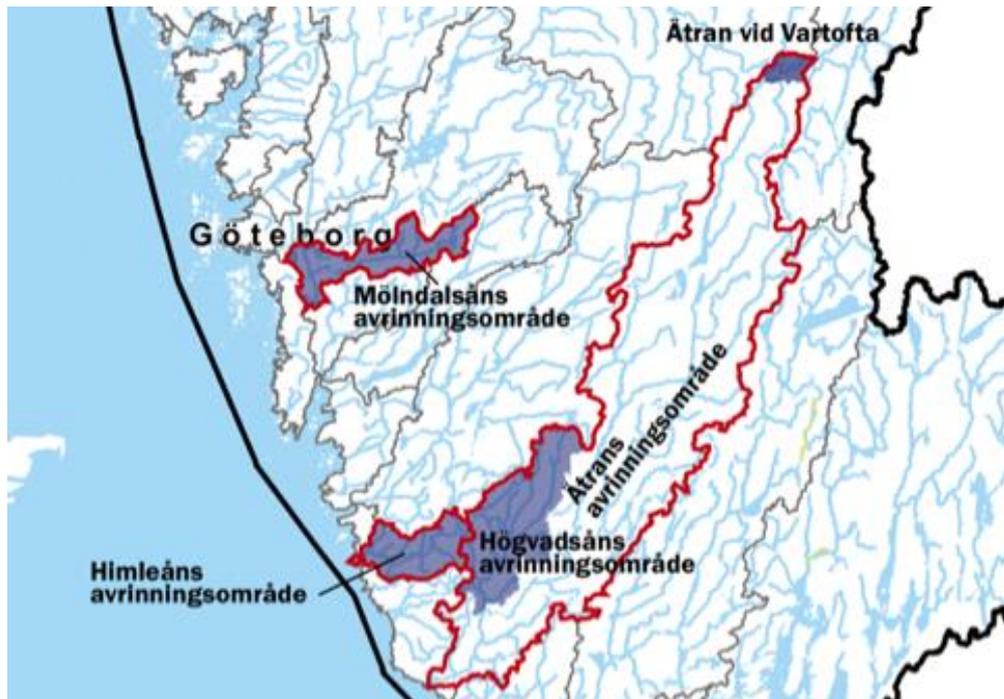


Figure 5. The three catchment areas and the two sub-catchments in the Ätran catchment area where the pilot projects have been carried out (Skagerrak and Kattegatt Water District Authority).

### Geography and nature value

The Himleån catchment area, the smallest of the three, has an area of 200 square kilometres and is 20 km in length, while the Ätran catchment area, which is the largest, has an area of 3,300 square kilometres and is 150 km in length.

Land use and topography also differ. The Mölndalsån catchment area is dominated by forest, predominately coniferous forest, while more than half of the Himleån consists of arable land (Fig. 6 and 7). Ätran's elongated catchment area varies widely in character. The sub-catchment at Vartofta in the north is completely dominated by agricultural land, while the hilly area around Högvadsån is dominated by forest (Fig. 8 and 9).

When it comes to urban environments, Mölndalsån stands out, as it flows into the densely populated areas of Mölndal and Gothenburg and passes through growing population centres such as Mönlycke and Landvetter. Landvetter Airport is also located in the area. Himleån and Ätran also flow through cities such as Varberg and Falkenberg.

All water systems have species such as Atlantic salmon and freshwater pearl mussels. Ätran is also home to the unique sea lamprey, and the endangered eel migrates up into all of the river systems. All water systems are home to valuable environments, both in the water and along the shores. These areas are home to nature reserves, due to their unique aquatic environments, as well as Natura 2000 areas (a network of protected areas covering Europe's most valuable and threatened species and habitat). The entire lower part of Ätran and further upstream in Högvasån is one such area, and Himleån empties into a Natura 2000 area: Getterön Nature Reserve, which is home to a large number of wetland birds.

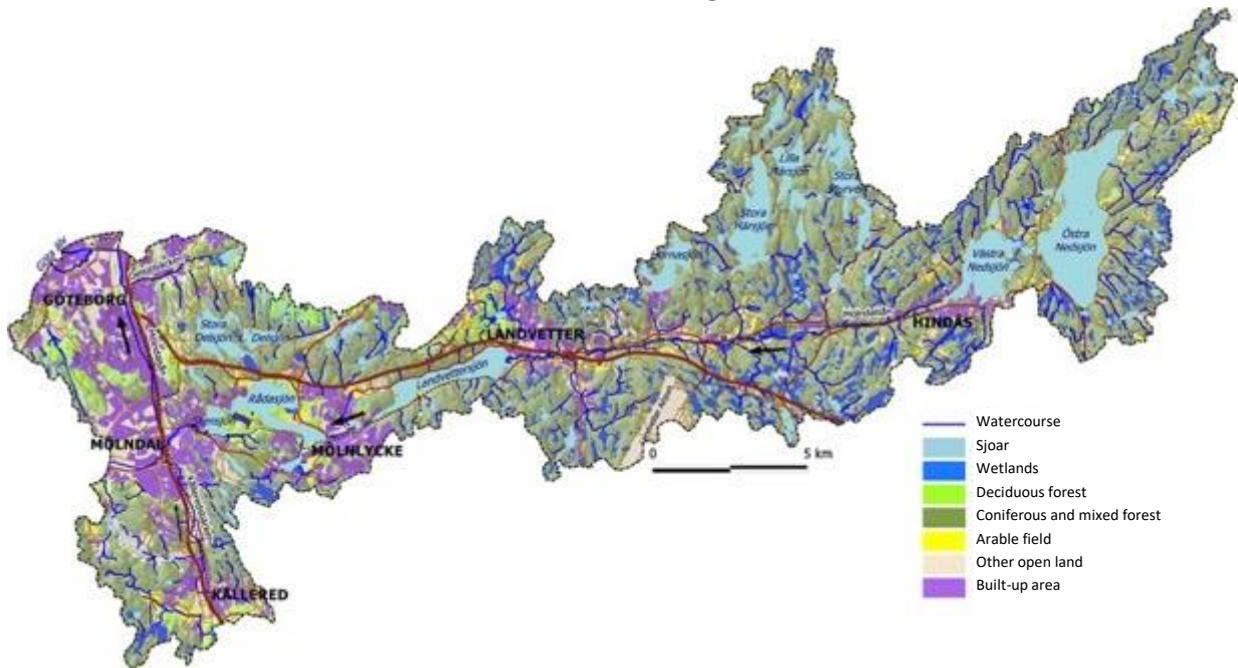


Figure 6. Mölndalsån's catchment area, showing water system, soil type and terrain shading.

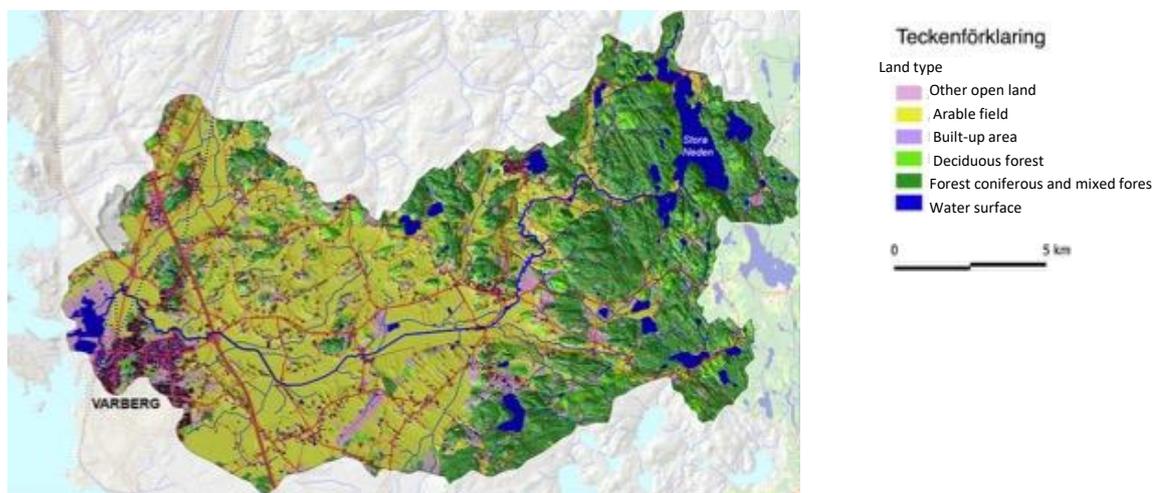


Figure 7. Himleån catchment area.

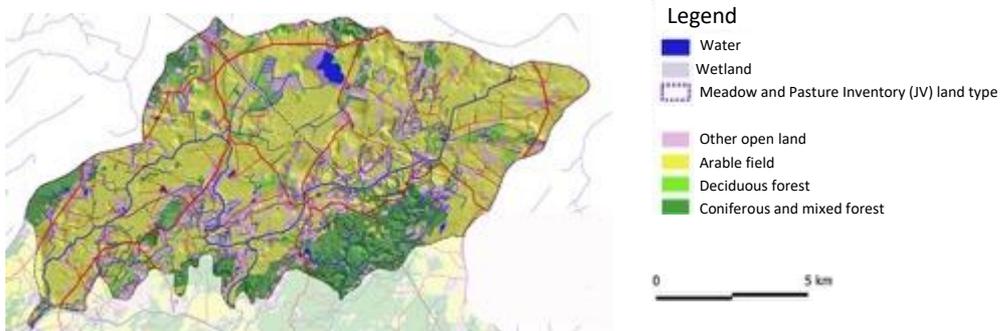


Figure 8. Sub-catchment in Ätran near Vartofta.

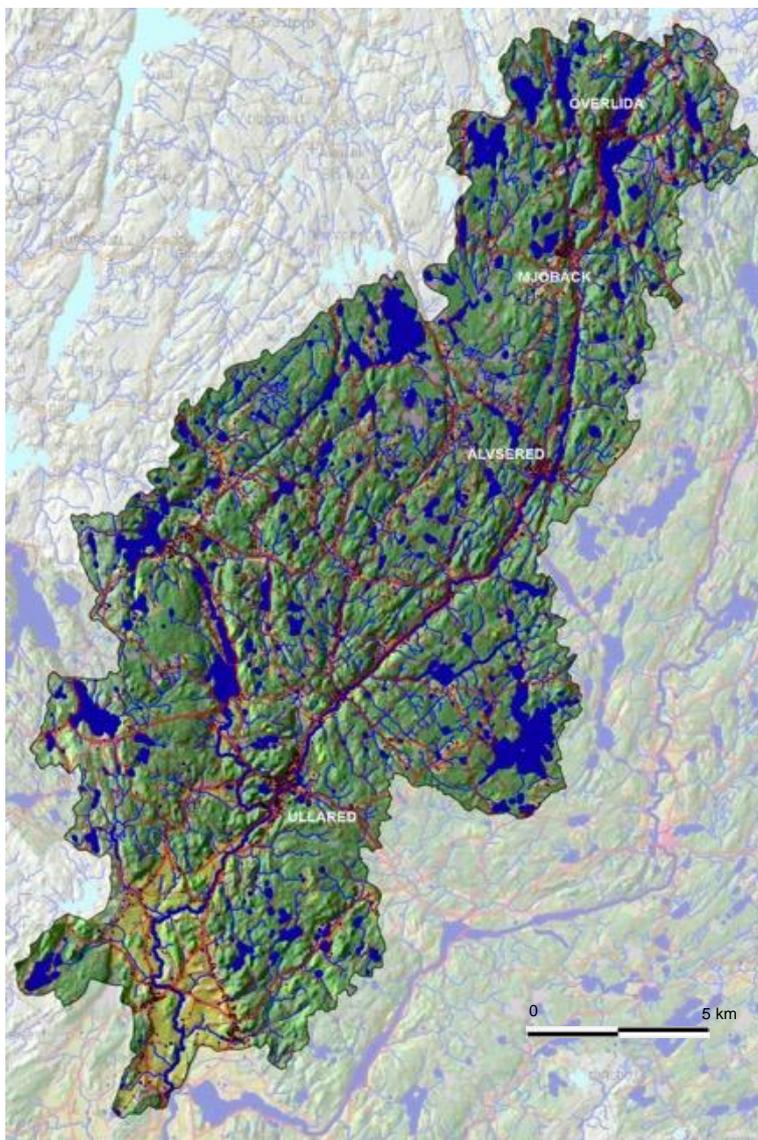


Figure 9. Högvadsån catchment area, which is a sub-catchment in Ätran.

## Challenges

Environmental problems and challenges differ in the catchment areas. A common characteristic of the water systems is that they are located in acidified areas that require extensive liming, in addition to the upper parts of Ätran that flow through areas that are richer in lime.

All three areas also hold important water sources that collectively account for the water supply for about 500,000 residents. As the population of a region's cities and towns increases, the pressure on water sources increases. Protecting groundwater and water sources from pollutants is, of course, tremendously important.

Global warming is a challenge we face all over the globe, creating the potential for flooding through increased flows and rising sea levels, but it can also lead to declining groundwater levels, dehydrated watercourses, higher water temperatures and a lack of oxygen (read more in the report SMHI 2020). Very low flows were observed in the watercourses in the three catchment areas in 2018 and 2019, which led, for example, to a die-out of freshwater pearl mussels in some places.

In terms of eutrophication and nutrient loss from agricultural activities, this is mainly relevant in the lower part of Himleån and in certain tributaries to Ätran that flow through agricultural land. Vast areas of forest are found in all three catchment areas. These areas create certain challenges, such as the creation of leafy edge zones along watercourses, the minimisation of machinery-induced damage in forestry and retention of water in the landscape where possible.

There are migration barriers for fish caused by dams and power plants, primarily in the Ätran system but also in the Mölndalsån river. Himleån is actually one of the few watercourses that have free migration routes from the sea all the way up to the river source in the system, thanks to measures that have been implemented.

Stone and block, which have degraded the watercourse biotopes, have been cleared out along many stretches of the river. Extensive restoration efforts have been completed in Himleån, but the Mölndalsån and Ätran systems still have many stretches that can be improved. This work will require good knowledge of hydromorphology (the natural physical forms of the watercourse created by the movement of water) as well as knowledge of and consideration for the area's cultural heritage.

In areas close to major population centres and urban areas, developments have impacted the aquatic environment, adding sediment and creating turbidity in the watercourses. Buildings are sometimes erected close to water, adding increased urban stormwater run-off, which results in flooding in urban areas and in turn leads to the need for more clearing of watercourses and regulation of lake water levels. The pressure of population growth in the population centres and surrounding municipalities is the most significant within the Mölndalsån catchment area, but it is also relevant for Himleån and Ätran where Varberg and Falkenberg are growing in

population. The current high rate of new construction and planned construction inside Gothenburg also leads to clay deposits and saline water in the Mölndalsån catchment area that risk contaminating the area's aquatic environments. Other challenges include contaminated soil where waste has previously been dumped, which also risks contaminating the aquatic environment.

The need for recreation is an important issue. Within the Mölndalsån catchment area, about half a million people visit Rådasjön and the Delsjö area every year for recreation. The stretch of the Ätran that flows through Falkenberg and Vessigebro is particularly beautiful, and the river is of great importance to both residents and the fishing tourism industry. The Himleån water system holds many particularly beautiful and heavily visited natural areas.

## **Organisation, members and finances**

The three water councils have different organisational structures and financial conditions (Table 1). Membership numbers vary between the water councils and tend to correlate to the size of the catchment areas. The Himleån catchment area is smaller in size and is located entirely within Varberg Municipality in Halland County. The Mölndalsån catchment area, on the other hand, affects six different municipalities but is still entirely within Västra Götaland County. The Ätran affects seven municipalities and flows through both Västra Götaland and Halland counties. The composition of participants in the councils also varies significantly, which affects which issues are raised, the knowledge that is available and the focus of the council's work (Table 2). Which members participate in the board is an especially important issue. The council sees the Swedish Society for Nature Conservation's engagement in issues concerning the Mölndalsån as a benefit and a resource, which means that knowledge about species and ecosystems in both aquatic and shore environments is accessible.

Table 1. Size of catchment areas, affected municipalities and county administrative boards as well as the groups' start year and organisational structure. The Ätran Water Quality association was formed in 1973 and was reorganised as a water council in 2007. The informal networks have no rules of procedure or board.

|   | <b>Möndalsån</b>   | <b>Himleån</b>       | <b>Ätran</b>         | <b>Vartofta</b>       | <b>Högvadsån</b>                               |
|---|--|----------------------|----------------------|-----------------------|--|
| <b>Area (km<sup>2</sup>)</b>                  | 280  | 200                  | 3300                 | 35                    | 460  |
| <b>Length (km)</b>                            | 40   | 20                   | 150                  | 12                    | 43   |
| <b>Number of municipalities</b>               | 5  | 1                    | 6                    | 1                     | 2  |
| <b>Number of county administrative boards</b> | 1  | 1                    | 2                    | 1                     | 2  |
| <b>Type of group</b>                          | Water council  | Water council        | Water council        | Local water group     | Local water group                              |
| <b>Water group's/group's year formed</b>      | 2008   | 2009                 | 2007 (1973)          | 2017                  | 2017   |
| <b>Organisation</b>                           | Closed network   | Open network         | Economic Association | Informal Open network | Informal Open network                          |
| <b>Number of members/participants</b>         | 12   | Approximately 12     | 23                   | Approximately 15      | Approximately 25                               |
| <b>Legal entity</b>                           | Göta älvs vattenvårdsförbund (Göta Älv River Water Conservation Association) | Varberg municipality | Ätran Water Council  | Ätran Water Council   | Ätran Water Council<br>Svenljunga municipality |
| <b>Ordinary budget (SEK)</b>                  | 40,000   | 40,000               | 450,000              | -                     | -  |

Table 2. Groups and approximate number of organisations/persons for each group that are represented in water councils and water groups. The Ätran Water Council has a board that is elected by the members. Groups that do not participate in board meetings but are members or who have participated in projects are shown in parentheses.

|  | Mölnbålsån | Himleån | Ätran | Vartofta | Högvadsån |
|--|------------|---------|-------|----------|-----------|
| <b>Municipal politicians</b>                                   | 5          | 1       | 6     | 1        | 2         |
| <b>Municipal officials</b>                                     | 5          | 1       |       |          | 2         |
| <b>Municipal water companies</b>                               |            | 1       | 1     |          |           |
| <b>Landowners/farmers/soil drainage companies</b>              |            | 7       | (2)   | 9        | 11        |
| <b>Federation of Swedish Farmers (LRF)</b>                     | 1          |         | 1     |          |           |
| <b>South</b>   | 1          |         | 1     |          |           |
| <b>Hydroelectric</b>   |            |         | 4     |          | 3         |
| <b>Industry</b>  |            |         | 2     |          | 1         |
| <b>Swedish Society for Nature Conservation</b>                 | 1          | 1       | (2)   |          | 1         |
| <b>Birding club</b>  |            | (1)     |       |          |           |
| <b>Sport fishers</b>   | 1          | (1)     | (1)   |          |           |
| <b>Fishing Area Owners Associations</b>                        | 1          |         | 1     |          | 3         |
| <b>Water level regulation companies</b>                        | 1          |         |       |          |           |
| <b>Cultural associations</b>                                   |            | 1       |       |          |           |
| <b>Householder's associations/community associations</b>       |            | (4)     |       |          | 1         |
| <b>Consultants</b>   |            |         |       | 2        | 1         |
| <b>Gothenburg Region (GR) co-operative organisation</b>        | 1          |         |       |          |           |
| <b>County Administrative Boards of Sweden (contact person)</b> | 1          | 1       | 2     | 1        | 3         |

### Ätran Water Council

Ätran Water Council was formed in 2007. It was formed through a reorganisation of the Ätran Water Quality Association, which was formed in 1973. The water council took over the coordinated recipient control that municipalities and larger companies previously carried out.

The Ätran Water Council is an economic association with a board appointed by an annual meeting. According to the association's rules, the board chair must be someone from the participating municipalities and is elected by the annual meeting. The municipalities are represented by politicians who are on the board and the annual meeting. The 15-member board also includes representatives of the hydropower sector, the LRF, the forest industry, municipal water companies and fishing water owners.

The number of members is currently 23. In addition to the participating municipalities, companies and interest groups, all citizens are welcome to join as members. The water council charges membership fees and service fees to the municipalities, which are determined by the approximate area the municipalities correspond to in the catchment area. The fees raised create a budget for the water council of around SEK 500,000 for coordinated recipient control and SEK 450,000 for the water council itself, including the water authority's annual collaboration grant of SEK 60,000. The water council has hired consultants, such as a coordinator and treasurer. In addition, fees are paid to board members for certain meetings.

### Mölnålsån Water Council

Mölnålsån Water Council was formed in 2008 as a new organisation with twelve members. The municipalities decided to form a network of representatives consisting of both politicians and officials from the respective municipalities. In addition, LRF, Södra (forestry cooperative), Sportfiskarna in Gothenburg (division of the Swedish Anglers Association), water level regulation companies (Mölnåls kvarnby), the Swedish Society for Nature Conservation and Mölnålsån's fiskeråd (fishery management council) have representatives in the group. The representatives elect a chair who, according to the rules established for the network, can be anyone on the council. The network does not accept members other than those who have been appointed since the formation.

The water network has no membership fees, and the budget consists of the water authority's annual collaboration grant of SEK 40,000. The funds are used to cover certain working hours for a secretary, who is responsible for communication with the members and to write up invitations, minutes and referrals. Politicians are paid fees for attending meetings by their respective municipalities, and officials participate during their paid working hours. Non-profit associations receive no financial compensation for participation. If projects arise that require additional funding, the water council requests funds to cover this from the municipalities. Applications for project funding have also been submitted through the county administrative board.



Figures 10 and 11. The Mölndalsån catchment area extends from an area dense with forests and lakes in the east to metropolitan areas in the west.

The Mölndalsån catchment area is part of the Göta älvs vattenvårdsförbund (Göta Älv River Water Conservation Association), which handles the coordinated recipient control in the catchment area. The water council's finances are also managed through the water quality association in which the water council's secretary also serves as a coordinator.

#### Himleån Water Council

The Himleån Water Council was formed in 2009. Concerned farmers and landowners took the initiative to form the council and have kept the water council active since that time. It is an open network where all interested participants are able to participate. A total of approximately twelve people have participated. During the project, the fly fishing club, the Swedish Society for Nature Conservation, the cultural association Connected Dreams and a municipal politician participated. The municipal water company, VIVAB, also participates. The municipality has also offered support, as the municipal biologist served as secretary during working hours attributable to the municipality. The finances are handled by the municipality. The water council has no membership fees, and the budget consists of the water authority's annual collaboration grant of SEK 40,000. All participants are entitled to charge fees for meetings.



Figure 12. The lower parts of the Himleån flow through an agricultural landscape where the river has been straightened.

### **The water councils' pre-project work**

The water councils had been in existence for between seven and nine years before the Water Co-Governance project started. The Ätran Water Council has been in

existence as a water quality association for 34 years before that. In addition to responding to the water authority's proposals for status classifications and programmes of measures, the council has worked to respond to various referrals made to municipalities and county administrative boards. All three water councils have worked to respond to information in a variety of ways and have their own websites. The Ätran Water Council has created an information film about the water council and has made presentations at the municipal council in some municipalities. The water council arranges an annual autumn meeting for its members, where it presents information and a forum for discussion on a variety of topics. The annual meeting, which is held each spring, is also a forum to disseminate information on various themes. The Himleån Water Council has worked with the county administrative board to arrange major seminars for farmers and authorities on measures in the agricultural sector. The water councils have also arranged a number of river walks. The Mölndalsån Water Council has previously created a knowledge compilation about the catchment area: *Mölndalsån – en resurs för ekosystem och människa* (Nolbrant 2011) and has also carried out biotope mapping. The Ätran Water Council is the only water council in the project that handles coordinated recipient control.

In addition, the water councils have worked in collaboration and exchanged their experience with other water councils in the region through participation in network meetings for water councils along the Halland coast. They have also participated in annual water council days arranged by the Skagerrak and Kattegatt Water District Authority (SKWDA).

## Working methods in the project

The three water councils outlined here have been selected because they represent different sizes, organisational structures and challenges and because they have expressed an interest in participating and are in the same geographic area.

### Approach

The ambition here has been to proceed according to the approaches described in the section Prerequisites for participation. Some approaches that have been emphasised in the Water Co-Governance project have been to:

- Proceed without a preconceived goal or plan from the start and to instead allow this to be developed by the participants during the process, which should be created based on the groups' involvement.
- Create a space where everyone has the opportunity to speak and listen to each other.
- Evaluate through reflection while leaving room for everyone's thoughts to be considered.
- View the work as a learning process, where we learn through action and reflection.

A variety of working methods based on different approaches have been explored. For example, the work has often started with time for self-reflection and small group discussions, so that everyone has space to participate. Some have made compilations on a board so that everyone gets a visual representation of the relevant information, and reflection rounds have been done in the group to see how the work process has functioned.

### Working group

Within Sweden, the Water Co-Governance project has included a working group with about five members from the Swedish Agency for Marine and Water Management (SwAM), the Skagerrak and Kattegatt Water District Authority (SKWDA) and the University of Gothenburg. The group includes participant observers, communicators and the pilot project's resource person (see below). This group has also worked with to develop its own learning process through reflection and dialogue where the experiences of each individual member have been important in developing the process. One task has also been reporting back to the UK, where the Rivers Trust has led the project as a whole.

### Focus of the pilot projects

The focus of the pilot projects has been open and the process within each group has started with reflection about what they would like to work with. This kicked off at a joint workshop for all water councils in December 2016 and then continued within

each pilot where workshops were held to develop project plans. The process has been built on the knowledge within the different groups. Lectures, study visits and river walks have been held during the process as needed.

## Support in the project

Support has been provided to the pilots through a resource person (the author of the report), who has been able to work approximately four hours a week for each water council. The resource person has been available on an as needed basis to, for example, coordinate, supervise workshops, submit applications and create documents, such as maps. In addition, each water council has received additional funding of SEK 30,000 to 40,000 per year from Water Co-Governance via the water authority. With the additional funding, the total grant through the water authority during the project period was SEK 70,000 for the Mölndalsån and Himleån water councils and SEK 100,000 for the Ätran Water Council per year for three years.

## Description of tools

Within the process and project initiatives that have emerged and been implemented, different working methods for collaboration have been tested, developed and evaluated by the pilot projects and the working group. These working methods have been documented and described within the working group and then sent out to the pilot projects for comments. This process has yielded over 50 tools that can be disseminated and used in other contexts.

## Evaluation and basis for the report

Knowledge has been obtained through the work and conversations with individuals in the different groups. At start-up and during the final stage, the participant observer has participated in meetings to observe and document the process through an outsider's perspective. The participant observer has also analysed the initial questionnaire and performed an evaluation with questions in groups in each pilot project at the end of the project. This is detailed in the report *Samförvaltning i vattenförvaltningen med Vattenråden i fokus* (Prutzer 2020). This has formed a basis for the report in combination with evaluations, notes and results from the workshops as described below:

- Collaboration and participation in water councils and water management (i.e. administration). Swedish Agency for Marine and Water Management Report 2016:35 (Prutzer & Soneryd, 2016)
- Initial survey 2017. *Unpublished.*
- Start-up workshop with pilots, Dec 2016. *Unpublished.*
- Half-time seminar, follow-up-visions-future history, March 2018. *Unpublished.*
- Local collaboration in water management (administration) with a focus on water councils. Evaluation of the Water Co-Governance project in Sweden.

Swedish Agency for Marine and Water Management Report 2020 (Prutzer, 2020)

- Pilot projects' project plans and communication plans 2017. *Unpublished.*
- Compilation of results and indicators 2018. *Unpublished.*
- Workshop in Ätran Water Council – visions and action plan 2019. *Unpublished.*
- Workshop on the tools, Water Councils Day 2019. *Unpublished.*
- Various inventories, map compilations, GIS analyses and PPT presentations. *Unpublished.*
- Photos and notes from meetings and river walks. *Unpublished.*
- Tools for local collaboration on water issues.  
[www.havochvatten.se/verkygvatten](http://www.havochvatten.se/verkygvatten)

## Joint pilot meetings

Joint meetings for all pilot projects in Sweden have been held on three occasions. First, the initial meeting was held to narrow the focus (December 2016), then a half-time workshop for follow-up (March 2018) and a closing meeting for the presentation of results were held (November 2019).

In addition, a number of individuals from the water councils have participated in a study visit to Denmark's pilot project on wetland construction and clearing watercourses. Two international partner meetings were held in Sweden, where individuals from the Swedish pilots participated and learned about the pilot work in other countries and also guided the foreign participants in Swedish pilot areas.

External presentations or workshops for larger groups have also been held at the Water Council Day in the Västerhavet water district and in the Bottenhavet water district, as well as at the Havs- och vattenforum (Sea and Water Forum) and the Water Days 2017 (Svenska föreningen för limnologi – Swedish Society for Limnology).

## Results from the project

The project has demonstrated that there is tremendous interest, involvement and rich knowledge in the water councils and the local water groups. During the pilots, a large number of meetings and activities have taken place through the three water councils over the three-year project period. Around 650 people have participated in a variety of ways (Fig. 13). Significantly more people have been informed about the work in the project. Around 150 meetings have been held in the water councils and groups during the period. The non-profit hours spent are estimated to be at least 2200 hours, and the real number is likely much higher. Over 20 sub-projects have been developed within the three water councils. Grant applications and grants awarded for various projects amount to SEK 6.6 million (Fig. 14). In addition, another SEK 1.6 million in funding has been applied for but not approved. There is a significant increase in invested funds. For every krona the water authority has invested through collaboration grants and the Water Co-Governance funds, the amount is twelve times higher, without counting the non-profit or paid working hours. The Ätran Water Council and their Vartofta project have received significantly more in grants than other groups. This is largely due to the fact that they have greater access to core funding through service fees from municipalities and companies, which means they have people in the council with time to work on funding applications.

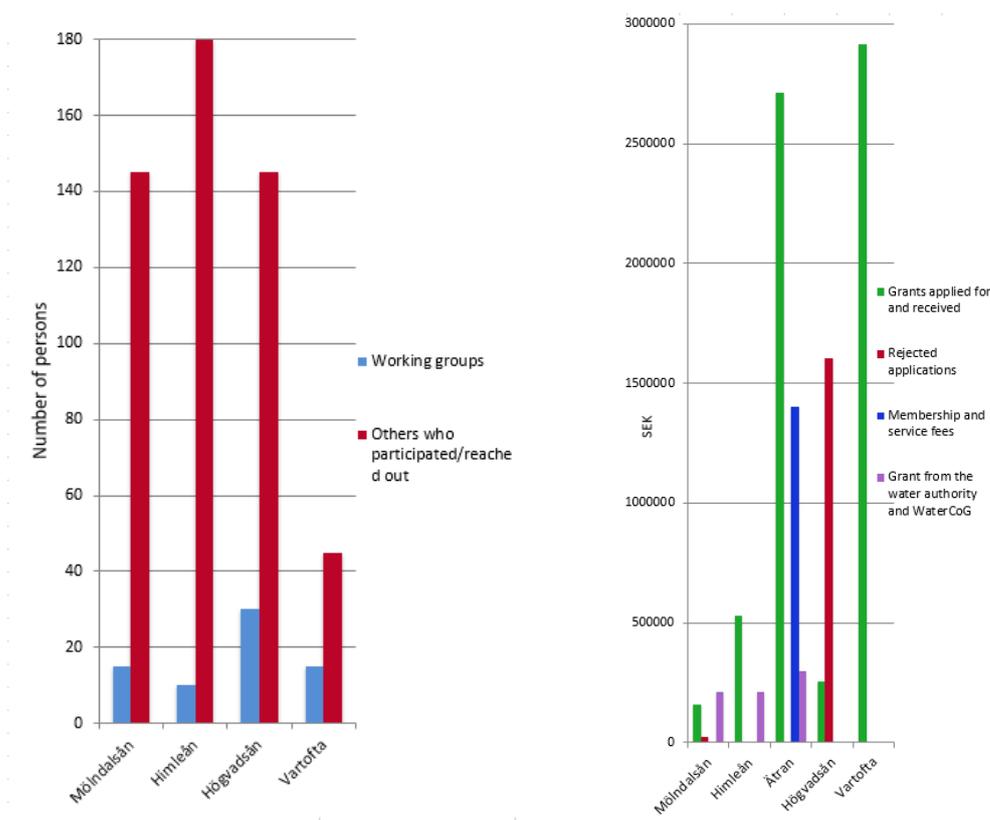


Figure 13. Participants in the four pilot projects.

Figure 14. Funding in the pilot projects and grants awarded 2017-2019. The grants are for the period 2018-2023. Grants awarded are mainly LOVA (local water protection project) grants but also LONA (local nature conservation programme), grants, fisheries management funds and funds from the rural development programme. An application for Leader funding has been rejected.

Table 3. Participation, grants and examples of knowledge bases and measures during the project in which the pilot projects have been engaged compared to 2016, before the start of the project.

|   | 2016                 | 2017-2019  |
|---|----------------------|--|
| <b>Number of individual participants</b>                        | 50                   | 170  |
| <b>Number of working groups</b>                                 | 4                    | 12   |
| <b>Number of meetings/year</b>                                  | 12                   | 20   |
| <b>Grants awarded for projects (SEK)</b>                        | 50,000               | 6,573,000  |
| <b>Knowledge base excluding coordinated recipient control.</b>  | –                    | <ul style="list-style-type: none"> <li>• Synoptic sampling</li> <li>• Continuous sampling station</li> <li>• Diatom study</li> <li>• Biological assessment of watercourses</li> <li>• Map and GIS analyses of three catchment areas</li> <li>• Knowledge compilation of cultural heritage by water</li> </ul>  |
| <b>Education and information</b>                                | Information brochure | <ul style="list-style-type: none"> <li>• Educational aquatic environments at about 20 schools</li> <li>• Information signs in the water system (2020)</li> <li>• Education packages for municipal politicians and officials</li> <li>• Education concept for nature guides</li> <li>• Teacher's guide in adventure pedagogy (2020)</li> <li>• Himleån Day</li> </ul> |
| <b>Measures within agricultural areas. Vartofta and Himleån</b> | –                    | <ul style="list-style-type: none"> <li>• Structural liming of two sites, 28 hectares</li> <li>• Wetlands, five sites, three hectares (2020)</li> <li>• Adjustable dry well (2020)</li> <li>• Biological erosion control (2020)</li> <li>• Clipping down shrub height along watercourses</li> </ul>   |
| <b>Biodiversity measures in flowing water</b>                   | –                    | <ul style="list-style-type: none"> <li>• Biotope measures on two sites, 1500 hectares</li> <li>• Removal of migration barriers, two items</li> <li>• Waste clean-up along watercourses</li> </ul>  |
| <b>Continuation after 2019</b>                                  |                      | <ul style="list-style-type: none"> <li>• Grant for coordinator in two of the water councils for one to three years.</li> <li>• Projects will continue in all water councils/water groups in 2020.</li> </ul>   |

## Different focus

The groups have generally had a different focus. The Vartofta group and Himleån Water Council have primarily focused on soil erosion and nutrient losses to watercourses, which mainly affected farmers, but nature conservation associations and local associations have also been involved (Table 2). The Högvadsån group has focused on biotope measures and migration barriers for fish and freshwater pearl mussels. Here, landowners, forest owners and hydropower owners have all participated. The Mölndalsån Water Council has focused on becoming part of a dialogue in municipal planning as developments have an important impact in the water system (Table 4). Many members of the council are politicians and officials.

## The work has yielded results

### Measures

After two years, the projects yielded results in the form of various practical measures (Table 3 and Appendix). The measures are connected to several ecosystem services such as food production, purification of water in wetlands, aquatic landscapes, biodiversity and recreation. Several of the measures have been implemented entirely on the initiative of landowners and hydropower owners, which allowed things to move ahead quite quickly. Examples include structural liming, buffer zones, removal of migration barriers, controlling stormwater discharge, saving trees by watercourses and waste clean-up. Municipalities or water councils have coordinated other measures in collaboration with landowners and consultants who planned and implemented the measures. Examples of this are bottom restoration in watercourses and wetland construction. There are more examples of measures implemented by landowners, for example, who got the Swedish Transport Administration to fix a culvert that constituted a migration barrier.

The landowners in Vartofta have highlighted the importance of local collaboration and assistance in order to facilitate the measures needed to improve the environmental condition of the area as a whole.

Another example is the ability to gather people for various initiatives through the local networks, where water councils are included. During the extreme drought in 2018, thousands of mussels were on the dry bottom of the Ätran. By joining forces, a large number of mussels were able to be saved and moved to nearby waters.

Table 4. Main focus of the different groups during the project. Concrete measures have mostly been implemented in the local water groups, which in turn have been initiated by and collaborated with the water council. The water councils have worked more with information, studies, sampling and meetings to promote collaboration. A large X indicates greater weight of the work on this part.

|                                     | Möndalsån | Himleån | Högvadsån | Vartofta |
|-------------------------------------|-----------|---------|-----------|----------|
| <b>Measures</b>                     |           | X       | X         | X        |
| <b>Study</b>                        | X         | X       | X         | X        |
| <b>Information</b>                  | X         | X       | X         |          |
| <b>Referrals</b>                    | X         |         |           |          |
| <b>Influence community planning</b> | X         | X       |           |          |

### Knowledge

The participants in the groups held a great deal of expertise. Meetings and dialogue between people with different interests and backgrounds have increased the collective knowledge. The conversations have provided new perspectives while increasing involvement and knowledge about water and each other's activities.

One example of increased involvement is a landowner who paid for an inventory of a watercourse on the landowner's property. The water councils have performed inventories, collected water samples, created knowledge compilations and held theme days. The Himleån Water Council worked in collaboration with the county administrative board to arrange seminars on measures to reduce nutrient losses from agriculture, and the Ätran Water Council has held seminars on stormwater and on drought, *När vattnet sinar* (When the water runs dry). Mölndalsån has developed presentations and leaflets and disseminated information to the municipal council and municipal executive committee, produced information signs for the water system and inventoried suitable educational water environments at schools. A large number of river walks have been held. Individual consultants and officials at the county administrative board have contributed knowledge during lectures, excursions and inventories. Many people in the groups report that they have gained greater knowledge and understanding, as well as a greater sense of involvement.

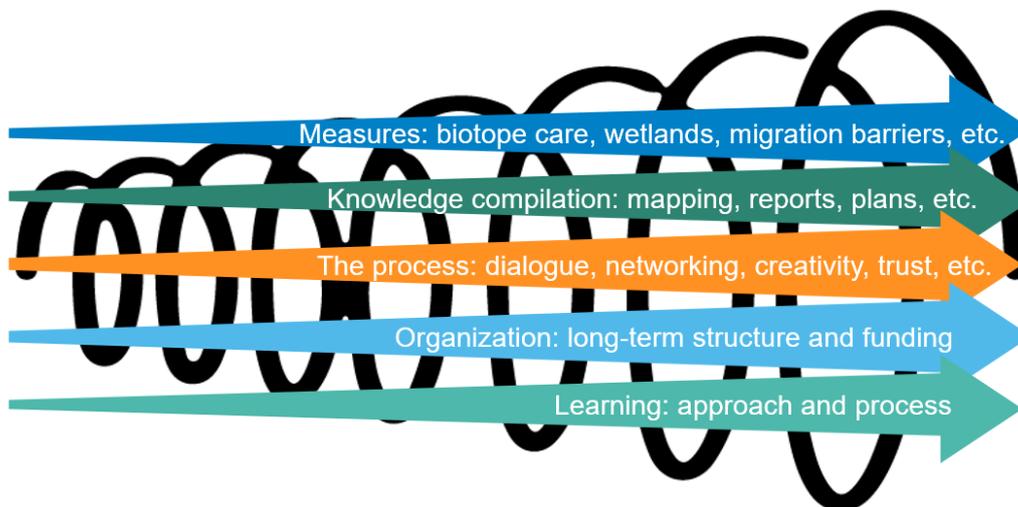


Figure 15. Important results do not only relate to direct measures in the environment. Mapping and inventories are also needed. The success of long-term measures depends on results that create processes that build relationships, networks and trust. Finally, results also include the knowledge that is developed about the processes that need to be included in the ongoing work.

### The process and learning

The process itself is an important result (Fig. 15). If we successfully implement rapid measures, but the process creates mistrust and less participation, the long-term result will be worse. The work carried out in the groups has built trust and promoted a more holistic view. This creates the right conditions for long-term sustainable measures that are implemented over a slightly longer period of time, but which can generate additional positive effects over time. There is a strong interest in cooperating to achieve results and to include more people in this effort. This process can get help create a broader perspective that includes food, biodiversity, cultural heritage and recreation.

Finally, there has been a process of learning and knowledge building in relation to how to create the right conditions for creative processes, action and learning to occur (Fig. 15). This knowledge is the foundation for long-term work that can include more participants and greater collaboration. This knowledge needs to be put into words and carried over in the ongoing work. The tools for local collaboration described here are an expression of this result.

### Increase in activity

The water councils were, of course, engaged in a wide range of activities before the project. However, the local Högvadsån and Vartofta water groups did not exist before the project. Moreover, measures have been taken in the catchment areas that have not involved the water councils. In Himleån, for example, Varberg's fly fishing club has previously worked to open the migration routes for salmon and sea trout, implemented biotope measures and planted trees. In Högvadsån, the County Administrative Board in Halland has implemented biotope measures and worked to open migration routes in tributaries to the river. Inventories, knowledge compilations, river walks and lectures have been done in the Mölndalsån, Himleån and Ätran catchment areas.

However, the assessment here is that there has been a significant increase in activities overall (Table 3). The meetings, river walks and implemented measures have engaged many new groups of people and organisations and thus increased involvement in water issues. The number of meetings has increased, especially meetings arranged through many local water groups and working groups. Activities related to the local knowledge collection through inventories, sampling and measurements have also increased, and more people are now involved at the local sites. Participants have reported that their own knowledge has increased through these activities, which has increased their involvement. The budgets for several of the water councils have increased significantly as a result of various project ideas and grants. Finally, it is also evident that practical measures have started up in a number of places where they likely would not have otherwise been initiated.

In addition, several participants emphasise that the increased activity and collaboration among participants, who take greater responsibility, has made the experience more fun and inspiring. Collaboration and the expansion of networks with new groups, such as local associations and schools, also provide increased incentive for participation in water issues. Some have expressed that the water council now has a clearer role and greater importance.

### Important factors

There are many factors that increase the level of activity. Some of these can be singled out as particularly important. One factor is the forums that already exist by virtue of the water councils or local water groups, where landowners, associations, businesses, politicians, officials and consultants can engage in a dialogue, exchange knowledge and work in collaboration. The more collaboration, the better the

conditions for improvement. Participants in the pilot projects have also emphasised the importance of identifying win-win situations where, for example, both agricultural and aquatic environments benefit from measures that create better soils and keep the nutrients in the soil on the farmland.

Another important factor is that there is continuity and access to long-term resources in terms of basic funding and resource persons who serve as coordinators. When the councils rely on short-term funding through grant applications, this tends to lead to a greater administrative burden and short-term projects. The Ätran Water Council, which has access to basic funding through service fees from municipalities and businesses, has also had the greatest opportunity to apply for more funding for projects and coordinators.

Another important factor is the creation of working methods and structure that builds a climate of openness, participation, dialogue, trust and collaboration. By being open and taking advantage of the knowledge that is available at the local level, you can draw more inspiration and create better results. There are tools used to assist in this effort, which are described throughout the project (Table 9). Meetings need to be structured in a way that allows everyone to speak and which creates a common thread throughout the work.

Authorities and municipalities should participate at an early stage to contribute knowledge and help with any rules and permits that may apply to shore protection, biotope protection, cultural heritage and water-related court rulings.

What one can also take away from the inventories and measures is the importance of committed and knowledgeable consultants, who have excellent lines of communication with landowners. Consultants are also uniquely able to identify opportunities to develop the work and provide new ideas. Good results rely on good collaboration and dialogue between landowners, municipalities, authorities and consultants.

Another factor is that water councils and local water groups have a more distinct role as a forum where many different stakeholders, organisations and individuals can gather to collaborate, increase knowledge and develop a more holistic view. The water councils need to be seen as a resource for knowledge, for example, in the community planning work of municipalities and authorities.

## **Activities in the project**

The pilot projects have all approached their work differently and looked at different questions/issues. As a result, the projects cover a wide range of issues and work practices. Though many things have worked well, difficulties and obstacles have also been encountered that are important to reflect on. Despite differences in the projects, certain patterns emerge in their activities. Some of these patterns have led to positive developments while other have created obstacles. We will revisit this later in the report.

The projects have included a large number of meetings, dialogue and networks. A brief account of the most important events is provided below.

### **Joint start-up meeting – what do we want our work to do?**

In December 2016, the three water councils jointly participated in a start-up meeting at the Swedish Agency for Marine and Water Management in Gothenburg. Forty people participated; it was a mixture of landowners, farmers, hydropower owners, politicians, officials from municipalities and county administrative boards, interest groups and non-profit associations as well as representatives from the Skagerrak and Kattegatt Water District Authority (SKWDA) and the Swedish Agency for Marine and Water Management (SwAM). The purpose was to determine what the important issues were within the water councils and what they wanted to do in their project work. The aim was for the work to continue to develop even after the end of the project period.

The participants first worked individually then in small groups to answer the questions: What would you like to work with? What issues or questions are important? Participants were asked to write notes with their thoughts, which would then be taken to the groups, sorted into headings and presented to the large group. The results showed how broad the issues were. It showed the common features but also the differences in the water councils. The material was compiled so it could be sent out to the participants and to those who were unable to attend that day.



Figure 16. Picture from the start-up meeting: What are the problems? What is important and what do we want to achieve? The question is, how well do the answers match the objectives of the Water Framework Directive?

At the end of the day, the three water councils took time to individually consider how they wanted to work in the project going forward. Since the Ätran catchment area is quite large, they wanted to start two local pilot projects in this water council: Biodiversity in Högvadsån and the Vartofta project.

Finally, attendees reflected on what was accomplished that day. One comment was: “It is a positive sign that we have come so far where we now have a dialogue between us – authorities, providers, stakeholders. But here it is not about butting heads, it is about collaboration. I think this can work out great, but of course there are still things that are a bit fuzzy.”



Figures 17 and 18. Compilation of thoughts in one of the groups during the start-up meeting (Photo: Madeleine Prutzer).

## Mölnålsån Water Council

In 2017, the water council continued its work to develop a project plan. Those who did not attend the start-up meeting added their own ideas to supplement. After that, a joint prioritisation of the work areas that emerged was done. The council settled on a “four-stage rocket”:

- Internal and external mapping.
- Internal and external implementation.

- Measures.
- Evaluation.

This was divided into three work areas (Fig. 19):

- Water Council – internal.
- Water Council – external (mainly increased collaboration with the municipalities).
- Concrete measures in the water system.



Figure 19. An image produced by the water council, which was used to produce a project and communication plan (Mölndalsån Water Council).

The participants held the view that the role of the water council was not primarily to implement measures. When the water council contributes to dialogue, serves as a source of knowledge, and promotes a holistic view and collaboration, it is easier for municipalities and other actors to implement effective measures. The ecological status of Mölndalsån is mainly moderate to poor, partly due to affected fish stocks, migration barriers, level regulation and developments near the waterway that impact the floodplains (areas that naturally flood at high flows).

A particularly important issue was to improve reach out efforts to the members and in particular to the municipalities. A need was identified to be part of a dialogue early on in the municipal planning processes in order to contribute to planning practices that give greater consideration to aquatic environments and ecosystem services. These issues were particularly relevant due to increasing population, developments, flooding and deposits in waterways. Participants considered that this type of dialogue would make planning more efficient in a number of ways: *more sustainable, more economical and less risk for appeals*. Water purification, flow-regulating functions and green corridors for biodiversity in flooding environments and edge zones along

watercourses and lakes were seen as particularly important issues to take up and discuss. Reference was often made to the knowledge compilation that was previously drawn up for the catchment area (Nolbrant, 2011). It described the area from a holistic point of view, which was something participants wanted to convey to the community. The water council needed to be viewed as the resource it was, and it should therefore be invited to participate differently than it currently is.

Another issue raised was the council's internal work, where there was a need for more activities between the water council meetings themselves.

In 2018, the water council divided into working groups to map out different areas, such as the participants' competencies, the need for training, ongoing activities and key people that needed to be reached. The actual implementation process began in 2019 when this work was completed. New working groups were formed that took responsibility for different work areas:

1. Training packages for municipal politicians and officials as well as meetings with officials in particularly important positions.
2. River walks for politicians and officials.
3. Information project: Information signs in the water system, mobile exhibition.
4. Inventory of educational aquatic environments at schools.
5. Training for the water council on the Water Framework Directive.
6. Presentation of "Species of the day" at water council meetings.
7. Study visit for the water council at the dam and information about water level regulation for the Mölndalsån.



Figures 20 and 21. Workshop with the project plan and a water council meeting. (Photo to the left: Madeleine Prutzer)



Figures 22 and 23. River walk in Gothenburg during West-Coast week.



Figures 24 and 25. River walk with the water council at Mölnålsån.

Table 5. Examples of activities and results in Mölnålsån Water Council during the project period.

|   | Meetings   | Materials, information and education  |
|---|--|---|
| Project plan  | <ul style="list-style-type: none"> <li>• Three workshops</li> </ul>          | <ul style="list-style-type: none"> <li>• Project plan</li> <li>• Communication plan</li> <li>• Indicators for follow up</li> </ul>  |
| Internal work   | <ul style="list-style-type: none"> <li>• Mapping of water counsel</li> </ul> | <ul style="list-style-type: none"> <li>• Compilation of results: competencies, ongoing projects, training/education needs, proposed activities.</li> <li>• New meeting features such as Around the table and Species of the day</li> </ul>  |
| Opinions  | <ul style="list-style-type: none"> <li>• Water council meetings</li> </ul>   | <ul style="list-style-type: none"> <li>• About twelve opinions</li> </ul>   |
| Training packages for municipal politicians and officials |  | <ul style="list-style-type: none"> <li>• Map of the catchment area</li> <li>• Leaflets about the water system and water counsel</li> <li>• Powerpoint about the water system and water counsel</li> <li>• Information meetings at one municipal executive committee meeting, one municipal council meeting</li> <li>• River walk for politicians and officials (planned)</li> </ul> |
| Information   |  | <ul style="list-style-type: none"> <li>• 40 information signs (2020)</li> </ul>   |
| Water and school – Skolbäcken educational programme       |  | <ul style="list-style-type: none"> <li>• Inventory and report on educational aquatic environments at schools</li> </ul>   |
| Training with VR  |  | <ul style="list-style-type: none"> <li>• Study visit to water treatment plants, regulation dams and nature reserves</li> </ul>  |

|                            | Meetings  | Materials, information and education   |
|----------------------------|---|--|
|                            |   | <ul style="list-style-type: none"> <li>• River walks</li> <li>• The county administrative board's education efforts regarding the Water Framework Directive</li> <li>• Species of the day at water council meetings</li> </ul> |
| River walks for the public |   | <ul style="list-style-type: none"> <li>• Mölndalsån in Gothenburg during Västerhav week</li> <li>• River walk during Water Co-Governance partner meeting</li> </ul>  |
| Filming                    | <ul style="list-style-type: none"> <li>• Drone filming</li> </ul> | <ul style="list-style-type: none"> <li>• Film about the water system</li> </ul>  |

## Himleån Water Council

At the beginning of the project, the water council consisted of around seven farmers and Varberg's municipal biologist as secretary. At the start of 2017, a project plan was developed. Everyone was asked to consider: *What do I want to achieve? Which work areas are important?* Everyone's thoughts were written on notes that were then sorted on a board into a number of work areas. The participants then drew up a timeline on the board along which they placed different events that they wanted to see happen. Three working groups were formed that took responsibility for the work areas:

1. Plant nutrition, structural liming, stormwater
2. Biodiversity – information
3. Water sampling – information



Figure 26. Workshop to decide what the group wants to work with (Photo: Madeleine Prutzer).

A key issue for the water council has been looking at what can be done to reduce nutrient losses from agricultural land. The ecological status in the lower parts of the system is moderate to poor, partly due to excess nutrient loading. The meeting objected to the characterisation of farmers as “environmental villains” and wanted to move forward by identifying appropriate measures. Between the winter and spring of 2017, two large seminars on measures that can be implemented in agriculture were arranged jointly with the county administrative board, in which about 60 farmers and officials from the local area participated.

Another important issue for the water council has been building a better dialogue with the municipality, the municipal water company and the Swedish Transport Administration. This was important issue to address as Varberg is growing and more developments are being built, which leads to a greater amount of stormwater and an impact on watercourses. This also affects the canal companies (Infobox 4), which are responsible for compliance with water-related court rulings and de watering the area. During the project, the water council initiated a dialogue with the municipality and the municipal water company regarding stormwater.

The groups that were considered important to reach included landowners in the area, municipal politicians, municipal officials, non-profit nature associations and schools. The anglers club had long been engaged in measures to improve the water system. The club and the nature conservation association wanted to get engaged to ensure more knowledge about issues relating to nature in the water council. They also wanted the municipal water company (VIVAB) to participate more in the water council. These individuals and the nature associations participated as well as one politician and a cultural association, Connected Dreams, which includes young people among its members.

The water council subsequently applied for state grants for two projects and both were awarded, LOVA (local water protection project) grants and LONA (local nature conservation programme). One project was about synoptic sampling of nutrients and turbidity on ten occasions at 25 sampling sites in the agricultural area. The aim of the project was to determine which inflows added the largest amount of nutrients, which could already be determined at the time of sampling. The sampling was done by the participants themselves. The municipal water company forwarded the samples for analysis. Using elevation data, smaller sub-catchments were drawn so that the amount of transported phosphorus and nitrogen in different places could be calculated. Maps were also produced of erosion risks, soil wetness and the longitudinal profile of the watercourse. The results were then intended for use in conversations with other farmers in the area and to help generate ideas for measures from the farmers themselves.

Two landowners in the water council also applied for grants for structural liming on their own land. This measure provides better soil structure, which benefits the crops while allowing water to better infiltrate the soil; surface erosion from the soil is reduced and the drainage water from the fields is cleaner. In this respect, soil contributes several ecosystem services.



Figures 27 and 28. Meeting on cultural heritage beside the water. Inauguration of the Children's meeting place.



Figures 29 and 30. Council's own water sampling (Photo: Rasmus Kaspersson) and structural liming (Photo: Anders Claesson).

At the end of the project period, the water council had a grant application approved for a coordinator who would start in 2020 by arranging information meetings with farmers in the area.

The second project was about Himleån day. The council would join about ten associations and actors to draw attention to and present the Himleån water system to all interested parties during a day selected in May 2020. Before the day of the event, the schools in the catchment area were offered help to explore educational aquatic environments near the schools that could be used for outdoor education opportunities. In 2018, the water council visited three schools where participants presented their ideas for collaboration with the water council and assistance with outdoor education in aquatic environments for all teachers. Teachers and head teachers from these three schools and another in Varberg expressed their desire to participate. Inventories of natural and cultural heritage were then done for aquatic environments in the vicinity of five schools. All schools had very attractive environments suited to education about water issues. The results were presented in a brief report with photos, maps and historical maps from the area around each school. All schools were then offered help with outdoor education and continuing education or planning with teachers. A grant application was approved for the creation of a teacher's guide in adventure education with two different adventures that dealt with salmon and bumblebees.

The water council has also done a knowledge compilation of natural and cultural heritage from the entire catchment area. This was done in collaboration with local heritage associations and nature associations. The local heritage associations are a

tremendous source of local knowledge and have established networks. For example, one association had 500 members and 100 people who were actively engaged in the association's work. All local heritage associations were invited to a lecture on water and cultural heritage given by members from the County Administrative Board in Halland. This was followed by an active working meeting where 25 people from five associations participated. Association-specific groups dotted in places of interest on detailed maps of the catchment area in A1 format. An additional working meeting was held where interesting stories related to water issues were highlighted. The meeting ended with the creation of a timeline on the wall, from the ice age until the present day, where notes with significant events were inserted in the right place. The resulting timeline was assembled and sent out for supplementation to all participants and associations who did not participate. A working group then met to determine how the material should be presented. The water council has also given a talk about Himleån at a meeting about water and heritage that Varbergs hembygdsförening (the Varberg Heritage Association) arranged with several hundred attendees.

Table 6. Examples of activities and results in the Himleån water council during the period. \*) Vatten & Miljö i Väst AB.

|                              | Meetings   | Material/information   | Measures   |
|------------------------------|--|--|--|
| <b>Project plan</b>          | <ul style="list-style-type: none"> <li>Workshop</li> </ul>   | <ul style="list-style-type: none"> <li>Project plan</li> </ul>   |  |
| <b>Internal work</b>         | <ul style="list-style-type: none"> <li>Water council meetings</li> </ul>   |  |  |
| <b>Sampling</b>              | <ul style="list-style-type: none"> <li>Planning</li> <li>Sampling at 25 locations on ten occasions</li> </ul>                            | <ul style="list-style-type: none"> <li>Test results</li> <li>GIS analysis of elevation data: sub-catchments, erosion, wetness</li> </ul>   |  |
| <b>Agricultural measures</b> |  | <ul style="list-style-type: none"> <li>Two seminars on measures (60 participants)</li> <li>Study visit, two-stage ditch</li> </ul>   | <ul style="list-style-type: none"> <li>Structural liming on two properties, 28 hectares</li> </ul> |
| <b>Stormwater</b>            | <ul style="list-style-type: none"> <li>Conversations with the municipality and Vivab*</li> </ul>   |  |  |
| <b>Water in the school</b>   | <ul style="list-style-type: none"> <li>Inventory and school contacts</li> </ul>  | <ul style="list-style-type: none"> <li>Description of educational aquatic environments at the schools</li> <li>Powerpoint for teachers</li> <li>Information for all teachers at three schools</li> <li>Two teacher guides in adventure education about salmon and bumblebees (2020)</li> </ul> |  |
| <b>Water and heritage</b>    | <ul style="list-style-type: none"> <li>Lecture</li> <li>Two workshops with five local associations</li> <li>Planning meetings</li> </ul> | <ul style="list-style-type: none"> <li>Report on nature and history</li> <li>Map with points of interest</li> <li>Brochure</li> </ul>  |  |
| <b>Himleån Day</b>           | <ul style="list-style-type: none"> <li>Planning meetings with associations</li> </ul>  | <ul style="list-style-type: none"> <li>Himleån Day (2020) with eleven participating organisations</li> </ul>   |  |

In addition to this, the cultural association Connected Dreams, which has participated in the water council, arranged the inauguration of a “Children's meeting place” by adopting Varberg’s oldest tree, which was watered with water from the Himleån during the Children’s Festival in Varberg. A similar tree is found at the UN headquarters in Nairobi, Kenya, where all municipalities with inaugurated trees are invited to participate in the 50th anniversary of the United Nations Conference on the Human Environment, which was held in Stockholm in 1972. Young people from the cultural association Connected Dreams, along with representatives from Varberg municipality, were invited to Nairobi and the UN meeting as early as 2007 with their sculpture *Droppen Connected Dreams*. Four young people from the association participated in the 2018 at World Water Week in Stockholm and presented their school project *Bee together* where Himleån is a pilot model.

## Ätran Water Council

The water council formed a vision that local self-sustaining water projects would spring up in the catchment area. Pilot projects were therefore started in two sub-catchments: Högvadsån and Ätran by Vartofta. Some members of the water council’s board have been involved in these local projects, and the water council’s member meetings have been an opportunity for feedback. At the end of the project period, there was an application for more funding for another local project to counter eutrophication and promote biodiversity in the upper parts of the catchment area, which was awarded.



Figure 31. Workshop on visions and work areas.



Figure 32. Station at Ätran for schools during Salmon Day.

During its member meetings, the water council has held workshops with around 25 participants who worked to develop a vision and identify priority work areas. The council's vision is to form a holistic view that includes clean water, biodiversity, unobstructed fish migration routes and sustainable water use. The vision also includes dialogue, collaboration and knowledge exchange, as well as the water council's role as a neutral platform to support these aims. Themes and working groups formed in workshops around the areas of water shortages, stormwater, schools, participation during Salmon Day, membership development and the water council's internal communication. Two full-day seminars on water shortages and stormwater were held, with a large number of participants from many different areas, including municipalities, the industrial sector, interest groups, hydropower owners, associations and the church. The seminars and the opportunity to come together to discuss the issues have been much appreciated.

Some areas that have been raised as important are ecosystem services, such as the landscape's water retention capacity and the blue-green infrastructure that watercourses, wetlands and surrounding environments create for many species, both in the water and along the shores.

The project has entailed a lot of work for the chair between meetings, and one issue has been the hiring of a business developer for the water council. At the end of the project period, two people were hired to handle coordination, one in the upper part of the catchment and one in the lower part. In addition, there was an application for more funding for a catchment officer, which was granted, who will work to reduce nutrient losses from agriculture in the catchment area.

#### The Vartofta project

This is a very attractive area that is dominated by agricultural land use, where the Ätran river was dug out and straightened during the 19th century. The area holds a very high nature value, mainly in the form of calcareous grasslands on the eskers that run through the area. Unique plants grow on top of this substrate, including dragonheads and European feather grass, as well as rare solitary bees, bumblebees and butterflies. All of these cultural landscapes depend on a living agriculture with grazing animals.

The project was started in 2017 by the water council's chairperson, a farmer by trade, in collaboration with a drainage company. The drainage company (Infobox 4) included the 30 or so landowners from the area along the stretch of the watercourse. The watercourse was heavily overgrown, and they would clear the watercourse furrow along a 10 kilometre stretch. The idea was to explore what measures could be taken while reducing nutrient losses to the river and also to benefit the biodiversity in the river to achieve good status. The ecological status has been assessed as moderate, mainly due to high nutrient levels.

At a start-up meeting in the winter of 2017, six farmers, officials from the Greppa Näringen (Focus on Nutrients in English, advises farmers on nutrients and the

environment), the county administrative board, the Swedish Board of Agriculture, SLU and the water council all participated. An idea inventory was done in two groups. There was discussion of synergy effects and opportunities for win-win. Are there solutions that simultaneously benefit multiple ecosystem services, such as food production, water quality and biodiversity and perhaps reduce the need for clean-up? There was also talk of recreation, the Pilgrim Path that runs through the area and the opportunity to reach visitors.

#### Infobox 4

**A drainage company or canal company** is an association that has been formed to improve land drainage through ditching, straightening watercourses and sea subsidence, usually to gain new arable land. The properties that were considered to benefit from the measures were included in the company. Measurements determined the shape and depth of the furrow in a court ruling, which the drainage company is obliged to maintain by repeatedly clearing the watercourse. There are about 50,000 drainage companies in Sweden and many were formed during the 19th century when large areas were ditched to create new arable land to meet the demands of a growing population. The state provided grants for this work, much of which was done by hand. It was not uncommon for farmers to be resistant to the implementation of these very labour-intensive projects.

Table 7. Examples of activities and results in the Vartofta project during the period.

|                       | Meetings   | Material/information   | Measures  |
|-----------------------|--|--|---|
| <b>Project plan</b>   | <ul style="list-style-type: none"> <li>• Workshop</li> </ul>   | <ul style="list-style-type: none"> <li>• Project plan</li> </ul>   |   |
| <b>Planning</b>       | <ul style="list-style-type: none"> <li>• River walks</li> <li>• Study visit to the farm</li> <li>• Planning meetings</li> </ul>  | <ul style="list-style-type: none"> <li>• PowerPoint presentation of the area</li> </ul>  |   |
| <b>Knowledge base</b> | <ul style="list-style-type: none"> <li>• GIS analyses of elevation data</li> <li>• General biological assessment</li> <li>• Analysis of ecosystem services</li> <li>• Measurement of river channel</li> <li>• Diatom study</li> <li>• Continuous sampling station</li> </ul> | <ul style="list-style-type: none"> <li>• Area description with maps: wetness, soil type, sub-catchments, grasslands</li> <li>• Report, ecosystem services</li> <li>• Watercourse profile</li> <li>• Measurement results: flow, turbidity, conductivity, precipitation</li> </ul> |   |
| <b>Measures</b>       | <ul style="list-style-type: none"> <li>• Landowner meetings, internal proposals for wetlands</li> </ul>  | <ul style="list-style-type: none"> <li>• Pre-design of wetlands, erosion protection, etc.</li> <li>• Design</li> </ul>   | <ul style="list-style-type: none"> <li>• Five wetlands, 3 hectares</li> <li>• Adjustable dry well</li> <li>• Biological erosion protection</li> <li>• Clipping tree height, 100 metres</li> <li>• Increased buffer zones one kilometre</li> <li>• Environmentally friendly clearing of 15 kilometres</li> </ul> |



Figures 33 and 34. Start-up meeting with discussions about the focus and working meeting to draw up proposals for measures (Photo left: Madeleine Prutzer).

Many ideas and questions about various measures emerged, such as buffer zones, more stable slopes, wetlands, floodplains and irrigation ponds. Another thing that came up was the need for additional knowledge. Inventories and river walks were needed for this, and participation was requested from Greppa Näringen (Focus on Nutrients), the Swedish Society for Nature Conservation and the municipality. There was a general sentiment that more collaboration between authorities was needed as well as grants that create a more uniform whole. Much the same as Himeån, the farmers felt that they were considered “environmental villains” and they had to submit a lot of paperwork to authorities. The council did not want to be forced to take measures in the future, but to instead show that they were leading the way today. Low groundwater levels and future water shortages were also a concern. A working group put together a proposal for a project description, which was then discussed with the landowners.

River walks were then held with farmers, Greppa Näringen (Focus on Nutrients), the county administrative board, SLU and the water council. Different environments and measures were discussed. Additional river walks along the stretch were held with individual landowners, the chair of the water council and a consultant hired by the water council to help with the project. During the summer, a biologist did a biological inventory of the area’s natural environments and nature values, both in the aquatic and terrestrial environment. Grasslands with endangered flora and valuable pollinators, such as solitary bees and bumblebees, were noted. A map of the sub-catchment with soil type and topography was drawn up. Through elevation data, maps of soil wetness, topography, smaller sub-catchments and the length profile of the watercourse were also produced.

The results from river walks, the inventory and maps were compiled into a presentation with images from the area. This was presented at a new meeting, and the next steps were discussed. The landowners had initially expected more explicit information about what could be done in the area and felt a certain degree of frustration about the uncertainty regarding what was possible.

At a subsequent meeting, maps were used where each farmer drew out places where they wanted constructed wetlands. Using this documentation, a compilation was made of all measures that could be implemented in the area, mainly through

wetlands but also buffer zones, phosphorus traps, adjustable dry wells, low-gradient slopes, alder planting and biological erosion protection. Next, the hired consultant and the respective landowners began to put together a joint grant application. In addition to the pre-design of wetlands, measurement of the river furrow was included in order to be able to model flows. A measuring station for the continuous measurement of turbidity, conductivity, flow and precipitation was also added to the application. The application was approved, and in 2018, another consultant was hired to perform the work in the field in dialogue with landowners. The project grew and took more time than anticipated. Since the work was already in progress, the drainage company decided to postpone clearing until 2019.

The work was presented at the drainage company's meetings where more landowners were in attendance. Here, the farmers emphasised the importance of submitting the application jointly in order to reduce the workload and help implement measures that made the biggest impact on the whole. It became clear that more communication needed to be directed towards the farmers in order for them to get involved. A new application to implement the measures that the landowners favoured was submitted at the end of 2018, which was granted in the spring of 2019. Clearing of the section was complete in 2019, and planning of the constructed wetlands began before 2020.

Measures were also taken on the initiative of individual landowners. Examples of this were tests of trimming down the height of smaller trees to maintain shading of the watercourse and to create buffer zones to reduce the erosion of soil into the watercourse.



Figures 35 and 36. Buffer zone along Åtran and height cutting of shrubs on the landowners' own initiative (Photo right: Per Ericson).



Figures 37 and 38. Joint river walk and an existing wetland that has spontaneously formed.



Figure 39. River walks.

### Biodiversity in Högvadsån

At the beginning of 2017, the water council invited all interested parties to an open dialogue meeting on biodiversity in Högvadsån. The area is important for Atlantic salmon and freshwater pearl mussels, among other species. The lower part of the Högvadsån has achieved good ecological status, but the upper half and many tributaries still have moderate status due to, among other things, obstacles to migration for fish and previous clearings of blocks and stones.

Around 60 people attended the meeting. Landowners, hydropower owners, anglers, municipal officials, municipal politicians, the Swedish Forest Agency and the county administrative board participated. After lectures on freshwater pearl mussels and a presentation of the ideas regarding starting work on the local level, participants were divided into groups to discuss their individual thoughts and ideas. Finally, participants were asked to indicate, in writing, if they wanted to continue in a working group or to receive information about the work. Twenty-two people attended the next dialogue meeting. This meeting and the following meetings also contained a diverse mix of participants: landowners, hydropower owners, anglers, municipal biologists, politicians, the Swedish Forest Agency and the county administrative board. This was a working meeting where participants set out to answer the question: *What should we work with?* Participants started the meeting by considering the question individually and then wrote down the thoughts that came to mind. They took their notes with them into small groups where they engaged in discussion and sorted the notes under headings that they formulated. The groups then discussed what they had come up with and everything was compiled on a board. Participants zeroed in on three focus areas:

1. Knowledge building and information. Forestry and agriculture.

2. Open migration routes, river bottom restoration, flow regulation.
3. Collaboration between interests: Outdoor recreation, cultural heritage, sport fishing, fisheries conservation associations.

Participants then divided into groups according to the focus area that interested them most. The groups considered: *What needs to be done? Who is affected? What is needed?*

At the third dialogue meeting, four working groups were formed. Three of these groups focused on additional local projects in parts of the Högvadsån or its tributaries. The fourth group worked more in-depth on the Högvadsån system and discussed biotope care and open migration routes, and also worked to develop a knowledge library of previous surveys and reports. One of the participants presented pictures from his local watercourse and surprising problems, which he discovered simply by walking along the watercourse. He coined the term Faddervattendrag (Watercourse Sponsor), which means adopting a watercourse that you investigate, learn about and work to improve.

The various working groups then continued by conducting river walks with the landowners, inventories, study visits and electric fishing demonstrations. Grant applications were submitted, and a variety of measures were implemented. At the fourth dialogue meeting, participants celebrated how far they had come in their work by sharing a smörgåstårta (sandwich layer cake). The groups discussed what had happened so far, and the county administrative board provided information about the interesting but endangered fish species, the sea lamprey, that is found in the area. After this meeting, another working group was formed. It was a householder's association that wanted to perform an inventory and gather information about a tributary to Högvadsån where they had a hiking trail.

Each working group has reached out to engage new landowners, businesses and the general public. The groups have had their own process, from the idea stage to implementation. The groups' activities highlight the importance of continuity – in terms of people – and good communication as well as gaining the trust of the landowners, which is something authorities and water councils can learn a lot from. Physical measures have already been taken or are planned for implementation in three of the four local working groups. Measures are now being implemented in Högvadsån and one of its tributaries to restore more varied bottoms with stones and blocks to help salmon, trout and freshwater pearl mussels. In Kvarnabäcken, remediation of environmentally hazardous waste has been done and two migration barriers have been removed. One of the barriers was removed through a dialogue with the landowner and a process with the Swedish Transport Administration concerning a change to a road culvert during the construction of a cycle path.

In parallel with the projects, the Ätran Water Council started a nature guide training programme in a village hall beside the Fageredsån, which is an important tributary to the Högvadsån river for salmon. Three highly productive meetings with 16 participants were held. The aim of the meetings was to inspire more people to

arrange and lead their own river walks. After the course, participants participated in several local river walks.

The water council also had its own station during a salmon theme day in Falkenberg within the international initiative Laxens År 2019. An information map was produced, showing the Atlantic salmon's migration in the Ätran up to the Högvadsån water system. Here, Högvadsån was situated in a larger context that included Ätran and the North Atlantic. Visitors to the water council's station included school classes and the general public, where they also had the opportunity to net small insects from Ätran.



Figures 40 and 41. The third dialogue meeting and river walk with the Hjätaredsån group.



Figures 42 and 43. Working group meeting with landowners along Hjätaredsån. Measures to restore bottoms for mussels and trout in Högvadsån by Torsås.



Figures 44 to 46. Electric fishing demonstration in one of the watercourses (Photo: Ingela Danielsson). Study visit with salmon ladder past the dam. Replacement of road culvert for better passage for fish (Photo: Håkan Bengtsson).

Table 8. Examples of activities and results in the Högvasån project during the period.

| Group  | Participant  | Events  | Measures   |
|--|--|---|--|
| Overall  | <ul style="list-style-type: none"> <li>• Planning group, four people</li> <li>• Start-up meeting, 60 people</li> <li>• Working meetings, 15-25 people</li> </ul> | <ul style="list-style-type: none"> <li>• Planning meetings</li> <li>• Four dialogue meetings</li> <li>• Lectures: Kvarnabäcken, sea lamprey, hydromorphology</li> <li>• Study visit, fish ladder</li> <li>• Electric fishing demonstration</li> <li>• Knowledge library</li> <li>• Participation in salmon day</li> </ul> |  |
| Local water group 1: Högvasån at Torsås                                  | <ul style="list-style-type: none"> <li>• Four landowners</li> <li>• Municipal biologist</li> <li>• Consultant</li> </ul>   | <ul style="list-style-type: none"> <li>• Several river walks</li> <li>• Grant application</li> </ul>  | <ul style="list-style-type: none"> <li>• Restoration of cleared bottoms along 500 metres</li> </ul>  |
| Local water group 2: Hjätaredsån   | <ul style="list-style-type: none"> <li>• Six landowners</li> <li>• Hydroelectric owner</li> <li>• Municipal biologist</li> <li>• Consultant</li> </ul>           | <ul style="list-style-type: none"> <li>• Two river walks</li> <li>• Knowledge compilation</li> <li>• Grant application</li> </ul>   | <ul style="list-style-type: none"> <li>• Restoration of cleared bottoms along 1000 metres (2020)</li> </ul>  |
| Local water group 3: Kvarnabäcken Faddervattendrag (Sponsor watercourse) | <ul style="list-style-type: none"> <li>• One landowner</li> <li>• Consultant</li> </ul>  | <ul style="list-style-type: none"> <li>• Biological inventory.</li> <li>• Dialogue with the municipality and the Swedish Transport Administration</li> <li>• Informed about stormwater discharges</li> </ul>  | <ul style="list-style-type: none"> <li>• Removal/clean-up of oil drums</li> <li>• Migration obstacle removed, eel trap</li> <li>• Reconstruction of road culvert for improved migration route</li> </ul> |
| Local water group 4: Gamlarydsån   | <ul style="list-style-type: none"> <li>• Householder association, six people</li> </ul>  | <ul style="list-style-type: none"> <li>• Inventory (2020)</li> </ul>  | <ul style="list-style-type: none"> <li>• Information boards (2020)</li> </ul>  |
| Fageredsån Nature guide training   | <ul style="list-style-type: none"> <li>• 16 participants</li> </ul>  | <ul style="list-style-type: none"> <li>• Three meetings</li> <li>• At least three completed river walks by participants</li> </ul>  |  |

## Joint follow-up meeting 2018

In March of 2018, all participants in the pilot projects were invited to a half-time follow-up meeting in Varberg. Almost 30 people participated with a similar participant mix as at the start-up meeting. The questions that served as a starting point were:

- What has worked well? What are you satisfied with?
- What has not worked well? What are you concerned about?

During the meeting, the participants tried several approaches to tackle the subject matter. They worked individually, in pairs and in groups. Thoughts were written down and taped up on the walls so participants could mingle and chat about the topics. Participants thought more deeply about how successful the project had been and why the problems were a source of concern. Some of the opportunities the participants highlighted were the participation, dialogue, forums, knowledge increase and collaboration. Some of the problems that were highlighted were the lack of time, slow pace of measure implementation and difficulty in outreach efforts.

### *This has worked well:*

**Work with the municipalities** Tourism and fishing Own water sampling  
**Involvement and participation** Collaboration **Boldness**  
**Liming** Forums and dialogue **Young people and schools** Better  
 drainage [or better outflow]  
**Information** Increased knowledge **Biodiversity**  
 Reduce nutrient losses River walks Utilising culture Conscious consumption

### *These are concerns:*

**Associations** Problems with data and follow-up **Forestry sector not engaged**  
 Unclear roles Poor communication with authorities **Difficult to reach out** Fish migration routes  
**Few measures** **Lack of time and resources** Conflicts of interest  
 Few piers **Eel fry**  
**Fears** Insufficient knowledge **Power imbalance** Drainage companies  
**More long-term** Stone piers **Unclear how measures should be**  
**implemented** Lack of a holistic view **Associations**

Figure 47. At the top are things participants were happy with and what was experienced as a positive when carrying out the work. At the bottom are things that were cause for concern. The size of the letters corresponds to the number of people at the meeting who raise a particular issue.



Figure 48. The work process during the follow-up meeting.

Another exercise asked participants to flash forward in their minds to 2030 when all the problems were solved. What did this vision look like? They worked individually, in pairs and in groups. The visions included win-win solutions, collaboration and a holistic view of the water system, greater local influence and sustainable local development.

Finally, the whole group created a futurespective, looking from 2030 at the years following 2018. They imagined themselves living in 2030 and thought back on what had happened along the way. Together, they laid out notes with all of their individual memories along a timeline, and a story took shape. The results from the day were compiled and sent out.

A few examples of events from the futurespective exercise:

- 2018: The vision was developed. This is what I/we want to happen.
- 2019: The municipalities in the catchment area invited the water council to discuss the future division of responsibilities and working methods.
- 2019: People with different knowledge gathered at local meetings to come to an agreement on how to sustainably manage the water and resources we share in the local area. The experience and knowledge of everyone was used to the fullest extent.
- 2020: Politicians set aside tax funding for catchment officers and the implementation of local measures.
- 2023: Conditions were created so schools could integrate water issues into their curriculum.
- 2027: A walk along the Himleån, saw an otter family, a kingfisher and fish were looking up out of the water everywhere.



Figures 49 and 50. The futurespective is created together (left) and group work where participants interview each other about what has been problematic and why (right).

The day ended with a joint reflection on how the day went:

- When the projects were presented at the beginning of the day, I thought: How different the projects are! At the end of the day, I saw how similar we are and how much the projects have in common.
- Has felt magnificent and fun to see new faces.
- Impressed with the way everyone contributed.
- Good method. Everyone got to speak.
- We have been forced to tread new ground.
- Surprisingly, we are in agreement.
- Politicians and constituents. We think alike but we rarely meet to share each other's visions.
- We also need to include school authorities so that teachers have the opportunity to work this way.
- We have thought in structures – one way to work in collaboration.
- Easier now to find common ground.
- We now have models to start working locally.

## Tool descriptions and evaluation

One goal of the project has been to document tools that support participation, collaboration and measures. During the spring of 2019, working methods were described in text that were used within the pilot projects and developed further. This resulted in 58 tools, which were posted on the Swedish Agency for Marine and Water Management's website in the autumn of 2019. For additional information, see more under the heading *Tools for local collaboration on water*.

During the spring of the same year, evaluations were done together with the participant observer in each pilot project. The evaluation was part of the international evaluation performed in each country. A timeline of events was drawn up for each pilot project (Fig. 51). When the groups saw the compilation, they were often pleasantly surprised to find that so much had been accomplished. It was used as a tool for reflection and to get a visual representation of everything that had been done. Over two hours, a number of issues were discussed with the groups. The participant observer who followed the project actively participated and recorded thoughts as they arose.

This included things that worked well and things that did not work as well. Some of the things that emerged through this process were an identified need for continuity to create good dialogue, a holistic view, communication, trust and knowledge. In terms of continuity, there is a greater need for people who can set aside time and coordinate as well as adequate funding for the projects. It is important that working methods and tools are in place that support dialogue where everyone has a voice and knowledge can be conveyed in a way that is easy to understand. Water councils also need a more clearly defined role, which means that the authorities see a more local, broad knowledge base as an important resource to be sought after. The results are presented in a special report (Prutzer 2020).

To gain further input from individuals outside the pilot projects, presentations and workshops about the project and tools have been held at the Sea and Water Forum in Gothenburg, the Water Days in Halmstad and the Water Council Day in the Bottenhavet and Västerhavet water districts.

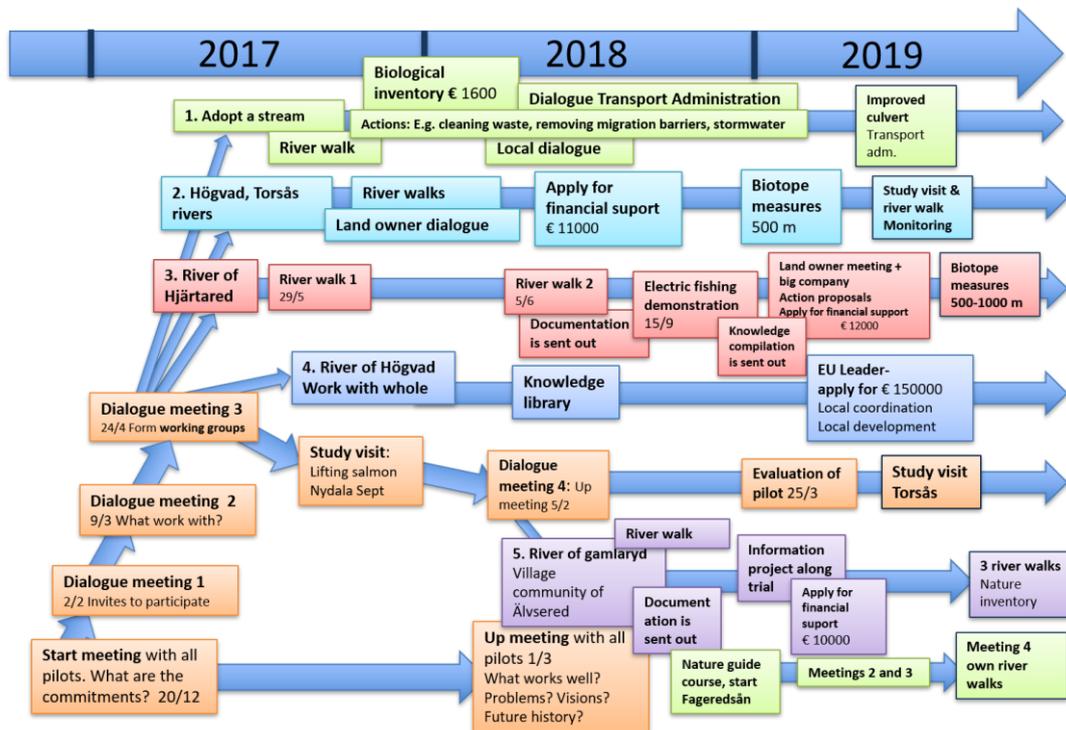


Figure 51. Historic timeline depicting various events in the Högvadsån pilot project. The image was used in the evaluation, which was done together with the local water group in Högvadsån.



Figure 52. Workshop on the tools at the Water Council Day in Gothenburg. The Water Council Day is an opportunity to exchange experiences between water councils in which the pilot projects participated (Photo: Madeleine Prutzer).

## International and external meetings

Two international meetings have been held per year in which all participating countries have participated. The meetings have had different themes depending on the phase. There has been an emphasis on overall project issues, but there has also been an exchange of experiences and working methods. For example, the work in Denmark with Catchment Officers inspired Sweden to start the LEVA project (Local engagement for water) with catchment officers in 20 pilot areas in Sweden.

The conclusions have been that the conditions and working methods differ significantly between countries and are largely dependent on history, culture and organisational structure. Still, there are many common denominators between countries and knowledge that can be shared, which are important aspects to highlight. The exchange highlighted, for example, the benefits of collaboration, the importance of understanding how the drive to participate arises and ways to build trust. Actors in this sector generally want to be part of the solution rather than being seen as part of the problem.

A number of participants from the pilot projects participated in the two international meetings held in Sweden (2017 and 2019), The pilot projects have also presented their projects and held guided tours along the water systems for participants from other countries.

There was also a study visit to Denmark in 2018 that included participants from two of the Swedish pilot projects. The participants were able to see Denmark's methods for wetland construction, restoration of floodplains and haymaking to protect watercourses in agricultural areas.



Figures 53 and 54. The Himleån Water Council guides attendees along the Himleån at an international partner meeting in Varberg, 2017.



Figure 55. The Mölndalsån Water Council guides attendees along the Mölndalsån at an international partner meeting in Gothenburg, 2019.



Figure 56. Study visit to the Danish Water Co-Governance pilot project, 2018.

## Working group

The project-wide working group in Sweden has consisted of participants from the Swedish Agency for Marine and Water Management (SwAM) and the Skagerrak and Kattegatt Water District Authority (SKWDA), as well as a participant observer. The resource person who worked with the pilot projects has served as the link between the authorities and the pilot projects.

The working group underwent its own learning process. The same challenges seen in the local pilot projects were also observed in the working group and among the

participating authorities, which largely concern time, continuity, collaboration, communication and leadership.

A necessary component for the development of knowledge and the content of this report has been time for reflection and discussion in the working group, both regarding the group's own process and the various processes in the pilot.

## Recurring patterns

### Interest and involvement

Participation and good involvement – but difficult to reach out

Within the various pilot projects, there has been a high level of involvement and willingness to participate. The motivation for participation can vary. As a member of a water council, you are often appointed to represent an organisation, but knowledge of the issues and involvement often increases with participation. Participation sometimes comes about because an individual is interested, involved or perhaps concerned about an issue from the start. An individual may participate to seek information and knowledge or to get involved and have an influence. Individuals may want to contribute to resolving problems and improving the environment in collaboration with others. An individual may also participate to safeguard their own or their organisation's interests. It may be that an individual feels that their operation is threatened or that future requirements may be imposed that you want to stay one step ahead of.

Several committed individuals have participated in meetings. These individuals came from authorities such as municipalities, county administrative boards, the Swedish Forest Agency and the Swedish Board of Agriculture, which has been an important development. A number of the municipal biologists who participated in water groups have undertaken a commitment to coordinate the work. On the other hand, the municipalities' community planners have been notably absent, and these individuals have an important role in water-related work.

It has often been noted that there is a special commitment to one's own local area, watercourse or lake where one lives or owns land. Several local water groups have been formed. The inclusion of local cultural heritage and sustainable use of land and forests has also increased interest and involvement, and more people have been affected.

While the water councils report tremendous local interest and a large number of engaged landowners, they also report that it is difficult to reach additional landowners and a broader public, as well as businesses and municipal administrations. In several pilot projects, it has been difficult to get the municipalities involved, particularly the planning departments. The water councils and the concept of a catchment area are still largely unknown to the majority of municipal residents.

Another obstacle may be the occasional distrust of authorities, which prevents individuals from attending meetings. For example, there may be a fear among landowners that they will lose control of their land due to a high nature value or that they have not previously been notified of proposed measures or inventories. It is important that water councils are truly open to critical voices and viewpoints. Even

among the critics, there are often thoughts and ideas that can benefit the council's work and can be an important asset.



Figure 57. River walk at Vartofta and a meeting between landowners, the county administrative board and water council.

*Compilation of results 1. Thoughts on participation and involvement – from the pilot projects” follow-up meeting on 1 March 2018.*

**What has worked well?**

- Increased involvement and participation in the water council.
- Meeting formats where everyone can get involved and contribute.
- Trust in the future.
- Strong local interest.
- Committed project managers.

**How did you manage to make that happen?**

- Strong interest in the issues. Creates more interest and involvement.
- Water is important and affects everyone.
- Local pride among those living by the catchment area.
- Through several meetings that the water council paid for.
- Agriculture felt threatened.
- Most landowners have a healthy interest in the local watercourse.
- I got together with important people.
- Feels like it will be good for the environment.
- Breadth of knowledge. Understanding. Complexity.
- Interest in highlighting heritage. Why are things the way they are?
- Create change and gain knowledge.
- Inspirational people who are fun to work with on an issue, that creates enthusiasm.

**What are the obstacles?**

- The public does not know much about our water council.
- Difficult to get broad involvement in the catchment area.
- It can be difficult to disseminate knowledge and to create involvement.
- Only a few are working to organise and drive local collaboration.

**Why does this concern you?**

- It takes a lot of time and we have only been able to reach out to a small number of people in the catchment area.
- Involvement takes a lot of time. Is non-profit involvement always something we can rely on?
- Work to implement measures cannot rest solely on non-profit involvement. Water affects all of us.
- The structure is not sustainable over the long term.
- As a landowner, you may not have enough time.
- In order to take action, many different parties need to be involved. Without broad involvement, certain issues are lost in the shuffle. It will be difficult to achieve good status in the water bodies.
- You are worried you will have to do too much. As a landowner, you may not have enough time.
- Fear of being forced to take action.

- Lack of key people who have a commitment to everyone.
- We have not been able to reach the public. Everyone is important for our water.
- The municipality has too little time to get involved and coordinate things. But more could have been done in the project if it had been possible to spend more time on the projects.
- The municipality does not oppose the projects themselves or taking a role in running the projects, but there is not enough time.

**What is the vision? (From text and images from written descriptions)**

- Long-term and sustainable engagement.
- Greater local influence, respect for local knowledge.
- Legislation that leaves room for creativity among individuals responsible for the commons.
- Start from the human perspective, which consists of water in a cycle.
- Someone in the role of coordinator would be needed who has time to do this.

One problem with involvement can be that a lot of work often depends on a few enthusiastic people to get things going. Involvement often leads to an increase in the amount of work. More and more work can gradually be piled on to the most active people, and when they happen to burn out, have other things to do and cannot participate, the work stops. Involved people are of course an asset, but there is also a risk that they can take over the group. You can miss the communication and dialogue when the group is lost.

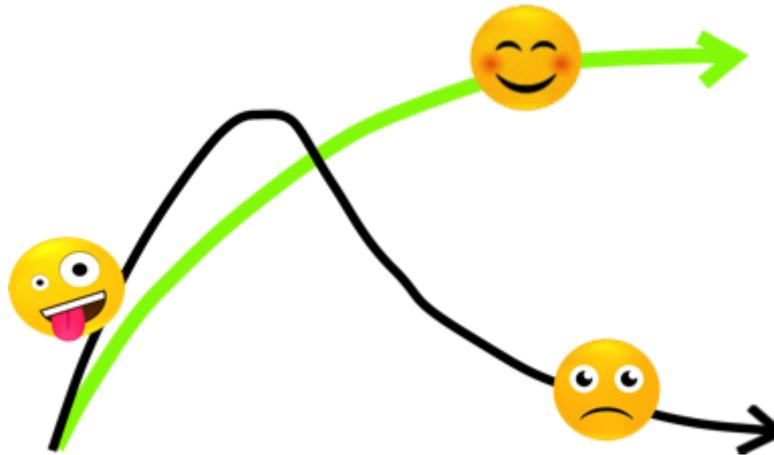


Figure 58. We need long-term, sustainable involvement instead of a kind of involvement based on short-term projects where a lot is invested in a few enthusiastic individuals.

One conclusion is that water gets people involved, stirs interest and evokes emotions in many people. Water is therefore a very good starting point for a broader kind of involvement that inspires collaboration and a holistic view in relation to the local area or community. This is because water is so vital in many ways, though it can be the

source of problems. In addition, it is important for recreation and experiences of nature.

The willingness of the city's residents to spend money to achieve good ecological status in the area around Gothenburg has also been quite high. In fact, it is estimated to be enough to cover the cost of the necessary improvements to achieve good ecological status in Gothenburg's watercourses, lakes and coastal waters (Soutukorva & Wallström 2018).

### Inclusion of more people

It has also been clear that in the pilot projects, there is a desire to create a dialogue between individuals and different stakeholders, both between those who have participated in the group and those who have not yet become involved. You of course want to include more people and organisations for a number of reasons. There is often an open and welcoming attitude. In the groups with farmers, there was a desire to include anglers and nature conservation associations because they could contribute valuable knowledge to the group. *"It is such a good thing that you are part of the water council, now we can learn about how many fish species there are in the river"*. Within the Mölndalsån Water Council, there was also a sentiment that the Swedish Society for Nature Conservation's participation was a valuable resource that contributes knowledge about different species and environments in the area. A diverse group holds a great deal of knowledge in areas that complement each other, and you can learn a lot from each other. In the dialogue between people with different perspectives, creative solutions with a more holistic view can emerge.

Broader perspectives also mean that more people will become interested and get involved. In this way, you can get more people involved in the water council's work. You can also connect to local networks and activities that have broader outreach and thus reach many more people.

Another reason the participants want to reach more people outside the water group is that they feel that they possess valuable knowledge that needs to be put to use and that they want to be involved and contribute to the development of a more sustainable society through greater consideration for ecosystems. There is often a desire among members of the water council to create more dialogue and contact with the municipal administrative bodies that have a direct impact on environmental issues through their activities or community planning work. Having a broader water council group can add more weight to the activities of, and trust in, authorities for example.

Some approaches taken in an attempt to reach more people have been extending a broader invitation to various theme meetings, creating personal contacts and cooperating with local networks, such as heritage associations, householder associations, schools, LRF associations and drainage companies or providing information at the municipal council, starting nature guide training programmes and reaching out to media.

In water councils, women, young people and people originally from other countries, are often underrepresented. However, the proportion of women and young people involved in the water councils' work and networks can be increased in a number of ways. The proportion of women in the Högvadsån project increased from 24 percent at the start-up meeting to 45 percent at subsequent meetings, which were more focused on local and practical work. The number of women involved in Himleån's work also increased through collaboration with local associations. The Himleån Water Council also targeted schools to reach children and young people.

The association Connected Dreams, which works in collaboration with the Himleån Water Council, has also targeted the school to increase youth involvement. The association has a project concept, Bee together, which aims to include young people in work related to the water we share. Over the years, young people have been able to follow the emergence of water councils, and young people in the region have had contact with the Ätran Water Council from the start. The young people there have helped guide the council's vision, for example, by creating a students' water council, sister rivers in other countries and by creating a context and a whole that includes more young people, women and other cultures in the council's work. Which is how they arrived at the name Bee together, where the bees are a symbol of collaboration and the water cycle.

The composition and organisational structure of water councils can vary. One perspective that has emerged is that it is important that every water council has a sufficiently wide organisation so that a minimum of all interests are represented in the council and on the board and so that there is not too much bias in favour of any particular interest. It is also worth noting that the water councils take different approaches towards new members. The Himleån Water Council is an open network where all interested parties are welcome and has no membership fees. However, to become a member of the Ätran Water Council, you need to apply and be accepted. The council has an annual membership fee. The Mölndalsån Water Council, on the other hand, does not take new members. This is a closed network that was formed in a single decision by the municipalities that are included. The openness of the different organisations is thus quite different, which likely affects the dynamics. A water council with a more open organisation will likely find it easier to bring in new people who are interested in the issues and may also be able to work more actively between meetings.



Figure 59. Presentation round before river walk to examine the results of measures in Högvadsån by Torsås.

## Collaboration

The vast majority of people in the project express a desire for greater collaboration. This is a desire to move away from an *us versus them* approach to a *we* who work in collaboration. It also represents a desire for a more holistic view that integrates different issues. Landowners sometimes express frustration over what they see as a lack of a holistic view among authorities, where they express that different authorities or departments within authorities send mixed messages or are overly focused on a small part of a greater whole. River walks, where people with different areas of expertise participate, are seen as a positive. When farmers, foresters, drainage companies, biologists, individuals with knowledge of cultural heritage and authorities participate, engaging and inspiring conversations arise where a holistic perspective of the landscape can emerge. This creates the conditions for better, long-term measures with a more holistic view.

Landowners in Vartofta have emphasised the importance of local collaboration both in the application process to secure funding and in the implementation of constructed wetlands in the agricultural area. By assisting in these activities, individuals can ensure that the best possible measures are implemented and can help improve the environmental condition of the area as a whole. Many landowners have neither the energy nor the resources to implement measures, but by being able to participate and help in the process, the measures can still be implemented.

This kind of collaboration is not always a given when it comes to work carried out by authorities. Both landowners and water councils feel that municipalities and state authorities do not invite them in to participate in issues that have a direct impact on them. Some examples include landowners who have expressed a strong desire to be more involved in the road construction process. The persistence of one landowner resulted in the removal of migration barriers caused by road culverts, which otherwise would have remained in place. On other occasions, the water council has not been informed of interesting water projects that the county administrative board has worked on. Referrals concerning projects that impact aquatic environments are often not sent directly to the water councils. The water councils would rather collaborate with the planning departments at an early stage than respond to referrals in the final

stage. However, it has been hard to establish greater collaboration with municipalities. This creates missed opportunities for collaboration between municipalities and authorities, which can also mean that planning and projects miss out on good solutions.

The county administrative boards have had contact persons who participated in water council meetings. This has been a valuable development; the contact people were able to contribute knowledge and bring information back to the county administrative boards. Through the contact persons' interactions with multiple water councils, they can also be a valuable resource for knowledge and information exchange between the water councils. An important exchange of experience and collaboration between the different water councils has occurred in a variety of ways, for example, through the annual Water Council Day organised by the water authority.

The project has shown the financial benefits offered by a type of collaboration that generates more effective and sustainable measures while also inspiring local involvement. Within the project, we have seen a significant increase in the contributions of the water authority in the water council's work. This has mainly occurred through the water council's applications for various grants and membership fees. For their part, the water councils implement various measures that are beneficial to municipalities. These measures may relate to improved water quality, increased biodiversity and increased awareness and knowledge about water issues among the municipality's residents.

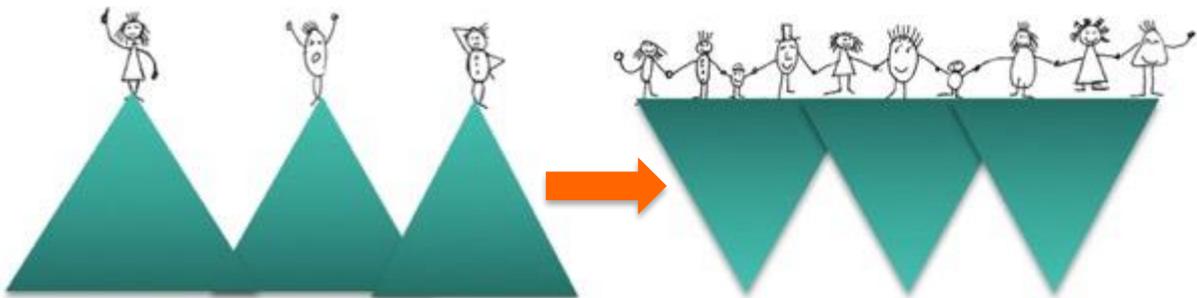


Figure 60. Sometimes we build up walls around ourselves through specialisation or our work within interest groups. There is a clear desire among many groups as well as in the water councils to get away from an “us versus them” attitude and move toward collaboration and a creative we. By changing our perspective, where we open up forums for different people, groups and organisations, we can achieve this.

### Providing space for everyone

At an evaluation meeting for the pilots, one thing that was highlighted as important is that everyone should have a chance to speak at a meeting. This requires an atmosphere of openness and a willingness to listen, so that dialogue and participation can form with everyone on equal footing. Working methods and structures need to be developed to support this. Several of the tools proposed here serve this purpose. Many of the meetings during the pilots have started with a moment of individual reflection, where participants write their thoughts down on

paper. The notes were then taken into small groups where participants listened to each other's thoughts. The group then assembled the thoughts in a structure by sorting the notes under headings. This emphasises the importance of each participant's thoughts as well as the importance of listening to everyone in the group. The groups in the workshops have been more varied, with dialogue in small groups or two by two and in a whole group. The groups often concluded with a moment of reflection where participants got to hear each other's thoughts about the work process.

A process leader may be needed to facilitate good dialogue, someone who helps create a structure where one-way communication is avoided in favour of dialogue. This is part of developing a fundamentally democratic approach.

*Compilation of results 2. Thoughts on collaboration – from the pilot projects' follow-up meeting on 1 March 2018. Collaboration was highlighted as something that worked well in the pilot projects – even though obstacles were encountered – along with a desire to further increase collaboration.*

**What has worked well?**

- Contribution to future collaboration between stakeholders, national projects.
- Satisfaction with the project and how we can work with culture to get our message across.
- Collaboration increases opportunities for effective solutions.
- Good collaboration with administrative bodies.
- Seeing how collaboration and commitment lead to positive measures.
- Formation of water directive groups in the municipalities.

**How did you manage to make that happen?**

- Curiosity and the desire to work together to make things better.
- The desire and belief that we can improve the situation
- Interest in how different stakeholders can come together based on different interests.
- Influenced the municipality's decisions in water issues. Contact with the municipality.
- Showed the problems on site.
- Personal contact between the water council and municipality.
- Collaboration with other local associations.

**What are the obstacles?**

- Rigid regulations. Contact with authorities.
- Conflicts of interest in the council.
- Ownership – conflict of interest.
- The water council needs a clearer role with respect to the municipality.
- The water council's role is unclear.
- We need to formulate a clear goal for our work with local collaboration.
- Unwieldy work – takes patience.
- Running and organising local collaboration takes a lot of time/resources. Who has the time?
- The public needs to gain an understanding of our role in water related activities from an agricultural perspective.

**Why does this concern you?**

- Affects the possibility to achieve results. The process takes time. You end up lagging behind.

**What is the vision? (From text and images from written descriptions)**

- We resolve things together, common sense.
- Collaboration and win-win: Drinking water, biodiversity and active outdoor life.
- City and countryside.
- The greater whole Work and leisure, time together, diversity and collaboration.
- Optimum balance: Right of ownership – the rules of society.
- Communities where we collaborate and solve problems.

- Respect for each other.
- The water system and knowledge connect schools to towns, city and the countryside.
- Sister river in Africa.
- Consensus and synergies: Between/within authorities, between different stakeholders, e.g. hydropower, water in Natura 2000, funding for measures, stormwater.
- Local measure coordinators.



Figure 61. Atran Water Council talks about visions and what they would like to work with.

### Need for forums

On more than one occasion, the pilot projects expressed a need for neutral forums that are not arranged by any authority or interest group. Participants then suggested that the water councils create ideal spaces for such a forum.

Relationships *between* different interest groups can often be characterised by mistrust and polarisation. We therefore need to create a forum where different people, organisations and authorities can come together to listen, get to know each other and build trust to create greater collaboration, a holistic view and creative solutions. This need also exists *within* organisations, such as authorities. The operation's own activities often focus on internal goal management and budgeting, while space for collaboration and a holistic view are crowded out by a lack of time, budget and shared goals.

We have seen better and more efficient solutions developed in the project through local collaboration, which brings in more knowledge and fresh ideas. In addition, local collaboration is usually a requirement if the measures are to be implemented at all, as they usually depend entirely on the landowner's involvement. If the experience of participation is realised and the work is seen positively, it sends ripples through the water and even more measures can be implemented.

These types of forums have been shown to foster inspiration and involvement because we can feel a greater sense of connection with other people and organisations. By talking to each other, a more open and supportive work climate is created, which promotes learning and inspiration. Forums therefore need to be

allocated the time, continuity and budget. The important role they play needs to be clarified for more people.

Water councils can function as these forums, as there is an inherent opportunity for dialogue and collaboration across borders between individuals, groups and organisations. The water councils have arranged thematic meetings where all stakeholders have been invited to participate. At seminars that were held on agricultural measures, water shortages or stormwater, many highlighted the importance of forums where people with different backgrounds can gather, exchange experiences, create networks and collaborate. The water councils once again have an important role to play here as a neutral forum, and water councils can be helped by taking turns offering different theme days.

Another example is the water directive group in Falkenberg municipality, where individuals from different administrative bodies come together to work in collaboration on water issues. This group also collaborates with water councils.

The local water groups that worked in the Water Co-Governance project have served as more informal forums. At the local level, forums are often created through, for example, householder associations and heritage associations. They are often divided on the local level into different associations, and there is therefore also a need for cross-border forums for collaboration on this level as well. Householder associations can sometimes serve this function. One simple proposal that came up in a local water group with farmers was holding a regular BBQ party with the neighbouring farms by the river, where people can gather to talk about events and what is going on in the local area.

A well-functioning forum requires a climate and working methods that allow everyone to have a say. We also need a certain level of curiosity about each other's ideas and perspectives. This takes trust in one other and a willingness to listen. We need to feel secure and know that we will not be attacked. The furnishings and appearance of the premises where the forum takes place are also important. Podiums create one-way communication, while sitting in a circle and gathering in small groups creates dialogue. Meeting outdoors where everyone can experience the landscape and natural environments can be the best option.

Through forums and dialogue, several important things have occurred. Common visions and strategic objectives have been developed, and trust between individuals and groups has increased. Perspectives have broadened, which has created greater involvement and expanded networks. This has made it easier to take advantage of the opportunities that arise, find new solutions and ultimately, to take action.

Water issues are complex and affect everyone in one way or another. In order to find long-term solutions to complex issues without creating oversimplified answers that lead to new problems, collaboration and a diverse blend of participants is needed. New perspectives are needed, as well as an understanding of how the issues we address are part of a network of other issues. There is therefore a general need for

forums, where a diverse array of organisations and individuals have the opportunity to gather and participate. These forums should also allow individuals to set their roles aside and meet as people open to exploring new ideas.

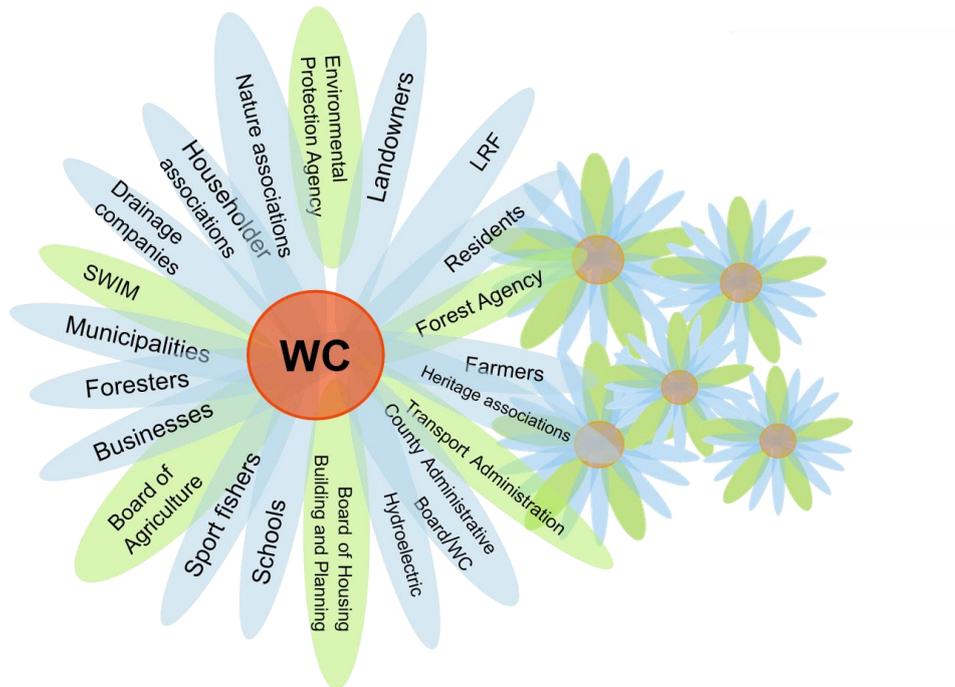


Figure 62. Water councils are forums where boundaries can be broken and collaboration can occur between, for example, municipalities, interest groups, associations, businesses and landowners. State-level regulatory authorities can contribute support for these forums. (SwAM stands for the Swedish Agency for Marine and Water Management. WA stands for water authority.) Many forums are needed.

## The process – from conversation to results

### The dialogue and the creative meeting

The project shows the importance of dialogue. This has been most evident in groups where participants with conflicting interests and backgrounds have gathered. Conflicts and polarisations often arise between interest groups, such as between anglers and hydropower owners, between foresters and biologists or between landowners and authorities.

By setting aside roles and meeting as people and being able to talk *to* each other, participants get to share their thoughts and listen, and something different happens compared to when you talk *about* the other party in your own group. The dialogue and the meeting are valuable in and of themselves and do not need to have a goal. Through meetings and dialogue, relationships are formed, which can foster trust over time – a prerequisite for collaboration and collaboration.

Dialogue creates opportunities for learning, both through the acquisition of new knowledge and exposure to new perspectives. Knowledge and fresh perspectives make finding answers to issues more complicated, but at the same, it is an enriching experience that provides a more holistic understanding, which is a prerequisite for finding the best solutions. Creative solutions can spontaneously arise through the acquisition of new knowledge or through new opportunities for collaboration.

An *us versus them* attitude can gradually be transformed to a *we* working in collaboration. This takes time and repeated meetings where participants can get to know one another. Shared experiences, such as study visits and river walks, have been valuable tools in this respect.

One potential problem is a sentiment of mistrust from the beginning, which means that participants will not be ready to open up for a dialogue or even attend meetings. A kind of participation where the individual only looks out for his or her own unique interests, or to find fodder for criticism after the meeting, does not create trust or opportunities for dialogue. There has to be a willingness to listen and to be able to step out of one's role and participate as a person, not just as a representative of an organisation. This can only be achieved by being clear about the implications of our roles and thus being able to step in and out of them so that others understand as well. Setting a goal or solution in advance can create mistrust. If there is a perception that the other party has a hidden agenda, is manipulative or using doublespeak, trust and dialogue cannot develop. This is important for authorities to keep in mind, but it is just as important for associations, organisations and individuals. Instead, we need to be open to adopting new perspectives and unexpected ideas. Mutual dialogue requires that *both* parties are genuinely concerned that the other party has a chance to speak and that you actually listen yourself. This can be achieved by giving each other time to talk and asking each other questions to generate a mutual

understanding. The role of a good leader is to ensure that everyone in the group is able to express themselves.



Figure 63. Himleán water council and local heritage associations meet to talk about water and history.

Compilation of results 3. Thoughts on forums and dialogue – from the pilot projects' follow-up meeting on 1 March 2018.

**What has worked well?**

- Meetings with people who have different experiences and backgrounds.
- Water councils are important as a platform for dialogue.
- Contact with landowners.
- Communication between different people and different cultures, mutual inspiration.
- Good dialogue meetings.
- River walks.
- Engaging with young people under the age of 16 in relation to our shared water resources with a focus on schools near rivers.

**How did you manage to make that happen?**

- The meeting structure was/is interactive – the meeting methodology is important to ensure everyone has a say.
- Relaxed boundaries; anyone can say what they really think.
- Equal terms, had the same knowledge, relationship. Grassroots – there were no grassroots.
- They were on their home turf, an advantage for them. Security. The game plan is very important.
- Use keywords – the apparent goal of the meeting. Control– the meeting must be carefully planned.

**What are the obstacles?**

- Lack of a holistic view among the authorities.
- Polarisation, when there is a lack of will.
- Uneven balance of power – resources, time, influence.
- Very different conditions and resources among the different members of the council.
- Top-down management.
- Resources for the organisation too small.

**Why does this concern you?**

- The work needs to be distributed among more people.
- Difficult to get planning time.
- The things you have to accomplish between the meetings clashes with your work and livelihood.

**What is the vision? (From text and images from written descriptions)**

- The water council – a forum that creates middle ground.
- Deliberative democracy – a prerequisite to create a better basis for decision-making.

## Conflict and power relations

Water councils often have different views on issues, which is only natural when people with different interests and knowledge come together. It is important to emphasise that having a dialogue does not mean that you have to agree on everything. Sometimes one avoids raising contentious issues in a group because conflicts are unpleasant, or you feel that the other members of the group are in agreement. It can also relate to power relations, which make you hesitant to question. It may also be that the process is progressing too rapidly or that communication breaks down so that items you do not agree on do not have time to be addressed. All of this can create distrust and problems later in the process.

True dialogue means that you can also talk openly about problems, what divides you, and that you work to find out what it is you do not agree on. At the same time, dialogue can mean that you can still arrive at common goals and visions that you can collaborate on despite points of contention. The tools generated within the project to facilitate dialogue can help create space for a range of different thoughts to emerge, including opposing points of view. These tools can also help to clarify power relations and different roles, which in turn makes it possible to step in and out of roles when different parties interact while promoting conversations that foster creativity.

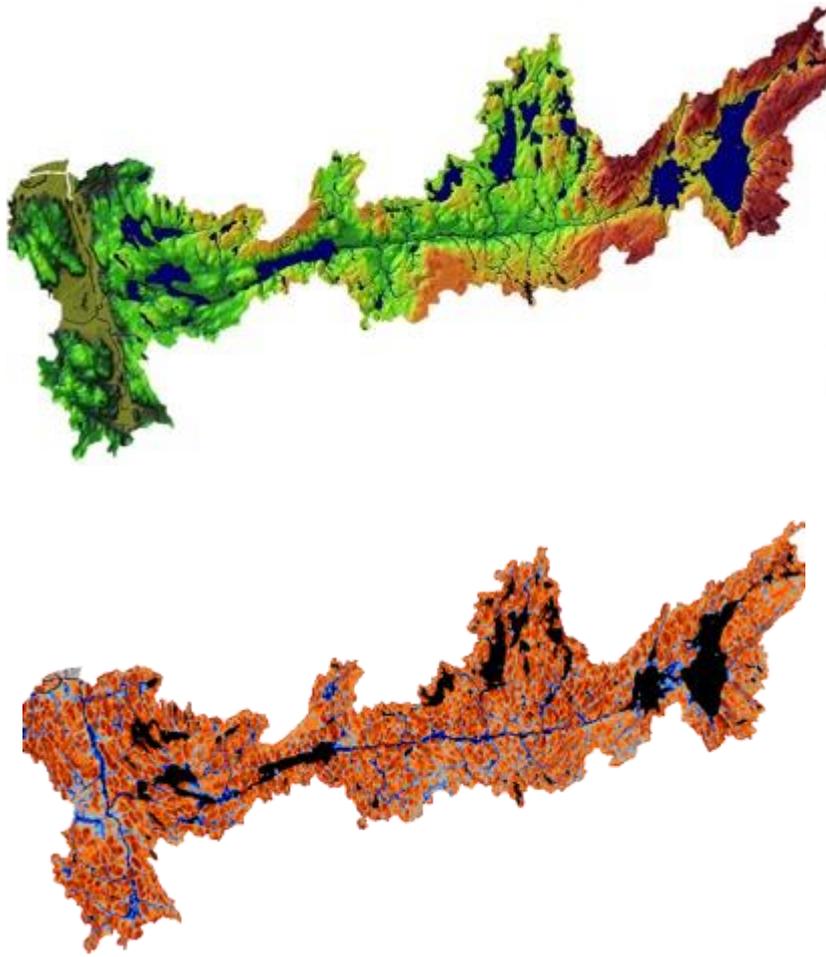
## The map to support conversation

Maps of catchment areas have proved to be important documentation for use as a starting point for conversations about environments, problems and measures of interest to different stakeholders. Maps generate interest, and the catchment area is something that many have not previously seen or considered. It serves as a visual educational aid, where one's own local watercourse, ditch, wetland or lake is connected to a sub-catchment area, which in turn is part of the larger catchment area that ultimately empties into the sea (Fig. 64). It helps us gain an understanding of the whole and how water flows through the landscape and ecosystems.

During the pilot projects, a variety of different maps of the catchment areas have also been used as visual aids. Maps have been drawn up to show the topography (Fig. 65), water system, land use, soil wetness (Fig. 66), sub-catchments, soil types, erosion risks and watercourse profile (Fig. 67). In order to create these maps, access to map data and elevation data was needed, as well as access to an individual with expertise in the use of map making software.



Figure 64. The catchment area is an educational aid that places its own local catchment area into an ever larger whole.



Figures 65 and 66. Thematic maps for educational purposes can easily be made to illustrate, for example, the topography or wetness index in the Mölndalsån catchment area (Nolbrant 2011).

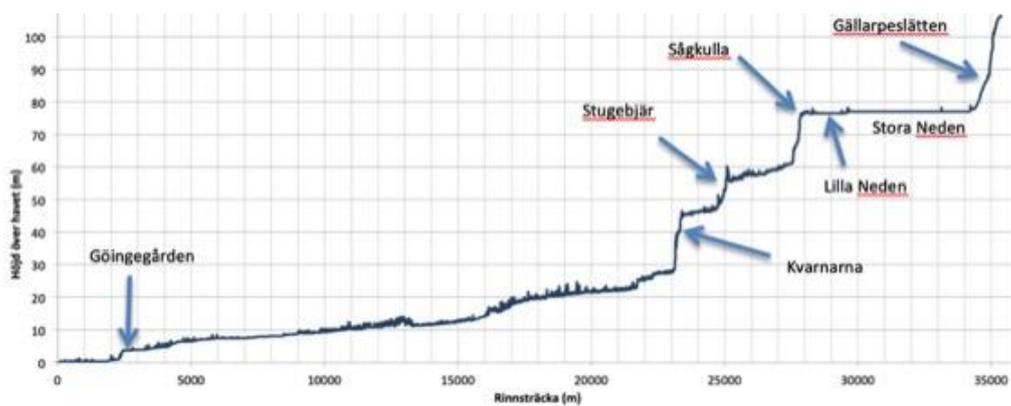


Figure 67. The watercourse profile along Himleån from the source to the sea can be easily obtained using elevation data.

### Development of local groups and working groups

All of the water councils have formed sub-projects and working groups during the process (Fig. 68). The Mölndalsån Water Council has established several working groups that work with school projects, information for politicians, river walks and information boards in the water system. The Himleån Water Council had a project about local water sampling to investigate where in the water system the most nutrient losses occur from agricultural land. Another project has been the Himleån Day, which was a project implemented in collaboration with other associations to raise awareness of the water system. This project also included two sub-projects: Water in the school and a historical account of the area, which was also done in collaboration with heritage associations. This is an example of how sub-projects and working groups are developed that are simultaneously part of the greater whole.

The Ätran Water Council started two local projects, or local water groups, in two sub-catchments. One of these areas is Högvadsån. Four additional local water groups have emerged in these sub-catchments with interests in tributaries to Högvadsån or Ätran. Getting to know the nature and heritage of your home region can be fun and generates greater involvement and understanding. Measures have been implemented in three of these watercourses. In terms of participation, it has been people's local watercourse and local area that has inspired them to get involved and where measures have ultimately been implemented.

In the second sub-catchment in Ätran near Vartofta, a local water group consisting of farmers has worked to identify various measures within the drainage company's area. The farmers have expressed a desire for greater collaboration so that they can receive more help to improve the condition of the watercourse through the implementation of measures that can have the greatest positive impact.

What is truly important is that things are happening on the local level among individual landowners, local groups, associations, businesses and consultants. This is where measures are ultimately implemented, and landowners, local water groups and the local community therefore need to be involved from the beginning for the measures to be effective and contribute to the implementation of additional measures. The water council can take initiatives to benefit local water groups, create forums for collaboration and apply for funding. At the same time, the water council serves as a central source of knowledge and helps promote a holistic view of the catchment area.

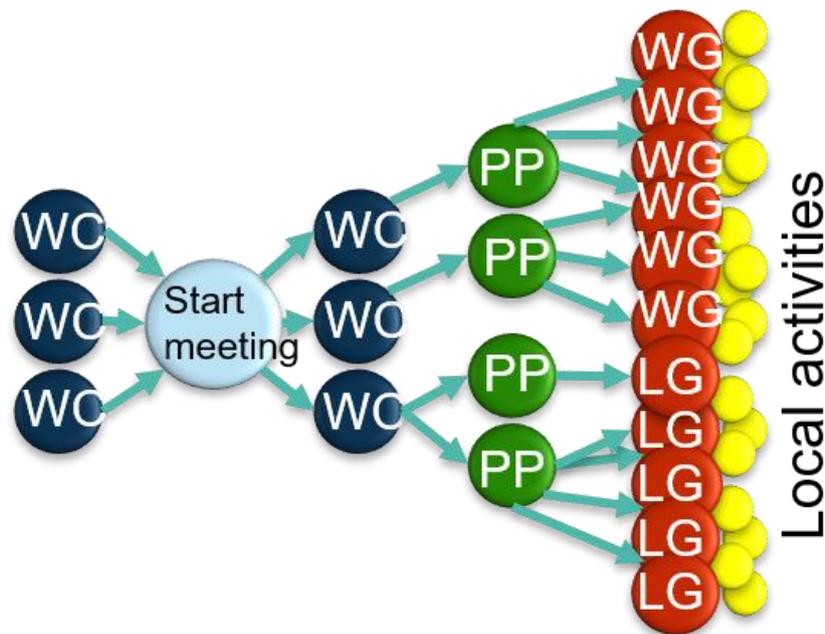


Figure 68. After the joint start-up meeting for the three water councils, which was held in 2016, the work has branched out into more and more working groups and local projects, where individuals or groups typically implement the measures. (WC=water council, PP=pilot project, WG=working group, LG=local water group). A local water group is a special form of working group that is a local collaboration group with a focus on a smaller part of the catchment area.

### Responsibility for mapping and measures

In the evaluation of the Water Co-Governance project, the question was raised whether the water councils would like greater responsibility for mapping, measures and status classifications. Individual participants and landowners have expressed that more goals should be established on the local and individual level and follow-up for these should be able to be done on the same level. This could lead to greater local participation and understanding. Suggestions have included the development of a simplified system for follow-up of rivers in agricultural areas, which would be done in a way similar to the way the Blue targeting tool (Bleckert et al. 2011) is used in forestry.

At the same time, the water council has not shown an interest in taking on responsibility for the implementation of measures or for status classifications. The water councils do not have their own resources, this is instead left to the individual operations and landowners. On the other hand, the council is considered to be an important platform for collaboration on status classifications and measures.

### Networking

Water councils are part of complex networks along with the rest of the community. Each individual member is part of many other networks and contexts. The networks are dynamic and evolve over time. Network contacts can give rise to new and

perhaps unexpected opportunities that open the door to new knowledge and ideas or new opportunities for collaboration. Networks can break through entrenched hierarchical systems that often characterise state authorities and other organisations. This requires a mandate, trust and support to develop contacts and ideas within the network. Networks rely on good communication and forums for greater collaboration and creative solutions.

The water councils have worked in collaboration with a large number of local networks. In this way, the water council's knowledge has benefited others and at the same time, it has also been broadened. Networks are a way to collaborate to achieve goals – you do not have to do everything yourself. The Himleån Water Council turned to local associations to develop information about the area's local history and the way that water fits into that story. The network was then expanded by the hundreds along with access to exciting new knowledge. The Mölndalsån Water Council arranged river walks during the Västerhav Week and was thus able to benefit from the Västerhav Week's network and organisation. The Ätran Water Council participated in Salmon Day, which was arranged by the municipality's destination company and linked to its network.



Figure 69. Water councils are a part of networks that contain a large number of local actors, local water groups and individuals who interact with and have a significant influence in the community. Implementation does not have to be carried out alone. (Photo: Pixabay)

### The workflow

The various pilot projects used largely similar work processes. It can be envisioned as the motion of a wave, which alternates between meetings, where everyone comes together, and the time in between meetings where the group is spread out in different places and activities. In addition, there are often working groups or local groups that have their own processes, perhaps holding more frequent meetings, but who participate in meetings with the larger group. The energy level of the work is affected by several things, such as:



## Communication

Communication, during and between meetings, has been important and has required time and attention. It creates the conditions for openness, participation and trust. Communication within the group is essential, just as it is with those you are trying to reach outside the group. Communication can take place in a variety of ways, including face to face conversations, through images, presentations, videos and mailings. It should be open and easy to understand so that everyone feels included.

Continuity is an important aspect of effective communication. A communication plan can be an effective, structured way to get an overview of your communication needs, i.e. how communication needs to take place and who needs to be reached.

The importance of communication often becomes apparent on occasions when communication has broken down, for example, due to a change of people, lack of time or failure to recognise the need. There may also be a lack of people who take responsibility for communication. The result is a loss of continuity, trust and involvement, which can give rise to conflicts. Work and collaboration can then grind to a halt until confidence is restored. Frequent communication is often especially important when the work enters into the measure implementation phase where different landowners are involved.

In one of the water councils, an idea emerged to develop digital support through intranets, where communication within the water council and between different projects can occur more easily and everyone can be more involved.

## Holistic view and prioritisation

A diverse array of thoughts has emerged in the groups' work to determine their focus. These ideas have created more depth and contributed to a greater whole. From this depth, one has prioritised the parts, issues or projects that one has started with (Fig. 71). It is important to be able to have a perspective that considers the whole and the parts at the same time. The participants can see their work as part of a larger context, as well as ways participation with other projects can occur.

Work on water related issues has often been placed in a larger, but at the same time, more localised context. The groups have made the connection between water and, for example, food production, rural development, business development, recreation and local influence. They have been able to situate their own work and location in a broader context that includes sustainable development, where ecological, social, economic and cultural issues are also included. Within the Högvadsån project, a Leader application was submitted to link the work they do with water to local business development and sustainability. The application was not approved, but Leader requested a new application that focused more explicitly on business development and its connection to water and the environment.

The need for a more holistic view is something that is apparent in all groups, from state authorities and water councils to local groups and farmers. The pilot projects

have shown that the water councils, in their capacity as local forums, have been an effective tool to promote this holistic view. A holistic understanding and valuable knowledge are often found at the local level, and perhaps especially in the countryside. Water councils have an important role here in promoting a holistic view through collaboration.

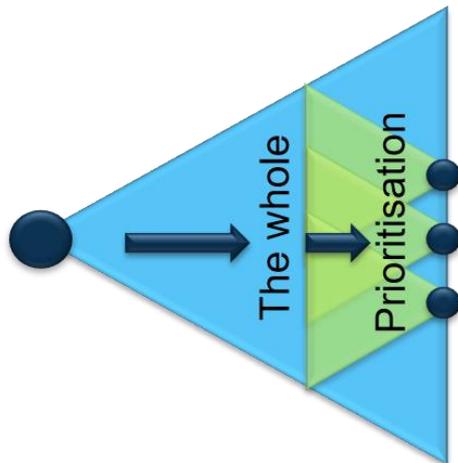


Figure 71. Both the whole and prioritised projects are developed during the work process. The blue triangle represents how the whole is gradually broadened. From this whole, priority parts are picked out that are narrowed down further and around which special work processes are initiated.

### Visions are developed

Visions for what the councils aimed to achieve have become clearer over time. These visions have developed through meetings, conversations and the initiation of measures. Workshops have also been held where the visions for the work or the water council have been defined. This allows common visions to be developed. These have included visions about having the water council serve as a forum for collaboration and the desire to collaborate with others, such as schools, local heritage associations and nature associations. Of course, there are also visions about healthy, living aquatic environments where people can interact with the natural world and use the resources it provides in a sustainable way. The visions developed also include greater collaboration between urban centres and the countryside, where the importance of the countryside for the urban population centres is clearer. In addition, the visions that emerged in the pilots are often based on a local perspective and local knowledge and relate to increased collaboration that creates greater local influence. Visions have also included a connection between the local watercourse and a global perspective, for example, through sister rivers in other countries.

A vision that is put down in writing is not a vision at all if it does not live in the hearts of the people in the group. Only then does it become a concrete vision that is both engaging and multifaceted and a strong driving force for action. A vision is a hope for a future you would like to see, but where you do not have to think about how you are going to get there (Fig. 72). By revealing our visions to each other, we can arrive at common visions. In the same way, we can share descriptions of the way things are and descriptions of the past to create new perspectives and a more

comprehensive understanding. Visions can be likened to a mountain landscape, where some peaks are far off, and others are close by. By marking the occasion when a part of the greater vision is realised, you keep it alive and remind yourself of the bigger picture. This has been done by celebrating milestones or looking back to evaluate the work completed thus far.

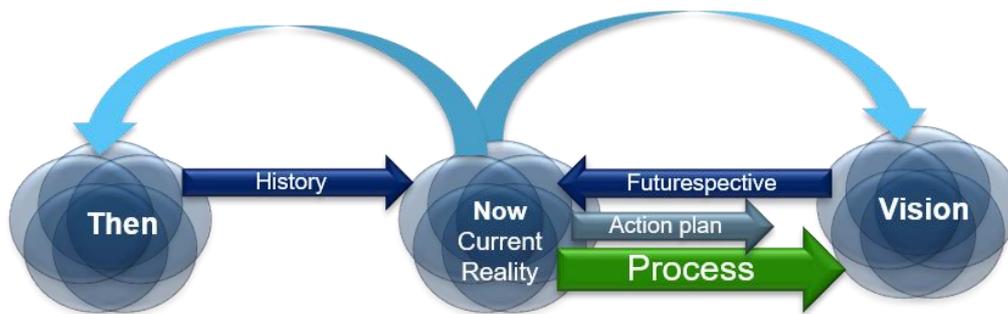


Figure 72. The present is a crossroads of history and one's visions for the future. It points us in a certain direction. We need to be able to be active participants and have a good view of our present day reality and our vision for the future. Several tools are proposed for work with Common Visions, Futurespective and Action Plans.

### Action plans

Various project plans and communication plans have been developed in the groups. These describe what needs to be done, by whom and when. A budget was also linked to the activities. The project plans have been used to apply for project funds. How implementation will be carried out depends on a variety of factors.

If a plan affects landowners, it is important that they are involved early, in the planning phase, so that they can help influence the structure of the project. They also need to be involved and receive results from surveys and inventories at the beginning of the project. Results and fully formed proposals that landowners become aware of without being involved can lead to mistrust and resistance.

Since a project plan often involves a variety of people, organisations and authorities, it is difficult to foresee how it will develop. It can suddenly grind to a halt or new opportunities may spring up along the way. The work often takes longer than expected. It is seldom a good idea to force a project forward due to an established timeline. There is therefore a need for a degree of freedom within projects, both in terms of time and content.



Figure 73. Repositioning of blocks in the Högvasån watercourse to recreate more favourable environments for trout fry and freshwater pearl mussels.

### Measures can take time

Often there is involvement and a desire to get something done. A number of measures have been able to be implemented quickly through the initiative of individual landowners, such as the removal of certain migration barriers, creation of buffer zones, saving dead wood and shading trees. However, the implementation of larger measures has proven to take more time for several reasons:

- It takes time to find suitable grants and then to complete the application, as well as to perform subsequent administrative duties and report back on the project.
- Many individual landowners do not have the time nor the interest to complete the necessary paperwork or for the administrative burden associated with grant applications and project implementation.
- Complex regulatory systems in the EU and the risk of sanctions, which could jeopardize a business's operations if mistakes are made, can discourage landowners.
- A large number of landowners can be affected. Therefore, they need to be involved and they also need to have trust in the project. This requires a lot of communication with landowners, and they need to be involved right from the start.
- Various measures may require permits from state authorities, which one can often be unaware of at the start of a project. This can delay the implementation of planned measures or stop them altogether. In one of the pilot projects, for example, the need for an exemption for shore protection and a municipal nature conservation plan for constructed wetlands along the

watercourse was not recognised from the beginning. It is therefore important that the municipalities and the county administrative board are involved early in the process so that this kind of information is not overlooked, and the process goes more smoothly.

- Procurement may need to be carried out for consultants and contractors, which requires administrative work. Procurement rules for municipalities and authorities can create a cumbersome amount of administration, which means that implementation will take longer, and costs will add up. Sometimes there is access to the most suitable performers and coordinators at the local level, actors who know the area and have a good reputation. Procurement rules need to be reviewed so that the procurement process is simplified, and the project ends up with the most suitable coordinators, consultants or contractors.
- Bottlenecks are sometimes encountered, such as a lack of time on the part of administrators at state authorities or a lack of suitable consultants who can implement measures. It is important that state authorities have enough administrators so that grant and permit applications do not have excessive processing times.
- It can take time to build trust. In the past, the state has forced landowners to take certain measures to increase food and forestry production. Grants were provided to dig ditches for the drainage of wetlands and forests as well as for straightening and clearing watercourses. Deciduous trees in coniferous forests and trees along watercourses were removed. Now, grants are instead provided to do the opposite. Landowners can therefore be a bit wary at times. On occasion, there is also concern that the new biotopes that are created will become biotope protection areas or will come under the scope of the Species Protection Ordinance, which can be perceived as additional restrictions.

By designating a person to act as a catchment officer, both individuals and local water groups that count landowners among their members can receive assistance in submitting applications and the subsequent administration of measures. Concrete measures also entail a lot of administration for water councils and municipalities, and this also demands the help of coordinators who have time for this.



Figure 74. The journey to measure implementation goes at different speeds. Some measures are implemented directly by landowners while others require more coordination and grant applications before they can be implemented.

Compilation of results 4. Thoughts on measures – from the pilot projects' follow-up meeting on 1 March 2018. It has been shown that measures reach the implementation stage through involvement, collaboration, win-win situations and persistence. It is perceived to be an excessively sluggish process due to an administrative burden that demands time and rules that can ultimately prevent implementation. The visions are about taking a broader, more holistic view, collaboration and the local perspective.

#### **What has worked well?**

- Environmental work to promote biodiversity. - Works with the restoration of watercourses.
- Fixed the eels' up-river and down-river migration route past migration barrier. - Fish migration routes for all species in Högvadsån.
- Better sewage treatment. New sewer for two properties.
- Water testing.
- Liming of lakes and watercourses.
- Tourism and fishing: Three boat ramps, risvasar (substrate for spawning).
- Conscious consumption - setting a good example.

#### **How did you manage to make that happen?**

- We felt that we had to do something.
- Certain people were the driving force behind the work.
- The county administrative board and the municipality are involved and were co-funders.
- Very interesting meeting that sent ripples through the water, inspiring, involvement – structural liming, lime-filter ditch. LOVA application.
- The Water Framework Directive provides strong arguments.
- Informed about nutrient leakage, win-win. Profit for the company. Information on the best way to fertilise.
- Felt good to get cleaner water into the environment. Felt like a more secure future.
- Damn, a lot of work. A lot of work with the municipality.
- Convince politicians. Long process, many years of lobbying.
- Present research.
- By getting the landowners' involvement.
- Get involvement by finding a key person.
- Created local job opportunities.
- Creates a benefit as well as interest and involvement – sends ripples through the water.
- Creates biodiversity and a positive environment for everyone plus a living aquatic environment.
- Follows up with river walks.

#### **What are the obstacles?**

- Concrete measures take a long time and are dependent on grants.
- Lack of time/resources to run projects.
- Measures and funding are sluggish.
- Lots of talk, only a little workshop 2000-2018.
- Fear of change among adults.
- How should measures be implemented?
- There is no joint prioritisation of measures.
- Concerns that the focus will end up being reporting and bureaucracy instead of the issues concerned.
- Regulations.

**Why does this concern you?**

- Less activities and measures get done than you would like to have time for.
- Create interest in the project to motivate those involved. Need grants and funding.
- Improving water quality goes too slow due to a lack of money.
- Everything goes too slow. Legal hassle. We analyse, and analyse .....
- Takes a lot of time and focus away from real work. Worried that there will be an error in the accounts = no support.
- I cannot do what I want to do. The regulations prevent that. The regulations do not allow.
- The main obstacle that would cause the problems to come back is pushing development, disregarding environmental objectives both locally and globally.
- The pressure on ecosystems increases as growth increases; future generations pay the price.
- The push for economic progress yields unhealthy results, such as the use of chemicals without control.
- Looks short sighted. Depopulates and impoverishes the countryside.
- Written in report without being asked, even though it affects me.
- Did not get an answer to the question I asked. Did not really understand those who understood the issue better.
- The desire to prevent endangered species from going extinct, disadvantages rural areas with regard to fishing.
- Life on the planet is dying out due to human activities. Humankind has lost the ability to be human. We lose life's magic. Knowledge and wisdom.

**What is the vision? (From text and images from written descriptions)**

- Regional buffer zone along watercourses and lakes.
- Collaboration and win-win: Drinking water, biodiversity and active outdoor life.
- Holistic thinking: fish migration routes, hydropower, agriculture, forestry, groundwater, tourism, etc.
- Long-term community planning.
- EU framework with room for many local solutions.
- Let go of the pursuit of continuous growth – striving for a circular economy, common goals.
- Thriving village and ecological diversity.
- The watercourse is a green-blue line.

## Knowledge and reflection

Several project participants have expressed that they have gained a new, broader view of water issues and that involvement and awareness have increased in line with this. Knowledge is often a necessary component, such as when farmers want to include individuals with knowledge of biology or vice versa.

A lot of learning has come out of meetings where relationships were formed and participants took the time to listen to each other, especially in meetings with people who have other knowledge, experiences and perspectives. It has been especially good to gather together during river walks where you can be out in nature and talk about the things that are right in front of your eyes. The reason is that it combines the learning we get from one another with a direct experience of the environment, cultural heritage and different species. We should also highlight the value of having the county administrative boards' contact persons attend water council meetings. They have contributed knowledge and helped facilitate communication between water councils and state authorities.

Of course, learning has also occurred through seminars, information and lectures. It is important that information is easy for everyone to understand, that overly technical language is avoided and that you use images and stories.

We learn by doing, by being bold enough to try and also being allowed to fail. In the project, we have developed an image of a simplified learning cycle with three parts (Fig. 75). The first step to consider is the need for change and the vision. Then we investigate, test things out and implement. We then reflect together on the quality of the results and our experiences in implementing the work.

It is important to listen to each other's thoughts and take what you have done and the knowledge you have gained and put it into words. Project participants have reflected on the process, their individual experiences and how well things functioned. Reflection and evaluation means looking at oneself, the group and the work that has been completed from an outsider's perspective to take a good look at your experiences and what is particularly important to take with you. Are there any obvious patterns that may be important? By taking this perspective, we can reflect without judging ourselves or each other.

It is evident that the learning that has taken place in the pilots has been a driving force and something that was highly valued by the participants. One reflection from participants in the joint evaluation, which was completed at the end of the project, was that there should be more frequent evaluation. When they drew a timeline of what had been done, the participants were often surprised at how much they had achieved. They expressed that it was important to acknowledge and celebrate what they had achieved together.

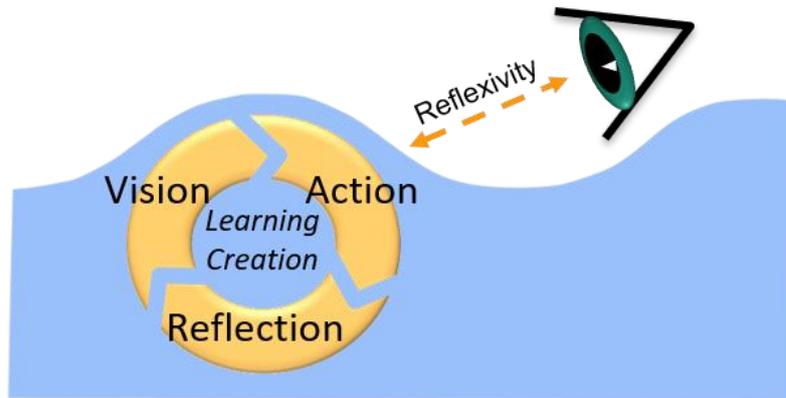


Figure 75. Learning also occurs when we look at events a little from the outside. We gain experience by going from vision to action.

Compilation of results 5. Thoughts on knowledge – from the pilot projects' follow-up meeting on 1 March 2018.

**What has worked well?**

- Increased awareness of Mölndalsån's waters and its biology and ecology.
- Education of student teachers in nature pedagogy, including the water cycle.
- Pleased that people are learning more and more about the water situation.
- New projects to increase and disseminate knowledge of the catchment area.
- River walks.
- The courage to tackle the difficult issues, which no one else has done before.
- Our water council has raised water issues with local politicians.

**How did you manage to make that happen?**

- Support from the county administrative board with practical work and funding.
- Long-term contacts.
- The chair reviewed the Water Framework Directive and highlighted relevant points for the council.
- Information meetings for the public and landowners.
- Driven, likes to learn new things.
- The desire to disseminate knowledge – school projects.
- Realised the need for a common image. Group discussions about what should be included.

**What are the obstacles?**

- Lack of knowledge among decision makers
- Education. Knowledge still deficient. The water balance equation.
- Ability to communicate the seriousness of the planet's situation.
- Data is delayed.
- Difficult to draw conclusions.

**What is the vision? (From text and images from written descriptions)**

- Understand the problem
- Local knowledge and visions
- Create sustainable thinking through education

## What is needed?

### Develop the role of water councils

Something raised by several people in the groups is that the role and mandate of the water councils are not clearly defined. In terms of the councils' mandate, they are not a state authority and cannot make decisions that impact members or others. They have no say over measures. Decisions on measures must be made by the individual members or all of the other landowners and operators in the catchment area that are impacted. On the other hand, water councils can collaborate with landowners to apply for funding and hire consultants for the implementation of measures.

The water council's external work can become more difficult due the fact that they do not have a clear role in relation to the greater community. On the other hand, this provides a considerable degree of freedom for each individual water council to determine its own role and purpose.

The water councils are seen as an important link between the overall work to implement the Water Framework Directive and the local work. Local participation is encouraged. Nevertheless, water councils are excluded from crucial issues concerning the aquatic environments in the catchment area. For example, water councils are not an obvious choice as a referral body when it comes to municipal planning and development, which can often have an impact on aquatic environments during the actual development process or later through stormwater discharge or sewage. Nor do county administrative boards always inform or include the water council. These occasions have related to measures or interventions that impact aquatic environments or interesting inventories that have been done in the water system.

Whether the water councils choose to respond to referrals when asked to serve as a referral body is another question. The advantage of using the water council as a referral body is that it creates discussion and takes advantage of local knowledge. However, it has been expressed that referral responses take too much time and focus away from the water council's work. Also, stakeholders within the water councils often respond to the referrals themselves. It has been suggested that it may be better to be involved at an early stage as a forum for dialogue with, for example, departments for community planning and development.

During the project, several people have expressed that the role of the pilot projects has evolved and become more clearly defined, which at the same time created greater involvement and inspiration. A common objective that all pilots worked for was to inform and create a better dialogue with authorities, especially municipalities. Water councils hold valuable knowledge. This is especially true with regard to the holistic perspective of the water system and all the benefits that ecosystems provide. This also applies to knowledge about local participation and collaboration. Water councils are important forums that span organisational boundaries, where different groups and authorities can come together in a neutral space. The councils also help ensure that a variety of measures are actually implemented, by applying for grants and through members who perform a great deal of practical work. In this way, water councils assist municipalities in their work to provide better water quality, biodiversity and increased knowledge of water issues. The image of water councils as a valuable resource has been reinforced during the project and municipalities and authorities need to take note of this fact.

#### Time and continuity

Dialogue, collaboration and measures take time. In order to ensure good quality, knowledge and trust, things need to take a bit of time. A consistent pattern we see is that participants at all levels feel that they do not have enough time. This applies to

participants, secretaries and chairpersons of water councils, landowners, municipal officials and officials at the county administrative boards as well as the Swedish Agency for Marine and Water Management.

The various projects that are developed and initiated in water councils are often time-consuming and can lead to a shortage of time. Something that participants consistently highlight is that the administration of projects contributes to this. Individuals who receive financial compensation are often needed to coordinate projects and apply for grants.

A lack of time sometimes leads to short-sightedness and lack of communication, which in turn leads to misunderstandings, mistrust and poorer results. In addition, time constraints can cause stress, and in the worst case, fatigue, which of course is very bad both for the individual affected and the work that needs to be done. On the local level, this is occasionally seen in the non-profit sector where it is often just a few individuals who carry the bulk of the burden, which means that they risk burn out. For a long-term perspective to take hold, the work needs to be enjoyable and gratifying.

For a long-term perspective and sustainability, there needs to be continuity in terms of resources. i.e. time, money and people. Water councils therefore need to have a stable and long-term platform. This contributes to continuity in the work to address water issues from a broader, more holistic perspective. Several factors make this continuity difficult to achieve. There is an inevitable degree of turnover among participants in the water councils, as politicians are replaced at the end of their term of office or when officials change positions. Another reason is that there is often insufficient funding or uncertainty in the funding for the water councils' activities. This means that the time allotted for secretaries and coordinators is small, which makes it difficult to create continuity in the council's work. In order for all the members to be able to participate in the water councils' board meetings, compensation may also need to be provided for those who do not receive fees from their own organisations.

#### Long-term funding

Another problem is that the grants that water councils are able to apply for are often announced on very short notice and the funding that is awarded must be used within a short window. The grants create a time-consuming administrative burden, and it takes time to build up the organisation and find suitable people who can do this kind of work. The lack of time can lead to an emphasis on short-term projects with poorer quality, where the measures do not manage to reach the implementation phase and are not connected to the greater whole. Occasionally, indicators and goal follow-up are also required if the councils are to see results during relatively short project periods. This risks shifting the focus from creating an effective, more self-sustaining process (which is difficult to measure) to a hunt for rapid, measurable results from measures that may therefore be forced through too quickly.

The knowledge that is developed is not carried over to the next job and is not passed on to others who may be doing similar work. There will inevitably be new projects that

are similar to other projects that have been previously implemented without a connection to these. Some grants may suddenly stop coming in, for example, as the LONA funds did in 2019. This meant that a great deal of non-profit and municipal time spent on planning and preparation was done in vain. Sudden cuts in funding to county administrative boards and other authorities also make it difficult to maintain continuity and can slow down work at the local level.

It is important to create better conditions for continuity and a long-term perspective at all levels, which is a way to ensure long-term participation, collaboration and trust. This relies on long-term funding instead of short-term project grants. The uncertainty brought about by a focus on projects and short-term budgets means that staff and knowledge leave the organisation and the work stops.

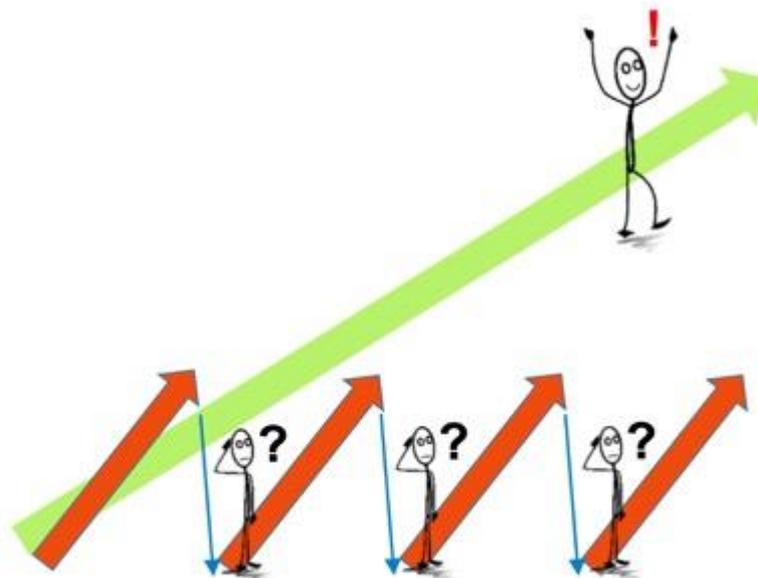


Figure 76. By creating better collaboration between projects and carrying over knowledge from the previous project, you do not have to constantly restart when you encounter similar questions.

### Doing it the right way from the start

As mentioned, the work process that starts with meetings and collaboration to the implementation of measures takes time. It is therefore important to do things the right way from the start when different types of development, rebuilding or other measures are done, so that the environment is improved and not the other way around. This applies to both aquatic and terrestrial environments. This is the reason the water councils want to be involved during early discussions in the planning processes. Water counsels can be an important resource here.

However, there are certain problems that have been revealed in the pilot projects (and in other water councils). This especially applies to the developments and new construction that are being implemented in the municipalities. Participants in the pilot

projects express that planning departments sometimes have a knowledge deficit, which leads to developments that deteriorate the area's ecological status. For example, new construction is often planned near aquatic environments. Then you end up digging in the watercourses and the floodplain to prevent floods. It has also been expressed in the pilot projects that municipalities do not have knowledge of legislation concerning drainage companies, which are affected by stormwater from built-up areas. Another problem reported is that authorities and municipalities outsource their work to contractors and that these actors (or their subcontractors) do not always have the knowledge or ambition needed for development, excavation work and disposal of excavated material. There have been cases where spawning streams used by trout have become completely clogged since the contractor apparently did not comply with the conditions that were in place. There have been cases of environmental impact assessments (EIAs) that the pilot projects have found suspect. In one case, the EIA determined that there were no fish or mussels in a stream. When the landowner hired a consultant on his or her own initiative, five species of fish were found, including trout, two species of mussels and evidence of otters. There are sometimes concerns raised that environmental issues are a problem that you need to navigate around to make your way through plans and projects.

There are examples in the pilot project that show how collaboration and early participation leads to better results. Without an engaged landowner who got involved in the process of building a cycle path that would cross the watercourse, for example, a migration barrier would not have been removed. On the other hand, if an effort was made to really involve the affected landowners early in the planning stages, the work would have gone much more smoothly, and the process would have improved from the start.

There have also been concerns raised that competencies and local knowledge will vanish from municipalities when environmental offices and water and wastewater companies are merged to serve larger areas with several municipalities.

Participants in the projects expressed that authorities sometimes let things go through too easily when they really need to be corrected. What they mean is that supervision does not always function as it should, perhaps due to a lack of time and de-prioritisation.

Something that is occasionally expressed is that everyone is not treated the same. There is a sentiment that high demands are placed on individuals, while municipalities, their contractors and businesses can get work approved that has a negative impact on the environment without major consequences.

Some water councils also note that information on important environmental impacts is not provided to them by the municipalities and county administrative boards. One example of this was a large landfill of material from excavation work in Gothenburg, where the county administrative board only provided information about this to the municipality, not the water council.

In order to move forward with the work to achieve good status, municipalities and authorities need take the lead in their own work, and water councils need to be seen as an important resource that can contribute to the process with a holistic view and knowledge. The water council highlights the importance of collaboration early in planning processes as it offers many win-win situations and allows plans to be established that are sustainable over the long-term, more economical and make better use of the environment and ecosystem services.

#### Collaboration within and between authorities

In the pilot projects, it has sometimes been pointed out that authorities or departments within authorities do not collaborate, and that they send mixed messages. It has become apparent in the pilot projects that there is a general need for a more holistic view and a more long-term perspective on water issues. This sentiment has been expressed by everyone from local landowners, associations and the water council to municipalities and state authorities. There has also been a need identified for greater collaboration and a holistic view that connects things to a bigger, overall picture. This can make it easier to prioritise what needs to be done in relation to the whole. In order to create a better overall picture of the situation, forums need to be created where many different competencies and knowledge come together and where participants can engage in regular dialogue, form new ideas and gain new perspectives. The water councils function as this kind of forum, but more space also needs to be created to allow collaboration within and between authorities. In addition to forums, the public sector needs to bring in staff with new roles who can work across boundaries and create the conditions for dialogue and collaboration (Ernits, 2018).

There is also a need for more flexible grant rules and more collaboration in the grant process. Sometimes, wetlands can appear in suitable places without implementing measures, for example, by allowing an area to be maintained by a ditch that drains an area. By letting surfaces along the watercourse overflow at high flows, you can recreate natural floodplains without wetland construction work. Perhaps grants can be provided to allow land to transition into natural floodplains without the need to take special measures.

The pilot project also makes it clear that there is a need for greater collaboration between different projects. During the project, for example, there was an exchange with the Swedish Forest Agency and the Interreg project Water Management in Baltic Forests (WAMBAF). Sometimes similar projects are carried out in parallel, either simultaneously or in succession, without members of the project being aware of each other's projects or engaging in knowledge exchange. Another Interreg project, BioGov, which the County Administrative Board of Västra Götaland worked on, was about local collaboration around terrestrial environments. Even though this project was ongoing at the same time as Water Co-Governance and was nearby geographically, collaboration and knowledge exchange did not occur between the projects.

Collaboration is also needed to make previously performed inventories, samples and reports available. There is often a large amount of work that has already been done that is not available online and is lost in the shuffle.

Authorities and municipalities have a special responsibility to ensure collaboration occurs and a holistic view is adopted. By building a holistic, long-term perspective, these bodies can better support the water councils and local communities in their long-term work. Unfortunately, demands for savings, efficiency, quality assurance and more work often create less space for collaboration and dialogue, which may in fact be the very things that create the conditions for real efficiency and quality.

The prerequisites for forming a holistic view and long-term perspective are rooted in decisions by the state and party policy. There is a need for long-term agreements that cross party boundaries; this applies to both the vision for the future and funding for work with water issues and local collaboration.

#### Tackle difficult conflicts and contradictions

The work to promote participation and collaboration also has inherent conflicts and contradictions. For example, these can relate to discrepancies between our ideal visions and the real world or the ability to have an influence. It can be about how we allocate our time to have enough time for what we want to do. This leads one to ask what work should be done on a non-profit basis and what should be for profit. One issue that sometimes arises concerns the right to private property versus the public interest, such as the right to clean water and biodiversity. It can also relate to the Water Framework Directive's top-down view, where you dictate what needs to be done but at the same time call for a bottom-up perspective. A similar issue is how representative democracy accommodates and develops the creativity and uniqueness of local participation that the pilot projects have seen.

It is important to examine these issues from every angle together. Many of these contradictions we will have to live with, develop our opinions about and deal with them on a case by case basis. We need to be able to hold two thoughts in our heads at the same time; for example, the local and the global, the individual project that is part of a bigger whole or the vision we have versus the reality as things stand right now.

Tools such as Listen and Speak and Dialogue Meetings (Table 9) can be helpful in both revealing inherent contradictions and dealing with them to find solutions.

#### Coordinator

Many have highlighted the need for coordinators in water councils. There needs to be someone who has time to help with practical matters, such as invitations, memos, mailings, member contacts, grant applications and project management. Someone who contributes to structure and continuity and creates a common thread in the work. The coordinator needs to communicate with all groups so that potential participants feel welcome and able to get involved. This work is carried out on behalf of a water

group or the board of a water council. This means that it requires the coordinator to listen to the perspectives of the different participants. At the same time, the coordinator needs to take the initiative by creating forums for dialogue so that different perspectives can be heard.

The coordinator's role can be broad and demanding. Work duties can include everything from the role of a secretary and process leader to contact and dialogue with landowners and different operators in the area.

It is important that not all work tasks are piled on the coordinator but that they can be distributed to others on different occasions. The coordinator should also be a member of a planning group that can plan different types of meetings. Such groups have been included in all the pilot projects and have been a necessary feature. Joint planning leads to better quality results, and the coordinator can get help with the implementation of meetings.

In order for the coordinator's work duties to be reasonable, it is important to discuss and define the role and the tasks that are to be included in the position. Collaboration and the exchange of experiences with other coordinators is valuable.

Two of the pilot projects successfully applied for funding for coordinators or project managers. The Ätran Water Council has a budget that made it possible to hire business developers and project managers, which has allowed the council to submit a variety of grant applications and implement measures.

#### Tools for local collaboration on water issues

Different working methods for meetings, dialogue, evaluation and action have been utilised and developed within the pilot projects. We can become more conscious of the importance of different working methods by describing them and putting them to the test. The tools are based on approaches that promote participation and collaboration. According to the evaluations carried out in the pilot projects, the tools have served an important function in ensuring, for example, that everyone has a say, that you do not get caught up in drawn out arguments, that everyone listens to each other and that there is time to reflect on the group's work.

Fifty-eight tools have been listed (Table 9) and each tool has been briefly described on the Swedish Agency for Marine and Water Management's website so that others will be able to access them and put the tools to use (Fig. 77).

<https://www.havochvatten.se/verktygvatten>

Some tools are very easy to implement, such as the inclusion of a presentation round during meetings, while others are more complex, such as dialogue meetings, and may require access to a supervisor with some experience.

The tools cover a range of issues, from collaboration in groups to concrete actions to implement measures and are divided into four groups according to what they most concern: *Water Council Development, Participation and Knowledge Building,*

*Collaboration with authorities and Measures and Follow-up.* However, most tools contribute to several purposes or all purposes at once.

The tools can be developed further. By trying them out, combining them and maybe reworking them, they can be adapted to different groups and situations. Maybe develop your own new tools. Looking forward, there is a need for more training in working methods that feature collaboration and dialogue.



Figure 77. Three examples of tool descriptions. The tools should contribute to increased participation and collaboration that lead to action.



Figure 78. Fika at river walk along Hjärtaredsån with landowners and hydropower owners in the local water group for Hjärtaredsån.

### Democratic process

Democratic ways of working are important for participation. This applies to both the formalised associative democracy in water councils and the democratic

conversation's approach to openness, listening and the ability to participate on equal terms. For participation, you need *access*, *space* and the opportunity to *influence*. This requires a structure and approach that creates openness and allows everyone to speak.

Communication and transparency are needed so that everyone has access to information. This creates trust and the opportunity for participation. It also creates the conditions for the community as a whole to have greater trust in the water council itself.

One can often think that everyone in a group has an opportunity to express their opinion. But in reality, more dominant individuals or stakeholders can easily take over the conversation while others do not have a chance to speak. The fear of conflict can also cause individuals to avoid bringing up topics that are sensitive in a group that is perceived to be in agreement. Questions about power and shifts in power have been raised. It is important to consider who is participating, how diverse the group is, how representative, how decisions are made and how they are communicated. It is especially important that the boards, which is where most of the work takes place, have a broad representation that includes different interests and stakeholders. As mentioned, women, young people and people with different ethnicities are underrepresented in many groups.

In the project, tools have been used to help develop democratic principles by allowing everyone's thoughts to be expressed and heard. For example, involving the whole group in setting the agenda for the meeting promotes participation (Synergy method, Table 9). Several water councils have started their meetings with a round where the participants report on what has happened since the last meeting. This creates space for the participants to speak and is important for the group. At some meetings, the groups have also done a reflection round after the meetings where participants discuss what they thought about the meeting and how things feel, which can be another way to develop knowledge and work together.

Another important aspect is that the participants' thoughts are documented and included in the ongoing work so that you do not lose sight of important lines of thought that participants have raised. In order to follow the progression of the process, it is also important that thoughts that emerged at the very beginning of the process do not fall off. In the project, this has been done by including all the documentation and compiling it in notes that are sent out to participants.

The three water councils and the two local water groups all have different organisational structures. What they have in common is that they have board meetings or dialogue meetings and that they have also had meetings with working committees or planning groups between meetings. The planning groups and working committees have a special responsibility to maintain openness and inclusiveness.

Table 9. The tools for local collaboration on water issues are divided into four areas: Water Council Development, Participation and Knowledge, Collaboration with Authorities and Measures and Follow-up. Individual tools are used for several purposes simultaneously.

| <b>Tools</b>                                    | <b>Brief description</b>   |
|---|--|
| <b>A. Water council development</b>             |  |
| 1. <b>Listing and sorting of thoughts</b>       | Hear everyone's thoughts and ideas, and sort them in the group.                                    |
| 2. <b>Listing thoughts on a board/flipchart</b> | Hear everyone's thoughts, ideas, etc. in the group.  |
| 3. <b>Listen and speak</b>                      | Develop thoughts and ideas while learning to listen.   |
| 4. <b>Prioritisation</b>                        | An approach that sets joint priorities according to what the group thinks is best.                 |
| 5. <b>Planning timeline</b>                     | Provides a visual so that it is easier for everyone to participate in the planning.                |
| 6. <b>The synergy method</b>                    | Simple and effective way to jointly set an agenda.   |
| 7. <b>Introductions</b>                         | A good start for a meeting.  |
| 8. <b>News</b>                                  | Consistent time set aside for reporting at meetings so that everyone has the opportunity to share. |
| 9. <b>Evaluation timeline</b>                   | Good way to look back and evaluate what you have done.   |
| 10. <b>Reflection</b>                           | Good way to close meetings so that everyone can share their thoughts about the meeting.            |
| 11. <b>Inviting room, chaires in a circle</b>   | Set up the space for a good meeting.   |
| 12. <b>Refreshments</b>                         | Almost everyone knows about this! Should not be underestimated.                                    |
| 13. <b>Roles and "hats"</b>                     | Becoming aware of one's own and each other's roles, which you may step in and out of.              |
| 14. <b>Shared visions</b>                       | Developing individual and shared visions.  |
| 15. <b>Future history</b>                       | Linking the vision for the future with the present.  |
| 16. <b>Water council mapping</b>                | Mapping out the group's knowledge and needs.   |
| 17. <b>Action plan and objectives</b>           | How to develop an action plan.   |
| 18. <b>Communication plan</b>                   | What a communication plan is and how it can be created.  |
| 19. <b>Workgroup development</b>                | Development of working groups for different areas.   |
| 20. <b>Celebrations</b>                         | Do not forget to celebrate when you have reached a goal or made progress in your work!             |

| <b>Tools</b>   | <b>Brief description</b>  |
|--|---|
| <b>21. Coordinator</b>                                       | Able to support communication, processes with a holistic view and long-term perspective.                      |
| <b>22. Water council coach</b>                               | Can be a sounding board and provide support for development and processes                                     |
| <b>B. Participation and knowledge</b>                        |   |
| <b>1. The “best places” method</b>                           | Using a map, you draw in the places of interest together.   |
| <b>2. Species or cultural history environment of the day</b> | Start the meeting with a short presentation on something from the catchment area.                             |
| <b>3. Meetings</b>   | Create knowledge through dialogue between people with different interests.                                    |
| <b>4. Local networking and expansion of perspectives</b>     | Through local networks that are already established, many people are reached, and new knowledge is collected. |
| <b>5. Waterside cultural history and nature</b>              | Cultural heritage beside bodies of water interests many people and provides valuable knowledge.               |
| <b>6. Study visits</b>                                       | Study visits allow participants to see first-hand and learn together.   |
| <b>7. Sponsored watercourse</b>                              | Designate a body of water that you investigate and protect individually or together.                          |
| <b>8. Water course hikes and coach trips</b>                 | The best way to learn about a watercourse or water system together.   |
| <b>9. Information along trails</b>                           | Information boards or leaflets for stretches of river reach many people.                                      |
| <b>10. Water and creativity</b>                              | Use water as a source of inspiration for imagery, music, poetry, etc.   |
| <b>11. Water in the schools</b>                              | Water and the catchment area provide excellent educational opportunities.                                     |
| <b>12. Nature guide training</b>                             | Train more people who can lead river walks.   |
| <b>13. Water day</b>   | A water day for everyone where different associations, businesses and authorities contribute.                 |
| <b>14. River or coastline twinning</b>                       | A sister river in another country to create communication and exchange of experiences.                        |
| <b>15. Knowledge library</b>                                 | Collect all reports and surveys in the catchment area.  |
| <b>16. Water council presentation</b>                        | A presentation of the water council.  |
| <b>17. Water system presentation</b>                         | A report or presentation where the catchment area is described.   |

| <b>Tools</b>   | <b>Brief description</b>   |
|--|--|
| <b>18. The river basin as a concept and map</b>        | A map of the catchment area.   |
| <b>19. GIS analyses and speciality maps</b>            | Maps of soil types, topography, erosion, wetness, natural value, etc.                                      |
| <b>20. Videoing with drones and underwater cameras</b> | A fun way to highlight a stream, lake or coastline.  |
| <b>21. Asset mapping</b>                               | Review and evaluation of the ecosystem services that the area provides.                                    |
| <b>22. Cooperation with ditch drainage companies</b>   | Collaboration between water councils and drainage companies.   |
| <b>23. Local water group</b>                           | To shed light on local water issues and assist with measures when needed.                                  |
| <b>C. Collaboration with authorities</b>               |  |
| <b>1. Water cooperation with the municipality</b>      | Collaboration between the water council and municipality to increase knowledge and create a holistic view. |
| <b>2. Planning discussion</b>                          | Collaboration between the water council and municipal planning department.                                 |
| <b>3. Cooperation among authorities</b>                | Collaboration between the water councils and various authorities.  |
| <b>4. Water intergroup</b>                             | Cooperative group within, for example, the municipality's departments that deals with water issues.        |
| <b>5. Working as a contact</b>                         | Contact person from the county administrative board who participates in water council meetings.            |
| <b>D. Measures and follow-up</b>                       |  |
| <b>1. Local synoptic sampling</b>                      | Simultaneous water sampling within an area to determine the nutrient levels.                               |
| <b>2. Blue targeting classification</b>                | Simple method for assessing conditions in forest watercourses.   |
| <b>3. Focus on nutrients</b>                           | Support for farmers for the economical and environmentally sound management of nutrients.                  |
| <b>4. Local action plan for measures</b>               | A plan for measures developed by a water council or local water group.                                     |
| <b>5. Follow-up and improvement</b>                    | Evaluation and improvement of projects, where everyone participates and provides input.                    |
| <b>6. Local identification of measures</b>             | Landowners/local water groups use maps to mark good measures.  |

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| <b>Tools</b>                      | <b>Brief description</b>  |
|-----------------------------------|---|
| <b>7. List of possible grants</b> | List that can be downloaded.                                    |
| <b>8. Implementing measures</b>   | A few things to consider when it is time to implement measures. |

## A few more thoughts

### **The Water Framework Directive and local participation**

The Water Information System (VISS) contains all the status classifications (permits), objectives and proposed measures for watercourses, lakes, groundwater and coastlines. This has been established by experts in consultation with the water councils. Water councils, municipal biologists and local associations often have a good insight into what the biggest problems are in the water systems in terms of, for example, migration barriers and eutrophication. The water councils also have fairly good insight with regard to the status classifications. On the other hand, individual landowners, businesses, contractors and residents are seldom familiar with status classifications, environmental quality standards or proposed measures. Gaining a deeper awareness of VISS takes a certain degree of interest and patience. Landowners are sometimes critical of proposed measures that they are not familiar with. Participants in the pilot projects have also expressed criticism of expert assessments that are done when there is no factual data for a watercourse, which they think should more clearly be visible in the map. There are also participants in the water councils who feel that they themselves are too unfamiliar with the environmental quality standards and that there has not been enough discussion about the standards in the water councils or the pilot projects.

The status classifications have not been a focus of the pilot projects. Still, these have undoubtedly had an impact because the water councils are aware of the classifications and that one objective is to achieve a minimum of good ecological status. The choice of locations to implement measures has often been made based on the project participants' involvement and opportunities.

Co-creation means being involved right from the beginning and in the formulation of problems and visions in collaboration. If we are to solve problems, we first need to formulate them and reach some kind of consensus around them. Only then can we find solutions that work and that may even contribute to solving more problems. We therefore need broad participation right from the start that includes different interests and knowledge.

One issue in the Water Co-Governance project is how to reconcile these two different tracks, where, on the one hand, the authorities' status classifications have a top-down perspective and on the other, engaged local landowners and groups that formulate problems and goals exemplify the sought after bottom-up perspective. How do goals and measures taken through a local bottom-up perspective align with the goals of the Water Framework Directive?

One conclusion is that the collaboration created through forums and networks such as water councils is a necessity. These forums can be a single place where measurement results and research are made available to all. In this type of forum, where research and individual experiences of problems and objectives converge, we

can promote involvement and find creative solutions. It can also lead to the creation of local goals and programmes of measures. Participants in local groups highlighted the need for simple goals and indicators that can be used and followed up on at the local level by landowners and other stakeholders.

### Ecosystem services

One of the focus areas for the issues addressed and the work carried out in the pilot projects is strengthening ecosystem services. Measures implemented in the agricultural landscape, including buffer zones, wetlands, structural liming, and green corridors mean improving fertility, nutrient retention, clean water, creating a more even water supply, increasing biodiversity and improving pollination. In the same way, the work with floodplains, leafy edge zones and forest wetlands, as well as biotope measures in watercourses, means strengthening biodiversity, creating opportunities for recreation, water retention in the landscape, creating better resistance to climate change and conserving drinking water resources. There is already knowledge and awareness of these services that nature provides us, which has increased in the pilot projects. The real challenge is conveying this knowledge and awareness to people outside the water groups, for example, to municipalities, landowners and businesses. Water councils can have an important role here as conveyors of knowledge with a holistic perspective. By drawing attention to ecosystem services, it can be easier for people to see the win-win situations that participants in the pilot projects sought after.

The Vartofta pilot project included a special survey and economic valuation of ecosystem services (Vahtra). This project also highlighted potential indicators for follow up of ecosystem services. One of the tools from Water Co-Governance concerns value stream mapping (Table 9).

Stories about individual species are often a good way to arouse interest and are a good tool to help create an understanding of the importance of well-functioning ecosystems. These stories may include the salmon or eel's journey between the Atlantic and a local watercourse. The freshwater pearl mussel, which can live over 200 years and whose larvae lives off the blood of juvenile salmon or trout, is also an interesting story. The sea lamprey is another fascinating species that looks the same today as it did 400 million years ago. Much like salmon, it needs rocky bottoms to spawn, while the larvae dig into soft bottoms. As adults, they suck the blood of large fish and mammals in the ocean. The species therefore needs both living healthy seas with plenty of large fish and healthy watercourses with varied environments, such as soft bottoms and rocky bottoms. These species show the importance of a holistic understanding and collaboration in preserving healthy ecosystems.



Figures 79 and 80. River pearl mussels during river walk after restoration along Högvadsån (left). The county administrative board gives a lecture on sea lampreys at a dialogue meeting in the Högvadsån project (right).

### Great potential

The project shows that the water council's work holds great potential, where they strive to achieve a more holistic view and work to solve issues together. The pilots have often tied together a number of different ecosystem services, such as biodiversity, food production, drinking water, community planning, aquatic landscapes, climate change and recreation. Local networks have been included and involved in water issues, including householder associations, heritage associations and drainage companies. Measures have been independently implemented by landowners and operators or in collaboration between different actors. Knowledge of ecosystem services has increased. The connection has also been made between issues of ecosystem services and locally sustainable development, which includes economics and entrepreneurship, as well as social issues, health and cultural heritage. The work to promote dialogue and forums for collaboration also means developing democratic ways of working, where there is an open dialogue across different groups and between different levels in society. We have seen that the forums, such as the water councils, and the local perspective create good conditions for collaboration on water issues.

### Critique and certain identified risks

There may also be risks associated with this work. If individuals are invited in to participate and develop visions but subsequently do not have an influence on decisions, or if goals are set in advance, there is a risk that trust will evaporate and that it will be difficult to reset once again.

Some project participants have been critical of the project, arguing that there has been too little discussion about the really important issues, such as how the statutory environmental quality standards affect various activities. They argue that all the talk about participation in the water councils becomes a form of lip service, as a way to get approval for something that you have not been involved in from the beginning. There have also been concerns raised in this project that there is an agenda set by the authorities to implement measures that have been decided in advance, and that the measures are simply implemented through local participation, which generates broader acceptance.

A similar problem arises if transparency is lacking within the water council or in local projects. Mistrust can arise when important decisions are made in a planning group where certain interests dominate and where the larger group has insufficient insight. Problems can also arise if a culture is created where everyone is compelled to agree or where decisions have to be made too quickly.

Another problem may be that the work is seen as a project, that is, that it lacks the structure and funding to create continuity over the long-term. Then there is a risk that projects will fall apart, lead to fatigue and thus distrust and difficulty restarting.

### Under the surface

For the longterm vision, we need to ask ourselves what the important driving forces are behind the work. What makes it durable and sustainable? An awareness of threats and the desire to be a part of creating something better can get things started and be a driving force.

Long-term participation likely requires a little something more, for example, the perception that the work is meaningful. This can happen when people feel that their input matters and by creating a context where everyone can have a say. Being seen as an asset while working in collaboration with others, where you can help develop visions and work in co-creation to yield results, provides meaning to the work. This is a sentiment that has been expressed by pilot participants. For example, many participants say that they want to be seen as part of the solution, not part of the problem.

Individuals can derive meaning from this effort when they feel that they are undergoing personal development and learning new things. Personal growth in terms of knowledge, trust and collaboration provides meaning. Pilot participants have expressed that knowledge has increased during the project, and along with it interest and involvement. Participants have also made it clear that they have been given a clearer role and context in the pilot project while working in collaboration with the group, which is a strong motivator. We grow in our relationships. And it is not only relationships with other people that matter; relationships with the landscape, other species or one's local cultural heritage are also important. This is how a local context is created, whereby individuals can feel that they are a part of this context. This sentiment has been expressed on several occasions when individuals get to discover the local watercourse or landscape or see it with new eyes, which provides further inspiration. At the same time, the local context is part of a larger global context. The feeling that you are a part of something bigger can be a great source of inspiration. This is evident in a common vision described by pilot participants – sustainable local communities with connections to sister rivers in other countries. One also needs to feel a sense of continuity and context in time, where knowledge can be passed along.

All of these components are important for well-being and health as well. Sustainable development requires sustainable people. At its core and from a broader perspective,

this work is about creating the conditions for healthy ecosystems, communities, organisations, groups and people. People who have a sense of well-being and are not stressed out by dysfunctional organisations can function better, make better decisions and are more creative. This also makes people better equipped to contribute to solving complex problems. This aspect has been observed in the project, where stress and time constraints lead to deteriorated communication, collaboration and results and can even make people feel unwell and perhaps even vulnerable to illness, which in turn leads to a loss of knowledge and continuity.

The natural world is also very important to human health in a variety of ways, particularly when we are physically active in nature, explore and experience nature with all the senses. Research has shown that time in nature reduces stress, strengthens the immune system and improves mental health. Having a sense of wonder for the natural world has also been recognised as an important component for well-being and health.

#### Water as a symbol

We seek out stories and images that help us make sense of the world and provide meaning, particularly when we receive new input and knowledge from the surrounding world. In educational efforts, water and catchment areas are excellent symbols of the natural world. They are something concrete that can help us grasp how water systems, landscapes, oceans and people are interconnected. The water moves through a system in a constant circular flow. This also helps us understand how we are completely dependent on the services that water systems and ecosystems provide, even if we seldom think about it. We can then understand that actions that have an impact on one place can impact an entire system over the long term. It connects the local – where we live – with a boundless global perspective.

Water brings people together in collaboration, but it can also be a source of conflict. It helps us understand that collaboration is truly the only way forward. The sight and sound of water stirs emotions, it enables life and brings a sense of calm; but too much water can be associated with danger. This is why images of water are so important in poetry, art, mythology and religion. Water is a means of transport; human cultures and cities have long sprung up and grown beside rivers and seas. Water also transports the building blocks of life through our bloodstream, in the earth's groundwater and in plants. Water is therefore a perfect symbol of the communication exchange that takes place between the various parts and helps us to understand the importance of forums.

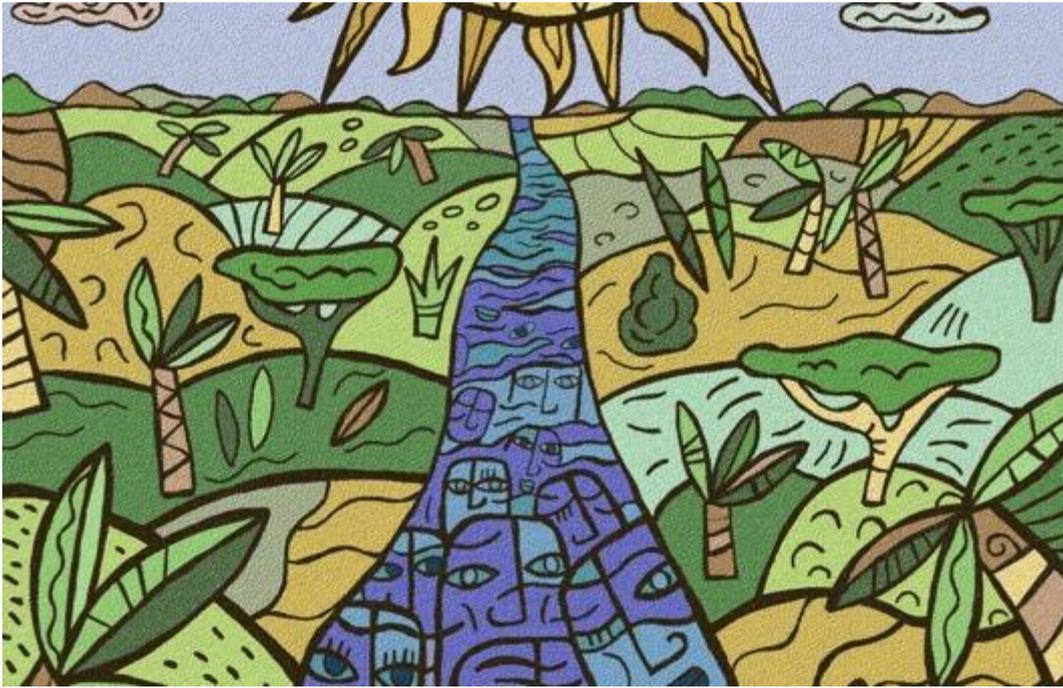


Figure 81. Painting by Jenny Ewers and Lasse Johansson.

## What needs to be done?

Water Co-Governance has yielded many results and revealed a number of potential opportunities. Forums, such as water councils, are needed if we are to develop the collaboration, dialogue and action necessary to address complex issues. The question that remains is what needs to happen for the work to develop over the long term and to take full advantage of the opportunities available to us?

### The role of the water council

The project shows that water councils can serve a unique role as neutral forums where participants can work across boundaries while engaging in dialogue and collaboration to develop a holistic view of water. Furthermore, water councils have been established for many years, which means that the knowledge the councils hold on ecosystem services, holistic thinking and cooperative processes has been firmly established over time. Water councils would like their knowledge to be better utilised for the benefit of society as a whole.

At the same time, water councils need a more clearly defined role over the long-term, wherein the water council's resources can be better utilised. In addition to the potential for water councils to facilitate better collaboration and measures to improve water, they can also contribute with a holistic view of better community planning, local development and democratic ways of working.

Water councils need to be open forums where different sectors of society, such as municipalities, businesses, interest groups, fisheries conservation associations and non-profit associations are represented. There should also be a good mix of ages, gender and ethnicities. Forums are a point of contact between local interests, municipalities, county administrative boards and state authorities.

#### Recommendations

- The role of the water councils needs to be developed and clarified in a cooperative effort between water council members, municipalities and other authorities.
- Water councils need access to information and should function as a referral body in issues concerning water.
- Water councils need to be brought into the conversation at an early stage of planning activities within, for example, municipalities and the Swedish Transport Administration.

### A stable platform

What we can take away from the project is that there is a need for neutral forums that provide opportunities for universal participation and collaboration. It is important that these forums or platforms are characterised by stability and continuity. These forums

need to be seen as neutral ground, independent of the influence of individual municipalities, authorities or other organisations. Because these forums are so important, they need to be promoted and given the structure, time and budget they need to develop.

#### Recommendations

- Access to adequate, long-term funding is needed without becoming dependent on a single funder.
- The support of coordinators is needed to contribute to structure, process, approach and continuity.

### Support of state authorities

In order to successfully implement the objectives of the Water Framework Directive, i.e. to increase participation and collaboration to improve the aquatic environments, state authorities also need to further develop their working methods.

#### Recommendations

- Training on dialogue and collaboration should be made available to coordinators, boards and other parties with an interest in the water councils, as well as politicians and officials in municipalities and authorities. The Swedish Adult Education Association may be able to assist in this training effort.
- In order to bring in more people who can work as coordinators and process leaders, it may be necessary to create a suitable continuing education programme.
- The Swedish Agency for Marine and Water Management needs to work in collaboration with the water authority to make *Tools for local collaboration on water issues available* and update these as needed.
- The county administrative boards' contact people in the water councils are important for the exchange of knowledge and collaboration and need to continue their participation.
- For collaboration to manifest and flourish, we need to dedicate the space, organisation and budget – also between and within authorities – so that we can promote a more holistic view, the integration of issues and the ability to more effectively solve these issues together. Many different authorities are affected by issues concerning local development, sustainable development and water. In addition to the Swedish Agency for Marine and Water Management, the water authorities and the county administrative boards, the Swedish Board of Agriculture, the Swedish Environmental Protection Agency, the Swedish Transport Administration, the National Board of Housing, Building and Planning and the National Agency for Education are also affected. People with different skills are needed, including natural scientists, social scientists, humanists and educators.

- Internal mixed groups or water groups are needed, for example, within municipalities to create better collaboration and a holistic view on water issues. These mixed water groups should also invite the water councils.
- More space needs to be created for collaboration and dialogue between state authorities and those on the local level, such as water councils.
- Authorities need to give water councils a more clearly defined role and access by providing them with the information they need and the opportunity to participate in the referral process in matters concerning planning issues and water issues.
- In their planning work, municipalities and the Swedish Transport Administration should find a way to ensure early dialogue and collaboration with water councils, both to promote a more holistic view and to take advantage of local knowledge and involvement.
- Authorities and municipalities have a special responsibility in relation to water issues, and they need to take a more active role in ensuring compliance with the Water Framework Directive and the implementation of the Environmental Code and the Ordinance (2004:660) on Water Administration of Water Quality in their own activities and in developments.
- There is a need for more long-term funding for water councils, coordinators and measures that run for a period of several years instead of short-term project funding, which creates a lack of continuity, poorer quality results and an administrative burden. Rapid changes and large changes in appropriations, both upwards and downwards, need to be avoided.
- Rules and administration for grant applications and measures need to be simplified so that the work becomes less burdensome, and more actors will want to implement different measures.
- The complex regulations for EU support need to be simplified so that more people will want to apply for funding without worrying about potential mistakes that could force them to have to repay EU grants.
- There needs to be adequate funding for administrators at county administrative boards so that they have enough time to take on administrative duties for grant applications, permit applications and to manage the work that needs to be done on the local level.
- Procurement rules for hiring suitable consultants to implement local measures need to be simplified so that the administrative burden is minimised.
- Reports, inventories, analyses and other material relating to the catchment areas need to be published and collected in a web portal so that this information is more widely available.
- Map data and elevation data used for GIS purposes need to be made available free of charge, so that they can be accessed by water councils and other water groups and different areas of use, analysis, tools and maps can be developed by other actors.

- Authorities need to do more to make information and facts about, for example, water management (administration), water issues and the environment easy to understand and easy to convey through education.
- In addition to Water Co-Governance, various projects on local participation and collaboration have been carried out elsewhere within organisations or on the local level with residents. Through collaboration between projects and organisations that work with water issues, learning can be increased, and the needs associated with these issues can be raised at the national level.

## **Leadership for participation**

Authorities and politicians have a tremendous responsibility for ensuring we achieve the objectives set out in the Water Framework Directive and to increase participation and collaboration in this respect.

### Recommendations

- The objectives demand leadership that creates the conditions for dialogue and collaboration to support the local networks and foster creative solutions.
- We also need a style of leadership where goals are not fully formulated at the top, but where people are invited to participate in the formulation of problems, visions and goals.

## **The work of the water council**

The water councils' statutes provide a foundation for openness and democracy. It is important to be as transparent as possible so that everyone is aware of your decisions and what you have to say about them. Since water councils are publicly funded entities, the public should also have insight into what they are working on, for example, via a website. As a member of the board, you have the greatest opportunity to influence the water council's work, and this is where much of the dialogue between different stakeholders takes place. Therefore, various stakeholders should be represented on the board, for example, the municipalities, municipal water companies, businesses, hydropower, agriculture and forestry, sport fishing, fishing water owners and nature conservation associations. This is important so that no individual stakeholder can dominate and steer the work of the council and to strengthen trust in the water council. There should always be an open invitation to meetings and an openness so that more people are free to actively participate in meetings.

A few tips for water councils:

- Review your statutes or rules of procedure to ensure they provide a good basis for openness, trust, participation, collaboration, transparency and democracy.

- Conduct regular dialogue about approaches, working methods and organisational structures that support participation, dialogue, collaboration, communication, learning and trust.
- Regularly discuss your visions and the role of the group.
- Use tools to develop the water council so that collaboration and participation are increased. These tools might include jointly setting an agenda at the meeting, starting meetings with a news round or ending with a reflection round.
- <https://www.havochvatten.se/verktygsvatten>
- Create a common thread and continuity in the council's work by compiling notes that are sent out and to which you give feedback. Document activities with images and text that can be conveyed to recipients and disseminated.
- Work to broaden participation so that a wide array of stakeholders are represented along with varied knowledge.
- Invite new participants who can help develop visions and influence the process.
- Be open to broadening the issues concerning water to surrounding terrestrial environments as well as, for example, cultural heritage, education and culture.
- Work in collaboration with local networks such as householder associations, heritage associations, LRF groups, drainage companies or schools to create win-win opportunities, knowledge exchange and expanded joint networks.
- Create educational maps of the catchment area or sub-catchments that can be used at meetings.
- Promote the formation of local water groups.
- Utilise contacts and engage in dialogue with municipal administrative bodies and municipal water and wastewater companies to try to find forms of collaboration.
- Make documents and knowledge available to new members.
- Work together to summarise, evaluate and reflect on the progress you have made and take the lessons learned with you in your work going forward. Do not forget to acknowledge and celebrate your progress!
- Coordinators can help keep things in motion while contributing continuity and a holistic view.
- Coordinators can also apply for funding to cover additional time for coordination and other activities.
- The coordinator should be part of a planning group that receives assistance.

## References and recommended reading

Reports and results from Water Co-Governance can be found at

<https://www.havochvatten.se/water-co-governance>

Abrahamsson, H. 2015. *Dialog och medskapande i vår tids stora samhällsömdaning* [Dialogue and co-creation in the great social transformation of our time]. *Utbildning & lärande* 2016, vol 9, no. 1.

Abrahamsson, H. 2016. *Vår tids stora samhällsömdaning* [The great social transformation of our time] *En forskningsessä om politiskt ledarskap, social hållbarhet och medborgardialog* [A research essay on political leadership, social sustainability and civic dialogue]. The Swedish Association of Local Authorities and Regions (SALAR).

Bleckert, S., Degerman, E. & Henrikson, L. 2011. NPK+ och Blå målklassning – enkla verktyg för skoglig vattenplanering [NPK+ and Blue targeting classification – simple tools for forest water planning.] WWF, guidance document.

Ernits, H. 2018. *Omgiven av gränsgångare – Framväxten av nya samverkansroller i offentlig sektor* [Surrounded by border crossers - The emergence of new cooperative roles in the public sector (Ernits, 2018)]. RISE and the University of Borås *Rapport från Innovationsplattform Borås* [Report from innovation platform Borås].

European Commission. 2003. Common Implementation Strategy for the Water Framework Directive (2000/60/EC) Guidance Document no. 8. Public Participation in Relation to the Water Framework Directive. Working group 2.9-Public Participation.

Folkesson, B. 2019. *Kraft att förändra – Verktyg för lokal utveckling. Hela Sverige ska leva* [Power to change – Tools for local development. For a living Sweden].

Jonsson, A. C. 2005. Public Participation in Water Resources Management: Stakeholder Voices on Degree, Scale, Potential, and Methods in Future Water Management. *Ambio* Vol. 34, No. 7, November 2005.

Mehlmann, M. & Benaim, A. Learning for Change. Introduction to a process for Collaborative Learning and for Project Assessment. Global Action Plan International & SWEDESD, Swedish International Centre of Education for Sustainable Development.

Nolbrant. 2011. *Mölnålsån – en resurs för ekosystem och människa* [Mölnålsån - a resource for ecosystems and people]. Mölnålsån Water Council

Oliveira e Costa, S. & Tunström, M. 2018. Stege, trappa eller kub – hur analysera dialoger i stadsplanering? [Ladder, stairs or cube - how to analyse dialogues in urban planning] *Nordregio Policy Brief*, No. 3 Jul 2018.

Oscarsson, H. & Ek, A. 2007. Vattenråd – teori och praktik [Water councils – theory and practice]. Vattenmyndigheterna.

Prutzer, P. & Soneryd, L. 2016. *Samverkan och deltagande i vattenråd och vattenförvaltning* [Collaboration and participation in water councils and water management]. Swedish Agency for Marine and Water Management Report 2016:35

Prutzer, P. 2020. *Lokal samverkan i vattenförvaltningen med vattenråden i fokus* [Local collaboration in water management with a focus on water councils]. *Utvärdering av projektet Water Co-Governance i Sverige* [Evaluation of the Water Co-Governance project in Sweden]. Swedish Agency for Marine and Water Management Report 2020:7

Ranger, A. 2007. *Plan och process – Handbok i dialoginriktad planering* [Planning and process – Handbook of dialogue-oriented planning]. The County Administrative Board of Skåne.

Ranger, A. & Westerberg, K. 2004. *Metoder för möten – för ökat deltagande i lokalt förändringsarbete* [Methods for meetings - increasing participation in local change work]. City of Malmö Environmental Department & Region Skåne.

Government Offices: Transforming Our World: The 2030 Agenda for Sustainable Development.

Ridder, D., Mostert, E. & Wolters, A. 2005. Learning together to manage together – improving participation in water management. Harmonising collaborative planning COP.

The Swedish Association of Local Authorities and Regions (SALAR). 2011. *Handbok i utvärdering av medborgardialog* [Handbook for the evaluation of citizen dialogue ISBN:] ISBN: 978-91-7164-715-3

SMHI, 2020. <https://www.smhi.se/klimat/framtidens-klimat/framtidsklimat-i-sveriges-lan-enligt-rcp-scenarier-1.95384>

Soutukorva Swanberg, Å. & Wallström, J. 2018. *Värdering av vattenförekomster i Göteborg* [Valuation of water bodies in Gothenburg]. Anthesis Enveco AB, Report 2018:5.

*Sportfiskarna*. 2017. *Skolbäcken – ett inspirationskompendium* [Skolbäcken - an inspirational compendium].

Swedish government inquiry. 2016. *Låt fler forma framtiden Del A. Betänkande av 2014 års Demokratiutredning – Delaktighet och jämlikt inflytande* [Let more people shape the future Part A. Report of the 2014 Democracy Inquiry - Participation and equal influence.]. SOU 2016:5.

Swedish government inquiry. 2017. *Nästa steg på vägen mot en mer jämlik hälsa – Förslag för ett långsiktigt arbete före en god och jämlik hälsa* [The next step towards more equity in health in Sweden – Proposals for long-lasting and continuous work for health equity]. SOU 2017:47.

Vahtra, J. *Kartläggning och ansats till ekonomisk värdering av ekosystemtjänster – En fallstudie av ett delavrinningsområde till Ätran* [Mapping and approach to economic valuation of ecosystem services – A case study of an Ätran sub-catchment]. Vattenmyndigheterna.

Vattenmyndigheterna & the County Administrative Boards of Sweden. 2010. *Vatten – vårt gemensamma ansvar* [Water – our shared responsibility]. Vattenförvaltningen 2009-2016.

Vattenmyndigheten Bottenviken. 2012. *Samverkan i Bottenvikens vattendistrikt – handledning för vattenråd* [Collaboration in the Bottenviken water district - guidance for water councils].

Vattenmyndigheterna. *Handledning om vattenråd Södra Östersjöns- och Västerhavets vattendistrikt* [Guidance for water councils. Östersjön and Västerhavet water districts].

Westin, M., Calderob, C. & Hellquist, A. 2016. *Att leda samverkan – En handbok för dig som vill hantera komplexa samhällsutmaningar* [Leading collaboration – A handbook for handling complex societal challenges]. Swedish International Centre of Education for Sustainable Development Uppsala University.

Wiberg, S. 2018. *Lyssnandets praktik - medborgardialog, icke-vetande och förskjutningar* [The practice of listening – citizen dialogue, unknowing and shifts]. Royal Institute of Technology (KTH). Department of Civil and Architectural Engineering.



# Annex A

Summary of preparations and results in the three water councils and two local water groups during the project period.

|  | Preparations   | Results   |
|--|--|---|
| <b>Internal work</b>                                   | <ul style="list-style-type: none"> <li>Water council meetings</li> </ul>   | <ul style="list-style-type: none"> <li>Approximately 20 opinions on referrals</li> </ul>  |
| <b>Planning<br/>Project plans<br/>Working meetings</b> | <ul style="list-style-type: none"> <li>About ten workshops</li> <li>About ten river walks</li> <li>Planning meetings</li> <li>Four dialogue meetings</li> <li>Working meetings, 15-25 people</li> </ul>  | <ul style="list-style-type: none"> <li>Project plans for each pilot project (four)</li> <li>Communication plans</li> <li>Indicators for follow up</li> </ul>  |
| <b>Sampling<br/>Knowledge base</b>                     | <ul style="list-style-type: none"> <li>Synoptic sampling at 25 locations on ten occasions</li> <li>GIS analyses of elevation data</li> <li>General biological assessment</li> <li>Analysis of ecosystem services</li> <li>Measurement of river channel</li> <li>Diatom study</li> <li>Continuous sampling station</li> </ul>   | <ul style="list-style-type: none"> <li>Sampling results and analysis</li> <li>Four area descriptions with maps: wetness, erosion risk, soil type, sub-catchments,</li> <li>grasslands, longitudinal profiles of watercourses.</li> <li>Report, ecosystem services</li> <li>Watercourse profile</li> <li>Measurement results: flow, turbidity, conductivity, precipitation</li> </ul>                  |
| <b>Agricultural measures</b>                           | <ul style="list-style-type: none"> <li>Landowner meetings, internal proposals for wetlands</li> <li>River walks</li> <li>Three study visits</li> <li>Two seminars on measures (60 participants)</li> <li>Design of wetlands, erosion protection, etc.</li> <li>Powerpoint presentation of the area</li> </ul>  | <ul style="list-style-type: none"> <li>Structural liming on two properties, 28 hectares</li> <li>Five wetlands, 3 hectares</li> <li>Adjustable dry well</li> <li>Biological erosion protection</li> <li>Clipping tree height, 100 metres</li> <li>Increased buffer zones, three kilometres</li> <li>Environmentally friendly clearing 15 km</li> <li>Two seminars on agricultural measures</li> </ul> |
| <b>Measures in watercourses</b>                        | <ul style="list-style-type: none"> <li>Five river walks</li> <li>Landowner meetings</li> <li>Dialogue with the municipality and the Swedish Transport Administration</li> <li>Dissemination of information on stormwater discharges</li> <li>Study visit</li> <li>Electric fishing demonstration</li> <li>Compilation of knowledge libraries</li> <li>Three grant applications</li> <li>Biological inventory report</li> <li>Knowledge compilation</li> <li>Notes from river walks</li> <li>Powerpoint presentation of the area</li> </ul> | <ul style="list-style-type: none"> <li>Restoration of cleared bottoms at 2 sites along 1500 metres</li> <li>Removal/clean-up of oil drums</li> <li>Migration obstacle removed, eel trap</li> <li>Reconstruction of road culvert for improved migration route</li> <li>Move and rescue dried mussels</li> </ul>  |
| <b>Stormwater</b>                                      | <ul style="list-style-type: none"> <li>Conversations with the municipality and VIVAB</li> <li>Planning meetings</li> </ul>   | <ul style="list-style-type: none"> <li>Stormwater seminar</li> </ul>  |
| <b>Climate change</b>                                  | <ul style="list-style-type: none"> <li>Planning meetings</li> <li>Work with Life application, Water buffering measures in the landscape - coast to coast</li> </ul>  | <ul style="list-style-type: none"> <li>Seminar: When the water runs dry</li> </ul>  |
| <b>School</b>  | <ul style="list-style-type: none"> <li>Inventory and school contacts.</li> <li>Working group meetings</li> </ul>   | <ul style="list-style-type: none"> <li>Description of educational aquatic environments at the schools</li> <li>Powerpoint for teachers</li> <li>Information for all teachers at three schools</li> </ul>  |

|                              | Preparations  | Results  |
|------------------------------|---|--|
|                              |   | <ul style="list-style-type: none"> <li>• Two teacher guides in adventure education about salmon and bumblebees (2020)</li> <li>• Material on educational aquatic environments at the schools</li> <li>• Map about the salmon's journey</li> <li>• Station with netting on Salmon Day</li> </ul>  |
| <b>Water and heritage</b>    | <ul style="list-style-type: none"> <li>• Lecture</li> <li>• Two workshops with five local associations</li> <li>• Planning meetings</li> </ul>  | <ul style="list-style-type: none"> <li>• Report on nature and history</li> <li>• Map with points of interest</li> <li>• Brochure</li> </ul>  |
| <b>Information</b>           | <ul style="list-style-type: none"> <li>• Drone filming</li> <li>• Inventory (2020)</li> <li>• Working group meetings</li> </ul>   | <ul style="list-style-type: none"> <li>• 40 information signs (2020)</li> <li>• River walk in Gothenburg during Västerhav week</li> <li>• River walk during Water Co-Governance partner meeting</li> <li>• Film about the water system (2020)</li> <li>• Leaflet about the salmon's journey</li> <li>• Participation in salmon day</li> </ul>                              |
| <b>Politician education</b>  | <ul style="list-style-type: none"> <li>• Working group meetings</li> </ul>  | <ul style="list-style-type: none"> <li>• Information at one municipal executive committee meeting, one municipal council meeting</li> <li>• River walk for politicians and officials (planned)</li> <li>• Map of the catchment area</li> <li>• Leaflets about the water system and water counsel</li> <li>• Powerpoint about the water system and water counsel</li> </ul> |
| <b>Training of VR</b>        | <ul style="list-style-type: none"> <li>• Mapping of water counsel</li> <li>• Compilation of competencies, projects, training/education needs</li> <li>• Working group meetings</li> </ul> | <ul style="list-style-type: none"> <li>• Study visit to water treatment plants, regulation dams and nature reserves</li> <li>• River walks</li> <li>• The County Administrative Board education efforts regarding the Water Framework Directive</li> <li>• Species of the day at water council meetings</li> <li>• Lecture</li> </ul>                                      |
| <b>Water day</b>             | <ul style="list-style-type: none"> <li>• Planning meetings with associations</li> </ul>   | <ul style="list-style-type: none"> <li>• Himleån Day (2020) with ten participating organisations.</li> </ul>   |
| <b>Nature guide training</b> | <ul style="list-style-type: none"> <li>• Planning</li> </ul>  | <ul style="list-style-type: none"> <li>• Three training sessions</li> <li>• At least three river walks by participants</li> <li>• Powerpoint and structure of education programme</li> </ul>   |

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