Social Learning: Methods Matter but Facilitation and Supportive Context Are Key—Insights from Water Governance in Sweden

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Abstract: This paper analyses and discusses how and to what extent social learning (SL), as a means to address complex adaptive problems in water governance, can be enabled in local and regional multi-stakeholder collaborations. Using a multi-method, qualitative, collaborative, and self-reflective case study design, the conditions, challenges, and enablers for SL were studied, comparing three complementary cases of voluntary multi-actor platforms (water councils) to improve water quality in West Sweden. These councils were established to foster the implementation of the Water Frame Directive and—on a voluntary basis without a formal decision mandate or responsibility—to implement measures or act. Using participant observation, evaluation workshops, and a survey, the methods employed by the councils, which were founded on trust-based approaches, were assessed based on how they contributed to trust and social learning. Observed outcomes included an increased number of participants, sub-projects, local water groups, and measures. Respondents mentioned better dialogue, higher commitment, and broader knowledge as positive outcomes. Based on this, we conclude that there is a need for neutral spaces for meetings led by process facilitators, enabling cross-sectorial and cross-level exchanges, a process which is not common in Swedish water management.

Keywords: collaboration; collaborative governance; facilitation; participation; participatory methods; reflective; social learning; Sweden; water management; natural resource management

1. Introduction

In this paper we analyse how methods and approaches used in collaborative processes affected activities and learning in three water councils in southwestern Sweden. The European Water Frame Directive (WFD) [1] requires EU Member states to implement measures to improve water quality and quantity, requiring involvement of the public and stakeholders [1] (preamble 14). In Sweden, this process is in many places driven by watershed-based local and regional so-called water councils (WCs), including various local stakeholders (e.g., local authorities, landowners, enterprises, and non-governmental organisations (NGOs). However, even though WFD implementation has gone through several cycles of implementation, water quality problems remain, and public awareness of the WFD and water-quality related problems is still low.

The Interreg project Water Co-Governance for Sustainable Ecosystems (WaterCoG; 2014–2020) focused on understanding how the WFD can be implemented locally in the North Sea region. The project included collaboration of researchers, practitioners, and local stakeholders in five EU countries (Denmark, Germany, The Netherlands, the UK, and Sweden), using a case- and problem-based approach. With the aim to promote local involvement and enhance collaboration to address water management problems, collaborative process designs were developed and tested. The Swedish focus was on developing and testing methods to promote social learning (SL) around addressing water-related issues. Mapping process-related challenges and enablers, including the mobilisation for and sustainability of voluntary work, were also in focus.
Working with water issues implies dealing with a diverse bundle of problems. Those include linkages across time and space to climate change, institutional frameworks and governance processes, management measures, and awareness of the public and decision makers. Many may have characteristics of so-called wicked problems [2], being complex and determined by context, difficult to delimit, as they cross boundaries, policy areas, and knowledge fields; they are continuously changing and therefore often without clear long-term solutions. Moreover, the distribution of gains and losses is uneven and implies choices between conflicting values for different groups. Addressing such problems requires (a) a holistic perspective and integration across governance levels and policy sectors, (b) adaptive learning to address change and uncertainties, and (c) participatory processes to negotiate different values and perspectives and promote transparent and legitimate decision making (e.g., [3]). Such strategies calling for adaptive, ecosystem-based approaches including stakeholder involvement have increasingly become embedded in policies and legislation, including the WFD. The project addressed these challenges through participatory methods rooted in trust-based approaches (TBA; partly [4]) and SL theory [5,6].

This paper has two aims: (a) to develop knowledge for the practice of facilitating SL in a mix of voluntary and salaried collaborative work and (b) to provide theoretical contributions to deepen the concept of SL. The concept of SL has been operationalised to analyse practical processes of collaborative problem solving in water governance in Sweden. The empirical purpose has been to validate both overall approaches and specific methods used and to determine whether and how these contribute to SL. At the same time, related challenges and enablers were mapped.

The following questions will be answered here:

1. How is SL in water governance currently understood?
2. What can be observed from practical water governance in the Swedish case about
   a. SL in terms of trust, commitment, reframing and reflexivity, new knowledge, new relationships, and new activities; and
   b. Obstacles and enablers to SL in terms of participants, process design (including methods and facilitation), and context?
3. What kinds of scientific conclusions and practical recommendations can be derived both from the cases themselves and water governance in general and from a wider context?

Question 1 is mainly theoretical, leading to the analytical framework, while questions 2 and 3 guided the empirical analysis. Question 1 is answered in the Background, Theory, and Approach and Methods sections. Question 2 is elaborated further in the Theory section and operationalised in the Approach and Methods section. It is answered in the Results and Discussion section, while the final section provides the answers to Question 3 in terms of both practical recommendations and more scientific conclusions, followed by an outlook.

2. Background

2.1. Swedish Water Management and Associated Participation

The Swedish management structure and features of stakeholder involvement provide the institutional and procedural background for the cases. Due to the complex nature of water as a policy area, many authorities are involved in water management. There are two key authorities in the context of the WaterCoG project: one is at a national scale, the Swedish Agency for Marine and Water Management (SwAM); the other is at a regional scale, the Skagerrak and Kattegat Water District Authority (SKWDA). SwAM has the national overall responsibility for planning and managing sea and surface water. The SKWDA coordinates one of the five water districts in Sweden, the Skagerrak and Kattegat Water District. At a local scale, the municipalities are important in their responsibility for measures within their territory and technical mandates [7]. Finally, based on their right of disposition over land and water, the landowners (e.g., farmers and forestry) and waterpower owners are key stakeholders as well.
The Swedish water councils (WCs) acting in different catchment areas represent further key actors. As voluntary associations, they have neither a formal decision mandate nor the right to implement measures or responsibility to act. However, in their function as a neutral, local-level meeting forum, they can mobilise local actors and initiate and support collaboration across borders and levels. In collaboration with landowners, they can promote the implementation of local measures. In Sweden, there is a need to reach out to landowners and other local actors to increase the number and impact of measures—here WCs can act as important nodes. There are no strict models for organisation and financing, which has led to a high variation in what the WCs do, how they are organised and financed, and who joins them.

2.2. Participation in Water Governance in Sweden

In the setting of water issues, citizen participation is guided globally by the Århus convention (1998), at a European level by the EU WFD [1] and the European Landscape convention [8], and nationally by the national legislation and directives. The WFD relies on cooperation at the local level [1] (preamble 14) (Figure 1), and the guidance to the WFD recommends involving stakeholders and the public at an early stage [9]. A large part of Swedish water management is linked to private land ownership and to key societal needs such as drinking water and energy. Although Swedish national legislation encourages following the WFD in terms of stakeholder involvement, in practice this is not widespread in Swedish water management.

Figure 1. A conceptual framing of public participation according to the WFD (CIS 8 [9]) ranging from information to active involvement, complemented by SL according to Collins and Ison [5]. Own drawing based on both sources. Note that the policy-based formulation of the EU WFD “active involvement” is equivalent to the theory-based term of “participation”. By permission from CIS; John Wiley and Sons (License 5134971002027, 23 August 2021).

3. Theory

To answer the three research questions and analyse SL in water governance, we need to link it to three partially overlapping discourses on participation, communication, and learning. We first elaborate on the background and pros/cons of participation and communication to then delve into SL and its different aspects and how these can be operationalised for an analytical framework.

3.1. Participation and Communication

Like most relationships, participatory processes include aspects of power relations, and these are not always easily linked to public decision-making systems [10]. Participatory and collaborative processes and approaches are discussed in many different research and practice contexts, including marine spatial planning [11], sustainable agriculture development [12], rural development [13,14], urban development [15], common pool resources [16–18], community-based conservation [19], people’s health [20], and water management [5,21]. Forms of participation can range from information provision to process responsibilities [1,11].
Broad involvement of stakeholders, including public participation, is seen as crucial for successful sustainable development work [8,12–15] in local communities [16–19].

While the power of self-determination, sustainable development, and local anchoring have been used to argue for participatory approaches, these can also result in illicit or at least unequal exercise of power, entailing “tyranny of participation” turning manipulative or even harmful to those to be enabled by the process [22]. Participation can be misused by manipulative process leaders, but also by powerful participants [22,23]. Moreover, hidden agendas may exist [24], or hidden agendas may falsely be suspected in cases of insufficient transparency. To avoid manipulation, methods and designs need to be in place promoting transparency and trust [4].

Communication is an important aspect of participation. Consensus, as proposed by Habermas [25], is often impossible and not necessarily desirable in all situations [26,27]. Moreover, an argumentative process with the purpose of persuading each other by good arguments may be delusive, as it replaces pluralism and multifaceted interests with conformity [27]. To promote both awareness of multiple perspectives and conflicts, a more equal dialogue is required, implying active listening to be a key component [4,26,28]. According to Mouffe, there is a need to have a deeper dialogue to uncover disagreements [27]. Keen or active listening is important for collaborative processes [4,28], as it creates opportunities for participants to express their views, which is important for democratic processes to work properly [28].

3.2. Social Learning
3.2.1. Orders of Learning

According to Collins and Ison SL is “... where learning occurs through some kind of situated and collective engagement with others...” [5] (p. 364) and “an emergent property of the process to transform a situation.” [5] (p. 365). SL aims to achieve transformative participation [29], addressing power inequalities. If one has to solve problems where the reasons and means to solve them are unknown, it is necessary to change epistemology about participation, collaboration, and knowledge production [5]. This implies a transformation in understanding these problems, towards wider perspectives—thus adding further levels or loops of learning [30]. Complex problems require a reflective adaptive approach, i.e., learning by doing and continuous reflection to keep up with change. This type of approach was introduced as social learning by Collins and Ison (2009) [5], claiming that SL is needed as a form of more intensive and reflective involvement, as information, consultation, and participation are not sufficient to address complex issues (Figure 1).

Joint activities allow developing a common knowledge base [31–33]. Moreover, communication among participants in connection with joint activities strengthens learning [31,32,34]. The concept of SL is reflected in Wenger’s social theory of learning through so-called communities of practice [34]. These are “groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an on-going basis” [35] (p. 4). Collins and Ison [5] based their approach on Bateson’s three orders of learning [36], further elaborating such a learning process as a result of interaction among participants. The first level is knowing, meaning doing things right or more efficiently by doing the same thing, without the underlying values being affected (first order of learning). The second level is knowledge, including the examination, evaluation, and change of underlying values and assumptions (second order of learning). The third level knowing about the nature of learning ([5] referring to Kitchener) implies a paradigm shift, transforming people’s perceptions of and their interactions with the world. In the words of Sterling, it is the experience of “... seeing our worldview rather than seeing with our worldview ...” [37] (p. 23). Overall, SL is taking place in processes with increasing mutual awareness of expectations and growing relational capital [5]. This also includes the development of a common knowledge base and an increasing agreement on purposes, goals, behaviour, and management during
phases when work is carried out. Put simply, SL is a result of increased understanding and implementation of coordinated activities [5].

Here, we understand SL as a concept encompassing the above, where learning takes place as a collective process, transforming both individual and collective perspectives towards a more holistic view, also resulting in the transformation of shared activities. The opposite of SL—that is, an absence of collective engagement with others—is typically evidenced through lock-in situations, where a lack of development in terms of actions, knowledge, and relations often results in decreased trust and commitment [6].

3.2.2. Reflective and Reflexive Communication

SL implies an on-going learning process, deepening and widening the understanding of everyone involved, and an on-going reframing of answers to the issues worked on. To move from first- to second-order learning, reflection is necessary. Reflective communication aims to help understanding an activity and related knowledge and to develop both [38,39]. Moving to the third order of learning involves questioning one’s own taken-for-granted assumptions and requires reflexivity, i.e., taking a meta-perspective on the process and related learning, which can lead to new knowledge and new perspectives [38]. Processes of reflexivity also support trust, commitment, and reframing [6]. Collaborating on issues with wicked characteristics often requires a third order of learning, also known as triple-loop learning [30]). This implies a continuous process of SL, also enhancing knowledge on methods and overall approach.

For a catchment area, we expect a deeper reflection to result in a joint, more holistic understanding of related water issues. It offers the potential to understand and tackle specific problems of complexity, uncertainties, and value differences or paradigm shifts [6]. Sol et al. [6] propose several indicators for effective SL processes, dividing them into two categories: harder and softer. The harder indicators are more visible and are considered easier to evaluate. This includes new knowledge, new relationships, and new actions. The softer indicators are less visible and are considered more difficult to observe and assess. Examples of softer indicators include trust, commitment, reframing, and reflexivity. Here, we define commitment as participants’ efforts in terms of motivation, personnel (used time), and financial resources [6], while reframing refers to changing perceptions towards a common shared understanding [6,40]. Before a whole group develops a more or less shared common understanding, reflective communication and reflexivity is needed. Reflexivity is here understood as “...reorienting and making the meaning of one’s beliefs and experiences explicit by assessing and articulating the new significance and meaning of this. As such, reflexivity includes the willingness to explore underlying frames and create unpredictable new frames... It is a more expansive way of learning, leading to a change in perception and behaviour.” [6] (p. 1388).

3.2.3. Trust, Transparency, and Conflict Management

SL and reaching mutual understanding and collaborative problem solving requires high levels of trust [6,41,42] and low degrees of conflict escalation [43], where everyone feels safe and comfortable [4,6,44,45]. Under the notion of Trinity of Voice (TOV) Senecah elaborates three key factors that promote trust in participatory processes: access, standing, and influence [4]. Access covers how accessible a process is for participants, e.g., understandable information, an overall attitude of cooperation, a choice of time and place enabling participation, and the opportunity to express oneself and be heard. Standing includes respect for each other in terms of listening and giving everyone an opportunity to convey one’s own perspective. Influence implies respectful consideration of everyone’s ideas and perspectives in a process.

Moreover, making underlying structures and thought patterns visible for everyone involved [6,16,28] enables participants to understand each other’s perspectives and promotes deeper problem solving. Compared with institutional frameworks with clearly established roles and procedures, informal and direct interaction has been observed to
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further disempower participants with lower social capital compared with actors with higher social capital [22].

Transparency is a part of standing [4], but it needs to be highlighted as it, together with open processes with broad participation, creates favourable conditions for legitimate processes [46]. Moreover, trust promotes the legitimacy of organisations [47]. A transparent and equal process, working with the above three key factors and awareness of agendas, roles, and interests also helps to minimise conscious and unconscious framing and manipulation and misuse of power. Here, we call approaches promoting such aspects as trust-based approaches (TBA).

3.3. Analysing Social Learning: Analytical Framework and Operationalisation of Indicators

The proposed analytical framework contains the following nested dimensions (Table 1). The confidence indicator is represented by Senecah [4] (column 2); the dimensions of SL are based on Collins and Ison [5] (column 3), complemented by the indicators suggested by Sol et al. [6] (column 4); and in column 5, the operationalisation is presented as concrete indicators. For each indicator, obstacles and enablers to SL can be identified and analysed, depending on the performance of the process. Transparency and Senecah’s TOV, as a base for “good practice”, were used to design the project from its outset. This included the design, conduct, and observation of WaterCoG work, while Collins and Ison and Sol et al. were used to deepen analysis and for reflection at a later stage.

| Aspects         | Trust: Senecah (2004) | SL: Ison and Collins (2009) | SL: Sol et al. (2017) | Operationalisation as Indicators |
|-----------------|-----------------------|-----------------------------|-----------------------|---------------------------------|
| **Trust**       | In terms of:          |                             |                       | (1a) Time and place for meetings are appropriate. |
|                 | 1. Access             |                             |                       | (1b) Information is understandable and accessible. |
|                 | 2. Standing           |                             |                       | (2a) All participants have a say and can contribute to work. |
|                 | 3. Influence          |                             |                       | (2b) Listening to each other is respectful. |
|                 |                      | Trust in the process in terms of: |                       | (3a) Internal: Respectfully consider each other’s thoughts. |
|                 |                      | Actors act in a way that is agreeable to other actors. |                       | (3b) External: Influence on decisions and respectfully considering input from the WCs. |

| Transparency    | Is also part of the aspect Standing. | Increasing awareness of each other’s expectations. | Personal/group level: (a) openness about own views and roles. |
|                 |                                     |                                           | (b) Awareness of others’ perspectives. |
|                 |                                     |                                           | Process level: (a) clear process in terms of decisions, roles, etc. |
|                 |                                     |                                           | (b) Summarizing activity, processes, and results and distributing them to everyone. |
|                 |                                     |                                           | (c) Open for diverse perspectives. |

| New relations   | Growing relational capital. | New relationships. | New persons and stakeholders attend with partly new interests. |
| New knowledge   | Development of common knowledge base. | New knowledge. | New knowledge and learning from each other. |

| New activities  | 1. Increasing agreement on purpose and goals, behaviour, and management during the work. 2. Growing understanding and implementing coordinated activities. | New actions. | Activities as a proxy for agreement, coordinated and implemented, and better understanding of them. Comparing activities done before with new activities through the project (content and quantity). (a) Activities are coordinated and implemented. (b) Better understanding of the activities. |

| Commitment      | In terms of: 1. Motivation, passion; 2. Personal (time); 3. Financial resources. | Expressed enjoyment or dissatisfaction as drivers for acting. 1. Can be expressed explicit and implicit. 2. Time used by the participants in the process. 3. Received grants and fees. |

| Reflexivity     | Increasing awareness of each other’s expectations. | In terms of “...reorienting and making the meaning of one’s beliefs and experiences explicit …” | Transformed understanding of water issues and about other’s perspectives on a personal level. |
Table 1. Cont.

| Aspects               | Trust: Seneca (2004) | SL: Ison and Collins (2009) | SL: Sol et al. (2017) | Operationalisation as Indicators |
|-----------------------|----------------------|-----------------------------|-----------------------|----------------------------------|
| Reframing             | Increasing agreement on purpose and goals, behaviour, and management during the work. | Reframing in terms of changing perceptions to a common shared understanding. | Transformed understanding of water issues changed, including more and broader perspectives on group level. |
| Lock-in situations    | Lock-in situations.  |                             | (a) Low quality of communication (e.g., lack/low level of communication or in terms of content). (b) Signs of conflict escalation and stalemate between actors (e.g., loss of trust, non-collaboration, guarded behaviour). |

4. Approach and Methods

4.1. The Swedish Water Co-Governance Project: Overall Approach, Cases, and Sub-Cases

The Swedish part of the WaterCoG project was driven by the Swedish Authority for Marine and Water Management and the Skagerrak and Kattegat Water District Authority. It focused on how increased participation in WC could be developed, if the opportunity and willingness for this existed, and how the implementation of more measures in connection with this could take place.

Three WCs within Skagerrak and Kattegat Water District were asked to join as pilot projects, and all agreed participate (Figure 2 and Table 2). The selection of these WCs took place based on their different sizes, organisations (Table S1), and challenges. The larger WC decided to initiate two local pilot projects at the start-up meeting. These were thus different in that they were newly formed and consisted of more loosely composed networks.

Figure 2. The four pilot projects in three WCs in Skagerrak and Kattegat Water District, Sweden, involved in the WaterCoG project. Source: [48]. © County Administrative Board, SMHI, Swedish Survey; Diary no. 106-2004/188. Permission obtained from authors.
Table 2. Differences and similarities between conditions in the four pilot projects (Ätran WC was split into two local pilot projects). WC: water council. LWG: local water group.

|                        | WC 1 (Ätran) | LWG 1 (Vartofta) | LWG 2 (Högvadsån) | WC 2 (Himleån) | WC 3 (Mölndalsån) |
|------------------------|--------------|-------------------|-------------------|----------------|-------------------|
| Catchment area (km²)   | 3300         | 35                | 460               | 200            | 280               |
| Dominant land use      | Coniferous forest, lakes, and bogs. | Cultivated landscape. | Coniferous forest, lakes, and bogs. | Cultivated landscape. | Urban areas, coniferous forest, lakes, bogs. |
| Main challenges        | Eutrophication, ditch cleaning to maintain farming. | Obstacles to migration, cleaned watercourses. | Eutrophication, flooding, exploitations. | Flooding, exploitations, obstacles to migration. |
| Starting year          | 1973         | 2017              | 2017              | 2009           | 2008              |
| No. of members         | 23           | Ca. 15            | Ca. 25            | Ca. 12         | 12                |
| No. of municipalities included | 6           | 1                 | 2                 | 1              | 5                 |
| No. of stakeholders    | Association  | Informal network  | Informal network  | Informal network | Formal network    |
| Budget (EUR)           | 45,000       | 0                 | 0                 | 4000           | 4000              |

Source: [49] and [50]. Permission obtained from authors.

4.2. The Design of the Processes for the Water Councils

As few WCs were found explicitly working in a structured manner with collaborative methods [51], the project focused on developing and testing new ways of collaborative water governance, eventually ending up in an iterative and self-reflective SL approach [5]. The arrangement for the project was planned in a steering group consisting of officials from the two authorities, the resource person, and the researcher.

From the start and throughout the process, a set of basic methods and approaches were applied to create favourable conditions for trust building and participation on equal terms. This included an overall open attitude, looking at the project as a learning process, based on local engagement and knowledge (Figure 3). This meant that the process had to include reflectivity and reflexivity where all participants, including the steering group, participated. The array of methods and tools chosen to facilitate participation, trust and reflectivity was broad, drawing from a wide field of pedagogical approaches, guidelines, and toolboxes from development work (e.g., [12,13,52,53]), future workshops [54], and collaborative planning [15]. The methods, in combination with trustful and transparent communication, encouraging dialogue, and diversity, were used to scaffold the overall process. The design tried to promote the interplay between participants’ activities, feelings, and awareness, which is fundamental to SL work [55].

![Figure 3](https://example.com/figure3.png)

Figure 3. Embedding reflections and reflexivity in the SL process. Source: Modified illustration based on Nolbrant [49]. Published with permission by SwAM.
For instance, the project workshops as a key platform of interaction always started with open questions where everyone could contribute. The facilitator emphasised the large and broad knowledge in the groups, the value of diversity of knowledge and perspectives, and the importance of listening to each other without arguing to bring out this knowledge. Recurring working methods to support these approaches were to start by thinking individually, writing down thoughts, and taking the notes to smaller groups, with an opportunity for everyone to tell and listen. These notes, which were allowed to include everyone’s thoughts, were then sorted into themes by the group. Another recurrent working method was conducting a round of reflection after each meeting, where the participants listened to each other, sharing experiences and feelings about the meetings and other thoughts and ideas. The same approach and similar working methods were used in evaluation workshops. For more information on key methods and observed outcomes (see Section 5.3.1). Later in the process, a number of other methods were also used, such as joint watercourse hikes and using maps of the catchment area.

After the joint workshop with the three WCs all pilots continued with a series of workshops, meetings, and watercourse hikes to form visions and knowledge and to program for what they wanted to do. The meetings were planned together, e.g., with the WC’s chairman, secretary, and/or other members and the resource person. To a varying degree in collaboration with the group members, the resource person designed meetings supporting a participatory process and SL, including appropriate approaches and methods. Moreover, the resource person supported the process and facilitated workshops in all groups when need arose (2016–2020). An accompanying researcher continuously supported the facilitator and the steering group (in Figure 3, there could be an additional eye) and evaluated the process (2016–2017, 2019–2020). Each pilot diverged into smaller working or local groups as needed. In addition, here the approaches based on openness and dialogue were applied (Figure 4), however, to a varying degree.

![Figure 4. WaterCoG work processes in the pilots. Source: authors.](image-url)
Table 3. The main focus of the pilot projects divided into different categories of activities. The smaller local water groups were more focused on measures than the water councils which were more focused on information.

|                      | LWG 1                                      | LWG 2                                      | WC 2                                      | WC 3                                      |
|----------------------|--------------------------------------------|--------------------------------------------|-------------------------------------------|-------------------------------------------|
| Measures             | Wetland constructions.                     | Biotope rehabilitation.                    | Water sampling.                           | Pedagogic water environments.             |
|                      |                                            | Removing obstacles for fish migration.     |                                           |                                           |
| Surveys              | Watercourse hikes.                         | Nature inventories.                        | Water sampling.                           | Pedagogic water environments.             |
|                      |                                            | Electric fishing.                          |                                           |                                           |
|                      |                                            |                                           | Pedagogic water environments.             |                                           |
|                      |                                            |                                           | Cultural history.                         |                                           |
| Information          | Information paths.                         | Reports                                    | Reports                                   | Information signs.                        |
|                      |                                            | Day of Himlån.                             | Politician information.                   | Watercourse hikes.                        |
|                      |                                            | School information.                        |                                           |                                           |
|                      |                                            |                                           |                                           |                                           |
| Influence community planning | Meeting with municipality. |                                           | Meeting with municipality. |                                           |
| Letters              |                                            |                                            |                                          | Referrals and letters.                    |

Source: Own results.

4.3. The Overall Research Approach

This qualitative study applied a multi-method and comparative case study design based on collaboration. Collaborative or cooperative research [56] implies “research with people rather than on people”, seeing them as active subjects rather than passive objects of research [57]. This leads to a mutual co-operative creative process where everyone is involved and can influence the process (ibid.).

Nested levels of reflection and data collection and analysis: In the process, a twofold and nested collaborative approach was applied, enabling situation-based adaptation and continuous adjustment of methods. These processes implied collaborative research on conditions, methods, challenges, and enablers for SL and facilitated a reflexive governance approach. The latter consisted of a collaborative approach to stakeholder involvement, including method development and testing for practical problem solving in communities of practice.

4.4. Methods of Data Collection

4.4.1. Key Methods and Sources

The key methods and sources in this study were approximately 170 observations (structured and participant [58]) at meetings, 9 workshops (including 5 pilot evaluation workshops) (Figure S1), and a questionnaire. The evaluation workshops were bridging important knowledge gaps, both placing the process in its historical context and linking between researcher and participants. This collaborative research method created feedback and reflection loops, enhancing reflexivity [38]. The material was presented in four reports [49,50,59,60]. Evaluation and feedback to the project took place continuously to enable adjustment of methods underway. Normally, two types of reflection took place after the meetings: a first with the organisers and a second by the resource person and the researcher. The resource person attended approximately 120 meetings and the researcher approximately 30 (Table S2). This resulted in approximately 300 personal dialogues with participants in connection with or between meetings.

A questionnaire with the aim of examining the conditions of the WCs and their results was conducted in spring 2017. The stratified sampling was based on covering the most important stakeholders in the WCs, and two genders (men and women), with altogether 14 responses [61].

Because of the sensitive nature of information, we do not point out which WC or pilot the information refers to. Our intention is not to name and shame.
4.4.2. Complementary Methods and Sources

Complementary sources were maps and webpages (Water Information System Sweden (VISS)), historical maps, digital maps of high nature values (water, forests, wetlands, and meadows), documents (approximately 10 local reports about nature inventories and water analysis), and topographic data which were used for GIS-based analysis.

Two semi-structured (Table S3) and two unstructured interviews [62] were conducted to clarify inputs from evaluation workshops.

5. Results: Stepwise and Overall Outcomes

The relevant outcomes from the joint meetings (Figure 4) and steering group meetings are described first, followed by the results related to the specific indicators (Table 1).

5.1. Relevant Meetings for All the Three WCs and Their Pilots

The results from the initial meeting for the three WCs showed a great commitment by the participants to local water issues. A broad spectrum of those were presented by them at the initial meeting, e.g., questions about communication, learning, collaboration, organisation, and environmental and interest conflicts. Even if the WCs had much in common, such as highlighting the catchment area for collaboration, many differences could also be identified. The focus on varying issues (e.g., biodiversity, over fertilization, or community planning) was one common difference.

From then on, the WCs and LWGs conducted their own processes, supported mainly by the resource person and the project team, where they developed visions, focus areas, working groups, and action plans—ending in over 20 actual projects with a broad thematic focus, e.g., environmental issues and local history (Table 3).

The midterm meeting for the pilots (Figure 4) focused on sharing knowledge and on evaluating and developing the WCs and their local projects further in assorted workshops. The participants expressed satisfaction about meeting forums and dialogue, commitment and participation, collaboration, and increased knowledge. Emphasised areas of concern included especially a lack of time and resources but also how to reach the public, insufficient knowledge, conflicts of interest, contact with authorities, and implementation of measures. Expressed visions beyond the water and the ecology issues were often holistic, for example, including economy, food production, biodiversity, local society, democracy, the global perspective, and sustainable development. In the final reflection round, one voice summarized the day: “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.”

The participants at the evaluation workshop meetings (Figure 4) found that trust-building in terms of access, standing, and influence [4] was mostly fulfilled inside the groups. The level of being able to influence decisions at the municipality level was however experienced as being lower (Table 4).

The participants in the evaluations experienced the methods as mainly positive in terms of fulfilling democratic collaborative and learning processes. “The method is superb and appropriate. We have worked in groups, individually and in pairs. Everyone has had their say.” (Politician in a WC) The evaluation process itself was a platform for participants to exchange reflections about the process and a reflexive process. An additional advantage was raising awareness of how much they had done, as expressed by a farmer: “Have we done all that?”
Table 4. Process outcomes related to trust (in terms of access, standing, influence), constructive dialogue (part of standing), commitment, and knowledge production.

|                                                                 | WC 1 (LWG 1 and 2)                                                                 | WC 2                                                                                  | WC 3                                                                                  |
|-----------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| **Access to the WC process internally**                         | Open participation. Info. difficult to understand/lack of relevant info (Approx. 35%). | Open participation. Info. difficult to understand/lack of relevant info (0%).          | Rule-based participation. Info. difficult to understand/lack of relevant info (8%).   |
| **Standing in the WC process internally**                       | Dialogue-oriented.                                                                 | Dialogue-oriented.                                                                     | Too little info. from the participants. Info-oriented- Protecting interests.          |
| Average perceived change in dialogue based on individual ratings | 2.73+4.25 (+1.52)                                                                  | 3.8+4.0 (+0.2)                                                                        | 2.8+3.15 (+0.35)                                                                      |
| **Influence in WC (internal) ***                                | Respectful consideration of everyone’s thoughts—Often.                             | Respectful consideration of everyone’s thoughts—Often.                                | Respectful consideration of everyone’s thoughts—Less often.                           |
| Influence on government decisions (external)                    | Little opportunity to influence decisions (58%).                                   | Little opportunity to influence decisions (17%).                                       | Little opportunity to influence decisions (58%).                                     |
| Perceived increase in knowledge                                 | Five different knowledge areas identified.                                         | Six different knowledge areas identified.                                             | Two different knowledge areas identified.                                            |
| Self-rated commitment.                                          | LWG 1: Decreased commitment (50%), unchanged (50%).                                | LWG 2: Great commitment—increased (91%), unchanged (9%).                               | Commitment unchanged (91%), decreased (9%).                                          |

Sources: Own results. Percentages refer to voting by participants at workshops. * Observation data. ** Voting at workshops (scale 1–5): With 1 as “guarding interests” and 5 as “constructive dialogue” as extremes. *** Observation data. In the WC 3 case, the time used for respectful consideration of everyone’s thoughts was lower.

5.2. The Outcomes of the Steering Group

Reflexivity in the authority steering group was at times a challenge; it was related to a lack of continuity if participants changed, lack of time, and mistrust—similar obstacles as in the pilot projects.

The authority steering group identified over 50 different working methods, some of them simple and others more complex. Users were invited to combine, adapt, and develop and to add new ones to an online toolbox (https://www.havochvatten.se/verktygvatten (accessed on 20 August 2021)).

5.3. Overall Results—Observations and Outcomes of the Four Pilots

The observed indicators for social learning and relevant outcomes in the project were manifold—here reviewed first in relation to the working methods used and then following the sequence of indicators in Table 1.

5.3.1. Overall Effects of Working Methods Used

According to observations and evaluation workshops many of the basic participatory methods used can be linked to results according to the indicators for promoting SL (Table 5). In the different pilots and their subgroups, the facilitator was given varying room to apply participatory methods and SL. Here, it becomes evident that even the six most frequently used basic methods can promote and deepen different aspects of social learning—related to trust, relations, knowledge, activities, and commitment (the more easily observed basic indicators for SL). For example, an emphasis on listening to others instead of convincing them results in reduced conflict among participants and in the emergence of more individual ideas, deeper acquaintance with others, and better knowledge, which promotes trust and commitment (Table 5, third row). The reflection round at the end of the meeting deepened participants’ understanding of each other and their collaboration. Learning what others have learned deepens individual learning and, in the end, also promotes learning about the process and includes proposals for improvements, resulting in reflexivity (Table 5, sixth row).
Table 5. Results: Key examples of basic participatory methods as a part of CSS used in the process and their effects.

| Key Methods | Effect on: Trust (Access, Standing, Influence) | Relations | Knowledge | Activities | Commitment |
|-------------|---------------------------------------------|-----------|-----------|------------|-------------|
| Open point of departure (avoiding complete answers from the outset) | Different perspectives invited from the beginning involved in designing of content opened for constructive dialogue. (o) | New participants started up several local water groups based on the participant’s own suggestions. (o) | The design and methods are based on open starting points. It increased exchange of knowledge. (e) | New ideas for activities and measures. (e, o) | Being able to participate and formulate visions, goals, and work has increased commitment. (o) |
| Promoting and emphasising diversity in the group | Increased dynamics in the conversation through more perspectives. (o) | Broader perspectives engage more people. Opportunity for greater collaboration. (o) | Increased diversity of perspectives and knowledge increased learning and holistic understanding. (o) | Increased ideas for improvement, measures, and how they were implemented in collaboration have arisen. (o) | Greater diversity of knowledge and perspectives increased interest and commitment. (o) |
| Emphasis on listening to others—without a need to agree (instead of persuading others of own standpoint) | Does not get caught up in argumentation and conflict, but all participants’ thoughts have time to emerge. (o) | Better opportunity to see collaboration opportunities. (interpreted, based on experience) | Opportunity to listen to everyone’s perspectives, means more learning. (o) | Collaboration around activities and measures can arise more easily. (interpreted, based on experience) | Having time to tell and be listened to and hear other people’s commitment strengthens your own commitment. (o) |
| Thinking for yourself and writing own small notes to share | Greater awareness: everyone’s thoughts are important. (e, o) Curiosity about other’s thoughts. (o) | Increased active participation as more people share their thoughts. (e, o) | Time for reflection where lessons about process are formulated. (e) | New ideas for activities and measures were encouraged. (o) | Emphasises the importance of everyone’s thoughts. Get all thoughts into groups. (e, o) |
| Working in small groups (2–6 persons; as a start-up and complement to large groups) | Easier to get to know each other and everyone had a say. (e, o) | More people actively participate through conversations. (o) | Easier to share knowledge by having time to tell and listen to each other. (o) | Ideas about activities and measures were developed in conversations. (o) | Easier to express commitment and thoughts. (o) |
| Reflection round at the end of a meeting (sharing experiences, thoughts, feelings, ideas) | The reflection increased understanding of each other and influenced the process. (o) | The reflection provided an opportunity to develop and improve the collaboration. (e, o) | Reflecting on what you have done and hearing others’ reflections increased learning. (e, o) | Ideas for improvements of activities/measures can be formulated. (interpreted, based on experience) | Reflecting on what has happened and the process. Influencing the form of the process increased commitment. (o) |

Sources: Own results based on observations (o) and evaluation workshops (e), further interpreted based on experience from other processes where no effects could be observed in the study.
5.3.2. Trust—Based on Access, Standing and Influence

Access: Most participants were satisfied with the time and places for the meetings, which helped them to participate. However, two of the water councils were criticised for too little openness and accessibility. One of these WCs also had a more rule-based participation, while the other two were open to a more diverse set of actors. The local water groups were open to all interested parties; they were started by a broad invitation with new participants joining over time.

A majority of participants, especially committee members, perceived the information as understandable and relevant, while participants in some of the local water groups reported a lack of relevant information and difficulties in understanding (Table 4).

Standing: Here, dialogues in small groups were a basic prerequisite, which also was well received: “It is in the conversation that you uncover things” (Landowner, pilot). A member of a small group felt that they did not need the methods for small group dialogue, as they knew each other for a long time. However, observation indicates that when the individual reflection steps were omitted, some participants were not heard, even if they had relevant contributions and knew each other very well.

In dialogues, diverse perspectives and priorities were made visible and understandable. One participant emphasised the importance of respectful dialogue, where you can listen to each other but not have to agree. At the same time, this dialogue helps to find parts to agree and collaborate on. Those aspects were raised by another voice: “Positive that we have come so far that we have a dialogue between us—authorities, executors, stakeholders. Here it (water management work) is not to be prickly, but collaboration and focus on finding solutions. We develop a consensus.” (Politician in a WC) Additionally, it was also discovered that the similarities were sometimes greater than expected. “Politicians and voters, we think alike but we rarely meet to share each other’s visions.” (Politician in a WC).

All the groups perceived that they were moving towards a more constructive dialogue, but to a varying extent (Table 4). One of the groups perceived the dialogue to already be constructive at the outset, and it increased during the project. This and one other group were more dialogue focused, in the sense of adapting the TBA more often. A third group focused on exchanging information instead of dialogue and complained about too little actual sharing of information. Here, many attended mainly due to their public function and to keep themselves informed.

By reflecting at the end of workshops and meetings, everyone formulated what had been done, expressed thoughts about what was good or not, and raised questions or ideas for continued focus, while the others listened respectfully. This reciprocal, respectful process deepened understanding and awareness of each other’s views, according to evaluation and observation. It provided an opportunity to influence the process and connected to commitment and transparency.

Influence: One of the top reasons for participants to attend WCs was to exert influence, an active form involving collaboration. Internal influence was mostly seen as good in terms of respectful consideration of everyone’s thoughts; however, it was less often so in one of the WCs—the rule-based participation group mentioned above. The two other WCs reported a good atmosphere of dialogue and that everyone contributed to the internal work. The evaluators expected a high degree of dissatisfaction about possibilities to reach external decision makers, e.g., municipalities. One of the WCs especially worked to improve the dialogue with municipalities and started to make presentations about the WC and water issues for municipalities. It has also been reported that a WC’s influence is not visible in the decisions and that authorities have not taken WCs into account. However, evaluation workshops indicated that dissatisfaction was high, but not as high as expected.

5.3.3. Transparency

In relation to transparency, feedback features such as note taking and documentation of meetings shared with everyone were appreciated by participants in two of the WCs. Observation shows that presentation rounds, getting to know who is at the meetings—i.e.,
roles, interests, and where participants come from—have promoted transparency. Compared with situations with lower transparency, fewer suspicions and conflictive situations and more trustful relations were both reported and observed.

5.3.4. New Relations

Working and learning processes enabled new relations between people with different backgrounds, roles, interests, and developed knowledge. A small-scale hydropower owner, asked what had been particularly good, answered: “Meetings and workshops ... and getting to know each other at these meetings.” This was also indicated by the growing number of participants, interests, and groups (Table 6) and collaboration with local associations and networks. At the joint meeting, participants from different WCs and pilots and others who attended the international meetings exchanged perspectives and experiences across borders—geographical, sectors, and organisational (Table 6). The internal WC work also expanded, resulting in new working groups and local water groups including newcomers, sometimes with new interests. Participants appreciated connecting with other groups and their networks and with the WC as a node by itself. One WC invited the local heritage associations to workshops about water and local history, which inspired and broadened perspectives. These associations included several hundred members, with the watercourse engaging many, and a side effect that more locals became aware of the WC. A politician in a WC underscored the role of the network for learning and as a node connecting local networks: “The water council itself is a fantastic network. Most [members] are large organisations. What enormous knowledge we have. That is the function of the water council. You can connect it to yourself and your own organization and network.”

Table 6. Development of the cases during the WaterCoG project due to the project process.

| WC 1 | WC 2 | WC 3 |
|------|------|------|
| No. of participants | 25+58 | 8+35 | 15+16 |
| No. of stakeholders | 10+14 | 3+7 | 9+9 |
| No. of WG/LWG ¹ | 3+10 | 3+9 | 2+3 |
| No. of external activities | 2+16 | 2+9 | 2+4 |
| Budget 2017–2019 (SKR) | 1.7+7.3 M (+330%) | 210+740 K (+250%) | 210+370 KR (+76%) |

¹ WG: working group. LWG: local water group. Sources: own results.

5.3.5. New Knowledge

The major reason for participants to attend WCs was to inform themselves and keep up with “their” area. To be informed is more passive and does not require collaborative involvement. Many participants expressed a wish to let other interests and people be a part of the groups to learn about, for example, nature, cultural heritage, and society. Especially the smaller local groups—consisting of landowners, farmers and more, with a focus on increasing knowledge and improving measures—wanted other stakeholders to participate to enhance the knowledge in the group.

The perceived increase in knowledge in the process included other people’s perspectives on nature conservation, practical implementation of measures, and the water governance organisation, but differed among the groups. Increase in knowledge also mentioned the SL learning process itself, including participatory methods, and the local landscape (nature, culture, and society). (Table 4) Methods that involved more senses and visualised specific places/functions, such as a watercourse hike and the use of maps, were deemed to be important for supporting collaborative activities and SL:

“It is my opinion that there is a widespread fascination for maps and that they have a function in addition to carrying knowledge and information. Do not know if it is about concretely seeing one’s own place as part of the whole, or about something else. In any case, they function as a tool in themselves to create commitment and often function as icebreakers/conversation openers.” (Municipal official).
The groups encompassed a diverse set of stakeholders and other actors, which kept changing due to, e.g., elections and change in administrative personnel. This affected the continuity of both the knowledge base and the internal and external communication of the groups. The SL process then had to embrace the newcomers and adjust to their level.

In three of the pilots, civil servants’ knowledge was highly valued. This included knowledge on complex ecosystem- and water-related issues as well as skills to navigate the bureaucratic system and support grant applications. The knowledge exchange was reciprocal, as the importance of local knowledge and the broad view WCs deliver into municipalities was underlined by a municipal officer appointed to liaise with the local community. Two of the municipalities involved had an internal trans-sectoral water group working with input from the WCs, addressing transboundary water issues—also helpful to address water issues, according to another municipal officer.

5.3.6. New Activities

In terms of new activities, compared with earlier, the pilots developed significantly, with more and newer activities, for example, workshops with listening and narration, seminars for stakeholders, and exploring the local nature and history and different measures in the environment. Since the activities took place in the context of a water council and its catchment area, a better understanding of various measures arose. Over 20 local projects were started: e.g., biotope restoration, wetland facility, removal of obstacles to migration, structural liming, farmers’ own sampling of water, training of politicians, school projects, nature guide training. Most of those imply activities new to the groups. Local water groups and the smaller WC with participating landowners and farmers had a more action-oriented focus compared with groups encompassing representatives of different organisations. The larger WCs worked more with information, surveys, sampling, and meetings for collaboration. Committed coordinators combined with knowledgeable consultants with good collaboration skills were key factors to enable an implementation of water measures.

5.3.7. Commitment

Grant applications, budgeting, and time spent increased for all groups, but to a varying extent (Table 6), which indicates increasing commitment in all WCs. This was especially so for the two WCs whose rating of commitment was high already from the outset. Additionally, in two of the newly created local groups, commitment increased over time. In one pilot, the views about commitment diverged, and in the other, it was mainly unchanged (Table 4). Commitment was indicated by: a) more participants joining during the process, or b) participants explicitly expressing their commitment to the process or c) that they deemed it inspiring and interesting. One of the top reasons for them to attend the WCs was a special interest in a specific subject(s). Participants also expressed a fundamental shift in the framing of their work. “Commitment has increased during the project. Before it was in a different way: monitor and control within the municipality’s various projects. Now it is more to achieve better water quality. We are moving towards the water directive.” (WC member). “It (commitment) has increased a lot due to good ideas and thoughts.” (Municipality officer, WC).

Activities in or concrete connection to the local landscape were observed to be connected to high commitment. The inviting atmosphere, local perspective, watercourse hikes, and focus on measures were appreciated, as expressed by a farmer in a WC: “The watercourse hike was fun. Many contributed knowledge, even people who passed by. Inspiring, I had no idea about the place even though I drove on the road many times right by the river.” Another interesting observation was that the locally and more practically oriented groups attracted more women than the WC meetings.

5.3.8. Reflexivity and Reframing

Reframing was communicated by participants as changes in understanding water issues, gaining a wider perspective, and learning from each other and as relations being
an “us” rather than “us–them”. A municipal officer reported that he had learned an incredible amount from landowners, while landowners in the same pilot expressed an expansion of understanding for water. A farmer in a WC stated: “Water is much more than just water, with all life living in it. I have got another perspective on it, now it is not just about canals which drain our fields, but it is something else as well—fish and birds.” The vision work in one WC and the development of the action programme were perceived as a change from a more uncertain feeling about the WC’s connection to the local projects towards more of an inspiration and a feeling of pride when participants saw activities in the catchment area. The open seminars especially, with a wide range of public and stakeholders attending, have changed perceptions of the role of the WC towards a neutral meeting forum for cross-border dialogue between local stakeholders and different authorities. Participants also formulated that the WC is an important network, where participants bring a huge amount of knowledge, which connects to other networks through its member organisations. A dialogue between a WC and farmers in a ditches company with plans to clean parts of a river led to a process of co-learning and talking about holistic benefits and the implementation of actual measures. One important change of perspective due to SL was that farmers together identified the best location for measures and applied for funding, instead of doing it farm by farm. Overall, new insights connecting to reframing included a more holistic understanding of individuals’ own roles, co-creating, and self-generating, where people become part of promoting change, and a deeper understanding of the learning process itself.

5.3.9. Lock-in Situations

Lock-in situations could be driven both by group internal and external factors. Examples of internal drivers observed include situations of mistrust, us–them, fragmentation, polarisation, and short-sightedness. A key driver for lock-ins was defective communication—both across internal and external borders. Discontinuous or total lack of communication was reported and observed both within organisations (NGOs and authorities), between them (vertical and horizontal), and between them and the WCs, and within the WCs. Especially with municipal representatives, a lack of transmission between WC and participants’ home organisation (i.e., the organisation participants formally or informally represent in the WCs) was noticeable – possibly due to the fact that they are complex organisations, where the role of WCs may be unclear and poorly known. In two pilots, decreased commitment was explained by too little communication, unclear communication from authorities, and a slow process, all resulting in mistrust. In one group, participants guarded their individual interests and adopted a wait-and-see strategy. An earlier mentioned obstacle was uncommitted participants who merely wanted to stay informed. Moreover, when a parallel process was initiated by a key actor, excluding a key leader, it was observed to decrease transparency and raise distrust.

Staying outside: A further destructive strategy that was observed was to avoid getting involved in a group process and to maintain independence, and thus at a later stage feeling free to criticize proposals. Similarly, a politician questioned whether the activities of the WC might be contrary to the interests of their home municipality or party. One strategy was to leave the room and not take part in the specific dialogue. Other examples included landowners who did not want to participate in meetings or watercourse hikes due to distrust in authorities and a fear of being forced to implement measures.

Power inequalities among participants were a further feature observed to affect the participants’ standing in the process. For example, influential landowners’ statements halted the SL process by silencing other participants.

External features reported to inhibit the process from evolving included too little time, too few resources, and the mandate to work with the issues between the committee meetings in working groups or individually. Lack of time was an important obstacle for many participants. Other external features participants mentioned as risks to the process included short-term and quick changes of rules and budgets, grants with short application
deadlines, and projects to accomplish and report quickly. Those factors risked creating short-termism and inefficiency, projects not being fully thought through, a lack of time to evaluate and feed knowledge into future work, and an inability to mobilise resources in time.

6. Discussion: Observed Patterns and Conceptual Refinement of SL

In this section, the broad pattern of insights relating to SL, evolved from the analysis of the indicators for SL, are presented. Some of those patterns are considered further, ending with a synthesis and conceptualization of SL processes.

6.1. Gradual Change of Key Process Characteristics through Factors Promoting Social Learning

Throughout the WaterCoG project, indicators for SL arose to a varying degree in the different pilots. Over time, a gradual change of key process characteristics became visible towards a situation that could be associated with SL (Figure 5, illustrated by differently coloured clouds in clusters), which was the aim.

![Figure 5. Process characteristics changing through facilitation and other factors promoting SL. Source: Based on own data. * Nodes.](image)

In groups where a collaborative SL process based on the TBA and collaboration supporting structures (CSS) (which include three key factors catalysing SL: meeting forums and other context related factors, participatory and SL methods, and facilitation) had been applied, which also are associated with more frequent cross-border meetings and with committed actors, participants rated the dialogue as being closer to constructive dialogue. Here, the facilitator had consciously used active listening as a method to address differences, understand other perspectives, and widen participants’ understanding of the complexity of the issues at hand. Our data indicated a need of getting space but also a willingness to go beyond active involvement and being able to work SL-based. The one WC where respondents expressed slightly lower trust matched the lower-left hand type of characteristics in Figure 5, such as conventional types of meetings (the facilitator space to promote SL was limited) and must-go actors (forced participation), while the other WCs better matched the upper-right hand type of characteristics with committed actors and SL. This is not surprising, as commitment is strongly linked to trust [4,46,63], and this to respectful dialogue, both of which are essential in SL. We suggest that the central (brown) clouds with conventional meetings (information meetings, mainly one-way communication, and board meeting with a predetermined agenda)—versus a collaborative SL process based on TBA and CSS—are nodes (Figure 5) because they are linking with and contributing to some of the other aspects. Some characteristics such as must-go actors and no communication
with the home organisation may be more independent from TBA and CSS in the WCs themselves. These linkages would be interesting to explore further in future research.

6.2. Diverse Knowledge Production in SL-Processes

The different types of knowledge identified in the SL processes are linked to multiple types of results produced in the same process. All this knowledge is important for the entire process and needs to be made explicit, especially regarding knowledge about the SL process itself. A process can be illustrated by a spiral with five arrows in different colours, symbolising different types of SL knowledge and related results: measures, facts, process, organisation, and knowledge (Figure 6). In reality, the arrows are intertwined and joined in a common meshwork [64] and in an on-going SL process that is even sometimes interrupted. Both authorities in general and many actors want to see results in the environment. However, many have a natural science background and are trained in collecting facts, but they are not necessarily trained in working with other types of knowledge and skills (e.g., SL processes). To develop a broad knowledge base in all five areas, cross-border meeting forums and dialogue are necessary.

![Different types of results generate different types of knowledge. Source: Inspired by Nolbrant [49]. Published with permission by SwAM.](image)

6.3. Reflectivity, Reflexivity, and Reframing

Observations and other data suggest that participatory methods have supported reflectivity and to an extent reflexivity, which both facilitate SL. Key methods include those promoting combined individual and group reflection and those emphasising listening and awareness of diversity in perspectives. Most of the learning in the pilots was of a second order, where the participants created the goals and invited different perspectives and reflected on them [5]. To some extent, participants also showed indications for reframing and a third order of learning where reflexivity of the process itself was used. Especially, two of the WC developed as a neutral forum for dialogue, with options for bridging boundaries horizontally and vertically. Among participants, this evolving role resulted in a feeling of inspiring and purposeful work. This was also the case with concrete activities and when implementing measures. This occurred in a context that was both understandable to the participants—implying more elaborate collaboration, TBA, co-creation, SL-processes—and in which participants listened and also saw the results.

Where participants’ perspectives in groups enabled TBA, CSS, and SL, they shifted from a general, single perspective to broader, multiple perspectives in a more holistic understanding of water issues. The more holistic views of individuals began to match to
a higher degree, promoting overlaps and a more common view on the issue. This also entailed a change from the perception of “the other” to instead seeing each other as a part of the group and as a resource for addressing complex water issues in collaboration.

6.4. Obstacles to Social Learning (Lock-in Situations) and How to Address Them

6.4.1. Dysfunctional Collaboration Patterns

Certain patterns such as mistrust and polarisation can decrease or halt collaboration and SL. Here, it was found at the group level, often linked to insufficient communication. When it decreased, commitment and trust decreased as well. The causes of communication and collaboration deficiencies at the group level were many and at times intertwined. We call such observed and recurrent patterns as dysfunctional, inspired by Mehlman [65]. Dysfunctional patterns can be seen at societal, organisational, and personal levels and are often interlinked. Through purposeful attitudes and purposeful ways of working (detailed below) in this project, we tried to replace dysfunctional patterns with their opposites. Examples include deeper trust between participants and going from fragmented knowledge towards a more holistic understanding.

One pilot prioritised more conventional forms of meetings, which provided less room for developing SL. A basic requisite to SL is an open mindset towards TBA and CSS. Other important enablers include sufficient time for communication and having a person dedicated to keeping communication continuous and transparent. Facilitation, convening and driving the process forward, especially when combined with leadership as a resource for collaboration and mobilising participants to initiate activities, helps create favourable conditions for SL.

6.4.2. Power Structures, Trust, and Risks in the Process

Other underlying causes of communication and collaboration, also affecting the degree of trust, encompass perceived and exercised roles, mandates, and power structures. In all types of collaboration and meetings, between groups and within groups, power structures affect the scope and quality of the dialogue (see also [22]). Power inequalities (financial, positions, capacity to express oneself, etc.), were observed to hush dialogue. This reduced interaction, creativity, and trust. The use of one’s power in participatory processes is a known problem [22]. In situations of inequality, feelings of mistrust, division, and polarization can increase. Seeing each other as opponents, as part of power structures and conflict escalation, made actors sometimes unwilling to even participate in a group process, resulting in non-communication.

Based on our findings, meeting on equal terms was able to initiate a deeper dialogue. Otherwise, there would have been a risk to remain separate and merely exchange information, reducing the quality of collaboration. Applying and enforcing rules of conduct promotes trust building. The TBA and CSS help facilitate a more equal dialogue, where motivations to attend and roles can be clarified. Such awareness, in combination with unveiling both formal and informal power structures, helps build a transparent process and psychological security, all promoting trust.

6.4.3. Context and Cross-Boundary Work—Both Challenging and Enabling

Context is an important prerequisite for SL. WC work takes place in collaboration with local communities, other WCs, and authorities at different institutional levels. Moreover, all parties act within a broader societal context of the regulatory system, directives to implement, management through authorities, and political budgeting decisions. A supportive context promotes the development of collaborative SL-processes. Obstacles to trust and collaboration can be of an external organisational, financial, and administrative nature. This can include a history of negative experiences with authorities. The wider organisational context was reported to be short-term, with changing rules and budgets. This included applications for grants on short notice and projects to be implemented quickly. As it takes years to develop networks, knowledge, trust, and measures, the timeframe and funding of
project work often does not match the needs of collaborative local processes. The process also needs to be sensitive to evolving local conditions.

All the WCs have tried to involve municipalities and expressed that it often was hard to collaborate with, e.g., planning departments, as municipalities do not always fully see the benefits of working with WCs and catchment areas. In other projects, politicians have been suspicious towards strong local involvement and unwilling to step back from the power they held through representative democracy [28,66,67]. Further explanations are politicians’ fear of meeting committed and possibly fear of critical groups and of establishing unfair advantages for already resourceful ones [68]. Municipal actors are not the only ones to hold suspicion; there may also be local suspicion against invitations coming from authorities. An important issue is therefore how local commitment and co-creation can be used as a resource both for local sustainable development and for strengthening democracy and getting the political decision makers onboard. This highlights the need for an open and transparent co-creative collaboration and a SL process that includes authorities and local community actors, where the agenda and goals are not set from the beginning. A successful way to manage cross boundary water issues in some municipalities has been to jointly work in an internal trans-sectoral water group.

Lastly, collaboration with a contextual and an integrative view easily falls between the institutional and administrative cracks, as it often lacks both budget and appointed responsibilities. The collaboration and SL taking place within WCs were important here, as they contributed to integration. Methods for listening, dialogue, and reflection used in a process based on participants’ personal commitment, experiences, and knowledge, can counteract many of the above problems. Based on our data, their application promoted a common reflection, uncovering problems and opportunities, which developed both working method and process further. However, the importance and function of such reflection first needs to be explained and understood by the participants.

6.4.4. Mutual Respect and Allowing Difference—A Condition for Resolution

An important aspect is mutual respect. This clearly emerged when workshop participants emphasised the importance of dialogue without a need to entirely agree or even cover conflicts and reach consensus. A dialogue, where participants openly and respectfully can establish what they agree and disagree on sets the stage for conflict management. Here, TBA and CSS facilitating respectful listening and mutual learning were important, including facilitators who emphasised the necessity to allow different perspectives and knowledge. Still, it is striking how often groups were surprised to discover how much they have in common in what they want to achieve.

6.5. Synthesis
6.5.1. Participatory Methods Need an Overall Framing by Trust-Based Approaches

Participatory methods applied in the project supported all aspects of trust and transparency and promoted psychological security by providing a structure to act within. However, we claim that participatory methods alone do not suffice for a successful process promoting SL. Here, an overall approach combining both mindset, process design, and facilitation is key (see also Section 6.5.2). This can be provided by (a) complementing the methods with TBA, implying a mindset supporting an atmosphere of trust, transparency, and security, and (b) CSS providing meeting forums, facilitation, and a supportive overall context to the process. Participants need to be made aware of these basic conditions and attitudes to create a good foundation for trust and security. This study supported the idea that these basic conditions and attitudes contribute to a sense of meaning to participate, in that these approaches also create a basis for everyone’s thoughts, ideas, and perspectives to be given space and to be respectfully considered. Absent this mindset, the use of participatory methods did not have the same impact.
6.5.2. Collaboration Supporting Structures Further Promote Social Learning

Evaluations and workshops indicated that methods for developing knowledge and collaboration and the WC—supporting participatory approaches supported by both TBA and CSS—could facilitate reflectivity and reflexivity in a SL and co-creative collaboration process that promoted overall functional patterns (Figure 7).

Factors included in CSS that were identified as especially important for supporting SL include context, neutral meeting forums (such as the NGO WCs), participatory methods based on TBAs, and leadership in terms of coordinators and process facilitators supported by on-going evaluation (among other factors involving participant observation and self-reflection) (Figure 8). These factors are not new but were confirmed as important in the project. Facilitation was highlighted as process leadership and support of participants’ interaction and reflection using various participatory and other methods to scaffold this process and create a safe, creative, and listening atmosphere among participants. The same methods can be used successfully by a well-functioning group that has learned to facilitate itself and use the methods properly. Moreover, also the context around the WC needs to be supportive (see below), e.g., through skilled and knowledgeable civil servants who can help navigate the bureaucratic system and also know water issues and related regulations. It is also important over the long term and in avoiding quick changes of rules, financing systems, or applications of funds.

Figure 7. Trust-based approaches (TBA) and collaboration supporting structures (CSS) providing the core for SL and functional process and interaction patterns.

Figure 8. Three important parts for collaboration supporting structures (CSS).
To make sense of collaboration within complex networks, meeting forums promoting the crossing of boundaries for participants are essential. A WC with its various participants, all involved in their own networks, functions as a junction for people to meet. This greater network, or rather a meshwork [64], has the potential to create a large interface and dynamic interactions. A higher number of active and communicating local groups can make better use of the diverse local knowledge and can face unique situations, produce new knowledge and activities, and make connections to additional networks.

Participatory methods may be simple, but they help to create a space for everyone to speak, and they provide time to reflect and listen to each other. They also break with the conventional less open and interactive meeting forms and make the process more explicit, while raising awareness of co-creation. Additionally, these methods support increasing the diversity of people, knowledge, and perspectives in groups and considering each other as active participants and important co-creators in a SL process. The learning process can further develop the methods to suit specific local conditions.

Finally, there is a need for new roles of free actors who promote the processes of learning. Impartial facilitators (change agents [6]), see also boundary-spanners [69], who are carriers of the approaches to participation and can support the process both by initiating and maintaining it, are needed. They contribute to cross-boundary activities, interconnecting networks and interests as well as dialogues where all voices are listened to, as well as promoting reflexivity. It means that facilitators encourage participants to contribute their viewpoints, highlighting that diversity of perspectives is important for the group’s work. The on-going evaluation supports the facilitators and the process, and together with the facilitator, the evaluation balances the other aspects (participatory methods, diverse networks, and WC as a meeting forum) to gain trust and to build community and the SL process (Figure 8).

All these parts of CSS can be traceable to leadership, education, and attitudes connected with strong involvement of citizens in societal issues (strong democracy) and with special participatory institutions already suggested by Barber [26]. To promote SL in a setting of addressing water issues at the local level requires democratically funded participatory processes.

The cross-border meeting forums, supported by methods and facilitation, build trust, community, and SL. Various actors bring new perspectives, experiences, insights, and initiatives to the arena for dialogue and SL. Participants take the new knowledge to their other arenas of influence and create changes to address complex issues. This type of collaboration can promote creativity in a long-term sustainable manner. Because of the openness of the process, facilitators and participants must both be able to be comfortable with a great deal of uncertainty. A prerequisite for this is TBA and CSS to create a safe space in which all involved can be open enough with each other to address the uncertainties of a specific situation. A supportive context is also essential.

6.5.3. Functional and Dysfunctional Patterns, Risks, and Reflexivity

Synthesizing our experiences and further elaborating the conceptualization of SL, the facilitation of a functional process promoting SL and reflexivity can be illustrated as in Figure 9. It implies the application of a non-judgmental and reflexive approach and observing and promoting a dialogue about the process, the group, and oneself from a meta-perspective, including one’s own role in the process and one’s impact on it. Consequently, new knowledge and perspectives and greater awareness of how the process develops can arise. This in turn helps to develop approaches and mindsets to deal with various unpredictable situations. We conclude that the ability to be reflexive is an important catalyst for a process dedicated to developing the trust and reframing that can more easily identify and implement solutions to complex problems. Here, facilitation is key.
The art of facilitating SL (Figure 9) implies on the one hand promoting functional patterns (right-hand part of the figure: e.g., trust, dialogue,) by using TBA (the yellow arrow in the figure: e.g., access, influence), which is supported by a CSS (yellow arrow in the figure, i.e., participatory methods, meeting forums, supportive context). On the other hand, specific risks (the sunken rock at the bottom of the figure: e.g., manipulation) need to be avoided. Risks take place within and are connected to the participatory SL process itself and its actors; they are to be distinguished from dysfunctional patterns (left-hand part of the figure, i.e., mistrust, polarization). Facilitators must be aware of dysfunctional patterns in both overall process and individual behaviour and try to keep them at a low level or transform them into functional patterns. Our results suggest that it is important that facilitator and participants are both aware of dysfunctional patterns and risks in their SL process. Such an awareness, supported by TBA and CSS, at the same time indicates and promotes SL and learning loops of a second order, including a possibility for third-order learning. Both functional and dysfunctional patterns are to some degree self-promoting, which emphasises the importance of awareness and facilitation. Reflexivity in relation to process quality can promote both understanding and ownership by making the participants able to take responsible for the quality of their own process. Functional patterns and SL, in turn, provide opportunities to co-create new knowledge and activities and together work through complex issues.

Reflection is one of the most important features of SL, e.g., for generating new ideas, clarifying different perspectives, and mitigating conflict. For both reflection and reflexivity, supportive working methods are valuable.

6.5.4. Context—Widening Both Process and Perspectives

Water management in Sweden will continue to depend on local (and multi-level) collaboration, participation, and SL for promoting the creation and spread of relevant knowledge and for implementing measures. This requires enabling and supporting a large number of interacting and self-organising learning processes in many places simultaneously (Figure 10). Local knowledge also needs to reach across different levels to develop the support in an appropriate way.
Collaboration is needed both at the local level but also vertically between local, municipal, regional, and national levels (Figure 10; i.e., a multi-level governance system). For this to work, greater collaboration is also required horizontally within each level. Since public administrations and societal organisations often are organised in so-called stovepipes of different sectors, with each sector having a budget, targets, and processes of its own, collaboration is unlikely to develop unless someone is responsible for it.

To connect actors in the system (vertically and horizontally, Figure 10) both direct and digital meeting forums can also be used for exchanging experiences and developing knowledge. During the course of the WaterCoG project, digital network meetings and even a course for water councils, coordinators, and civil servants in SL were tested. This made it possible for participants from all over Sweden and Norway to attend, and it promoted sharing and finding solutions for each other’s problems.

7. Conclusions and Outlook

Overall, our results reveal that participatory methods matter but that skilled facilitation and a supportive context are keys to successful SL. We see our contributions as follows.

7.1. Deepening the Conceptualisation of SL

Theoretically, we deepened the conceptualisation of SL by identifying functional and dysfunctional patterns and risks in relation to the facilitation of SL processes. Here, reflexivity, enabling awareness and ownership from a process quality perspective, is central. To enable social learning, participatory methods need to be supported by trust-building approaches and collaboration-supporting structures. The latter emphasise the role of facilitation, balancing meeting forums, process, and methods and supported by an enabling context. Here, further research could explore the linkages between enablers and obstacles to SL, such as those specified in Section 6.1.

7.2. Developing SL in Water and Natural Resource Governance

(a) The implementation of the WFD in Sweden requires a continued and increasing reliance on local actors to work with water issues. To achieve functional collaboration over time in a combined authority- and community-driven process requires support by TBA and CSS, including reflexivity. SL is crucial to enable more complicated and conflictive issues to be addressed. As authorities’ time and resources often are limited, local actors’ interests and commitment become essential. At the same time, participation in WCs is often voluntary; therefore, participants need to experience meaning and interest from their involvement. Here, the importance of collaboration in SL processes needs to be made visible. However, collaboration takes time and requires resources for coordination, facilitation,
preparations, and the processing of meeting results, which are often underestimated. The water management processes need to be both self-organising and self-sustaining as far as possible. However, there remains a need to have both authority- and community-driven processes based on local prerequisites, issues, and commitments. It is essential to further understand and elaborate the linkages between the formal representative political and authority system and the informal local co-creative SL processes and to better adapt these to each other according to our suggestions (Figure 10). This requires both a development of practice and continued accompanying research on the evolving application of practice.

(b) Facilitation and a supportive context are key for this to succeed. Suitable leadership must be continuously developed, and a supportive context must be provided. We suggest ongoing training in facilitating SL and that methods and knowledge exchange be developed and offered to WCs, authorities, and other relevant organisations. Importantly, to promote actual implementation of water quality measures, politicians, civil servants, and other decision makers need to stay involved and allocate resources to support such work. Here, it is important to balance between local egalitarian processes with wide and unstable meshwork in the water management system and the more stable centralised bureaucratic system [70]. Moreover, a broad knowledge base including all five types of knowledge (see Section 6.2), both scientific, local, and other, is fundamental. As a key basic enabler to practically link local SL processes to the formal system and build a supportive context, we recommend establishing coordination committees within authorities and appointing official contact persons or help desks or even one-stop-shop systems to help local actors navigate the bureaucratic system. For local actors to meet and exchange experiences and knowledge, we suggest establishing self-help forums. To promote the robustness of such a system, a formal mandate and resources are required for the person taking the lead of the initiative. According to our observations, without the latter mandate and resources and a supportive context through skilled facilitators, linkages and networks, a toolbox, and meeting forums, the SL processes are more likely to fail.

(c) A concrete idea to increase the likelihood of success is for WCs to find ways to co-finance work (e.g., using the LEADER-model), where contributions are possible both in working hours and financially—according to the WC’s own resources and needs. The resources should be used both for supplying meeting places, channels, and platforms for knowledge sharing; process coordinators/facilitators; and evaluation and feedback to further develop the activities and keep the collaboration alive. Possibilities of pooling resources and sharing process leaders across water councils or with other appropriate initiatives should be explored (e.g., fisheries or conservation management). It is important to link these to individuals and organisations with relevant mandates, skills, and capacity and to a long-term perspective.

7.3. Outlook: A Wider Context of Application for TBA and CSS

Lastly, participatory and collaborative local processes, dialogue, and constructive conflict resolution in a continuously learning system is also important in other contexts, such as in the ecosystem-based approach according to the Malawi principles [71], fisheries management [3], or marine and coastal planning [11]. Based on similar needs and challenging situations in other areas, such as planning or nature conservation [72,73], we suggest that processes promoting SL based on TBA and CSS such as those analysed here can also be applied in other co-management situations. Moreover, water co-management can find inspiration in the creation of relationships with surroundings from environmental pedagogy (e.g., [74]), work on relation to landscape (e.g., [75,76]), and in facilitation of transformative processes from development research and planning (e.g., [77]). This cross-fertilisation could be developed further through a reciprocal and continuous exchange of experiences across different sectors and arenas of co-management and related comparative research.
Supplementary Materials: The following are available online at https://www.mdpi.com/article/10.3390/w13172335/s1, Table S1: Groups and approximate number of organisations/persons for each group represented in WCs and LWGs; Table S2: Approximate number of different meetings, groups, and participants in the project from December 2016 to March 2020; Table S3: Semi structured interview guide; Figure S1: Evaluation Workshops.

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References
1. European Commission. EU Water Framework Directive 2000/60; European Commission: Brussels, Belgium, 2000.
2. Rittel, H.; Webber, M. Dilemmas in a general theory of planning. Policy Sci. 1973, 4, 155–169. [CrossRef]
3. Jentoft, S.; Chuenpagdee, R. Fisheries and coastal governance as a wicked problem. Mar. Policy 2009, 33, 553–560. [CrossRef]
4. Senecah, S.L. The trinity of voice: The role of practical theory in planning and evaluating the effectiveness of environmental participatory processes. In Communication and Public Participation in Environmental Decision Making; Depoe, S.P., Delicath, J.W., Elsenbeer, M.-F.A., Eds.; State University of New York Press: Albany, NY, USA, 2004; pp. 13–33.
5. Collins, K.; Ison, R. Jumping off Arnstein’s ladder: Social learning as a new policy paradigm for climate change adaptation. Environ. Policy Gov. 2009, 19, 358–373. [CrossRef]
6. Sol, J.; Wal, M.M.v.D.; Beers, P.J.; Wals, A.E.J. Reframing the future: The role of reflexivity in governance networks in sustainability transitions. Environ. Educ. Res. 2017, 24, 1383–1405. [CrossRef]
7. Broman, K.; Hansen, S. Strategi och Plan för Vattenmyndighetens Kommunikation och Samverkan inom Norra Östersjöns Vattendistrikt; Vattenmyndighetens kansli, Länstyrelse Västmanlands Län: Västmanlands Län, Sweden, 2013; p. 53.
8. European Council. European Landscape Convention; European Council: Florence, Italy, 2000.
9. European Commission. Common Implementation Strategy for the Water Framework Directive (2000/60/EC): Guidance Document no 8: Public Participation in Relation to the Water Framework Directive; European Commission: Brussels, Belgium, 2003.
