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Implementing the Water Framework Directive and Tackling Diffuse Pollution from Agriculture: Lessons from England and Scotland

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Abstract: Tackling diffuse pollution from agriculture is a key challenge for governments seeking to implement the European Union's Water Framework Directive (WFD). In the research literature, how best to integrate and align effective measures for tackling diffuse pollution, within the context of the EU's multilevel governance structure, remains an open question. This paper focuses on the first and second implementation cycles of the WFD to explore how national governance arrangements either facilitated or hindered the adoption of effective policies, especially with regards to the delivery of agricultural and water policies on the ground. It draws on data collected through systematic document analysis and interviews with key experts, policymakers and interest groups, and presents a comparative analysis of two case studies: England and Scotland. The case studies show that Scotland's joined-up governance structure, which enabled policymakers and interest groups to work together and to build trust and cooperation, facilitated the adoption of stricter measures for tackling diffuse pollution. In contrast, in England institutional fragmentation prevented a meaningful engagement of all parties and acted as a barrier. The analysis unpacks the design of policy mixes and the conditions that allow national governments to pursue more holistic and integrated governance approaches to overcome opposition from interest groups and gain their support.

Keywords: public policy; governance; WFD; Scotland; England

1. Introduction

Despite ambitious targets set in the EU by the Water Framework Directive (2000/60/EC, henceforth WFD), to date few water bodies have achieved good water quality status [1]. The WFD aims to reshape water management in Europe through the lens of sustainable development, meaning that it jointly considers human health, economic activities and ecosystems, and thus moves away from previous piecemeal European water legislation [2,3]. To achieve this goal, the WFD, which came into force in 2000, stipulated the aims that all EU water bodies should achieve good ecological and chemical status by 2015, and that there should be no deterioration of water bodies [4]. It also set longer term deadlines (2021 and 2027) through two further implementation cycles as well as mechanisms to account for derogations and exemptions. However, EU countries have thus far failed to seize the opportunity offered by the Directive to recast traditional water management in favour of more sustainable models, and preferred business-as-usual approaches [5]. All sources of non-point and widespread pollution are complex problems and constitute a major challenge for environmental

regulators and policymakers; issues of diffuse pollution tend to be more costly to address and require a multitude of regulatory approaches, as well as a degree of behavioural change among a high number of policymakers and interest groups [6]. This paper draws on data from 25 in-depth interviews and detailed documentary analysis to advance our understanding of this challenge in the context of the WFD by providing an analysis of WFD implementation outcomes through a novel lens of institutional and governance arrangements. It does so through a comparative analysis of two cases—Scotland and England—to offer a situated explanation of the extent to which governance arrangements facilitated or obstructed the adoption of more ambitious policy instruments. Despite manifest differences in physical geography characteristics, pressures, and demographics, from this comparative analysis it is possible to draw lessons that are applicable elsewhere and that could inform the next cycle of the Directive.

Previous EU water legislation was characterised by piecemeal approaches, which "reduced environmental systems into parameters without adequate assessment of the actual environmental state", and were, for this reason, not considered adequate to tackling water pollution ([7], p. 281). The WFD and its ambitious environmental goals created the expectation among scholars and practitioners that the future of water policy in Europe would see a paradigm shift towards more holistic and integrated practice [5,8]. However, at the end of the first implementation cycle (2009–2015) the assessment conducted by the European Commission (EC) of the River Basin Management Plans (RBMPs) revealed that all governments across Europe were struggling to achieve good ecological and chemical status [9]. With only 43% of water bodies on track to reach good status, the EC has been concerned about the manifest inadequacy of the measures adopted by Member States to tackle diffuse pollution from agriculture. Their disappointing performance was not limited to the first implementation cycle, but has persisted, at the time of writing, through the course of the second cycle (2021). The most recent report published by the European Environment Agency [10] confirmed that still less than 50% of water bodies are in good ecological status and that agricultural diffuse pollution (e.g., from nitrates and pesticides) remains the main pressure.

Our study brings together the EU public policy implementation literature and the literature on Integrated Water Resource Management (IWRM) and provides an insight into the link between governance structures, decision-making processes and the ambition of environmental policy outputs. This paper focuses on the governance structures put in place by EU Member States (MSs) to show how these were more or less conducive to effective policies to reduce diffuse pollution from nutrients and pesticides, an issue that remains understudied [11]. We use the terms governance structures and arrangements interchangeably to refer to the creation of institutions and the allocation of responsibilities and resources to specific policy actors with decision-making powers linked to specific goals [12]. In the context of EU environmental policies, national governance arrangements involve the interaction of policymakers and policy actors at different institutional levels [13–15].

Crucially, in this regard, while MSs are free to choose their institutional approach and interventions, the WFD text incorporated the key principle of integrated water resource management (IWRM), which promotes a more effective approach to tackling diffuse pollution as one of the main pressures on water quality [16–18]. This paper analyses the governance arrangements for implementing the WFD and how these forms were tied to more holistic and integrated water management approaches and environmental outcomes [19,20]. We conclude that the adoption of stricter regulatory measures and general binding rules in Scotland was rooted in clearly structured and innovative governance arrangements that allowed for intensive cooperation and joint decision making among key policy actors [21]. By contrast, England did not modify its existing water governance arrangements to implement the WFD [22]. In this case, a lack of shared responsibilities, together with less effective stakeholder engagement practices, resulted in a political preference for voluntary approaches. These were never going to capable of delivering significant improvements in water quality. Compared to England, the Scottish case stands out for the direct involvement throughout the process of the Scottish Government, which mandated a change in water governance structures. The new structures were required to facilitate effective cooperation, including on the part of the farming community and were explicitly aimed at tackling diffuse pollution from agriculture.

The paper builds on traditional public policy and institutional analysis research that emphasises the role of institutions in shaping the policy process, which in turn leads to the adoption of a certain policy mix [23–27]. It is difficult to establish a definite link between the implementation of certain policies and the environmental outcomes that we observe on the ground due to a multitude of variables that can intervene throughout the policy process and affect it [28,29]. Due to these complexities, as Cairney et al. observe, 'studies of EU policymaking tend to focus on the large gap between intention and action' ([29], p. 15). Moreover, as pointed out in the editorial of this Special Issue, stricter policy instruments are more conducive to better environmental outcomes [30] and, therefore, the adoption of a mix of different types of interventions increases the likelihood of achieving policy goals. Consequently, by understanding the pathways that lead policymakers to choose a certain policy mix, we can advance our understanding of the barriers to successful policy implementation as well as the links between the EU policy implementation theory and IWRM [11].

2. Analysing the WFD Implementation

The WFD implementation process has attracted scholars' attention since its early stages [31–34]. The issue was studied from the perspective of various disciplinary fields [35,36] and with studies overwhelmingly focusing on assessing specific aspects of the directive, such as public participation processes in river basin management [37–44].

Among studies of the WFD implementation gap, one common approach is to point towards flaws in the formulation of the WFD text itself [45,46]. Technical criticisms of its very ambitious goals, and of a putative mismatch between the WFD's demands and the feasibility of a response on the required timescale, suggest the WFD's environmental targets could never have been realistically achieved within the timeframe [47,48]. Other authors have criticised technical aspects of the WFD and in particular the one out-all out principle, which means that water bodies are classified based on the worst status among the elements assessed, thus potentially leading to "pessimism bias" with regards to the overall ecological status of water bodies [49,50]. The text of the WFD, which has been defined as a political compromise [51], has also come in for criticism for the legal weakness of its environmental goals, which are not strictly binding and allow governments to invoke exemptions, thereby permitting them to aim at lower targets in the implementation phase [45].

Fully resolving the open academic debates on these various issues is beyond the scope of this paper. Our starting point is instead the fact that, contrary to the original spirit of the WFD, member-states have failed to take advantage of the opportunity to change water policies and did not implement a mix of policies embodying a holistic and integrated water management approach [2,5,7]. In particular, through the comparative analysis of two contrasting case studies, this paper looks at the pathways that lead policymakers to choose a more or less ambitious policy mix. In this regard, it is useful to remember that the WFD is not prescriptive in terms of governance approaches or with regards to individual policy instruments [52]. This means that it allows MSs freedom of choice within its framework, and indeed there is evidence of variations in the chosen approaches [53–56].

We acknowledge that there can be intervening factors that can affect policy implementation and therefore their environmental outcomes [29]. Nevertheless, as pointed out in the editorial of this Special Issue, stricter policy instruments are more conducive to better environmental outcomes; however, these policies generally encounter more barriers to adoption and are more challenging to implement because of opposition on the ground [6]. Our paper shows how national governments can overcome this opposition and facilitate cooperation through appropriate governance structures.

2.1. Within-Country Implementation of EU Policies and Policy Mixes

Overall, we can identify three main waves in the understanding of the implementation gap within EU public policy literature [57]. The progression between the first, second and third wave of EU implementation studies has been towards a greater understanding of the role of actors (policymakers and interest groups) in shaping policy outcomes.

The first wave emphasised legal, administrative and constitutional factors and saw implementation as a rather apolitical process [58–60]. First-wave scholars were criticised for using

fixed institutional factors to explain changes at the policy-sector level [61] and tended not to differentiate between the legal transposition of the directive into national legislation and the policy outcome. In reaction to these criticisms, second wave scholars proposed explanations based on the idea of the degree of policy fit/misfit (or the goodness-of-fit hypothesis), which is based on the assumption that if an EU policy demands radical changes internally in terms of regulatory style or policy content, domestic actors will resist implementation [62,63]. In spite of being theoretically appealing, the empirical evidence in support of the goodness-of-fit hypothesis has been weak [64]. Finally, a third wave of EU implementation studies has been increasingly concerned with the role of actors and domestic politics in shaping policy outcomes [65–67]. This has opened up the space for more dynamic and context-specific explanations that take into consideration internal dynamics linked to interest-maximisation, persuasion and consensus, as well as the policy effects of exogenous events [68,69].

This paper departs from this literature to develop a novel and governance-specific focus on the interaction between institutions and actors to explore implementation outcomes. It identifies pathways linking governance arrangements to the adoption of effective policy mixes and a better delivery of IWRM [26,29]. In particular, following the third wave, we highlight the role of interest groups' and policymakers' behaviours in the implementation process. Unlike the third wave, however, we also acknowledge that the organisational configuration and governance structures affect and alter influence and behaviours, and they are therefore important factors to consider. This means that through governance structures, policymakers can facilitate cooperation and gain the support of interest groups that are initially reluctant to accept more ambitious regulatory interventions.

Based on this, we conduct our analysis using two conceptual building blocks. First, we see institutions as non-neutral arenas that can constrain or enable policy actors who ultimately determine the quality of an implementation process [70,71]. Second, we assume that governance structures dynamically create windows of opportunity for policy actors to participate more or less effectively in the policy process [61]. For instance, the allocation of clear responsibilities empowers policy actors to have a stronger say in the decision-making while at the same time making them more accountable and therefore more likely to comply. Similarly, policies can be co-designed with key interest groups through intensive and meaningful engagement or, conversely, interest groups can be involved only in the consultation stage, which is often too late to bring about meaningful change and consensus. Through the identification of these windows of opportunity, and the observation of how policy actors react and adapt their strategies to them, it is possible to establish a pathway between governance and policy choices.

We build a multi-layered analytical framework to analyse country-level implementation of the WFD, with the specific aim of linking different WFD governance arrangements to the adoption of more or less ambitious policies to tackle agricultural diffuse pollution. Here, we focus on three key innovative principles that characterize the WFD and that underpin the holistic approach to water management advocated. These principles are: public participation; water management at the river basin scale; and the need to consider the impact on water resources from all anthropic activities, especially (for the purposes of this paper) agricultural production. Subsequently, we ground these principles within the expectations derived and developed from the literature on EU policy implementation as outlined above. From this literature, we derive three dimensions that underpin the analytical framework used for the analysis of the empirical findings, namely cooperation, consistency and salience. The first dimension stems from the acknowledgement that when implementing legislation, policymakers face internal dynamics, such as interest-maximisation and conflicts between sectors, which in turn affects policy outcomes. In this regard, the expectation from the literature is that if policymakers are able to foster cooperation towards a common goal through careful institutional design, we should observe better quality policy outputs. The second dimension, consistency, indicates whether policymakers are able to design governance arrangements that are fit for purpose and that avoid fragmentation. This is a relevant dimension to consider in this analysis, given that the WFD required a stepwise change in water management from a piecemeal approach

towards a more holistic and integrated policy approach (see above). The expectation here is that dedicated governance structures with appropriately allocated responsibilities and competences between different policy actors can create conditions to overcome fragmentation, avoid negative interactions or the duplication of efforts and promote IWRM [41]. Finally, we argue that governance arrangements and decision-making are influenced by the broader political context and, in this, policymakers have a responsibility to protect the policy salience of the WFD vis-à-vis other societal challenges and political priorities, which we consider to be a key factor in the adoption of ambitious policy measures.

The following sections discuss how the three dimensions in the analytical framework are operationalised for the analysis of the empirical cases in more detail.

2.2. Cooperation

The first dimension that we consider is the degree of cooperation between governments or responsible authorities and representatives from the agricultural sector, and the extent to which policymakers put in place mechanisms to enhance this cooperation. When policymakers have to implement a piece of legislation, they have to mediate the interests of various actors, each representing a specific institution or organisation within the policymaking environment [72]. As the third-wave EU implementation literature demonstrates, the influence of interest groups is key to explaining implementation outcomes [66,67]. In order to achieve positive outcomes, interactions between policymakers and interest groups should be based on cooperation and trust. The WFD acknowledges this and advocates the principle of public participation in order to allow all interests to be considered during policymaking [73,74]. We consider actors' interests, in particular the extent to which they are represented in the process, and how policymakers successfully achieve a synthesis between contrasting priorities without compromising the adoption of effective policies [75]. In so doing, we do not assume that everyone has equal power throughout the process. Rather, in line with our view of institutions as non-neutral arenas, the way cooperation is structured empowers or disempowers certain policy actors. There is a wide academic research that problematises public participation processes which points to the fact that they often result in the exclusion of certain voices in favour of others [76–78]. Moreover, there is no agreement on what form of public participation is the most effective and even within EU countries the quality and the depth of public participation processes for the WFD vary substantially [44,79]. Therefore, national policymakers' understanding and handling of interest groups' power and the way in which their influence unfolds is key and can enable (or conversely undermine) positive cooperation towards achieving the WFD goals. For a positive outcome, we should expect policymakers to create the conditions for a fair and open public participation process aimed at developing policies for achieving good ecological and chemical status.

2.3. Consistency

The second aspect that we analyse is the consistency of governance arrangements with the WFD requirements. In order to promote an integrated approach that would tackle all sources of pollution affecting each water body regardless of administrative boundaries, the WFD required water management to follow the river basin scale, thus introducing the physical geography dimension into water policies [20]. Like in the case of public participation, the WFD does not prescribe what type of governance arrangements governments had to set up in the implementation phase. These could include formal or more informal structures to design and monitor the implementation of the river basin management plans, and could include the creation of new river basin district authorities, steering groups, or the allocation of competences on the basis of traditional administrative departments. In line with our view that governance arrangements constitute non-neutral arenas, we expect that effective WFD governance will overcome administrative and policy fragmentation and political opposition. Borrowing from the policy integration literature, mechanisms that could achieve this might include a policymaking setting that allows for the explicit integration of agricultural policies with water policies [80,81]. Crucially, this integration should be followed through with a

clear allocation of responsibilities and competences among key actors and an appropriate level of resourcing.

2.4. Salience

The final dimension that we analyse is the extent to which policymakers are able to keep the WFD implementation high on the political agenda. The level of ambition can be affected by external events, or critical junctures, as they change policymakers' priorities with regards to problems and solutions [69,82]. A paradigm shift in water governance needs strong support and ambition by policymakers to move away from business-as-usual practices. However, because the implementation of WFD policies do not happen in isolation from the broader context, the attention and commitment that they receive is relative to other priorities and can change over time. Policy makers therefore have to maintain the salience of the WFD to ensure that throughout the implementation process, ambitious and effective policy-measures are adopted and enforced [23].

While the issue of political ambition could be explored from many different theoretical perspectives, for the purpose of this paper we look at how governance arrangements led actors to prioritise the likelihood that policies achieve the WFD environmental goal over other criteria (e.g., cost, or avoiding resistance on the ground), and how policymakers maintain a relative prioritisation of water quality over other contingent issues (e.g., policies of austerity following the 2008 financial crisis). Table 1 provides a summary of the dimensions that will be analysed and of the potential observations, while Figure 1 provides a conceptual visualization of the analytical framework.

Table 1. A framework to analyse how governance arrangements influenced policy choices—specific to diffuse pollution from agriculture.

Dimension	Aspect to Analyse	Potential Observation
Cooperation	Extent to which governance arrangements facilitate cooperation between policy actors	• Cooperation between agricultural sector and decision makers and/or stated barriers • Governance arrangements granting more or less direct access to decision-making process
Consistency	Consistency of governance arrangements with the WFD requirements and with wider institutions in countries	• Explicit integration and coordination of agricultural policies within implementation • Responsibilities and competences appropriately allocated and resourced
Salience	Ability of governance arrangements to maintain the WFD policy salience	• Explicit consideration of likelihood to achieve environmental goal in decision-making • Relative prioritization of environmental goal compared to other societal challenges

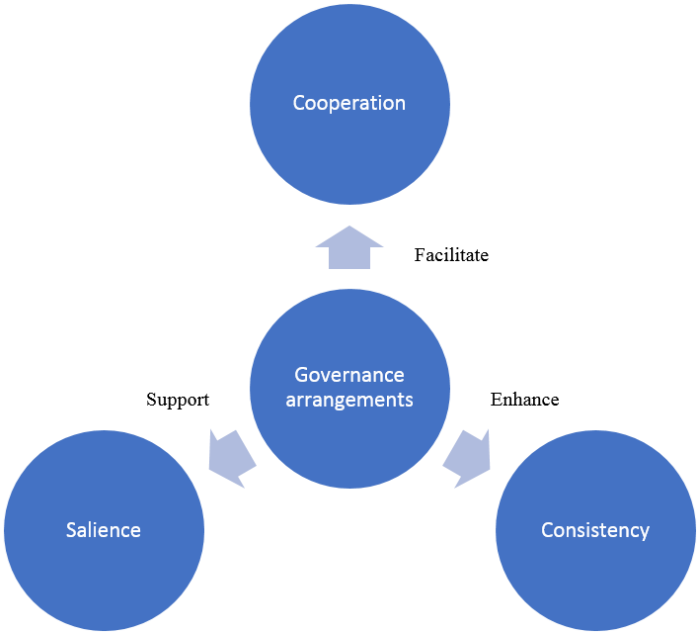

Figure 1. Conceptual visualization of the analytical framework.

3. Case Studies Selection and Methods

For this study, we employ a most-different case-study design approach and selected two within-country cases (England and Scotland) in the United Kingdom (UK) [83]. The added value of a case study research design is that it can provide in-depth consideration of the causal mechanisms that lead to an outcome [84]. In this case, it shows how the WFD implementation unfolds within different multilevel governance systems, characterised by different WFD-specific and country-specific internal governance arrangements. Crucially, it allows us to look at variation in performance, not as a country-level variable, but as dependent on governance arrangements that can vary between devolved authorities or regionally, as well as between countries. For example, in the UK the devolved institutional framework allowed a comparison between England and Scotland, which used different approaches and delivered different results, thus providing within-country insights into the factors that drive different outcomes [85]. We use the analytical framework (above) to conduct a comparative analysis of the findings; the comparative analysis allows us to identify the factors that were more or less likely to be conducive to more effective policy choices to tackle diffuse pollution. We present our findings in two parts: first, we provide an overview of the empirical findings in the two case studies (summarized in Table 2); we then comparatively discuss the findings in light of the analytical and highlight the implication for policies tackling diffuse pollution from agriculture.

Table 2. Overview of the WFD implementation in the case settings.

Dimension	England	Scotland
Policy preference	• Soft measures	• General binding rules
Cooperation	• Conflicts between sectors not well addressed • Traditional public consultation methods • Importance of engagement on the ground recognised but not adequately supported	• Positive institutional relations linked to higher degree of acceptability • High degree of trust between interest groups • Extensive and intensive engagement
Consistency	• No dedicated governance structures • Inadequate resourcing • Lack of explicit link between activities and WFD goal	• Shared access to decision making through National and Sub-National Advisory Groups) • Strong support to SEPA from the Scottish Government.

		• Clear allocation of responsibilities and competencies
Salience	• Lack of leadership in driving implementation • Deregulatory agenda • Support for austerity policies after 2008 global financial crisis • Focus on business profitability	• Pioneering behaviour in environmental policies • Consistent political commitment

Data Collection and Analysis

The collection and analysis of the data for this article was part of a broader research project conducted between 2012 and 2017, which received full ethical approval. Semi-structured interviews with key informants in person or by phone were conducted between 2014 and 2016 at the EU level and in the case studies—a total of 25 interviews. The interview process focused on a specific time period in the history of the WFD, namely from 2000 to 2015, covering the adoption of the WFD until the end of the first implementation cycle, to explore the establishment of governance arrangements and structures. Participants were representative of a wide range of organisations to gather a variety of perspectives and, where possible, more than one person for each organisation was approached and interviewed to gather more insights into the implementation process (see Table A1 in Appendix A for a coded list of interviews).

Documents were also used for triangulation purposes and extended to the second implementation cycle. The data from the interviews and the documents was organised following research-driven codes derived from the analytical approach and it was then analysed through qualitative content analysis [86] (see Appendix B for a list of key documents). We coded the empirical data against a coding framework directly derived from the analytical approach derived from the literature as set out in Table A2 (Appendix A); after the formulation of the main codes, each participant was assigned an ID to protect their anonymity and quotes were categorized based on the coding framework. Data was coded manually to allow deeper contextualization of each quote [87,88]. The analytical process was iterative, meaning that we refined our initial coding framework after initial analysis through abduction and retroduction, and connections were identified by themes and codes [89]. In this paper, we used process tracing to link and situate our findings within our analytical framework, thus ensuring the construct validity of our research [84]. Process tracing can be used as analytical tool to identify causal mechanisms and their interaction with the broader context [90,91]. Moreover, process tracing can be used to examine whether the causal mechanisms that a theory implies are observed in the case setting.

4. Implementation of the WFD in the Case Settings

When analyzing the WFD implementation with a focus on agricultural diffuse pollution in England and Scotland, it is important to highlight that the two cases present different baselines and geographical challenges. In 2018, the utilized agricultural area in England was 9 million hectares (approximately 69% of the total area of England) and the total area of arable crops in England stood at 3.9 million hectares [92]. The Scottish Government [93] reports that most of Scottish land is used for agriculture (6.2 million hectares, 77% of Scotland), most of which is designated as Less Favoured Area (LFA). Around 10% (574,000 hectares) of Scottish land is used for crops or fallow. The relative size of the countries and economies must also be considered. Arable land accounts for 30% of total landmass in England and 7% in Scotland but farming in Scotland contributes slightly more to Gross Value Added (0.7% compared to 0.5% in England) and provides a greater proportion of jobs (2.5% of employment in Scotland is in agriculture compared to 1.2% in England), creating different pressures and opportunities for governments aiming to work with farmers in both settings [94].

The WDF was transposed into UK national legislation through the Water Environment (Water Framework Directive) Regulations 2003 for England and Wales, and the Water Environment and Water Services Act 2003 in Scotland (WEWS). Water governance in the UK is devolved to

autonomous governments in Wales, Scotland and Northern Ireland, whereas in England the UK government is the responsible authority. At the strategic level, the Department for Environment, Food and Rural Affairs (Defra) is the UK government department responsible for water bodies, but the responsibility for the production and implementation of the river basin management plans is placed on the national Environment Agency (EA) in England and on the Scottish Environment Protection Agency (SEPA) in Scotland, both non-departmental public bodies and environmental regulators. The agricultural sector is represented by the National Farmers' Union (NFU) in England, an association with over 300 branch offices and by its equivalent (NFUS) in Scotland. The UK set up 15 river basin districts across the five administrative areas—England, Wales, Scotland, Northern Ireland and Gibraltar.

Existing studies on the implementation of the WFD in the UK focused particularly on the opportunities that the directive offered to innovate water governance and management through public participation [35]. These studies generally linked increased public participation stemming from the WFD implementation process to increased quality and increased acceptability of policy outputs [39–41], while other contributions highlighted that important role of third sector River Trusts charities in creating partnerships with the EA [95,96]. In general, studies conducted in England concluded that in spite of attempts to try different and more bottom-up approaches, participatory experiences have been highly variable [97] and, further, this potential had not been fully exploited [43,74,98,99]. In addition, since 2013, the UK Government has attempted a Catchment Based Approach (CaBA) to foster active stakeholder engagement and to strengthen existing and newly formed catchment partnerships [100]. However, the CaBA did not replaced public participation practices under the WFD and this policy disconnect still remains to be addressed [43]. Studies that focused specifically on Scotland, tackled the WFD implementation from an economic [101] and cost-benefit analysis perspective [102], the latter concluding in favour of positive net social benefits resulting from the implementation of the WFD in Scotland as a whole). In analyzing the Scottish RBMPs, Waylen et al. [103] provide a detailed analysis of the working method of the advisory groups (which will be discussed more in detailed below) and concluded that the more localized approach taken in Scotland increased stakeholders' ability to influence planning [79].

To the best of our knowledge, however, there is the need for more specific within-country comparative studies that causally link WFD governance arrangements to the adoption of effective measures to tackle diffuse pollution from agriculture. While public participation and stakeholder engagement is one factor that influence policymaking, such analysis should consider more holistically the effect on policymaking of the WFD governance arrangements as set out by national governments, as well as the influence of political factors on such choices. The comparative analysis of England and Scotland offered in this paper addresses this gap by identifying how country-specific factors contributed to creating the conditions for the adoption of different governance arrangements and how this influenced the development of more or less ambitious policy mixes in England and Scotland.

4.1. England: Watering Down Regulation

4.1.1. Compliance with the WFD

England has seven river basin districts. Data on the ecological status of natural surface water bodies indicates that in the first cycle (2009–2015) England struggled to make substantial progress towards the environmental goal. Initially, Defra had estimated that 24% of surface water bodies would be in good water status during the period 2009–2014. However, more recently Defra has recorded that the number of surface water bodies in good or high ecological status has dropped by 33% and in 2017 only 16% were classified in good or high status [104]. Moreover, the percentage of water bodies in poor ecological status increased between 2009 and 2017 from 12% to around 20%, resulting in England violating the ban on non-deterioration, a fundamental and binding principle of the directive. England is still far from achieving the WFD environmental goal and the second cycle of RBMPs showed little change of ambition, with an unambitious increase to just 25% expected by

2021. The EA is currently committed to achieving good water quality in 21% of the rivers, 19% of lakes, 53% of coastal waters and in 25% of estuaries by 2021 and it has been recently recognised that it will be unlikely that the WFD goal will be met even by the end of the third cycle [105].

4.1.2. Policy Approach

In England the Environment Agency (EA) manages the RBMPs and is supported in the delivery phase by Natural England, the government's advising body on the natural environment. The regulatory and advisory bodies are tasked with liaising with the National Farmers' Unions in England with raising the awareness of individual farmers, and with delivering key programmes for the implementation of the WFD aimed specifically at the agricultural sector.

Two main initiatives which are exemplificative of this approach are the Catchment Sensitive Farming (CSF) and the Countryside Stewardship (CS) scheme. These were set up in 2006 to address diffuse pollution, as an experimental programme in 40 catchments (which corresponded to roughly 40% of the country). The schemes are both run by Natural England, in partnership with the EA and Defra. Catchment Sensitive Farming aims to raise awareness of diffuse water pollution from agriculture by giving free training and advice to farmers in selected areas in England. The selected areas (priority catchments) were those 'where improvements in water quality will make the greatest contribution to the Water Framework Directive objectives' [106]. More recently, in 2018, the government launched a new competitive grant scheme, the Water Environment Grant, to fund projects aimed at improving the water environment in rural England. In order to be successful, the proposed projects must help achieve the objective of the RBMPs. These schemes constitute voluntary measures that do not provide for enforcement mechanisms and whose uptake is heavily dependent on the discretion of individuals.

4.1.3. Cooperation

Participatory approaches in England relied on existing consultation procedures and were neither extensive nor intensive enough to build a true partnership based on trust between the regulator, the farming sector and environmental NGOs. There was an attempt to create a UK-wide dedicated governance structure through the creation of a technical and expert group (UKTAG) chaired by the EA and composed of representatives of all environment and conservation agencies such as Natural England. However, this organisation is mainly dedicated to providing technical advice; and other interest groups, including agriculture or environmental NGOs are not part of it. The lack of true partnership was lamented by the Royal Society for the Protection of Birds (RSPB), a national Environmental NGO, since the very early stages of the WFD implementation. The RSPB expressed concerns about the fact that Defra was not being proactive in putting in place a process to get farming, industrial and environmental NGOs partners to work together. They warned that, in this way, the EA was not going to 'meet the environmental objectives of the WFD alone' (2002). As pointed out to us, environmental NGOs felt that the consultation process had been framed and set to a very low standard in order to do the bare minimum and avoid infringement procedures (UK environmental NGO participant 1). UKTAG regularly launched consultations (the latest one closed in May 2019), thus demonstrating an understanding of the importance of engagement with interest groups but the traditional consultation methods did not go far enough to reduce oppositions and create consensus.

4.1.4. Consistency

The limited scope and powers of UKTAG meant that the achievement of the WFD goal had to rely on business as usual approaches rather than on a consistent commitment to develop integrated water management approaches. Policymakers in England wanted to avoid farmers' opposition and, therefore, they avoided approaching them with a WFD-specific target: 'You have to be very smart and use a language that will interest farmers. You do not talk about targets, WFD, rules, regulations', as one interviewee from Natural England put it. This led to the adoption of soft measures and

voluntary schemes based on incentives such as the CSF and the CS described above, which accommodated farmers' opposition to binding regulation and one-size-fits-all solutions. Interview data shows that the government perceived resistance from the agricultural sector on the ground to the introduction of potentially new and more ambitious measures. However, their strategy of accommodation fuelled a sense of frustration among those farmers who were more willing to comply, including among more progressive and proactive farmers who felt unfairly treated and unrewarded by the government.

To ensure a good uptake of CSF and CS, Natural England carried out engagement activities with individual farmers and tried to reach more remote farms, where late adopters are more likely to live and work and where these initiatives would have a stronger impact. In the opinion of staff from Natural England in delivering CSF or CS schemes on the ground, overcoming resistance and building trust in those areas takes at least three years and requires a committed government strategy. However, Natural England staff did not have adequate resources to engage with individual farmers and organise one-to-one visits particularly in more remote areas (Natural England Participant 1). Natural England's resourcing and budget has been curtailed by more than half since 2008 and staff numbers have also been reduced from more than 2500 in 2016 to an estimated 1500 in 2019 [107]. The uncertainty created by continuous budget cuts undermined Natural England's attempt to maintain consistency in their work with the agricultural sector. As a result, Natural England were neither able to effectively raise awareness or develop a sense of shared responsibility and trust with the agricultural sector, and even the uptake of voluntary measures was undermined.

4.1.5. Salience

The slow progress in England has been the result of low ambition throughout the implementation process and this can be linked to two factors. First, the rationale for setting up the national water quality targets was disconnected from the WFD goal. Richard Benyon, MP, Parliamentary Under-Secretary of State at Defra, declared that the UK's ambition to reach 35% of water bodies in good status was not a target to work towards to, but an estimation of the likely outcome with the measures that were already in place [108]. In other words, policy choices were not determined on the basis of what was best to achieve the WFD goal and instead were modelled on a business-as-usual approach. In England, the government was not committed to achieving the WFD stated targets. Participants described the WFD environmental goal as 'aspirational' and suggested that the achievement of moderate status was even more desirable than good status: 'In reality, the moderate status for certain things allow you to balance what society wants and the environmental demand' (senior participant from the Environment Agency). The description of the environmental goal as aspirational, and therefore negotiable, was used to water down measures to tackle diffuse pollution and avoid binding regulation that would have delivered better results.

Second, the adoption of soft measures was also coherent with the broader deregulatory agenda pursued by the UK government since 2010 [109,110]. Deregulation was in some cases perceived by participants as a sign of gradual political disengagement and unwillingness to commit the required resources, rather than a way to achieve environmental goals more efficiently, as advocated by deregulation proponents. Figure 2 illustrates this process.

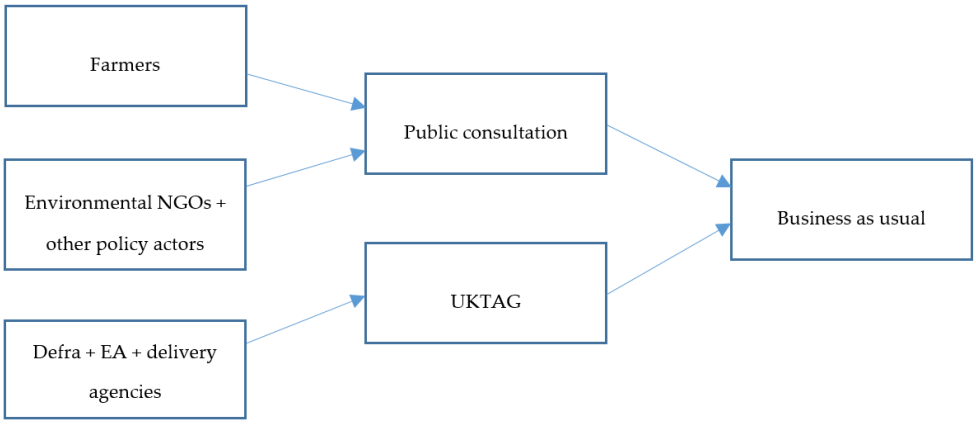

Figure 2. Overview of key actors and governance arrangements in England.

Looking ahead to 2021, the second RBMPs for England show some progress in terms of holistic thinking based on natural capital principles and tools that should encourage a system approach. In an attempt to provide stricter guidance, in April 2018 the UK government adopted new farming rules for water which apply to all farmers in England (Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018).

The new rules are described by Defra as 'win-win' measures for farmers and the environment as they are aimed at more efficient use of fertilisers. The rules require farmers to adopt good practice in managing their land to avoid water pollution including from fertilisers and manures. Farmers will have a checklist that will help them to adopt these rules, and ahead of using enforcement measures the EA will seek more cooperative implementation strategies. In setting out these rules Defra focuses explicitly on business benefits for farmers which they think will help to drive compliance. The EA is in charge of verifying compliance through targeted farm inspections and will focus particularly on those catchments where the pressure from agriculture is higher [111].

Enforcement measures include potential follow-up visits and in cases of pollution or high risk of pollution, the EA may prosecute farmers who do not comply. Thus, England seems to be moving to a more integrated approach, but this will not be fully embedded until at least 2021. The new rules are part of the Government plan to deliver a Green Brexit, which highlights famers' role in ensuring food production and promises business benefits for the sector. Alongside the new rules against pollution, a new Agricultural Bill is currently under discussion (at the time of writing it is in its second reading) which should grant farmers post-Brexit subsidies and incentives for protecting "public goods" including clean water. It is worth stressing, however, that in order for these policies to be successful, the EA alongside Natural England will need to be backed up with appropriate resourcing and capacity to carry out, monitor and evaluate their delivery.

4.2. Scotland: Joint Decision-Making

4.2.1. Compliance with the WFD

Scotland has two river basin districts (RBDs), one that falls entirely within the Scottish territory (Scotland RBD) and one which is shared with England (Solway Tweed). In the first cycle (2009–2015) the two Scottish RBDs expected an increase of 6.5 percentage points (pp) and 4.4pp (against an UK average of 2.5pp) in the number of water bodies with good global (ecological and chemical) status from 63.5% and 32.5% respectively. The better performance of the Scotland RBD has continued throughout the second cycle and now SEPA expects a further increase of 6 percentage points (pp) and 16 pp by 2021 and 2027 respectively [112]. Differences in the baseline, physical geography and agricultural pressure must be acknowledged when comparing Scotland to England. Nonetheless, for the purposes of this paper it is relevant that all the participants that were part of the WFD implementation in Scotland expressed enthusiasm towards the working method adopted by Scottish Environmental Protection Agency, which is elaborated on below.

4.2.2. Policy Approach

In terms of governance, the WFD falls under the Scottish Government's devolved powers, which enabled a substantially different approach than England to tackling water pollution from agriculture. The Scottish approach stems from the view that a single integrated piece of regulation to implement the WFD would have delivered better results while at the same time minimizing the administrative and regulatory burden for business and productive activities. This is in line with the integrated water management principles as advocated by the WFD.

Until the WFD came into force, water regulation in Scotland was limited to restrictions over abstractions and control of point source discharges, but lacked a comprehensive regulation and control over all other activities [113]. After the adoption of the 2003 Water Environment and Water Services Act, the Scottish Government and SEPA laid out comprehensive Controlled Activities Regulations based on three tiers of controls which tackled different scales of activities [113,114]. The three tiers are: general binding rules to cover small risks to the water environment; registrations to control activities for which the environmental impact is predictable and likely to have cumulative impacts; and licenses to control greater risks to the water environment. This integrated regulatory framework ensures that all activities that can cause an adverse effect on water are considered and regulated.

4.2.3. Cooperation

The Scottish approach to WFD was highly cooperative. Extensive engagement with interest groups in public participation processes started quite early on (from 2001) and were retained in an iterative nature throughout the implementation process. In addition to traditional formal consultation methods, SEPA also organised intensive meetings and workshops, over a period of two years, where representatives of each policy sector were at the same table discussing new regulations and licenses, and were thus able to directly shape decisions and modify SEPA's proposals (Scottish Government 2005). These discussions created support for the adoption of the regulatory framework and reduced conflicts over binding measures through the development of trust between interest groups. Strong relationships were maintained through the formation of National Advisory Groups by SEPA which continuously engaged all key interest groups and provided a mechanisms to resolve conflicts arising throughout the implementation process.

Moreover, in collaboration with professional organisations and farmers unions, the Scottish government and SEPA worked with individual farmers to gain their trust and drive acceptability. This continuous and consistent interaction meant that the relationship between SEPA and the National Farmers Union Scotland was 'positively transformed' (UK SEPA participant 1). These government stakeholder relations were facilitated by coordination between Scottish Government and SEPA: 'We have a more joined up approach [compared to England] and interest groups are getting the same message, they see consistency—which is an important element of the Scottish approach (UK Scottish government participant 2)'. Consistency was weaker in England, where some English farmers' feared that the initiatives of Natural England would be discontinued.

Stakeholder cooperation was further enhanced during the second cycle of RBMPs (2015–2021). For this stage, SEPA developed interactive maps and tools to make data on pressures and water quality more accessible and shareable, which interest groups and stakeholders found extremely useful [115]. Consultations for the second cycle showed that participants were supportive of a high level of ambition and that 'a slower progress would lose important momentum and partners may become disengaged' [116] (p. 9). Looking ahead, consultations have started for the third cycle and participants have confirmed support towards a partnership approach and an even more integrated approach, recognising the benefits of fully embedding RBMPs in land use planning and other plans and strategies, such as forestry strategies and biodiversity strategies [115].

4.2.4. Consistency

Responsibility for enforcing the WFD was clearly established with the Scottish government giving SEPA the authority to consistently implement substantial measures and the power to commit adequate resources to the achievement of the WFD targets: 'There wasn't any baggage. People wanted to make use of the opportunity. We had momentum. We were trying to deal with the whole picture from the start' (UK SEPA participant 3). Furthermore, the regulation guidance openly refers to the WFD, in contrast with what happened in England, where links with the WFD objectives tended to be downplayed.

In addition to enforcement, consistency was provided by the responsibilities and competencies of other actors clearly being drawn out. This was done through establishing a Diffuse Pollution Management Advisory Group (DPMAG). The DPMAG is composed of a wide range of interest groups, including the National Farmer's Union of Scotland, Scottish Water, SEPA, Scottish Government, Scotland National Heritage. DPMAG developed a strategy to reduce diffuse pollution based on a national campaign, a national engagement programme and a targeted approach focused on 14 priority catchments and focus areas [117]. Within DPMAG, the allocation of responsibilities is clear: for instance, while SEPA and the Scotland's Rural College (SRUC) are in charge of carrying out the national campaign, NFUS and Scottish Land & Estates (SLE) support them on how to best engage with the agricultural sector, while Scottish Natural Heritage carries out inspections where appropriate. The plan underscores the importance of partnership and recognises that while the responsibilities are assigned on an individual basis, the achievement of the RBPMs is 'a shared goal for Scottish Government, SEPA, Scottish Natural Heritage, Scottish Water, Forestry Commission Scotland, responsible authorities and sector responsibilities'. This approach explicitly assigned responsibility, and therefore accountability, to all actors in each sector. As observed by a participant from Scottish Water, they could not ignore this commitment, 'we had to participate'.

Moreover, a degree of consistency in the implementation of the WFD was promoted through a consistent approach to resolving conflicts between interest groups, including those regarding cost and technical feasibility issues. The Scottish Government and SEPA understood that to facilitate implementation and make sure that farmers were on board, clarity and consistency would act as a proxy for their own political commitment. During the joint group sessions, SEPA extensively used data and evidence to establish a common understanding of the status of the environment and on the level of commitment required to reduce water pollution, which helped them to overcome cognitive conflicts and different perceptions. Scientific and photographic evidence of breaches and polluting practices was brought up during meetings to convince the farming sector that diffuse pollution from agriculture was the main polluting source. The specificity and the relevance of the evidence used was a crucial factor to get all the sectors on board (SEPA participant). In the view of a participant from an English NGO, the Scottish government's commitment was crucial to convincing farmers that accepting binding regulation was necessary to protect the future sustainability of their land.

4.2.5. Salience

In many ways, Scotland sees itself as a pioneer in environmental policy [118]. This ambition was reflected in the integrated approach taken in Scotland vis-à-vis the WFD, including the facilitation of a more cooperative and consistent implementation strategy, and the greater saliency of the directive compared to in England. The Scottish Environmental Protection Agency (SEPA) and the Scottish Government were clear from the outset that they would adopt a strict regulatory approach. SEPA engages with farmers and land managers to raise awareness and to conduct an audit on the ground. Based on the results of the individual audits, SEPA requires farmers and land manager to adopt measures to reduce polluting activities (e.g., maintaining field drains, licensing, tackling point source discharges, etc.). In some cases, land managers would receive further support for example through nutrient budgeting. Any cases of non-compliance identified during an initial visit would be addressed through subsequent revisits, followed by fixed monetary penalties (FMP) if non-compliance persisted. At the end of the first cycle, SEPA reported that they visited all 14 priority catchments and conducted 3215 initial visits to farms. The initial visits revealed a compliance rate of

34%. After 1667 revisits, 85% of the farms showed a positive response and at the end of another round of revisits, 98% of farmers carried out the required actions [119]. The work for the second cycle started in July 2016 with on the ground visits starting in November 2016. Figure 3 provides an overview of this process.

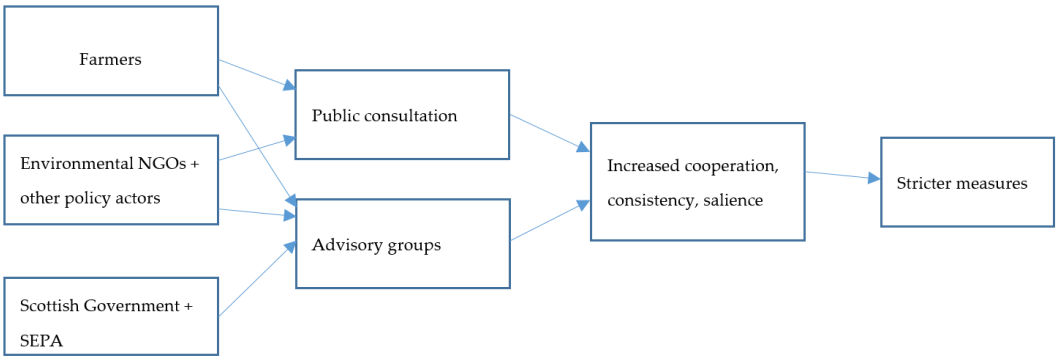

Figure 3. Overview of key actors and governance arrangements in Scotland.

5. Discussion and Conclusions: Managing Barriers and Creating Enablers

This paper has demonstrated how different governance arrangements that England and Scotland have put in place to implement the WFD have brought about different approaches to tackling diffuse pollution from agriculture. In both cases a range of factors meant farmers were critical to the successful implementation of the WFD. However, governance arrangements established different forms of engagement, with different levels of success. Differences in the physical geography settings (arable farming is a more prevalent use of land in England) and the consequent importance of the agricultural sector presented additional challenges. This required a more decisive and cooperative approach from Defra and the EA in England to build consensus and fully engage with stakeholders [43]. The farming sector is hugely significant for Scotland: more than 70% of land is used for agriculture and much of this land is designated as LFA. The sector contributes more to Scotland's Gross Value Added (GVA) than in England meaning the farming community are an important stakeholder base for the Scottish government. Through the comparison between the English and Scottish governance arrangements, this paper contributes to understanding the conditions under which the latter were more conducive to the adoption of stricter, more ambitious and more effective interventions. Our empirical findings contribute to the debate on the WFD governance issues with specific regards to tackling diffuse pollution, as set out in the editorial of this Special Issue. In particular, it tackles specifically the three key challenges that have been identified, namely the fragmentation and the distribution of responsibilities and competencies, while also touching on the issue of the contested use of knowledge-for-policy. We tackled the second challenge only indirectly, by showing that consistent governance, cooperation and policy salience can promote the use of evidence as a driver for action, and by outlining the mechanisms through which contested claims are resolved through transparent and open discussion, such as in the case of the Scottish advisory groups. With regards to the first challenge, our findings point to the beneficial role that dedicated organizational structure can play in delivering effective policy mixes.

Building on a combined reading of the literatures on EU policy implementation and on the WFD specifically, we identified three dimensions—cooperation, consistency and salience—of WFD national-level governance with important implications for outcomes on the ground. National governments can design effective governance structures that enable all interest groups to have a say and to meaningfully take part in decision-making. Such structures require a clear allocation of responsibilities and direct engagement with interest groups. If such arrangements are in place, farmers are more likely to cooperate as they expect stricter regulation from the government and enforcement measures are perceived as inevitable. In this case, interest groups are more willing to be a constructive part of the decision-making process and to compromise in favour of long-term benefits

and sustainability, especially if they see the decision-making process as a genuine opportunity to influence policy outputs. While different and innovative governance arrangements such as the CaBA have been tried in the UK, so far there is mixed or limited evidence that they have contributed to reducing diffuse pollution [43]. Published research findings in this regards are also in line with our own interview findings, as participants did not mention CaBA when discussing WFD implementation and diffuse pollution from agriculture. Nonetheless, there is an opportunity in the UK to address the policy disconnect that exists between the CaBA and the WFD, thus giving the catchment-based groups more power to influence future RBMPs and to implement a more bottom-up approach to water governance [38,99,100]. This is in line with recent studies that have identified pathways to improve participation in water governance. Yet, our contribution showed that in order to be successful, participation should happen within the context of governance that enables cooperation, balanced access to decision making and consistency. In this context, we stressed the pivotal role that central national governments play in creating the right conditions. The adoption of stricter regulatory measures also reflects the ambition of governments as well as their ability to build consensus and overcome barriers and opposition. The comparative analysis of England and Scotland focusing on cooperation, consistency and salience illuminates this.

The way England went about setting its targets under the WFD was flawed from the outset. The government prioritised farmers' interests, and thus avoided the adoption of strict regulatory measures for the entire first cycle, with predictably disappointing results. The lack of ambition in delivering the WFD undermined regulators' chances of engaging farmers in developing consistent policies to reduce pollution and to build a relationship based on trust [43].

Furthermore, more recently, Defra and the EA have introduced new regulation with more binding requirements that should be in place by the 2021, in time for the third cycle of RBMPs. Despite this shift in favour of stricter regulation to reduce diffuse pollution from agriculture, the focus and the discourse in England remains centred on business interests and 'win-win' and, more recently, the government has also highlighted farmers' central role in delivering a Green Brexit. However, there is no evidence that this shift will bring about more alignment between the RBMPs and agricultural policies, given that this shift has not happened on the back of a consistent effort to increase the acceptability of regulatory measures among individual farmers. Therefore, in our view it is unlikely that these changes will result in the achievement of the WFD environmental goal by 2021 and possibly even by 2027 [105]—that is if the WFD remains relevant in a post-Brexit England.

By contrast, the Scottish Government consistently engaged with interest groups and stakeholders, and distributed responsibilities and accountabilities in a way that enabled trust and cooperation, as well as demonstrating commitment and maintaining the salience of the issue. Adding to the findings by Waylen et al. [11,103], we found that, in Scotland, more localized and purposive governance arrangements that were consistent with the requirements of the WFD, enabled cooperation between policy actors as a result of a more balanced access to power and more clearly allocated responsibilities and competences. The proactive intervention of the government and regulators in ensuring a fair and meaningful access to the decision-making process was critical in shaping the resulting policy mix. This level of engagement and the shared responsibilities created a sense of 'ownership' of the WFD implementation. This sense of ownership fostered solidarity and consensus among policymakers and interest groups that determined a 'race to the top' [118]. The focus of the Scottish approach to date remains on fostering partnership and cooperation and overcoming issues that are still of concern, such as the management of anaerobic digestate, and new issues that have been identified, such as plastic pollution in rivers. While progress in Scotland has been promising so far, it is important to note that the country faces challenges in the second and third cycle, particularly with regards to dealing with hydro-morphological pressures, as well as an increasingly volatile political context.

Table 2 provides a summary of the empirical findings in light of the analytical approach. In applying the analytical approach to the case studies, we have considered institutions and governance structures as potential barriers or enablers to effective policy mixes, rather than explanatory factors itself [61]. In so doing, this paper has reconciled studies that emphasise the role of institutions in

driving successful implementation and studies that, instead, focus much more on the role of individual actors. Here, instead, we have broken down the statement that institutions and governance structures matter to identify the mechanisms through which governance choices influence the policy process and influence actors and the effectiveness of their strategies and priorities.

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Appendix A. List of Interviews and Coding Framework

Table A1. List of Interviews.

Level/Country	Organisation and Reference in the Paper
EU (Brussels)	EU Farming participant EU environmental NGO participant EU utility participant EC participant 1 & 2 (DG Environment and DG Agri)
England	Natural England participant 1, 2 & 3 UK Utility participant 1 & 2 UK Farming participant UK Consumer association participant Environment Agency (EA) participant 1 & 2 UK environmental NGO participant 1, 2 & 3
Scotland	Scotland Farming participant Scotland utility participant 1 & 2 Scottish Government participant 1 & 2 SEPA participant 1, 2 & 3

Table A2. Coding framework.

Participant ID	Cooperation		Consistency		Salience	
	Perceived Barriers/Enablers to cooperation between agricultural sector and decision-makers	Stated role of governance arrangements to grant more or less direct access to decision-making	Views on degree of integration between agricultural policies and measures in RBPMs	Views on competences and resourcing	Views on prioritisation of effectiveness as a criterion for choosing policies to tackle diffuse pollution in RBMPs	Views on importance of WFD environmental goal vis-a-vis other political, social, environmental demands
Codes/Quotes						

Appendix B. Key Documents

- Commission Report (COM(2009) 156 (final): "Report from the Commission to the European Parliament and the Council in accordance with Article 18.3 of the Water Framework Directive 2000/60/EC on programmes for monitoring of water status" [accessed from https://publications.europa.eu/en/publication-detail/-/publication/2c2027b9-2402-437c-a5cc-cb6ec28ed637/language-en]
- Commission Report (COM(2009) 156 (final): "Report from the Commission to the European Parliament and the Council in accordance with Article 18.3 of the Water Framework Directive 2000/60/EC on programmes for monitoring of water status"

- Commission report to the European Parliament and the Council on the implementation of the Water Framework Directive—River Basin Management Plans (COM (2012)670 of 14/11/2012)
- Commission Staff Working Document—Member State Italy—Accompanying the document Report from the Commission to the European Parliament and the Council on the Implementation of the Water Framework Directive 2000/60/CE River Basin Management Plans COM(2012)670 final
- Commission Staff Working Document—Member State United Kingdom—Accompanying the document Report from the Commission to the European Parliament and the Council on the Implementation of the Water Framework Directive 2000/60/CE River Basin Management Plans COM(2012)670 final
- Commission Staff Working Document (SEC (2009) 415)—Appendix 2 [accessed from http://ec.europa.eu/environment/archives/water/implrep2007/pdf/sec_2009_415_en.pdf]
- Common Implementation Strategy guidance documents availa5ble at http://ec.europa.eu/environment/water/water-framework/objectives/implementation_en.htm
- Communication from the Commission to the European Parliament and the Council—Towards sustainable water management in the European Union—First stage in the implementation of the Water Framework Directive 2000/60/EC—[SEC(2007) 362] [SEC(2007) 363] /* COM/2007/0128 final */
- Copa-Cogeca: Implementing good practice within the Sustainable use Directive for Plant Protection Products: the farmer's perspective Retrieved from: www.copa-cogeca.be/Download.ashx?ID=861344 [last access 2 March 2017]
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- SEPA—Action to improve Water Quality http://www.sepa.org.uk/environment/water/river-basin-management-planning/actions-to-deliver-rbmp/#diffuse
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- SEPA—Diffuse Pollution Management Advisory Group: Strategy to Reduce Diffuse Pollution. Retrieved from: https://www.sepa.org.uk/environment/water/river-basin-management-planning/who-is-involved-with-rbmp/dpmag/#Strategy
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