

Insights from international experiences of integration for water management: Final report

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Executive summary

This report summarises progress and ideas about how to achieve better integration or coherence in the implementation of policies for flood risk management and water quality. 'Integration' is widely agreed to be a key goal for water management, but there is little clarity as to exactly what it means and if it has yet been achieved.

This report is based on a interviews with those responsible for implementing water policies within Sweden, Flanders and the four devolved regions of the UK (England, Wales, Scotland and Northern Ireland) at both national and regional levels. It is informed and supplemented by an earlier document analysis for six contrasting sets of flood risk management plans and river basin management plans from across Europe, and a simple survey of those charged with implementing policies for water management in different European member states.

Studying formal plans can suggest that links between flooding and water quality policies are relatively superficial. However, our interviews on integration demonstrate that 'behind the scenes' there is often much activity to coordinate the implementation of the policies, which can be invisible to everyone else.



Our findings demonstrate that making progress with integration requires effort across national, regional and local levels: relying solely on national-level visions is unlikely to achieve much change for integration; yet conversely it is unreasonable to expect regional or catchment management to make significant progress without support. Although context clearly affects what is seen as relevant – particularly the legacy of prior approaches to water management – a strong shared theme for all interviewees was the importance of coordination, communication and partnership working. This suggests that others who wish to improve integration should also focus on this. However, it is interesting to reflect to what extent achieving integration depends on fostering good coordination and communication – is this alone sufficient to achieve integration?

There are opportunities to do more in later cycles of the EU's Water Framework Directive and the Floods Directive – and there is also a need for this work to be fully recognised, documented, and evaluated. This learning process should document and reflect on both procedural and/or informal initiatives, as well as more formal processes and outputs, in order to understand how best to improve integration.

Contents

| | |
|---|----|
| EXECUTIVE SUMMARY | 1 |
| LIST OF ACRONYMS..... | 2 |
| INTRODUCTION..... | 3 |
| <i>Why think about integration?</i> | 3 |
| <i>What relevant sources of knowledge can help us think about integration?</i> | 3 |
| <i>What has already been discussed by 'Working Group F'?</i> | 4 |
| METHODOLOGY..... | 6 |
| <i>Document analysis</i> | 6 |
| <i>Survey of Working Group F members</i> | 7 |
| <i>Case study selection</i> | 7 |
| <i>Semi-structured interviews</i> | 7 |
| FINDINGS | 10 |
| 1) <i>Understandings of integration</i> | 10 |
| 2) <i>Progress in integration</i> | 13 |
| 3) <i>Challenges to integration</i> | 15 |
| 4) <i>Ideas of how to enable and achieve integration</i> | 17 |
| <i>Examples</i> | 18 |
| DISCUSSION | 21 |
| CONCLUSION AND NEXT STEPS | 23 |
| ACKNOWLEDGEMENTS..... | 24 |
| REFERENCES | 24 |
| ANNEX I: GOALS OF THE FLOODS DIRECTIVE (FD 2007/60/EC) & WATER FRAMEWORK DIRECTIVE (WFD 2000/60/EC) | 26 |
| ANNEX II: TOPIC GUIDE USED AS THE BASIS FOR SEMI-STRUCTURED INTERVIEWS..... | 27 |

In this document, numbers in superscript are used to indicate links to the references that are listed in alphabetic order on page 24.

List of acronyms

| | |
|-------|--|
| Defra | United Kingdom Department for Environment, Food and Rural Affairs |
| DAERA | Northern Ireland Department for Agriculture, Environment and Rural Affairs |
| FD | Floods Directive |
| FRMP | Flood Risk Management Plan |
| NFM | Natural Flood Management |
| NWRM | Natural Water Retention Measures |
| RBD | River Basin District |
| RBMP | River Basin Management Plan |
| SEPA | Scottish Environmental Protection Agency |
| WFD | Water Framework Directive |

Introduction

This section summarises why it is relevant to study and promote integration, with a particular focus on the ideas already discussed by European policymakers. We have studied this subject in response to Scottish Government's interest in the subject²⁵, but the topic is relevant across all countries.

Why think about integration?

The idea of integration as a goal for water management is nothing new, and is reflected in common terms like 'Integrated Catchment Management'¹⁶ and 'Integrated Water Resources Management'²⁴. It is commonly expected that integration will help to avoid unexpected consequences or side-effects¹⁷, to develop the effectiveness and efficiency of policy implementation⁵, and even improve the equity of these outcomes²³.

However, when we look closely at what integration actually means, the meaning often seems imprecise or elusive. To put it bluntly, many have called for integration, but without saying much about what that means or how it can be achieved or how to overcome the conflicts that may arise¹⁸. Ultimately, it is important to be precise about what we expect integration to deliver, and how we define it. Otherwise, we risk it becoming something like the so-called "integrative imaginary"⁴ – a vague concept that does nothing to help us achieve new ways of working.

Based on our review of policy, academic and grey literature, it seems many see integration as very similar to coherence, collaboration and/or coordination¹⁵. Some equate it with being holistic¹⁰. Several refer to integration of different knowledges, potentially related to participation¹¹. Others use it to refer to trying to balance the provision of societal benefits as well as environmental benefits¹⁴, or in terms of integrating a new issue or goal into an existing main process or way of working¹³. In particular, several sources call for Climate Change mitigation to be integrated into planning for water management¹³. Many of these ideas are interrelated, or could reinforce each other, yet are certainly not identical.

For the purposes of this project we have a clear view that integration is about a cooperative approach to coordinating delivery of different sets of objectives and goals for water management. We are particularly focused on coordinating delivery of the goals set by the FD and WFD (summaries of these policies are provided in Annex I). This relates to the idea of policy coherence since we are interested in helping align policy delivery (rather than fully revising and combining policies).

There are lots of related studies and ideas to learn from; however, there are not many studies that provide direct guidance about how to achieve this cooperative approach. In the next section we summarise the existing bodies of knowledge that we can build on.

What relevant sources of knowledge can help us think about integration?

To learn more about integration, we have built on four sources of information & experience:

1. The discussions by member states and the European Commission. Integration is not always consistently referred to in reports and plans made under the WFD and FD. However, a European Commission 'Working Group F' has explicitly discussed experiences and ideas for integrating delivery of the directives. These ideas were reported in 2014²⁸. An overview of the links between both these and other directives was recently produced in 2016⁷ and is summarised by us in the next subsection.

2. Existing academic studies of integrating the WFD and FD in other countries. Only a handful of studies have considered this question, focused either on different settings, such as Germany¹ and England², or focused on specific issues, such as participation²⁰. Therefore they do not provide a clear blueprint for studying the subject, nor a complete set of ideas of how to enable integration.
3. Academic theories and concepts related to integration, studies of the integration of other environmental policies³ and related or supporting concepts such as coordination, participation and/or institutional interplay for water management^{12; 19; 20} and environmental governance^{21; 22}. Our review of this literature includes all relevant ideas within and beyond Europe. As with the academic studies focused on the WFD and FD, the focus of these papers has often been on *why* to integrate but not *how* to integrate.
4. Practical examples of Integrated Water Resources Management or Integrated Catchment Management at the catchment scale, as they are reported in academic literature from across the world, and where flooding and water quality are part of the issues that are 'integrated'. These planning processes operate at a smaller-scale, so may offer limited insights for how to integrate policy delivery at higher levels.

All ideas collected need to be linked to differing interpretations and aspects of integration – for examples, the body of work on Environmental Policy Integration is primarily concerned with how to integrate environmental issues into non-environmental policy. Connecting these different sources suggested criteria, methods, and cases to focus on in our work.

What has already been discussed by 'Working Group F'?

Early discussions at the European level have not always had a strong or specific focus on integration as defined above. For example, in early WFD Implementation Reports a dominant focus was on integrating the WFD into other policies such as the Common Agricultural Policy. In the second WFD Implementation Report⁹, flooding was not even mentioned once. However, since the adoption of the Floods Directive, integration between the FD and the WFD has become a strong focus. Implementation reports now jointly report on progress for both directives. A working group on Floods ('Working Group F') is part of the Common Implementation Strategy of the Water Framework Directive⁶.

The clearest view of the rationale for integrating FD and WFD, and how this can be achieved, comes from two 2014 reports^{8; 28} which are based on the work of Working Group F. This has recently been complemented by a 2016 report describing the links between the FD, WFD, Marine Strategy Framework Directive, and the Natura 2000 Directives. Note that these documents closely link the terms coordination and integration. Our interpretation and summary of the key issues and expectations mentioned in the main technical report from 2014⁸ are provided in the box on the following page.

Text box 1: Our summary of key issues and expectations for achieving integration, as discussed by Working Group F in 2014.

European Commission (2014). *Links between the Floods Directive (2007/60/EC) and Water Framework Directive (2000/60/EC): Technical Report* European Union, Luxembourg: Office for Official Publications of the European Communities. Available from <https://circabc.europa.eu/sd/a/2e917bbb-abff-41ac-b6fc-0fc91bf0347d/inks%20between%20the%20Floods%20Directive%20and%20Water%20Framework%20Directive%20-%20Resource%20Document.pdf>

“The coordination between the WFD and the FD offers the opportunity to adopt a new approach to optimize the mutual synergies and minimise conflicts between them.”

Article 9 of the FD explicitly states that Member States shall take appropriate steps to coordinate the application of the FD and WFD, focusing on opportunities for improving efficiency, information exchange and for achieving common synergies and benefits with respect to the environmental objectives in Article 4 of the WFD in particular such that:

- Flood hazard and risk maps contain information that is consistent with relevant information in the WFD (in particular from WFD Article 5 analysis)
- Development of FRMPs should be carried out in coordination with and may be integrated into reviews of RBMPs
- The active involvement of all interested parties should be coordinated as with those of the WFD – see EC, 2014 p8]

“There are a number of reasons why better coordination is required. These include:

- The overlap of legal and planning instruments in many Member States
- Planning and management under both Directives generally use the same geographical unit i.e. the river basin which acts as natural “reference area” for both water quality and flood risk management
- Aiding the efficiency of the implementation of measures and increasing the efficient use of resources. Measures taken under one Directive may have an influence the objectives under the other. Coordination provides an opportunity to maximise synergies by identifying cost-effective measures which serve multiple purposes and can result in “win-win” measures being implemented
- An expectation from many stakeholders that an integrated approach will be taken.”

“The main benefits of coordinating the FD with the WFD are...

Improving efficiency via:

- Presenting information to the public in one place
- Cross referencing of objectives to ensure mutual benefits realised
- Coordinating consultations on FRMPs and RBMPs increases the opportunities for synergies to be recognised

Information exchange via:

- Collecting data once and using it many times
- Integration of data, which allows for easier identification of pressures on the water environment
- Sharing data assists better understanding of the issues and potential solutions to identify reductions in flood risk and improving the environment

Achieving common synergies and benefits having regard to the environmental objectives laid down in Article 4 of the WFD including:

- Improved integrated river basin management
- Identify areas where measures can meet both FD and WFD aims e.g. river and floodplain restoration, use of Sustainable Drainage Systems (SuDS), changes in land management and creation of multifunctional wetlands.”

How can integration be achieved? The document discusses a variety of approaches that are expected to help coordinate/integrate planning and delivery of the two directives: sharing spatial management units, sharing competent authorities, linking reporting timetables, coordinating assessment, mapping, planning, selection of measures and monitoring.

Methodology

This report focuses on the results of a thematic analysis of semi-structured interviews with those charged with implementing those policies in 6 different cases. This builds on our 2017 prior document analysis of 6 sets of plans made to deliver the WFD and Floods Directive; and a simple survey in the same year, of the experiences of Working Group F members. This mixed methodology was informed by the pre-existing literature related to integration, and feedback from Scottish Government and agency stakeholders²⁵ and with the existing European Commission documents on water policy integration^{8; 27}. Our analysis of the interviews further built on the same themes.

We first summarise our prior document analysis and survey, before going on to focus on the interview methodology.

Document analysis

The full methodology of the content analysis has already been described elsewhere²⁶, so is only briefly summarised here. We used automated text searches for key terms in all the adopted plans that were available to us in October 2016. We searched for terms that allowed us to spot cross-references between the plans (e.g. references to flooding within RBMPs). We marked the whole of a paragraph where each term was recorded and used this to calculate the total portion of each plan that referred to the term. We also studied the actual content of those paragraphs to understand what was being discussed; and lastly we considered the structure of the reports – for example, did cross-references occur in the main body of reports, or only in footnotes. The results help indicate progress with integration, though of course could not capture any initiatives not included within the formal plans.

In the last decade hundreds of RBMPs and FRMPs have been created by Europe's member states. We could not review all these plans, but we selected cases with geographical similarities to Scotland; contrasting cases such as Spain; and cases that were expected to be good examples of integration such as Flanders. Table 1 shows the set of plans analysed.

Table 1 The plans reviewed by our earlier document analysis

| Case | Rationale for case study selection | Plans analysed |
|-----------------------|--|---|
| Flanders | Have formally integrated legislation and plans made | <ul style="list-style-type: none"> • 2 x 1st cycle RBMPs • 2 x 2nd cycle RBMPs incorporating FRMPs |
| Sweden | Geographic similarity to Scotland plus personal recommendation | <ul style="list-style-type: none"> • 5 x 1st cycle RBMPs • 5 x 2nd cycle RBMPs • 17 x FRMPs |
| UK | Devolved administrations offer 'natural experiment': relevant to Scotland | <ul style="list-style-type: none"> • 16 x 1st cycle RBMPs • 16 x 2nd cycle RBMPs • 28 x FRMPs |
| Czech Republic | Experience of coordination across basins | <ul style="list-style-type: none"> • 3 x 1st cycle RBMPs • 3 x 2nd cycle RBMPs • 3 x FRMPs |
| Rhine | Experience of coordination for transboundary management, may assist in policy coordination | <ul style="list-style-type: none"> • 1 x 1st cycle RBMPs • 1 x 2nd cycle RBMPs • 1 x FRMPs |
| Spain | Geographical contrast with the other cases | <ul style="list-style-type: none"> • 24 x 1st cycle RBMPs • 18 x 2nd cycle RBMPs* • 17 x FRMPs |

Survey of Working Group F members

In March 2017 we presented preliminary findings of the document analysis to members of the European Commission's "Working Group on Floods" of the WFD Common Implementation Strategy. This meeting is attended by representatives of the organisations responsible for delivery of the Floods Directive in each member state. At the meeting, and afterwards by email, we asked members for some feedback on integration and their plans. We received answers from 13 member states, plus the member states we focus on in this report. We used their answers to confirm and supplement our document analysis, and to help us plan what issues and ideas to discuss in our subsequent interviews.

Case study selection

We chose three cases to focus on: Sweden, UK devolved regions, and Flanders. We treated the UK devolved regions as separate cases as they are implementing the WFD and FD in different ways. We selected these cases based on our earlier document analysis: we chose (1) Sweden as having biogeographic similarities to Scotland (who fund this research); (2) Flanders because we knew they were associated with making progress in integration; and (3) the four devolved administrations of the UK (Scotland, Wales, England and Northern Ireland) since they have a similar institutional background. Each UK jurisdiction has its own governmental arrangements, structures, funding for flood risk management and therefore different approaches which are co-ordinated across the UK and between the competent authorities within shared RBDs. Table 3 summarises our understanding of the main organisations associated with implementing the WFD and FD in each case study.

Semi-structured interviews

The analysis of plans helped us to understand the formal commitments in each case, but we appreciated that initiatives for integration could occur without being documented in those plans. Therefore, to find out more about the processes linked to creating and delivering the plans, we sought interviews with individuals charged with supporting the development and implementation of the plans.

In each case we spoke to people working at both the national level and the regional level, in order to build up some indepth understanding. We asked existing contacts to help us identify contacts working in other policy areas or at other levels within each case. In total we conducted 24 interviews, with a total of 28 individuals (two interviews were with more than one person). Table 2 summarises the final set of interviewees.

The average length of interviews was one hour, and all interviews were carried out between January and June 2018. Our interviews were structured by a topic guide (see annex II) that reflected the key ideas identified in our review of pre-existing work on integration, and questions that had arisen from our analysis of plans. Interviews were audio-recorded and transcribed, with the exception of one interview where we instead took detailed notes at their request. We used Nvivo 12 to thematically 'code' the content of these transcripts according to themes, and we carried out a framework analysis to facilitate comparison of cases and highlight patterns. This work was approved by the James Hutton Institute ethics committee, and the data collected was processed, stored and managed in compliance with the EU General Data Protection Regulation.

In the findings section we present the main themes and patterns in these interviews. We illustrate these themes with quotes from the interviewees, but in order to protect the anonymity of our respondents, we provide only limited information about sources (e.g. we do not reveal both job role and organisation, if this would allow someone to be identified).

This section does not systemically describe every case. This is because we do not intend to ‘test’ or ‘judge’ progress in each place; instead we focus on highlighting common issues, the range of experiences, and connections between ideas.

Table 2 Summary of the interviewees who discussed integration in each case

| Case | Level of role | Interviewee ID | Policy focus | Organisation |
|-------------------------|-----------------------|----------------|--------------------|--|
| England | National | E1 | RBMP | Department for Environment, Food and Rural Affairs (Defra) |
| | “ “ | E2 | FRMP | Defra |
| | | E3 | RBMP | Environment Agency |
| | | E4 | FRMP | “ “ |
| | | E5 | FRMP | “ “ |
| | “ “ | E6 | RBMP | Environment Agency |
| | Regional | E7 | FRMP | Environment Agency |
| “ “ | E8 | RBMP | Environment Agency | |
| Flanders | Regional ^a | F1 | FRMP | Flanders Department for Mobility and Infrastructure |
| | Cross-scale | F2 | FRMP | Flanders Environment Agency |
| | “ “ | F3 | RBMP | Flanders Environment Agency |
| | Regional | F4 | RBMP | Flanders Environment Agency |
| Northern Ireland | National | N1 | RBMP | Northern Ireland Department for Agriculture, Environment and Rural Affairs (DAERA) |
| | “ “ | N2 | FRMP | Northern Ireland Department for Infrastructure |
| | | N3 | FRMP | “ “ |
| | Regional | N4 | FRMP & RBMP | An urban Local Authority |
| Scotland | National | S1 | FRMP | Scottish Environment Protection Agency (SEPA) |
| | “ “ | S2 | RBMP | Scottish Environment Protection Agency (SEPA) |
| | Regional | S3 | RBMP | Scottish Environment Protection Agency (SEPA) |
| | “ “ | S4 | FRMP | Scottish Environment Protection Agency (SEPA) |
| Sweden | National | Sw1 | FRMP | Swedish Civil Contingencies Agency |
| | “ “ | Sw2 | RBMP | Swedish Agency for Marine and Water Management |
| | Cross-scale | Sw3 | RBMP | A Swedish Water District Authority |
| | Regional | Sw4 | RBMP & FRMP | A County Administrative Board |
| | “ “ | Sw5 | RBMP | A Swedish Water District Authority |
| Wales | National | W1 | RBMP | Natural Resources Wales |
| | “ “ | W2 | FRMP | Natural Resources Wales |
| | Regional | W3 | FRMP & RBMP | An urban Local Authority |

^a Belgium is a federal state, which has designated its three regions (Brussels Capital Region, Flemish Region, and Walloon Region) as competent for the implementation of the WFD. More information about the federal structure is available at <http://www.studyinlanders.be/en/about-flanders/form-of-government/> and the Flemish arrangements for governing water are described at <http://www.integraalwaterbeleid.be/en> Therefore, in this table, “regional” refers to the central or highest level for Flanders, whereas for the other cases it refers to a subsidiary level.

Table 3 The main organisations associated with WFD and FD implementation in our cases. This is derived from WFD implementation reports and interview discussions. This table lists lead agencies, not every organisation or network connected with implementation.

| Case | Policy | National level – competent authority | Regional level – key agencies and organisations |
|-------------------------|------------|--|--|
| England | FRMP | <ul style="list-style-type: none"> Environment Agency | <ul style="list-style-type: none"> Environment Agency Local Authorities |
| | RBMP | <ul style="list-style-type: none"> Environment Agency | <ul style="list-style-type: none"> Environment Agency |
| Flanders | Joint FRMP | <ul style="list-style-type: none"> Committee on Integrated Water Policy (CIW) | <ul style="list-style-type: none"> Basin management, basin secretary, and basin council for each sub-basin. |
| | RBMP | <ul style="list-style-type: none"> Coordination for the Scheldt and Meuse is respectively assigned to the International Scheldt Commission (ISC) and the International Meuse Commission (IMC) | <ul style="list-style-type: none"> Flanders Environment Agency Provinces and Municipalities for smaller water courses |
| Northern Ireland | FRMP | <ul style="list-style-type: none"> Department for Infrastructure – includes Rivers Agency, and Northern Ireland Water | <ul style="list-style-type: none"> Department for Infrastructure Local Authorities responsible for land use planning |
| | RBMP | <ul style="list-style-type: none"> Department for Agriculture, Environment and Rural Affairs (DAERA) – includes Northern Ireland Environment Agency | <ul style="list-style-type: none"> DAERA |
| Scotland | FRMP | <ul style="list-style-type: none"> Scottish Environment Protection Agency (SEPA) | <ul style="list-style-type: none"> SEPA Lead Local Authorities |
| | RBMP | <ul style="list-style-type: none"> Scottish Environment Protection Agency (SEPA) | <ul style="list-style-type: none"> SEPA |
| Sweden | FRMP | <ul style="list-style-type: none"> Swedish Civil Contingencies Agency | <ul style="list-style-type: none"> County Administrative Boards, 5 of which host District Water Authorities The Swedish Civil Contingencies Agency |
| | RBMP | <ul style="list-style-type: none"> Swedish Marine and Water Authority (for 2nd cycle RBMP) | <ul style="list-style-type: none"> County Administrative Boards, 5 of which host District Water Authorities |
| Wales | FRMP | <ul style="list-style-type: none"> Natural Resources Wales | <ul style="list-style-type: none"> Natural Resources Wales Lead Local Flood Authorities for local sources of flooding |
| | RBMP | <ul style="list-style-type: none"> 1st cycle: Environment Agency 2nd cycle: Natural Resources Wales for Western Wales, Environment Agency & Natural Resources Wales for the Dee and Severn | <ul style="list-style-type: none"> Environment Agency and Natural Resources Wales |

Findings

This section summarises the main themes that were discussed within interviews, supplemented where relevant by the findings of the earlier survey and document analysis.

1) Understandings of integration

The starting point for our research was an understanding of integration as coordinated delivery of the goals of the FD and WFD, in line with earlier European discussions^{8; 28}. However, not everyone sees integration in the same way: we found considerable variation in how people think about integration. People's discussions about definitions also blend into their ideas about why integrate, how to integrate, and the practical consequences.

"People mean different things by integration. And, that can be really tricky."

Interviewee working on national-level flood policy in England

These differences are not entirely surprising – academic and non-academic documents also use the term in different ways. However, this is an important subject, as our interviews show that differing definitions can be related to why people may consider integration to be a goal worth pursuing, how to achieve it, and what integration is expected to look like in practice. It is not possible to predict how an individual may understand or use different terms, based on their language or background. In our sample, interpretations vary even between people working in the same organisation.

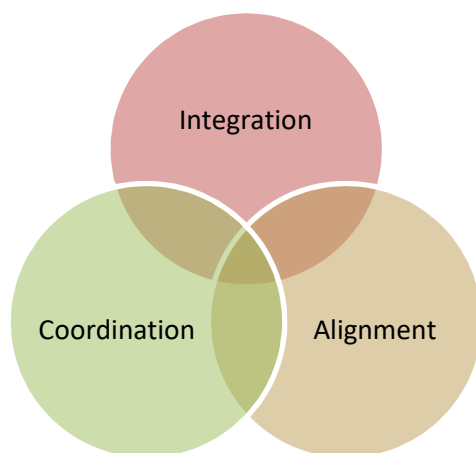


Figure 1 Key terms seen as related to integration

Some **interpretations of integration** focus on legislative change to allow delivery of both policies via one piece or set of legislation (as has occurred in Flanders). However, most did not focus on legislation, and instead saw integration as closely related to coordination. For example, often when we asked about how to encourage integration, many interviewees discussed how different departments or organisations could better work together to deliver different policy goals. Coordination is, in turn, supported by processes of communication that enable different people and organisations to learn about each other, and to share ideas and information. Enabling these interactions is not always easy (see following sections) but can result in

"knowing about each other and taking some regard of each other's programmes" (Sw4).

This can occur at a variety of places and scales – Text box 2 discusses in more detail where integration is expected to occur.

Alignment was seen as a related , usually interpreted to mean groups working separately for different goals, whilst avoiding overt clashes and conflicts. This in turn was associated with coordination of groups at one level (e.g. between different teams developing programmes of measures for the WFD and FD) but could also refer to avoiding conflicts between commitments made at different scales. For example, F4 noted *"Measures need to be aligned between Brussels and Flanders and Walloon regions and there is a lot of contact to*

ensure there are no conflicts in timing". Alignment was usually seen as an essential prerequisite for integration, but not normally the same as 'full' integration.

Ideas vary as to the **scope of integration**. Although integrating the FD and WFD was the starting point for our interviews, other policy goals or issues could also be considered. The European directive most likely to be considered was the Habitats Directive, especially because the WFD makes formal reference to this. The wider scope of integration is particularly relevant when working in participatory processes with stakeholders outside the water sector who will not just consider FD and WFD. Goals for improving recreation, health, and transport might also be mentioned, though not necessarily in terms of specific European or national policies.

In England and Wales there was a particularly strong focus on not just considering the FD and WFD directives. For example, in Wales, 'Area Statements' are being created to capture different priorities for natural resources (not just for water) and these are seen as *"one of the main opportunities which will help, help integration"* (W2). Of course, the UK's political climate is currently deemphasising European policies; in addition, there was a genuine commitment to work with related sectors and policy areas such as forestry. However, even those who were enthusiastic and tasked with promoting integration also stated *"if you start integrating every single thing in the catchment, you'd never get anywhere"* (E2). This suggests that the potential scope of integration affects judgements about the **importance of integration**. Somewhat paradoxically, when integration could encompass anything, it becomes more important to narrow down the set of situations or processes when integration is considered, rather than seeing it as an all-encompassing goal.

Different definitions of the term are related to differing ideas about the **reasons for integration** (though it was common not to offer precise reasons for pursuing integration, especially when it was seen as self-evidently a good thing). Integration was seen as promoting and reflecting systems thinking and holistic approach to water management, especially in England and Wales. Systems thinking could help to *"understand the impacts and interactions between every part of it [the whole system], and the implications of doing some different in one part"* (E7). Although systems thinking was less explicit in other places, interviewees commonly emphasised the goal of achieving 'balance' and avoiding adverse consequences from decision-making. Achieving this requires a spatial view that spans whole catchments *"from source to sea"* (W1) and also considering multiple functions. In Flanders they have trialled the use of ecosystem services concepts to describe these benefits (F4).

The **consequences of integration** should therefore be the delivery of multiple benefits – potentially entailing multiple activities. Measures that form part of Natural Flood Management (also known as Natural Water Retention Measures) were frequently mentioned as the sort of practical intervention that might deliver these benefits. Other evidence of integrated water management may come from a shared vision and processes. In the long-term, it is expected that this may lead to *"more streamlining, greater efficiency"* (E2) in how these multiple outcomes are developed. However, it is worth noting that trying to achieve integration may generate additional *"complication"* (Sw3), and *"goes slower"* (F3) which may require additional resources and so is not prioritised when budgets are reduced (N2). Whether or not integration really leads to more smooth and efficient outcomes may perhaps depend on one's time perspective.

Text box 2: Where does integration happen?



Our interviewees indicate that integration can – and should – occur within and across a range of levels, i.e. both **horizontally and vertically**. This is seen as related to coordination between and within organisations as well as the content and links between policies and plans.

For example, strategic planning at the **national level** is seen as necessary but not sufficient. High-level visions are a critical first step that can help enable action by others, but do not always translate into change. Achieving integrated delivery of the policies does not necessarily require both to be integrated into a single piece of legislation or a single coordinating body: although this setup has clearly been helpful in Flanders, interviewees from England did not see integrating the legislation as “*realistic or valuable*” (E8). However in England and Scotland there are other central initiatives to support agencies and other groups to actively consider and enable integration (see section of examples on page 18).

Local authorities and regional level actors are important in planning, and in providing a link to any lower-level bodies such as **catchment partnerships**. These organisations may also have experience of other regional-scale plans such as Local Development Plans which integrate multiple issues. Their experiences of **planning** under the FD and WFD may even provide opportunities for bottom to top feedback as to how **European level** process and requirements could better support integration.

Of course, there is potentially a large task of coordination **within organisations**, and **between organisations** operating at similar levels – the challenge of horizontal integration. For example, where different government departments are responsible for FD and WFD delivery (as in Northern Ireland) this means extra effort is required to coordinate those departments, and this could cause mismatches in budget allocations and prioritisation given to the two policy areas.

Interviewees in **different countries** tended to place slightly different emphasis on different levels. For example, an interviewee in Sweden saw integration as “*mostly important at the more of a local and regional scale*”, which could help support bottom-up input. However, where action has been constrained by a lack of a national-level mandate or capacity, as in Northern Ireland, the enabling role of the national level becomes very clear.

What happens at any one level or scale influences the decisions at others. Therefore it seems likely that to achieve real progress towards integration, it must not be seen solely as the responsibility of one organisation or level. Instead **integration must be ‘everywhere’** - every organisation at every level has a role to play.

2) Progress in integration

Our analysis of RBMP and FRMP plans²⁶ indicated that some cross-references are being made between planning processes. However, **most cross-references were brief** statements about the need to coordinate or integrate delivery of the directives, with very little detail about how this would actually occur. The main activity where integration was evident was the use of shared consultation processes and joint Strategic Environmental Assessments.

Some plans did display evidence of more meaningful integration – for example, the Flemish integrated plans contain measures designed to tackle problems of water quantity as well as quality. Another example is the Programmes of Measures for English RBMPs with measures explicitly chosen as they can also help meet flooding objectives. Of course, there may be initiatives for integration that are not captured within the plans, and future plans may allow more evidence of this: the interviews were valuable for allowing us to understand this.

“We have tried to integrate to an extent ...but there’s certainly, you know, things that can be done differently, better, in the next cycle”

Interviewee W2, working on flooding policy in Wales

We asked interviewees to assess current progress in integration, using the image of a sliding scale from from zero to full integration as a simple device to prompt reflection and discussion. Interviewees in Flanders were the most positive about their progress in achieving integration, though still with some work to do. For example F1 described Flanders as achieving *“a full integration. Of course, nothing is perfect.”*



Interviewees from the devolved countries of the UK tended to see themselves as making good progress, but with plenty more work to do. They used phrases such as *“going in the right direction”* (e.g. E2, W3) and tended to see themselves as somewhere in the middle of the scale, with expectations of future improvement. In England there has been a joint Defra-Environment Agency initiative to consider how to improve integration in the second and third cycles for flood risk and river basin management planning (see page 20). Even though the Northern Irish interviewees were relatively pessimistic about the lack of national integration and coordination, they cited evidence of connecting flooding and environmental issues at the regional level.

By comparison with the Flemish and British respondents, some of the Swedish interviewees were quite negative about progress: *“we have not come very far in integrating the two directives”* (Sw3). This was linked to a perception that support for integration had been slow to start at the national level, and so had hampered regional level efforts to put integration into practice. However, there was a common expectation that pre-existing strengths in coordination and decentralised working should help to support integration in future.

The view of integration as a work in progress is reflected in other places, based on the feedback of Working Group F members (see Text box 3).

Text box 3: Evidence of integration in other places, from responses to the survey of Working Group F members

In total we received **feedback from 13 places** (Austria, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, Hungary, Italy, Latvia, Luxembourg, the Netherlands, Republic of Ireland). We also received feedback from the cases we studied in the document analysis and interviews, but these cases are described in the main body of this report.

Not all members replied, and some of the responses were very brief, so we cannot assume that the answers are exhaustive. However, it is likely that places that have made little progress on integration were less likely to respond (Denmark was our only respondent who said they did not have processes to create connections between the FD and WFD). Therefore we think the results give useful insight as to the main places and practices seen as relevant to FD - WFD integration during 2017.

Firstly, the most common way in which FD and WFD are being connected is through shared or connected consultation processes (e.g. Austria, Czech Republic, Estonia, Hungary, Italy, Luxembourg, the Netherlands). Two member states mentioned shared Strategic Environmental Assessments or Environmental Impact Assessments of RBMPs and FRMPs (Croatia, Republic of Ireland). Lastly, several responses mention strategies to select or appraise potential measures to ensure that measures in FRMPs do not negatively impact ecology, or vice versa (e.g. Estonia, Finland, Italy, Republic of Ireland). Some respondents noted plans to go further in the next RBMP and FRMP cycles.

Many activities are supported by information-sharing across planning teams. For example, in the Netherlands, the information used in RBMP and FRMP planning is based in the same institutes and datasets and the information provided to both the EU and the general public is also shared. Other activities for coordination are also relevant. For example, in Hungary different teams are involved in each others' planning meetings, and review and comment on each others' reports. Similarly, in Luxembourg the writers of each plan extensively collaborate. These activities are often not publically visible e.g. via the content of the final RBMPs or FRMPs, but attention to such procedural details is an important precursor to generating any outputs related to integration.

3) Challenges to integration

Every interviewee described at least one – and often more – reasons why progress in integration was not yet complete. These often overlap and **interconnect** to form a set of intertwined challenges.

“we’ve a whole load of challenges...”

Interviewee S3 working on water quality policy in Scotland

Several challenges relate to the **difficulties of coordination and partnership working**. Although this was also seen as a key approach to helping deliver integration (see next section) it is not necessarily easy. Coordination and partnership working *“takes time and it takes effort and it takes compromise, you know, it’s a tricky thing to manage.”* (E3). It is especially challenging when separate departments, organisations and consultants have working cultures that favour **working in silos** rather than collaboration. This tendency to focus on core expertises and responsibilities – for example, for flood risk management to be delivered solely by ‘hard’ engineering projects led by civil engineers, whilst water quality is delivered by ecologists – is particularly strong when faced with **resource constraints**. Furthermore, environmental protection can be seen a *“cinderella”* issue (N3) i.e. a low priority issue that is ranked behind other policy goals, especially when faced with resource constraints. Therefore, developing a plan within one team can be seen as *“quick and easy”* (S4) rather than a process that tries to consider other options and involve others.

Another factor that can exacerbate difficulties in partnership working is **difficulties in information sharing**. Different datasets are not easy to share or connect, and information on water quality is often held and accessed quite separately from that for flood risk management, since the issues have been managed separately. Difficulties in information sharing can also occur between levels: for example, in the past, there was inconsistency and lags between maps and predictions made by larger and smaller scale organisations in Flanders (this has now been rectified). The challenges of sharing and learning do not just relate to formal datasets. It can be just as important, and difficult, to understand other points of view and relevant plans and *“keeping that up to date”* (N4).

Installing measures for **Natural Water Retention Measures (NWRM)** - also known as Natural Flood Management (NFM) - are often seen as a key means by which water quality and quantity goals can be reconciled within catchments. However, these are associated with uncertainty and questions, so because they are not judged *“good evidence”* (E2) it can be hard to prioritise them. NWRM measures are not well represented in many existing models used to appraise flood risk management schemes. Furthermore, NWRM schemes typically require many small interventions coordinated at a large scale across catchments. Thus, where land ownership is largely out of the control of state actors, installing these measures places more emphasis on the challenges of coordination and engagement.

The **public** were sometimes cited as having expectations that are unhelpful to integration, mostly because they expect quick reactions to flooding events. Politicians also want high profile solutions demonstrated within the political cycle, which can drive the reactive adoption of schemes that can be installed relatively quickly, at the expense of proactive long-term holistic approaches. Involving the public in decision-making about water management is a response, but itself exacerbates the above problems of processes becoming slow and costly: *“to get to that point, where people are confident that they don’t need that big flood defence takes a long time”* (E7). More participatory processes also add

in local priorities for a particular place or catchment, which can complicate (and potentially conflict with) top down policy goals and mandates. Sw1 described Sweden's "*decentralised culture*" as posing particular challenges for translating and connecting with the requirements of Europe's directives.

This highlights that the **central top-down policies** which encourage integration, can also be seen as hindering integration. For example, the differing styles and requirements for RBMPs and FRMPs mean that plans made for the FD could be accused of enabling a focus on "*end of pipe*" solutions (F4) whilst RBMPs must tackle the root causes of ecological degradation. Furthermore S1 felt that the cycles for implementing and reporting these directives have not been perfectly aligned, which has reduced opportunities to make connections to date (though this may improve in future).

More commonly cited was a problem of over-reliance on high-level visions to achieve change by themselves. When only visions are provided, lower levels might struggle to change their ways of working to achieve integration, since the structures and processes otherwise tend to support delivery of single policy goals. For example, F3 described how middle managers must work with metrics for water quantity, and metrics for water quality, but there is no "*metric for integration*" to drive or evaluate performance in this regard. Related to this, W3 noted that existing requirements and processes can create limited opportunities for flexibility and learning from trial and error. It also seems that central or national organisations were needed to help initiate or coordinate integration. Although the responsibility for coordinating integration is often unclear ("*everybody is looking at each other*" F2), the need for some kind of high level impetus - at least to initiate this process - came across clearly from complaints in the interviews where it was felt it was lacking (e.g. in some Swedish and Northern Irish interviews). Where national level guidance lacked specific commitments and did not provide corresponding resources or support, interviewees felt there would be limited progress in integration.

4) Ideas of how to enable and achieve integration

Our interviewees offered a range of ideas about how to support integration. This is based on their experiences in promoting integration, and their recommendations about how to overcome the challenges.

“it all starts with organisations talking to each other”

Interviewee S4, working on regional-level flooding policy in Scotland

Every interviewee mentioned some practical technique or approach related to **collaboration and partnership working**. This can mean connecting those across different levels – “*we need flows of information between the different tiers*” (E1) – but was typically referred to as connecting people working on quantity and quality issues in different parallel groups. Most interviewees focused on enabling people based in different teams or departments to work more closely together – such as the English ‘virtual catchment teams’ (E6) – suggesting that integration is a challenge that should connect existing teams, rather than abolishing or reformulating those teams.

Even if integration can happen with existing structures, this does not mean that it will occur easily or automatically. Effort and time is needed to connect people who are otherwise working separately, with careful consideration of what mix of people is required to make progress with integration (i.e. what roles, expertises and aptitudes), and to allow time to build trust between them. This is a precursor to more tangible outcomes i.e. in reports and in practice: “*you need to start with that [collaboration] and get people to know each other*” (N4). A individual or unit with good **team-building** skills needs responsibility for coordinating this.

Knowledge-sharing is both an outcome and a requirement for these collaborative teams. This was often referred to in terms of information about catchment condition and processes. However, it is equally important to share information about different goals, and about different plans and processes – “*like the biodiversity officer sitting near flood risk and finding out what’s going on*” (E6).

Several Flemish and English interviewees emphasised the need for the people working on integration to build a **shared vision** - “*you need to create one vision, for all the water managers*” (F4). It is helpful for this to be driven by a top-down strategy and support from central government, but this alone is not sufficient. Any such “*big vision*” needs buy-in and discussion from those working in policy implementation at other levels, with a more specific focus on what it means for particular catchments and programmes of measures. These interviewees agreed that a focus on delivering a mixture of **multiple benefits** can assist in this. This emphasis is also helpful when engaging with people outside of statutory agencies. Some felt that encouraging local participation would help to achieve a balance in goals “*allowing the more bottom up to come in along with top down and this is allowing a more holistic approach*” (E1).

It is unclear to what extent specific terminology and concepts are useful in this process: E1 mentioned that terms such as natural capital and ecosystem services risked being seen as “*technocratic gobbledegook*” during engagement, whereas F4 felt these concepts had been helpful for appraising the costs and benefits of artificial versus more natural interventions, though they had been used only in a few experimental trials.

Interviewees from several countries all stressed the importance of **public engagement** consultations, and “*listening to what people want*” (E1). This principle may be more important than whether or not specific terminology is used. Although the views or expectations of the general public were sometimes cited as challenges (see previous section), they can also help enable integration. Discussions to engage them in water management need not exclusively focus on gains: as long as all groups can see a balance of upsides and downsides (N4), and a balance of responsibilities – “*floods is not only the responsibility of the government, but also of the citizens*” (F1). The emphasis on responsibility was particularly strong in a couple of the Flemish interviews.

Obviously, different interviewees’ ideas varied according to their differing experiences, but these were generally overlapping and complementary, rather than conflicting. It is worth noting that interviewees from England, Scotland and Wales mentioned the need for **flexibility** in implementation, particularly with respect to allocating and managing funding for measures, but this was not mentioned by any of our Flemish or Swedish interviewees. This may indicate how the bureaucratic procedures of different places can hinder or help integration. Another point of difference was the extent to which **integration in high-level legislation** was seen as necessary. The Flemish interviewees were confident that their integrated legislation was an important basis and enabler for integration in their water management plans. By contrast the Scottish and English interviewees did not feel it was necessary to change legislation or require single integrated plans: however, their national policy teams had already given explicit support to integration in other ways (e.g. in guidance). Where national-level support was seen as lacking, as in some of the Swedish and Northern Irish interviews, this absence was felt to hinder integration.

Examples

Our interviewees mentioned many examples relevant for demonstrating progress with integration. They fall in two broad categories: firstly, **processes** or techniques thought helpful for achieving this; and secondly, **places** (usually catchment-scale projects) thought to demonstrate outcomes that support integration. We did not seek to document all places, so these are mentioned below as illustration. We focused on the processes, and were able to classify these as supporting integration in four ways:

- a) by providing national-level structure, guidance or requirements for integration;
- b) by improving coordination across teams and levels;
- c) by sharing data and expertise;
- d) by enabling local or catchment-level action and pilots.

Often, initiatives contribute to more than one of these aims – for example many mentioned catchment pilots or examples, that will generate knowledge which in turn will feed national-level learning and planning.

Flanders is perhaps the most obvious place in which central policy has required and enabled integration, by integrating the pursuit of water quality and quantity issues in federal legislation (The Flemish Decree on Integrated Water Management, of July 2003) which requires the production of plans for water management that integrate the RBMPs and FRMPs. Initiatives for integration were also mentioned at the catchment scale, with a range of projects that incorporate NFM, such as at the River Zuunbeek (south of Brussels) and Dyle Valley. At the local scale a “Local assessment framework” is used to help assess and communicate progress in meeting water quality and flooding objectives. In a few trial areas,

some water management challenges have been tackled by allowing reclassification of land from residential and industrial land into land use types which more easily permit works for river restoration.

Flemish interest in integration predates the European directives, and so they are pioneers that are probably ahead of many other countries. However, even where other countries have considered integration in legislation, they may not choose to do so. In **Sweden**, there has been an analysis of the WFD and FD legislation to identify potential conflicts between actions, and we are not aware that full legislative integration is planned. A LIFE project involving the Northern Baltic Basin District was the only other initiative mentioned by our Swedish interviewees as offering an example and learning about integration.

Similar to Sweden, in **England** the main government department (Defra) and statutory agency (Environment Agency) have carried out a joint project to assess potential options and consequences for different degrees of integration in water management ("*from do nothing, to full integration*" E2) yet are not currently planning to unify all water management goals in one set of legislation or plans. Instead, they are focused on promoting integration at the catchment level (Text box 4). Other initiatives such as "Living Landscape projects" are also thought relevant, and these will explore the value of using ecosystem service mapping. They also have a "catchment data explorer" which is a tool for sharing information across teams: it is already used during River Basin Planning, and they plan to include flood risk data to support more integration within the next FRMP cycle.

Many of the initiatives mentioned by our **Northern Ireland** interviewees focused on sharing data or expertise. Many such initiatives, such as putting environmental officers onto flooding teams, would also seem to support coordination. Their experiences in transboundary collaboration for water quality (the "SWELL" initiative) might also support this. It is perhaps a function of our interviewee sample, but some of the examples mentioned did not focus on water agencies as coordinators, but instead urban local authorities coordinating schemes for flood alleviation, that also incorporated other objectives (such as in East Belfast). Perhaps because they do not perceive themselves as pioneers in integration, they mentioned efforts to learn from other places, i.e. by visiting the River Restoration Centre in England^b, but they are also commissioning their own pilots ('Catchment Care' and 'Source to Tap') to learn about effective measures and how best to integrate them.

Learning from catchment working was also discussed by interviewees from **Scotland**. In five catchments (the Glazert, Nith, Dee, Esk and Leven) a Pilot Catchment Initiative^c supported the work of a cross-agency team to map in detail the river and catchment land-uses, scope pressures and short-list options. This was an intensive, slow and costly process that has not continued in those places, but has influenced how the Scottish Environment Protection Agency (responsible for both WFD and FD delivery) understands and enables catchment management. Beyond these pilots, there have been initiatives to improve general coordination both within agencies (via internal "working groups") and at the regional or local level via "Local Area Groups" where flood teams invite collaboration with staff involved in developing and delivering RBMPs. Examples of urban plans for flood alleviation, such as

^b www.therrc.co.uk

^c <https://www.sepa.org.uk/environment/water/river-basin-management-planning/actions-to-deliver-rbmp/pilot-catchments/>

at Maidencraig in Aberdeen, often aim to provide other environmental benefits. Lastly, learning on the specific topic of NFM is being fostered by creating a “Natural Flood Management Network”^d. This potentially draws in knowledge from beyond Scotland, which has been further encouraged by participation in relevant Interreg projects.

Some of the learning is based on experiences and projects that predate or are not directly related to the FD and WFD. For example, in **Wales**, some early work on agriculture and flood risk management was developed by farmers in the Pont Bren catchment^e. These rural examples are complemented by examples and support for developing Sustainable Urban Drainage Schemes (SUDS)^f. The Welsh Government has purposively commissioned trial projects on sustainable management and stakeholder involvement, which inform the development of six ‘area statements’. These statements are created to integrate different social and environmental objectives, encompassing land as well as water management. They are expected to help to reinforce and guide integration within more specific plans such as FRMPs and are complemented by initiatives more specific to water management – W1 mentioned the creation of “schemas” or datasheets to show there is integration of the WFD with FRMPs, the Marine Strategy Framework Directive and the Habitats Directive.

Text box 4: An ongoing initiative to improve integration in England.

The Environment Agency and Defra wished to develop and implement a more integrated and efficient approach to strategic planning for water and flood risk management. They undertook an in-house project, consulting key stakeholders, focussed on integration between the next round of RBMPs and FRMPs. The aims were: to promote flood and water management approaches with multiple benefits (e.g. water quality, resilience to floods, biodiversity); to increase the scale and effectiveness of local community involvement; to improve links between planning and the major investment programmes for water companies, floods and farming; to make better use of data and tools; and to achieve administrative efficiencies.

After exploring 5 high-level options, one was chosen and as of autumn 2018 they are now in the process of implementing the preferred option. This emphasises three key components:

- a. Engagement and Consultation: *“we will take an integrated approach to engagement at the catchment scale and consultation at the river basin district”*, during the development of FRMPs and RBMPs as well in consultations on the final plans.
- b. Organising and sharing data: *“we will make further improvements to the way we organise and share data, to make it easier to identify actions with multiple benefits”*. For example, the ‘catchment data explorer’ (<https://environment.data.gov.uk/catchment-planning/>) will undergo further development, to make FRMP actions visible in a similar format to RBMP measures.
- c. Testing greater integration. The UK Government’s 25 Year Environment Plan (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf) has pioneer projects in Cumbria, Greater Manchester, Devon and on the coast in East Anglia which provide opportunities to test partnership working and other approaches to support integration. New “Local Natural Capital Planning trials” will also contribute, carried out in places such as Bristol Avon and Medway.

This is expected to deliver a more integrated approach to engagement at the catchment scale and consultation at the river basin district scale, which supporting more effective stakeholder and local community involvement, in turn enabling more community understanding, support and ownership of issues and interventions. It also expected to produce improvements to data organisation and sharing, making it easier to identify actions with multiple benefits. Lastly, testing of more integrated approaches will provide ideas to consider in future cycles.

^d <https://www.nfm.scot>

^e <http://pontbren.bangor.ac.uk/>

^f <https://www.sudswales.com>

Discussion

The purpose of this research is to contribute to the discussion of how to operationalise 'integration', which is so often referred to as a goal for water management. This is reflected by European policy, where there is a specific expectation for the integration of FD and WFD. However, whilst the aspiration is clear, there is little available research discussing how it occurs in practice and what lessons can be learnt. Our document analysis of plans²⁶ illustrated the desire for integration; and our interview data suggest that progress is happening. Thus, the research offers some useful insights about how it can be achieved - but there is work yet to be done, even in places that have focused on integration.

Reflecting the situation in the academic and EU literature, the concept of integration has a range of different interpretations, from meaning full legal synthesis of two policies, through active coordination and cooperation; to alignment, where potential conflict between policy objectives are identified and avoided. Interestingly, different views on this were expressed within as well as between our cases, illustrating that one cannot assume a shared understanding of the term even within a single organisation. There were also differences about the scope of integration, with some cases going beyond WFD and FD to include links with forestry and agriculture; and many participants discussing how much integration is feasible before things became too complex. Integration clearly occurs at multiple levels (national, regional and local), but also requires work within levels to share information and act in a coordinated way. The purpose of integration was often surprisingly hard to articulate beyond being necessary for taking a more holistic perspective and delivering multiple benefits or at least managing trade-offs. However, whilst integration should make delivering WFD and FD more effective, participants were diffident about assuming it made things more efficient, as integration raises challenges (see below). Therefore, operationalising integration requires taking account of these different dimensions.

Our document analysis had found commitment to integration in the plans, but little detail. The interviews helped us better understand the efforts 'behind the scenes'. Flanders participants felt they were making good progress, but despite full legal integration of the plans, were still on the journey to integration in practice. The UK participants also felt they were on the way towards integration, but there was still much to do to implement their visions. Sweden, with its history of devolved water management, had experience of cooperation at the local scale, but the national level had less experience of integration and so was still learning how to make it work. Overall, the participants were realistic about the challenges before them but optimistic that progress would continue to be made. The survey responses from other Member States also illustrates that progress was being made; and the diverse ways in which integration is being interpreted and put into practice. Thus, the research suggests that there is enthusiasm for integration and an interest in sharing good practice to help fellow travellers on this journey.

All our interviews highlighted challenges to integration between FRMP and RBMP to deliver both FD and WFD objectives. Again, these are the types of issues that are not visible in published plans but important to understand if further integration is to be supported. The findings can be split into two generic governance and two specific water management challenges. Firstly, there are two generic challenges, respectively associated with the vertical and horizontal axes of governance. Participants highlighted the need for a strong national level vision for integration to guide work at the regional and local levels, combined with monitoring integration and sufficient resources allocated to implementation. There is

also the need for good cross-departmental or cross-organisational working, breaking through 'silos' and communicating across disciplines or professional cultures. Again, this requires energy and effort to overcome these barriers, which may be more difficult at times of resource constraint leading to smaller teams with larger workloads.

The more specific challenges refer to NWRM and public perceptions. Participants identified NWRM as one of the main ways to achieve integration (see below on examples) but felt that often there was insufficient evidence to select these measures over other types of measures; and that NWRM required more investment in coordinating catchment stakeholders, making them more difficult to implement. Finally, flooding is a visible and political problem whereas water quality tends to be a less visible and less emotive problem. This manifests itself as making conventional flood management solutions more attractive as they offer more certainty, compared to NWRM. Thus whilst public and stakeholder engagement can facilitate more integration, in this case they can also act as a barrier. These challenges are reflected in the water quality and flood management literature, so it is unsurprising that they also act as a barrier to integration of these two issues.

Our participants identified many enablers that they felt could help integration. Firstly, there was lots of discussion of how to enable vertical and horizontal team working within organisations; and partnership working across organisations. This requires strong communication, effort and energy, and needs to be led by individuals with team building skills. Despite the challenge of fulfilling these requirements teamworking and partnership working were also seen as both achievable and desirable. Interestingly, many felt this outcome could be achieved with existing structures, rather than completely restructuring teams or departments. Related to this, it was universally agreed that data and knowledge sharing was crucial for integration. Specific procedures and technical tools are required to enable this sharing; also commitment and motivation. Participants were clear about how useful it was to not only share data but also learning and interpretation of these data. Some participants felt that concepts like natural capital or ecosystem services aided this learning and sharing process whilst others found the terminology off-putting, especially when working with the public and other stakeholders. Public engagement was seen as essential and linked to integration – both so the public understood the water environment and how it was managed; and to encourage the public to take responsibility for living with the risk of flooding.

Although many ideas about enablers were shared across interviewees, discussions about enablers particularly highlighted how context can affect what is judged as relevant. Firstly, most of the UK administrations were very keen on ensuring subsidiarity and retaining flexibility to approach integration in different ways; but this was not mentioned in Flanders or Sweden interviews. Secondly, the Flemish interviewees also suggested they thought full legal integration was driving positive integration outcomes; but other interviewees seemed to advocate for more informal, coordinated approaches. We suspect these differences reflect the different historical and institutional settings; but they illustrate that initiatives for integration will need to be tailored to the context. For example, in Sweden, initiatives to implement new directives must be adapted to connect with and complement a legacy of decentralised decision-making.

Our data illustrates some examples that may be useful resources for all those seeking to further integrate WFD and FD. The examples fell into two categories – administrative

processes and projects. Firstly, the administrative processes identified were: (a) national-level structure, guidance or requirements for integration; (b) improving coordination across teams and levels; (c) sharing data and expertise; and (d) enabling local or catchment-level action and pilots. It was interesting that our interview data did not draw much attention to either shared consultation processes or Strategic Environmental Assessments, which came out as strong examples in the survey. This difference might occur due to the different stage in the planning cycle: the survey was carried out when the consultation and SEA phase of planning were quite recent, whereas the interviews were carried out in the following year. It is also possible that tangible outputs and formal processes were reported in the written survey feedback but the interviews allowed more space to discuss procedural or informal aspects of integration. Secondly, the examples of projects or pilots where integrated flood and water quality objectives were being pursued. In some cases, these were cross-boundary basins involving other member states; but more often they were smaller-scale catchment management initiatives. These project examples can feed innovation from the grass roots back up to national or regional level planners. Therefore, both processes and projects can and should interact, to mutually support each other and improve the overall implementation journey.

Conclusion and next steps

This report offers a snapshot into the processes and examples relevant to improving FD and WFD integration, derived from the insights of those implementing RBMP and FRMPs in 6 cases. It is interesting that the experiences and ideas discussed in interviews tend to focus on relatively invisible procedural aspects of integration, whereas written responses to surveys and the content of plans have focused more on integration via formal procedures such as statutory consultations and Strategic Environment Assessments.

Our findings demonstrate that making progress with integration requires effort at national, regional and local levels: relying solely on national-level visions is unlikely to achieve much change for integration; yet conversely it is unreasonable to expect regional or catchment management to make significant progress without support. Although context clearly affects what is seen as relevant – particularly the legacy of prior approaches to water management – a strong shared theme for all interviewees was the importance of coordination, communication and partnership working. This suggests that others who wish to improve integration should also focus on this. However, it is interesting to reflect to what extent achieving integration depends on fostering good coordination and communication – is this alone sufficient to achieve integration? In autumn 2018 the authors will further consider the implications for understanding and achieving integration in water management, and will develop an academic paper on this subject. Please contact us if you would like to find out more or discuss these ideas.

This study focussed only on a small sub-set of the wider EU experiences; and only interviewed a sub-set of those involved in integrating the plans and delivery of WFD and FD. Therefore, we can only offer a partial insight into how integration is being discussed and practiced, as an early 2018 snapshot. There are several avenues of potentially-relevant research: with other Member States, as well as revisiting these cases in the future to see if their future activities achieved the desired outcomes. There are opportunities to do more in later cycles but there is also a need for this work to be fully recognised, documented, and evaluated. This will improve our understanding of how to integrate the WFD and FD, and more broadly offer insights about useful ways to integrate other considerations and goals.

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Please visit <http://www.hutton.ac.uk/research/projects/exploring-international-experiences-integration> to view progress and other outputs from this project.



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Annex I: Goals of the Floods Directive (FD 2007/60/EC) & Water Framework Directive (WFD 2000/60/EC)

Taken from <http://ec.europa.eu/environment/water/>

The WFD aims to protect and restore clean water across Europe, and ensure its long-term and sustainable use. Action to achieve this is organised around achieving the 'good ecological status' of water bodies within river basins. Member States are required to assess the status of all water bodies, and use this information to make plans for each basin. The plans encompass inland surface waters, transitional waters, coastal waters and groundwater, and also incorporate pre-existing directives on bathing water, drinking water, nitrates pollution control, wastewater treatment and nitrates.

The main aim of the FD is "to reduce and manage the risks that floods pose to human health, the environment, cultural heritage and economic activity". It requires Member States to assess and identify the river basins and associated coastal areas at risk of flooding; produce flood risk maps for these zones and flood risk management plans focused on prevention, protection and preparedness. It applies to inland waters and all coastal waters. Member States should take a long-term perspective, considering climate change, as well as sustainable land use practices.

The FD specifies that it should be implemented with the WFD, principally by coordinating the flood risk management plans and river basin management plans, and also through coordination of the public participation procedures during preparation of those plans. There is also a requirement to coordinate with other countries where river basins are shared, and not to undertake measures that would increase flood risks in other countries.

Annex II: Topic guide used as the basis for semi-structured interviews

Section 1: Biographical issues, career history

- Professional career to date
- Current role and responsibilities
- Extent of involvement and role in planning

Section 2: General views on integration, and opportunities and challenges

- In your view, to what extent is Floods Directive (FD) - Water Framework Directive (WFD) integration important?
- How could we judge what 'good' integration looks like?
- What would this mean for water management practices and policy delivery?
- To you, does integration imply something different to coordination or alignment?
- On the scale [shown] where do you think your country sits in terms of WFD and FD integration?
- What are the challenges to integration? How do you deal with/ have dealt with these challenges?
- Some of the people we have talked to have identified a range of challenges [list updated between interviews]. Have you encountered any of these challenges in your country?
- What are the main opportunities for improving FD-WFD integration?
- What would need to change in order to enable more integration?
- Are other priorities more important for helping to achieve FD and WFD goals?

Section 3: Why plans may or may not show signs of integration

- What specific parts of the planning process may (or may not) allow connections?
- Is there evidence of integration in other plans or documents for water management (e.g. smaller-scale plans)?
- Are there examples or initiatives for integration that are not (yet) reflected in the formal plans? If so what, how did this occur?

Section 4: About the future

- In this section we would like to discuss what the next steps might be. In general, what are your priorities in implementing the current plans?
- What are your priorities for the next cycle of planning?
- Do you foresee any actions or changes to enable integration in future? If so what? Why?

Debrief / next steps

- Any other questions that we should have asked you? Do you have any questions for us?
- Any suggestions about who else to interview about this plan, or who we should talk to at the regional level?
- After we have completed our interviews, we will collate and analyse the material and draft a report for stakeholders and other interested researchers. We will then write a scientific paper and accessible briefing. These outputs are due in 2018. We may also present and discuss our key findings at Working Group F, if invited. We would like to send you a summary of our draft results (in summer 2018) for your information and comments, if you wish to comment. Would you be willing to stay in touch with the project and find out about our progress and outputs?