Insights from international experiences of integration: Findings from a content analysis of selected European plans for water management

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Executive summary

This report describes if selected plans for water management show evidence that goals for flood risk management are being integrated with those for improving 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.

We carried out a document analysis for 6 contrasting sets of plans from across Europe. These range from single plans that cover multiple countries (the Rhine) through to multiple plans made for one country (e.g. the UK). Our analysis was informed by studies of related concepts– such as coordination – and the ideas of 'Working Group F' on Floods. This group, part of the Common Implementation Strategy for Europe's Water Framework Directive, has previously identified a number of expectations about how to enable planning that can integrate water management goals.

For each case we studied River Basin Management Plans (RBMPs) – which are designed to support management for water quality – and Flood Risk Management Plans (FRMPs). By studying the content and structure of these plans, we searched for references to the content or name of the other policy. It is important to note that this simple method can give only a partial view of whether integration is occurring, and may miss other connections made in practice or represented in other documents. Nevertheless, if integration is achieved, we would expect it to be evident in these plans.

We found that these plans are quite heterogenous, and organised in ways that do not always match the recommendations made by the European Commission. This makes it challenging to directly compare the plans, and may also pose challenges to integration (for example where FRMPs and RBMPs are not created for the same spatial units, or are lead by different Coordinating Authorities). Although the plans often do make references to other plans and concepts (for example – most FRMPs refer to RBMPs and water quality) these references are often brief and lack detail. This lack of coverage suggests that further progress is required in order to properly integrate planning for different goals. It is possible that the ongoing cycles of planning will allow this to occur: however, this should be tracked to ensure substantive progress actually is made. Furthermore, integration of plans is by itself not necessarily indication of integration in practice, so other approaches will be needed to understand experiences and processes that are not captured in official reports. The next steps in our research will use complementary methods to address this.

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In this document, superscript numbers are used to indicate the references listed on page 21.

List of acronyms

CA	Competent Authority
CIS	Common Implementation Strategy
EA	Environment Agency, UK
FD	Floods Directive
FRMP	Flood Risk Management Plan
NRW	Natural Resources Wales, UK
NWRM	Natural Water Retention Measures
RBD	River Basin District
RBMP	River Basin Management Plan
SEPA	Scottish Environment Protection Agency, UK
UoM	Unit of Management
WFD	Water Framework Directive

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Introduction

This section summarises why it is relevant to study and promote integration, and synthesises key ideas already discussed by European policymakers. We are studying this subject in response to Scottish Government interest in the subject[1], but the topic is relevant across all countries. We are particularly keen to learn from – and if possible eventually inform – the ideas of Working Group F on Floods and those involved in the Common Implementation Strategy for the Water Framework Directive.

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'[2] and 'Integrated Water Resources Management'[3]. It is commonly expected to help avoid unexpected consequences or side-effects[4], to develop the effectiveness and efficiency of policy implementation[5], and even improve the equity of these outcomes[6].

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 arise[7]. 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"[8] – a vague concept that does nothing to help us achieve new ways of working.

Based on our ongoing review of policy, academic and grey literature, it seems many see integration as very similar to coherence, collaboration and/or coordination[9]. Some equate it with being holistic[10]. Several refer to integration of different knowledges, potentially related to participation[11]. Others use it to refer to trying to balance the provision of societal benefits as well as environmental benefits[12], or in terms of integrating a new issue or goal into an existing main process or way of working[13]. In particular, several sources call for Climate Change mitigation to be integrated into planning for water management[13]. 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 summarises the existing bodies of knowledge that we can build on.

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

To learn more about integration, there are four sources of information and experience that can help us:

1. Building on 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, Working Group F has explicitly discussed experiences and ideas for integrating delivery of the directives. These were summarised and documented in 2014[14]. An overview of the links between both these and other directives was recently produced in 2016[15].
2. Learning from existing academic studies of integrating the WFD and FD in other countries. Only a handful of studies have considered this question, and have either been focused on different settings, such as Germany [16], or focused on specific issues, such as participation[17]. Therefore they do not provide a clear blueprint for studying the subject, nor a complete set of ideas of how to enable integration.
3. Collating ideas from academic theories and concepts related to integration, studies of the integration of other environmental policies[18] and related or supporting concepts such as coordination, participation and/or institutional interplay for water management [17; 19; 20] and environmental governance[21; 22]. Our review of this literature will include all relevant ideas and will not be limited to the European Union. As with the academic studies focused on the WFD and FD, the focus of these papers is often on *why* to integrate but not *how* to integrate.
4. Learning from practical examples of Integrated Water Resources Management or Integrated Catchment Management at the catchment scale in academic literature from across the world, at least 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 via the member state level.

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 can identify 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 Report[23], flooding was not even mentioned once. However, since the adoption of the Floods Directive, integration between the FD and the WFD has become an strong focus. Implementation reports now jointly report on progress for both directives.

The clearest view of the rationale for integrating FD and WFD, and how this can be achieved comes from two 2014 reports[14; 24] based on the work of the European Commission's Working Group F. This is 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 2014[24] are provided in the following box.

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

We reviewed the content of selected RBMP and FRMP plans from across Europe, searching for cross-references that could act as indicators of integration.

Selection of case studies

In the last decade hundreds of RBMPs and FRMPs have been created by Europe's member states. We could not review all these plans, partly due to the constraints of our resources (time and language expertise), and also because not all member states had complete sets of their plans publically-accessible.

We aimed to review plans from contrasting European countries or regions. We favoured countries where there were two cycles of River Basin Management Plans published, as well as Flood Risk Management Plans: that allowed us to compare if and how the two types of plans referred to each other. Firstly, we selected UK plans, since we are based in Scotland and our overall research project aims to identify lessons to inform Scotland. The Scottish Government's legislation requires appropriate consistency and coordination between the FD and WFD with the production of reports to be aligned and integrated where possible. (We separated the analysis of Scottish plans from other UK plans, but for the purposes of this report they are presented together.) Secondly, we selected plans that spanned a geographical range across Europe (e.g. Spain versus UK). Thirdly, we selected plans that were expected to be good examples of integration, either because the drafting and consultation processes of the FRMPs and RBMPs have been formally integrated (e.g. Flanders), because they have experience of coordination for transboundary management (e.g. Rhine) or because they have experience of coordination across basins (e.g. Czech Republic). Lastly, we selected Sweden since it has several biogeographical similarities with Scotland, and we received a personal recommendation to study it.

Table 1 on the next page summarises the cases studied. These range from single plans spanning many states (Rhine), to regional (Flanders, Belgium), and multiple plans within one state (e.g. Spain).

Analysis of the cases

The analysis is based on the initial questions that were drawn from the review of relevant literature, and feedback from Scottish Government and agency stakeholders[1] together with the existing European Commission documents on water policy integration [24; 25].

We analysed these plans using queries for selected terms that we expected to act as indicators of the extent to which the plans referred to each other. Within River Basin Management Plans we searched for: (i) Flooding, (ii) Flood Risk Management Plans, and (iii) Floods Directive. Within the FRMPs we searched for (i) Water quality, (ii) River Basin Management Plans, and (iiii) Water Framework Directive. In each language we used and aggregrated all relevant search terms (e.g. there can be many words that signify 'flooding'). 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. Note this means that our results are not the same as a simple word count: if words related to "flooding" occur three times within one paragraph, we count that paragraph just once.

We studied the paragraphs in which these terms occurred to understand how the concepts were being used and discussed; we also considered the structure of the reports. For example, if a concept occurs only in an footnote, that could be interpreted to mean it is less important than a concept that occurs in a main section of a report.

Table 1 The number of published management plans analysed for each case in our study.

Czech Republic	• 3 x 1st cycle RBMPs • 3 x 2nd cycle RBMPs • 3 x FRMPs
Flanders	• 2 x 1st cycle RBMPs • 2 x 1st cycle RBMPs incorporating FRMPs
Rhine	• 1 x 1st cycle RBMPs • 1 x 2nd cycle RBMPs • 1 x FRMPs
Spain	• 24 x 1st cycle RBMPs • 18 x 2nd cycle RBMPs* • 17 x FRMPs
Sweden	• 5 x 1st cycle RBMPs • 5 x 2nd cycle RBMPs • 17 x FRMPs
UK	• 16 x 1st cycle RBMPs • 16 x 2nd cycle RBMPs • 28 x FRMPs

* Note that we have only studied finalised plans available by October 2016: therefore the number of plans we study may not always match the total number of river basin districts in some countries. In particular:

- UK also produces a plan for Gibraltar but we excluded it our analysis as its final 2nd cycle plan had not yet been published.
- Some countries had not published all their 2nd cycle plans: this explains why in Spain we analysed fewer 2nd cycle than 1st cycle plans, since at the time of review they had not published 2nd cycle plans for the Canary Islands.
- Similarly, although Sweden manages flooding using 18 areas of Significant Flood Risk, we could not find the FRMP for Karlstad, so our analysis is for 17 FRMPs.

Limitations of our methodology

This methodology is based on the assumption that the presence (or absence) of a term, reflects the importance (or unimportance) of WFD-FD integration in that plan.

We have only used certain terms (e.g. water quality) – it possible that other terms could also act as relevant indicators of integration. Furthermore, when working in non-native languages we have always used multiple search terms, to detect all possible translations of a concept: however, it is possible we have overlooked some variants.

Our findings only reflect what is published in final plans, whereas we realise that integration may well take place without being formally documented. In future, the findings reported here will be complemented by surveys and interviews to achieve a richer understand of integration for water management.

We can only detect cross-references made in final published plans: we would not detect references in annexes or guidance documents published separately (though we note the main documents we studied did not refer the reader to annexes as containing these cross-references). We also did not study lower-level or informal plans (e.g. made for sub-basins).

Lastly, please note that the diversity of the plans (in terms of their scale, and in the format of 1st and 2nd cycle reports) limit the extent to which we can compare the reports in numeric terms. Where there is a large difference we can be confident it represents a difference: however, it is not always appropriate to solely report this difference in numeric terms (e.g. in terms of number of references or percentage coverage).

Themes used to report results

Based on our literature review[1] we identified a number of reasons why better coordination is expected: these ideas have structured the results section.

- The legal instruments of member states are expected to support and enable integration. Planning and management under both Directives should 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.
  - We ask whether FRMPs and RBMPs share the same boundaries – see section 1).
  - We ask if the RBMP and FRMP processes are led by the same competent authorities see section 2).
  - We ask if the processes of developing and reporting the plans show signs of integration or coordination – see section 3).
- Integration is expected to improve the efficiency of the implementation of measures and to increase 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. Furthermore, many stakeholders expect that an integrated approach will be taken.
  - We ask if and how cross-references are expressed in FRMPs and RBMPs – see sections 4), 0 and 6).

Results

1) Are boundaries shared by FRMPs and RBMPs?

According to page 12 of the European Commision's 2014 report[24], the majority of Member States have chosen "the default option" i.e. to use the WFD RBDs as the Units of Management (UoM) for the implementation of the Floods Directive. Having UoMs with shared boundaries is expected to aid integration.

This Commission's report noted 2 exceptions: Italy has 8 WFD RBDs and 51 FD UoMs; Ireland has 7 WFD RBDs and 26 FD UoMs. In both cases measures have been made to promote coordination between RBMPs and FRMPs: Italy has a number of Competent Authorities (CAs) at national and regional level to manage the UoMs and ensures coordination with the CAs for the WFDs RBDs; Ireland is ensuring coordination by implementing the FD through contracts at the level of the WFD RBDs, with each

incorporating the respective FD UoMs. Varied institutions and approaches to planning may add complexity to attempts to compare progress or share insights about integration.

Our data (Table 2) suggest that these are not the only member states where the UoMs are not identical for RBMPs and FRMPs. Where there are differences, these may occur for very sensible reasons: for example in Scotland (UK), most of the country is officially one River Basin District, but management is more easily organised using smaller UoMs. Our research therefore indicates unexpected heterogeneity in the scales used for planning FRMPs and RBMPs. This is not necessarily a problem: however, if sharing boundaries aids coordination and integration, different boundaries could exacerbate the challenges of coordination.

Table 2 : Desciption of the Units of Management used for RBMPs and FRMPs in our cases

***Czech Republic**: Yes. There are 3 river basin districts, and these are used as the UoM for both the RBMPs and the FRMPs. However, as well as the three national RBMPs, the Czech Republic has International RBMPs for the three river basins, and sub-basin RBMPs.*
***Flanders:** Yes. This happens automatically because the second cycle RBMPs incorporate the FRMPs. There are 2 UoMs, corresponding to the Flemish portions of the Schedlt and Meuse IRBMPs.*
***Rhine:** Yes. The 1 FRMP is made at the scale of the whole of the Rhine basin, as is the IRBMP for the Rhine.*
***Spain**: Yes. Spain has 25 water basin districts, which are the unit of management for both the RBMPs and the FRMPs.*
***Sweden**: No. Each of Sweden's River Basin Districts comprise many different catchment areas. Flood maps were made for prioritized rivers covering Sweden, including all River Basin Districts.The FRMPs were written focused on the 18 catchment areas that were identified as Areas of Significant Flood Risk.*
***UK:** Partially. FRMPs in England ,Wales and Northern Ireland are made using the RBDs, but Scotland (which has 2 RBMPs) makes flood risk management plans (which it calls Flood Risk Management Strategies) at a smaller scale. Scotland's FRMPs are created at units that are related to the sub-basins that were used to plan within Scotland's two main RBMPs. However, the UoM for FRMPs are not quite identical to these (e.g. Argyll and North Highland are one unit for area-based River Basin Management Planning, but correspond to 2 different FRMPs). As a result, there are 16 RBMPs for the whole of the UK, but 28 FRMPs.*

2) Do the same competent authorities create the RBMPs and FRMPs?

According to page 13 of the European Commision's 2014 report[24]: "The FD states that Member States shall make use of the WFD arrangements in WFD Article 3. However, FD Article 3(2)(a) allows for the definition of different Competent Authorities (CA). Whilst most Member States have the same CAs for FD and WFD, the number of CAs for the FD compared to the WFD do vary in some Member States".

Different CAs clearly shape the content of plan. In cases where a set of FRMPs or RBMPs shared a single CA, the relevant text within each plan is often very similar or identical. We also found, in these cases, that the focal concept is being referred to in quite a generic way,

often in introductory sections or annexes. The effect of the CA on plan content is particularly clear in Spain, where groups of plans made by one CA show similar patterns in their structure and coverage of flooding topics.

Table 3 : Description of Competent Authorities (CAs) that coordinate planning, and whether they are the same for RBMPs and FRMPs.

Czech Republic: *Yes. The CA for both FRMPs and RBMPs is the Ministry of Environment together with the Ministry of Agriculture. From the Ministry of Environment's website it appears that a Water Protection Agency practically coordinates both the RBMPs & FRMPs.*
Flanders: *Yes. Its "Committee on Integrated Water Policy" (CIW) is responsible for delivering both the WFD and FD, via one plan that is both the RBMP and FRMP.*
Rhine: *Yes. The "International Commission for the Protection of the Rhine" is responsible for preparing both the Internationally-coordinated RBMP and FRMPs.*
Spain*: Yes. The CAs are the same for each RBMP and its corresponding FRMP. However, note that the CA is not the same across Spain[26]. There are 25 RBDs in total: 11 are inter-regional basins, led by "Hydrographic Confederations" from the Ministry of Agriculture, Food and the Environment; 13 are intra-regional basins, with Regional Administrations as their CAs; and 1 is jointly managed centrally and by a Regional Administration.*
Sweden: *To some extent: the competent authorities are different for the WFD and FD, but the production of plans under both the WFD and the FD involves the same regional-level organisations. For the 1st cycle of planning under the WFD, for each of Sweden's 5 River Basin Districts, a County Administrative Board was designated as a Water Authority with the responsibility of producing a RBMP. In 2011 the Swedish Agency for Marine and Water Management was created, which is now responsible for the implementation of the WFD and guiding the five regional Water Authorities to produce the 2nd cycle RBMPs. The Swedish Civil Contingencies Agency is the single competent authority responsible for the FD. This works in cooperation with the different County Administrative Boards that produce FRMPs for the 18 catchments which encompass an Area of Significant Flood Risk.*
UK: *Mostly. In the UK the CA is usually but not always shared by RBMPs and FRMPs: it depends on the devolved administration.* •*In England, the Environment Agency (EA) is responsible for all RBMPs and all FRMPs.* •*In Wales, the Environment Agency was responsible for 1st cycle RBMPs. In the 2nd cycle the RBMP for Western Wales is led by Natural Resources Wales (NRW), whilst the management of the Severn and the Dee is jointly led by NRW and the EA. The FRMPs for Wales follow the same pattern: the Western Wales plan is produced by NRW alone, whilst the Dee and Severn FRMPs are jointly produced by NRW and the EA.* •*In Northern Ireland, 3 RBMPs were led by the Northern Ireland Environment Agency. By contrast, the FRMPs were produced by the Rivers Agency, which was part of the Department for Agriculture and Rural Development.* •*In Scotland, the CA for both RBMPs and Flood Risk Management Strategies is the Scottish Environment Protection Agency (SEPA). SEPA and the Environment Agency (EA) jointly manage the cross-border Solway Tweed river basin district (RBD). There is one joint RBMP for this RBD, but for the FRMP the 2 agencies made 2 different plans corresponding to its English and Scottish portions.*

3) Is there evidence of integrated planning or reporting?

According the European Commision[24], RBMPs under the WFD and FRMPs under the FD are both expected to be elements of integrated river basin management. Furthermore, the Floods Directive recognises the need to coordinate the WFD and the FD. FD Recital 17 states that: *"The two processes should therefore use the mutual potential for common synergies and benefits, having regard to the environmental objectives of the WFD, ensuring efficiency and wise use of resources while recognising that the competent authorities and management units might be different under the FD and WFD".* Therefore it is reasonable to expect that member states have sought practical opportunities to encourage or require coordination or connections during planning, for example in appraisal processes, consultations or even through the reporting i.e. via one joint plan under both directives.

In our study we deliberately chose one of our cases – Flanders – because it is known to have a single plan incorporating the FRMP and RBMP. As far as we are aware no other member states have chosen to do this. However, some states have linked parts of the FRMP and RBMP planning processes.

Table 4 describes the links we are aware of in our cases, based only on the reports. It is important to note that planning processes may be interconnected, but this may not be evident from the content of the plans themselves. Detecting any connections in processes will be better addressed through next steps in our research, that do not focus solely on the plans.

The plans do make reference to some links between processes– i.e. via shared consultation processes. These are worthwhile but relatively easy or minor portions of the process. If there are few other initiatives to connect the planning processes, then more effort is likely required before planning processes can be said to be deeply and fully integrated.

Table 4 : Evidence of coordination or links in the process of creating plans in our cases

Czech Republic: *There is some integration in planning. Instead of transposing the FD into a separate law, the Cezch Republic created an amendment to its Water Act (Decree no. 393/2010 and Decree no. 24/2011) which transposed the WFD into domestic law. Being enacted via one piece of legislation may assist coordination of implementation. Correspondingly, there were interactions during the creation of the RBMPs and FRMPs: for example, information created during the creation of the FRMP was used to help the creation of the 2nd cycle RBMPs. The 2nd cycle RBMPs and FRMPs followed joint submission processes and public consultation schedules.* *There is no integration in reporting: RBMPs and FRMPs are reported separately.*
Flanders: *Yes there is integration in planning. The Flemish decree on Integrated Water Management integrates the drafting and reporting processes of FRMPs with RBMPs. The 2nd cycle RBMPs incorporate the FRMPs. However, it is worth noting that the structure of these is quite similar to the 1st cycle reports, so the WFD could be interpreted as the stronger influence on these plans.* *There is integration in reporting: the FRMP and RBMP are combined in one document.*
Rhine: *We have no evidence from the documentation of integration in planning.* *There is no integration in reporting: the IRBMP and IFRMPs are reported separately.*

***Spain**: There is some integration in planning. The Spanish law on water (Art. 42, Real Decreto Legislativo 1/2001) states that RBMPs must contain criteria about studies and measures to prevent damages from floods. Furthermore, many 2nd cycle RBMPs and FRMPs followed a joint strategic environmental evaluation as well as a joint public consultation.* *There is little integration in reporting: RBMPs and FRMPs are reported separately, however, two of the 2nd cycle RBMPs include the corresponding FRMP as an annex.*
***Sweden**: Some FRMPs contain a chapter on WFD cooperation that states the plans are made in parallel cycles: some of these also mention coordinated consultation processes. RBMPs and FRMPs are reported separately. Some of the FRMPs state that reports to the EU will be coordinated regarding the WFD and the FD, so information will not be repeated in different reports, instead cross-references to actions will be provided.*
***UK:** There are some signs of integration in planning. The Scottish Government's legislation (e.g. in the Flood Risk Management (Scotland) Act 2009) specifically requires coordination between the FD and WFD. There is some coordination in stakeholder engagement: in England the Environment Agency issued a joint response to its concurrent consultations on the 2nd cycle draft RBMPs and draft FRMPs. Scotland used stakeholders to its Area-level RBMPs to build early engagement in the FRMP process.* *There is no integration in reporting: RBMPs and FRMPs are reported separately.*

4) Do the RBMPs refer to flooding or flood risk management?

We searched for references to flooding, FRMPs and the Floods Directive, using these terms as indicators of the extent to which consideration of flooding is integrated within the RBMPs. The Floods Directive become law in the period between the creation of the 1st and 2nd cycle RBMPs (assuming those plans were created as per schedule). Therefore we would expect to see more references to these concepts in the 2nd cycle plans, spurred by the Floods Directive.

a) Do RBMPs mention flooding? Are there more references in 2nd cycle RBMPs?

Flooding is mentioned in all RBMPs. It is usually (but not always) mentioned more often in 2nd cycle RBMPs (Table 5), but the Floods Directive does not seem to have prompted a substantive increase in the type or depth of attention given to flooding. Indeed, some references to flooding merely note this issue it is dealt with separately by the FRMPs.

Table 5 : Description of how flooding is referred to in the 1st and 2nd cycle RBMPs

***Czech Republic**: Flooding is mentioned, on average, in 28 paragraphs in each 1st RBMP, and in 99 paragraphs in each 2nd cycle RBMP. Flood risk management measures are not much mentioned in the main RBMPs that we studied, though the commission have noted[27] that in sub-basin plans some separate technical measures to mitigate flooding (mostly new dykes) were included in the programmes of measures. One reason that flooding is not often mentioned, is because it is rarely cited as a reason to designate Heavily Modified Water Bodies (so as to exempt a waterbody from the target of Good Ecological Status). Although this produces lower coverage of flooding within the RBMPs, it indicates a positive initiative to try to tackle the WFD's goals without assuming that modifications for flood risk management must always take precedence.*

***Flanders**: Flooding is mentioned in 152 paragraphs across the two 1st cycle RBMPs, representing 2.7% of the Meuse and 2.5% of the Schedult report. In the 2nd cycle RBMPs flooding is mentioned nearly twice as often: 282 times in total, representing 4.71% and 4.47% respectively of the Meuse and Scheldt plans. Versus other cases, the 1st cycle plans give relatively high coverage to flooding: this is probably because much of Flanders is at risk of flood damages, and there is a long-standing focus on tackling flooding. The higher coverage in the 2nd cycle is because the 2nd cycle RBMPs are also the FRMPs.*
***Rhine:** Flooding is mentioned within 28 paragraphs within the 1st cycle RBMP (2% of the total report). It is mentioned slightly more often in the 2nd cycle, 38 times (2.44% of the total report). Flooding is most often mention in connection with explanations about why waterbodies have been modified (e.g. to build dykes as flood defence measures). There is a small note about how measures to restore river continuity and habitats might also bring benefits to flood risk management: however, tackling flood risk management is not seen as the responsibility of this plan. The 2nd cycle RBMP explicitly defers to the Flood Risk Management Plan.*
***Spain:** Flooding is mentioned on average, in 51 paragraphs per 1st cycle RBMP, representing on average 1.4% of these reports. In the 2nd cycle RBMPs flooding is mentioned more often: on average 157 times per RBMP, but since the reports are also longer this still represents only 1.8% of the reports.* *Flooding is quite an important issue in Spain: according to the Commission's report on the progress in implementation of the Floods Directive, Spain is the country that reported the largest number of historic flood events (6,165)[28], and floods are the natural disaster that creates the most damage in Spain (800 million euros a year)[29]. Overall, flooding is mentioned more often in the 2nd cycle, but in some RBDs the coverage is actually lower. By the time the 1st cycle RBMPs were adopted (2012), the Floods Directive had already been transposed into Spanish law (Real Decreto 903/2010, de 9 de julio, de evaluación y gestión de riesgos de inundación), so this may have promoted consideration of flooding in both the 1st and 2nd cycles. However this would not explain why some plans have a lower precentage coverage in the 2nd cycle. It is worth noting that three plans for which this occurs (Andalucia, Tinto Odiel y Piedras, and Guadelete y Barbate) all share the same CA.*
***Sweden:** Flooding is mentioned in each of the five 1st cycle RBMPs, representing an average coverage of 0.5% coverage across the five reports. In those plans flooding is referred to mostly in relation to climate change causing an increase in flood risks, and by stating the need to include flood risk management and the work under the FD in the 2nd cycle RMBPs. The 2nd cycle RBMPs mention flooding much more often: an average of 40 times per report, representing an average coverage of 1.56%.*
***UK**: In the 1st cycle, flooding is mentioned on average 29 times per RBMP, representing 2.6% of these reports. In the 2nd cycle, the concept is mentioned twice as often in each report (on average 63 times) but the percentage coverage grows only slightly (to 3.0%) as the whole reports are also longer. Some variation in coverage across plans reflects different CAs: for example, in the two plans made for Scotland, the coverage actually declines from the 1st to 2nd cycle (from 4.13% to 3.14%). It is unclear why this occured.*

b) Do RBMPs mention the Flood Risk Management Plans or the Floods Directive?

In this search we focused on searching the 2nd cycle RBMPs, since the 1st cycle RBMPs were were already being created as the FD was created in 2007, and then subsequently transposed into national laws. Interestingly, we found that many 1st cycle RBMPs did refer to the FD or FRMPs – especially those plans that were published late, as in the case of Spain – but the detail and number of those references did not necessarily increase much in the 2nd cycle plans. In general references the RBMPs state that coordination with FRMPs is needed, but do give little or no detail about how this will be achieved.

Table 6 : Description of how FRMPs or the Floods Directives are referred to in the RBMPs

***Czech Republic**: Interestingly the 1st cycle plans refer to the FD twice and 2nd cycle plans refer to the FD only once. However, the 2nd cycle plans refer much more often to the FRMPs – 18 times each for the Danube and Elbe, and 20 times for the Oder. This is reasonable as we would expect detail cross-references to refer to other plans, not parent directives. The references to FRMPs are usually made within text that discusses the Czech Water Act (which enables the creation of River Basin Management Plans and Flood Risk Management Plans), and descriptions of the content of this law, which includes the specifications for public information and consultation, and the planning schedule for both RBMPs and FRMPs. The 2nd cycle RBMPs also include a section on "Objectives for reducing the adverse effects of floods and droughts".*
***Flanders:** The Floods Directive is mentioned 41 times across the two Flemish 2nd cycle RBMPs (average 0.47% coverage), whilst FRMPs are mentioned 23 times (average 0.32% coverage). It is interesting that the FRMPs are mentioned less often than the Directive, and may suggest that linkages are made only at high level. Interestingly, the FD is mentioned less often than the WFD (see figures reported in next section) even though the 2nd cycle reports are supposed to combine both the FRMP and RBMP reporting objectives.*
***Rhine:** The Floods Directive is mentioned once in the 1st cycle plan and 4 times in the 2nd cycle plan, whilst FRMP are mentioned 3 times only in the 2nd cycle plan. The very sparse mentions with FRMP may indicate relatively weak connections: each mention simply refers the reader to check the FRMP for measures to manage flood risk.*
***Spain:** Most of the 1st cycle RBMPs mention the FD (average 0.11% coverage) and FRMPs (average 0.094% coverage). When these were published, in 2012, the FD had already been transposed into Spanish law: as a result, most of the 1st cycle RBMPs included a section on FRMPs, usually stating that a FRMP must be produced by 2015. The 2nd cycle RBMPs usually mention the FD and FRMPs more frequently, but the coverage varies greatly between plans. For example, in Guadiana, FRMPs are mentioned 36 times, but in Guadalete y Barbate FRMPs are mentioned only 3 times. The RBMP for Tajo appears to make no reference to FRMPs. Most of the 2nd cycle RBMPs again state that the FRMPs must be produced by 2015, that they share objectives, and that there needs to be coordination between the plans, but provide less detail on how that is achieved.*
***Sweden:**The 1st cycle RBMPs all mention the FD between 4 and 10 times (average 0.16% coverage), while FRMPs are only mentioned only in one plan. This low coverage is reasonable given the Floods Directive had not yet entered into force when the first plans were published. The 2nd cycle RBMPs mention the Floods Directive twice as often (with an average coverage of 0.27%). All the 2nd cycle RMBPs mention FRMPs, in 5 to 16*

paragraphs (average 0.32% coverage). All RBMPs have a section dedicated to FRMPs, which includes a description of each of the FRMPs within that river basin district, the aims of the Floods Directive, its transposition to Swedish law, the competent authority and the steps to be taken for its implementation. All the 2nd cycle RBMPs also include a section on the interactions between water management and the Floods Directive, stating the need for cooperation in order to achieve synergies and minimize conflicts between the different objectives. Natural water retention measures are given as one way of contributing to this aim. .
***UK:** The Floods Directive is mentioned once in some but not all of the 1st RBMPs; this is reasonable given tht the Floods Directive had not yet entered into force when those plans were written. However, a similar pattern of coverage is seen in the 2nd cycle RBMPs. FRMPs are not mentioned in the 1st cycle RBMPs, but are mentioned 1-3 times in nearly all the 2nd cycle RBMPs. These cross-references are made in sections listing "Links to other major plans affecting water", alongside other plans and lead agencies. These sections contain no description of the content of the FRMPs nor detail on how connections will be made.*

5) Do FRMPs refer to management or goals for water quality?

To explore the extent to which FRMPs make reference to the goals and concepts of the WFD, we searched for references to "water quality", and also to RBMPs and the WFD. Other terms may also be relevant, but these terms were useful indicators of connection with the rationale and goals of the WFD.

a) Do the FRMPs mention the term "water quality"?

Water quality is mentioned in most but not all FRMPs. When it is mentioned it receives little coverage (Table 7). This suggests that the FRMPs have weak linkages with WFD goals.

Table 7 : Description of how water quality is referred to in FRMPs

***Czech Republic:** The water quality is never mentioned using the direct translation, and even a search solely for the term 'quality', reveals no results. However, water quality is alluded to in other ways, such as "ecological state of the water", "good state of water", "state of surface and ground waters". All three FRMPs use these terms in sections that discuss the aims of the RBMPs, coordination with the RBMPs, and the aims of the sub-basin management plans that supplement the RBMPs.*
***Flanders:** Flanders has combined 2nd cycle RBMPs and FRMPs, so we expect these reports to mention water quality since they are concerned with implementing the WFD as well as the FD. The coverage of the reports relating to water quality actually increases between the 1st and 2nd cycle (0.86% to 1.98%) which suggests that integrating the FD's requirements has not reduced attention to the WFD's goals.*
***Rhine:** Water quality is mentioned very seldom (only 3 times, 1.22% coverage of the report). Two of mentions are in introductory text that explains the history of water management in the Rhine (initially to improve water quality, later to manage flooding)*

and the other mention is in an annex listing the connections with other EU Directives. The main body of the report does not discuss the relationship between managing water flows and water quality.
***Spain**: Only 8 out of the 17 FRMPs mention water quality, and where it is mentioned it occurs seldom. However, all FRMPs refer to related concepts, such as "biological quality", "state of the water", "environmental quality". In fact, all the FRMPs have a section called "Environmental criteria and objectives specified in the RBMP".*
***Sweden**: The Swedish search terms for water quality (vattenkvalitet* and *kvaliteten på vatten) are mentioned one to three times in 12 out of the 18 FRMPs: in addition, some of the FRMPs mention once or twice related terms (e.g."miljökvalitetsnormerna för vatten" - environmental quality standards for water - and "kvalitet en vattenförekomst" - quality of a water body). In most FRMPs these terms are mentioned as part of a discussion about the aims of the WFD, whilst in some they appear as part of a general description of measures for achieving synergies between water management and flood risk management planning. Two FRMPs discuss this within sections on the impact of floods on the environment or on human health. In one case they are part of an appendix, "Environmental Assessment of the FRMP". Production of the 2nd cycle RBMPs was delayed, which may have limited the ability of the FRMPs to cross-reference them.*
***UK:** Water quality is mentioned at least once in all FRMPs. Its average coverage is not high (0.51%) but the plans for a few English, Welsh and Scottish UoMs mention it many times. The term occurs within descriptions of how measures will be selected and appraised: implications for water quality may be one of the appraisal criteria. Some measures are clearly holistic, and intended to benefit both water quality and flood risk management. For example, several Scottish plans describe 'Natural Flood Management studies' that aim to identify schemes that can benefit water ecology as well as reduce flood list. Since each plan lists many measures planned for different places, water quality can thus be mentioned many times. However, the majority of measures planned for flood risk management do not mention goals for improving water quality.*

b) Do the FRMPs mention RBMPs or the Water Framework Directive?

Most of the reports may mention the need to integrate with the other RBMPs, or to have regard to the WFD, but provide little or no detail about how this will achieved (Table 8).

Table 8 : Description of how WFD and RBMPs are referred to within FRMPs

***Czech Republic:** Yes, the FRMPs refer to the WFD and RBMPs. All of the FRMPs mention the WFD in 7 paragraphs per report, covering an average of 2.05% each. They mention the RBMPs more often – in 18 paragraphs for the Danube and in 17 paragraphs for the Elbe and for the Oder (3.08% coverage on average). Similarly to how the Czech RBMPs refer to FRMPs, most of the mentions of RBMPs and WFD regard the content of the Czech Water Act on River basin management plans and flood risk management plans, the stages in the flood risk management planning process, and the coordination with the river basin management planning.*
***Flanders:** Yes, the FRMPs refer to the WFD and RBMPs. As the 2 Flanders FRMPs are also the 2nd cycle RBMPs, it is reasonable to expect equal attention to both directives, and both*

types of plans. In fact, RBMPs are mentioned much often than FRMPs: across the two Flemish plans RBMPs are mentioned in 818 paragraphs (3.21% coverage) whereas the FRMPs are mentioned in 23 paragraphs (average 0.32% coverage). Similarly, the WFD is mentioned more often than the FD: the WFD features in 144 paragraphs (average 2.0% coverage) and the FD in 41 paragraphs (average 0.47% coverage).
Rhine: *Yes, the FRMP refers to the WFD and once to the IRBMP. The FRMP mentions the WFD much more than RBMPs (11 paragraphs or 2.82% coverage versus 1 paragraph or 0.44% coverage). The attention given to the WFD occurs because the report describes the legal responsibilities and policy goals of different collaborating countries – for example, Switzerland supports the FD and WFD but has no legal obligation to implement these directives. The one reference to the IRBMP occurs within Annex 9 (a listing of all other relevant EU directives) and gives no information about how delivery of the WFD may be connected or coordinated with FD.*
Spain*: Yes, the FRMPs refer to the WFD and RBMPs. All FRMPs include a section about "Links between the FRMP and the water basin planning process", stating the need to coordinate the 2nd cycle RBMPs and the 1st cycle FRMPs, making use of the synergies and minimizing weaknesses. That section also states that The Spanish law on water (Art. 42, Real Decreto Legislativo 1/2001) says that RBMPs must contain the criteria about the studies, actions and works for preventing damages by floods.*
Sweden*: 14 of the 17 FRMPs analysed mention the WFD (average 0.57% coverage), and 13 of them mention the RBMPs (average 0.78% coverage). Most of these include a section called "Cooperation with the WFD" or "Water Directive's link to the risk management plan" that discusses the aims of the WFD, and the need for cooperation between the different plans in order to maximise synergies, for example by using natural water retention measures.*
UK: *Many but not all FRMPs refer to either the WFD or RBMP. The WFD is mentioned in some plans but more than half of the FRMPs do not mention it at all. The FRMPs for England, Wales and Northern Ireland are quite brief, and it is possible that more connections with the WFD may be found with the substantial appendices. The Scottish FRMPs are longer and usually mention the WFD three times, at least within the glossaries. Plans more often make references to RBMPs, within descriptions of planned schemes/measures that are intended to benefit water quality.*

c) Do the FRMPs mention concepts relating to Natural Water Retention Measures?

Recent decades have seen increasing support for the idea of working with nature to 'slow the flow' of water so as to reduce the damages caused by flooding. These types of Natural Water Retention Measures (NWRM) often entail restoring and improving catchment connectivity and river morphology, and may entail measures such as buffer strips that can help improve habitat diversity. Therefore favouring these types of measures is often seen as one key way to help achieve the goals of the WFD[30]. Searching for these types of measure is not easy, as many countries use different terminology and many different actions are relevant. So, we focused on an exhaustive search of three of our cases with whose language we were fully fluent. We searched using many variations of terminology and phrasing, to scope if there was mention of this approach to flood risk management.

References to this concept often described relevant examples, and/or indicated plans to implement NWRM within Programmes of Measures. Understanding how these plans are specified may require followup to track specific Programme of Measures and tracking the actual schemes implemented for Priority Vulnerable Areas.

Table 9 : Description of if and how terms related to 'Natural Water Retention Measures' are referred to within FRMPs for the Rhine, Spain and UK

Rhine: *Yes this is referred to. Overall, 2.51% of the FRMP relates to water retention measures. Room for the River is the term most often mentioned. The introduction of the report says section 4 (on measures and approaches for Flood Risk Management) contains measures that are "win-win" for ecology and flood management. Approximately 1.5 pages of this 8 page section discusses NWRM. Furthermore, the commitment for member states not to increase the flood risk of other states may imply limitations on 'traditional' structural approaches to protecting places from flood risk, since these tend to increase downstream flood risk.*
Spain*: Yes this is referred to. All FRMPs mention this concept multiple times. All FRMPs mention NWRMs within the introduction: they are noted as a way of fulfilling the objectives of the WFD, as measures that will improve water quality, reduce risk, and provide capacity to absorb flooding. These plans also mention the concept in a section titled "Protected areas and Natura 2000 Network", where it is described as a way of contributing in an integrated way to the WFD, FD and Habitats Directive's objectives. NWRMs are included within lists of measures to be used in areas at significant potential risk of flooding, and also as indicators for monitoring the fulfilment of the programme of measures.* *The plans with the highest level of coverage are led by either the Confederación Hidrográfrica del Guadalquivir or the Andalucía Autonomous Region (in addition to Júcar). It is not immediately obvious why NWRM is more relevant to these regions, so this likely indicates the influence of the CA on plan creation and content.*
UK: *This is referred to in some plans. Whether or not this is mentioned seems to depend on the CA organising the plan: all the FRMPs produced by Northern Ireland's River Agency and by Natural Resources Wales mention it. All of Scotland's plans mention it a few times in an identical piece of text: in addition, several of schemes planned to reduce flood risk include 'natural flood management studies'. Most of the English plans do not appear to mention this concept, even when searched for using a wide variety of terms, though we can see that the planned measures and schemes for some of these plans refer to managed realignment, which can be seen as a coastal version of natural flood management. The English FRMPs are very short versus the plans of other UK regions and countries: information typically found in other FRMPs is often apportioned into Annexes for the English plans. This may explain why the English plans apparently give little consideration to the concept (for the sake of consistency we excluded any Annexes from our word counts).*

6) Overall, what can we say about how RBMPs and FRMP refer to each other?

a) What is the extent to which plans cross-reference?

In all cases, RBMPs and FRMPs nearly always refer to each other, but the link is not equally reciprocated. In general, the FRMPs make more reference to WFD RBMPs than vice versa. For example, in the Rhine, 2.82% of its IFRMP refers to the WFD, whereas only 0.12% of the 2nd IRBMP refers to the FD. Similarly in Spain, 2.7% of the FRMPs refers to RBMPs, whereas only 0.42% of 2nd cycle RBMPs refer FRMPs. Even in Flanders, where the 2nd cycle RBMPs plans are also the FRMPs, the WFD and RBMPs are referred to much more often than the FD or FRMPS: 818 paragraphs referred to RBMPs where FRMPs were mentioned only 23 times.

Why might this occur? The timing of the parent legislation may be important. Because the WFD predates the FD, so it may have become the more dominant influence on thinking and planning. Furthermore, the structure and content of the 1st cycle RBMPs – which generally predated the FD – may have strongly shaped the 2nd cycle plans, thus creating less room to fully consider the implications of the FD. Lastly, it is also possible that there is a genuine sense that it is more relevant for FRMPs to integrate with the RBMP, rather than vice versa. However, if so it is unclear why this would be the case. It would be interesting to explore further if this pattern holds more widely, and to use other evidence to understand why or why not this occurs.

b) What is the subject of cross-references between the plans?

Although RBMPs and FRMPS nearly always refer to each other, these references are often quite brief and lack detail. Most plans state that they should have regard to other directives or policies, and that the other type is relevant and should be integrated with: however, there is rarely any detail about how that integration will take place, or evidence of specific actions or mechanisms that will enable coordination when delivering the plan. One place we might expect to see tangible consideration of other goals is when describing the schemes and actions by which the policy goals will be delivered, and in the RBMP programme of measures – this did occasionally occur (e.g. as for schemes listed in some English FRMPs) but was often not evident in our data.

It is possible that the parallel development of the 2nd cycle RBMPs and 1st cycle FRMPs has not allowed for more indepth or specific linkages. Now that both types of planning process has become established, in future cycles there may be more opportunity to connect across them. It is also possible that the Local Flood Action Plans may contain more detail about measures that integrate multiple goals. It could therefore be interesting to track differences across cycles. It will also be valuable to track evidence of integration in other levels of planning. We trust that future plans will provide more evidence of specific ways in which integration can be operationalised in planning water management. The same is also true for plans that are more closely connected to specific places and regions. However, we may not find much evidence of integration in lower level plans, if higher-level plans do not provide a clear vision for how it may be achieved.

c) How are links between plans achieved?

In some cases there was evidence of shared or connected consultation processes, or some shared use of data. For example, in England the CA made a joint responses to concurrent consultations on FRMPs and 2nd cycle RBMPs, and in the Czech Republic information from the FRMPs was used to inform the 2nd cycle RBMPs. We would naturally expect this to eventually result in the final plans reflecting indepth coordination, although this pattern was not clear to us from our small set of cases.

Such coordinated processes are surely more likely to occur where the RBMP and FRMP process share the same CA. Different CAs can clearly have a strong effect on the content of plans, and the consideration given to integration. For example, one CA coordinates the Spanish FRMPs for 'Cuencas Mediterráneas Andaluzas', 'Guadalete y Barbate' and 'Tinto Odiel y Piedra'; out of all 17 Spanish FRMPs these 3 plans contain the greatest coverage of "River Basin Management Plan".

Transposition of the Floods Directive into domestic law often states the need for integration with the WFD. For example, in Spain, the *Real Decreto 903/2010* states that RBMPs must include criteria established in FRMPs, to prevent damage from flooding. Many of the 2nd cycle RBMPs followed a joint Strategic Environmental Assessment as well as joint public consultation. Most of the 2nd cycle RBMPs and all FRMPs state the need for coordination between the two plans, using synergies and minimising negative effects, and that they both share objectives, although these plans are still far from perfectly integrated. For example, the Commission's analysis on Spain's implementation of the 1st cycle of RBMPs observed that "*Most plans…include also measures targeted to protect against floods, though the type of measures (floodplain restoration, natural water retention measures, river channelling, dam infrastructure) cannot often be identified in the Programme of Measures, as these refer to more abstract concepts like "Extreme Hydrological Situations", "Flood Management" or "Measures to prevent and reduce flood impacts".*" We have reviewed the 2nd cycle RBMPs and found a similar pattern in these – i.e. evidence of only superficial linkages. However, some of these plans do now include measures of prevention and protection against flooding that are the same as those in FRMPs' programme of measures: this offers the best indication that some planning processes are giving specific and meaningful consideration to connecting goals for water quality and flood risk management.

Conclusion

European policy places a specific requirement for integration, which reflects and reinforces a trend to identify this as a general priority for water management. However, our assessment of selected plans suggests that so far there is still progress to be made in integration. Interestingly, there is also some indication that plans for flood risk management make more reference to the WFD and its goals, than vice versa. This may reflect that the WFD predates the FD, so has established processes and priorities that will require more effort to change. To better understand when and how integration is achieved in planning – and also in implementation – a mixture of methods should be used to track ongoing plans and practices.

Next steps

The initial research reported in here will, in mid 2017-2018, be complemented by other methods to understand integration for water management. Our simple content analysis of plans will not necessarily reveal all the links that have been made, nor those that are currently being considered. However, if processes of integration are occurring, we suggest they should be documented, since this will aid learning and self-reflection about the process of integration, and may assist stakeholders' to understand the plans themselves.

The next steps in our research will include simple surveys and interviews across Europe to build further understanding of the processes used to create these plans, which are not visible from our analysis of the formal plans. Accessing the expertise and experience of those involved in planning will provide richer insight into member states' planning processes and experiences of attempting integration.

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 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 pollutration 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 prespective, 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.