



LAWA

German Working Group on Water Issues of the Federal States and the Federal Government

Recommendations on Coordinated Application of the EU Flood Risk Management Directive and the EU Water Framework Directive

**– Potential synergies in measures, data management and
public consultation –**

Adopted at the 146th LAWA General Meeting, Tangermünde, 26/27 September 2013

LAWA Permanent Committee on Flood Protection and Hydrology (LAWA-AH)

German Working Group on Water Issues of the Federal States and the Federal Government (LAWA)

LAWA Permanent Committee on Flood Protection and Hydrology (LAWA-AH) with the participation of LAWA-AO and LAWA-AR

Spokesman: Lothar Nordmeyer, Mecklenburg-Vorpommern Ministry of Agriculture, Environment and Consumer Protection

Compiled on behalf of LAWA-AH by:

Meike Gierk/Federal Ministry of the Environment (Lead Responsibility)

Corinna Baumgarten/Federal Environment Agency

Dr. Ralf Busskamp/German Federal Institute of Hydrology (BfG)

Holger Dienes/Thuringia Ministry of Agriculture, Forestry, Environment and Nature Conservation

Borislava Harnos/Regierungspräsidium Stuttgart

Christian Leeb/ Bavarian State Ministry of the Environment and Public Health

Armin Müller/Rhineland-Palatinate Ministry of the Environment, Agriculture, Food, Viticulture and Forests

Dr. Uwe Müller/Saxon State Agency for Environment, Agriculture and Geology

Frank Nohme/Hamburg Ministry of Urban Development and Environment

Manuela Pfeiffer/Schleswig-Holstein State Agency for Agriculture, Environment and Rural Areas

Jürgen Reich/Baden-Württemberg Ministry of the Environment, Climate Protection and the Energy Sector

Published by the German Working Group on Water Issues of the Federal States and the Federal Government

Sachsen-Anhalt Ministry of Agriculture and Environment
Leipziger Strasse 4
39112 Magdeburg

© Magdeburg, 2013

Reprinting or reproduction in whole or part permitted solely with the authorisation of the publisher.

CONTENTS

- 1 PURPOSE AND STRUCTURE OF THE RECOMMENDATIONS..... 5
 - 1.1 Purpose of the recommendations.....5
 - 1.2 Structure of the recommendations.....6
- 2 GENERAL..... 7
 - 2.1 Substantive application of the FRMD and the WFD.....7
 - 2.2 European process 10
 - 2.3 National process 10
 - 2.4 FRMD and WFD objectives 11
 - 2.5 Potential synergies between the FRMD and the WFD 12
- 3 COMPARISON OF MEASURES UNDER THE FRMD AND THE WFD WITH REGARD TO MUTUAL EFFECTS 14
 - 3.1 General points and approach 14
 - 3.2 Assessment of measures in the LAWA List of Measures for relevance in terms of the other directive in each case 14
 - 3.2.1 Measures for implementation of the FRMD..... 14
 - 3.2.2 Measures for implementation of the WFD..... 16
 - 3.2.3 Classification of measures..... 16
 - 3.3 Synergies in FRMD measure prioritisation 19
- 4 IMPORTANCE OF INFORMATION EXCHANGE AND DATA MANAGEMENT IN THE APPLICATION OF THE FRMD AND THE WFD: GENERAL22
 - 4.1 European level22
 - 4.2 National level.....25
 - 4.3 Conclusions for data management in connection with developments in WISE and implementation of the INSPIRE Directive27
- 5 PUBLIC INFORMATION AND CONSULTATION AND ACTIVE INVOLVEMENT OF INTERESTED PARTIES28
 - 5.1 General28
 - 5.2 Recommended practice for coordination between the WFD and the FRMD29
- 6 SUMMARY AND CONCLUSIONS31

FIGURES	32
TABLES.....	32
APPENDICES.....	32
ABBREVIATIONS.....	33
GLOSSARY	35
REFERENCES.....	36

1 Purpose and structure of the recommendations

1.1 Purpose of the recommendations

These recommendations address the coordinated application of the Flood Risk Management Directive (FRMD) [20] and the Water Framework Directive (WFD) [22], taking into account the provisions of the Federal Water Act (WHG) [7] with which the two directives are transposed into German law, and against the background of potential synergies.

The need for coordination between the two Directives follows from Article 9 FRMD [20]. The present relevance and urgency of the need for coordinated application of the FRMD and the WFD is also underscored by the European Commission Communication, “A Blueprint to Safeguard Europe’s Water Resources” [17], and the resulting conclusions of the Council of the European Union [19] on a coordinated or integrated approach for river basin management plans and flood risk management plans in river basin districts (RBDs). These recommendations do not address binding rules for local enforcement.

Further implementation of the two directives requires **basic consensus** on substantive links and early identification of potential synergies. Given ongoing developments in terms of data infrastructure and the legal framework for the provision of spatial information, there is a growing need for shared data management at LAWA level and/or for a coordinated data model for the WasserBLiCK portal as a digital reporting hub. A further purpose of these recommendations is therefore to prepare for work that lies ahead with a view to the synchronised reporting cycles under the two directives from 2015.

These recommendations are intended as **guidance**, setting out among other things the scope of coordination required under the two EU directives, both at LAWA level and at the level of river basin alliances – “Flussgebietsgemeinschaften” (FGG) – notably with regard to:

- Measure planning and prioritisation
- Measure implementation
- Basic features of shared data management at LAWA level/basic features of a coordinated data model for the WasserBLiCK reporting portal
- Basic features of harmonised reporting to the EU
- Public consultation.

These recommendations present the **common position** of the German Länder and Federal Government on the scope of coordination for harmonised application of the two directives in Germany and additionally serve as a **basis for discussion** in support of the CIS process at EU level.

Accordingly, they are intended primarily for authorities and institutions involved in applying the FRMD and the WFD, and also for those involved in compiling and providing data for reporting to the European Commission under the directives. This essentially comprises the relevant agencies in the German Länder, river basin alliances, and the international river basin commissions (ISDPR, ICPE, IPPMS, ICPO and ICPR).

These recommendations take into account the situation at EU level as it is known at the time of writing and will be revised as needed in line with relevant EU level developments.

Purpose of the recommendations:

1. **Basic consensus** on substantive links between the two directives;
2. **Guidance** for coordination needed in application of the two EU directives, with regard to:
 - Substantive links
 - Potential synergies
 - Public consultation
 - Need for shared data management at LAWA level/coordinated data model for the WasserBLiCK reporting portal
3. **Common position** of the German Länder and Federal Government on the scope of coordination under the two directives
4. **Basis of discussion** for the CIS process at EU level.

1.2 Structure of the recommendations

Coordinated application of the FRMD [20] and the WFD [22] is addressed as follows:

- Section 2 compares the legal and substantive basis for application of the two directives and their objectives and assesses them for potential synergies;
- Section 3 explains the basic approach for assessing interactions between measures and for prioritising measure selection. FRMD measures are defined and classified into types of flood risk management measures using the proposed European Commission classification.¹ Measures in the common LAWA List of Measures² are assessed and categorised for their efficacy in terms of the other directive's objectives in each case. Guidance is also given on assessing and evaluating synergies and on measure prioritisation options.
- Section 4 explains the importance of data management for FRMD and WFD reporting and describes the benefits of shared data management for digital reporting under the two directives.
- Section 5 addresses potential synergies in public information and consultation, which is an important requirement under both directives. Working from the FRMD perspective, this section also looks at coordinated application of the two directives with regard to the involvement of interested parties.
- Section 6 summarises the conclusions.

¹ This relates to the 'List of types of measures' (see Flood Risk Management Directive reporting sheet). The classification is covered in the Recommendations for the Establishment of Flood Risk Management Plans, revised 2013.

² The common LAWA List of Measures ("Massnahmenkatalog") supplemented with Flood Risk Management Directive measures was adopted at the 146th LAWA General Meeting (26/27.09.2013). Some examples are shown in Appendix 1.

Structure of the recommendations:

- **Legal and substantive basis** for coordinated application of the FRMD and the WFD and their provisions as transposed into national law
- Evaluation of the **effects of FRMD measures and WFD Measures** in terms of the other directive's objectives in each case (see also Appendix 1)
- Guidance on assessing and evaluating **synergies** with regard to measure **prioritisation** options, and on data management and public consultation.

Further guidance on data management is given in Appendix 2.

2 General

2.1 Substantive application of the FRMD and the WFD

The European Parliament and Council Directive establishing a framework for Community action in the field of water policy – the Water Framework Directive (WFD) [22] – was adopted on 23 October 2000. It is transposed into German national law in the WHG [7], in Länder-level water acts and in national secondary legislation (ordinances on surface waters (OGewV) and groundwater (GrwV)).

The Directive on the assessment and management of flood risks – the Flood Risk Management Directive (FRMD) [20] – was adopted on 23 October 2007. It was transposed into German law when the new Federal Water Act (WHG) came into force on 1 March 2010. Transposition of the FRMD into German law was timed in step with the WFD reporting cycle to allow unified reporting under the FRMD and the WFD.³

Table 1: Timetable for the FRMD and the WFD⁴

FRMD/WHG		Deadline	WFD/WHG, OGewV	
		22.12.2000	Entry into force	Article 25
		22.12.2003	Transposition Identification of RBDs and competent authorities	Article 24 Article 3; S. 7 WHG; S. 3 OGewV
		22.12.2004	First characterisation	Article 5; SS. 3, 4, 12 OGewV; S. 2 GrwV
		22.12.2006	Monitoring programme Publication of timetable and work programme; six-month public consultation ⁵	Article 8; S. 9 OGewV; S. 8 GrwV Article 14; S. 83 (4) WHG
Article 18	Entry into force	26.11.2007		

³ In the interests of clarity, the line of discussion followed in these recommendations directly relates to the European-law provisions of the WFD and the FRMD. German-law provisions are added where possible. This approach is permitted in duly substantiated exceptional cases by resolution of the LAWA General Meeting.

⁴ http://ec.europa.eu/environment/water/flood_risk/dir_asses.htm

⁵ In parallel with the three binding public consultation phases, 'active involvement' is encouraged by member states under Article 14 (1) WFD and Section 85 WHG.

FRMD/WHG		Deadline	WFD/WHG, OGewV	
		22.12.2007	Publication of significant water management issues (SWMIs); six-month public consultation ⁶	Article 14; S. 83 (4) WHG
		22.12.2008	Publication of draft river basin management plans (RBMPs); six-month public consultation In parallel or later: Consultation (one month minimum) on first draft programmes of measures (PoMs)	Article 13; S. 83 WHG Article 14; S. 83 (4) WHG Article 6 SEA Directive; S. 14i UVPG
Article 17	Transposition	26.11.2009		
		22.12.2009	Publication of first RBMPs and PoMs ⁷	Article 13; S. 83 WHG; Article 11, S. 82 WHG; Article 9 SEA Directive; S. 14i read in conjunction with Annex 3 no. 1.4 UVPG
Article 3; S. 73 (3) and (4) and S. 7 WHG	Identification of river basin districts (RBDs)/units of management (UoMs); competent authorities and administrative arrangements to be in place	26.05.2010		
Article 13; S. 73 (4) WHG	Transitional measures deadline	22.12.2010		
Articles 4 and 5; S. 73 WHG; Article 10; S. 79 WHG	Preliminary flood risk assessment (PFRA) complete and made available to public	22.12.2011		
		22.12.2012	PoM implementation (interim report) Timetable and work programme for first review and updating of RBMPs (six-month public consultation)	Article 11, S. 84 WHG, Article 15 Article 14, S. 83 (4) WHG
Article 6; S. 74 WHG Article 10; S. 79 WHG	Flood hazard and flood risk maps completed Made available to public	22.12.2013	Review and updating of characterisation Publication of SWMIs (six-month public consultation)	Article 5, SS. 3, 4, 12 OGewV Article 14, S. 83 (4) WHG

⁶ Some member states combined the first two consultation phases in 2006.

⁷ The WFD does not require PoMs to be published but does require the publication of RBMPs. The WFD does not explicitly lay down the form in which RBMPs are to be published. PoMs must, however, be published under the SEA Directive.

FRMD/WHG		Deadline	WFD/WHG, OGewV	
Article 10; S. 79 WHG Article 6 SEA Directive; S. 14i UVPG in conjunction with Annex 3 no. 1.3 UVPG	Involvement of interested parties in the production of flood risk management plans (FRMPs) ^{8,9} In parallel, consultation (one month minimum) on draft FRMPs in SEA process	22.12.2014	Publication of second draft RBMPs; six-month public consultation In parallel or later: Consultation (one month minimum) on second draft PoMs in SEA process	Article 14, S. 83 (4) WHG Article 6 SEA Directive, S. 14i read in conjunction with Annex 3 no. 1.4 UVPG
Article 7; S. 75 WHG	FRMPs completed	22.12.2015	Deadline for meeting environmental objectives Publication of second RBMPs and PoMs	Article 4, SS. 27, 29 – 31, 44, 47 WHG, Article 13, S. 83 WHG, Article 11, S. 82 WHG, Article 9 SEA Directive, S. 14I UVPG
Article 14; S. 73 (6) WHG Article 10; S. 79 WHG	Updating of PFRA Made available to public	22.12.2018	Second Progress Interim Report on PoM implementation Timetable and work programme for second review and updating of RBMPs (six-month public consultation)	Article 11, S. 84 WHG, Article 14, S. 83 (4) WHG
Article 14; S. 74 (6) WHG Article 10; S. 79 WHG	Updating of flood hazard and flood risk maps Made available to public	22.12.2019	Review and updating of characterisation Publication of SWMIs (six-month consultation)	Article 5, SS. 3, 4, 12 OGewV Article 14, S. 83 (4) WHG
Article 10; S. 79 WHG Article 6 SEA Directive; S. 14i UVPG in conjunction with Annex 3 no. 1.3 UVPG	Involvement of interested parties in the production of FRMPs In parallel, consultation (one month minimum) on draft FRMPs in SEA process	22.12.2020	Publication of third draft RBMPs; six-month public consultation In parallel or later: Consultation (one month minimum) on third draft PoMs	Article 14, S. 83 (4) WHG Article 6 SEA Directive, S. 14i read in conjunction with Annex 3 no. 1.4 UVPG

⁸ Involvement in production of FRMPs to start before 22 December 2014 and in next cycle before 22 December 2020.

⁹ No statutory deadline for involvement of interested parties, but the FRMD (Article 9, paragraph 3) requires the involvement of interested parties to be coordinated.

FRMD/WHG		Deadline	WFD/WHG, OGewV	
Article 14; S. 75 (6) WHG	First flood risk management cycle ends/Second FRMP completed	22.12.2021	Deadline for meeting environmental objectives if deadline extended Publication of third RBMPs and PoMs	Article 4, SS. 27, 29 – 31, 44, 47 WHG, Article13, S. 83 WHG, Article 11, S. 82 WHG, Article 9 SEA Directive, S. 14I
2022-2027: Timetable identical to 2015-2012				

2.2 European process

At European level, coordinated application of the FRMD [20] and WFD [22] is supported under the Common Implementation Strategy (CIS) by the Working Group on Floods (WG F). Coordination between member states and the European Commission serves the purpose of identifying consensus on substantive application of the two directives. It also entails coordinating reporting across Europe and, in particular, adding substantive detail to requirements on the provision of digital information for the Water Information System for Europe (WISE). This is necessary so that the Commission can analyse digital reporting information from the 27 member states and also carry out substantive EU-wide analyses across all river basins. Data coordination for application of the FRMD falls for the time being to the WG F Drafting Group, for the WFD to the WG D on Reporting, and for WISE to the WISE TG (also see Footnote 10).

European process

In October 2010, a core group was formed within WG F, made up of representatives of member states and the European Commission. The core group supports the Commission in analysing potential synergies between the FRMD and the WFD. The Commission plans to publish a background document on links between the two directives in 2013/2014.

2.3 National process

For substantive coordination and harmonised application of the FRMD [20] and WFD [22] at national level, the German Federal Government and the Länder look to the German Working Group on Water Issues of the Federal States and the Federal Government (LAWA) to ensure a unitary approach nationwide. Coordination on application of the FRMD is led by the LAWA Permanent Committee on Flood Protection and Hydrology (LAWA-AH), while coordination on substantive implementation of the WFD is headed by the LAWA Permanent Committee on Surface Waters and Coastal Waters (LAWA-AO). Consultation is generally required with the Permanent Committee on Law (LAWA-AR) and the Expert Group on Data Management/Reporting (LAWA EG DMR).

Operational implementation of the two directives at the level of RBDs that span Länder boundaries is coordinated by the Länder as river basin alliances in compliance with LAWA working papers.

In support of LAWA-AH activities for implementation of the FRMD [20], Federal Government-Länder workshops were held in November 2009 and 2010. The workshops centred on flood

risk management planning. Their purpose was to develop conceptual principles, identify national harmonisation needs, and identify requirements for cross-border flood risk management planning.

National process

To support the EU process for coordination of the two directives and the national implementing provisions with substantive positions coordinated within Germany, LAWA-AH resolved at its sixth meeting in February 2011 to establish a temporary subgroup on coordination of the FRMD and the WFD. Further consultation on the topic continues with LAWA-AO and LAWA-AR.

2.4 FRMD and WFD objectives

The WFD [22] lays down basic requirements for the protection and sustainable management of waters in the EU. Its objective is to prevent the further deterioration and to protect and enhance the status of aquatic ecosystems and water resources. The WFD [22] addresses floods only in a few provisions (e.g. Article 1(e), Article 4(3)(a)(iv) and Article 4(6)). Article 9 FRMD [20], in contrast, makes direct substantive reference to the WFD [22], albeit not in sufficient detail. The two directives share a basic and overarching objective of establishing a common policy framework in the EU. Both directives expressly call for cooperation between member states.

The specific objectives of the two directives are as follows:

WFD

With regard to the objectives of 'good ecological status' and 'good ecological potential', the ecological functions of surface waters play a key role for ecosystems and the life of aquatic fauna and flora. Limiting and reducing pollution (e.g. 'good chemical status') also plays an important part. Measures to maintain or restore good ecological status/potential notably include measures to improve river morphology and continuity. In the event of floods, the exception in Article 4(6) WFD [22]/Section 31(1) WHG [7] may be applied.

The following objectives thus apply:

- Non-deterioration
- Maintenance or restoration of good quantitative status and good chemical status in groundwater
- Progressive reduction of discharges of priority substances and cessation or phasing out of discharges and losses of priority hazardous substances
- Prevention of discharges of hazardous substances into groundwater
- Protection of aquatic ecosystems and of terrestrial ecosystems and wetlands that depend on them.

FRMD

The FRMD [20] focuses, as set out in Article 1 FRMD, on the management of flood risks, aiming to reduce adverse consequences for human health, the environment, cultural heritage and economic activity. Following on from this is a requirement to prevent and reduce damage and to implement compensatory and offsetting measures. Preference is given where possible to flood prevention measures not involving built structures and/or to reducing the likelihood of flooding.

The **objectives of the two directives** differ but both target the environment as the object of concern. Both directives apply to **largely identical management units** (river basin districts).

It is therefore useful to compare measures identified for attainment of the two directives' objectives and to examine them for potential synergies and conflicts with the other directive's objectives in each case.

2.5 Potential synergies between the FRMD and the WFD

As is evident from the many references in the FRMD [20] to the WFD [22] and the synchronous review cycle (see Footnote 4), the EU legislators intend integrated management within river basin districts and thus coordinated application of the two directives.

The starting point for the development of proposals for coordinated application of the two directives is the line of reasoning contained in Recital 17 of the FRMD: *“Development of river basin management plans under Directive 2000/60/EC and of flood risk management plans under this Directive are elements of integrated river basin management. The two processes should therefore use the mutual potential for common synergies and benefits, having regard to the environmental objectives of Directive 2000/60/EC, ensuring efficiency and wise use of resources while recognising that the competent authorities and management units might be different under this Directive and Directive 2000/60/EC.”*

The main links between the WFD [22] and the FRMD [20] are as follows:

WFD [22]

Under Article 4(3) WFD [22]/Section 28 WHG, a body of surface water may under certain circumstances¹⁰ be designated as heavily modified. Water regulation and flood protection measures may count among the reasons for designating a body of surface water as heavily modified or artificial (Article 4(3) WFD [22]). A body of surface water can be designated as artificial if it is entirely man-made, e.g. for flood protection. The environmental target of good ecological status is replaced by that of attaining good ecological potential.

Article 4(5) WFD/Section 30 WHG and Article 4(7) WFD/Section 31 WHG provide that authorities may in certain circumstances stipulate less demanding management objectives and exceptions from management objectives.¹¹

Under Article 4(6) WFD/Section 31(1) WHG, temporary deterioration in the status of a body of water is not in breach of the non-deterioration requirement if the deterioration is due to natural causes, including floods.

Additionally, under Article 4(7) WFD/Section 31(2) WHG, exceptions from the non-deterioration requirement – or failure to attain good ecological status or good ecological potential – may be acceptable if the deterioration is the result of new modifications to the physical characteristics of a surface water body or, in the case of deterioration from high status to good status, new sustainable human development activities. For such exceptions to be acceptable, all practicable steps must be taken to mitigate the adverse impact and the modifications must be of overriding public interest. That is, the benefits to the environment and to society of achieving the objectives set out in Article 4(1) WFD cannot for reasons of

¹⁰ See LAWA-AO, 'Empfehlung zur Ausweisung HMWB/AWB im zweiten Bewirtschaftungsplan in Deutschland' and 'Harmonisierung der Herleitung des „Guten ökologischen Potenzials“ (GÖP)'.

¹¹ LAWA-AO, 'Handlungsempfehlung für die Ableitung und Begründung weniger strenger Bewirtschaftungsziele, die den Zustand der Wasserkörper betreffen'.

technical feasibility or disproportionate cost be achieved by other means that are a significantly better environmental option.

This may also include modifications for flood protection. Any recourse to Article 4(7) WFD requires detailed justification, including the examination of alternatives.¹²

FRMD [20]

According to the recitals to the FRMD (Recital 17), the development of river basin management plans under the WFD [22] and of flood risk management plans under the FRMD [20] are elements of integrated river basin management, and the two processes should therefore use their mutual potential for common synergies and benefits, having regard to the environmental objectives of the WFD, ensuring efficiency and wise use of resources.

The FRMD [20] contains the following direct cross-references to the WFD [22]:

- The management units and responsibilities with regard to application of the two directives may be identical (Article 3 FRMD).
- The FRMD requires flood risk management plans to take into account, among other things, the environmental objectives under Article 4 WFD. In the event of flooding in potentially affected areas identified under the WFD, pollution must be prevented and controlled (Article 6(5) and Article 7(3), second sentence, FRMD).
- Article 9 FRMD describes the need for coordination between the FRMD and the WFD. Member states must take appropriate steps to coordinate application of the FRMD and that of the WFD, focusing on opportunities for improving efficiency, for synergies with regard to the environmental objectives under the WFD, and for information exchange.
- The information in flood hazard and flood risk maps must be consistent with the relevant information presented according to the WFD and must be incorporated into the regular reviews of the environmental impacts of human activity and of the economic analysis of water use (Article 9(1)(1) FRMD).
- The development and regular reviews of flood risk management plans must be carried out, including at cross-border level, in coordination with the reviews of river basin management plans provided for in the WFD (Article 9(1)(2) FRMD).
- The active involvement of all interested parties under the WD must be coordinated, as appropriate, with the active involvement of interested parties under the WFD (Article 9(1)(3) FRMD).

Taken as a whole, these cross-references show that the measures and their effects must be analysed in each case in terms of the other directive's objectives and must be taken into account in measure prioritisation with a view to potential synergies. With appropriate coordination, there are potential synergies to be had at all steps of the implementation process, notably in data provision and data management for digital reporting. Coordination is also needed with a view to consistent reporting with minimum duplication, taking into account the common timetable (see Table 1) and the involvement of interested parties and the public.

Potential synergies are to be expected in:

- ✓ Attainment of the **objectives** under the two directives
- ✓ Planning, prioritising and implementing **measures** and their effects in terms of the objectives

¹² On this point, the Federal Environment Agency has commissioned the University of Kassel with the compilation of a guidance document, which is currently in preparation: *'Arbeitshilfe zur Prüfung von Ausnahmen von den Bewirtschaftungszielen der EG-Wasserrahmenrichtlinie bei physischen Veränderungen von Wasserkörpern nach §31 Abs. 2 WHG aus wasserfachlicher und rechtlicher Sicht'*.

- ✓ **Involvement of interested parties and the public** taking into account the shared reporting timetable
- ✓ Provision of **reporting data**.

Synergies are primarily to be expected via measure selection and prioritisation in flood risk management plans under the FRMD and in programmes of measures under the WFD.

Potential conflicts between the goals of the two directives, for example in the implementation of flood control engineering measures, cannot be ruled out altogether and may lead to adjustments in target attainment or deadlines under the WFD or in modifications to measures for a specific water body or stretch of river under either directive. A balancing of objectives must be carried out in each case. It also may be possible to apply an exception from river basin management objectives in favour of necessary flood risk management measures.

3 Comparison of measures under the FRMD and the WFD with regard to mutual effects

3.1 General points and approach

Coordinated application of the HD [20] and the WFD [22] allows synergies and conflicts in measure planning to be assessed at an early stage. It is therefore important to assess the mutual effects of individual measures in terms of the other directive's objectives in each case.

The intended effects of measures under the FRMD and WFD have already undergone preliminary assessment during compilation of the LAWA List of Measures. Classifying mutual effects of measures under the FRMD and the WFD by measure type as assigned in the LAWA List of Measures allows measures with no major effect on the goals of the other directive to be quickly excluded from further assessment. Measures under each directive are assessed for relevance in terms of the other directive in section 3.2. Section 3.3 then discusses the use of synergies in attaining the directives' objectives with regard to measure prioritisation.

3.2 Assessment of measures in the LAWA List of Measures for relevance in terms of the other directive in each case

To identify measures that may show potential synergies and conflicts in application of the WFD [22] and the FRMD [20], the measures for implementation of each directive listed in the LAWA List of Measures ("Massnahmenkatalog") are first assessed for their effects on attainment of the objectives of the other directive in each case.

3.2.1 Measures for implementation of the FRMD

The FRMD [20] aims to take into account all aspects of integrated flood risk management, focusing on prevention, protection and preparedness, including flood forecasts and early warning systems.

The requirements on measures and their effects are formulated as follows ([1], [2], [7], [20]):

- No measures may be included that significantly increase flood risks for other states or countries in the same river basin or sub-basin, unless the measures have been coordinated and an agreed solution found (Article 7(4) FRMD/Section 75(4) WHG).
- As well as flood risk management objectives, plans must take into account the objectives of Article 4 WFD (Article 7 WD/Article 75(3) WHG).

- Plans are cross-cutting and take into account aspects such as soil and water management, spatial planning, land use, nature conservation, navigation and port infrastructure (Article 7 WD/Article 75(2) WHG).
- With a view to potential positive impacts on aquatic ecology, plans should also include the promotion of sustainable land use practices, improvement of natural water retention and controlled flooding of certain areas (Article 7 WD/Article 75 WHG).

As determined at the first Federal Government/Länder workshop [2], **four basic objectives of flood risk management** apply:

- Avoidance of new risks (before flooding) in the flood risk area
- Reduction of existing risks (before flooding) in the flood risk area
- Reduction of adverse consequences during flooding
- Reduction of adverse consequences after flooding.

Assessment of the effects of flood risk management measures in terms of potential synergies with the WFD essentially depends on three questions as follows:

- Are the measures capable of reducing pollution?
- Are the measures able to foster or enhance ecological potential?
- When using water retention areas to cut flood risk, is it possible at the same time to increase the area available for the river and its hydromorphological development (e.g. reconnection of oxbows)?

There may be further potential synergies with river engineering and technical infrastructure measures in particular if the measures can be fine-tuned with regard to their effects. This is mostly a matter of adapting specific measures to the local situation.

The list below covers selected aspects to be taken into account when implementing measures under the FRMD.

An assessment should be made relative to:

- Whether river engineering works for flood protection also safeguard natural sediment balance, and whether engineered structures can be avoided by near-natural shaping of the watercourse
- Whether flow regulation (e.g. operating regulations for dams and barriers) also improves sediment balance and floodplain dynamics and, where applicable, helps mitigate operationally induced peak flow volumes or unnatural low water levels
- Whether flood risk management measures promote in-river retention
- Whether linear flood protection works (dikes and walls) are designed so as to allow ecological development inside the dike to continue or begin and so as to maintain lateral continuity
- Whether dams and barriers are built or modified so as to retain or restore watercourse continuity, and whether they need to be improved from an ecological standpoint (e.g. fish ladders/fish protection works; sediment management)
- Whether ecological improvements are taken into account in the compilation of maintenance plans
- Whether adapted land use allows areas to be left for ecological development of the water body
- Whether floodplain water retention measures reduce pollution of the water body

- Whether measures reduce or remove environmentally harmful diffuse sources pollution (e.g. deposits)
- Whether improved operation of stormwater/combined sewer overflows lead to improvements in river ecology, including reductions in pollution.

Similarly, when implementing flood prevention and response measures, certain aspects of the WFD should be taken into account where possible to make use of potential synergies. In relation to frequent flood events, for example, certain information on sediment management (e.g. sediment flushing in 20-year or greater floods) or on floodplain restoration (ecological flooding) can be incorporated into an alarm system. Point pollution sources should also be added to alarm systems if they are not already included.

3.2.2 Measures for implementation of the WFD

Various measures under the WFD [22] can also help reduce flood risk. In the design and implementation of such measures, therefore, account should also be given to flood protection and flood risk management aspects as outlined in the following.

Measures for pressures relating to point source pollution

Systems for the discharge, abstraction, treatment or retention of combined sewer water and rainwater should be specifically assessed for flood retention capacity. They should be designed or modified and operated in such a way that they are not themselves endangered in the event of a flood and that they do not pose a hazard (as a result of discharge) for the river, for downriver protected areas or for bathing waters.

Measures for pressures relating to diffuse source pollution

Measures to reduce pollution from paved surfaces and measures to reduce nutrient pollution of waters from farmland should be designed in such a way as to mitigate dangers to downriver protected areas on flooding. Where possible, agricultural measures to counter erosion should add to floodplain retention capacity by improving drainage. Good farming practice should be further improved in this direction and where appropriate supported with financial incentives (agri-environmental measures).

Measures for pressures relating to water abstraction

An assessment should generally be made into whether flood conveyance can be positively influenced by targeted management of floodways (e.g. targeted reservoir management and control).

Measures for pressures relating to water flow regulation and morphological changes

With regard to natural retention potential, a general aim should be to combine environmental objectives in the implementation of WFD measures with the effective flood protection. This applies particularly to measures to enhance or reconnect floodplains and oxbows outside the flood discharge profile, as this generally improves flood retention. Flood protection objectives must be taken into account and incorporated in planning habitat improvement and sediment management measures.

3.2.3 Classification of measures

Measures are classified according to their effects as follows:

M1 measures that support the objectives of the other directive in each case

WFD river basin management plan measures of this kind can impact positively on FRMD objectives. Examples include river morphology measures such as floodplain enhancement or oxbow reconnection that enhance in-river retention. Flood risk management plan measures

of this kind generally favour WFD objectives. Examples are keeping floodplains free of built development by legally designating flood land, and measures such as dike relocation to enhance natural floodplain water retention. Such measures generally show synergies between the WFD and the FRMD. The size of the synergies depends on how the measures are designed in detail.

Further assessment of the synergies from such measures is not therefore generally needed.

M2 measures that may cause a goal conflict and require case-by-case assessment

This category comprises measures that do not clearly come under category M1 or M3 and measures that may be detrimental in terms of the other directive's objectives. Examples include WFD measures promoting the natural development of bodies of water in places where such measures could add to flood risk, or land reclamation measures that help reduce pressures and compete as a result with coastal protection measures. In terms of FRMD measures, such measures include mainly flood protection engineering and infrastructure or river engineering measures that prevent natural development of the watercourse.

M3 measures not relevant to the other directive's objectives

These measures generally have neither a positive nor a negative impact on the other directive's objectives. With regard to the WFD, this primarily includes non-structural measures such as conceptual studies, monitoring programmes, administrative measures and measures to reduce diffuse source pollution (e.g. repair of leaky sewers and sewage plants; reduction of pollution from building materials and built structures). With regard to the FRMD, the category includes most non-structural measures, such as warning and reporting services, hazard and disaster response preparation and planning, and flood cleanup and regeneration planning. There is therefore no need to go on and assess these measures for synergies and conflicts in flood risk management planning.

Figure 1 shows a recommendation for analysis of interactions between measures under the FRMD and the WFD.

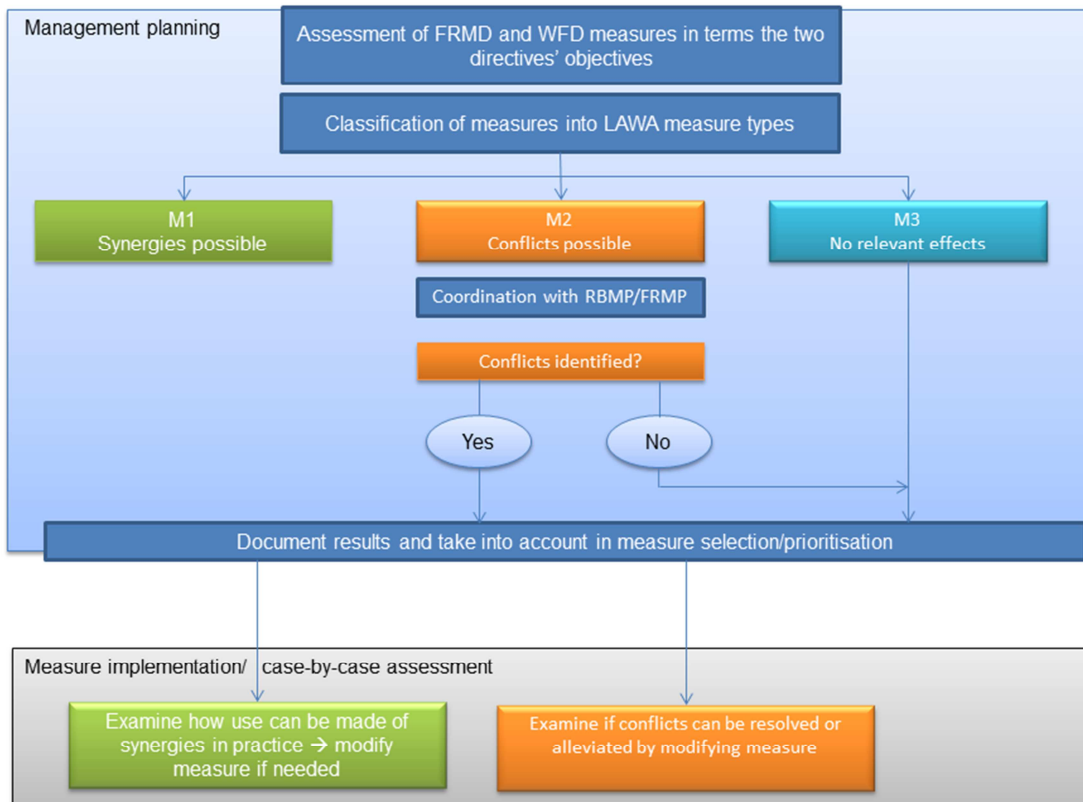


Figure 1: Assessment matrix for analysing of interactions between measures under the FRMD and the WFD

As part of flood risk management planning, M2 measures are checked for any conflicts with measures under WFD river basin management plans and programmes of measures. If potential conflicts are identified, they must be looked at in greater detail and assessed for resolution or alleviation options when the measures are implemented. For the types of measures in Appendix 1, if the great majority of actual measures under a given type are expected to come under one category (M1 to M3), then measures of that type are assigned to the category concerned. In some cases, however, specific measures may need to be assigned to a different category, depending on their spatial extent, their duration, and the aspects set out under 3.2.1 and 3.2.2. In case of doubt, therefore, the classification presented in Appendix 1 does not remove the need for case-by-case assessment of specific measures, for example in approval proceedings under water-related legislation.

Evaluation of measures

To identify measures that offer potential synergies between the two directives, measures in the LAWA “Massnahmenkatalog” (List of Measures) are classified into three groups according to their effects in terms of the objectives of the other directive in each case:

M1 measures that support the other directive’s objectives

M2 measures that may cause a goal conflict and require case-by-case assessment

M3 measures not relevant to the other directive’s objectives

This classification of measures – and the process of coordinating river basin management plans with flood risk management plans – represents a sort of ‘WFD cross check’ for FRMD measures and an ‘FRMD cross check’ for WFD measures. This cross-checking serves the purpose of documenting the coordination process, notably for the European Commission (e.g. in RBMPs, HRMPs or WISE).

3.3 Synergies in FRMD measure prioritisation

An approach for prioritising measures under the FRMD follows from the FRMD’s requirements, notably as set out in the Annex to the Directive [20]. For measures under the WFD [22], ‘basic measures’ take first priority, followed by the implementation of ‘supplementary measures’ and any additional measures (see Section 82(2)-(5) WHG/Article 11(2)-(5) WFD). The second half-sentence of Section 82(2) WHG requires provision to be made for a cost-efficient combination of measures in terms of water use.

Four general criteria are relevant in **prioritisation**:

- **Synergies** with objectives under the WFD and other directives
- The measures’ **efficacy** with regard to the FRMD and the WFD
- The measures’ **cost-effectiveness**
- The measures’ **feasibility**

M1 measures generally offer strong synergies in terms of target attainment under the FRMD and the WFD. Such measures should therefore be shortlisted. Whether a given measure is implemented, however, depends on other factors that also have to be considered when prioritising. Besides **synergies with other objectives** (Natura 2000, spatial development plans, etc.), these are primarily the measure’s **efficacy**, **cost-effectiveness** and **feasibility**.

As a general rule, at the level of WFD river basin management plans and FRMD flood risk management plans, measures are not defined in sufficient detail for their feasibility or cost-effectiveness to be assessed. Prioritisation at this level will at first be by reference to synergies/classification and to efficacy in terms of FRMD and WFD objectives. Other aspects that may already come into play before the detailed planning stage include aspects that generally call for some *urgency* because specific objects of concern are severely affected or highly vulnerable.

A differentiated approach to prioritisation is needed most of all where specific measures have to be implemented by parties responsible for large numbers of measures, such as Länder administrations, Länder corporations and local governments.

If prioritisation is done collectively across all criteria, one approach is to give points for each criterion (synergy between FRMD and WFD, efficacy, feasibility, cost-effectiveness, and synergies with other directives). The category weightings play a key role here. Synergies between the FRMD and the WFD should at least be given equal weighting to other criteria.

The figure below shows one possible variation of a procedural workflow for the prioritisation of FRMD measures, taking into consideration synergies with the WFD and the measures' efficacy, cost-effectiveness and feasibility. These criteria were the subject of a past LAWA-AH survey of procedures used in each of the German Länder. The Länder were found to use similar prioritisation procedures and similar sub-criteria/indicators within them, but there were differences at detail level due to differing hydrological, structural and financial circumstances. If existing prioritisation procedures are used, it is important to supplement them as needed to take account of synergies with the WFD (M1-M3).

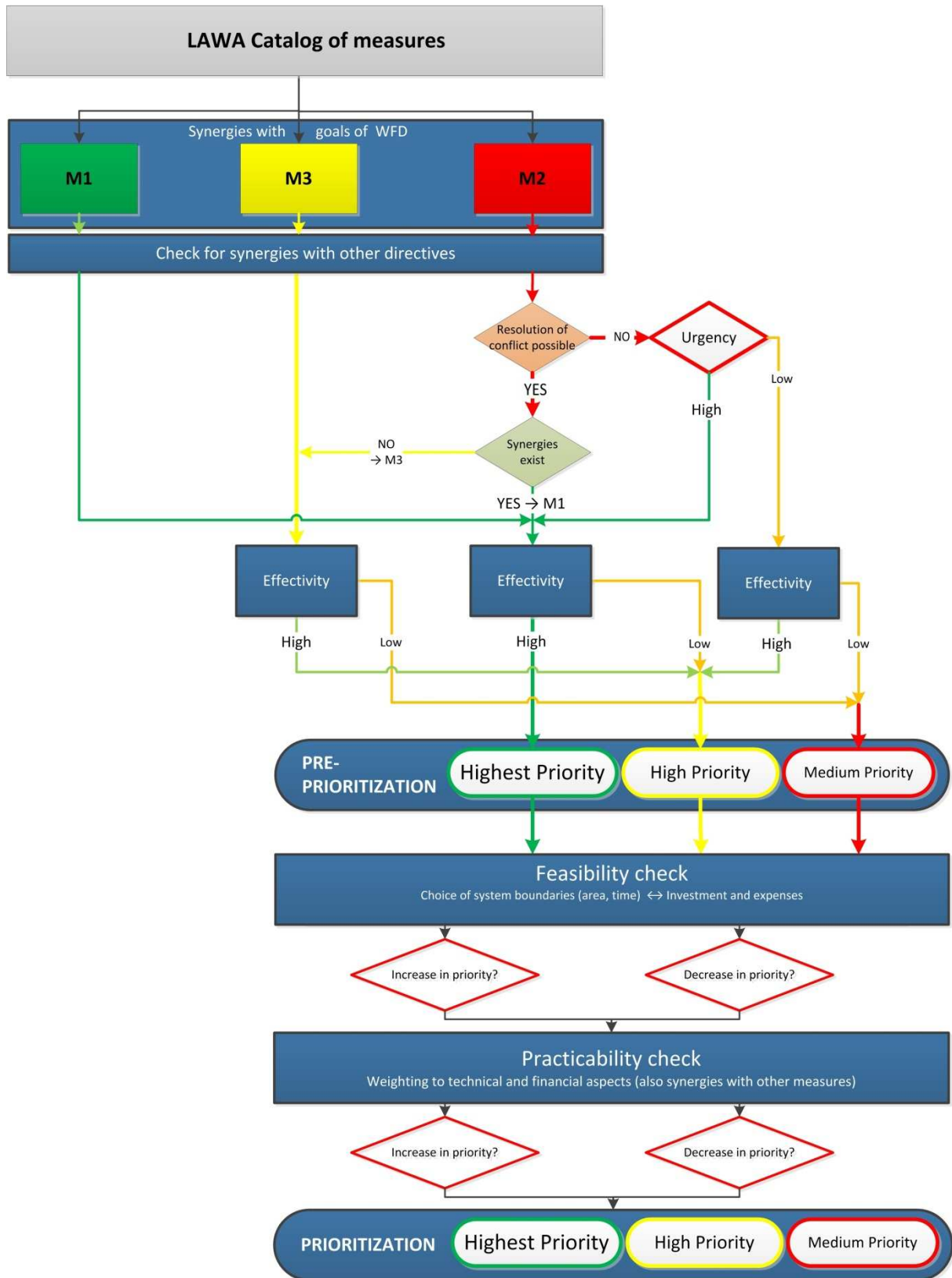


Figure 2: Possible procedural workflow for the prioritisation of FRMD measures, taking into consideration synergies with the WFD and the measures' efficacy, cost-effectiveness and feasibility

A similar prioritisation methodology can be used when prioritising measures under the WFD to obtain synergies with the FRMD.

Four general criteria are relevant in **prioritisation**:

- **Synergies with objectives under the WFD and other directives**
- **The measures' efficacy with regard to the FRMD and the WFD**
- **The measures' cost-effectiveness**
- **The measures' feasibility**

As a general rule, at the level of FRMD flood risk management plans, measures are not defined in sufficient detail for their feasibility or cost-effectiveness to be assessed. Prioritisation at this level will consequently first take place by reference to synergies/classification and to efficacy in terms of FRMD and WFD objectives.

Prioritisation of flood risk management measures cannot be based on synergies with the WFD alone. Assessment of efficacy in terms of WFD objectives is an additional relevant criterion alongside the usual set of criteria comprising flood protection efficacy, cost-effectiveness and feasibility.

With category M1 measures, **potential synergies** between measures under the two directives are to be expected. Because of this, these measures are given greater weighting than others. Having said that, category M2 and M3 measures may also be found to offer synergies once the applicable prioritisation criteria have been assessed and compared in each specific case.

In certain cases, **potential conflicts** may arise between measures under the two directives in connection with WFD measures to improve hydromorphology – such as measures to restore a river's characteristic flood discharge profile in regions with high flood risk – and flood protection engineering measures (category M2). Flood risk management planning must be coordinated with WFD programmes of measures to identify specific solutions.

4 Importance of information exchange and data management in the application of the FRMD and the WFD: General

The following addresses basic features of data management for reporting under the FRMD [20] and the WFD [22] that come into the analysis of synergies on coordinated application of the two directives. This subject matter will be covered in detail in recommendations presently being compiled by LAWA EG DMR.¹³ The information in this section is provided in advance of those recommendations and for better understanding of the issues involved.

4.1 European level

In aiming to link reporting data under different environmental directives and to allow data reuse for the purposes of other environmental directives (see Figure 3), the European Commission is mainly answering calls from **member states** to rationalise reporting. This work is to continue, by streamlining water legislation reporting cycles, statistical requirements and data collection in line with the INSPIRE Directive.¹⁴ The Water Information System for Europe (WISE) operated by the European Environment Agency is also to be further developed in this regard.

¹³ Uniform presentation of Länder, river basin alliance and Länder plans/programme and documents, product N. BE-1.1

¹⁴ Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) (OJ L 108, 25.4.2007, p. 1).

In future, it will be possible to use web services to merge geodata from distributed repositories into Europe-wide views and to generate detailed views using links from WISE to distributed repositories. WISE is also geared to allowing the reuse of reporting data for other purposes (such as EU projects) as part of the Shared Environmental Information System (SEIS). This will make it easy to do plausibility checks in WISE, leading to higher standards of consistency in reporting data for the different environmental directives. The Commission is aiming in this connection for the development of an integrated general WISE data model.

The implementing rules for the INSPIRE Directive merely set minimum requirements for the technical framework (among other things on availability of web services and the provision of geodata). For geodata provision to be adapted to WISE, and for INSPIRE-compliant provision of geodata for water-related directives such as the WFD and the FRMD, the implementing rules need to be supplemented with more detailed requirements.

Member states today meet their digital environmental reporting obligations towards the European Commission by submitting or making available geodata, georeferenced data, and summary information in text form. In part, the FRMD [20] and the WFD [22] here use the same national or Länder data resources (e.g. use of ATKIS). The main aim in developing and revising reporting sheets for the FRMD and the WFD is to allow Europe-wide analyses and visualisation of such analyses in WISE based on structured provision of data from **member states** and digital reporting to WISE. Early coordination of the data resources relevant in implementation of the two directives is therefore essential to the use of potential synergies.

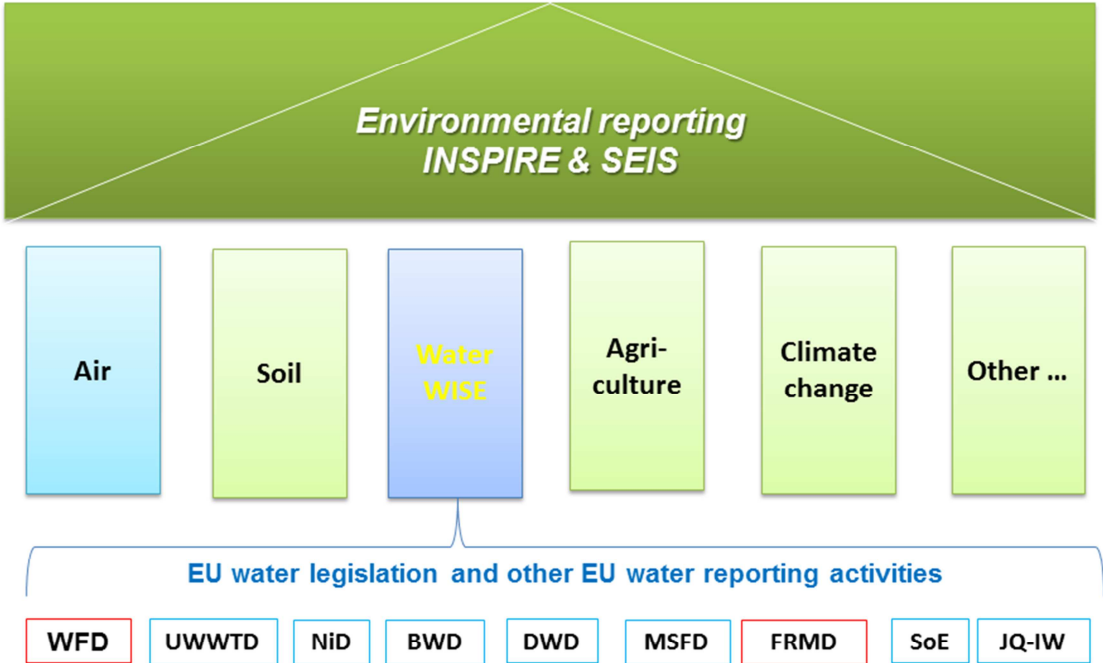


Figure 3: FRMD and WFD in context with WISE, SEIS and INSPIRE

At the current state of play, member states must make available INSPIRE-compliant reporting data from 2020. So that this can be achieved, the INSPIRE core data models are to be differentiated in order to meet the reporting requirements under environmental directives as part of the CIS process, i.e. in consultation between the European Commission and member states. The 'Reporting' use case is part of several data specifications (e.g.

hydrography [including catchments], natural risk zones, and management areas/restriction/regulation zones and reporting units). These data specifications are meant as technical guidance and so are not legally binding, but they provide an advance look at the work ahead at CIS level.

INSPIRE-compliant provision of geodata for WISE, with cross-border harmonisation of geometries¹⁵, data types and codes (harmonised seamless data), will make it possible to generate transnational map views in WISE for selected object types (e.g. WFD water bodies and potential flood areas). Maps supplied by member states, in particular large-scale maps such as flood hazard and flood risk maps, are to be made available in future using INSPIRE-compliant mapping services.

The provision of INSPIRE-compliant environmental reporting data will also make it possible to generate new information by visualising and linking the data with geodata from other sources (e.g. JRC, Eurostat, WHO, or UNECE).

A far greater focus in the medium-term migration of data provision to web services, however, is the need to reduce data provision effort and expense for member states and data management effort and expense for the European Commission. The principle of data sharing is not only to be put into effect in WISE, but generally for all European Commission environment information systems in the form of SEIS.

Streamlining Germany's digital reporting to the European commission requires binding agreement on reporting data management within LAWA. This is essential with a view to the future synchronised reporting under the FRMD and the WFD. The reporting sheets for reporting on the second WFD river basin management plan are already likely to make use of substantive cross-references between the two directives so that reporting can be integrated with the first flood risk management plan. According to the current state of play at European Commission level, both digital reporting options – separate versus integrated – are to be available for the 22 March 2016 deadline.

It also remains important to ensure and maintain consistency among substantively related reporting data, including data under other environmental directives (such as the Bathing Waters Directive and the Habitats Directive), as there is already a clear trend at European level towards greater reuse of reporting data with the synchronisation of additional reporting cycles under environmental directives.

The reporting sheet on flood hazard maps and flood risk maps expressly points to the need for data consistency:

“The preparation of flood hazard maps and flood risk maps shall be coordinated with the review of the assessment carried out under article 5 of the Water Framework Directive 2000/60/EC. The coordination shall ensure that the information they contain is consistent, and the overall purpose of the coordination is to focus on opportunities for improving efficiency, information exchange and achieving common synergies and benefits having regard to the environmental objectives of that Directive.”

¹⁵ INSPIRE-Directive article 10, para. 2 (In order to ensure that spatial data relating to a geographical feature, the location of which spans the frontier between two or more Member States, are coherent, Member States shall, where appropriate, decide by mutual consent on the depiction and position of such common features.) in conjunction with ISO/TS19138.

Importance of data management

The European Commission's scope for plausibility checking and standards of data consistency have increased significantly. This may have to be taken into account by providing additional temporal information for object data.

The measure-related data on the attainment of potential synergies used in the two directives and included in reporting must be coordinated on a timely basis within LAWA (Appendix 1).

The principle of data sharing must be implemented for all European Commission environment information systems in the form of SEIS. The focus in the medium-term migration of data provision to web services, however, is on the need to reduce data provision effort and expense for member states and data management effort and expense for the European Commission.

4.2 National level

The WasserBLiCK reporting portal collates and maintains reporting data on water-related EU legislation from all Länder, enables analysis and mapping. In this way it forms a national-level complement to WISE.

Compared with data management at European level, the national data management system for electronic reporting and the WasserBLiCK reporting portal must meet a number of additional requirements:

1. Historicised storage of Länder-submitted data for reliable reproduction of past results
2. Adequate and consistent mapping as in the case of the substantive cross-references referred to earlier (see Appendix 1)
3. Quality assurance routines to ensure consistency and coherence in reporting data
4. Conformity of the reporting interface with WISE
5. Provision of access to the data for regional and trans-regional analysis; statistical presentation of analysis results and visualisation in map form.

To ensure problem-free collation of distributed data resources from the German Länder and – for international river basin districts such as the Elbe, Danube, Oder and Rhine – from other member states, an obligatory WasserBLiCK data model is used, with data templates and code lists. The mandatory code lists used for uniform coding of attributes in the WISE data model are fully replicated in the WasserBLiCK data model. Each code list includes all permitted codes that can occur, including codes used in only a small number of instances.

Efficient data management at national level is not only essential in order to meet reporting requirements under the WFD and FRMD. It also has an important function for internal coordination at LAWA level and/or river basin alliance level as it means that any need for additional coordination can be identified at an early stage. Substantive modifications in line with LAWA and/or river basin alliance resolutions are applied in the WasserBLiCK data model by modifying field specifications and attribute descriptions and/or the permitted codes in the code lists.

The Water reporting portal has a large repository of data on the water-related directives, notably the WFD. The reporting data is fed into the portal and updated by the Länder with a suitable lead time ahead of the reporting cycle.

Further information on data management is provided in Appendix 2.

The **WasserBLiCK** reporting portal collates and maintains reporting data from all German Länder on implementation of water-related EU legislation, and allows analysis at national level, reporting analysis and map visualisation.

The key items of spatial data in the WasserBLiCK repository with potential links to flood management issues are set out in the following in order to look at their suitability for reuse or for integrated reporting.

Management units and reporting units

As an outcome of the EU-wide coordination of electronic reporting for the FRMD, the main spatial reporting units between the two directives are already included in the two reporting sheets Units of Management and Preliminary Flood Risk Assessment, and hence also in the FRMD data model.

As the smallest management or reporting unit for implementation of the WFD, WFD water bodies and their geometries form the backbone of the WasserBLiCK data model and of the WFD data repository. The smallest management or reporting unit under the FRMD consists of areas with potential significant flood risk (APSFRs). All other geometries, attributes and data are directly or indirectly linked with WFD water bodies and APSFRs.

The provision of spatial information on management units under environmental directives using services is governed in the implementing rules on the INSPIRE Annex III theme 'Management area/restriction/regulation zones and reporting units'.

WFD

Water bodies

Environmental objectives must be specified for all WFD water bodies. Measures planned or required to be implemented to meet the specified environmental objectives aim to eliminate or minimise pressures preventing the attainment of good ecological and/or chemical status. Under Article 4(3)(a)(iv) WFD, flood protection needs can be a decisive factor in the designation of water bodies as artificial or heavily modified.

In the HD reporting sheets, such measures under the WFD can be referenced by entering the relevant measure code in order to avoid the need to submit duplicate reporting information.

Pressures and impacts on water status and flood risk management

The WFD reporting sheets provide for or require the entry of structured data on significant pressures. The reporting interface features a mandatory pick list that is to be modified by the end of 2013 with a view to substantive cross-references between WFD and FRMD. This is to take place in consultation between the European Commission and Member States in the review of reporting sheets for the second river basin management plan. Many of the significant pressures in the pick list can be represented by corresponding spatial objects. This also applies to hydromorphological pressures caused by structures in and alongside waters. Such pressures can also be relevant to flood management concerns. Accordingly, the review of the pick list in consultation between the European Commission and member states is likely to introduce greater differentiation in hydromorphological pressure types.

Further data-related reference points are covered in Appendix 2.

Action items in the LAWA EG DMR recommendations currently in preparation:

- Decide what WFD data items on pressures (and in particular items marked ‘optional’ in the data interfaces) have to be provided to WasserBLiCK to ensure consistent reporting under the WFD and the FRMD.
- With a view to implementation of the INSPIRE Directive, set priorities regarding object types relevant to water management and their differentiation.

4.3 Conclusions for data management in connection with developments in WISE and implementation of the INSPIRE Directive

European level

Information digitally reported to the European Commission in implementation of the WFD and FRMD can already be linked together by using analyses and combined views. To prevent misinterpretation and hence unnecessary requests for clarification from the Commission, it is essential for the Länder to determine and stipulate where and how the data can be correctly cross-referenced.

INSPIRE-compliant provision of spatial data will also help cross-border coordination. In a GIS Guidance document¹⁶, the WG F therefore addresses recommendations on spatial data not just for the FRMD, but also for the INSPIRE Directive.

The structure and availability of INSPIRE-compliant geodata infrastructure at federal and Länder level in Germany will have a major effect on geodata management. The Länder can benefit from exchange of experience in operation of the Water reporting portal in WasserBLiCK, enabling them to minimise their own development effort and expense. For this reason, the requirements under the regulation on INSPIRE-compliant services and the regulation on interoperability of spatial data sets [24] should be taken into account as early as possible in the enhancement of data models in WasserBLiCK. The FRMD is the first instance of water-related EU legislation to include specific reference to INSPIRE.

Reporting for Article 6 HD includes the provision of maps. Where already technical possible, these should be implemented in the form of INSPIRE-compliant view services (see the regulation on INSPIRE network services, in particular view services [25]).

Given the implementation timeline for the INSPIRE Directive and the FRMD, the Article 6 reporting requirements can theoretically be satisfied on a ‘non-INSPIRE-compliant’ basis. This only applies for the time being, however, and there is therefore a need for consultation in the LAWA EG DMR on how Germany should address the requirements under the FRMD and implementation of the WFD with regard to implementation of the INSPIRE Directive. The European Commission expects member states to implement the INSPIRE Directive and to be able to provide services and data by the stipulated deadlines. The provision of services as regards the network services is legislated on from a technical point of view [21].

National level

It is therefore advisable to adapt the provision of data for the WasserBLiCK reporting portal as early as possible with a view to the European Commission’s aims of moving from centralised to distributed data management and shared data reuse (SEIS).

As with existing digital reporting under the WFD and the FRMD, risk map and hazard map reporting via the Water reporting portal should be done at BfG based on reporting data

¹⁶ Atkins, Reporting of spatial data for the Floods Directive (Part II): Guidance on reporting for flood risk and hazard maps of spatial information, Version 4, Copenhagen, March 2013

supplied to the portal. Additional and in particular more detailed Länder-specific data and reports remain in the applicable Länder systems and/or can be made available by them in suitable form to supplement the digital reporting with additional information.

The known requirements relevant to data management are compared in Appendix 2. These comparisons should be reviewed by the relevant LAWA committees as to scope for data exchange and data consistency requirements during consultations for updating of the WFD inventory and for the compilation of flood hazard and flood risk maps.

As it is technically relatively easy to link together data from different reporting sets, besides scope for plausibility checking there is also a danger of misinterpretation, making it necessary to actively identify and present such links. Cross-linking in this way can be provided in particular for:

- Management areas
- Pressures and impacts
- Measures that affect the implementation of measures under the other directive in each case
- Reasons for the designation of heavily modified water bodies
- Use of exceptions

5 Public information and consultation and active involvement of interested parties

5.1 General

Article 9 FRMD [20] requires member states to take appropriate steps to coordinate the application of the FRMD [20] and the WFD [22]. This should also include the coordination of public involvement, in connection with which the FRMD makes direct reference to the provisions of the WFD [22]. These stipulations are implemented with regard to interested parties in Section 79 and 80 WHG.

Interested parties include authorities and local government bodies responsible for compiling and implementing flood risk management plans, recognised associations (e.g. agriculture and forestry, environmental organisations, conservation organisations and major business and trade associations) and additional stakeholder groups identified on a case-by-case basis.

The following forms of participation should generally be distinguished:

1. Information

‘Information’ (Section 79 (1) WHG) mainly relates to publication and provision of work outcomes in suitable media such as the internet, official gazettes, etc., and in information and discussion forums.

2. Consultation

‘Consultation’ is an administrative procedure governed by Länder law in each of the Länder. It provides an opportunity to submit a statement of position that is given due consideration in the review of work outcomes.

3. Active involvement

‘Active involvement’ primarily enables participation by interested parties, giving them the opportunity to present their substantive position at an early stage. The specific

details of how active involvement is put into effect are left to the competent authorities. The active involvement of all interested parties (Article 10 FRMD/Section 79(1) and 85 WHG) is required to be coordinated, as appropriate, with the active involvement of interested parties under Article 14 WFD. The general procedure for public involvement under the FRMD is covered in the Recommendations for the Establishment of Flood Risk Management Plans [11]. The present recommendations solely address general options with regard to potential synergies in public involvement under the two directives.

5.2 Recommended practice for coordination between the WFD and the FRMD

The required coordination between the FRMD and the WFD in public information and in consultation and active involvement of interested parties opens up a number of opportunities:

- Provision of the public with information from a single source and combine the administration of complex processes
- Avoidance of multiple consultation proceedings at the same planning level, thus reducing the effort and expense of such proceedings
- Highlighting of synergies between the two directives for the public and interested parties
- Identification and clear addressing of potential conflicts and priorities in application of the FRMD and the WFD
- Joint use of existing river basin arrangements (decision-making bodies, events, etc.)
- Promotion of efficient use of resources in administration and help in avoiding substantive contradictions
- Greater public acceptance for measures

This makes it essential for authorities concerned with the FRMD and the WFD to share information on public access to preliminary flood risk assessments and to flood hazard and flood risk maps. Where possible therefore, at least in formal consultations at B-level under the WFD (the level of national river basin districts) and at similar levels under the FRMD, public consultation proceedings under the two directives should be carried out jointly (one set of proceedings and thus simultaneously) or in parallel (two sets of proceedings). This approach is expressly supported by the parallel timescale for implementing the two directives.

In contrast to the detailed requirements under the WFD [22], the public consultation process under the FRMD [22] is not stipulated on in detail in terms of either substance or timing, although there are clear cross-references to the WFD. The information to be communicated in some cases involves highly complex issues. The parties to be involved can differ from region to region.

Based on the provisions on coordinated application of the FRMD and the WFD as transposed into German law in the Federal Water Act (WHG) [7], the following is recommended with regard to making use of synergies [9]:

1. Recommendations on how to proceed with regard to public information

Section 79(1) WHG requires the publication of the following in compliance with applicable Länder public pronouncement rules:

- a. Flood risk assessments
- b. Hazard and risk maps
- c. Risk management plans

Nationwide approaches for individual implementation steps, and their outcomes, should be presented in the form of publications or backgrounders. The content of such publications can

be viewed on the websites of the river basin alliances. This is the same way of proceeding as under the WFD [22].

If flood risk management and river basin management plans are to be integrated at some point in the future, it will be necessary to combine the Länder and river basin alliance information portals. This option should already be explored now with a view to providing the public with information from a single source wherever possible.

2. Recommendations on how to proceed with regard to consultation and public involvement in Strategic Environmental Assessments (SEAs)

Under Section 14b(1)(1) of the Environmental Impacts Assessment Act (UVPG) [6], formal public involvement is required as part of SEAs for:

- a. Flood risk management plans
- b. WFD programmes of measures

An SEA is not required for river basin management plans under Section 83 WHG [7].

Either a joint environmental report and a joint environmental declaration can be compiled for an SEA at river basin level or separate documents can be compiled at Länder level. The mandatory formal consultation is carried out by the Länder.

According to the consultation level (river basin or Länder level), it may be useful to aim to schedule the consultation period in line with that for the WFD river basin management plan, i.e. from 22 December 2014 to 22 June 2015.

3. Recommendations on how to proceed with regard to active involvement of interested parties

Under Section 79 WHG, active involvement is only required in the compilation, review and updating of flood risk management plans.

Where appropriate, the timing here can again be made to parallel the procedure for application of the WFD [22] in Länder and river basin alliance bodies, information events, Länder expert forums, flood partnerships, etc. [9], [11].

If generally the same or similar interest groups are affected, it is recommended where possible and appropriate to make use of established forums and discussion platforms for public involvement under the WFD [22], expanding them as necessary to meet the requirements for the involvement of interested parties under the FRMD [20].

The following is recommended with regard to coordinating public information and consultation in implementation of the WFD and the FRMD:

- Make use of shared arrangements and data resources
- Carry out public consultation in SEAs for flood risk management plans or programmes of measures jointly or at least in parallel

Objectives:

- Provide the public with simultaneous information from a single source
- Minimise the cost of proceedings
- Make the decisions reached in proceedings transparent
- Enhance public acceptance of measures

6 Summary and conclusions

Conclusions:

- The **objectives of the WFD and the FRMD** differ. As synergies and conflicts mostly arise when measures are implemented in practice, coherence between the two directives is primarily to be assured at measure level.
- The **prioritisation of flood risk management measures** is based on the usual criteria – efficacy in flood protection, cost-effectiveness and feasibility – plus an assessment of their efficacy in terms of WFD objectives as an additional relevant criterion.
- With category M1 measures, **potential synergies** in the attainment of objectives under the two directives are to be expected. Such measures are thus given a higher weighting than others of the same priority. Category M2 and M3 measures, however, may also offer additional synergies in individual instances once the prioritisation criteria have been assessed and compared.
- In certain cases, **potential conflicts** may arise between measures under the two directives in connection with WFD measures to improve hydromorphology – such as measures to restore a river's characteristic flood discharge profile in regions with high flood risk – and flood protection engineering measures (category M2). Flood risk management plans must be coordinated with WFD programmes of measures to identify specific solutions.
- **Shared data management** should be aimed for with regard to national reporting data on water-related directives (in the water reporting portal).
- However, integrated reporting under the two directives does not appear realistic until the next management cycle.
- **Coordination of public information and consultation in implementation of the WFD and the FRMD** permits the use of shared arrangements and data resources and of potential synergies. This also makes for greater transparency and hence verifiability in the identification and management of conflicts in the implementation process for the two directives. Public acceptance for measures under the two directives may be improved as a result.

These recommendations are to be regularly updated and reviewed with a view to ongoing processes at European level, notably with regard to:

- The European Commission resource document on links between the two directives and where applicable other directives (e.g. the Habitats Directive)
- Outcomes and planned activities in the context of blueprint initiatives
- Länder experience in the coordinated application of the two directives, particularly in measure selection and prioritisation, data management, and public involvement.

These recommendations have been compiled as the common position of the Länder and the Federal Government on coordinated application of the FRMD [20] and the WFD [22]. They form the basis for efficient application of the two directives and Germany's positioning in further negotiations at European level.

FIGURES

- Figure 1: Assessment matrix for analysing interactions between measures under the FRMD and the WFD
- Figure 2: Possible procedural workflow for the prioritisation of FRMD measures, taking into consideration synergies with the WFD and the measures' efficacy, cost-effectiveness and feasibility
- Figure 3: FRMD and WFD in context with WISE, SEIS and INSPIRE

TABLES

- Table 1: Timetable for the FRMD and the WFD

APPENDICES

- Appendix 1 Evaluation of the relevance of WFD and HD measures with regard to WFD management objectives and flood risk management objectives (see LAWA "Massnahmenkatalog")
- Appendix 2 Information of information exchange and data management in implementation of the WFD and the FRMD

ABBREVIATIONS

BWD	Bathing Waters Directive
CIS	Common Implementation Strategy
DG	Directorate-General
DWD	Drinking Water Directive
EG DMR	Expert Group on Data Management/Reporting
FRMD	Flood Risk Management Directive
FGG	Flussgebietsgemeinschaft (river basin alliance)
FRM	Flood risk management
FRMP	Flood risk management plan (under the FRMD)
GrwV	Ordinance on the Protection of Groundwater of 9 November 2010 – Groundwater Ordinance (Grundwasserverordnung/GrwV, BGBl. I p. 1513)
HMWB	Heavily modified water body under the WFD
ICMMS	International Commission for the Protection of the Mosel and the Saar
ICPE	International Commission for the Protection of the Elbe
ICPO	International Commission for the Protection of the Oder
ICPR	International Commission for the Protection of the Rhine
INSPIRE	Infrastructure for Spatial Information in the European Community
ISDPR	International Commission for the Protection of the Danube River
JQ-IW	Joint Questionnaire on Inland Water
JRC	Joint Research Centre (European Union DG JRC)
LAWA EG DMR	Expert Group on Data Management/Reporting
LAWA	German Working Group on Water Issues of the Federal States and the Federal Government (Bund/Länder-Arbeitsgemeinschaft Wasser)
LAWA-AG	LAWA Permanent Committee on Groundwater and Water Supply
LAWA-AH	LAWA Permanent Committee on Flood Protection and Hydrology
LAWA-AO	LAWA Permanent Committee on Surface Waters and Coastal Waters
LAWA-AR	LAWA Permanent Committee on Law
M1-M3	Categories for assessment of the effect of WFD measures in terms of objectives under the FRMD
MSD	Marine Strategy Framework Directive
NiD	Nitrates Directive
OGewV	Ordinance on the Protection of Surface Waters of 20 July 2011 –Surface Waters Ordinance (Oberflächenwasserverordnung/OGewV, BGBl. I p. 1429)
PoM	Programme of measures
RBD	River basin district
RBMP	River basin management plan under the WFD

SEA	Strategic environmental assessment
SEIS	Shared Environmental Information System
SoE	State of the environment reporting
UoM	Unit of management
UWWTD	Waste Water Treatment Directive
WG D	EU Working Group on Data Management
WG F	EU Working Group on Floods
WHG	Federal Water Act (Wasserhaushaltsgesetz)
WISE	Water Information System for Europe

GLOSSARY

CIS process	Common Implementation Strategy process – the common process for implementation of Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy, OJ L 327/1, 22.12.2000 [22].
Habitats Directive	<p>Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (OJ L 206/7, 22.7.1991) amended by Council Directive 97/62/EC of 27 October 1997 (OJ L 305/42, 8.11.1997).</p> <p>The EU Habitats Directive (Directive 92/43/EEC) came into force on 5 June 1992. A consolidated version has been available since 1 January 2007. Its aim is to contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the member states. It provides the basis for establishment of the Natura 2000 European network of protected areas.</p>
INSPIRE Directive	<p>Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) (OJ L 108, 25.4.2007) (EG-INSPIRE-RL-2007/2/EG).</p> <p>The INSPIRE Directive came into force on 15 May 2007 and was transposed into German federal law in the Geodata Access Act (GeoZG) of 14 February 2009. It has been transposed into Länder law in all German states since the end of 2010. The purpose of the Directive is to establish the Infrastructure for Spatial Information in the European Community (INSPIRE) in order to make available interoperable spatial data for EU and member state policies and to enable public access to such information. The INSPIRE Directive is supplemented with implementing rules laying down requirements and obligations for the provision of geodata by authorities. [21]</p>
SEIS	Shared Environmental Information System. Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions: Towards a Shared Environmental Information System (SEIS). COM(2008) 46 final (OJ C 118, 15.5.2008) [16]
WISE	Water Information System for Europe
WISE TG	Water Information System for Europe Technical Group

REFERENCES

- 1 Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (2010): Second Federal Government/Länder Workshop on Implementation of the EU Flood Risk Management Directive (EG-HWRM-RL-2007/60/EG): Requirements for the Coordination of Transboundary Flood Risk Management Planning. Berlin, 16/17 November 2010.
- 2 Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (2010): Second Federal Government/Länder Workshop on Implementation of the EU Flood Risk Management Directive (EG-HWRM-RL-2007/60/EG): Requirements for the Coordination of Transboundary Flood Risk Management Planning. Berlin, 16/17 November 2010.
- 3 European Commission: WFD and Hydro-morphological pressures Policy Paper. Focus on hydropower, navigation and flood defence activities. Recommendations for better policy integration, Brussels 2006.
- 4 European Commission: WFD and Hydromorphological Pressures Technical Report. Good practice in managing the ecological impacts of hydropower schemes; flood protection works; and works designed to facilitate navigation under the Water Framework Directive, Brussels 2006.
- 5 European Commission: WFD and Hydromorphological Pressures Technical Report: Case Studies. Potentially relevant to the improvement of ecological status/potential by restoration/mitigation measures Separate Document of the Technical Report, Brussels 2006.
- 6 Act on the Assessment of Environmental Assessments in the version published on 24 February 2010 (Gesetz über die Umweltverträglichkeitsprüfung/UVPG) (BGBl. I p. 94), as last amended by Article 5(15) of the Act of 24 February 2012 (BGBl. I p. 212).
- 7 Act Amending the Federal Water Act of 31 July 2009 (Wasserhaushaltsgesetz/WHG), published 6 August 2009 (BGBl. I p. 2585).
- 8 LAWA Bund/Länder-Arbeitsgemeinschaft Wasser: "Handlungsempfehlung für die Ableitung und Begründung weniger strenger Bewirtschaftungsziele, die den Zustand der Wasserkörper betreffen" (as of 21.06.2012)
- 9 LAWA Bund/Länder-Arbeitsgemeinschaft Grundsatzpapier zur Öffentlichkeitsbeteiligung im Zuge der Umsetzung der HWRM-RL (2012 edition – unpublished/working document only)
- 10 LAWA German Working Group on Water Issues of the Federal States and the Federal Government: Recommendations for the Establishment of Flood Risk Hazard Maps and Flood Risk Maps, adopted at the 139th LAWA General Meeting in Dresden on 25/26 March 2010.
- 11 LAWA German Working Group on Water Issues of the Federal States and the Federal Government: Recommendations for the Establishment of Flood Risk Management Plans, adopted at the 139th LAWA General Meeting in Dresden on 25/26 March 2010 and revised edition for presentation to the 146th LAWA General Meeting on 26/27 September 2013.
- 12 LAWA Bund/Länder-Arbeitsgemeinschaft Wasser: Strategiepapier Auswirkungen des Klimawandels auf die Wasserwirtschaft – Bestandsaufnahme und Handlungsempfehlungen, adopted at the 139th LAWA General Meeting in Dresden on 25/26 March 2010.

- 13 LAWA Bund/Länder-Arbeitsgemeinschaft Wasser: Vorgehensweise bei der vorläufigen Bewertung des Hochwasserrisikos, adopted at the 137th LAWA General Meeting in Saarbrücken on 17/18 March 2009.
- 14 LAWA Bund/Länder-Arbeitsgemeinschaft Wasser: Strategie zur Umsetzung der Hochwasserrisikomanagement-Richtlinie in Deutschland, adopted at the 136th LAWA General Meeting in Berlin on 15/16 September 2008.
- 15 LAWA Bund/Länder-Arbeitsgemeinschaft Wasser: Eckpunkte zur fachlichen Umsetzung der Hochwasserrisikomanagementrichtlinie in Deutschland, adopted at the 136th LAWA General Meeting in Berlin on 15/16 September 2008.
- 16 Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions of 23 January 2008: Towards a Shared Environmental Information System (SEIS). COM(2008) 46 final (OJ C 118, 15.5.2008).
- 17 Communication of 14.11.2012 from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions: A Blueprint to Safeguard Europe's Water Resources. COM(2012) 673 final.
- 18 Ministerium für Umwelt, Klima und Energiewirtschaft: Hochwasserrisikomanagementplanung in Baden-Württemberg – Vorgehenskonzept zur Erstellung von Hochwasserrisikomanagementplänen. In Kooperation mit dem Landkreistag, Gemeindetag und Städtetag Baden-Württemberg, Stuttgart, January 2012.
- 19 Council of the European Communities of 17.12.2012: Conclusions on a blueprint to safeguard Europe's water resources, 17872/12
- 20 Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks, OJ L 288/27, 6.11.2007 (EU Flood Risk Management Directive (FRMD)) (EG-HWRM-RL-2007/60/EG).
- 21 Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) (OJ L 108, 25.4.2007, p. 1) (EG-INSPIRE-RL-2007/2/EG).
- 22 Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy, OJ L 327/1, 22.12.2000 (EU Water Framework Directive (WFD)) (EG-HWRM-RL-2000/60/EG), most recently amended by Directive 2009/31/EC of the European Parliament and the Council of 23 April 2009 (OJ L 140, 5.6.2009, p. 114).
- 23 Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (OJ L 206/7, 22.7.1991) amended by Council Directive 97/62/EC of 27 October 1997 (OJ L 305/42, 8.11.1997)
- 24 Commission Regulation (EU) No 1089/2010 of 23 November 2010 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards interoperability of spatial data sets and services
- 25 Commission Regulation (EC) No 976/2009 of 19 October 2009 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards the Network Services

APPENDIX 1

Evaluation of the relevance of WFD and HD measures with regard to WFD management objectives and flood risk management objectives

The classification of measures into categories M1 to M3 below is at a higher level. With knowledge of specific measures on the ground, an assessment for mutual synergies may produce a different outcome.

	Key
1	Measure code as per code list in LAWA "Massnahmenkatalog" (List of Measures)
2	Directive under which measure carried out: WFD: Water Framework Directive FRMD: Flood Risk Management Directive SW: Surface waters GW: Groundwater
3	Measure classification in accordance with LAWA List of Measures
4	Type of measure according to LAWA List of Measures
5	Assessment of measure's relevance in terms of the objectives of the other directive in each case: M1: Measures that support the objectives of the other directive in each case M2: Measures that may lead to a goal conflict and require case-by-case assessment M3: Measures not relevant to the other directive's objectives

Measure number	Directive	Pressure type under WFD Annex II ----- ----- EU type under FRMD	Type of measure	Explanation/description (text box)	Relevance to WFD/FRMD	Recording/count unit (optional)	KEY TYPE measure code
WFD measures							
1	WFD/SW	Point sources: municipalities/ households	Construction and upgrading of municipal wastewater treatment plants	Construction of new wastewater treatment plants or upgrading of existing plants with regard to treatment capacity	M2	Individual plant	1
2	WFD/SW	Point sources: municipalities/ households	Upgrading of municipal wastewater treatment plants to reduce nitrogen discharges	Technical upgrading specifically to reduce nitrogen loads, e.g. added denitrification stage	M3	Individual plant	1
...	1
FRMD measures							
301	FRMD	Prevention	Designation of priority and restricted areas in spatial and regional plans	Depiction of existing and as yet lacking priority and restricted areas in spatial and regional plans. Also includes modification of regional plans, safeguarding of retention areas, modifications to land use, provision of areas for flood protection and water body development.	M1	Individual measure [quantity]	
306	FRMD	Avoidance; reduction	Flood-adapted construction and upgrading	Flood-safe infrastructure construction and flood-checked site selection for building	M3	Individual measure [quantity]	

Measure number	Directive	Pressure type under WFD Annex II ----- ----- EU type under FRMD	Type of measure	Explanation/description (text box)	Relevance to WFD/FRMD	Recording/count unit (optional)	KEY TYPE measure code
...	
Conceptual measures							
501	CON	Conceptual measures	Erstellung von Konzeptionen / Studien / Gutachten	Compilation of technical guidelines, concepts, recommendations and decision aids for implementation of the WFD in accordance with pressure types and/or flood risk management independent of APSFRs in accordance with EU types	M1	Individual measure [quantity]	14
509	CON	Conceptual measures	Climate change research	WFD: Climate change research with regard to future water management needs, e.g. drafting of trans-regional climate change adaptation strategies FRMD, APSFR-independent: Determination of climate change impacts, e.g. drafting of planning requirements to take account the implications of climate change for flood protection engineering	M2	Individual measure [quantity]	

Measure number	Directive	Pressure type under WFD Annex II ----- ----- EU type under FRMD	Type of measure	Explanation/description (text box)	Relevance to WFD/FRMD	Recording/count unit (optional)	KEY TYPE measure code
...

The full list for Annex I, Evaluation of the relevance of WFD and HD measures with regard to WFD management objectives and flood risk management objectives, is available in German on the LAWA website, www.lawa.de.

Appendix 2, "Bedeutung des Informationsaustausches und des Datenmanagements bei der Implementierung des WRRL und der HWRM-RL" (Importance of information exchange and data management in implementation of the WFD and the FRMD) is available in German on the LAWA website, www.lawa.de