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## **Legal Framework for Public Participation in Flood Risk Mapping**

A comparative study of the responses of different European Member States to some requirements of the Floods Directive

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**Abstract:** This report is a comparative study of the current legal situation in relation to the forthcoming implementation of the Floods Directive in selected EU Member States, focusing on the question of whether these states incorporate public participation into the process of flood risk mapping and, if so, in what form. The comparison also considers current administrative practices.

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\* Legal situation as of 01.06.2010

+ until 30.6.2010

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## 1 Introduction

The aim of this article is to compare the current legal situation in selected EU Member States with regard to the (future) implementation of the Floods Directive<sup>1</sup> (FD), focusing especially on the question of whether these states incorporate public participation into the process of risk mapping in line with the FD and, if so, in what form. The comparison also seeks to address current administrative practices, as far as these are documented in the literature. It begins with an analysis of the requirements of the FD itself and other relevant directives, most notably the Water Framework Directive (WFD) and the Strategic Environmental Assessment Directive (SEAD).

## 2 Steps in the flood risk planning process and requirements for public participation according to relevant European Directives (FD, WFD and SEAD)

### 2.1 Basic requirements and procedures for flood risk planning

Flood risk management according to the FD takes place in three steps:

1. Carry out preliminary flood risk assessment (PFRA).
2. Preparation of flood hazard maps (FHMs) and flood risk maps (FRMs).
3. Establishment of flood risk management plans (FRMPs).

The PFRA has to be carried out area wide. Based on the information collected in the PFRA, Member States are to identify

“those areas for which they conclude that potential significant flood risks exist or might be considered likely to occur” (Article 5 (1) FD).

FHMs and FRMs are then produced for these areas (Article 6 (1) FD). These maps are to be developed in relation to three scenarios (Article 6 (3) FD):

- “(a) floods with a low probability, or extreme event scenarios;
- (b) floods with a medium probability (likely return period  $\geq 100$  years);
- (c) floods with a high probability, where appropriate.”

The following elements need to be shown for each of the scenarios (Article 6 (4) FD):

- “(a) the flood extent;
- (b) water depths or water level, as appropriate;
- (c) where appropriate, the flow velocity or the relevant water flow.”

The FRMs should additionally provide the following information (Article 6 (5) FD):

- “(a) the indicative number of inhabitants potentially affected;
- (b) type of economic activity of the area potentially affected;

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<sup>1</sup> 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 of 6.1.2007 L288/27-34.

(c) installations as referred to in Annex I to Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control ... which might cause accidental pollution in case of flooding and potentially affected protected areas identified in Annex IV(1)(i), (iii) and (v) to Directive 2000/60/EC;

(d) other information which the Member State considers useful such as the indication of areas where floods with a high content of transported sediments and debris floods can occur and information on other significant sources of pollution.”

The information contained in FRMs regarding “potential adverse consequences” or damage potential does not have to be graded, for example, according to “high, medium or low” potential. The FHMs and FRMs are purely descriptive in the sense that they should reflect the status quo in terms of land use etc. They do not entail any legal consequence for Member States’ management policies. Whether or not Member States place restrictions on (future) land use to certain areas (e.g. building bans) identified in the maps is completely up to them. There is no provision in the FD that requires them to use the FHMs and FRMs in this way.

Member States are to use the FHMs and FRMs to draw up FRMPs for those areas that carry significant flood risks in the sense of Article 5 (1) FD (Article 7 (1) via Article 6 (1) FD). The FRMPs are to be coordinated at the level of the river basin district or other units of management referred to in the FD. Within these plans, Member States shall establish appropriate objectives for the management of flood risks (Article 7 (2) FD) and include measures for achieving these objectives (Article 7 (3) (1) FD). FRMPs shall take into account all relevant aspects such as costs and benefits, flood extent etc. and shall address all aspects of flood risk management focusing on prevention, protection and preparedness, including flood forecasts and early warning systems (Article 7 (3) (3) FD). These plans may also include instruments such as the promotion of sustainable land use practices, improvement of water retention, as well as the controlled flooding of certain areas in the case of a flood event (Article 7 (3) (3) FD).

The FD also sets out a few exceptions to this general programme of action. Article 13 FD allows Member States to *skip the first step* if they undertake a risk assessment as specified in Article 13 (1) (a) FD or if they decide to carry out steps two and three before 22 December 2010 in accordance with the relevant provisions of the FD. Member States may also decide to make use of FHMs and FRMs, provided they are finalised before 22 December 2010 and provide a level of information equivalent to the requirements of Article 6 FD. Similarly, other types of flood risk management plans finalised before 22 December 2010 may also be used instead of FRMPs, provided that the content of these plans is equivalent to the requirements set out in Article 7 FD. To sum up: if maps and plans, based on existing legislation and finalised before 22 December 2010, are equivalent to FHMs, FRMs and FRMPs, the planning cycle provided for in the FD (chapters II-IV) may be omitted for the first planning cycle.

With regard to general/wider public involvement in the process, Article 10 (1) FD only requires that the public be given ex post access to the information contained in the maps and plans produced at the three steps. The directive does not set any deadline in this regard, however. Effectively, then, all this information could be published in one go at the very end of the process, rather than being presented stepwise as it is produced. In contrast to this, the “active involvement of interested parties” as a more advanced type of participation is required for the production, review and updating of FRMPs (Article 10 (2) FD). This does not apply to the preceding steps. This structuring of public participation is similar to that contained in the WFD. For the descriptive side of the process (i.e. the analysis of characteristics and of the state of the water bodies, including economic analysis of water use). Member States are required to provide information only ex post and only “on request” (Article 14 (1) (3) WFD), while on the decision-making/management side of the process more far-reaching participation requirements are set out, namely “active involvement” and, at least, “consultation” (Article 14 (2) WFD).

In both cases, however, it is necessary to take account of the complementary requirements laid down by the Strategic Environmental Assessment Directive (SEAD)<sup>2</sup>. The SEAD stipulates that an environmental assessment should be conducted with regard to plans and programmes related to water management which establish a framework for future approval of development projects (e.g. flood relief works). This means that environmental reports have to be produced for draft flood risk management plans (draft FRMPs) and that both documents are to be subjected to a consultation procedure (Article 6 SEAD). This consultation of the relevant authorities and members of the public entails providing them with the relevant information and granting them an opportunity to comment on the documents within an appropriate time frame. The “relevant authorities” are those which

“by reason of their specific environmental responsibilities, are likely to be concerned by the environmental effects of implementing plans and programmes” (Article 6 (3) SEAD).

The “public” is to be identified by the Member States according to Article 2 (d) SEAD:

“‘The public’ shall mean one or more natural or legal persons and, in accordance with national legislation or practice, their associations, organisations or groups”.

More specifically, in accordance with Article 6 (4) SEAD:

“Member States shall identify the public for the purposes of paragraph 2, including the public affected or likely to be affected by, or having an interest in, the decision-making subject to this Directive, including relevant non-governmental organisations, such as those promoting environmental protection and other organisations concerned.”

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<sup>2</sup> Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment, OJ L 197/30 of 21.7.2001.

As the FRMPs are to be developed on the basis of FHMs and FRMs, the latter should be part of the draft FRMPs subject to the consultation in the course of the SEAD but not separately beforehand. In contrast to Article 14 (1)(b) and (2) WFD, where a separate cycle of consultation is proposed in relation to the “interim overview of significant water management issues” at the early stage of river basin management, the FD does not provide an option for public comment on the PFRA at the corresponding early stage of the flood risk management process. The obligation to coordinate flood risk planning with WFD planning is restricted to the flood risk management plans, and thus it is only at this stage that the active involvement of all interested parties (Article 9 (3) FD) has to be coordinated as well. In addition, Article 9 FD requires only coordination, not a transfer of requirements from the WFD (e.g. a minimum six month period for comments).<sup>3</sup>

## 2.2 “Active involvement of interested parties” in the WFD and the FD

The notions of “interested parties”, “public” and “active involvement” in Article 10 FD may be understood in the same way as in Article 14 WFD, as these directives deal not only with very similar themes, but the FD even obliges to coordinate the planning processes. Neither of the directives defines these notions, but for the WFD the European water directors within the CIS-process (Common Implementation Strategy) have elaborated them for the purpose of the WFD in Guidance Document No. 8 (GD8).<sup>4</sup> The definition of “interested party” found there takes up certain elements of the specifications contained in Article 6 (4) SEAD:

“Interested party (or ‘stakeholder’): Any person, group or organisation with an interest or ‘stake’ in an issue, either because they will be directly affected or because they may have some influence on its outcome. ‘Interested party’ also includes members of the public who are not yet aware that they will be affected (in practice most individual citizens and many small NGOs and companies).”<sup>5</sup>

Thus “interested party” refers not only to ordinary citizens and civil society organisations but also to the “relevant authorities” in the sense of the SEAD as “organisations”. GD8 identifies the following as possible stakeholders:

**“Professionals** – public and private sector organisations, professional voluntary groups and professional NGOs (social, economic and environmental). This also includes statutory agencies, conservation groups, business, industry, insurance groups and academia.

**Authorities, elected people** - government departments, statutory agencies, municipalities, local authorities

<sup>3</sup> Cf. Article 14 (2) WFD?

<sup>4</sup> Common Implementation Strategy for the Water Framework Directive (2000/60/EC) – Guidance Document No 8: Public Participation in Relation to the Water Framework Directive, 2003.

<sup>5</sup> Common Implementation Strategy for the Water Framework Directive (2000/60/EC) – Guidance Document No 8: Public Participation in Relation to the Water Framework Directive, 2003, p. 11.

Local Groups- non-professional organised entities operating at a local level. It usefully breaks down into:

*Communities centred on place* – attachment centred on place, which includes groups like residents associations and local councils.

*Communities centred on interest* – e.g. farmers’ groups, fishermen, birdwatchers.

Individual citizens, farmers and companies representing themselves. Key individual landowners for example or local individual residents.”<sup>6</sup>

The term “interested parties” on the other hand is not restricted to authorities in the sense of Article 6 SEAD. This concept of “interested parties” is closer to the notion of “public concerned” contained in the Aarhus Convention<sup>7</sup>, which defines “the public concerned” as:

“the public affected or likely to be affected by, or having an interest in, the environmental decision-making; for the purposes of this definition, non-governmental organizations promoting environmental protection and meeting any requirements under national law shall be deemed to have an interest.”

In defining the term “public” GD8 refers only to Article 2(d) SEAD – which is somewhat misleading, as it ignores the specification in Article 6 (4) – and Article 2 (4) Aarhus Convention:

“The public’ means one or more natural or legal persons and, in accordance with national legislation or practice, their associations, organisations or groups.”<sup>8</sup>

In this isolated sense, the “(general) public” simply refers to everybody, including legal persons and civil society organisations.

To sum up: GD8 applies the more restrictive definition of “public” in the SEAD for the definition of “interested parties”, leaving “public” in the WFD as a largely generic term with no restrictions. As “interested parties” also include public authorities (other than the ones in charge of planning), this concept differs from the “public concerned” of the Aarhus Convention.<sup>9</sup>

Therefore, there is a clear distinction between “public” and “interested parties” in the WFD and hence in the FD. However, some argue that “interested parties” need not be read as a restrictive term but rather as synonymous with “public”, as there is no indication in the WFD that the term is to be used in a restrictive way.<sup>10</sup> One objection that might be brought to bear on

<sup>6</sup> Common Implementation Strategy for the Water Framework Directive (2000/60/EC) – Guidance Document No 8: Public Participation in Relation to the Water Framework Directive, 2003, p. 16 (original emphases).

<sup>7</sup> Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters done at Aarhus, Denmark, on 25 June 1998.

<sup>8</sup> Common Implementation Strategy for the Water Framework Directive (2000/60/EC) – Guidance Document No 8: Public Participation in Relation to the Water Framework Directive, 2003, p. 11.

<sup>9</sup> The term “relevant authorities” in the SEAD has no equivalence in the Aarhus Convention.

<sup>10</sup> Jekel, H. (2006): Kap. 1.5: Einbindung der Öffentlichkeit bei der Umsetzung der WRRL; in: Handbuch der EU-Wasserrahmenrichtlinie, ed. by Rumm, P., von Keitz, St. and Schmalholz, M. (2006), Erich Schmidt Verlag, Berlin, pp. 81-99, p. 88; subscribing to this view: Hödl, E. (2005): Wasserrahmenrichtlinie und Wasserrecht, p. 203 f.



this broad concept of “interested parties” is that the assignment of different degrees of participation (information/consultation and active involvement) to different groups (public and interested parties) indeed suggests that the groups are not identical. Otherwise it would not be clear why the term “interested parties” is used at all. At the same time, however, the preamble, whereas 14 mentions “information, consultation and involvement of the public” and whereas 46 “involvement of the general public”, without confinement to “interested parties”. Nevertheless, the WFD uses the qualified notion “*active involvement*” only in the context of interested parties. One can see this as an indication of a difference. Arguing along the same lines, Grimeaud<sup>11</sup> refers to Directive 90/313/EEC<sup>12</sup> in order to argue “that ‘interested parties’ and ‘public’ may have the same meaning under Article 14, in the sense that they include the public at large”; however, the said Directive does not define any of the terms. The reference does not provide any specification of terms and hence the argument does not stand. Furthermore, the term “interested parties” is also used in Article 18 (5) WFD, which obliges the European Commission to convene a conference of “interested parties”; in practice, however, the Commission invites stakeholders only, not everyone.

The final version of Article 14 WFD dates back to the European Parliament amendments<sup>13</sup> to the first draft of the Directive produced by the European Commission<sup>14</sup>. This version attracted no controversy and remained unchanged by the actors (Commission, Council and Parliament) throughout the later process of designing the Directive. Thus the history of adoption of the WFD does not reveal a different view.

The notional context of “active involvement” in the WFD is slightly different from the one in the FD. The WFD speaks of three steps – “information/publication”, “consultation” and “active involvement” – while the FD mentions only two, namely “information/publication” and “active involvement”. GD8 defines “active involvement” for the WFD as

“[a] higher level of participation than consultation. Active involvement implies that stakeholders are invited to contribute actively to the planning process by discussing issues and contributing to their solution.”<sup>7</sup>

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and Albrecht, J., Wendler, W. (2009): Koordinierte Anwendung von Wasserrahmenrichtlinie und Hochwassererisikomanagementrichtlinie im Kontext des Planungsprozesses; *Natur und Recht* Vol. 31, pp. 608-618, p. 616.

<sup>11</sup> Grimeaud, D. (2001): Reforming EU Water Law: Towards Sustainability (Part II); *European Energy and Environmental Law Review* (EELR), Vol. 10, 2001, Issue 4, pp. 125–134, p. 130 (fn. 139).

<sup>12</sup> Council Directive 90/313/EEC on Freedom of Access to Environmental Information, OJ 23.6.1990 L 158.

<sup>13</sup> European Parliament (1999): Proposal and amended proposals for a Council Directive establishing a framework for Community action in the field of water policy (COM(97)0049 – C4-0192/97, COM(97)0614 – C4-0120/98 and COM(98)0076 – C4-0121/98 – 7/0067(SYN)), A4-0261/98. Official Journal C 150, 28/05/1999, Brussels, 388–419.

<sup>14</sup> European Commission (1997): Proposal for a Council Directive establishing a framework for Community action in the field of water policy, COM/97/0049 final – SYN 97/0067. Official Journal C 184, 17/06/1997, Brussels, 20–40.

With reference to the tiered approach expressed in this definition, one may regard “consultation” as a minimum requirement for “active involvement” in the sense of the FD. Although there is some duplication with the SEAD requirements, the consultation requirements set out by the FD should be regarded as separate. With regard to consultation the WFD refers only to “comments in writing” (Article 14 (2) WFD). As oral consultation is usually a more dynamic process in which stakeholders have the opportunity to engage in dialogue and discussion with the competent authorities, one can regard it as a transitional step towards “active involvement”.<sup>15</sup> A slightly different approach (though not mutually exclusive) to active involvement is indicated by the procedure described in the Public Participation Directive (2003/35/EC)<sup>16</sup>, which requires that opinions expressed during (written) consultation should be taken into consideration and addressed (Article 2 (2)(2)(d)):

“(b) the public is entitled to express comments and opinions when all options are open before decisions on the plans and programmes are made;

(c) in making those decisions, due account shall be taken of the results of the public participation;

(d) having examined the comments and opinions expressed by the public, the competent authority makes reasonable efforts to inform the public about the decisions taken and the reasons and considerations upon which those decisions are based, including information about the public participation.”

All these steps are implicitly bilateral, i.e. communication takes place between the planning administration and each of the stakeholders separately. Therefore, any kind of consultation that provides an opportunity for stakeholders to communicate among each other (multilateral consultation) is potentially more active, especially in the case of “oral consultation”.<sup>17</sup> Multilateral consultation offers a smooth transition to participation in the development and implementation of plans, particularly if it leads to a form of negotiation. It is regarded as a minimum requirement for active involvement:

“A higher level of participation is **participation in the development and implementation of plans**. Interested parties participate actively in the planning process by discussing issues and contributing to their solution. Still higher levels of participation are **shared decision-making** and **self-determination**. Shared decision-making implies that interested parties not only participate actively in the planning process, but also become partly responsible for the

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<sup>15</sup> Common Implementation Strategy for the Water Framework Directive (2000/60/EC) – Guidance Document No 8: Public Participation in Relation to the Water Framework Directive, 2003, p. 13.

<sup>16</sup> Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003 providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC, OJ L156/17 of 21.7.2001. This Directive is not directly relevant as it does not amend the SEAD and has no dynamic reference mechanism that would provide coverage of the FD.

<sup>17</sup> Cf. Common Implementation Strategy for the Water Framework Directive (2000/60/EC) – Guidance Document No 8: Public Participation in Relation to the Water Framework Directive, 2003, p. 13.

outcome. E.g. water use sectors could be represented in river basin organisations. Self-determination implies that (parts of) water management are handed over to the interested parties, e.g. by establishing water users' associations. Encouraging the first should be considered the core requirement for **active involvement**, the latter two forms are not specifically required by the Directive but may often be considered as best practice.”<sup>18</sup>

Regarding the degree of obligation, both the WFD and the FD require Member States only to “encourage” active involvement. Additional steps such as “shared decision-making” and “self-determination” (beyond existing democratic structures) are not obligatory either in the WFD or in the FD.

### 2.3 Summary and requirements for transposition into national law

“Active involvement of interested parties” in the development of FRMPs, as set down in Article 10 FD, requires some kind of multilateral consultation on the draft FRMPs that allows stakeholders to discuss relevant issues and contribute to their solution and also obliges the planning authority to examine the arguments and statements put forward by stakeholders. In order to be effective, FHM and FRM should also be a topic of discussion, as they form the basis for the FRMPs (although the FD does not require a separate consultation procedure). However, the degree of obligation attached to active involvement – i.e. to encourage it (Article 10 (2) FD), in contrast to “shall make available” in Article 10 (1) FD – leaves open a wide range of implementation options. Essentially, Member States do not have an obligation to formally introduce participation procedures in order to substantiate “active involvement” in order to fulfil the obligation.<sup>19</sup> “Encouragement” does not entail any individual rights; it does not imply any specific licensing procedures nor serves to protect a significant legal interest as important as the protection of Europe’s natural heritage or groundwater.<sup>20</sup> If there is no specification provided by the national legislation, the implementation task “to encourage active involvement” shifts from being a matter of formal implementation to being one of the administrative practice of each Member State, which is responsible for making a visible effort to promote and facilitate active involvement.<sup>21</sup> Nonetheless, the TFEU allows Member States to maintain or introduce more stringent protective measures in environmental policy (Article 193 TFEU, ex Article 176 TEC). This option also covers procedural requirements. Therefore, Member States are free to introduce more active forms of participation for all the steps of the flood risk management planning process. Table 1

<sup>18</sup> Common Implementation Strategy for the Water Framework Directive (2000/60/EC) – Guidance Document No 8: Public Participation in Relation to the Water Framework Directive, 2003, p. 13 (original emphasis).

<sup>19</sup> Common Implementation Strategy for the Water Framework Directive (2000/60/EC) – Guidance Document No 8: Public Participation in Relation to the Water Framework Directive, 2003, p. iv.

<sup>20</sup> For details on the requirement of (literal) transposition, see Unnerstall, H., Köck, W. (2004): The Implementation of the EU Water Framework Directive into Federal and Regional Law in Germany. In: *Journal for European Environmental and Planning Law* 2004, Vol. 1 Issue 3, pp. 207-217, 209 f.

<sup>21</sup> Common Implementation Strategy for the Water Framework Directive (2000/60/EC) – Guidance Document No 8: Public Participation in Relation to the Water Framework Directive, 2003, p. 18.

summarises the formal requirements set up by the different European directives relevant to flood risk management:

| <b>Phase \ Requirements</b>           | FD  | SEAD  | Coordination with WFD   |
|---------------------------------------|---|---|---|
| Preliminary Flood Risk Assessment     | Ex post information of general public (Art. 10 (1))                                       | Not subject to the SEAD   | No coordination required acc. to Art. 9 S. 2 Nr. 3 FD                                     |
| Flood Hazard Maps and Flood Risk Maps | Ex post information of general public (Art. 10 (1))                                       | Not subject to the SEAD   | No coordination required acc. to Art. 9 S. 2 Nr. 3 FD                                     |
| Flood Risk Management Plans           | Encourage active involvement of interested parties (Art. 10 (2)), but no formal procedure | Formal consultation of (general) public and opportunity for comments (appropriate time frame) | Coordination required acc. to Art. 9 S. 2 Nr. 3 FD, but unclear which format. Art. 14 WFD |

**Table 1:** Public participation requirements in flood risk planning according to EC directives

### 3 National transposition

#### 3.1 Germany

##### 3.1.1 Federal level

The formal transposition of the FD at federal level took place in 2009 through the amendment of the German Federal Water Act (GFWA); it took effect not until 1 March 2010. This represents a (minor) violation of the requirements of the FD (Article 17 (1) FD). The transposition adheres to the minimum requirements of the FD and is thus correct upon initial inspection. It does not adopt the FD's "risk management" concept exclusively, but merges it with a concept traditionally used in Germany, "hazard management", which is essentially geared towards damage prevention in the case of 100-year floods, regardless of the amount of damage potentially incurred. This concept is based on the terms "flood plains" and "designated flood plains" – the latter representing an instrument for flood management. Of the areas of risk identified in the PFRA in accordance with Article 5 FD, at least the areas are identified that would be flooded or run through in the case of a 100-year flood event. These areas are formally to be designated as so-called "designated flood plains" (§ 76 (2) GFWA). The designation takes place for normative purposes because, once designated, a significant number of land-use restrictions come into effect for the area (§ 78 GFWA). However, as these land-use restrictions are tiered according to the extent of damage potential caused by floods, in practice the hazard-oriented approach entails a good deal of risk assessment considerations. Still, this approach has a certain bias towards preventing an increase in damage potential in the course of land-use changes at the expense of reducing/mitigating the damage potential of given land-uses.

With regard to public participation, in principle the GFWA merely adopts the requirements contained in Article 10 FD and essentially replaces "make available" with "publish" and "Member States" with "competent authority". Transposition of the FD in this respect is complete and

correct. Thus the task of specifying the requirement “to encourage active involvement” is passed onto the individual federal states (Länder). No additional legislation by the federal states is necessary, but at least administrative practice regarding “active involvement”, which falls almost exclusively within their area of responsibility, must comply with the demands of the FD (cf. section 2.3). However, the federal states are free to issue guidelines in the form of formal legislation, as the Basic Law (the German constitution) allows them to deviate from national federal legislation in their state legislation (Article 72 (3) German Basic Law) – albeit only within the boundaries set by EC legislation, which sets down more stringent requirements (cf. section 2.3). Hence, the federal states in Germany are free to introduce more advanced participation procedures. With regard to implementation, they also have to decide whether they can and wish to make use of the option for transitional measures in accordance with Article 13 FD (and § 75 (6) GFWA). In addition, of course, the administrative execution of flood risk management may also deviate from the national federal legal basis in terms of more intense/active participation. The analysis below shows how the federal states of Saxony and Bavaria deal with these issues.

### 3.1.2 Saxony

#### 3.1.2.1 Current Situation

After the heavy floods of 2002 Saxony was the first federal state to modernise its flood management legislation, even before legislation was revised at national level. The Saxon Water Act of 2002 (SaxWA 2002) provides for the development of “flood protection concepts” (*Hochwasserschutzkonzepte*). These concepts should be based on FHMs and on an evaluation of hazards and damage potential. The level of protection to be determined should be based on the probability of the occurrence of floods and the resulting amount of damage (§ 99b SaxWA 2002). A comparison of this procedure with the management steps set out in the FD reveals that there is no equivalent to the PFRA and no equivalent to the production of risk maps, although Saxony’s “hazard maps” and “flood protection concepts” (FPC) are deemed to be equivalent to the flood hazard maps and FRMPs of the FD respectively. The so-called “hazard indicator maps” (*Gefahrenhinweiskarten*) developed by the Saxony administration, which include “maps of damage potential” (*Schadenspotentialkarten*), bear similarity to the FRMs. These particular maps go further than the required Saxon legal standard but are produced only in connection with an “extreme events” scenario<sup>22</sup>. Furthermore, they contain only a rough estimate of possible damage in monetary terms for industrial and residential areas, along with an account of areas of high damage potential (e.g. industrial facilities for handling substances hazardous to waters, water

<sup>22</sup> According to Article 6 (4) FD risk maps have to be produced for the three scenarios mentioned in Article 6 (3) FD, namely: “floods with a low probability, or extreme event scenarios”, “floods with a medium probability (likely return period  $\geq 100$  years)” and “floods with a high probability, where appropriate”.

supply facilities, hospitals etc.).<sup>23</sup> This does not meet the required specifications set out in Article 6 (4) FD. Although the flood hazard maps in Saxony meet the requirements of the FD, they are only a dependent/integrated part of the FPCs. The FPCs, in turn, are regarded as equivalent to the FRMPs required by the FD. With regard to public participation, the Saxon system requires that all relevant authorities whose area of responsibility might be affected must be involved in drafting the FPCs (§§ 99b (4) in connection with § 99a (3) SaxWA 2002). The general public is involved by means of a formal consultation procedure, including public display of the drafts and the opportunity to comment on them. As the FPCs are based on the hazard maps, the latter are only indirectly subject to the consultation. In addition, FPCs are subject to the SEA Directive with its requirement of a formal consultation procedure (cf. section 2.1.).<sup>24</sup>

### 3.1.2.2 Upcoming legislation and use of transition option (draft law of 10 February 2010)

As the current Saxon legislation on flood management does not comply with the FD and the GFWA, it has to be amended. A corresponding draft was presented on 10 February 2010 (dSaxWA). Two implementation strands should be distinguished here: (long-term) adaptation to the FD requirements and (short-term) use of transitional measures (Article 13 FD). With regard to adaptation, the dSaxWA identifies two distinct modes of participation: for all steps of flood risk management (PFRA/FHMs and FRMs/FRMPs) the competent authorities have to include other authorities and public agencies (*Träger öffentlicher Belange*) whose field of activity is affected. The latter include not only natural and legal persons upon whom specific responsibilities of public administration are bestowed (*Beliebene*) but also those who fulfil public tasks based on concessions. They also include recognised NGOs promoting matters of public interest such as nature conservation, acknowledged by granting them access to justice.<sup>25</sup> Not all interest groups are recognised in a similar way, however. Farmers' associations, for example, are not included. For the purpose of developing the FRMPs the dSaxWA extends the group of entities involved to include associations (*Verbände*) and corporate bodies (*Körperschaften*) (§ 99b (4)(2) dSaxWA with reference to § 6a (1) (2) SaxWA).<sup>26</sup> The problem remains that individual stakeholders (cf. GD8: individual citizens, farmers and companies representing themselves) are not included. This fact can be seen as a shortcoming that is rooted in the official German translation of “interested parties” in the WFD and the FD as “*interessierte Stellen*”, which is actually closer to “interested bodies” or “interested organised groups”. This limitation deviates from the ordinary understanding of “parties” in the English language. One methodological option for overcoming this defi-

<sup>23</sup> See: Atlas der Hochwassergefährdung in Sachsen (Gefahrenhinweiskarte Sachsen) – Allgemeine Hinweise – Beschreibung.

<sup>24</sup> According to Article 6 SEAD, §§ 7 and 9 German Environmental Impact Assessment Act and § 3 (1a) No. 2 and Annex 2 No. 1h) Saxon Environmental Impact Assessment Act.

<sup>25</sup> Zeppernick, V. and Habel, W. (2004): Das Sächsische Wasserrecht; Dresden, Saxonia Verlag; p. 74.

<sup>26</sup> While the SaxWA-D in § 6a (1) continues to use the term “interested parties” for the transposition of the WFD, it is not used for the transposition of the FD.

ciency would be to interpret the term in conformity with the said directives (and corresponding provision of the GFWA). However, individual stakeholders may participate through the formal consultation procedure (§ 99b (5) dSaxWA). One can argue that this option has a certain compensatory effect that offsets the exclusion of individuals. In addition, the inclusion of public authorities and agencies at the stage of producing PFRAs, FHMs and FRMs and not only at the stage of preparing FRMPs – which is not explicitly required by the FD – also compensates somewhat for the exclusion of individuals. Ultimately, however, the requirement to “encourage” active involvement still allows for some insufficiencies compared to the ideal of public participation. As to the scope of persons to be included in the process of participation, the dSaxWA can ultimately be regarded as being in line with the FD.

The process of developing the FRMPs also enhances the degree of involvement insofar as participation is intended to take place throughout the preliminary, preparatory stages and early drafts of the FRMPs onwards (§ 99b (4) (2) dSaxWA with reference to § 6a (1) (2) SaxWA), rather than beginning only once the authority in charge has set out its own position. If, in the course of this process, multilateral consultations take place, then the stipulation of “active involvement” as defined above is fulfilled. However, exactly what this means is not clear from the wording of § 99b dSaxWA; as a result, actual administrative practice becomes the deciding factor. The minimum requirement of “active involvement” in the FD, i.e. formal consultation, is provided for the FRMPs in §99b (5) dSaxWA. In order to implement the requirement of public participation set out in the WFD, Saxony has established an advisory board at state level and three water fora at (lower) regional levels. These comprise members of public authorities, representatives of NGOs and of other stakeholder groups and associations, but not individual stakeholders. Discussions in these panels are held on all relevant issues during the planning and implementation process. These fora basically fulfil the requirement of multilateral consultations. Whether the administration in Saxony will use these panels to discuss flood risk management issues has apparently not yet been considered.

The ex post information provided to the general public on the documents to be produced (preliminary assessment, the maps and the FRMPs) is not regulated in the dSaxWA itself, but the provisions of the GFWA fill this gap. As the formal consultation procedure in §99b (5) dSaxWA covers not only stakeholders but also the wider public, this standard exceeds the demands of the FD, which calls only for ex post information in relation to the FRMPs. No specific procedure – and hence no specific participation process – has been established for the production of FRMs. The requirements of the SEA Directive and the corresponding national legislation remain unchanged and unaffected by the dSaxWA.

The transitional rules apply to those areas which already have a FPC according to current law (§ 99b (1) dSaxWA) or where the FPC is about to be completed (§ 99b (3) dSaxWA). If they

have to be adapted to the requirements of the FD, this is to be done before 22 December 2010. The competent authorities have to decide themselves, on a case-by-case basis, whether any revision is necessary. Experts say that, with regard to the FHMs, only minor adjustments are necessary. The same holds true for the FRMPs. The most “changes” are needed for the FHMs, as they essentially have to be compiled for the first time.<sup>27</sup> If the necessary alignments take place, the PFRA may be omitted in accordance with Article 13 (1) FD. The dSaxWA does not specify a formal procedure for adapting existing maps and plans, as there is no explicit reference to § 99b (4) or (5) dSaxWA or to the updating process provided for the FPCs in current law. Therefore, the competent authorities may implement adjustments without public participation.

### 3.1.2.3 Summary and conclusions

Saxony has adopted a formal consultation procedure covering the general public as a way of implementing the requirement of “active involvement of interested parties”. It has not established panels of “interested parties” equivalent to the “water fora” established for the implementation of the WFD, and these existing fora have not extended their field of activity either. For the planning stage of FRMs no specific procedure takes place and hence no specific participation process. Where transitional measures are taken, no public participation process is planned in connection with the adaptation of existing documents to the standards of the FD.

Table 2 summarises the results for Saxony and compares them with the FD and GFWA requirements:

| <b>Sources of law</b><br><b>Steps acc. to FD</b> | FD/GFWA   | current SaxWA<br>(with equivalences and related participation)                      | dSaxWA (draft 10.2.2010) for <i>transition period</i>                          | dSaxWA (draft 10.2.2010)  |
|--|---|---|--|---|
| Preliminary Flood Risk Assessment                | Ex post information of general public (Art. 10 (1) FD/ § 79 GFWA) | No equivalent   | Adaptation dispensable, if hazard/risk maps and flood risk MP are adapted      | Ex post information of general public (only § 79 FWA); Consultation of other authorities and public agencies (§99b(4)(1)) |
| Flood Hazard Maps                                | Ex post information of general public (Art. 10 (1) FD /§ 79 GFWA) | Equivalent: Hazard maps (only <i>dependent part</i> of “Flood protection concepts”) | Minor adaptations required<br>↪ No formal procedure and hence no participation | Ex post information of general public (only § 79 FWA); consultation of other authorities and public agencies (§99b(4)(1)) |

<sup>27</sup> Cf. Müller, U. (2009): Fachliche Umsetzung der Hochwasserrisikomanagementrichtlinie der EU im Freistaat Sachsen, Wasserwirtschaft, Vol. 6, issue 11, p. 14-17, who states that (some of) the relevant information for creating the FRMs is available. The explanatory statement put out by the State Government of Saxony (Sächsischer Landtag (2010): Drucksache 5/1357: Gesetzentwurf der Staatsregierung – Gesetz zur Anpassung des Landesumweltrechts an das neue Bundesrecht aufgrund der Förderalismusreform) states that Saxon flood risk protection concepts already contain maps equivalent to FRMs. It is not clear how this statement can be said to be true.



|  |  |   |   |   |
|--|--|---|---|---|
| Flood Risk Maps  | Ex post information of general public (Art. 10 (1) FD/§ 79 GFWA)   | Possible equivalent: “Hazard indication maps” ( <i>Gefahrenhinweiskarten</i> )?   | Larger adaptations required<br>⚡ No formal procedure and no participation | Ex post information for general public (only § 79 FWA); Consultation of other authorities and public agencies (§99b(4)(1))  |
| Flood Risk Management Plans (definition of objectives, measures) | Ex post information; Active involvement of interested parties (Art. 10 (2)/§ 79 GFWA; no formal procedure) | Equivalent: Flood protection concepts<br>⚡ ex-ante information and formal consultation procedure with general public acc. to § 99b (4) SaxWA) | Minor adaptations required<br>⚡ No formal procedure and no participation  | Ex-ante information and formal consultation procedure with general public (§99b (5)); Consultation of other authorities and public agencies §99b (4)(1); Ongoing information of and consultation with other authorities, public agencies and other associations, but not all stakeholders (§99b (4)(2))<br>Ex post information of general public. |

**Table 2:** Public participation requirements as set out in the FD, GFWA, SaxWA, dSaxWA2010

### 3.1.3 Bavaria

#### 3.1.3.1 Past Situation

Bavaria had no advanced flood protection planning until its laws were revised on 25 February 2010. Flood protection was organised in line with the framework set up by the GFWA (of 2004; prior to 1 March 2010). It was based on the concept of “hazard management” and on the terms “flood plains”, “designated flood plains” and “areas in danger of being flooded”, but also included some elements of risk management (cf. section 3.1). The term “flood plains” was defined in compliance with the GFWA as

- areas between surface water bodies and dikes or high banks,
- areas that are flooded or run through in case of a 100-year flood event
- areas that are claimed for emergency spillways or flood detention, based on plan approval procedure and final approval of the plan (§ 31b GFWA 2004).

The core issue was the 100-year return period. Flood plains where this return period applies had to be displayed in maps (FPMs; Article 61d (1) (1) BavWA 2008). Those areas which exhibit a “high potential for damage” (i.e. essentially settlement areas) or which have more than just “minor potential for damage” (i.e., as defined by BavWA, areas with an infrastructure of trans-regional significance, e.g. highways and long distance railway lines) had to be formally designated. The FPMs were also to indicate these areas; however, they did not distinguish between these groups of areas, only between areas to be designated areas and the rest, i.e. areas not to be designated.<sup>28</sup> The FPMs were to be published (Article 61d (1) (1) BavWA 2008). The formal designa-

<sup>28</sup> Cf. section 3.1.

tion of a “flood plain” entailed restrictions on future land use (§ 31b GFWA 2004 and complementary Article 61h BavWA 2008). The “areas in danger of being flooded” were areas that would be flooded if public flood protection facilities (e.g. dikes) failed. They also had to be displayed in maps and, again, these had to be published. There was no mandatory public participation process for the period of preparation of the maps.

The BavWA 2008 also contained an instrument (deriving from the GFWA 2004) for flood risk management planning, namely, “flood protection plans” (FPP) (Article 61k BavWA 2008). These plans were only mandatory in relation to large-scale planning areas (Article 3b BavWA 2008) and only if it proved necessary to draw them up. However, the BavWA 2008 did not provide criteria for “necessity”, leaving a broad range of discretion to the executing authorities. Existing plans that met the requirements of the BavWA 2008 at that time also served as a justification not to develop new plans. These requirements also apply to issues of public participation. Article 61k BavWA 2008 stipulated that provisions regarding public participation in drawing up management plans according to WFD (Article 71b BavWA) had to be applied equally to the FPPs. This implied that the general public should be provided with information and involved in formal consultation and that interested parties should also be actively involved. However, the BavWA 2008 did not specify what the latter means in practice. For the purpose of implementing the WFD, however, the Bavarian central administration set up the “Water Forum Bavaria” (*Wasserforum Bayern*) for the state level. This Water Forum assembled members of the “organised public”, i.e. representatives of stakeholder groups, including those of municipalities and local communities and environmental and other NGOs, but not individual stakeholders. This water forum discussed relevant water management issues, including the draft management plans and programmes of measures, the results of the formal consultation procedure on these documents, and similar issues.<sup>29</sup> A number of regional fora on different spatial levels complements the Water Forum Bavaria. Usually, questions of flood risk or flood protection management have not been discussed in these fora, as far as can be seen from the meeting reports.

The BavWA 2008 also provided for the option of implementing the FD in Bavaria by ordinance of the State Government (Article 61l BavWA 2008). Apparently, this option has not been taken up.

### 3.1.3.2 Current Situation

The State Parliament itself amended the BavWA in order to transpose the FD and the corresponding provisions of the new GFWA of 2009. The amended BavWA 2010 adds only a few

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<sup>29</sup> Reports from the meetings are available at:  
[http://www.wasserrahmenrichtlinie.bayern.de/beteiligung\\_oeffentlichkeit/wasserforum\\_bayern/dokumentation/index.htm](http://www.wasserrahmenrichtlinie.bayern.de/beteiligung_oeffentlichkeit/wasserforum_bayern/dokumentation/index.htm)

issues to the GFWA. It allocates responsibility for the different stages of the planning process. The State Ministry for the Environment is responsible for PFRA and the production of FHMs and FRMs. It also has to develop the FRMPs, but has to reach consensus with a number of other State Ministries. The State Ministry of the Environment is also in charge of the execution of § 79 (1) GFWA, i.e. informing the public and organising the active involvement of interested parties where necessary. How this is to be done is not specified in the BavWA 2010, and self-imposed guidelines for administrative practice have not yet been developed. Whether the water fora will also be used in this context, i.e. for the purpose of flood risk management, is unclear. At any rate, no specific process has been defined for the production of FRMs and hence no specific participation process related to it.

Bavaria, unlike Saxony, has not taken up the option of transitional measures as defined in Article 13 FD, and there is apparently no intention to make use of this option.

### 3.1.3.3 Summary and conclusions

For the implementation of “active involvement of interested parties”, Bavaria has yet not adopted any provision that specifies how this process will be carried out, it merely assigns responsibility for this to the State government. It has not established panels of “interested parties” equivalent to the “water fora” established for the implementation of the WFD, and these existing fora have not extended their field of activity. No specific procedure – and hence no specific participation process – is in place for the planning stage of FRMs. The option of implementing transitional measures remains unused.

Table 3 summarises the results for Bavaria and compares them with the FD and GFWA requirements:

| <b>Sources of law</b><br><b>Steps acc. to FD</b>           | FD/GFWA   | BavWA 2008 (with equivalences and related participation)  | BavWA 2010 (as of 25.2.2010) |
|--|---|---|------------------------------|
| Preliminary Flood Risk Assessment                          | Ex post information of general public (Art. 10 (1) FD/§ 79 GFWA                                       | No equivalent   | As GFWA                      |
| Flood Hazard Maps  | Ex post information of general public (Art. 10 (1) FD/§ 79 GFWA                                       | Equivalent: “maps of floodplains”<br>↳ ex post-information of general public  | As GFWA                      |
| Flood Risk Maps  | Ex post information of general public (Art. 10 (1) FD/§ 79 GFWA                                       | No equivalent: only rudimentary information as part of “maps of floodplains” on “high potential” or “more than low potential” for damage<br>↳ ex post-information as above  | As GFWA                      |
| Flood Risk Management Plans (def. of objectives, measures) | Ex post inform. (...); active involvement of interested parties (Art. 10 (2) FD; no formal procedure) | No equivalent: Flood protection plans produced only randomly, and no specified content.<br>↳ Participation analogous to participation at RBMP acc. to the WFD, i.e. formal consultation with general public, but no use of existing water fora in this respect. | As GFWA                      |

**Table 3:** Public participation requirements as set out in the FD, GFWA, BavWA 2008 and BavWA 2010

### 3.2 Austria

There is no prospective legislation in the pipeline for the implementation of the FD. For this reason, only the current situation regarding mapping in the context of flood risk (and natural hazard) management will be detailed here. There is currently no *comprehensive* system of flood risk management in place in Austria and hence no comprehensive system of mapping. However, there is a number of planning and mapping requirements based on different laws, which partly overlap and are partly mutually exclusive. These requirements are oriented towards different reference events and cover different parts of the landscape, but taken together they can be said to cover roughly all those areas that would be identified as being at significant flood risk in the sense of Article 5 (1) FD (at least as regards running waters).

#### 3.2.1 Inundation boundaries according to the Austrian Water Rights Act

The most comprehensive requirements for mapping are found in the Austrian Water Rights Act (AWRA)<sup>30</sup>. For all running waters, the areas which would be flooded in a 1-in-30 years event (§ 38 (3) AWRA) have to be identified, along with inundation boundaries, in the “Water Register” (*Wasserbuch*)<sup>31</sup> (§ 124 (2) No. 5 AWRA). The corresponding maps are to be provided as well (§ 124 (2) No. 3 AWRA). This classification as “flood runoff areas” (*Hochwasserabflussgebiete*) has a number of legal consequences of a procedural and material character, ranging from the existence of a permit procedure for certain installations within these areas (§ 38 (1) AWRA) to certain land-use restrictions (e.g. § 48 (1) AWRA) and the classification of the areas as “Public Water Goods” (*Öffentliches Wassergut*). Due to these legal consequences, the demarcation of flood runoff areas has to be carried out on a small scale for each plot of land. The procedure for gathering the necessary data is not explicitly described in the AWRA, and so there is no corresponding public participation procedure. The demarcation is not part of hydrographical monitoring in accordance with § 59c AWRA or of the amendatory Ordinance on Water Cycle Data Collection<sup>32</sup>. However, the Water Registers are publicly displayed and accessible, and a procedure for correcting the data is provided for in § 126 (5) AWRA. The keeping of the register is not subject to an environmental impact assessment or Strategic Environmental Assessment.<sup>33</sup> In addition to the demarcation of flood runoff areas, the AWRA only contains general legal obligations not to change natural runoff conditions (§ 39 AWRA); it establishes a permit procedure for protective and /or regulative constructions (§ 41 AWRA), defines the responsibilities for such constructions (§ 42 AWRA), and offers the option of setting up water associations for the pur-

<sup>30</sup> Wasserrechtsgesetz 1959 (Gesamte Rechtsvorschrift für das Wasserrechtsgesetz 1959) mit Stand vom 12.05.2010.

<sup>31</sup> The “Water Register” fulfils similar purposes with regard to water rights as does the Land Register for land rights.

<sup>32</sup> 478. Verordnung des Bundesministers für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft über die Erhebung des Wasserkreislaufes in Österreich (Wasserkreislaufferhebungsverordnung – WKEV); Bundesgesetzblatt für die Republik Österreich vom 14. Dezember 2006.

<sup>33</sup> For more details on these requirements see below, section 3.2.3.

pose of building such facilities (§ 43 AWRA). In certain circumstances, water associations may also be established on a compulsory basis (§ 76 AWRA). However, the AWRA does not require the preparation of flood hazard or flood risk maps or flood risk management plans comparable to those required by the FD as a basis for these rules and instruments of flood risk management.

### 3.2.2 Hazard Zone Plans in accordance with the Austrian Forest Act

Maps more similar to those required by the FD have to be drawn up in accordance with other legal provisions, namely, the Austrian Forest Act (AFA) (*Forstgesetz*) for areas in upper sub-catchments (or mountain streams/torrents) and the Austrian Hydraulic Engineering Assistance Act (AHEAA) (*Wasserbautenförderungsgesetz*) for areas in lower sub-catchments. Both acts are covered by federal legislative competencies and both acts are implemented by the federal administration.<sup>34</sup> Thus the respective mapping systems do not overlap, as the different administrative authorities seek to define transfer points on a case-by-case basis, i.e. where the one system starts and another one ends.<sup>35</sup> The procedure for mapping torrents<sup>36</sup> is detailed in § 11 AFA and in the amendatory Ordinance on Hazard Zone Plans<sup>37</sup> (OHZP), a second ordinance based on the AFA and complemented by the Torrent Regulation Act<sup>38</sup>. § 11 AFA requires the development of “Hazard Zone Plans for Torrent and Avalanche Control” (*Gefahrenzonenpläne für Wildbach- und Lawinenverbauung*) for all torrents (tHZP)<sup>39</sup> – not only in afforested areas<sup>40</sup>, as might be concluded from its anchoring in the AFA. The tHZPs are maps indicating different degrees of acceptability of certain land-use options (especially constructions). The tHZPs display “red” and “yellow” “hazard zones” (*Gefahrenzonen*), “blue” reservation areas (*Vorbehaltsbereiche*) and “brown” and “violet” indication areas (*Hinweisbereiche*). The colours denote the following meanings:

<sup>34</sup> Cf. Hattenberger, D. (2006), Naturgefahren und öffentliches Recht; in: Recht im Naturgefahrenmanagement, ed. by Fuchs, S., Khakzadeh, L. and Weber, K. (2006), Studienverlag, Innsbruck, pp. 67-91.

<sup>35</sup> See below, section 3.2.3.

<sup>36</sup> The AFA defines in § 99 (1) as “torrent”: a body of water flowing permanently or intermittently, that can swell to a threatening level through short and rapidly occurring washing-up of solids from its catchment area or bed, which it carries along and deposits in or outside its riverbed or discharges into another body of water (translation from [www.lebensministerium.at](http://www.lebensministerium.at)). Holub, M. (2006): Erstellung und Bedeutung von Gefahrenzonenplänen, Wissenschaft und Umwelt – Interdisziplinär, Issue 10, 2006, pp. 3-17, has characterised “torrents” with the three propositions: 1. High longitudinal inclination and high flow velocity, 2. Rapid rise of water level at intense rain on a small scale and 3. Ability to transport large amounts of solid matter (p. 5).

<sup>37</sup> Verordnung des Bundesministers für Land- und Forstwirtschaft vom 30. Juli 1976 über die Gefahrenzonenpläne (Ordinance of the Federal Minister for Forestry and Agriculture on Hazard Zone Plans of 30. July 1976); BGBl Nr. 436/1976.

<sup>38</sup> Wasserverbauungsgesetz oder Gesetz vom 30. Juni 1884, RGBl. Nr. 117, betreffend Vorkehrungen zur unschädlichen Ableitung von Gebirgsgewässern in der Fassung BGBl. Nr. 54/1959.

<sup>39</sup> The specification “for Torrent and Avalanche Control”, originally not found in the AFA and the corresponding Ordinance (cf. Fn. 38), is introduced here due to the fact that at a later date “Hazard Zone Plans for River Engineering” are also established. See in detail below, section 3.2.3.

<sup>40</sup> § 3 (3) Verordnung des Bundesministers für Land- und Forstwirtschaft vom 30. Juli 1976 über die Gefahrenzonenpläne.

- Red: areas that are endangered to an extent by torrents and avalanches due to the damaging effect to be expected from the reference event or *due to the frequency of the endangerment*, such that permanent use for housing or transportation purposes is either impossible or is feasible only at disproportionate costs;
- Yellow: all other areas endangered to an extent by torrents and avalanches, such that permanent use for housing or transportation is impaired due to the factors mentioned above (i.e. the damaging effect to be expected from the reference event or *due to the frequency of the endangerment*);
- Blue: areas that are needed for technical or silvicultural-biological measures implemented by local administrations, and for the maintenance of such measures, or that require special management in order to ensure their protective function or the success of structures of their control.
- Brown: areas that are exposed to natural hazards other than torrents and avalanches, e.g. rock fall or landslides not associated with torrents and avalanches, and
- Violet: areas whose protective function depends on the condition of the soil or the terrain.

These tHZPs do not by themselves impose restrictions on land-use options in the tagged areas, as there are only descriptive and no legal acts of any type, but the information displayed in the tHZPs has to be transferred to the plans that form the basis for spatial planning. The reason for this is that in legal practice they are commonly regarded as “expert judgments having the character of a forecasts”<sup>41</sup> which have to be taken into account in spatial planning procedures and decisions, resulting in a shift of the burden of proof onto decision-makers should they wish to deviate from the tHZPs.<sup>42</sup> Some federal states have banned the utilisation and designation of areas within the red hazard zones explicitly for building purposes, e.g. the State Government of Styria has banned it by ordinance.<sup>43</sup> The information displayed in the tHZPs usually has to be transferred to the plans that form the basis for regional planning.<sup>44</sup> In this sense the tHZP is itself already more an instrument of flood risk management (in the sense of zoning) geared towards future land-use decisions than merely a description of the status quo and an indication of existing

<sup>41</sup> VwGH (Administrative Court of Austria) of 27.03.1995, Case 91/10/0090, vgl. Hattenberger, D. (2006), Naturgefahren und öffentliches Recht; in: Recht im Naturgefahrenmanagement, ed. by Fuchs, S., Khakzadeh, L. and Weber, K. (2006), Studienverlag, Innsbruck, p. 74.

<sup>42</sup> Khakzadeh (n.D.): Rechtliche Aspekte des Naturgefahrenmanagements, p. 2; and Kanonier, A., Raumplanungsrechtliche Regelungen als Teil des Naturgefahrenmanagements; in: Recht im Naturgefahrenmanagement, ed. by Fuchs, S., Khakzadeh, L. and Weber, K. (2006), Studienverlag, Innsbruck, pp. 123-153, p. 136 f. with references to case law.

<sup>43</sup> § 4 (1) No. 2 Verordnung der Steiermärkischen Landesregierung vom 12. September 2005 über ein Programm zur hochwassersicheren Entwicklung der Siedlungsräume (Ordinance of the State Government of Styria on a Programme for the Flood-proof Development of Settlements); cf. for this ordinance: Kanonier, A., Raumplanungsrechtliche Regelungen als Teil des Naturgefahrenmanagements; in: Recht im Naturgefahrenmanagement, ed. by Fuchs, S., Khakzadeh, L. and Weber, K. (2006), Studienverlag, Innsbruck, pp. 123-153

<sup>44</sup> So e.g. Styria in § 22 (7) Raumordnungsgesetz (Styria Regional Planning Act).

risks as it is the FRM according to the FD. It can be regarded as a more advanced version of the German “designated flood plains”. Still, the tHZPs are based on the hazard maps that form a separate part of the tHZPs (§ 5 (2) OHZP) and which in principle are equivalent to the FHMs. However, the reference event for the tHZP is an event with a 1-in-150 years return period (§ 6 OHZP). Several authors in the legal literature suggest that hazard maps are also produced for a flood event with a 1-in-10 years return period.<sup>45</sup> This cannot be deduced directly from the OHZP; however, as the definitions of “red” and “yellow” zones also entail the alternative “frequency of endangerment”, the reference to a 1-in-10 years return period would be reasonable, and this value marks a good operationalisation of the indeterminate legal term “frequency of...”.

§ 11 AFA also defines the procedure by which the tHZPs are created. The drafts of the tHZPs have to be displayed publicly so that anyone with a credible interest in the subject matter can submit written comments within a certain period. In addition, a commission comprising of one representative each from the Federal Ministry of Agriculture, Forestry, Environment and Water Management, of the administrative unit responsible for drafting the tHZP, of the federal state (Land) and of the municipality affected. It is tasked with reviewing the draft of the tHZP and taking into account the written comments submitted by individual citizens. In practice, the commission arranges hearings at which those who have issued written comments can also explain their concerns in person.<sup>46</sup> The commission is entitled to revise the draft. The final decision lies in the hands of the Federal Minister, although he/she has no powers of discretion, as he/she has to approve the plan unless the rules of § 11 AFA are violated. As the hazard maps are part of the tHZPs, they are also subject indirectly to these forms of public participation.

Due to their only indirectly binding character, tHZPs seem not to be subject to the SEAD and to corresponding national legislation. Austria has not transposed the SEAD within a single act but has incorporated its requirements into the country’s existing sector-related laws and planning processes.<sup>47</sup> The AFA and the OHZP do not mention the requirements to be met within the SEA process (preparation of an environmental report and formal public consultations on this report). § 55j AWRA is the key provision for water planning procedures, but it simply repeats word for word the requirements of SEA without specifying which plans in the water sector and in the AWRA, apart from the National River Basin Management Plans (*Nationale Gewässerbewirtschaftungspläne*) are subject to the SEAD (§ 55i AWRA). § 55j AWRA does not even mention the programmes of measures (§§ 55f and 55g AWRA) that are subject to the SEAD in Germany. One could argue that the indirect legal relevance of the tHZPs with regard to spatial planning “qualifies” them to be subject to SEA, even if they are only regarded as expert

<sup>45</sup> Holub and Fuchs (2009), Mitigating mountain hazards in Austria, *Nat. Hazards Earth Syst. Sci.*, 9, pp. 523-537, P 525.

<sup>46</sup> Cf. report on [www.partizipation.at/837.html](http://www.partizipation.at/837.html).

<sup>47</sup> Arber, Kerstin, Institut für Technikfolgen-Abschätzung (Hg.), *Handbuch Strategische Umweltprüfung* [online], 3., erweiterte Auflage, Wien, 2009, Verlag der Österreichischen Akademie der Wissenschaften, zitiert <30.05.2010> von <http://hw.oecaw.ac.at/6631-3>; section 5.2.1.

judgements. This would be an argument for subjecting tHZPs to SEA Directive requirements, and indeed the literature comes to just this conclusion,<sup>48</sup> with several authors arguing that where no formal transposition has taken place the SEAD is directly applicable.<sup>49</sup> In practice, however, environmental reports on tHZPs cannot be found on the internet. Instead, conversely, tHZPs are frequently used to analyse the environmental impacts of projects and plans.<sup>50</sup> Hence, at least in practice no public participation takes place by way of the SEA Directive.

### 3.2.3 *Hazard Zone Plans in accordance with the Austrian Hydraulic Engineering Assistance Act*

A process of Hazard Zone planning is also in place for watercourses that are not torrents. It is based on the Austrian Hydraulic Engineering Assistance Act (AHEAA), which mentions in § 2 No. 3 only “Hazard Zone Plans in River Engineering” (*Gefahrenzonenpläne des Flussbaus*) (reHZPs); these are strictly distinguished from the tHZPs (see above, section 3.2.2). For its purposes, the AHEAA (which covers all watercourses) adopts the tHZPs from the AFA for Torrent and Avalanche Control issues. Hazard zone plans have to be developed for the other running waters (i.e. reHZPs) according to guidelines issued by the Federal Water Engineering Administration (*Bundeswasserbauverwaltung*), namely, Guidelines for the Designation of Hazard Zones (*Richtlinien zur Gefahrenzonenausweisung*) and Technical Guidelines for the Federal Water Engineering Administration (RIWA-T)<sup>51</sup>. Whether these guidelines are as binding in legal terms as the OHZP is not clear. On the one hand, the different denominations indicate a difference; on the other hand, the explicit authorisation for issuing the Guidelines in § 3 (1) No.1 AHEAA and the verb used (“to issue”) indicate that they are intended to have some legal meaning.

The designation of hazard zones according to the Guidelines for the Designation of Hazard Zones (GDHZ) differs in several respects from the designation according to OHZP. First, the GDHZ uses inundation boundaries for 1-in-30 years (HQ30), 1-in-100 years (HQ100) and 1-in-300 years (HQ300) return periods. The information on the 1-in-30 years flood event is adopted from the AWRA<sup>52</sup> (Section 4.1 of GDHZ). The other inundation boundaries are used for defining different kinds of hazard zones – “Red”, “Red-Yellow”, “Yellow”, “Blue” and “Red-Yellow (hatched)” – as follows:

<sup>48</sup> Arbter, Kerstin, Institut für Technikfolgen-Abschätzung (Hg.), Handbuch Strategische Umweltprüfung [online], 3., erweiterte Auflage, Wien, 2009, Verlag der Österreichischen Akademie der Wissenschaften, zitiert <30.05.2010> von <http://hw.oeaw.ac.at/6631-3>; section 3.3.10.

<sup>49</sup> Arbter, Kerstin, Institut für Technikfolgen-Abschätzung (Hg.), Handbuch Strategische Umweltprüfung [online], 3., erweiterte Auflage, Wien, 2009, Verlag der Österreichischen Akademie der Wissenschaften, zitiert <30.05.2010> von <http://hw.oeaw.ac.at/6631-3>; section 5.2.

<sup>50</sup> Cf. e.g. Leitfaden zur strategische Umweltprüfung in der örtlichen Raumordnung Niederösterreichs gemäß NÖ Raumordnungsgesetz 1976 (Guidelines for the SEA in the supra-regional spatial planning of Lower Austria according to the Spatial Planning Act of Lower Austria).

<sup>51</sup> Technische Richtlinien für die Bundeswasserbauverwaltung – Fassung 2006.

<sup>52</sup> See section 3.2.1



- “Red Zone” includes areas which, due to the expected damaging effects of floods, are not suitable for permanent use in terms of settlement and transport purposes (building ban zone);
- “Red-Yellow Zone” combines areas which are required for the flood runoff or for the retention of water (water management priority zone for runoff and retention); the importance of flood retention capacity and areas close to water bodies for flood protection is thereby identified;
- “Yellow Zone” includes the remaining areas up to the inundation boundaries of HQ100 which are suitable only for conditional use and is a “regulated and precautionary zone”;
- “Blue Zone” (water management demand zone) includes areas required for water management measures and/or, as the case may be, for maintaining their functions, e.g. when special management is required;
- “Red-Yellow (hatched)” zone marks residual risk areas. It indicates in which areas flooding is possible if flood protection structures fail or if certain water levels are exceeded (up to HQ300).

One significant difference to the labelling of red zones in the OHZP is that in the GDHZ there is no reference to the “frequency of endangerment” as an argument for a building ban in the red zone. Like the tHZPs, the mapping carried out according to the GDHZ is already more an instrument for land-use planning than just one intended to give or collect information on the status quo of risk/endangerment to human activities, as with the FHMs of the FD.<sup>53</sup> However, the three return periods incorporated here match the three scenarios named in Article 6 FD. In practice, separate hazard maps are also produced which use the inundation boundaries of HQ30, HQ100 and HQ300.<sup>54</sup>

The GDHZ also provide for public participation in the creation of reHZPs. Section 6 of GDHZ describes a formal consultation procedure. The draft plans have to be displayed publicly by the municipalities affected and by the state administration. However, only other administrations are directly informed about the display and are invited to comment on the draft. The GDHZ names these in section 6: water resources planning authorities, spatial planning authorities and, in areas adjacent to tHZPs, the authorities responsible for them. Therefore – in contrast to the tHZPs – individual stakeholders or organisations of stakeholders are not entitled to comment on the draft reHZPs. After the drafts have been displayed, a “local inspection” of the plan takes place, conducted by a commission composed of representatives from the Federal Water Engineering Administration, spatial planning authorities and municipalities affected, from the

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<sup>53</sup> The zoning acc. to GDHZ is not directly binding. The RIWA-T only recommends that the results from hazard zone planning be adopted within the spatial planning of the federal states (section 13.4 GDHZ).

<sup>54</sup> Cf. documents on <http://wasser.lebensministerium.at/article/articleview/48810/1/14462> and information on <http://sitemap.lebensministerium.at/article/articleview/50515/1/14408/#>.

authors of the draft and, finally, in areas adjacent to areas with tHZPs, representatives from the authorities responsible for them, the latter only as consultants. The GDHZ do not provide an option for the commission to revise the plan. It may only comment on it. The Federal Water Engineering Administration has to approve the final plan before it can be enacted. The administration is free to dismiss the plan – in contrast to the obligation of the competent Minister in the case of the tHZPs.

The reHZPs are not subject to a SEA procedure.<sup>55</sup> They are equally not directly binding, as the tHZPs are, but are not directly adopted to land-use plans, as are the red zones of the tHZPs in Styria (see above, section 3.2.2). The ordinance mentioned establishes only a building ban within the HQ100 area, without direct reference to the reHZPs.<sup>56</sup>

### 3.2.4 Other plans outlined in the Austrian Hydraulic Engineering Assistance Act (AHEAA)

The AHEAA offers a number of additional planning instruments apart from hazard zone planning: fundamental water management and flood protection concepts (FWMFPCs) (*Schutzwasserwirtschaftliche Grundsatzkonzepte*), river development schemes (RDSs) (*Gewässerentwicklungskonzepte*), regional studies (RSs) (*Regionalstudien*), general project planning (GPP) (*generelle Projekte*) and detailed project planning (DPP) (*Detailprojekte*). FWMFPCs (section 14 RIWA-T)

“are superordinate assessments based on river basins that identify and show the actual situation regarding threats and use. Depending on the circumstances they are coupled with hazard zone planning. Ecological aspects are not part of the assessment. The planning area comprises the run-off area of extreme floods (more than HQ300).”<sup>57</sup>

RDSs (section 15 RIWA-T) are described as follows:

“River development schemes are superordinate plans for water bodies based on river basins. Besides hazards and threats they not only take into consideration the ecological situation but are also responsive to general conditions such as current use, designated use, rights and so on. On the basis of analyses of the actual situation, coordinated goals and measures regarding flood protection, ecology and use are defined. The planning area not only involves the actual stream course but also the run-off area of extreme floods (more than HQ300) - a prerequisite for sustainable flood protection. River development schemes comprise the following steps:

- Preliminary study: In the interest of efficient planning existing data is examined and reviewed. This results in structural guidelines for the following work.

<sup>55</sup> Arbter, Kerstin, Institut für Technikfolgen-Abschätzung (Hg.), Handbuch Strategische Umweltprüfung [online], 3., erweiterte Auflage, Wien, 2009, Verlag der Österreichischen Akademie der Wissenschaften, zitiert <30.05.2010> von <http://hw.oeaw.ac.at/6631-3>; section 3.3.7 and 5.2.

<sup>56</sup> § 4 (1) No. 1 Verordnung der Steiermärkischen Landesregierung vom 12. September 2005 über ein Programm zur hochwassersicheren Entwicklung der Siedlungsräume

<sup>57</sup> <http://sitemap.lebensministerium.at/article/articleview/50515/1/14408/#>.

- Analyses of the actual situation involve the abiotic, biotic and anthropological components that are important for the situation of the relevant water body. Depending on the circumstances they are coupled with the delineation of hazard zones.
- The mission statement for a particular water body aims at coordinating the sectoral and specific goals. In a process consisting of several steps, stakeholders define common and coordinated goals and goal conditions.
- The catalogue of measures describes individual future measures in the planning area and defines priorities. On the basis of the mission statement, authorities and communities select the most suited measure(s) for the relevant section. This also includes measures for the minimisation of residual risk to account for those floods that are more severe than those occurring statistically every 100 years, as well as measures for informing the public.”<sup>58</sup>

RSs (section 16 RIWA-T) are

“superordinate planning tools based on river basins that are similar to river development schemes but deal in more detail with natural hazards as well as existing and spatial planning. Regional studies are particularly useful for river basins or regions with intensive demands on land use, high settlement density and extensive infrastructure, but also for river basins with intensive development and change of existing use. Regional studies aim at coordinating water management and protection measures with spatial planning and other planning near rivers and streams (roads, rail, power plants, torrent and avalanche control, etc.). The process of coordination takes place through the involvement and participation of authorities and all relevant stakeholders in the planning process.”<sup>59</sup>

GPP (section 17 RIWA-T) is a process that

“precedes more detailed project planning. It is carried out for sections of rivers and streams, for which extensive flood protection measures are needed. The main task is to coordinate and conceptually define measures for flood protection and for conservation and improvement of the ecological functions of the water body. For this they build onto the mission statement and catalogue of measures of a river development scheme or regional study.”<sup>60</sup>

DPP (section 18 RIWA-T) presents and describes

“planned measures in detail as a basis for their implementation. Moreover, it deals with all legal information necessary for approval processes (regarding water, forestry, conservation, rail, etc.). If rights of local residents are affected, detailed project planning includes assessments of whether and to what degree these residents will be affected by the respective project, and which provisions can be implemented in order to mitigate and compensate for adverse effects.”<sup>61</sup>

Comparing these planning tools with the planning steps set out in the FD reveals a number of similarities. The FWMFPCs may be regarded as similar to the status quo description required in the FHMs and FRMs. The FWMFPCs provide a suitable framework for the incorporation of

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<sup>58</sup> <http://sitemap.lebensministerium.at/article/articleview/50515/1/14408/#>.

<sup>59</sup> <http://sitemap.lebensministerium.at/article/articleview/50515/1/14408/#>.

<sup>60</sup> <http://sitemap.lebensministerium.at/article/articleview/50515/1/14408/#>.

<sup>61</sup> <http://sitemap.lebensministerium.at/article/articleview/50515/1/14408/#>.

the information to be included in the FRMs. Equally, the “analyses of the actual situation” that are part of the RDSs may serve as equivalent to those required for the FRMs. The RDSs in general may be regarded as equivalent to the FRMPs or even as being more ambitious, in that they actually integrate river basin management plans as set out in the WFD and contained in FRMPs. The RDSs include the steps of defining the aims of flood risk management and determining the measures designed to meet these aims in accordance with the content of the FRMPs. The RIWA-T does not stipulate public participation as a required element in the FWMFPCs. Although publicity of some kind is to occur in relation to the development of RDSs (section 15.1 RIWA-T), section 19 relating to publicity does not really specify any requirements but only lists options that can be taken up by the planning authority at its own discretion. Although the legal status of the RDSs and the way they relate to the National River Basin Management Plans is unclear, the RDSs may be regarded as plans in the sense of § 55j (1) AWRA, which are subject to the SEA including the public participation procedure required by the SEAD.<sup>62</sup> By contrast, the FWMFPCs (like the tHZPs and the reHZPs) are not subject to the SEAD and hence to public participation. Both the FWMFPCs and RDSs include the relevant HZPs (tHZPs and reHZPs) and hence the respective information on inundation boundaries and damage potential. In addition, they should also include information, where appropriate, on smaller floods down to those with a one year return period.

As regards the other planning instruments (RSs, GPP and DPP), they really have a more instrumental and implementation-orientated character. Public participation is mentioned in the RSs without further specification, and with regard to GPP and DPP the national EIA legislation provides at least for some projects concerning flood protection measures.<sup>63</sup>

There is one general flaw with all these planning instruments. The RIWA-T does not provide for an obligation to conduct all these planning processes for all suitable watercourses or water bodies. This flaw not due to the scope of application of the AHEAA, as the tHZPs only replace the reHZPs. There are no equivalents in the AFA or OHZA to the other planning instruments in the RIWA-T. Therefore, they can also be applied to torrents. However, the plans are merely conditional on an application for funding from the Federal government – they only have to be produced in this case.<sup>64</sup> Thus, the RIWA-T is not sufficient to fulfil the implementation obligation of the FD.

### 3.2.5 *Public participation in the implementation of the WFD*

In addition to a formal consultation procedure in the drafting of National River Basin Management Plans (§ 55i (1) AWRA), a round table comprising representatives from organised stakeholder groups has been established at national level in order to encourage the active involvement

<sup>62</sup> They are not mentioned in Arbter, Kerstin, Institut für Technikfolgen-Abschätzung (Hg.), *Handbuch Strategische Umweltprüfung* [online], 3., erweiterte Auflage, Wien, 2009, Verlag der Österreichischen Akademie der Wissenschaften, zitiert <30.05.2010> von <http://hw.oeaw.ac.at/6631-3>.

<sup>63</sup> Bundesgesetz über die Prüfung der Umweltverträglichkeit (UVP-G 2000; Stand 09/2009) Anhang 1, Z42.

<sup>64</sup> In fact, funding may also be sought to produce these plans.

of interested parties in river basin management as required by the WFD. This body discusses various problems of water management and, of course, the draft of the National River Basin Management Plans. Whether this round table also discusses flood risk management issues in relation to either torrents or other running waters is not evident from the information on the sessions provided on the internet.

### 3.2.6 Summary and conclusions

There are a number of different planning instruments in Austria with partly overlapping and partly mutually exclusive scopes of application. They use different reference events for structuring the information, different criteria for designating different degrees of hazards, and stipulate different degrees and forms of public participation. In general, the degree of participation seems low, with only the tHZPs providing an exception. The requirements of the SEAD appear not to be taken adequately into consideration as yet, although their relevance for the RDSs is evident.

Table 4 summarises the results:

| <b>Mapping</b><br><b>Name and legal basis</b>  | Scope   | Kind of maps/products   | Reference event(s)   | Purpose/where integrated  | Participation  |
|--|---|---|--|---|--|
| Flood runoff areas; § 38 (3) AWRA  | All running waters  | Indicative map of areas flooded in the reference event  | Event with 1 in 30 years return period   | Procedural and material legal consequences for land-use decisions     | None   |
| Hazard Zone Plans (for Torrent and Avalanche Control); § 11 Austrian Forest Act                | Torrents  | Maps indicating different degrees of acceptability of land-use options, land use (especially constructions) and options; they also contain indicative hazard maps | <ul style="list-style-type: none"> <li>▶ Event with 1-in-150 years return period;</li> <li>▶ Event with 1-in-10 years return period indicating high frequency</li> </ul>                                     | Indirectly binding for spatial planning, may not be ignored in plans. | <ul style="list-style-type: none"> <li>▶ Formal consultation of stakeholders for the draft tHZPs;</li> <li>▶ Co-decision by commission with representatives of other administrative levels;</li> <li>▶ No SEA process</li> </ul>   |
| Hazard Zone Plans for River Engineering; § 2 No.3 Austrian Hydraulic Engineering Promotion Act | All remaining running waters (i.e. running waters ././ torrents); stagnant waters | Maps indicating different degrees of acceptability of land-use options land use (especially constructions) and options; they also contain indicative hazard maps  | <ul style="list-style-type: none"> <li>▶ Event with 1-in-30 years return period (from AWRA)</li> <li>▶ Event with 1-in-100 years return period</li> <li>▶ Event with 1-in-300 years return period</li> </ul> | Indirectly binding for spatial planning, may not be ignored in plans. | <ul style="list-style-type: none"> <li>▶ No formal consultation of stakeholders for the draft tHZPs, only of other public authorities.</li> <li>▶ No co-decision with commission of representatives of other administrative levels.</li> <li>▶ No SEA process</li> </ul> |
| Fundamental water management and flood protection concepts                                     | All waters  | Maps including all relevant abiotic and anthropogenic factors   | May include HZP of both kinds; hence respective reference events, but also smaller flood events.   | Not to be included in other plans as such                             | <ul style="list-style-type: none"> <li>▶ No formal consultation of stakeholders of public authorities.</li> <li>▶ No SEA process</li> </ul>  |

|                           |            |  |  |   |  |
|---------------------------|------------|--|--|---|--|
| River development schemes | All waters | <ul style="list-style-type: none"> <li>▶ Maps including all relevant biotic and abiotic factors;</li> <li>▶ flood management aim;</li> <li>▶ Measures to achieve the aims</li> </ul> | May include HZP of both kinds; hence respective reference events; but also smaller flood events. | Not to be included in other plans as such | <ul style="list-style-type: none"> <li>▶ No formal consultation of stakeholders of public authorities.</li> <li>▶ SEA requirements are to be applied.</li> </ul> |
|---------------------------|------------|--|--|---|--|

**Table 4:** Overview of planning procedures and their characteristics in flood risk management in Austria

### 3.3 England and Wales

#### 3.3.1 *Transposition of the Floods Directive by the Flood Risk Regulations 2009*

The Flood Risk Regulations 2009 (Statutory Instrument 2009/3042; FRR 2009) transposes the FD for England and Wales. This Regulation takes up the structure of the process of managing flood risks as designed in the FD almost in a one-to-one transposition. Regarding the content of the FHMs, FRMs and the FRMPs there is no significant difference from the FD, only a slightly different order of the elements. Only a few specifications have been made. One specification concerns the scenarios (reg. 20 (5) FRR 2009):

- the “floods with a low probability, or extreme event” scenario is restated more precisely as: “the probability of a flood occurring is low if the chances of it occurring in any 12 month period are 0.1% or less”;
- the “floods with a medium probability (likely return period  $\geq 100$  years)” scenario is restated more precisely as: “the probability of a flood occurring is medium if the chances of it occurring in any 12 month period are more than 0.1% but not more than 1%”; and
- the “floods with a high probability” scenario is restated more precisely: “the probability of a flood occurring is high if the chances of it occurring in any 12 month period are more than 1%”.

A second specification occurs in relation to the requirements for participation. The obligation to publish PFRAs, FHMs and FRMs is reproduced without further detailed definition. With regard to the obligation to encourage the active involvement of interested parties in the development of FRMPs, FRR 2009 renders this specific by giving a list of institutions to be consulted, i.e. authorities and companies that render services of public interest (reg. 36 (3) FRR 2009) in addition to “the public”, both of which are to be “consulted” (reg. 27 (7) FRR 2009). In contrast to the regulations transposing the WFD, the Water Environment Regulations 2003<sup>65</sup> (WER 2003), in which (certain) stakeholders are explicitly included with regard to consultation (reg. 12 (4) (k)), they are excluded in FRR 2009 from the “interested parties”. Nevertheless, the FRR 2009 – unlike the WER 2003 – includes the “public” with regard to “consultation”, which is not required by the FD. FRR does not define the term “public”, but it certainly includes the stakeholders mentioned in WER 2003. As there is no provision restricting the scope of “public”, it can be taken to mean everybody, as in the FD (cf. section 2.2) and not only stakeholders, whether organised or not.

Neither the FRR 2009 nor the WER 2003 defines the term “consult”. This suggests that the general meaning of the word in ordinary and/or legal language applies, covering different

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<sup>65</sup> Cf. Statutory Instrument 2003/3242: Environment (Water Framework Directive) (England and Wales) Regulations 2003.

aspects: to get or ask advice; to seek information from; when planning or deciding something, to consider, to count, to weigh; to have a conference in order to talk something over; to advise professionally. To consult refers to the act of consulting or conferring; deliberation of two or more persons on some matter, with a view to a decision. The ordinary meaning offers a wide range of design options to carry out consultations. It is up to the authority in charge to decide how it organises the gathering and discussion of information and opinions. It may just issue a public invitation to citizens to comment on the drafts and to enter into bilateral discussions. The authority may organise a one-off conference for all – offering an opportunity to give comments in person. Additionally, it may organise regular conferences such as a permanent “round-table” with all relevant stakeholders and representatives from organised stakeholder groups. It is also up to the authority to decide how far it will lead the participation process towards a process of co-decision making. It may ask a “round-table” to develop a draft, and then adopt it and endow it with its own authority, but may have to provide its own reasoning regarding the use of its discretion and, of course, provide the information required by reg. 27 (5) FRR 2009. Therefore, a broad spectrum of design options is available to choose from. The Environment Agency may not impose restrictions on this choice, as the guidelines it is entitled to issue may cover only the form of flood risk management plans (reg. 27 (8) FRR 2009), but not the mode of consultation. It may be that the “Code of Practice on Consultation”<sup>66</sup> provides some guidelines.

### 3.3.2 *Excursus: The “Code of Practice on Consultation”*

The Department for Business, Enterprise and Regulatory Reform has issued this code, which is currently available in its third edition. It is a non-legal and non-binding document that has been adopted by a number of UK departments and agencies, including the Environment Agency and the Department for Environment, Food and Rural Affairs (DEFRA). The target form of participation considered in this code is the formal, written consultation, but the rules may be relevant for other forms of participation, e.g.

- there should be scope for those being consulted to influence the outcome,<sup>67</sup>
- the scope and possibilities for influence should be clear at the beginning of the consultation,<sup>68</sup>
- the consultation should be designed to be accessible to, and clearly targeted at, those people the exercise is intended to reach,<sup>69</sup>
- clear feedback should be given to the respondents,<sup>70</sup>

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<sup>66</sup> Code of Practice on Consultation; third edition 2008 (<http://www.bis.gov.uk/files/file47158.pdf>).

<sup>67</sup> Code of Practice on Consultation; section 1.2.

<sup>68</sup> Code of Practice on Consultation; section 3.2.

<sup>69</sup> Code of Practice on Consultation; section 4.



- the burden of consultation should be kept to a minimum in order to keep consultations effective.<sup>71</sup>

The document also states at several points that, in certain situations, other forms of consultation might be more suitable than the formal, written one, or may be necessary complements:

“It will often be necessary to engage in an informal dialogue with stakeholders prior to a formal consultation to obtain initial evidence and to gain an understanding of the issues that will need to be raised in the formal consultation.”<sup>72</sup>

Not all these recommendations are relevant to the task of consulting the public, as this task does not require an identification of actual stakeholders; rather, it would be superfluous. At the same time, the recommendation to provide estimates of costs and benefits of the policy options under consideration<sup>73</sup> is by no means superfluous in the context of the FRMPs, as there is no explicit legal obligation in the FRR 2009 to provide this information in the plans, only the obligation to take account of costs and benefits during their preparation. The timeframes suggested in the code are directly “applicable”, however: a minimum of 12 weeks for the option to respond. This timeframe and the requirement to give feedback to consultees are almost the only specific standards that can be drawn from the code as regards the design of public consultation in the FRR 2009. In general, the code concentrates more on how formal, written consultations are to be conducted than on the question of when this is the most suitable form of consultation and when not. However, bearing in mind that the FRR ultimately calls for consultation of everyone, this type of consultation is probably the only appropriate one available.

### 3.3.3 *Flood risk management according to the Flood and Water Management Act of 2010*

In addition to the FRR 2009, which transposes the FD, there is also the Flood and Water Management Act of 2010 (FWMA 2010), which also deals with issues of flood risk management. It calls for the development of “risk management strategies” (RMSs) of varying scopes at different levels, i.e. the national level (England and Wales respectively) for all flood and coastal erosion risks and the local level for so-called local flood risks, i.e. risks from runoff, groundwater and ordinary watercourses<sup>74</sup>. The Environment Agency is responsible for developing, maintaining, applying and monitoring the national strategy for England, and the Welsh Ministers are responsible for the

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<sup>70</sup> Code of Practice on Consultation; section 6.

<sup>71</sup> Code of Practice on Consultation; section 5.

<sup>72</sup> Code of Practice on Consultation; section 1.4.

<sup>73</sup> Code of Practice on Consultation; section 3.3.

<sup>74</sup> Ordinary watercourse is defined (section 6 (2) FWMA) as “a watercourse that does not form part of a main river”. “Main river” in turn refers to the meaning given in section 113 of the Water Resources Act 1991. According to the FRR 2009 (regs. 13 (1), 18 (1) and 25) the Environmental Agency is responsible for these main rivers for the purposes of the FRR. Although this is not explicitly repeated in the FWMA, it can only be interpreted as that the Environment Agency is responsible for the main rivers in England and the Welsh Ministers are responsible for those in Wales under the FWMA.

corresponding strategy for Wales. The so-called lead local flood authorities are responsible for the local flood RMSs. The content of the RMSs (sections 7-10) is virtually the same as the content of the FDs' RMPs: assessment of the relevant risks, determination of objectives, specification of measures to achieve the objectives, and information on how and when to implement the measures and on the costs and benefits of the same. The RMSs also contain information on the financing of measures, on reviewing strategy and assessing how the strategy contributes towards achieving wider environmental objectives. In spite of this large degree of overlap between the content of RMSs and of FRMPs as regards flood risks, there is only one common practical link between them: in defining objectives for managing local flood risks

“any objectives included in the authority’s flood risk management plan prepared in accordance with the Flood Risk Regulations 2009”

shall be included.<sup>75</sup>

With regard to public participation, the FWMA differentiates between the local and national FRMSs, and there is also a difference between the national strategy for England and the one for Wales. The authority in charge of the national strategy for Wales essentially does not have to carry out any participation procedure. Only insofar as the strategy may affect flood and coastal erosion risk management in England must the Welsh Ministers consult the Secretary of State about the national flood and coastal erosion risk management strategy (section 8 (3) FWMA 2010). In the case of the strategy for England, the Environment Agency has to consult the English risk management authorities and the public as well as the Welsh Ministers and the Scottish Ministers when it comes to transboundary issues (section 7 (3) FWMA 2010). When developing local flood RMSs, the local authorities in charge in both England and Wales must consult risk management authorities that may be affected by the strategy (including risk management authorities in Wales) and the public. Risk management authorities include (section 6 (13) FWMA):

- “(a) the Environment Agency,
- (b) a lead local flood authority,
- (c) a district council for an area for which there is no unitary authority,
- (d) an internal drainage board,
- (e) a water company, and
- (f) a highway authority.”

For England the “English risk management authorities” (section 6 (14) FWMA) are:

- “(a) the Environment Agency,

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<sup>75</sup> This explicit reference implies that the FWMA 2010 does not simply replace the FRR 2009.

(b) a risk management authority within subsection (13)(b), (c) or (f) for an area that is wholly in England,

(c) an internal drainage board for an internal drainage district that is wholly or mainly in England, and

(d) a water company that exercises functions in relation to an area in England.”

For Wales the “Wales risk management authorities” (section 6 (15) FWMA) are:

“(a) the Environment Agency,

(b) a risk management authority within subsection (13)(b), (c) or (f) for an area that is wholly in Wales,

(c) an internal drainage board for an internal drainage district that is wholly or mainly in Wales, and

(d) a water company that exercises functions in relation to an area in Wales.”

The FWMA does not define the term “public”. Therefore, it can only be understood as meaning “everybody” as in the FRR 2009. also In addition, no definition is provided for the term “to consult” – moreover, the FWMA does not provide an option for the Secretary of State to specify what “consultation” means. The Secretary may issue guidance for the local flood RMSs for England (section 9 (9) FWMA), but this option does not include the consultation procedure. There is no corresponding provision regarding the local flood RMSs for Wales. Here again, therefore, the authorities in charge have a wide range of discretionary powers regarding how they organise the consultation process.

Finally, the authority in charge has to produce a summary of the final version of all RMSs and publish it (sections 7 (4), 8 (4), 9 (7) and 10 (7)). The summaries of the local flood RMSs must include guidance about the availability of relevant information.

### *3.3.4 Regional Flood and Coastal Committees according to the Flood and Water Management Act of 2010*

The consultation of risk management authorities and the public during the production of RMSs is not the only method of public participation provided for in the FWMA 2010. It also obliges the Environment Agency to establish Regional Flood and Coastal Committees (RFCCs) for all regions (to be delineated by the Agency) in England and Wales. The RFCCs are designed to replace the Regional Flood Defence Committees (RFDCs) in their role in flood management. The Environment Agency has to

“(a) consult each Regional Flood and Coastal Committee about the way in which the Agency proposes to carry out its flood and coastal erosion risk management functions in relation to the Committee’s region, and

(b) take into account any representations (whether made in response to a consultation or otherwise) made by the Committee about the exercise of the Agency’s flood and coastal erosion risk management functions in that region” (section 23 (1) FWMA 2010).

The “flood and coastal erosion risk management functions” mentioned also refer to the development of flood and coastal erosion RMSs, of which the Environment Agency has oversight (cf. definition in section 4 FWMA 2010). Furthermore, the Environment Agency has to seek the consent of the RFCC concerned for implementation of the regional programme (section 23 (1) FWMA 2010) and for certain other decisions not relevant here. The scope and importance of this consensus requirement is vague, as there is no definition in the FWMA 2010 or the FRR 2009 of what the “regional programme” is and what it entails. One could argue that it covers all risk management functions of the Agency, as described above; although the consent is only prior to implementation this has of course significant influence on the planning. This broad understanding would render the preceding provision on consultation pointless. In the past, the competencies of the RFDCs were extensive.

The FWMA 2010 does not regulate the issue of the size and membership of the RFCCs, but it does confer power on the Minister to set out by order the requirements relating to membership (order-making power). The order may also provide for the number of members of a Committee, the conditions of their eligibility, the method of their selection and appointment (including arrangements for election or other means of selection), and the proceedings of a Committee, including to the issue of a quorum and the size of a majority required for various decisions. The order-making power has not been executed yet. Therefore, one can only look at the composition of the RFDCs in order to determine whether these committees genuinely provide for public participation in the sense of the “participation of civil society and its organisations”. Up to now, this cannot be answered unequivocally in the affirmative. RFDCs are governmental bodies, which bring together only the representatives of local authorities, experts from the Department for Environment, Food and Rural Affairs (DEFRA) and the Environment Agency. They do not include any other public agency named previously as risk management authorities, such as internal drainage boards, water companies and highway authorities. Furthermore, the RFDCs to date have no non-governmental organisations representing stakeholders and no other interested parties or individuals as members.

### *3.3.5 Summary and conclusions*

In England and Wales the FD was transposed in 2009 by the FRR. With regard to public participation this transposition remains very close to the FD and offers only a few and rather marginal specification. The key requirement of the FD to “encourage active involvement of interested parties” has been transformed into “consult the public” without giving further details on the design of this process. Only a few specific rules can be drawn from the Code of Practice on Consultation in this respect. The FWMA 2010 adds to the FRR 2009 additional procedures for flood risk management planning, some of which are complementary and some of which overlap, but its provisions regarding public participation are as brief as those found in the FRR 2009 – they merely call for consultation of the public. The FWMA 2010 also establishes RFCCs at a

regional level. Although the rules for their composition have not yet been adopted, a glance at their predecessors, the RFDCs, does not give any cause to hope that they might be more than just policy/administrative committees without any civil society participation.

#### **4 Conclusions and prospects: Implementation beyond transposition**

From a theoretical point of view, two different approaches can be identified for the purpose of designing public participation in flood risk management planning according to the FD. A step-by-step approach would initiate a participation procedure at each stage of the planning process: the preliminary flood risk assessment, the creation of flood hazard maps, the creation of flood risk maps and, finally, the development of a flood risk management plan. As this method would be very resource-intensive, none of the Member States considered here has taken this approach, and indeed it is not required by the FD. The FD defines participation by “encouraging the active involvement of interested parties” in the development of FRMPs, and so do the Member States. Starting from this point, in a “top-down” method, the participation process may lawfully include a separate process of reviewing the preceding steps, but this is not very likely. As a result, it can be said that none of the Member States considered here has developed a participatory approach to risk mapping. However, the FD poses no obstacle to pursuing such an innovative method.

The vague phrase “to encourage ...” offers a wide range of options for designing the participation process. In the completely different context of the management of Natura 2000 areas, i.e. areas designated for nature conservation purposes according to the Habitats Directive<sup>76</sup>, three types or modes of participation were distinguished.<sup>77</sup> The first was called the “informal administrative approach”, in which the public administration is the authority in charge, organising consultations and discussing management options with stakeholders and/or their representatives (selected through a specific procedure). The results are fed into the management plans that generally have to be approved by the higher authorities. The second type of participation was labelled as the “formal administrative approach”, in which the administration develops the draft for the management plan which is then displayed publicly so that everybody within the area affected can comment on it within a fixed time period; the administration is bound to review the comments and to notify the commentators of the results. In both these “administrative approaches”, the implementation of measures and the subsequent task of monitoring lie completely in the hands of the administration. The third type may be called the “political approach”: the administration in charge sets up a committee for the development of management plans consisting of agencies

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<sup>76</sup> Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, OJ 1992 L 206/7.

<sup>77</sup> Unnerstall, H. (2008): Public Participation in the Establishment and Management of the Natura 2000 Network - Legal Framework and Administrative Practices in Selected Member States; *Journal for European Environmental and Planning Law*, pp. 35-68.

representing local public concerns (such as local authorities or other branches of the administration) and stakeholder representatives (such as professional associations of farmers and forest owners, environmental NGOs, and so on). This committee drafts the plan which has to be enacted by the organizing authority and then possibly approved by a higher authority. The committee may then take on the additional tasks of monitoring the implementation of the management plan and addressing conflicts that arise at this stage.

Bearing these forms of participation in mind, it can be said that most of the Member States opt for the formal administrative approach. This fulfills only the minimum requirements of the FD for “active involvement”. Certain attempts have been made to adopt a more “political approach”. The establishment of “water fora”, “round tables” etc., as already occurred in the context of implementation of the WFD, is a step in this direction. In practical terms, the inclusion of flood management issues in the application area of these committees would be the easiest way of going beyond “formal consultation”. This would also promote the desired coordination between the WFD and the FD.