



*European Economic and Social Committee*

**NAT/263**  
**Flood risk management**

Brussels, 9 February 2005

## **OPINION**

of the

European Economic and Social Committee

on the

**Communication from the Commission to the Council, the European Parliament, the  
European Economic and Social Committee and the Committee of the Regions - Flood risk  
management - Flood prevention, protection and mitigation**

COM(2004) 472 final

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On 12 July 2004, the European Commission decided to consult the European Economic and Social Committee, under Article 262 of the Treaty establishing the European Community, on the

*Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions - Flood risk management - Flood prevention, protection and mitigation*  
(COM(2004) 472 final).

The Section for Agriculture, Rural Development and the Environment, which was responsible for the Committee's work on the subject, adopted its opinion on 13 January 2005. The rapporteur was Ms Sanchez Miguel.

At its 414<sup>th</sup> plenary session of 9 and 10 February 2005 (meeting of 9 February 2005), the European Economic and Social Committee adopted the following opinion by 132 votes with no votes against and two abstentions.

## 1. Introduction

1.1 The adoption of the Water Framework Directive<sup>1</sup> (WFD) can be said to have brought about a significant shift in EU water policy, not only because it introduced a harmonised approach to the various situations facing our continental and marine waters, but also because it established an effective method of assessing the quality of these waters and put in place a centralised organisational system that makes it easier to tackle each river basin in a uniform manner, regardless of the various competences which exist for each stretch of the river basin. Furthermore, the Commission has continued to supplement and develop the WFD by means of legislative<sup>2</sup> and other provisions<sup>3</sup>, to ensure that EU water policy works to protect our rivers and seas.

1.2 Incomprehensibly, however, the WFD omitted some aspects that are extremely important for the quality of our river basins, including the issue of flooding. Although there is nothing unnatural about the phenomenon of flooding, its effects are in some cases considerably amplified by human activity. Many of the disastrous effects of flooding could be mitigated by means of an appropriate policy on the use and protection of rivers and riverbanks. In particular, this would require the construction of water-related infrastructure to take real – not just formal – account of the

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1 [OJ L 327 of 22.12.2000, p. 72.](#)

2 EESC Opinion on the Proposal for a Directive of the European Parliament and of the Council on the protection of groundwater against pollution (COM(2003)550 final) – OJ C 112 of 30 April 2004, pp. 40–43.

3 European Parliament and Council Decision establishing the list of priority substances in the field of water policy, COM(2000) 47 final. Communication from the Commission to the Council, the European Parliament and the Economic and Social Committee: Pricing policies for enhancing the sustainability of water resources, COM(2000) 477 final. Communication from the Commission to the Council and the European Parliament: Towards a strategy to protect and conserve the marine environment, COM(2002) 539 final.

environmental impact in order to avoid changing natural dynamics and to remain in the interests of a sensible use of water resources.

1.3 Flood risks are increasing in the EU for two main reasons: firstly, the effects of climate change, which could lead to more frequent torrential rains and higher sea levels as a consequence of the warming of the atmosphere. The second factor is the impact of human activity, such as construction work in rivers and projects to divert and channel the course of rivers, and the construction of ports without adopting measures to assess and correct their environmental impact. Another human factor is the increased desertification of our continent, which has suffered from the wide-scale felling of trees, fires and other activities that go against nature. In short, flood risks are increasing as a consequence of unsustainable activity. Adopting sustainable models of economic, social and environmental development can therefore minimise these risks.

1.3.1 The flooding of land used for industry, intensive farming and livestock-breeding, and also of built-up areas, results in the spread of substances and products which under normal conditions do not threaten water quality but, as a consequence of flooding, become dangerous contaminants, with potential effects for public health and the ecosystems concerned.

1.4 The EESC would point out that between 1998 and 2002 Europe suffered over 100 major floods including the catastrophic floods along the Danube and Elbe rivers in 2002. Since 1998 floods have caused some 700 fatalities, the displacement of about half a million people and some EUR 25 billion in insured economic losses<sup>4</sup>.

1.5 The Commission is aware of this state of affairs and presented the Environment Council of July 2004 with a proposal for EU action on flood protection, with a view to ensuring concerted action to improve protection against flood risks. Member States must cooperate on mapping risk areas and on implementing flood risk management plans in every river basin and in coastal areas, with the Commission facilitating the coordination of information between all States and promoting best practice in this area.

1.6 Lastly, it should be added that although this action is to be undertaken in the context of Community water policy, this issue also affects other European policies, such as those on agriculture, environment, civil protection, transport, etc. Furthermore, there is an extremely far-reaching legal problem which affects all of these policies, relating to flood plain management: the demarcation and definition of the public sphere as it applies to the protection of riverbanks and coastlines, so that they are not subject to major modifications by the authorities that are exclusively politically motivated and which affect other competences in water management and in flood risk planning. Demarcating protected areas would make it easier to take flood prevention measures.

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Source: COM(2004) 472 final

## 2. Gist of the Commission's proposal

2.1 The Communication's content can be divided into three headings, which are:

- flood risk management;
- what is already being done and future initiatives;
- a concerted EU action programme.

2.2 The aim of flood risk management is to reduce the likelihood and impact of floods. It is therefore proposed that the flood risk management plans incorporate the following elements:

- prevention;
- protection;
- preparedness;
- emergency response plans;
- recovery and lessons learned.

2.3 In terms of what is already being done and of future initiatives to mitigate the effects of floods, three levels of action are proposed.

2.3.1 At European level, action is geared towards using existing measures and policies for preventing and mitigating floods. In terms of research policy, the aim is to use research projects such as FLOODsite, which helps to improve integrated flood risk analysis and management methodologies. The use of the Structural Funds, in particular the European Regional Development Fund, can help to improve technological research and development in infrastructures<sup>5</sup>. The IRMA project ('INTERREG Rhine-Meuse Activities') is an example of a cross-border approach to combating floods.

2.3.1.1 At European level too, it is proposed that the CAP should be used to establish flood protection areas through forestry and other agricultural activities as a means of protecting the soil. Similarly, it is intended to bring environmental policy into play under the WFD, by integrating flood risk management into integrated river basin plans. Furthermore, the Solidarity Fund, created in 2002 in the wake of the major floods in Central Europe, is to remain in place for emergencies.

2.3.2 As regards the role of the Member States, it should be pointed out that they have acted to combat the effects of floods by providing official and legal guidelines, in particular in the States that suffer most from such events. There are plans and strategies to protect against floods, and risk maps have even been drawn up in those regions that suffer most frequent flooding.

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<sup>5</sup> An interesting example was presented to the EESC's Section for Agriculture, Rural Development and the Environment by Mr Sándor Tóth, representative of the Hungarian Department of the Environment and Water Management, on the programme of long-term flood management and regional development in the Tisza valley.

2.3.3 Thirdly, measures have been put in place for international cooperation on transboundary rivers, in Central Europe in particular, by setting up bodies to ensure a coordinated approach to river basin management.

2.4 The EU's programme for concerted action contains some features that are crucial to establishing measures to prevent and mitigate the effects of flooding. The most noteworthy are: improving coordination between authorities through the river basin and coastal area management plans, flood risk mapping as a tool for planning, and exchange of best practice.

2.4.1 For this programme to succeed, the Member States, the Commission and the other interested parties must cooperate and fulfil their tasks and obligations in the field of flood risk prevention.

2.4.2 The estimated costs of this joint action are hard to quantify, but the qualitative benefits that minimising the effects of flooding will have for the people of Europe, their property and for the people and areas concerned far outweigh any costs.

2.5 An annex sets out guidelines for the development and implementation of flood risk management plans and flood risk maps; this is important for ensuring a uniform approach to achieving the programme's objectives.

### 3. **General comments**

3.1 The EESC welcomes the Commission's Communication, aimed at improving and harmonising the prevention systems in place in many Member States to mitigate the effects of flooding. Nevertheless, firstly, a more thorough assessment of the problem must be made in order to decide on suitable measures geared, in particular, towards the most effective preventive actions which would prevent much of the damage caused by flooding. Secondly, some basic concepts not mentioned in the proposal must be defined, so that agreement can be reached on the measures proposed for management plans and risk maps, in the most harmonised manner possible.

3.2 Floods are natural phenomena associated with the normal functioning of river and coastal systems and operate on a geological timescale that is far greater than the timescale normally used for example in managing economic planning or land-use planning, etc. The "recurrence interval" therefore means that:

- when flooding takes place, be it in 100 or 500 years' time, the river will flood a given area;
- these floods will definitely recur;
- they can recur at any time.

Concepts used in hydrological planning include:

- The riverbed or natural course of a continuous or non-continuous flow is the land covered by water under maximum normal rises in level.
- Flood plains are areas demarcated by the theoretical levels that waters would reach during flooding, the statistical recurrence interval for which could be 100 or 500 years. This does not affect the ownership of the land (public or private), but the competent authority can set limits on usage in order to ensure the safety of persons and property.
- The normal features of flood areas generally include wetlands, alluvial forests, other types of flood plain, debris cones caused by torrential floods in mountainous areas, lagoon marshes and several features (many of these associated with ecologically valuable ecosystems) indicating the limits of floods, which, as already stated, are events associated with the normal functioning of river and coastal systems.

3.3 The seriousness of a flood depends on the occupation and use of flood areas by human beings for activities that affect the normal functioning of these water systems, substantially altering the river and coastal environment. Such activity increases the risk of abnormal conditions that are extremely harmful to human beings and property. The EESC considers that the following factors should be seen as increasing the severity and scale of flooding:

- inappropriate land-use planning, in some cases over a prolonged period, as a result of ignoring scientific and technical information, which would be unacceptable today;
- ill-judged flood risk management (straightening of rivers, channelling of flood waters, construction of reservoirs and dams, cutting off flood detention basins by building dykes close to rivers), measures that have often proved to be inadequate or, taking a wider view, sometimes even counter-productive, particularly downriver.

3.4 The increasing flood risk as a consequence of changing natural factors, in particular climate change, requires a great deal of research to determine how these changes can affect river and coastal dynamics and hence flood-prone areas and recurrence intervals, amongst other variables.

3.5 The increasing risk as a consequence of human factors, such as land use in these areas and the number of people located there, can and must be corrected by including active planning policies geared to achieving the SUSTAINABLE use of flood areas and to minimising risks.

#### 4. **Specific comments**

4.1 The EESC agrees that flood risk management aims to reduce the likelihood and/or impact of floods, normally through a process involving the aims of prevention, protection, information, etc., as pointed out by the Commission. Nevertheless, it is worth classifying the actions

and measures that can be adopted and the criteria for making the right choice in each case. The following preventive measures might be used:

- Natural flood protection measures, e.g. improving or restoring natural drainage by reducing soil compaction or restoring forests in mountainous areas; recovery of (former) naturally occurring flood detention areas; slowing down the flow and propagation rate of the flood wave by reversing measures to straighten rivers; improved drainage of rainwater in residential areas.
- Actions that alter a flood area's susceptibility to incur damage, such as early warning systems, land-use planning and restricting use in flood areas, etc.
- Actions to prevent flooding (hydrological or hydraulic measures): these may be structural (flood control reservoirs, channelling, dykes, etc.) or non-structural (restrictions on urban use, programmes to safeguard property, etc.).

4.2 The EESC suggests to the Commission that management plans be based on the following principles and non-structural measures:

- Returning river and coastal water systems to their natural state, promoting the recovery of natural spaces and the natural self-regulating functions of basins (reforestation in affected mountainous areas, the protection of wetlands and associated ecosystems, monitoring erosion and sedimentation in water courses, programmes for finding alternative uses for and recovering high risk land, etc.).
- The principle of achieving sustainable development in flood areas, by:
  - i. estimating the exploitable economic potential of land use in these areas which is compatible with natural flood activity;
  - ii. planning the transition to these models in the various areas of planning, in particular land-use planning.

It is in this context that the principle of *long-term strategic planning* should be brought to bear, i.e. not simply a question of taking account of the forecast changes, as set out in the Commission Communication, but essentially of correcting them, in cases where it is reasonable to assume that the current level of risk will remain the same or increase.

4.3 Appropriate guidelines and criteria should be drawn up for selecting suitable measures to improve flood protection:

- improved flood protection must not lead to deterioration of the hydrological situation elsewhere (e.g. due to increased run-off, higher water levels or faster flood waves downriver);

- as far as possible and in keeping with the principle of sustainable development, preference is to be given not to constructing technical protection systems but to action to restore river basins, and to natural measures that contain flood water more within a specific area without causing damage (allowing it to spread rather than rise);
- wherever possible, preference is to be given to measures which can offer synergies with other sustainable development objectives (e.g. the objectives of the Water Framework Directive concerning water and ground water quality and the objectives of European nature conservation directives).

4.4 Experience with flood risk management in various parts of the world, in particular since the 1970s, has demonstrated that the main difficulties in implementing preventive measures are not technical and cannot be resolved by risk or danger maps alone. In the USA, for example, the Army Corps of Engineers has produced more than 20 000 risk maps, but very few local authorities make use of them and, when they do, they opt for one type of structural action (such as channelling, dams and dykes) which has frequently failed to adequately control floods and prevent a great deal of avoidable damage because the authorities and the public at large have been lulled into a false sense of security.

4.5 It should be stressed that in the EU, such measures - basically the construction of dams and channels, which are of limited use - are precisely those financed by the Structural Funds, (ERDF and the Cohesion Funds). Preventive measures, structural or otherwise, are generally less well funded. The EESC therefore considers it necessary to assess the need to establish a specific funding line for this Action Programme or, failing this, drawing up guidelines for the inclusion of actions in other Commission-funded programmes.

4.6 At all events, structural measures such as these are not sufficient to prevent floods or to protect flood areas. They only make sense as part of a broader approach in which land-use planning, transport planning (roads, rail, etc.), maintenance of flood drainage channels and the protection of the areas and ecosystems that regulate natural run-off are also taken into account. It would thus be appropriate in future to make the guidelines in the Communication's annex more precise, and to include methodological principles or good practice for drawing up these plans.

4.7 Incorporating flood management plans into the management plans of the Water Framework Directive is crucial to ensuring that the necessary planning is undertaken for action over the entire length of the river basin and that the measures and actions undertaken by the competent authorities at the various levels (local, State, cross-border, etc.) are compatible and properly coordinated. Criteria and formulae must be established to ensure the proper integration of these two planning frameworks, which are compatible but different, by means of a Directive facilitating this. These elements should be dealt with in greater detail in the proposed further development of the appended guidelines.



4.8 Incorporating flood management into the WFD essentially requires:

- a definition of flooding as a phenomenon associated with the normal functioning of river and coastal systems, which can, exceptionally and periodically, affect water quality and ecosystems;
- a definition of "flood zone" that is closely linked to the territorial aspect of WFD's scope (land use, potential contamination, ecosystems linked to water quality, etc.);
- a definition of flood risk linked to the risks and damage to the bodies of water covered by the WFD;
- specific risk management that addresses water management exactly as set out in the WFD (use of water in the river basin, cost recovery, action plans, establishing protected areas).

4.9 The most important aspects of flood risk management linked to WFD-based planning are:

1) Risk definition and management:

- hydrological risks, water quality and ecosystems
- associated geological risks, landslides, avalanches
- management and renovation of public inland waterways and coastal waters
- ecological criteria for flood management
- town planning criteria.

2) Warnings and emergencies:

- geographical zoning
- hydrological information systems and an emergency prevention system
- civil protection
- a legislative framework in each Member State to regulate the above aspects
- civic education
- coordination between the authorities concerned.

3) Other aspects:

- multidisciplinary research and coordination
- risk cover insurance
- sound construction of infrastructure.

## 5. Conclusions

5.1 The EESC is of the view that any action to prevent, protect against or mitigate flooding must incorporate the methodology and instruments created by the WFD, in particular the river basin plan, which makes it possible to regulate all activities relating to the management of inland waterways and the connected coastal areas. To this end, the EESC believes it necessary to incorporate the content of the Communication and the comments made here into a Community Directive that would help bring risk management plans into line with the characteristics of each basin plan, thereby adapting to the particular conditions of our rivers and coastlines.

5.2 To ensure that these aspects are properly incorporated, there must be:

- a clear definition of the basic concepts that will underpin action, especially those referred to in point 4.7 of the opinion;
- a thorough assessment of the current situation in every river basin and coastal area in Europe, especially in areas deemed to be high-risk as a result of climate change and human activity;
- emphasis on actions to prevent the harmful effects of flooding, building on and including all measures aimed at the population, by means of appropriate education and information.

5.3 Risk management plans and risk mapping, as set out in the annexes to the proposed communication, must be extended, so as to establish and clarify a classification of action and measures, taking into account those with the highest priority and that are most appropriate to the financing obtained, as well as the criteria to be met in order to reduce costs and increase the benefits to people and property. The most important aim is to reconcile the natural functioning of inland waterway and coastal systems with human activity, in short, to achieve integrated and sustainable activity in flood areas.

5.4 Lastly, the EESC considers that the most significant aspects of flood risk management, which concern planning under the WFD, are the definitions of risk, warnings and emergencies for times when these phenomena occur. Moreover, it is important not to lose sight of other Community measures for multidisciplinary research and cooperation, aimed specifically at

mitigating the damage caused by flooding, for putting in place insurance to cover damage and minimise the economic loss suffered by the victims and, above all, for vigilance and control over the safety of infrastructure projects in the inland waterway and coastal systems.

Brussels, 9 February 2005.

The President  
of the  
European Economic and Social Committee

The Secretary-General  
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Ann-Marie Sigmund

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