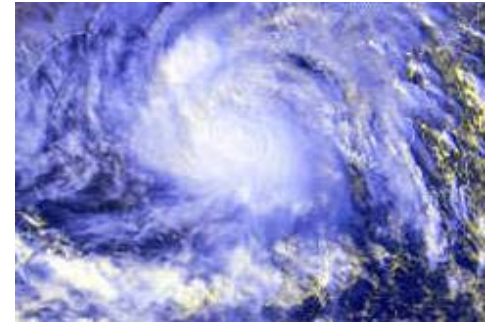


European Water Association
Brussels Conference – 25 October 2005
'European River Basin Management Policy'

European Action Programme on Flood Risk Management Background and Recent Discussions

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European Action Programme on Flood Risk Management

Key Drivers

- 100 major damaging floods 1998 – 2002 including catastrophic floods in August 2002
- Since 1998 >700 fatalities
 - > 0.5 million people displaced
 - > 25 billion Euro in insured economic losses
- Recent floods in Romania, Bulgaria, Austria and Belgium
- More people living in areas at risk of flooding
- Increasing value of economic assets located in flood risk areas
- Substantial health implications
 - physical and psychological



European Action Programme on Flood Risk Management

Key Drivers

Climate Change

‘One of the greatest challenges we face this century’



- Increase in rainfall, mean sea level and tidal surge magnitude and frequency
- ‘Superstorm’ pluvial events with ‘tropical’ rainfall intensities more common
- UK Foresight Report
 - Estimates that river and coastal flood risk could increase by up to **20 times** in some places in the UK
 - Possibly a **4 fold** increase in *intra-urban* flood risk

European Action Programme on Flood Risk Management

Key Drivers



The growing flood risk and the threat to human life, economic assets and the environment has the potential to undermine Europe's commitment to Sustainable Development

European Initiatives

2000 Water Framework Directive: - “contribute to mitigating the effects of floods”

2002 EU Flood Alert System (EFAS)

2003

- New EU Common Agricultural Policy
- EU Water Directors Best Practice Document on flood prevention, protection and mitigation

2004

- Consultation Meeting in April
- Proposals for Rural Development and New Cohesion Policy (environment and risk prevention key themes)
- **Communication on Flood Risk Management** including proposal for concerted EU action programme COM(2004) 472

Communication on Flood Risk Management

Looked at:

- The problem?
- What is already being done?
 - At European level
 - Activities by Member States
 - International co-operation in transboundary rivers
- What could be done at European level?
 - ➔ Proposal for concerted EU action on flood risk management



Communication on Flood Risk Management

Essential Features of Flood Action Programme

- improving co-operation and coordination through the development and implementation of **flood risk management plans**
- developing and implementing **flood risk maps** as a tool for planning and communication
- improving **information exchange**
- developing stronger **linkages** between the research community and authorities
- improving **co-ordination** between the relevant Community policies
- increasing **awareness** of flood risks through wider stakeholder participation
- Annex set out **Principles, Objectives and Key Outputs**

European Action Programme on Flood Risk Management

Council Conclusions

- Supported analysis and suggested action at EU level as set out in the Commission Communication
- Emphasised the need for flexibility in terms of organisation, level of protection, measures and programme to achieve objectives
- Invited the Commission to submit an appropriate proposal for an action programme by mid 2005



European Action Programme on Flood Risk Management

Participation in Development of the Action Programme

- The Commission
- EU Member States
- Candidate Countries (Bulgaria, Romania)
- EFTA Countries (Iceland, Norway, Switzerland, Lichtenstein)
- International River Commissions
- Environmental NGOs including EEB and WWF
- Other representative organisations including the European Water Association.

Stakeholder Meetings held on 21 January, 30 April and 16 September 2005.

Drafting Group convened to develop details of the proposals for Flood Mapping and Flood Risk Management Plans - met on 4 and 30 March

European Action Programme on Flood Risk Management

Three Key Elements

- **Information and Research:** improving information exchange and stronger linkages between research and policy
- **EU Funding Possibilities:** improving coordination between EU funding programmes
- **Legislative Proposal:** Flood Risk Management Plans and Flood Risk Maps.



Guiding principle that flood risk management should be integrated to the extent possible with river basin management plans developed in accordance with the Water Framework Directive

Research and Information Exchange

- **FLOODsite** - a major 14million Euro research project over 5 years which involves 36 research and flood management organisations throughout Europe.
- **European Flood Alert System** which aims to provide between 3 and 10 days early warning of major flood events
- **EXCIFF** - Interest Exchange Circle on Flood Forecasting and Early Warning which aims to identify and prioritise actions necessary to improve flood forecasting
- **ERA-NET CRU** – which aims to join national funders of research with the overall aim of informing policy makers.

September meeting focussed on research needs identified by specific Member States and identified **priority topics** to be taken forward. These are likely to be based on **Flood Forecasting, Flood Mapping and Land Use Management.**

European Funding Possibilities

Aim to improve coordination with the new EU Funding Programme including the new Cohesion Policy and the reformed Common Agricultural Policy for the period 2007 to 2013.

- Total budget for the **Cohesion Policy** could amount to several hundred billion Euro over 7 years
- **CAP reforms** are seen as a simplification of the previous process. Again substantial funding over a 7 year period is anticipated
- Measures associated with **land use management** and that will support flood risk management are likely to be **eligible for compensation** payments.

Flood Risk Management Plans and Flood Risk Maps

Proposal for a New Floods Directive

A key element of the proposed Action Programme is that Member States develop and implement flood risk management plans and flood risk maps for each river basin and coastal zone where **environment, human health and/or economic activities** can be negatively affected.

Within the Commission it is now considered that the proposal will take the form of a new **EU Floods Directive**



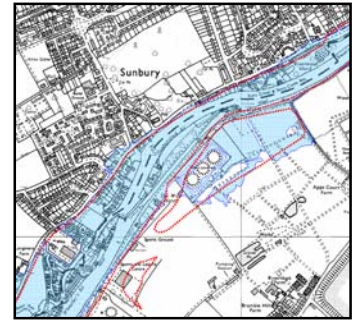
Proposal for a New Floods Directive

Preliminary Flood Risk Assessment

- Need for **flexibility** - priorities for flood risk management vary and to account for work already undertaken by Member States
- Specific objectives:
 - identify **specific flooding issues** and priorities for flood risk management
 - identify river basins and **coastal areas** without significant risk and consequently **with no need for further action**
 - identify river basins and **coastal areas** where mapping and flood management plan preparation have **already been implemented**
- Thus set out specific requirements for flood mapping and flood risk management plan preparation

Proposal for a New Floods Directive

Flood Mapping



Flood hazard maps

Purpose:

- provide spatial **information** to the public, local, regional and national authorities about the areas where flood risk must be taken into account
- provide input to spatial and land use **planning**
- identify of **needs** for flood risk management measures
- provide information for effective **flood warning**, response, preparedness
- support flood risk mapping.

Coverage:

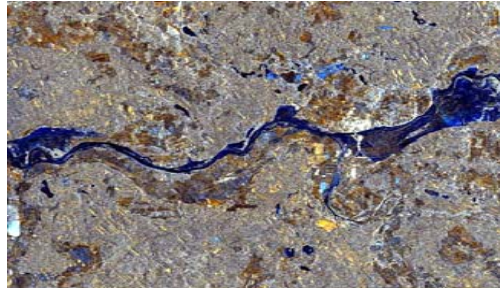
- areas which could be flooded with an **indication of flood probability**
- **frequent** flood events, **less frequent** floods, and **very rare** floods including hydraulic infrastructure failures

....and Where Appropriate

- the degree of danger (water depth / flow velocity), areas which could be bank erosion and debris deposition, the extent of historic flood events and information about natural floodplain storage areas

Proposal for a New Floods Directive

Flood Mapping



Flood Risk Maps

- indicate **how risk varies** in terms of potential economic damages and number of people at risk
- developed for those areas where the flood hazard maps together with information on land use and a vulnerability assessment indicate that the **potential flood risks are significant**
- provide input to the flood risk management plans by identifying flood prone areas that would benefit from flood risk management measures.
- reviewed, and revised if necessary, at least every six years starting from 2015 onwards.

Proposal for a New Floods Directive

Flood Risk Management Plans

Principles (1)

Transboundary River Basins: Co-operation by Member States in the development and implementation of plans. For river basins shared with non-EU countries adopt existing co-ordination mechanisms and conventions or develop new ones

Integrated Approach: Relevant EU environmental legislation taken into account including the Strategic Environment Assessment Directive and the Water Framework Directive

Long Term Strategic Approach: Take account of changes might be expected in the long term (including climate change and changes in land use)

Holistic Approach: all relevant aspects of water management, soil management, physical planning, land use, agriculture, transport and urban development, nature conservation should be considered at the appropriate scale and administrative level

Proposal for a New Floods Directive

Flood Risk Management Plans

Principles (2)

Solidarity Principle: FRM policies or measures should not compromise the ability of other, upstream or downstream regions to achieve the level of protection the regions themselves consider to be appropriate and should not pass on water management, land-use and environmental problems from one region to another.

All Elements of Flood Risk Management should be considered: prevention, protection, preparedness, emergency response, and recovery and lessons learned,

Make use of best practice guidance and relevant research as it becomes available

Involve all relevant authorities and organisations

Be developed and implemented preferably through existing structures

Proposal for a New Floods Directive

Flood Risk Management Plans

Objectives

- To enable **better management** of the risks of floods now and in the future
- To promote **sustainable** flood risk management
- To look for opportunities to **work with natural processes** such as flood plain storage and conveyance and
- To deliver **multiple benefits** from flood risk management,
- To **raise awareness** to the public and relevant authorities about the flood hazards and risks and recommend approaches to deal with them,
- Take other policies into account and **contribute to environmental objectives** in the river basin and coastal zones



Proposal for a New Floods Directive

Flood Risk Management Plans

Key outputs

- Understanding of the size, the nature and the distribution of current flood hazards and risks, and possible future scenarios
- Understanding of flooding processes and their sensitivity to change
- Long-term flood risk management objectives, policies and strategies
- List of prioritised flood risk management actions and measures to be undertaken
- A prioritised set of further studies for the river basin if appropriate.

Opt-out Clause:

Flood Risk Management Plans would not have to be developed and implemented if:

- Flood risk maps show that there is **no significant potential damage** and these areas are not affecting flood risks elsewhere,
- Where Member States have **already adopted and implemented** a flood risk management plan broadly based on the above principles

Proposal for a New Floods Directive

Operational Links with Water Framework Directive

WFD principles and objectives:

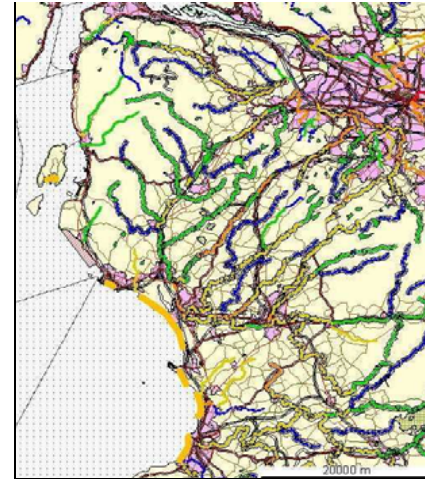
- covers and protects **all waters**, rivers, lakes, groundwaters and coastal waters
- sets binding obligation to **achieve/maintain good status** for all these waters, and imposes a **no-deterioration** clause with limited exemptions
- introduces **water management based on river basins** as the management entity, across administrative and political borders
- operational river basin management **plans and programmes of measures** are **due in December 2009**



Proposal for a New Floods Directive

Operational Links with Water Framework Directive

- **River Basin Approach:** Coordination of flood risk management would follow the same river basin approach as under the WFD.
- **WFD Covers All Impacts:** WFD covers all impacts on waters - flood-related measures would have to be part of the objectives / management / control cycle established under the WFD.
- **Public Participation:** Same approach as for the WFD - river basin, sub-basin, or local, depending on the particular circumstances
- **Management Cycle:** 'Synchronisation' of plans under WFD and under a new Floods Directive by 2015. Until 2015 the processes synchronized where possible.
- **Guidance** of both processes by EU Water Directors



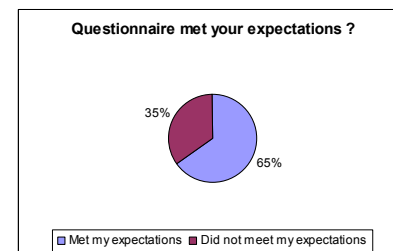
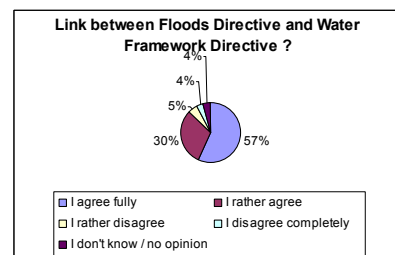
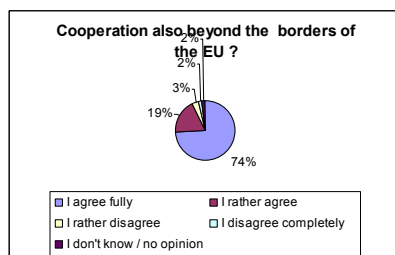
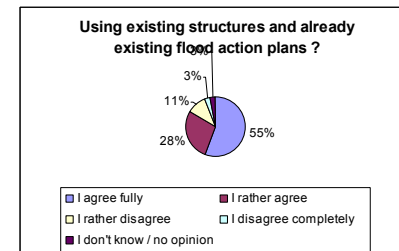
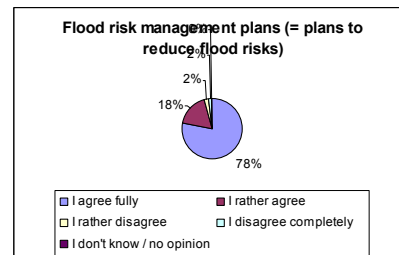
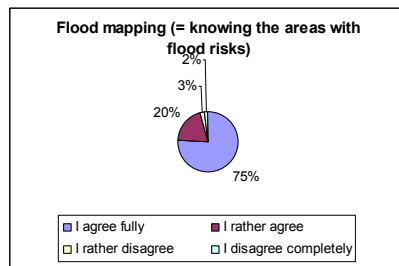
Proposal for a New Floods Directive

Current Status and Next Stages

Internet Consultation Exercise undertaken from July to September 2005

- 261 responses from both individuals and organisations/companies
- Statistics available at :

http://europa.eu.int/comm/environment/water/flood_risk/pdf/stats_flood.pdf



- Outcome** - broad agreement with many of the proposals
- some would like to see a more detailed consultation

Proposal for a New Floods Directive

Current Status and Next Stages

- Formal **Drafting** of the proposal for a Floods Directive may be finalised by the end of 2005.
- Thereafter **political process** leading up to adoption of a Floods Directive by the European Parliament and the Council and transposition into national legislation.





Vision for the Future

Sustainable flood risk management :

Social - Improved quality of life, health and recreational amenity

Economic - Damage avoidance – avoidance of planning blight

Environmental – Environmental improvement and habitat enhancement

A “win-win-win” solution which can act as a catalyst for regeneration and the creation of employment

A vision that will require Innovative Concepts

Pluvial flooding in Urban Areas

Flying Saucers:

- Using remote sensing data to identify saucer shaped depressions.
- Track superstorms – early warning.
- Alleviation measures.
- Contingency plans.

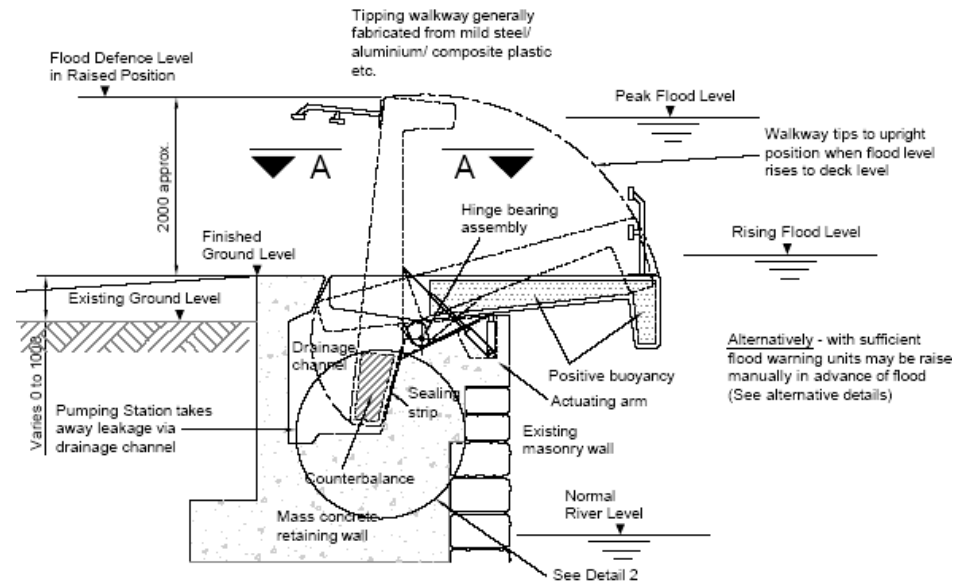
➤ Pluvial Extreme Event Plans - PEEPs
“Peeping at Flying Saucers”



Innovative Concepts

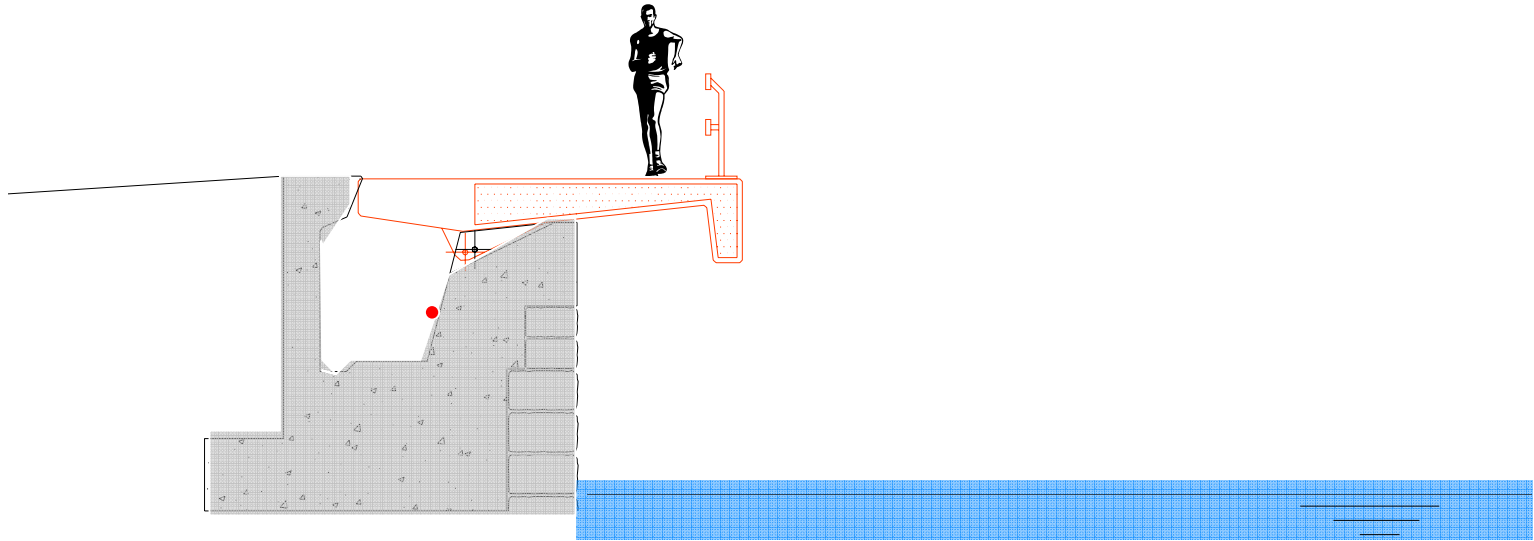
Tipping Flood Defence System:

“Provides a flood defence up to around 3m high without disrupting visual amenity”



Standard Arrangement of Tipping Flood Defence Wall (Patent Applied For)

Scale 1:50



Standard Arrangement of
Tipping Flood Defence Wall
(Patent Applied For)

Tipping Flood Defence System

Innovative Concepts

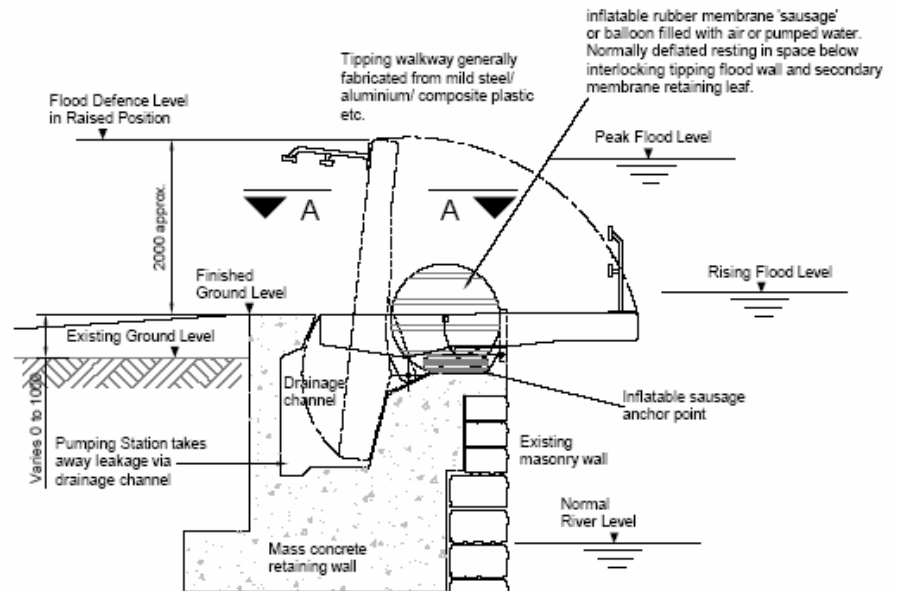
Testing of Tipping Flood Defence System



Innovative Concepts

TFDS 'Inflatable Sausage' Variation:

"Provides a flood defence up to around 3m high without disrupting visual amenity"



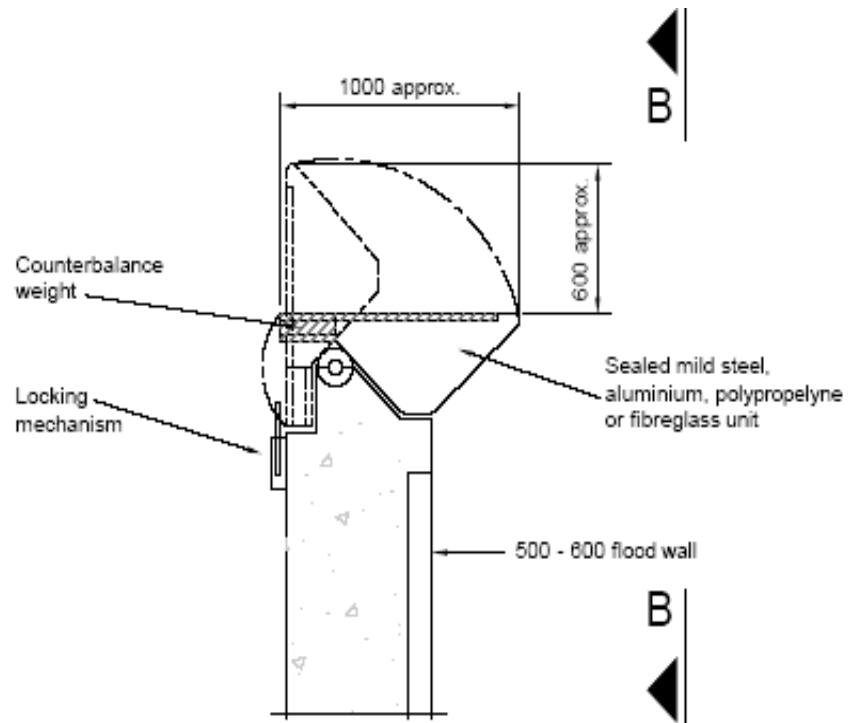
Twin - Leaf Arrangement of Tipping Flood Defence Wall
(Patent Applied For)

Scale 1:50

Innovative Concepts

Tipping Flood Cope:

“Can be retro-fitted to existing flood defences to provide additional protection against climate change”



Tipping Cope Arrangement for Top of Fixed Flood Defence Walls (Patent Applied For)

EFFRiN

European Fluvial Flood Risk Network

Origin:

June 2003 EuroFlood Conference

‘European Flooding – Managing the Risks’

‘Thames Barrier Declaration’

‘With the support of the European Water Association and CIWEM, delegates commit to building a European Network of professionals involved in flood risk management to share knowledge, understanding and expertise with the aim of progressing towards a co-ordinated approach to the sustainable management of flood risk in Europe’



EFFRiN

European Fluvial Flood Risk Network

Aims:

- Share knowledge, understanding and expertise in flood risk management
- Progress towards a coordinated approach to the **sustainable** management of flood risk in Europe
- Work in harmony with and in mutual support of other knowledge-sharing networks and initiatives to support the European Commission aim to ‘facilitate co-ordination and information exchange on flood protection and the promotion of best practice’

EFFRiN

European Fluvial Flood Risk Network

Membership:

- Currently 58 Founding Members and 18 Corresponding and Working Group Members
- Individual membership is believed to cover at least 11 Member States - many are members of EWA professional associations
- EWA Member Associations represent 20 Member States
- Existing members have already provided input to Stakeholder Meetings via EWA

EFFRiN

European Fluvial Flood Risk Network

Future objectives:

- Further develop existing network of flood risk experts
- Sharing of knowledge and expertise
 - lessons learnt
 - technical expertise
 - organisational arrangements
 - regulatory systems
- Establish working groups on specific issues
- Establish sub-network to develop best practice guidelines on Emergency Response during major floods

EFFRiN

European Fluvial Flood Risk Network

Future objectives:

- Assist in organisation of further EuroFlood Conferences
- Establish user-friendly dedicated website and e-workshop facility
- Liaise with other relevant networks and initiatives
- Maintain close interface with EC Flood Action Programme and match activities with key issues

EFFRiN

European Fluvial Flood Risk Network

Further Information:



EWA

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