Forestry Commission Scotland

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STRATEGIES AND ACTIONS FOR FLOOD EMERGENCY RISK MANAGEMENT

This project has received European Regional Development Funding through the INTERREG III B Community Initiative

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INTERREG IIIB
NORTH WEST EUROPE

# Glen Urquhart Landuse Partnership

## AGM

22 Nov 2007

Regional partners:

- FCS
- HC
- SE
- ODPM

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# PROJECT OVERVIEW

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## S A F E R: The project about floods

Strategies and actions/implementations for flood emergency risk management

The SAFER project is funded by the NWE Interreg Program IIIB and includes 5 Partners from the 4 countries: Germany, Ireland, Scotland and Switzerland. SAFER addresses to minimise flood damage, the risk of loss of life in flood events and to ensure sustainable economic development in flood prone areas.

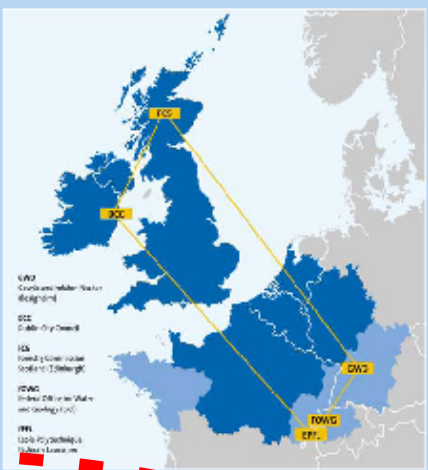
**Project duration:** **01. December 2002 – 30. June 2008**
**Project budget:** **10.416.159 €, funding: 5.649.380 €**

Lead Partner:

Land of Baden-Württemberg (in Germany) represented by Gewässerdirektion Neckar

Regional Partners:

Dublin City Council
Forestry Commission Scotland
Federal Office for Water and Geology
École Polytechnique Fédérale Lausanne




### The SAFER Project has three major themes:

- To provide information on hazards (flood hazard maps, flood areas and depths, erosion)
- To develop and establish advanced tools for emergency management
- To transfer the information through flood partnerships to planners, stakeholders, potentially affected bodies and achieve economy to significantly mitigate damages, which are likely to threaten the safety of people and property

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# Flood Hazard Information - the most comprehensive part of the project.

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## Flood hazard maps - example Neckar

These maps will also be produced in Dublin City an the Enrick region

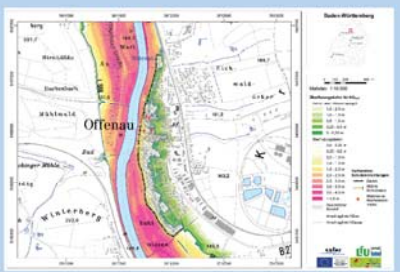
### Flood prone area for flood event $HQ_{10}$, $HQ_{50}$, $HQ_{100}$ and $HQ_{extreme}$


This map shows the **flood prone areas** for:

a flood event once in 10 years ($HQ_{10}$)
a flood event once in 50 years ($HQ_{50}$)
a flood event once in 100 years ($HQ_{100}$)
and an extreme event ($HQ_{extreme}$)

Type 1: Flood prone areas for different recurrence of flooding on a statistical basis.

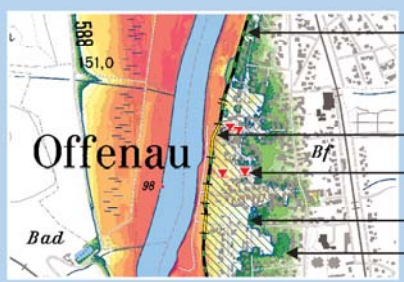
### Water depths for flood event ($HQ_{100}$) with 50 cm steps




The flood prone areas are demonstrated with **water depths in 50 cm steps** for an event $HQ_{100}$. This map also illustrates a dam, and the areas under protection (indicated by hatching) provided by the dam. The flood prone area for an extreme event is also shown with an additional line.

Type 2: Water depths for a specific flooding event ($HQ_{100}$).

### Detailed map for water depths




Dam
Mobile protector/dam
Historical flood mark
Line $HQ_{100}$
Line $HQ_{extreme}$

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# Review of flood emergency systems based on new flood hazard information

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## Flood emergency management systems

**SAFER and the Interreg project NOAH have a close knowledge transfer in emergency management systems with the following basics:**

- 3 Levels „communities, districts and government"
- 3 Phases „before - during - after" a flood
- 3 Sections „water, geo-informatics and infrastructure"

**= reliable information in 1 common web-based portal**

- The software has many different modules.
- Above you see a combination of the module hazard maps and the module emergency plans.
- The picture on the left shows the module water levels. Another module for example is there to give information for the public an media.

**The following information and instruments will be used in the SAFER flood emergency management systems (FEM):**

- The internet, mobiles and GPRS are used to add flood information to the system
- The FEM will import information from a separated system that forecasts water levels (1-36 hours)
- Emergency plans that were or will be developed by communities, the police and the fire brigade

Flooding in 2002 near the river Kocher (Neckar catchment) with a protector. This helps to minimise flood damage.

Development of a mobile protector. This action was done because of a specific water level and an emergency plan.

Overview of the same mobile protector like in picture 5. Flood event in 2002 (Kochendorf).

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# Flood Partnerships provide the platform for exchange of information about flood protection and findings.

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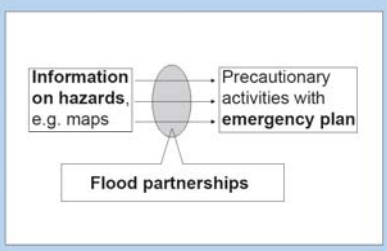
## Flood partnerships

**14 flood partnerships will be found in three regions within SAFER.**

- Neckar catchment:
  10 flood partnerships for 450 municipalities; initiated by the land of Baden-Württemberg
- Dublin City: 3 flood partnerships for 3 areas of Dublin city; initiated by the Dublin City Council
- Enrick catchment: 1 flood partnership for 4 municipalities; initiated by Glen Urquhart community




**The SAFER Philosophy:**

Information (hazard maps)
\+ Co-operation (flood partnerships)
\+ Emergency management systems

**= flood protection**

**What are the overall objectives and who is addressed?**

- The objective is to transfer the knowledge of water management to citizens and the public.
- Alarm plans will be discussed within the members of flood partnerships to support each other.
- The SAFER partners will discuss problems due to their different regions to define similarities and differences in flood partnerships. This information can be used in other regions in Northwest Europe.

Flood partnership meeting in Glen Urquhart/ Scotland with the SAFER partners.

The certificate is handed over for the foundation of a flood partnership.

Sand bag filling competition for pupils during a flood partnership day.

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# Achievements since last AGM - local

## FLOOD HAZARD INFORMATION

### Flood Risk Assessment and Survey of R. Enrick:

- flood depths maps
- extent of different flood events, inc, variable recurrence intervals
- Flood management options
- Erosion maps

**The above are of value to the HC in helping them to present a Flood Prevention Order to the Scottish Government for grant aid for implementation of the most appropriate flood defence.**

**The flood maps were also made available to the HC Emergency Planning Dept - review of Reception Centres.**

*The full report is available at the public library in Drumnadrochit*

# Flood Emergency Management

## 2 new river monitoring gauges have been installed

**Corrimony** **Ivy Bridge**

- **These will enhance the existing hydrometric network.**
- **Provide data to SEPAs FLOODLINE warning system**
- **Improved local flood warning time**
- **Managed by SEPA**

LOCAL FLOOD WARNING:

- cascade system updated by GULP
- Frontworks to run in tandem

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# A proportion of the funding was allocated to ‘Investment’ schemes:

**3 types of Investments:**

- 1 Forest Management - bufferzones created along tributaries and planted with native broadleaf (NBL) trees.

  Emergency removal of woody debris from R.Enrick. Riparian woodland management.

*Thanks to landowners who assisted with access!*

- 2 Timber Flood Defences - planting of willow (sustainable resource available to community for riparian planting

  Debris catcher - fish-friendly

- 3 Natural Defence Barriers - creation of ponds as silt traps, felled debris used for minimising drainage, planting of NBL

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# continued

- Aquatic habitat survey conducted by Ness & Beauly Fisheries Trust - positive result!
- Communication between GULP and SAFER exchanged at regular GULP meetings with Directors
- 2 regional & 2 general newsletters published per year (public library)
- regular updating of www.eu-safer.org.uk (docs available here)
- 2 Project Partner meetings per year
- feeding into UK Forestry Policy

# Future

- Joint reports on 3 themes
- Jan 08 - project assistant to visit GULP
- final part of Investment work due to be completed in Feb 08 (wetland work) - compliments black grouse habitat enhancement scheme
- SAFER Conference, Dublin 23-24 April 2008
- Final Partnership meeting - bringing the SAFER Project to a close
- Total of 11 audited claims submitted