



Skerries Mills

FINGAL EAST MEATH FLOOD RISK ASSESSMENT AND MANAGEMENT STUDY

Newsletter – 07
June 2010

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Introduction

Welcome to the Fingal East-Meath Flood Risk Assessment and Management Study (FEM FRAMS) newsletter. The newsletter provides you with information on different aspects of the project and keeps you updated on project progress. Please visit our website www.fingaleastmeathframs.ie to obtain a copy of previous newsletters and to obtain further information on the project.

The main objectives of the FEM FRAMS are to: identify and map the existing and potential future flood hazard and risk areas within the study area; build the strategic information base necessary for making informed decisions in relation to managing flood risk; identify viable structural and non-structural measures and options for managing the flood risks; prepare a Flood Risk Management Plan (FRMP) for the study area, and carry out a Strategic Environmental Assessment. The FRMP sets out the measures and policies, including guidance on appropriate future development that should be pursued by the Local Authorities, the OPW and other Stakeholders. This study will ensure compliance with the Governments national policy for flood risk, the EU Floods Directive and the Water Framework Directive.

It is important that the knowledge and views of the general public are taken into consideration during the development of the Fingal East Meath FRMP. Our website www.fingaleastmeathframs.ie has a feedback form where you can submit information and views relevant to the study.

Flood risk management options

Introduction

Flood risk management options consist of both structural and non structural measures to manage both the fluvial and tidal flood risk in the study area. The level of flood risk in the study area will be assessed using the flood maps.

The flood maps have been generated from the outputs of the hydraulic computer models which provide data on water levels, flows, depths and velocities. Flood maps have been prepared for rivers identified as being possible sources of significant flood risk and for the Fingal and Meath coastline and have been used to identify the degree of flood risk at numerous locations within the study area.

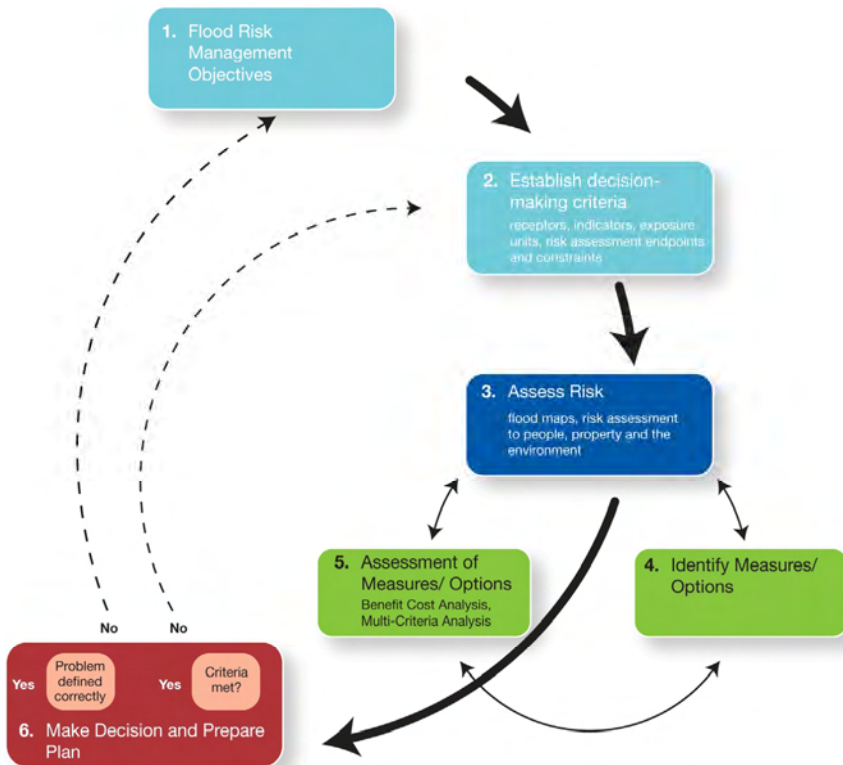


Figure 1 Option development process flow chart

Where the risks are significant, the study will identify a range of potential flood risk management options to reduce these risks. An option development process has been developed, as illustrated in Figure 1, and used to ensure that the assessment of flood risk management options is evidence-based, transparent, and inclusive of stakeholder and public views. The methodology is a nationally agreed approach to the development of flood risk management options.

To ensure the correct focus in determining appropriate flood risk management options, the catchment is divided into a number of assessment units. These are defined at four spatial scales:

- Catchment scale: in this case the entire FEM FRAMS study area (~770 km²);
- Analysis Unit (AU) scale: these are large sub-catchments (e.g. Broadmeadow and Ward River catchment) or areas of tidal influence (e.g. Meath and Fingal coastline);
- Areas of Potential Significant Risk (APSRs): for this study these are urban areas; and
- Individual Risk Receptors (IRRs): these are essential infrastructure assets or environmental sites with significant pollution potential at significant risk of flooding.

The AU and APSR identified for the FEM FRAM study area are shown in Figure 2.

Potential flood risk management options for the AU and APSR will be selected from a range of potential structural and non structural flood risk management measures as detailed below.

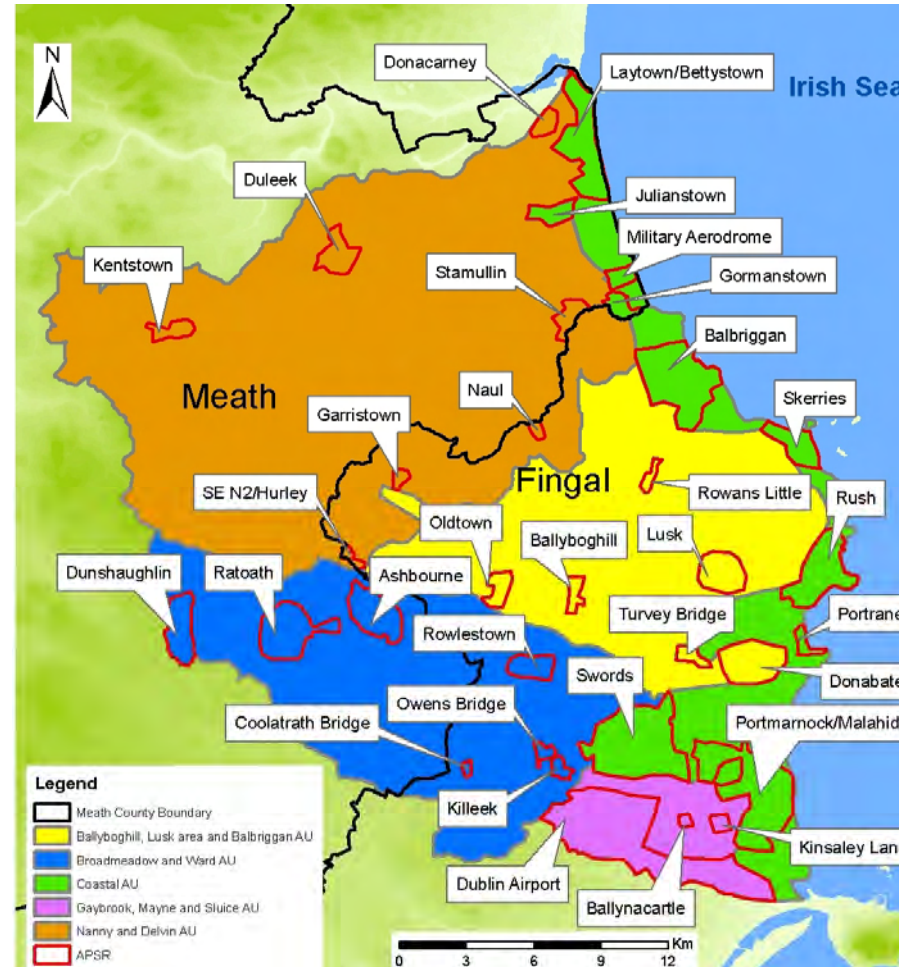


Figure 2 Map of the AU and APSR in the study area

Baseline – Do nothing (assuming any current maintenance regime continues)	
Do minimum	
1	Reduce existing activities
2	Proactive maintenance
Non-structural / minor & localised modifications	
3	Develop a flood forecasting system
4	Targeted public awareness and education campaign
5	Individual property protection/flood proofing
Structural measures	
6	Sustainable Urban Drainage Systems (SUDS)
7	Rehabilitation, improvement of existing defences
8	Improvement in channel conveyance
9	Sediment management
10	Provision of permanent flood walls/embankments/rock armour
11	Provision of demountable flood defences
12	Allowing flooding of roads in a controlled manner
13	Flow diversion (e.g. bypass channel, flood relief channel, etc.)
14	Flood storage reservoirs
15	Beach Recharge/sand dunes
16	Groynes
17	Breakwater
18	Managed realignment/land management
19	Tidal barrier
20	Relocation of existing assets



Selection of preferred options

The selection of the preferred options will be based on the performance of options in managing the flood risk. This performance will be measured using a scoring system which will test the technical, economic, social and environmental acceptability of potential options at the various spatial scales. Those options with the highest 'score' from this process will be taken forward for potential inclusion within the Flood Risk Management Plan (FRMP).

Strategic Environmental Assessment (SEA)

The SEA forms a key part of the identification and assessment of potential flood risk management options. The environmental objectives identified during the scoping stage (please see the Environmental Scoping Report, June 2009) have been reviewed and refined following consultation and will be used to score the environmental acceptability of potential options, as part of the overall option assessment process.

An SEA Environmental Report (ER) will be prepared which will identify, evaluate and describe the likely significant effects, both positive and negative, of implementing the FRMP on the environment of the FEM FRAM study area. It will also recommend actions to mitigate and monitor any identified significant adverse effects and ensure that these are communicated and addressed during the implementation of the FRMP. The SEA ER will be published in early 2011 and accompany the FRMP.

Flood Risk Management Plan (FRMP)

Details from the flood risk management option assessment will be reported on in the FRMP. The overall objective of the FRMP is to implement, at a local level, the following national Government policy objective relating to flood risk management:

'Seek to minimise the level of exposure to flood damages through the identification and management of existing, and particularly potential future, flood risks in an integrated, proactive and river basin based manner.'

A draft FRMP is due for publication in early 2011 and further details will be available in the next issue of the newsletter.

Project progress update

Throughout the project we will keep you updated on our progress through both this newsletter and the project website.

Hydraulic computer models

Hydraulic computer modelling involves the use of computer software to solve advanced mathematical equations to provide an estimate on water levels, flows and velocities along a river system. A total of 19 river models have been developed for rivers and estuaries in the FEM FRAM Study area. In addition, a coastal model has been developed to model flooding along the Fingal and Meath coastline. Work is nearing completion on running these computer models for both the current scenario and future scenario design flood events. The outputs from these computer models have been used to generate flood extent maps for the rivers and coastal zone.

Flood mapping

Flood maps are one of the main outputs of the study and are being prepared in a number of different

formats, each designed for various end uses, and representing both current and future flood risk. Draft flood maps will be uploaded to the FEM FRAMS website in September 2010 and opportunities will be provided to the public to comment on these flood maps.

These maps are now being used to identify the degree of flood risk at numerous locations within the study area and to inform the development of flood risk management options. These flood maps can also be used to:

- raise awareness of flood risks to property and life;
- increase recognition of flood risk areas;
- aid emergency response planning and action; and
- inform spatial planning and development management within the floodplain and support the implementation of the Guidelines on the Planning System and Flood Risk Management (further information is available on www.opw.ie).



If you have any questions or require any further information relating to this study or if you would like to be included on a distribution list for future issues of this newsletter please email fem-frams@fingalcoco.ie

If you would like to contact us by post, please send your request to Denise Treacy, Water Services Department, Fingal County Council, Grove Road, Blanchardstown, Dublin 15.

In the next and final issue of the newsletter (to be published in early 2011) we will provide information on the Flood Risk Management Plan for the Fingal East Meath study area. The Flood Risk Management Plan will set out economically, socially and environmentally appropriate long-term strategy for managing the risk to help ensure the safety and sustainability of communities in the study area.

Our project website www.fingaleastmeathframs.ie provides up to date information on the FEM-FRAM Study, including project activities, project programme, public information days and project reports.

A feedback form on the website provides you with an opportunity to provide information you feel is relevant to the study.