

***EPA National Water Event 2018***

# **THE 'CFRAM' PROGRAMME AND THE FLOOD RISK MANAGEMENT PLANS**

**Mark Adamson  
Office of Public Works**

**20<sup>th</sup> June, 2018**



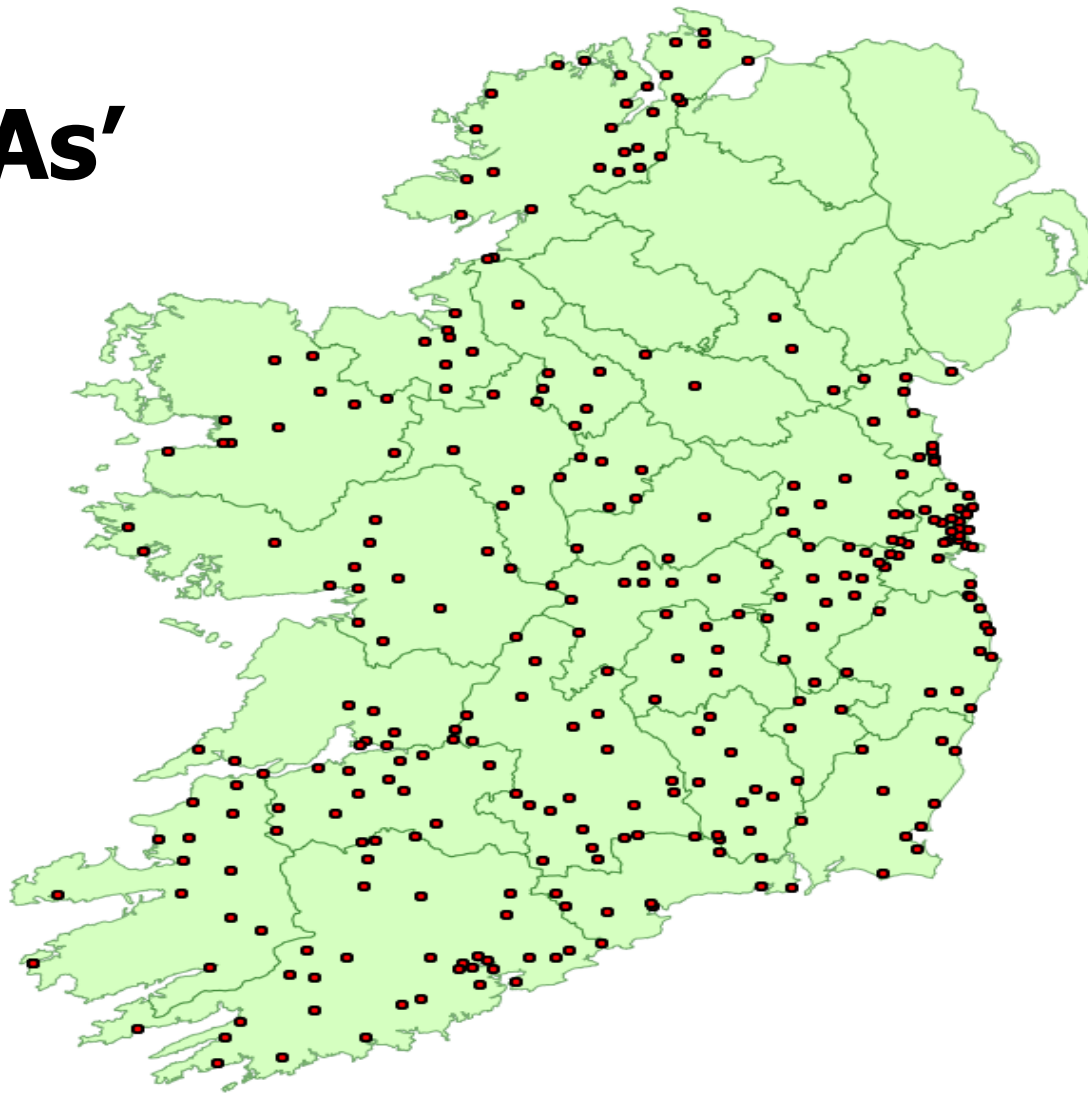
# EU 'FLOODS' DIRECTIVE: 2007

- KEY REQUIREMENTS
  - Preliminary Flood Risk Assessment (PFRA)
  - Flood Maps
  - Flood Risk Management Plans
- OTHER PROVISIONS
  - Coordination with WFD Implementation
  - Trans-Boundary Co-operation
  - Public Dissemination / Engagement
- 6-YEAR REVIEW CYCLE

# PRELIMINARY FLOOD RISK ASSESSMENT (PFRA)

- BASED ON:
  - Historical Records / Past Floods
  - Predictive Hazard Assessment & Risk Analysis
  - Stakeholder Consultation (Local Authorities)
- COMPLETED 2011
- PUBLIC CONSULTATION
- 300 'AFAs'

# 300 'AFAs'





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PROGRAMME  
CATCHMENT FLOOD RISK  
ASSESSMENT AND MANAGEMENT



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- 'CFRAM' PROGRAMME
  - Outcome of National Flood Policy Review, 2004
  - Compatible with FD Requirements, 2007
    - Flood Maps
    - Flood Risk Management Plans (FRMPs)
  - Pilot Studies:
    - Lee, Dodder, Fingal – East Meath: 2005-2011
  - National Programme: 2011-2017



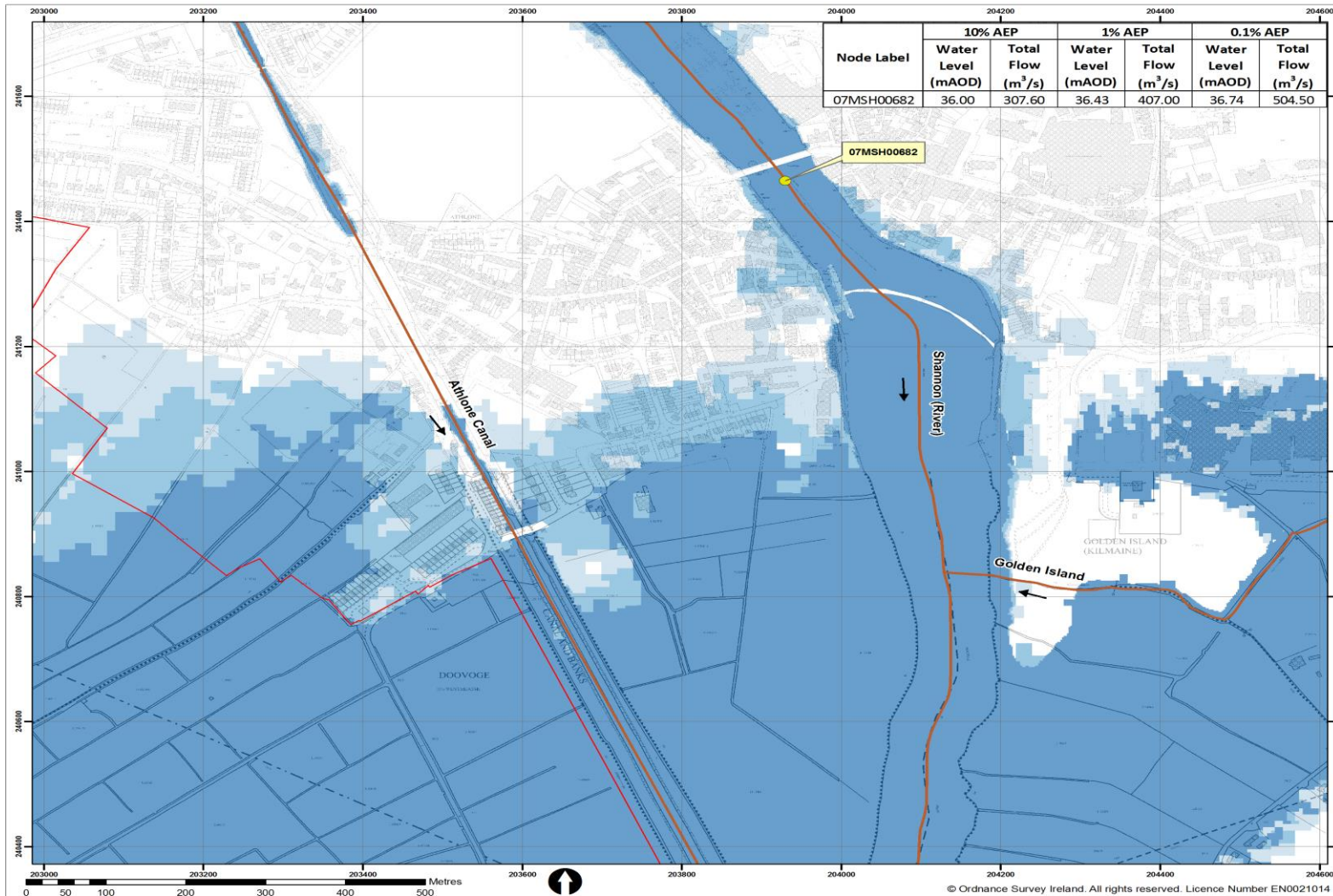
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- SCOPE OF WORK

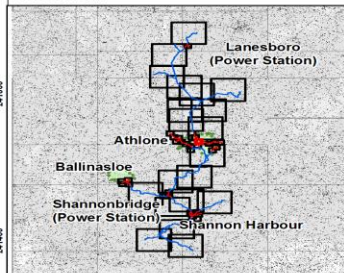
- Survey & Data Collection
- Hydrological Analysis
- Hydraulic Modelling
- Flood Mapping

- Extent, Depth, Velocity, 'Risk-to-Life', Flood Zone & Various Risk Maps



Node Label	10% AEP		1% AEP		0.1% AEP	
	Water Level (mAOD)	Total Flow (m³/s)	Water Level (mAOD)	Total Flow (m³/s)	Water Level (mAOD)	Total Flow (m³/s)
07MSH00682	36.00	307.60	36.43	407.00	36.74	504.50

Location Plan:



Legend:

- Nodes
- Model Reach
- AFA Boundary
- 10% AEP Fluvial Flood Extent  
(1 in 10 chance in any given year)
- 1% AEP Fluvial Flood Extent  
(1 in 100 chance in any given year)
- 0.1% AEP Fluvial Flood Extent  
(1 in 1000 chance in any given year)

IMPORTANT USER NOTE:

THE VIEWER OF THIS MAP SHOULD REFER TO THE DISCLAIMER, GUIDANCE NOTES AND CONDITIONS OF USE THAT ACCOMPANY THIS MAP. THIS DRAFT MAP IS FOR CONSULTATION PURPOSES ONLY AND SHOULD NOT BE USED FOR ANY OTHER PURPOSE.



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The Office of Public Works  
Jonathan Swift Street  
Trim  
Co. Meath

Merrion House  
Merrion Road  
Dublin

Project:  
**SHANNON CFRAM STUDY**

Map:  
**LANESBORO, ATHLONE, BALLINASLOE,  
SHANNONBRIDGE, SHANNON HARBOUR**

Map Type: FLUVIAL FLOOD EXTENT MAP

Source: FLUVIAL

Map area:  
LANESBORO  
ATHLONE, BALLINASLOE  
SHANNONBRIDGE  
SHANNON HARBOUR  
EXISTING

Scenario:

Drawn by: KN Date: November 2014

Checked by: MV Date: November 2014

Reviewed by: SR Date: November 2014

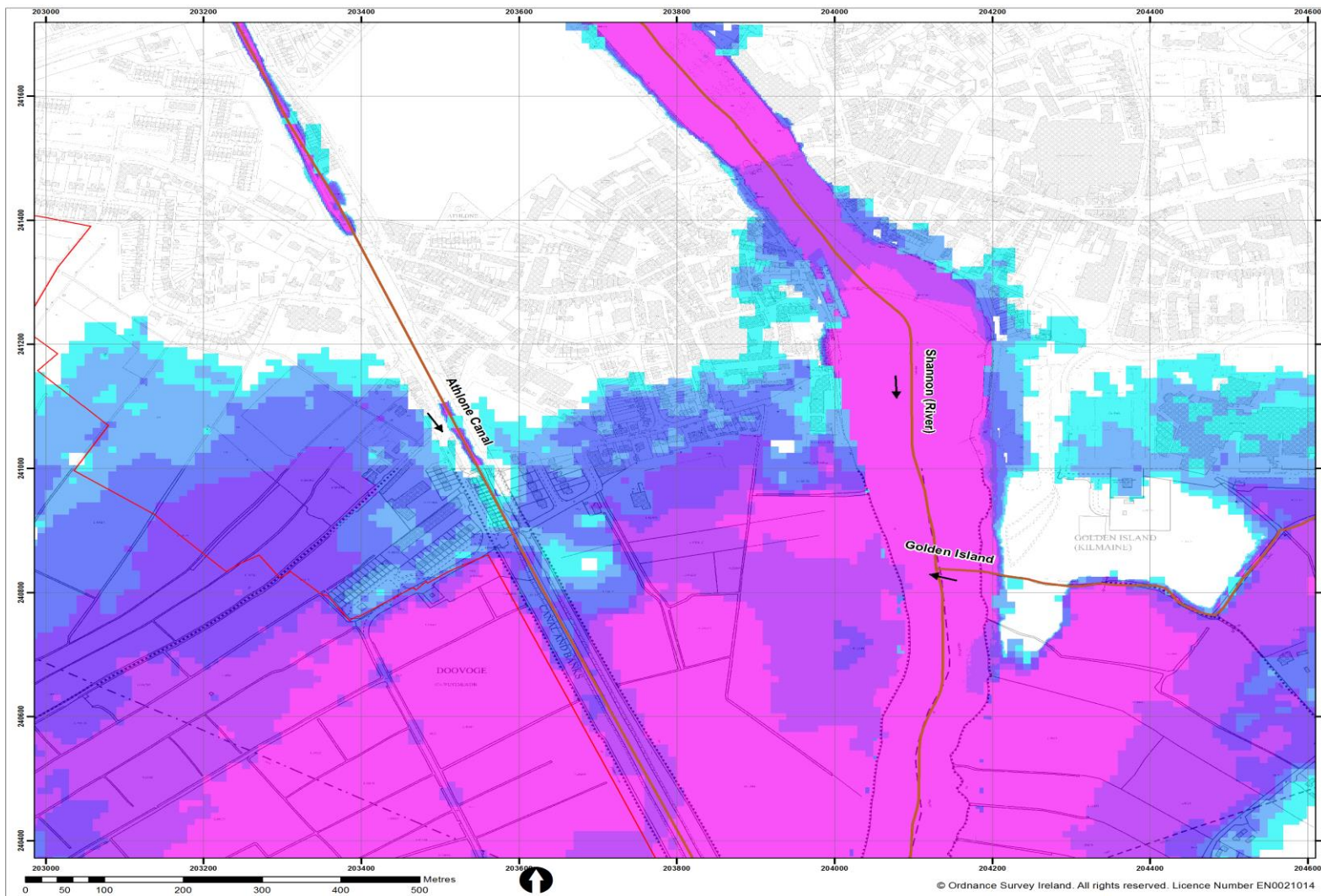
Approved by: PS Date: November 2014

Map No.: N100CFDD

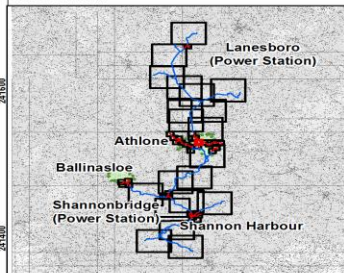
Sheet: 14 of 52

Map Scale: 1: 5000

Revision: 1  
Plot Scale: 1:1 @ A3



#### Location Plan:



#### Legend:

- Model Reach
- AFA Boundary
- 0.1% AEP Fluvial Flood Depth (m)**
  - < 0.25
  - 0.25 - 0.5
  - 0.5 - 1.0
  - 1.0 - 1.5
  - 1.5 - 2.0
  - > 2.0

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Project:  
**SHANNON CFRAM STUDY**

Map:  
**LANESBORO, ATHLONE, BALLINASLOE, SHANNONBRIDGE, SHANNON HARBOUR**

Map Type: FLUVIAL FLOOD DEPTH MAP  
Source: FLUVIAL  
Map area: LANESBORO, ATHLONE, BALLINASLOE, SHANNONBRIDGE, SHANNON HARBOUR  
Scenario: 0.1% AEP EXISTING

Drawn by: KN	Date: November 2014
Checked by: MV	Date: November 2014
Reviewed by: SR	Date: November 2014
Approved by: PS	Date: November 2014

Map No.: N100PFC1000D  
Sheet: 14 of 52  
Map Scale: 1: 5000  
Revision: 1  
Plot Scale: 1:1 @ A3



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- FLOOD MAPS ('CFRAM' PROGRAMME)
  - Range of Flood Maps Produced
    - Extent, Depth, Velocity, 'Risk-to-Life', Flood Zone & Various Risk Maps
    - Up to 8 Flood Event Probabilities
  - Future Scenario Mapping
    - 2 Representative Climate Futures

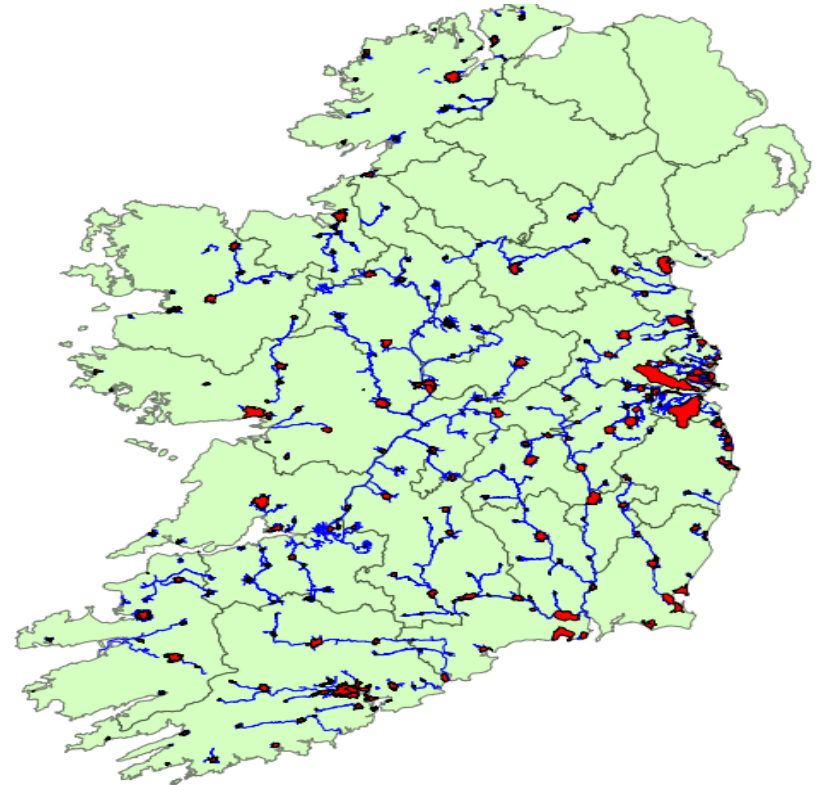


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# FLOOD MAPS

- Detailed Mapping for 300 Communities
  - Appx. 4,000 km River Channel
  - 90 Coastal Communities
  - **Communities with Appx. 3m People (Appx. 2/3rds Population)**
- Less Detailed Mapping for Appx. 2,500 km Other Mapped River
- Inform:
  - Emergency Response Planning,
  - Community Resilience,
  - Sustainable Land Use Planning
  - Adaptation Planning





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- FRMPs – COMMUNITY-LEVEL MEASURES
  - Screening & Option Development
    - Developed to 'Line-&-Level'
    - Costed – Unit Cost Database
  - Appraisal
    - Multi-Criteria Analysis (MCA), Incl. Assessment Vs. WFD Objectives
    - Cost-Benefit Analysis (CBA)
    - SEA / AA Environmental Assessment
    - Adaptability to Climate Change
  - Public Consultation: Over 450 PCDs



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- FRMPs – COMMUNITY-LEVEL MEASURES
  - CFRAM Programme: Protection for Appx. 18,000 Properties
    - Pilot / Accelerated CFRAM Schemes: Appx. 6,500 Properties
    - 118 New Schemes in Plans: Appx. 11,500 Properties



- FRMPs – COMMUNITY-LEVEL MEASURES
  - Overall FRS Programme
    - 42 Schemes Completed
      - Appx. 9,500 Properties Protected
      - Appx. €1.9bn NPV Benefits for Appx. €465m Investment
    - 33 Schemes in Construction, Design, Planning
      - Appx. 5,500 Properties (+6,500 CFRAM)
  - Protection for Appx. 33,000 Properties:
    - Appx. 95% Properties in AFAs
    - Appx. 80% Properties Nationally



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- FRMPs – MEASURES APPLICABLE IN ALL AREAS
  - Prevention:
    - Sustainable Planning & Devt. Management, SUDS, Voluntary Home Relocation Scheme, Climate Change Adaptation Planning, **Natural Water Retention Measures**
  - Protection:
    - Flood Relief Schemes, Maintenance of Existing Flood Relief Schemes, Drainage Schemes & Other Channels, Minor Works Scheme
  - Preparedness & Resilience:
    - Flood Forecasting & Warning, Emergency Response Planning, Promotion of Community Resilience, Individual Property Protection, Flood Event Data Collection

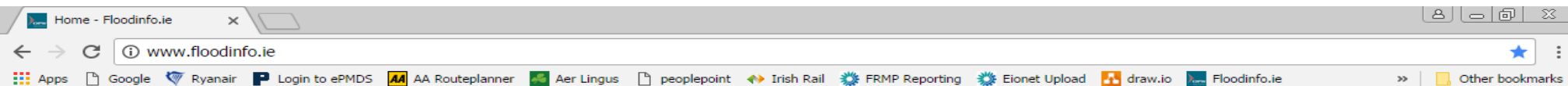


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- FLOOD RISK MANAGEMENT PLANS
  - Finalisation of Plans
    - Approved by Minister for PER – 16<sup>th</sup> April 2018
    - Reported to COM
    - Submission to Local Authorities
    - Public Launch 3<sup>rd</sup> May 2018 – [www.Floodinfo.ie](http://www.Floodinfo.ie)

# www.FloodInfo.ie

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## Welcome to FloodInfo.ie

Providing access to Flood Plans and Flood Maps developed by the OPW and information on flood risk management in Ireland.

Minister "Boxer" Moran launches new website Floodinfo.ie - 3 May 2018

[READ KEY MESSAGES](#)



### View Flood Plans

*Access to flood risk  
management  
measures*



### View Flood Maps

*Access to flood hazard  
and flood risk  
information*

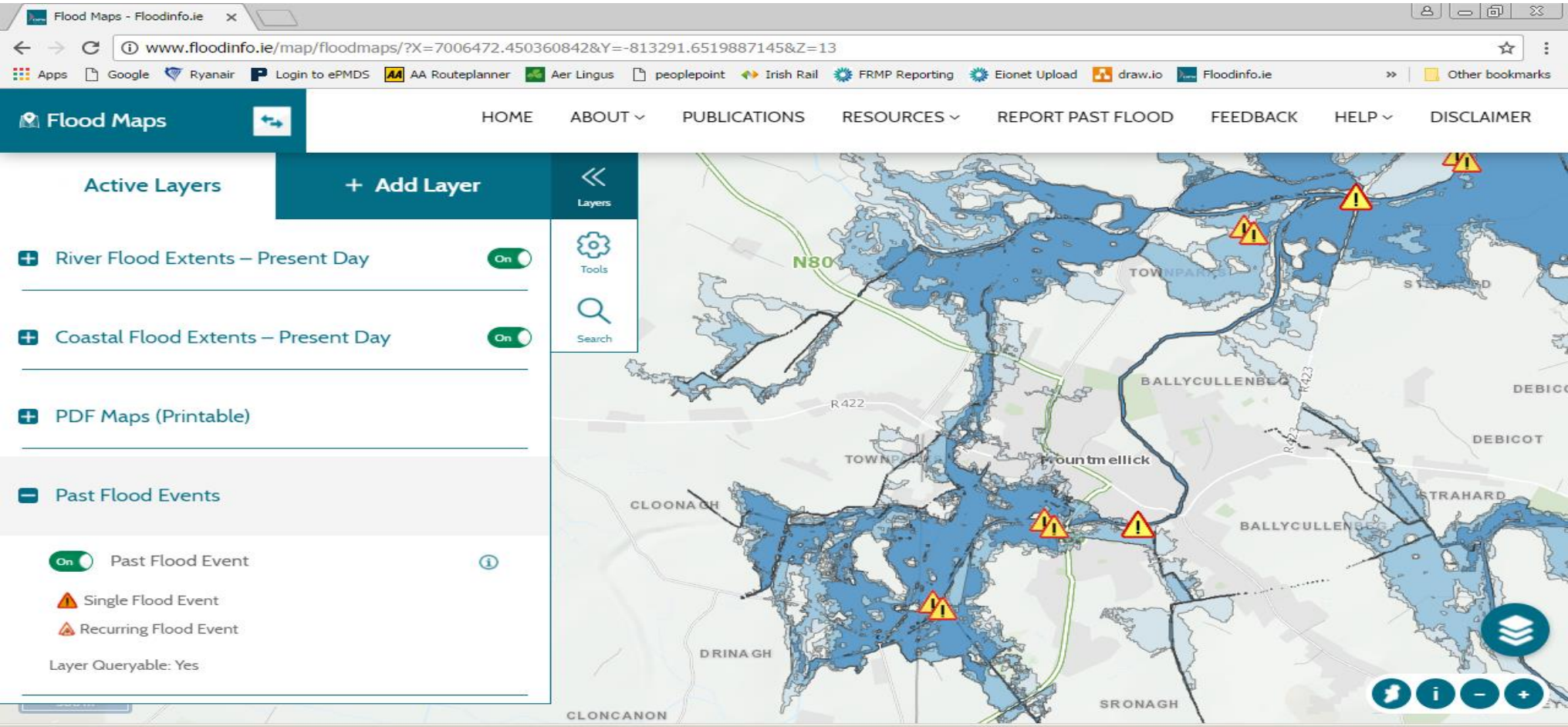


## Whole of Government Approach to Managing Flood Risk



*...for plans and maps*

# www.FloodInfo.ie



# www.FloodInfo.ie

Flood Maps - Floodinfo.ie

www.floodinfo.ie/map/floodmaps/?X=7004348.626733855&Y=-816413.0585876628&Z=13

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Fluvial Maps

Flood Extent- All Probabilities

VIEW PDF

Click on the arrows to left or right of the image to access other PDFs in this map set

# www.FloodInfo.ie

Flood Plans - OPW Flood Ri x

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Mountmellick

1000 m

>> Info

Flood Risk Management Measures

Mountmellick Measures

Proposed Measure:  
Progress the development of a Flood Relief Scheme for Mountmellick

Outline:  
Progress the project-level development and assessment of a Flood Relief Scheme for Mountmellick, including environmental assessment as necessary and further public consultation, for refinement and preparation for planning / exhibition and, if and as appropriate, implementation. [More Info...](#)

Barrow Catchment Measures

VIEW FULL PLAN

HOW THE AREA WAS ASSESSED

# NEXT STEPS

- FLOOD RELIEF SCHEMES
  - Schemes NOT Final and Definitive – Subject to:
    - Further Project-Level Assessment
    - EIA / AA, Incl. Assessment vs. WFD Objectives
    - Further Consultation
    - Planning / Exhibition
- NATURAL WATER RETENTION MEASURES
  - Project-Level Assessment
  - National-Level – Cross-Sectoral Approach

# NEXT STEPS

- SECOND CYCLE 'FLOODS' DIRECTIVE
  - 'Review and, if necessary, Update'
  - PFRA
    - Review – CFRAM Data, Recent Floods
    - Improved National Mapping (Coastal, Fluvial, Turloughs)
  - Flood Maps
    - FD: 6-Yearly Review
    - Ongoing Changes / New Information -> Ongoing Review / Update
  - FRMPs
    - Progress on Implementation of Current FRMPs
    - National Measures

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