

Know4DRR Workshop

DRR AT THE EUROPEAN LEVEL: THE EU 'FLOODS' DIRECTIVE (FD)

Mark Adamson

**Co-Chair, Working Group F
Office of Public Works, IE**

10th December, 2014



OVERVIEW

- **EU 'FLOODS' DIRECTIVE**
 - Overview
 - Status of Implementation
- **WORKING GROUP F (WG F)**
- **CHALLENGES IN IMPLEMENTATION**

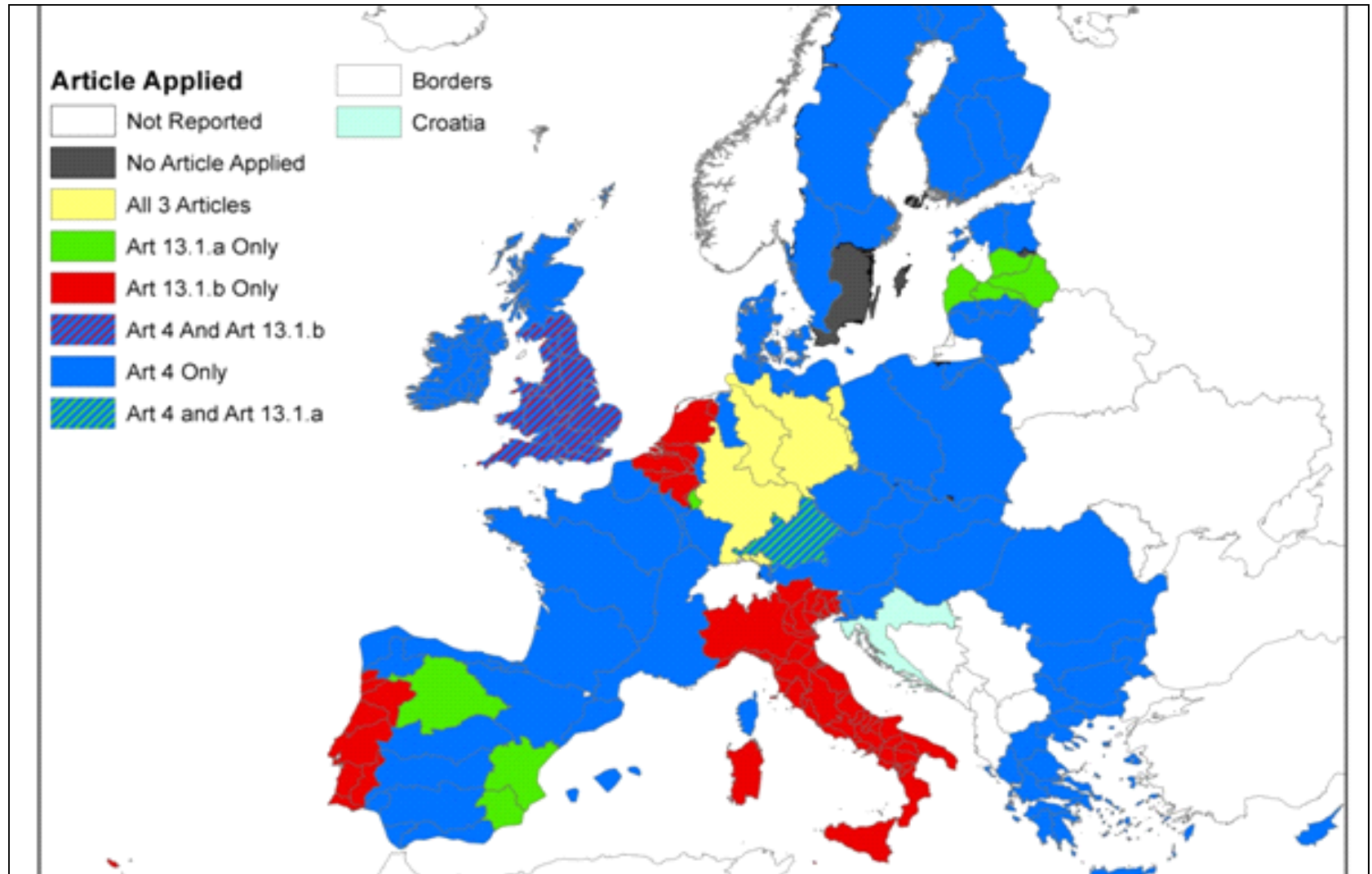
EU 'FLOODS' DIRECTIVE – 2007

- TRANSPOSITION (NOV 2009)
- KEY REQUIREMENTS
 - Preliminary Flood Risk Assessment (Dec 2011)
 - Flood maps (Dec 2013)
 - Flood Risk Management Plans (Dec 2015)
- OTHER PROVISIONS
 - Co-ordination with WFD implementation
 - Trans-boundary co-operation
 - Public dissemination / engagement

IMPLEMENTATION – STATUS

- **TRANSPOSITION: NOV 2009**
 - All MS have transposed – Few 'non-conformity' infringement cases were opened
- **CAs & UoMs: REPORTING MAY 2010**
 - All MS have communicated information
- **PFRA: REPORTING MARCH 2012**
 - All MS have reported
 - Compliance checking ongoing – COM Draft Reports to MS and EU Overview: March 2014

IMPLEMENTATION – STATUS



IMPLEMENTATION – STATUS

- TRANSPOSITION: REPORTING NOV 2009
- CAs & UoMs: REPORTING MAY 2010
- PFRA: REPORTING MARCH 2012
- **FLOOD MAPS: REPORTING MARCH 2014**
 - As of 23rd March: 17 MS had Reported Information
 - COM Draft Reports to MS and EU Overview: Imminent
 - March 23-24 2015: COM FD/WFD Workshop

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WORKING GROUP 'F'

- EVOLVED SINCE 2005 ('Expert Group')
- STATUS
 - Working Group within CIS established for WFD
- MEMBERSHIP
 - EU Member States + EEA States
 - International Inter-Governmental Bodies
 - River Commissions, WMO, UN Organisations, etc.
 - Stakeholder Organisations (Under CIS Rules)
 - E.g., WWF, EWA

WORKING GROUP 'F'

- OBJECTIVE

- Forum to Support Implementation of FD
 - Information exchange
 - Feedback on Implementation and Reporting
 - Links with Other CIS / COM Areas

- ACTIVITIES

- 6-Monthly Meetings
- Preparation of Reporting Sheets / Schema
- Other Activities / Resource Documents
 - Economics, WFD-FD Links, Research Needs
- Thematic Workshops

WORKING GROUP 'F'

- WORKSHOPS – TOPICS:
 - Land Use Planning
 - PFRA
 - Flood Mapping
 - Climate Change
 - Natural Flood Risk Management
 - FRMPs
 - Flash Floods & Pluvial Events
 - Economics
 - Stakeholder Involvement
 - Decision-Making under Uncertainty / Climate Change
 - Objectives, Measures and Prioritisation
 - Transboundary Coordination
 - FD-WFD Coordination / NWRM

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OVERVIEW

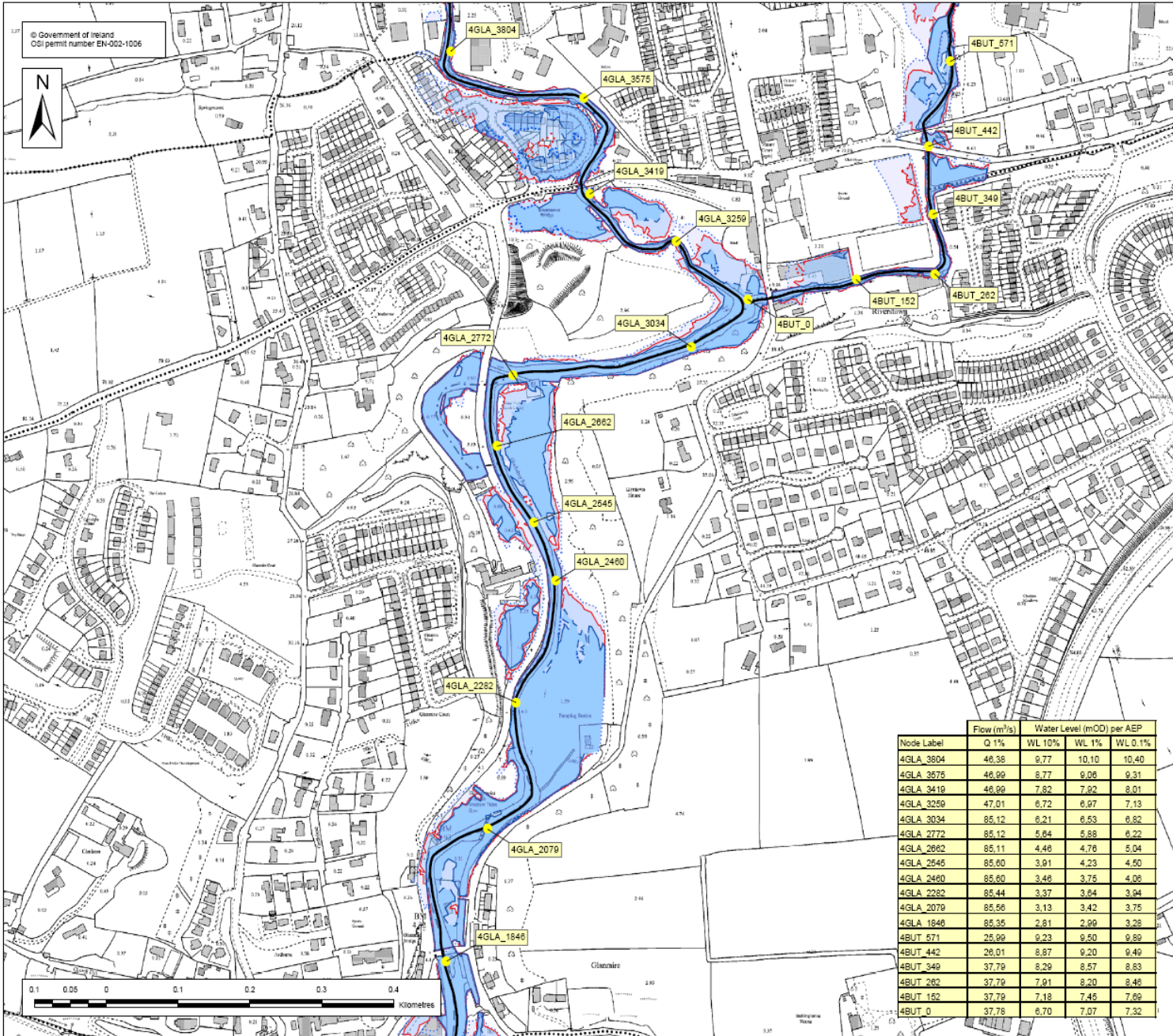
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IMPLEMENTATION – CHALLENGES

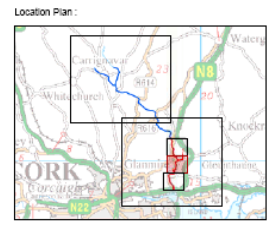
- PFRA:
 - Nature of the Assessment:
 - Broad-Scale (vs. local / detailed) Risk Assessment, e.g., Data availability
 - Risk Assessment for Sources of Flood Water other than Rivers and the Sea
 - Assessment of Risk for Certain Sectors, e.g., Environment, Cultural heritage
 - Art. 5: Definition of 'Significant Risk', based on Multi-Sectoral Assessment of Risk

IMPLEMENTATION – CHALLENGES

- FLOOD MAPS:
 - Most MS Experienced In Flood Mapping



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EXTENT MAP

- Legend:
- 10 % AEP Flood Extent (1 in 10 chance in any given year)
 - 1 % AEP Flood Extent (1 in 100 chance in any given year)
 - 0.1 % AEP Flood Extent (1 in 1000 chance in any given year)
 - High Confidence (< 20m) (10% AEP)
 - Medium Confidence (20-40m) (10% AEP)
 - Low Confidence (> 40m) (10. 0.1% AEP)
 - High Confidence (< 20m) (1% AEP)
 - Medium Confidence (20-40m) (1% AEP)
 - Low Confidence (> 40m) (1% AEP)
 - River Centreline
 - Node Point
 - Node Label (refer to table)

USER NOTE:
USERS OF THESE MAPS SHOULD REFER TO THE DETAILED DESCRIPTION OF THEIR DERIVATION, LIMITATIONS IN ACCURACY AND GUIDANCE AND CONDITIONS OF USE PROVIDED AT THE FRONT OF THIS BOUND VOLUME. IF THIS MAP DOES NOT FORM PART OF A BOUND VOLUME, IT SHOULD NOT BE USED FOR ANY PURPOSE.

Node Label	Flow (m ³ /s)				Water Level (mOD) per AEP			
	Q 1%	WL 10%	WL 1%	WL 0.1%	WL 10%	WL 1%	WL 0.1%	WL 0.1%
4GLA_3804	46.38	9.77	10.10	10.40				
4GLA_3575	46.99	8.77	9.06	9.31				
4GLA_3419	46.99	7.82	7.92	8.01				
4GLA_3259	47.01	6.72	6.97	7.13				
4GLA_3034	85.12	6.21	6.53	6.82				
4GLA_2772	85.12	5.64	5.88	6.22				
4GLA_2662	85.11	4.46	4.76	5.04				
4GLA_2645	85.60	3.91	4.23	4.50				
4GLA_2460	85.60	3.46	3.75	4.06				
4GLA_2282	85.44	3.37	3.64	3.94				
4GLA_2079	85.56	3.13	3.42	3.75				
4GLA_1946	85.35	2.81	2.99	3.28				
4BUT_571	25.99	9.23	9.50	9.89				
4BUT_442	26.01	8.87	9.20	9.49				
4BUT_349	37.79	8.29	8.57	8.83				
4BUT_262	37.79	7.91	8.20	8.46				
4BUT_152	37.79	7.18	7.45	7.69				
4BUT_0	37.75	6.70	7.07	7.32				

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17-19 Lower Hatch Street
Dublin 2
Ireland

Project:
LEE CATCHMENT FLOOD RISK ASSESSMENT AND MANAGEMENT STUDY

Map:
GLASHABOY MODEL FLOOD EXTENT MAP

Map Type: **FLOOD EXTENT**

Source: **FLUVIAL FLOODING**

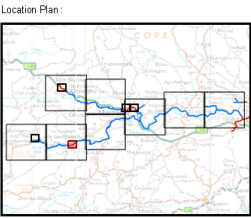
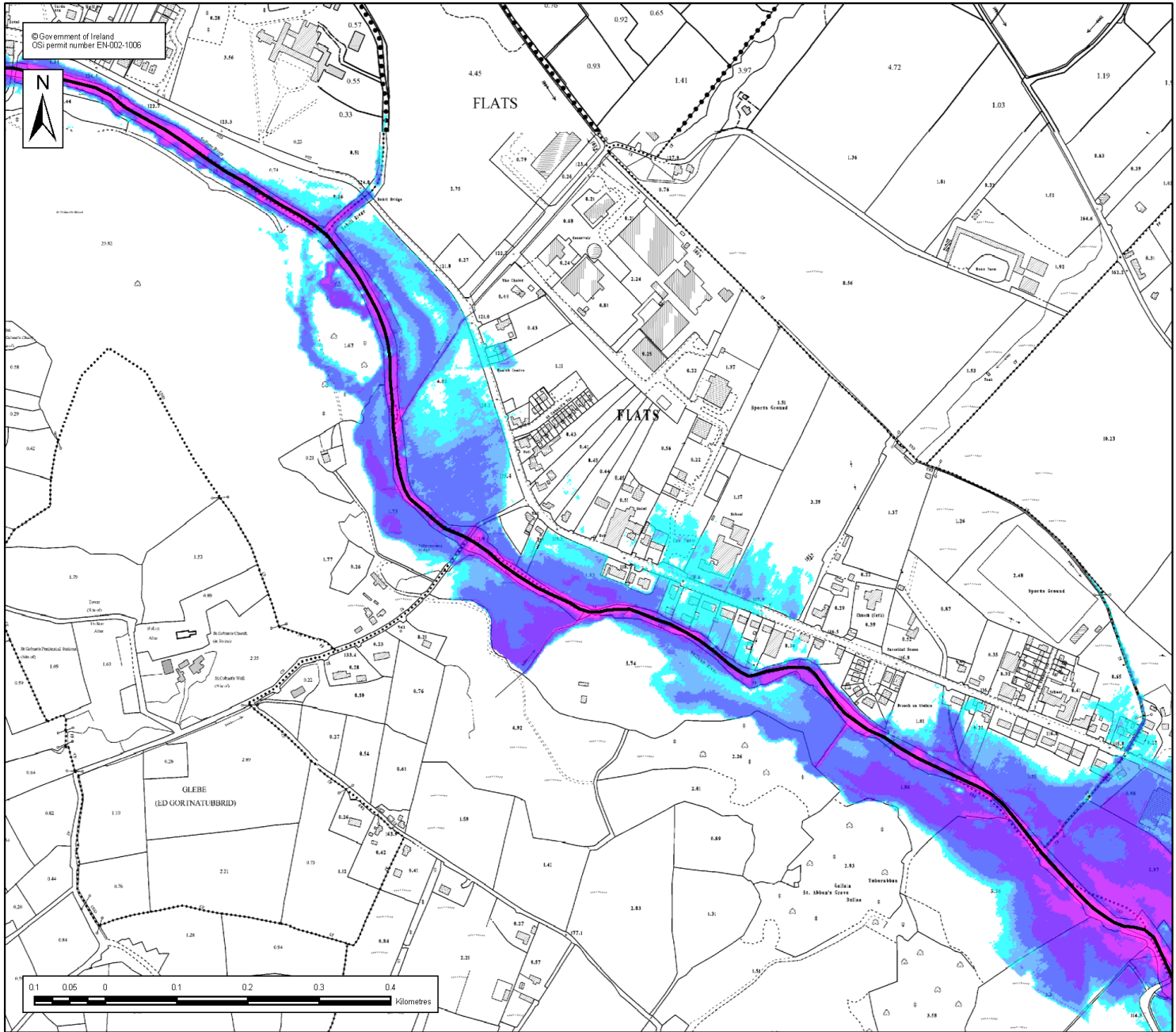
Map area: **URBAN AREA**

Scenario: **CURRENT**

Figure By: Valeria Medina Date: 7 August 2008
Checked By: Juan Fernandez Date: 7 August 2008
Approved By: Clare Dewar Date: 7 August 2008

Figure No.: **M4/UA/EXT/CURS/002** Revision: **1**

Drawing Scale: 1:5,000 Plot Scale: 1:1 @ A3



DEPTH MAP 10% AEP

Legend Depth Grid:

- 0 - 0.25 m
- 0.25 - 0.50 m
- 0.50 - 1.00 m
- 1.00 - 1.50 m
- 1.50 - 2.00 m
- > 2.00 m
- River Centreline

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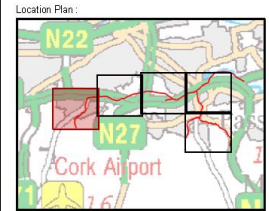
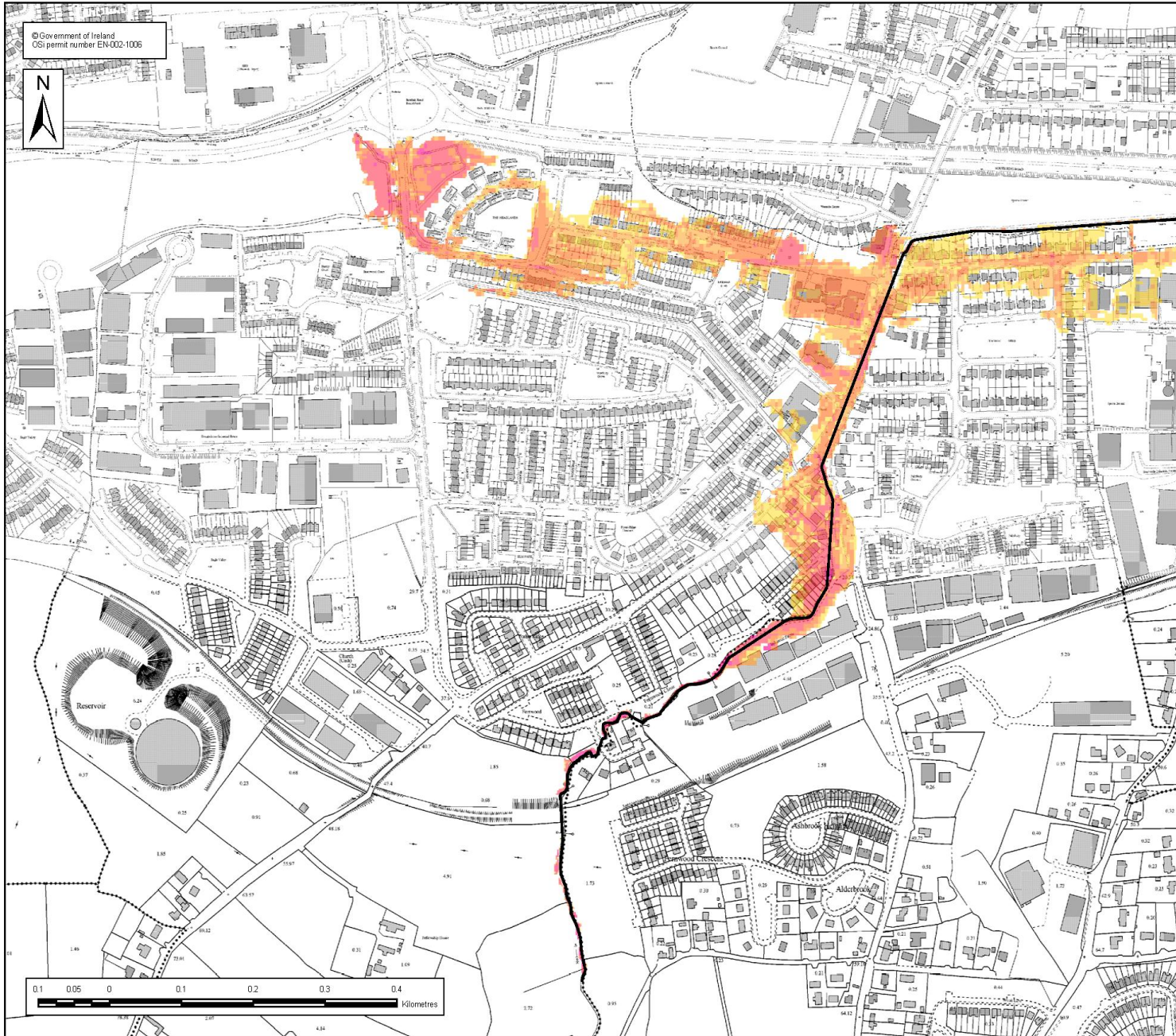
Map:
 UPPER LEE MODEL FLOOD EXTENT MAP

Map Type:	DEPTH
Return Period:	10% AEP EVENT
Source:	FLUVIAL FLOODING
Map area:	URBAN AREA
Scenario:	CURRENT

Figure By:	Valeria Medina	Date:	22 April 2009
Checked By:	Juan Fernandez	Date:	22 April 2009
Approved By:	Jenny Pickles	Date:	22 April 2009

Figure No.:	Revision
MS/JA/DEP/10/003	0
Drawing Scale: 1:5,000	Plot Scale: 1:1 @ A3

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VELOCITY MAP 1% AEP

Legend Velocity Grid:

- 0 - 0.25 m/s
- 0.25 - 0.50 m/s
- 0.50 - 1.00 m/s
- 1.00 - 2.00 m/s
- >2.00 m/s
- River Centreline

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Project:
LEE CATCHMENT FLOOD RISK
ASSESSMENT AND MANAGEMENT STUDY

Map:
TRAMORE MODEL FLOOD EXTENT MAP

Map Type: VELOCITY

Return Period: 1% AEP EVENT

Source: FLUVIAL FLOODING

Map area: RURAL AREA

Scenario: CURRENT

Figure By: Valeria Medina Date: 16 April 2009

Checked By: Juan Fernandez Date: 16 April 2009

Approved By: Jenny Pickles Date: 16 April 2009

Figure No.: MG/JA/VEL/100/001

Revision:
0

Drawing Scale: 15,000 Plot Scale: 1:1 @ A3

IMPLEMENTATION – CHALLENGES

- FLOOD MAPS:
 - Transboundary Mapping
 - Level of Coordination seems to be Variable
 - Good Cooperation within International River Commissions, and Bi-laterally between some MS
 - Greater difficulties elsewhere
 - Publication and Communication of Risk
 - Climate Change and Uncertainty
 - Different approaches in different MS
 - Scale of Work Involved!

IMPLEMENTATION – CHALLENGES

- FRMPs – SETTING OBJECTIVES:
 - Need for Approach that:
 - Addresses Risk to People, Environment, Cultural Heritage and the Economy
 - Link Objectives, Development and Selection of Measures & Prioritisation
 - WG F Workshop – 16th October 2013
 - Significant Differences in Approach between MS
 - Risk Reduction – Target SoP – Implementation of Measures
 - National consistency vs local importance / flexibility, reflecting national governance arrangements
 - Report Available on 'CIRCA'

IMPLEMENTATION – CHALLENGES

- FRMPs – LAND-USE PLANNING:
 - Major component of Flood Risk Prevention
 - Essential for long-term, sustainable flood risk management
 - Varying approach across EU, but trend towards stronger regulation
 - Key Issues:
 - Need for Balance: Sustainability Vs Economic Growth
 - Provision for the Future? (Climate Change)

IMPLEMENTATION – CHALLENGES

- FRMPs – RESILIENCE:
 - Empowering Communities, Businesses and Individuals to Manage Own Risks, e.g.,
 - Raising Awareness & Preparedness
 - Building Resilience & Responsibility
 - Establishing Community Flood Groups
 - Grant Schemes / Incentives for Individual Property Protection
 - Requires Engagement & Resources
 - Can be Very Effective

IMPLEMENTATION – CHALLENGES

- FRMPs – COORDINATION WITH WFD:
 - Different Paradigms?
 - WG F (CIS) FD-WFD Synergies Document:
 - Approved and Published – Dec 2013
 - Information Exchange (e.g., Flood Maps – SWMIs)
 - Measures:
 - Achieving mutual benefits
 - Avoiding conflict
 - WG F Workshop – 8-9th October 2014
 - Report will be available on 'CIRCA'

IMPLEMENTATION – CHALLENGES

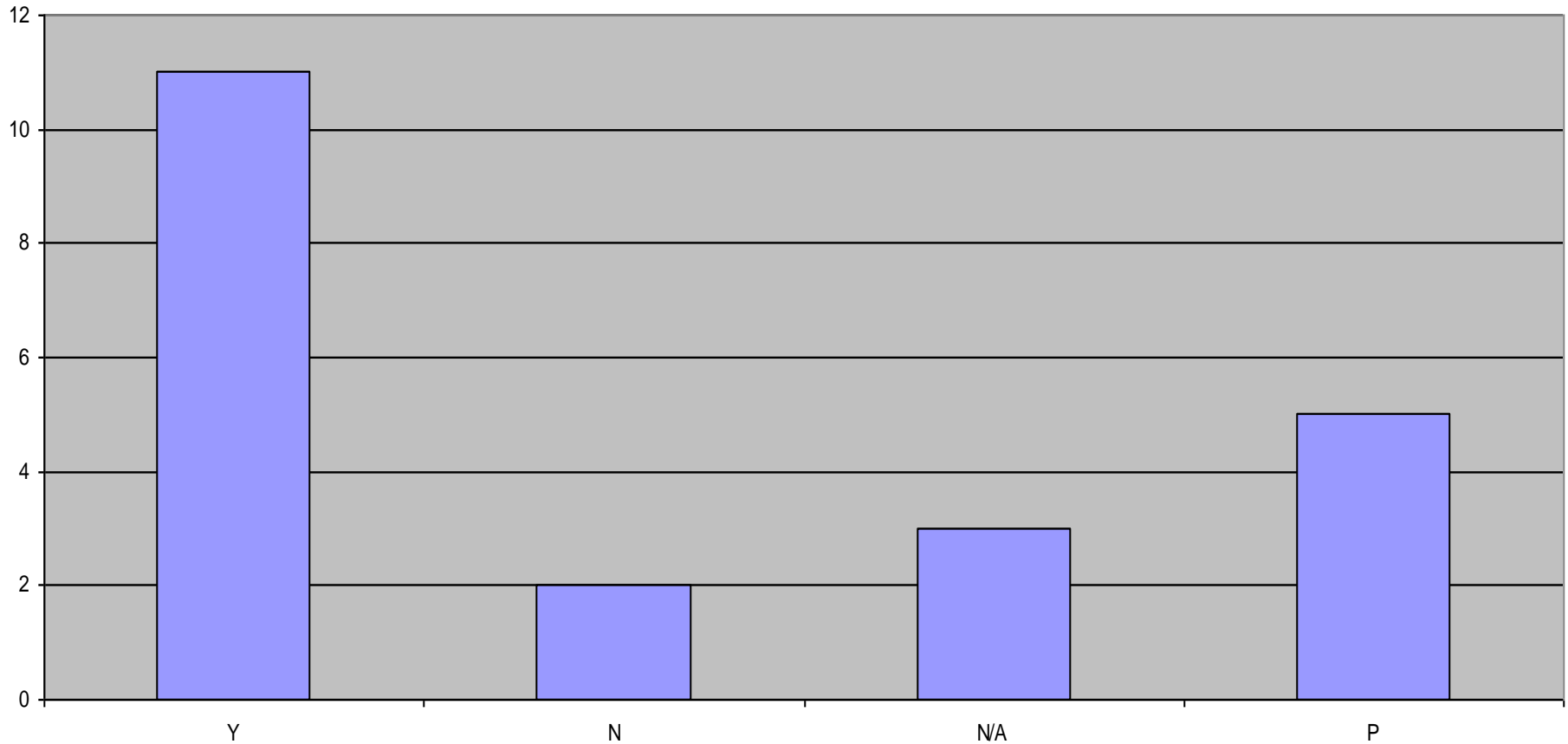
- FRMPs – CLIMATE CHANGE:
 - Mean Sea Level Rise
 - Very Strong Evidence of MSL Rise
 - Long-Term Degree Unknown
 - Rainfall Intensities
 - Signal / Evidence Less Strong
 - Significant Uncertainty
 - Future Uncertain, But Needs to be Planned For
 - Consider Potential Futures
 - Assess Vulnerabilities
 - Apply Adaptive Management

CLIMATE CHANGE ADAPTATION

- **WG F WORKSHOP – 16th OCTOBER 2012**
 - Questionnaire – 21 MS Responses

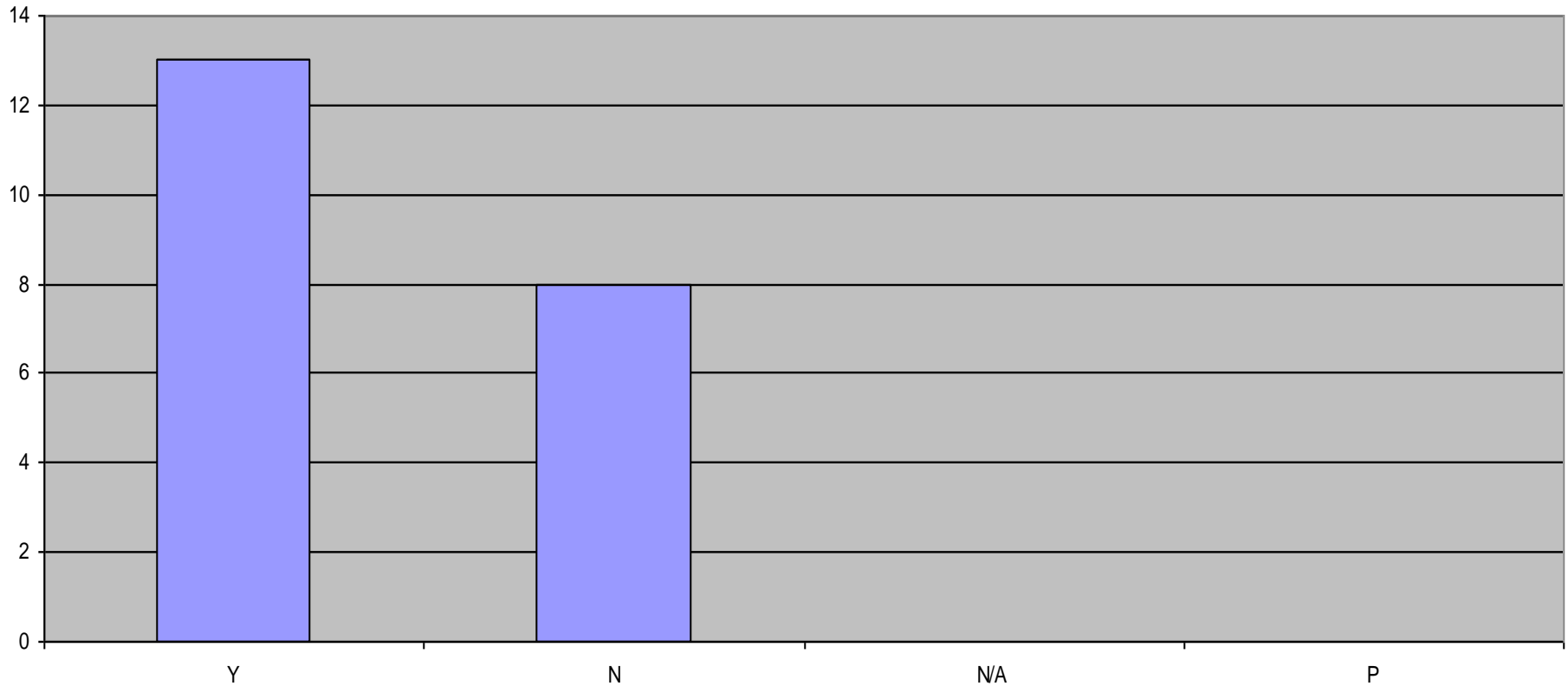
CLIMATE CHANGE ADAPTATION

Q2.1 - Did you take Climate Change into account during the PFRA?



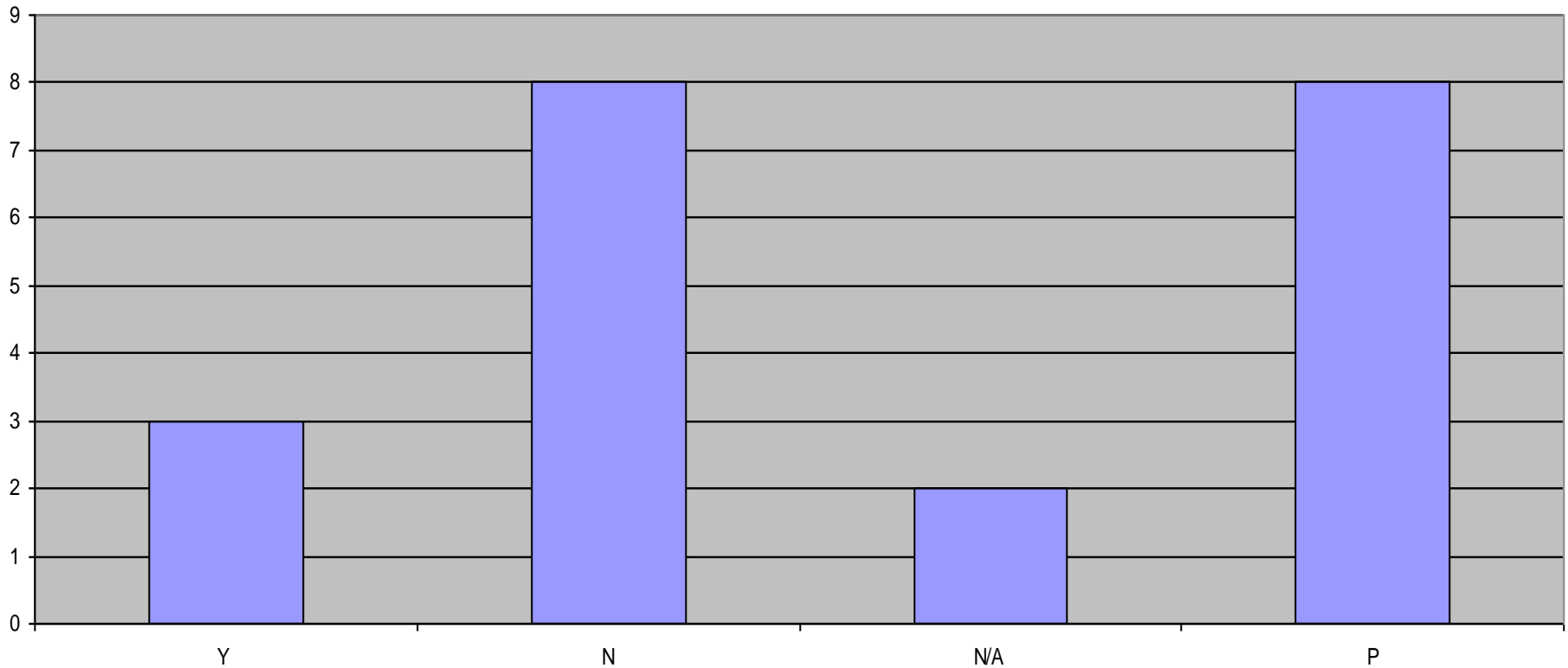
CLIMATE CHANGE ADAPTATION

Q3.1 - Will you be producing Flood Maps that indicate potential future scenarios?



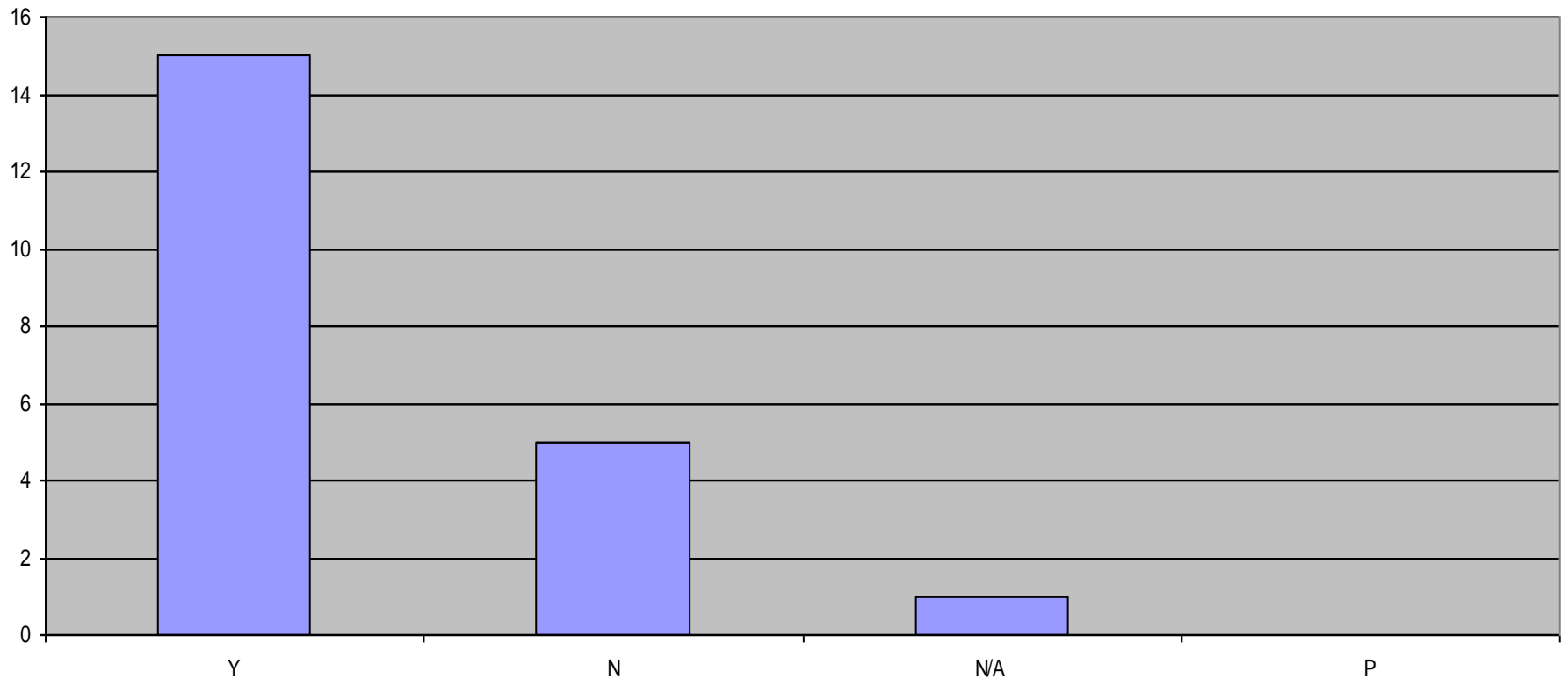
CLIMATE CHANGE ADAPTATION

Q3.2 - Do you intend to represent Uncertainty in the presentation of the Flood Maps?



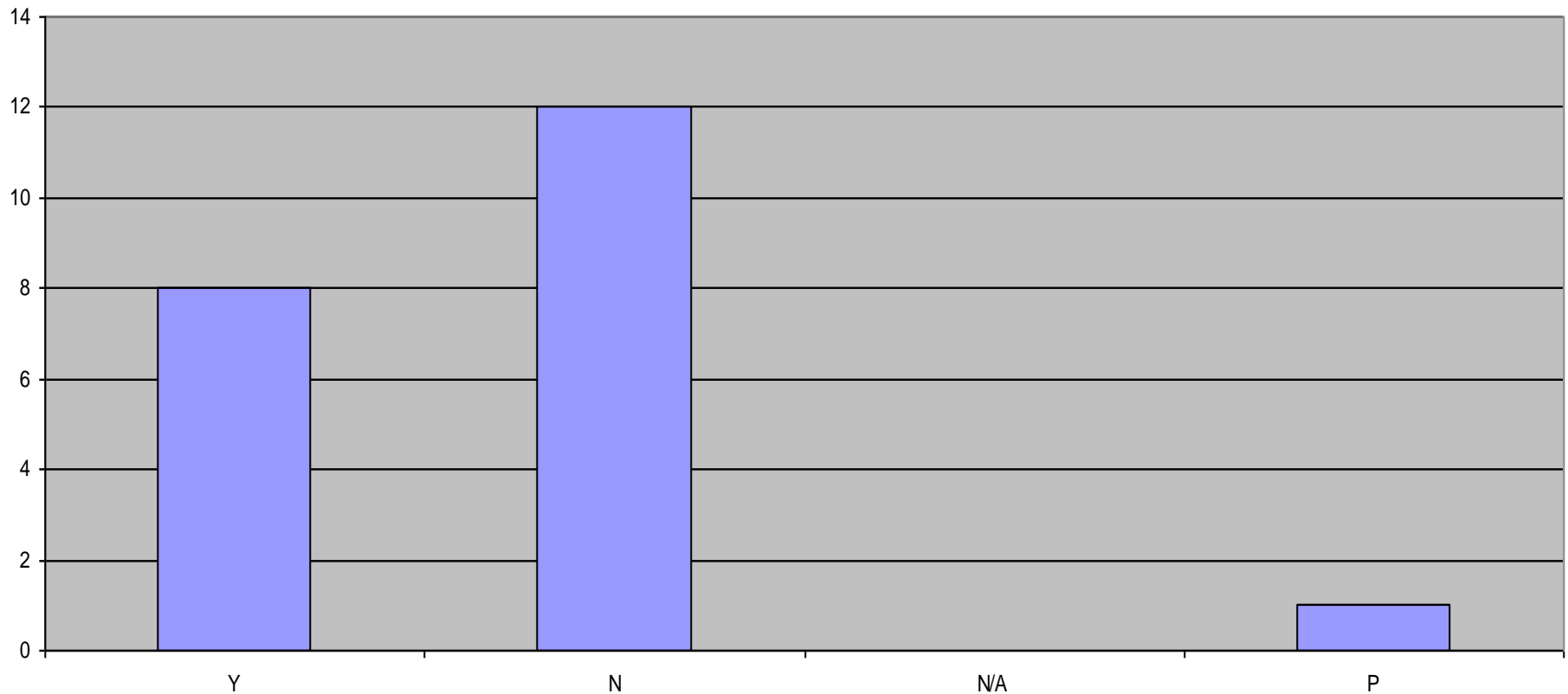
CLIMATE CHANGE ADAPTATION

Q4.1 - Do you intend to incorporate Climate Change in setting FRM Objectives?



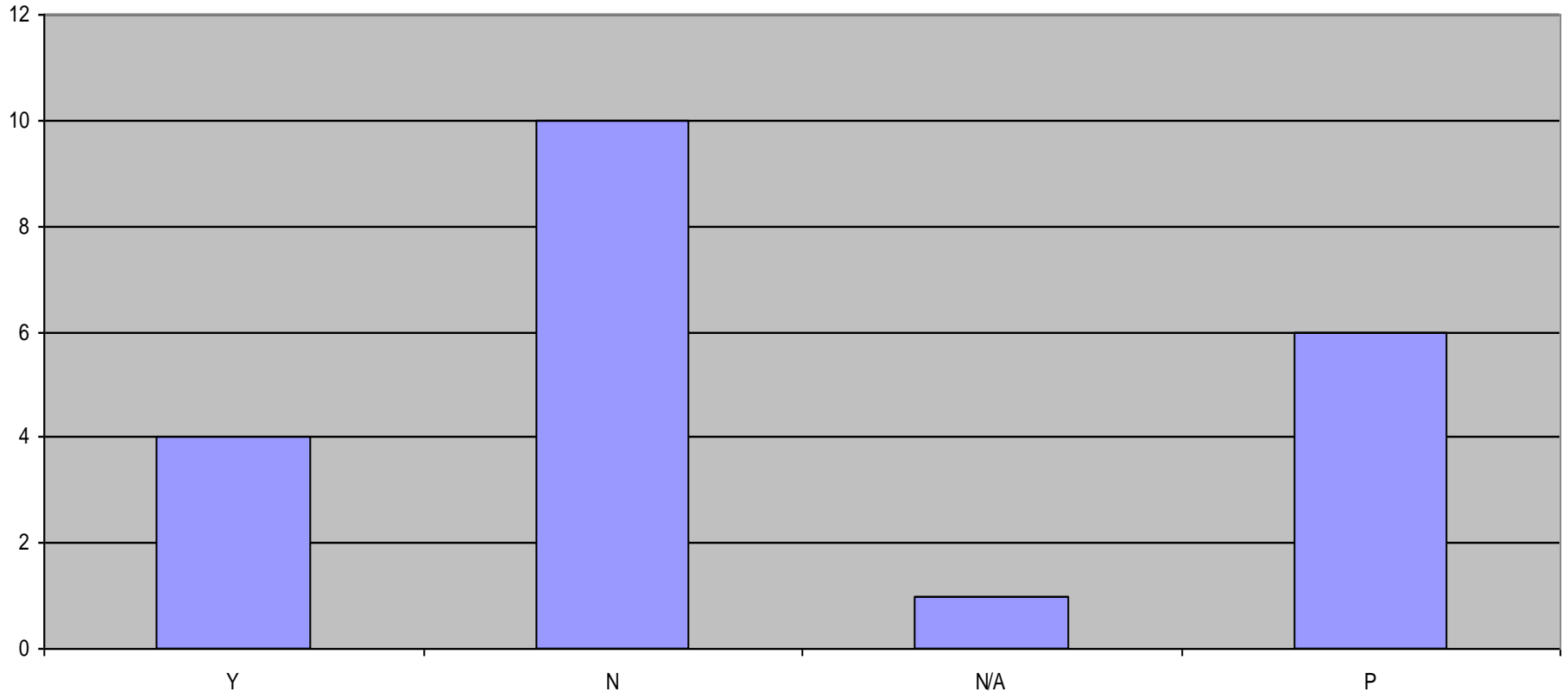
CLIMATE CHANGE ADAPTATION

Q4.2 - Do you have Guidance or requirements on Climate Change Adaptation relating to the design and implementation of FRM Strategies and Measures?



CLIMATE CHANGE ADAPTATION

Q5.1 - Does the Spatial Planning legislation or guidance in your country / area take into account the potential impacts of Climate Change?



CLIMATE CHANGE ADAPTATION

- QUESTIONNAIRE IN 2012
- FIRST CYCLE
 - Consideration of Climate Change not Obligatory
- CONSIDERATION OF CLIMATE CHANGE IS REQUIRED IN SECOND CYCLE

CLIMATE CHANGE ADAPTATION

- APPROACH IN IRELAND
 - Past / Ongoing Research on Climatic Changes
 - Issues of Spatial and Temporal Down-Scaling
 - National & Local Vulnerability Assessments
 - FD PFRA / Flood Mapping for Future Scenarios
 - Screening to Determine FRM Approach
 - Low Vulnerability – Focus on Current Risk
 - Moderate Vulnerability – Measures to Address Current Risk but Adaptable to Future Risk
 - High Vulnerability – Detailed Decision-Trees for Managed Adaptation
 - Future Scenarios for Sustainable Planning

EU 'FLOODS' DIRECTIVE

- **IMPLEMENTATION IS CHALLENGING**
 - Time, Resources, Methodologies, Political Issues, Uncertainties, Communication, Social Responsibility & Governance
- **EU 'FLOODS' DIRECTIVE IS FLEXIBLE**
- **ONLY IN FIRST CYCLE!**
- **FUTURE CYCLES SHOULD DRIVE ONGOING IMPROVEMENTS**

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