

EPA NATIONAL WATER EVENT 2014

THE EU 'FLOODS' DIRECTIVE IN THE CONTEXT OF THE WATER FRAMEWORK DIRECTIVE

Mark Adamson
Office of Public Works

12th June, 2014



FLOOD RISK IN IRELAND FEBRUARY 2014 - SHANNON





FLOOD RISK IN IRELAND

NOVEMBER 2009 - CORK





FLOOD RISK IN IRELAND

- NATIONAL RISK ASSESSMENT
 - Flooding: No. 1 National Risk
- NATIONAL PFRA
 - Appx. 70,000 Homes at Risk (in 'Undefended' Floodplains)
- RECENT FLOODS
 - November 2009: >1,600 Properties, Insured Losses
 Circa €250m
 - October 2011: Nearly 1,700 Properties, Insured Losses
 Circa €130m

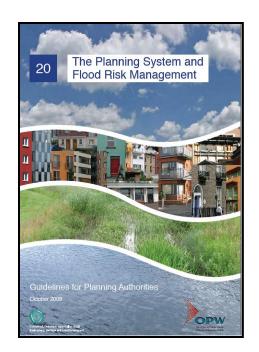
FLOOD RISK MANAGEMENT

- NATIONAL FLOOD POLICY REVIEW: 2004
 - ROLES & RESPONSIBILITIES
 - OPW: Lead Agency
 - FUTURE POLICY
 - Flood Risk Management, rather than just Flood Protection
 - Flood Relief Schemes will remain a Corner-Stone
 - Development of Prevention and Preparedness (Non-Structural) FRM Programmes

PREVENTION

- PLANNING GUIDELINES
 - OPW DoECLG Initiative
 - Launched: November 2009
 - Framework For Sustainable Planning
 - Sustainable Planning Critical for Sustainable FRM
 - Avoids Creation of New Risks & Reduces Future Demands for Resources
 - Lot of Work Required to Solve Existing Problems

Let's Not Create New Ones!



PREPAREDNESS

FLOOD WARNING

- National Surge Forecasting Alert System
- Local Flood Warning Systems (Clonmel, Mallow, Fermoy)
- Waterlevel.ie
- Strategic Flood Forecasting Review National FF Centre?

FLOOD EVENT EMERGENCY RESPONSE

2008: Guidance & Template Plans (MEM Framework)

AWARENESS, PREPAREDNESS & RESILIENCE

- 2006: National 'Plan, Prepare, Protect' Campaign & Floodmaps.ie
- Bring down to Local Level with CFRAM Mapping

FLOOD RISK MANAGEMENT

- NATIONAL FLOOD POLICY REVIEW 2004
 - ROLES & RESPONSIBILITIES
 - OPW: Lead Agency
 - FUTURE POLICY
 - Flood Risk Management, rather than just Flood Protection
 - Proactive, Catchment-based Approach
 - Flood Mapping
 - Catchment Flood Risk Management Plans
 - NATIONAL 'CFRAM' PROGRAMME

EU 'FLOODS' DIRECTIVE — 2007

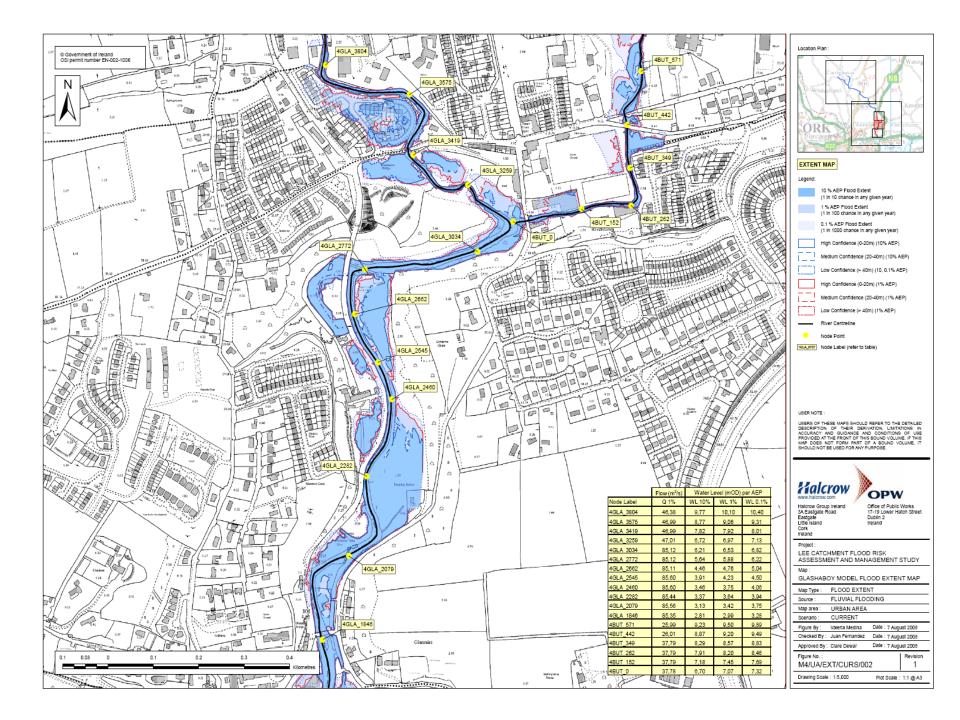
- TRANSPOSED: SI No. 122 of 2010
- KEY REQUIREMENTS
 - Preliminary Flood Risk Assessment
 - Flood Maps
 - Flood Risk Management Plans
- OTHER PROVISIONS
 - Co-ordination with WFD implementation
 - Trans-boundary co-operation
 - Public dissemination / engagement

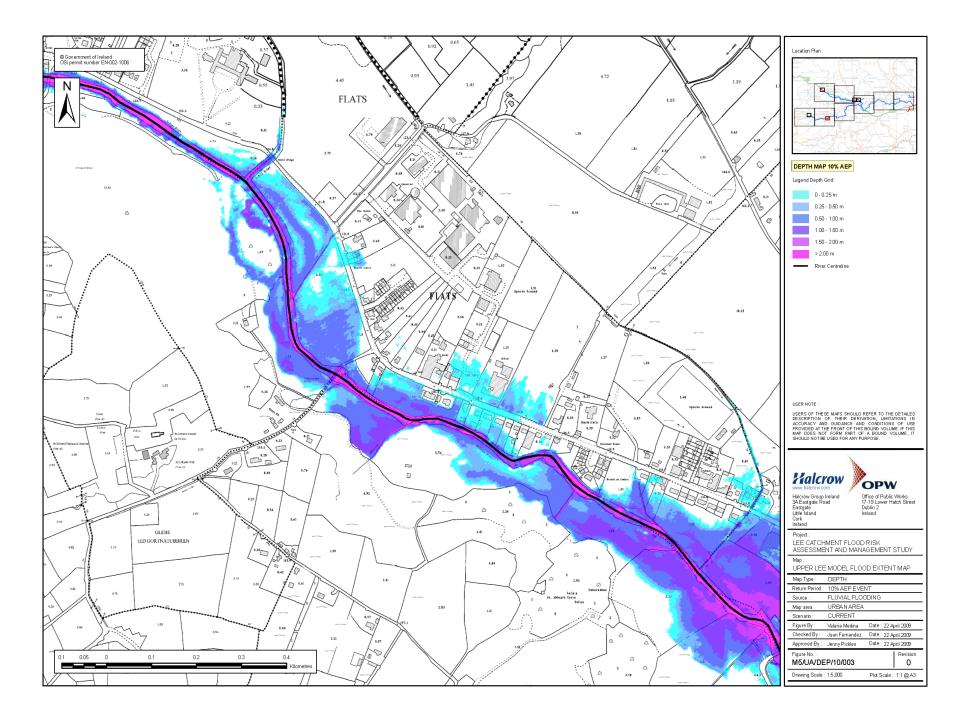




SCOPE OF WORK

- Survey
- Hydrology
- Hydraulics / Flood Mapping









SCOPE OF WORK

- Survey
- Hydrology
- Hydraulics / Flood Mapping
 - Incl. Future Scenarios MRFS & HEFS
- Risk Analysis
- Flood Risk Management Options
 - Outline Design and Appraisal vs. MCA
 - Includes Objectives for WFD & Environment
- SEA / Appropriate (Habitats) Assessment
- Flood Risk Management Plan



Phase I A (2012-2013)	Phase I B (2014-2015)	Phase II (2016-2021)	Phase III (2022 onwards)	Who
Implement the Planning System and Flood Risk Management, Guidelines for Planning Authorities, November 2009				CCoC CCyC
Coordinate, operate and maintain existing hydrometric network Install additional hydrometric monitoring equipment				OPW ESB LAs
Monitor and review the Lee CFRN Undertake CFRAM for other AFA		Monitor and review UoM19 FRMP (2 nd cycle)	Monitor and review UoM19 FRMP (3 rd cycle)	OPW CCoC CCyC
EXISTING FLOOD DEFENCES				
Proactive maintenance of existing defence assets at Tower, the Jack Lynch Tunnel, and other Council-owned, identified defences, including road embankments protecting properties				CCyC CCoC
INDIVIDUAL RISK RECEPTORS	3			
Operators to pursue detailed risk assessment and management measures (see Table 9-2)				Owner
CORK CITY				
Detailed scheme development for joint fluvial – tidal defences for Cork City – to include Ballyvolane / Blackpool areas Implement joint fluvial – tidal defence scheme for Cork City – to include Ballyvolane / Blackpool areas			OPW ESB	
- implementation of local w protection for Cork City a	orks to provide fluvial and / or tidal rea	 maintenance of local works to provide fluvial and / or tidal protection for Cork City area 		CC ₉ C CC ₀ C





FD-WFD COORDINATION: REQUIREMENTS

- Art. 2 Definitions
- Art. 3 Governance (CAs, UoMs)
- Art. 9 Implementation
 - Chapeau: General Requirement for Coordination
 - 9.1: Coordination of Flood Maps and WFD Art 5(2)
 - 9.2: Coordination OR Integration of FRMP & RBMP
 - 9.3: Coordination as Appropriate in Public Information & Engagement
- Art. 12 Reporting





FD-WFD COORDINATION: MANAGEMENT

- WFD Governance Review
- National
 - DoECLG & EPA Representation on National CFRAM Steering Group
 - Bi-/Tri-Lateral Meetings: OPW-DoECLG-EPA
 - OPW Representation on WFD Tier 1 Group
- RBD-Level
 - WFD Representation on CFRAM Project SG & PG
 - Foreseen Interaction at Tier 2/3 Levels





FD-WFD COORDINATION: PRACTICALITIES

- PFRA & Flood Maps
 - Input to Characterisation / SWMI Reports
 - Consideration of FRM Measures in Characterisation
- Flood Risk Management Measures
 - CFRAM MCA: Consideration of WFD in Option Appraisal
 - Greatest Opportunity for Benefits 'NFRM'?
- Public Consultation
 - Realise Opportunities Issue of Timing
- EU WG 'F' FD-WFD Links Resource Document





NATURAL FLOOD RISK MANAGEMENT

- River Restoration
 - E.g., Re-Meandering, Floodplain Reconnection
- Natural Water Retention Measures
 - E.g., Wetlands, LWD Dams, Riparian / Floodplain Planting, Floodplain Reconnection, Overland Runoff Control
- Land Use Management
 - E.g., Agricultural Practice,
 - Sustainable Planning (DoECLG-OPW, Nov 2009)





NATURAL FLOOD RISK MANAGEMENT

- Flood Risk Reduction
 - Contribution to reduction of existing risk
 - Supplementary measure for mitigation against potential impacts of Climate Change
 - Problems in Implementation in 'Top-Down' Approach
- Environmental Benefits
 - WFD Objectives, Habitats & Birds Directive, Soil Conservation, Climate Change Mitigation
- Achieving Benefits from Supported 'Bottom-Up'
 Approach Integrated Catchment Management

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MSFD Implementation to Date

Overview:-

- Objective of the Directive
- How it operates
- Challenges
- Progress to date
- Next steps









Objectives of the Directive:-

 ...establishes a framework within which Member States shall take the <u>necessary</u> <u>measures to achieve or maintain good</u> <u>environmental status</u> in the marine environment by the year 2020 at the latest.



 apply an <u>ecosystem-based approach</u> to the management of <u>human activities</u>, ensuring that the <u>collective pressure</u> of such activities is kept within levels compatible with the achievement of good environmental status.



•contribute to <u>coherence</u> between, and aim to ensure the <u>integration</u> of environmental concerns into, the <u>different policies</u>, <u>agreements and legislative measures</u> which have an impact on the marine environment.





How the MSFD Operates

July 12
GES/Targets/Indicators
11 Descriptors
Initial Assessment

Marine Strategy
Review cycle

6 year cycle

July /Oct 2014

Monitoring
Programme and
update Targets

By 2016

Implement programme of measures

By 2015

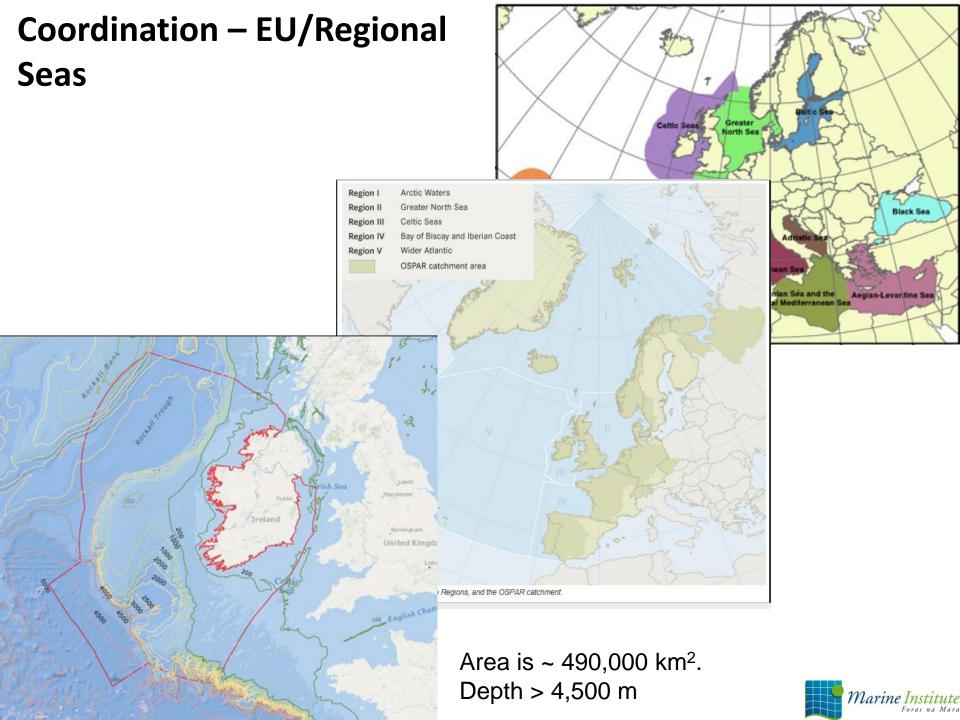
Develop a programme of measures



Challenges:-

- Coordination EU/Regional Seas/National
- Ecosystem based approach
- Climate Change
- Science
- Scale
- Timelines





Coordination – National:-

Transposition into Irish Law - S.I. No. 249/2011

Department of Environment Community and Local Government;

- Department of Agriculture Food and Marine;
- Department of Transport, Tourism and Sport;
- Department of Arts, Heritage and Gaeltacht Affairs;
- Department of Communications, Energy and Natural Resources



Coordination of policy, permitting, regulation and managing of activities that:-

May the impacts on:-

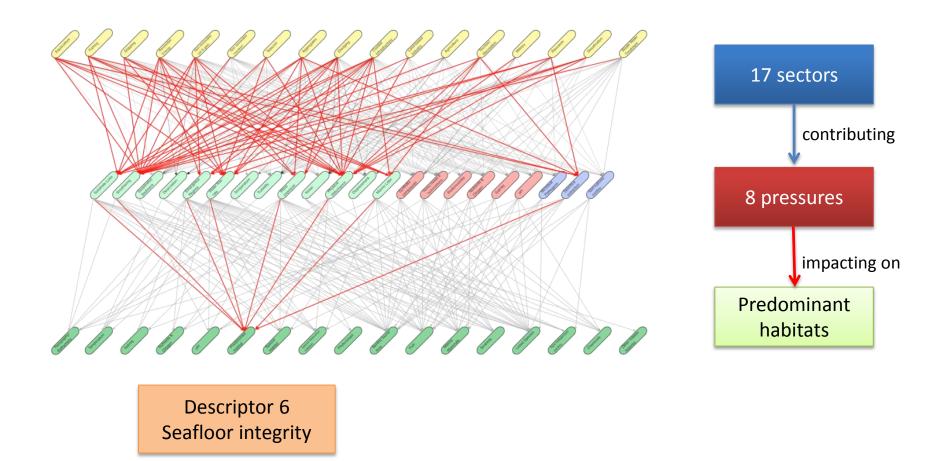
- D1 Biodiversity
- D3 Commercial Fish and Shellfish
- D4 Foodwebs
- D6 Seafloor
- D7 Hydrography
- D9 Seafood from Contaminants

Result in:-

- D2 Non-indigenous species
- D5 Eutrophication
- D8 Contaminants
- D10 Litter
- D11 Energy including underwater noise

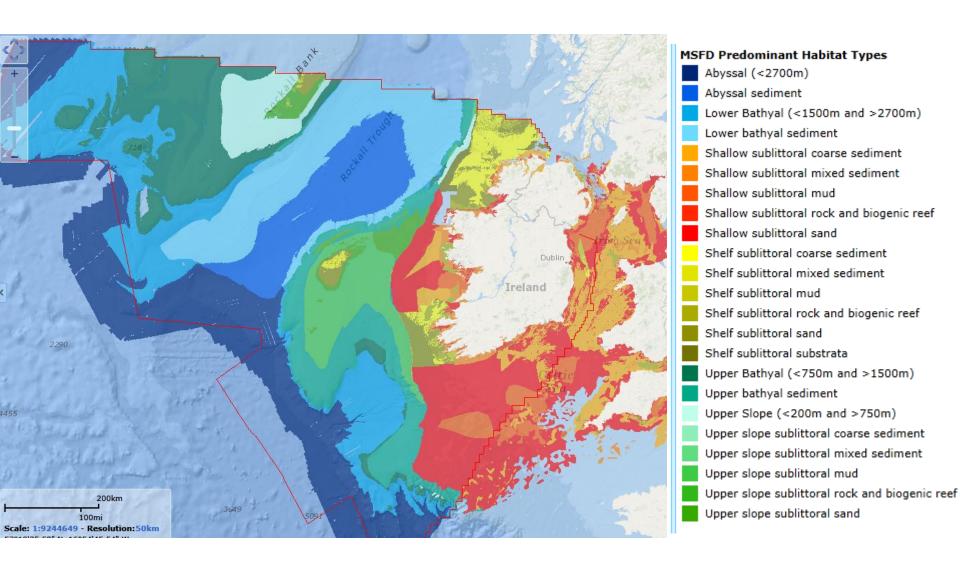


<u>Ecosystem-based approach</u> to manage of <u>human activities</u>, so that the <u>collective pressure</u> is compatible GES





Predominant Seabed Habitats





Ecosystem Based Approach?

- MSFD <u>Ecosystem-based approach</u> to manage of <u>human</u> activities, so that the <u>collective pressure</u> is compatible GES
- CFP 1 Jan 2014 Defines it as "'ecosystem-based approach to fisheries management' means an integrated approach to managing fisheries within ecologically meaningful boundaries which seeks to manage the use of natural resources, taking account of fishing and other human activities, while preserving both the biological wealth and the biological processes necessary to safeguard the composition, structure and functioning of the habitats of the <u>ecosystem</u> affected, by <u>taking into account the</u> knowledge and uncertainties regarding biotic, abiotic and human components of ecosystems;



Challenges:-

- Coordination EU/Regional Seas/National
- Ecosystem based approach
- Climate Change
 - Temperature rise species shift north
 - Ocean acidification interfere with the secretion of calcium carbonate for external skeletons, shells and reef structures.



Challenges:-

- Science include
 - Understand climate change impacts
 - Managing cumulative effects
 - Understand pressures/impacts
 - Integrated monitoring core indicators / platforms

- Scale spatial and temporal
 - activities / pressures /impacts must relate to measures
- Reporting Timelines



National Progress to Date:-

- Coordinated Approach
- Initial Assessment, GES, T&1
 - Reported to the Commission
 - Middle of the class
 - Available on DECLG Website
- Public Consultation
 - Completed next phase



National Progress to Date:-

GES Defined	No. of Targets	No. of Indicators
1. Biodiversity	Under development	Under development
2. Non-indigenous species	2	2
3. Commercial fish & shellfish	4	6
4. Food webs	Under development	Under development
5. Eutrophication	7	7
6. Seafloor integrity	Under development	Under development
7 Hydrographical conditions	1	1
8. Contaminants	3	3
9. Contaminants in seafood	1	2
10. Marine litter	2	2
11. Energy/underwater noise	Under development	Under development



Article 12 Technical Assessment on Initial Assessment

Green = adequate; Orange = Partially adequate; Red = inadequate; Grey = not submitted.

See http://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/implementation/reports_en.htm

Country	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11
Ireland											
Belgium											
Germany											
Denmark											
Spain											
France											
The Netherlands											
Portugal											
Sweden											
UK											
Estonia											
Finland											
Lithuania											
Latvia											
Bulgaria											
Romania											
Cyprus											
Greece											
Italy											
Slovenia											

Article 12 Technical Assessment on GES

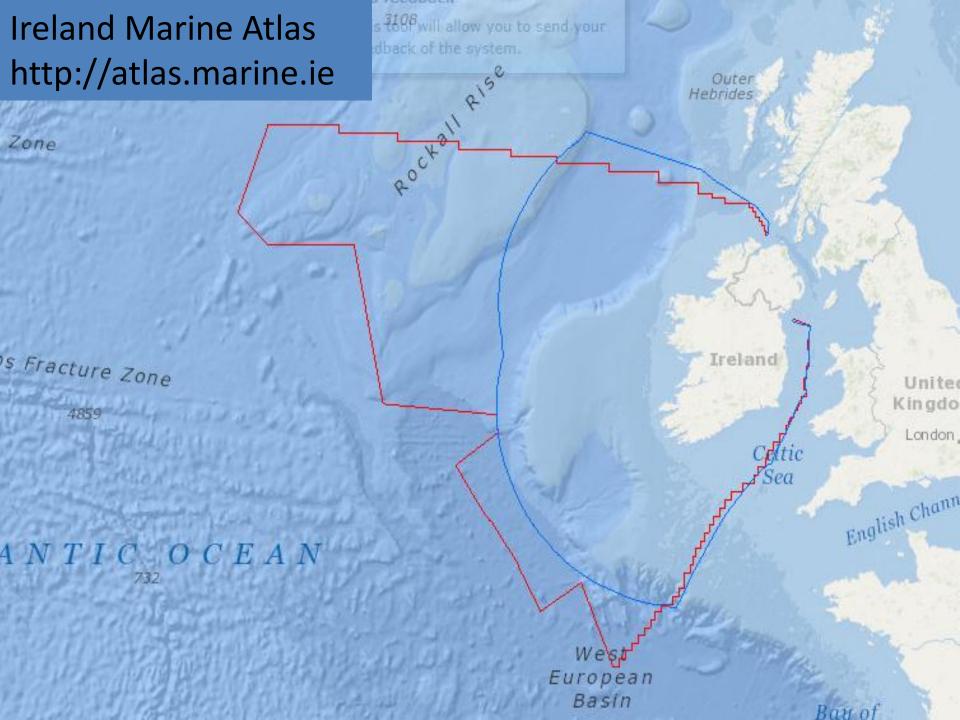
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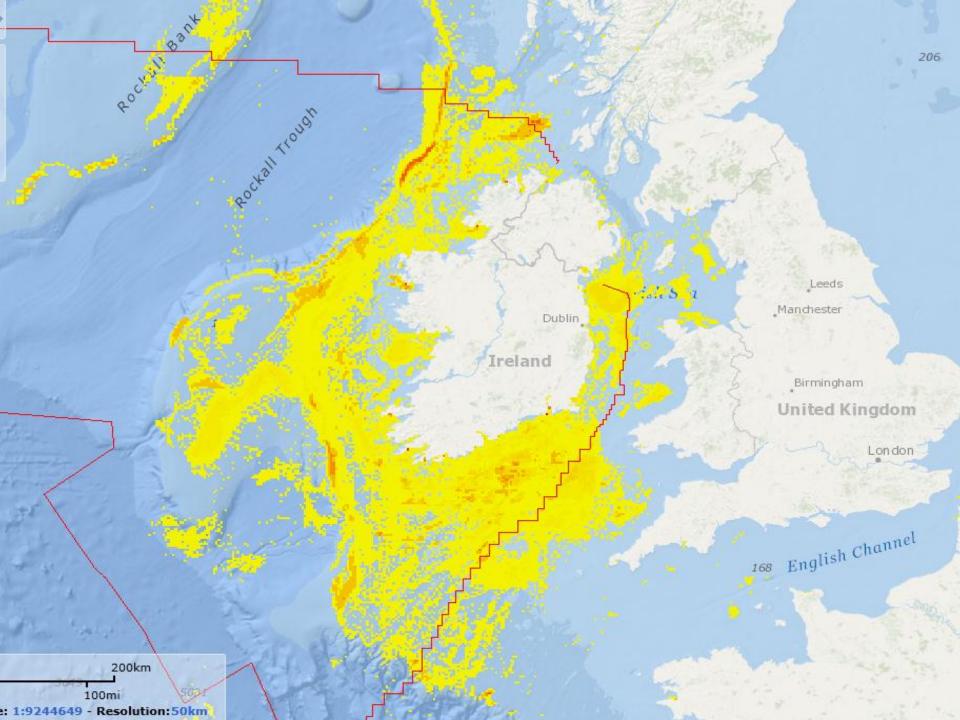
Article 12 Technical Assessment on Targets and Indicators

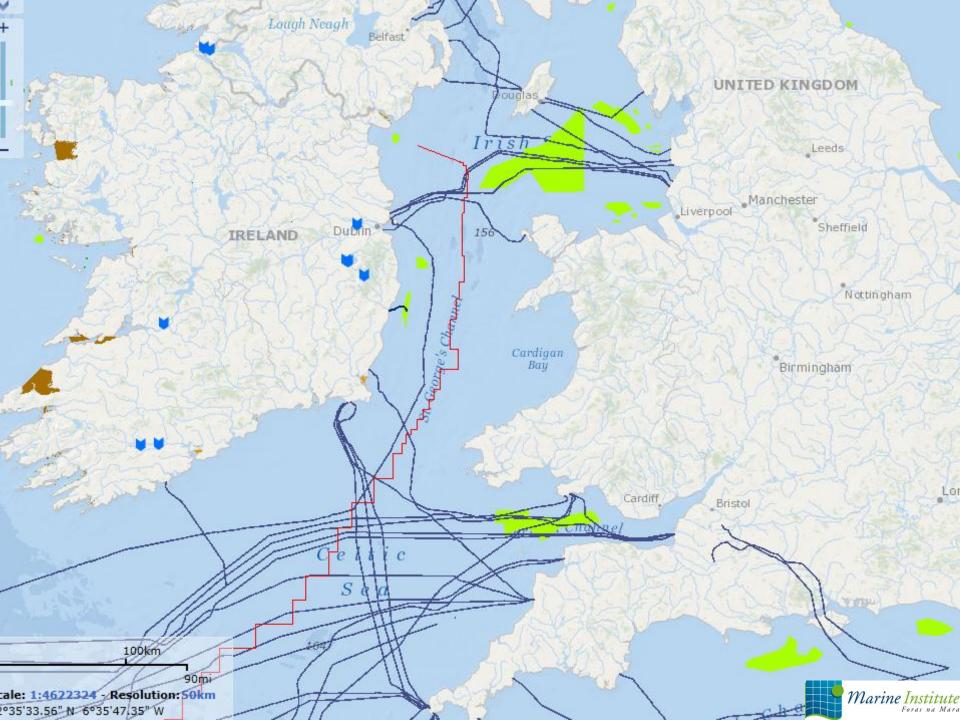
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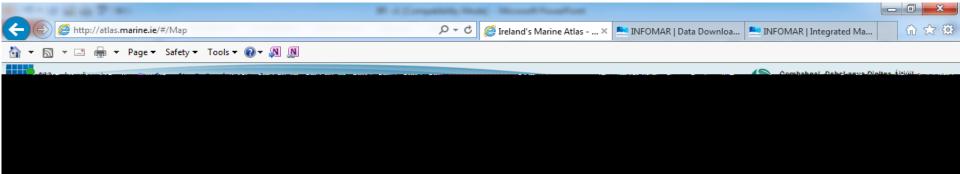
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Slovenia											











Next Steps:-

- Monitoring Programme (GES, T&I)
 - Building on WFD, Habs & Birds, CFP, OSPAR etc
 - Information being compiled
 - Incorporating Public comments and Art 12 Assess.
 - Public Consultation and comments incorporated
 - Submit to Commission Oct 2014
- Science
 - Coordinated through ICES/OSPAR
 - Review Commission Decision (JRC/ICES)
 - Integrated monitoring and platforms
- Programme of Measures







Learning & Participation in an Era of Regulatory Change – the Water Framework Directive in Ireland and Europe



Micheál Ó Cinnéide

EPA/ Waterford IT

EPA Water ConferenceGalway

12ú Meitheamh, 2014

Outline of Talk

- Objectives of the Research Study
- 3 Research Questions
- Methods
- A summary of Research findings from 4 cases
 - Implementing the EU Water Framework Directive in Sweden, Finland, Scotland & Ireland
- Some Implications for Practice



Research Objective

The research aim is to examine the role of **social learning** in a time of regulatory change

 the implementation of the Water Framework Directive in the EU since 2000 -

based on the experience of participants (managers and stakeholders) in Ireland, Scotland and Scandinavia.



My Research Questions

- ☐ Why are some EU regions succeeding in delivering better outreach, learning and water outcomes?
- ☐ How is **social learning** created in an era of regulatory change, in the context of **Water Framework Directive**?
- ☐ What are the **key lessons for policy & praxis**, as we look to build a more effective process & structures for 2nd cycle of River Basin management?

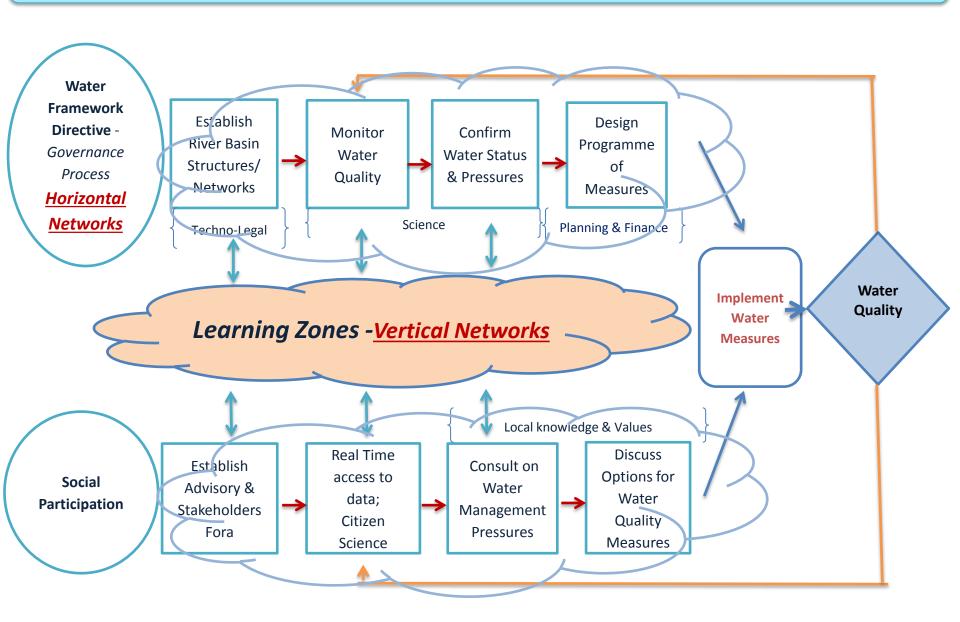


Theoretical Context

- ☐ Albert Bandura (1977) laid the foundations for social learning theory
- Learning is a dynamic relationship.
- Learning & behaviour results from the interactions of persons and situations
- Modelling is a principal mode of transmitting new forms of behaviour
- Wenger (2000) "Participation in Communities of practise is essential Learning is an interplay between social competence and experience"
- ☐ Pahl Wostl (2007, 2009) applied the concepts of social learning to the challenges of water, in the context of the EU Water Framework Directive
- "Social learning is intensified when stakeholders with different perceptions come together and engage with each other"

(Muro & Jeffrey, 2008)

Model for Public Participation and Social Learning in Water Management



Research Methods and Design

Research is like fishing flies: you choose the right one for the fish you want to catch (Kane, 1985)



This research used 2 main methods:

Interviews, combined with documentary analysis

- **Documentary analysis** of River Basin reports, European Union guidance to give the "official" version of progress in the WFD
- Semi structured interviews with 18 officials and stakeholders from Ireland and 3 other European regions, to seek insights from their experiences and "tacit knowledge" of learning in the Water structures

Research Case Selection

The selection of 4 case study sites was based on 2 criteria:

- □ Look at a **spectrum of experiences** from 4 EU states which have different approaches to water management:
 - ☐ Ireland & Scotland more classic "command and control" models of governance (Max Weber, 1954)

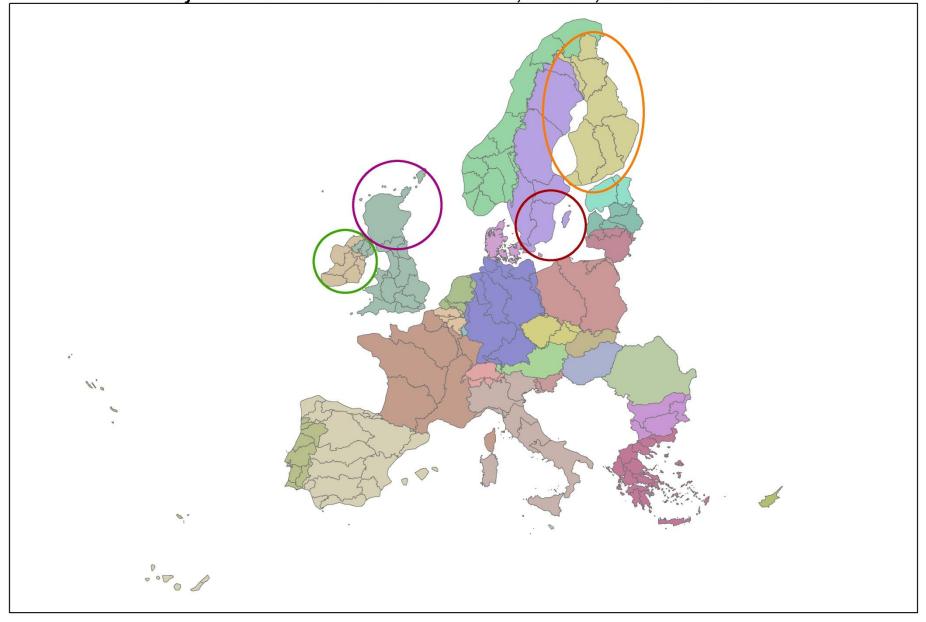
■ <u>Sweden & Finland -</u> long traditions of civic engagement (Lundquist 2004)



☐ Include a cross section of perspectives

Water managers (officials) and non state actors
 (Farming groups, environment NGOs), with different experiences of the WFD

Study Area: River Basin Districts in Finland, Sweden, Scotland and Ireland



Case Study 1 – WFD in SWEDEN



Research findings & Insights - Sweden

- Since **2008**, the River Basins have fostered local "*Vattenrads*" (water councils); over **100** have been formed; these are fluid, non-statutory groups "Creating participation at local level is one of the cornerstones of Swedish water management"
- Main Farming organisation (LRF) and Swedish forest owners are active players in the water management arena
 - "Its the only way really, to be involved. If you dont get the farmers' knowledge, you wont have the right measures and the right solutions" (LRF)
 - "Environmental questions is not about an end: its more like being on a movement, to take the small steps that's possible to make" (LRF staff)
- LRF Farm Study Groups (15,000 +) & Focus on Nutrients (7,500 + since 2001)

"The most important tool we have is covered with a check cloth & has coffee, milk & buns – the **kitchen table**. That is where the farmer is willing to **listen and learn**" (**Farm adviser**, Kalmar)

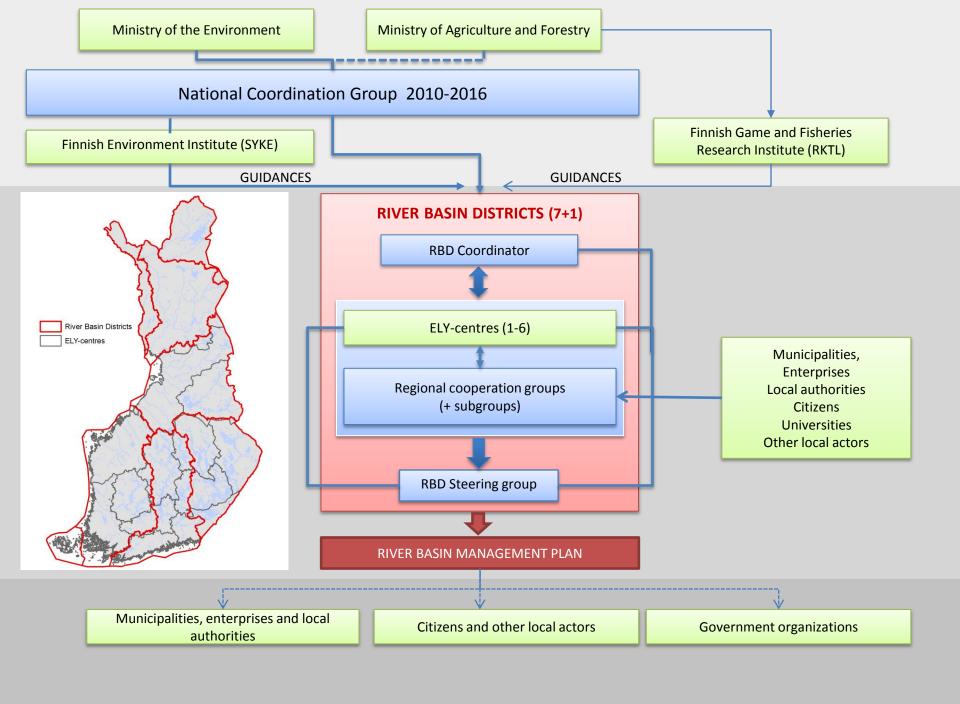
 Swedish rural culture & water structures provide a platform for both formal and informal interactions, building a social learning model.

Case Study 2 – WFD in FINLAND



Research findings & Insights - Finland

Coordinating role for Finnish Environment Agency - Horizontal networks "Based on our programme, 5 Ministries are now implementing the WFD policy measures"
"the solutions come from negotiations between Departments on what is technically possible" (Agency coordinator)
Farming organisation (MTK) & Nature Conservation are active contributors
Recurring issues of trust and transparency among WFD participants:
"They are making rules that are binding on farmers and we are worried that they are biased" (MTK rep)
"What is the real effect of these Measures – can we see it somewhere?"
Evidence of challenging interactions and of social learning at both $\underline{\text{horizontal}}$ (policy) & $\underline{\text{vertical}}$ levels:
At national policy networks, based on prolonged engagement
☐ At stakeholder level, WFD measures are negotiated at national and at a regional level with sectors like agriculture, forestry and industry



Case study 3 – WFD in SCOTLAND



Research findings & Insights - Scotland

☐ Scottish EPA (SEPA) is the competent authority for WFD since 2003 - Built up a critical mass of expertise to deliver the WFD ☐ SEPA engaged with the **National Farmers Union** on **Diffuse pollution**; Co- hosted 1,500 farm visits; 300 outreach events on farms since 2009; "we used local champion farmers and NFUS; they can mobilize & text people" (SEPA) River walks to gather evidence.. " We are reading the land, as it relates to rivers - what is it telling us?" ■ Scottish **NFU** have accepted the evidence gathered by SEPA team: "OK, we have a problem - we need to do something here" ☐ Clear evidence of a vertical learning approach to WFD - modelled behaviours by SEPA's team of farming experts, NFU farm members & farming leaders.



Research findings & Insights - Ireland

No national debate - WFD was primarily seen as an administrative, technical task "There was no clear picture on how it was going to work"
Earlier social learning from River projects not reflected in the 2003 WFD structures "It fell away. We didn't have the resources. We were just surviving".
WFD Technical tasks (EPA & Agencies) did show good horizontal learning "It was about building relationships, coming to a consensus. That leadership was needed at a policy level, but it wasn't there"
Participation focussed on the formal process of Advisory Councils, 2003 - 2009; Poor official culture of engaging with the public "The operation of the Councils scored poorly on transparency, openness and clarity. It was like swimming upstream!" (SWAN network)
Learning withered - rigid structures, over-dependence on RBD consultants & a lack of continuity eroded the potential for social learning in the 1 st cycle of WFD.

Ireland - Where are we now?

"Room for Improvement!"

- □ Ireland will not meet WFD implementation deadlines for the 2nd cycle; ~2+ yrs behind
- Mitigation Measures are inadequate
 - The River Basin Plan measures were too generalised and based on a 'one size fits all' approach.
- Public/community engagement was unsuccessful; therefore limited 'behavioural change'.
 - 1st RBMP considered unsuccessful
- We (as a country) are not dealing adequately with diffuse and small point sources

Update on EU View: "Blueprint for Water Resources in Europe"



- Published in Nov. 2012 (COM 2012 673, Brussels)
- A major analysis of Water policy in Europe:
 "How are we doing on Water Framework?"
- "Agriculture's impacts threaten water quality and quantity across EU"
- 20 Recommendations 19 were Technical/Legal

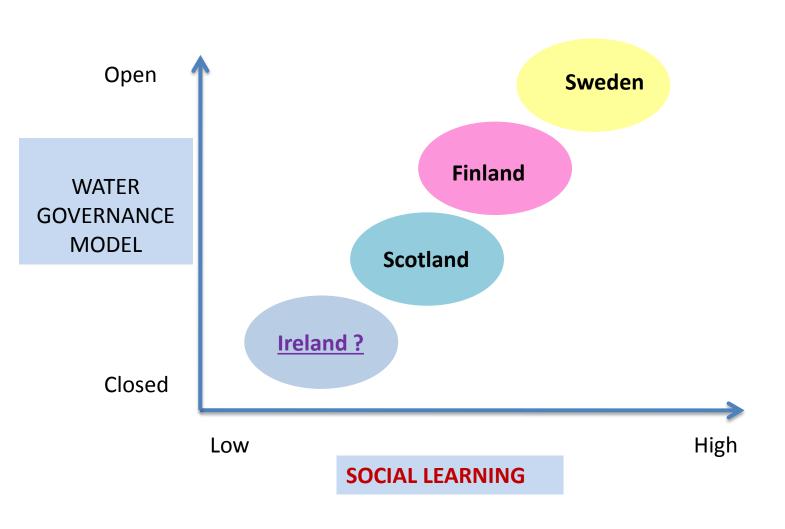
Main challenges, EU wide, June 2014:

"Establish governance for river basins – capable of planning, funding, + learning and of implementing measures on the ground "

• Is Europe missing the wood for the trees..?

National approaches to Water governance - A comparison

(after Pahl-Wostl)



Effective Water Management needs a Network model

Central Rule Perspective



- Authoritative
- Hierarchy
- Success = attainment of formal policy
- Managers plan and monitor

Network Perspective

- Network of Actors
- Inter dependence
- Success = collective action
- Managers mediate
- High social learning



Implications for Policy & Practice?

☐ We need to learn the lessons from 1st decade of WFD in Europe to improve *praxis* for the 2nd cycle ☐ Social learning is not just a "top down" or vertical process collective learning is also vital at the horizontal (policy) level ■ Structures which don't learn will wither & die! Social learning is a powerful ingredient of change ☐ Where principles of social learning & interactive governance are embedded, stakeholders are more willing to work together in water management ☐ Social learning by state, communities and non state actors is key to the future governance of water resources, flood plains, coastal zones and climate change in the 21st century...

