

Water Resources into the Future Directive 2000/60/EC

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Water Framework Directive 2000/60/EC

- to protect and enhance the status of aquatic ecosystems (and terrestrial ecosystems and wetlands directly dependent on aquatic ecosystems)
- to promote sustainable water use based on long-term protection of available water resources
- to provide for sufficient supply of good quality surface water and groundwater as need for sustainable, balanced and equitable water use
- to provide for enhanced protection and improvement of the aquatic environment by reducing / phasing out of discharges, emissions and losses of priority substances
- to contribute to mitigating the effects of floods and droughts
- to protect territorial and marine waters
- to establish a register of 'protected areas' e.g. areas designated for protection of habitats or species.

Water Framework Directive

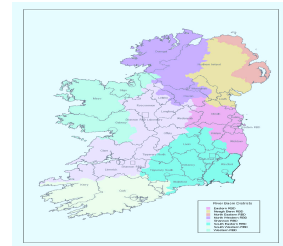
Website: www.wfdireland.ie

The WFD objectives (apply to all waters):

- Attain at least good status by 2015 (restoration) (ecological & chemical for surface waters) (quantitative & qualitative for groundwaters)
- Ensure no deterioration in status

River Basin Districts

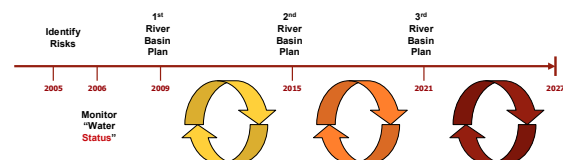
[South Eastern RBD](#)
[Western RBD](#)
[Eastern RBD](#)
[South Western RBD](#)
[Shannon IRBD](#)
[North Western IRBD](#)
[Neagh Bann IRBD](#)
[North-Eastern RBD NI](#)



WFD Timetable

Dec. 2004 – Initial Characterisation Report
Jun. 2006 – Classification Systems, Monitoring programme, Timetable and Work programme for RBMP
Dec. 2006 – commence monitoring programme
Jun. 2007 – Overview of significant water management issues in each RBD
Jun. 2008 – Draft RBMP
Jun. 2009 – Environmental Objectives, Programme of Measures, RBMP

Water Framework Directive - River Basin Planning Cycles



Water Framework Directive

- Surface Waters
- Groundwaters
- Coastal Waters
- Transitional Waters i.e. estuaries

WFD Article 5 – Characterisation

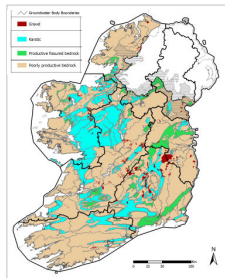
Principal outputs are:

- Physical characterisation of waters
- An assessment of significant pressures
- Identify water bodies likely to be at risk of failing to meet objectives of WFD

Groundwater Characterisation

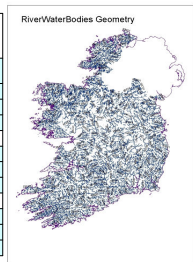
- GWB delineation
- Management units

Groundwater body types based on flow regime	% of number	% area
Karstic	23.8	19.8
Productive fissured bedrock	18.3	6.6
Gravel	12.6	2.0
Poorly productive bedrock	45.3	71.6



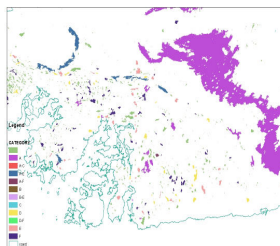
River Characterisation

Geology			Low slope (<0.005)	Medium Slope (0.005-0.02)	High Slope (0.02-0.04)	Very High Slope (>0.04)	Water Chemistry
			1	2	3	4	
Siliceous	1	No.	277	801	361	374	Soft Water
	1	Km	1547	2767	849	507	Soft Water
	1	%	7.6%	13.5%	4.2%	2.5%	Soft Water
			1	2	3	4	
Mixed	2	No.	152	272	87	58	Medium
	2	Km	1008	1272	326	161	Medium
Mixed	2	%	4.93	6.22	1.6	0.79	Medium
			1	2	3	4	
Calcareous	3	No.	1247	670	109	58	Hard Water
	3	Km	8530	3076	291	113	Hard Water
Calcareous	3	%	41.7	15.0	1.4	0.6	Hard Water



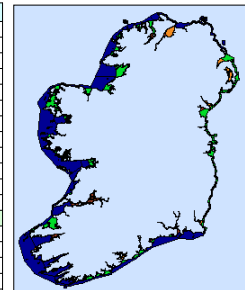
Lake Characterisation

Type	Description
1	Low alkalinity, shallow and small
2	Low alkalinity, shallow and large
3	Low alkalinity, deep and small
4	Low alkalinity, deep and large
5	Moderate alkalinity, shallow and small
6	Moderate alkalinity, shallow and large
7	Moderate alkalinity, deep and small
8	Moderate alkalinity, deep and large
9	High alkalinity, shallow and small
10	High alkalinity, shallow and large
11	High alkalinity, deep and small
12	High alkalinity, deep and large
13	Some lakes >300 m altitude



Transitional & Coastal Waters Characterisation

Coastal Water Types	
CW1	Euhaline, Macrotidal, Exposed
CW2	Euhaline, Mesotidal, Exposed
CW3	Euhaline, Microtidal, Exposed
CW4	Euhaline, Macrotidal, Moderately Exposed
CW5	Euhaline, Mesotidal, Moderately Exposed
CW6	Euhaline, Microtidal, Moderately Exposed
CW7	Euhaline, Macrotidal, Sheltered
CW8	Euhaline, Mesotidal, Sheltered
CW9	Euhaline, Microtidal, Sheltered
CW10	Coastal Lagoon
CW11	Sea Lochs (Shallow)
CW12	Sea Lochs (Deep)
Transitional Water Types	
TW1	Meso or Polyhaline, Macrotidal, Sheltered
TW2	Meso or Polyhaline, Strongly Mesotidal, Sheltered
TW3	Polyhaline, Macrotidal, Sheltered
TW4	Poly or Euhaline, Mesotidal, Sheltered
TW5	Transitional Sea Lochs
TW6	Transitional Lagoons, Oligo or Polyhaline, Mesotidal, Sheltered



Water bodies – management units

	No. of Types	No. of water bodies
Groundwater	4	383
Rivers	12	4,465
Lakes (>50 ha)	13	189
5-50ha lakes in protected areas		556
		Total = 745
Transitional waters	12	197
Coastal waters	6	107

Pressures & Impacts Assessment - Guiding Principles

- Analysis must be transparent, comprehensible & all data should be publicly available
- Risk analysis is not status classification
- Risk assessment is to help identify & prioritise follow-up actions leading to next stages of the planning process
- Harmonised application of the key issues e.g. baseline scenario & the identification of heavily modified water bodies
- Lack of data - no excuse – must demonstrate that you tried - “gap analysis”

Pressures & Impacts Assessment – Risk Assessments

STEP 1 – Identification of Human Pressures

- Data collection by RBD projects and state organisations
- Nationally available data sets
- Data confidence assessed
- Address gaps by further data collection and monitoring programmes

Pressures & Impacts Assessment – Risk Assessments

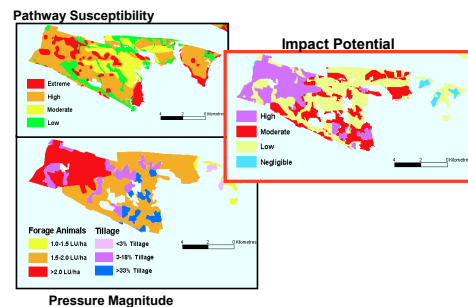
STEP 2 – Application of Risk Assessment Procedures

- Develop and apply assessments for all water categories
- Standardised approach adapted from UK methodology – background documents available
- Groundwater bodies – conceptual understanding using pressure pathway receptor approach
- Surface water bodies – empirical relationships using established impact databases
- Preliminary screening level assessments – to be developed to more quantitative approaches by 2008

Risk Assessment - Pressures

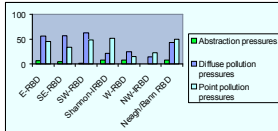
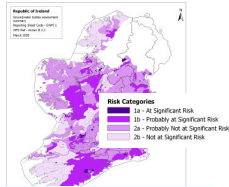
- Abstractions
- Morphological alterations
- Point source pressures
- Diffuse source pressures

Risk assessment methodology – groundwater example (nitrates)



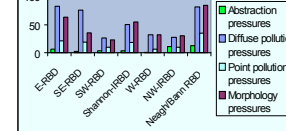
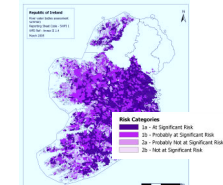
Groundwater

Risk category	Groundwater bodies % (by number)
(1a) At risk <i>Main pressures</i>	5% Diffuse source pollution Point source pollution
(1b) Probably at risk <i>Main pressures</i>	56% Diffuse source pollution Point source pollution
(1a+1b) Total at risk	61%
(2a) Probably not at risk	23%
(2b) Not at risk	16%

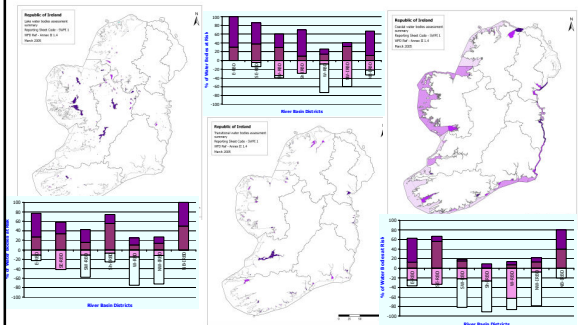


Rivers

Risk category	River water bodies % (by number)
(1a) At risk <i>Main pressures</i>	29% Diffuse source pollution Morphological alterations
(1b) Probably at risk <i>Main pressures</i>	35% Morphological alterations Diffuse source pollution
(1a+1b) Total at risk	64%
(2a) Probably not at risk	20%
(2b) Not at risk	16%



Lakes, Transitional and Coastal Waters



National Results - Summary

Risk category	Groundwater bodies % (by number)	River water bodies % (by number)	Lake water bodies % (by number)	Transitional water bodies % (by number)	Coastal water bodies % (by number)
(1a) At risk <i>Main pressures</i>	5% Diffuse source pollution Point source pollution	29% Diffuse source pollution Morphological alterations	18% Abstractions Diffuse pollution	30% Morphological alterations Pollution impacts	12% Morphological alterations Pollution impacts
(1b) Probably at risk <i>Main pressures</i>	56% Diffuse source pollution Point source pollution	35% Morphological alterations Diffuse source pollution	20% Abstractions Diffuse source pollution	23% Morphological alterations Pollution impacts	15% Morphological alterations Pollution impacts
(1a+1b) Total at risk	61%	64%	38%	53%	27%
(2a) Probably not at risk	23%	20%	13%	20%	31%
(2b) Not at risk	16%	16%	49%	27%	42%

Some Observations about the Risk Assessment Findings

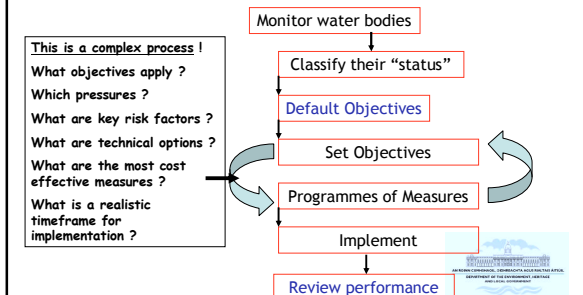
- This first risk assessment analysis is based on the best available information – to prioritise next steps (but NOT water status classification)
- Screening procedure
- To be validated by monitoring and further investigation – different confidence levels in risk assessment outcome
- Collaborative approach - involving many bodies / agencies
- Precautionary approach was adopted – one out all out rule – addressing much wider range of pressures than up to now
- Data gaps and information quality will have to be improved in future iterations to ensure greater confidence in subsequent assessments
- The immediate challenges are: developing monitoring systems & undertaking further characterisation in order to identify management measures needed to deliver objectives

Further Characterisation

Groundwaters

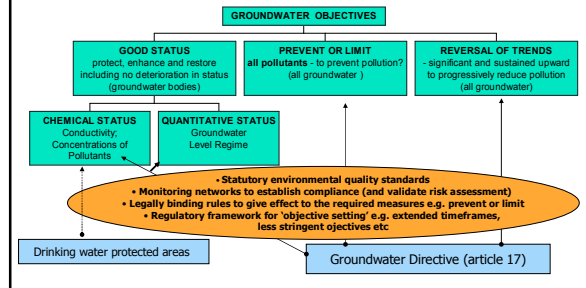
- Guidance in relation to:-
 - Mining
 - Contaminated land
 - Quarries
 - Landfill
- Diffuse Pressures
- Abstraction pressures

River Basin Management Process



Where next after 'characterisation'?

Example – groundwater requirements



Objective setting and river basin planning

- Objective setting will drive programmes of measures (and costs)
- Will be undertaken through river basin planning process
- Objectives must be met by 2015, (provision for phasing of measures across three river basin planning cycles provided the technical and socio-economic basis is properly set out and justified within the rules of the Directive)
- Less stringent objectives are permitted subject to strict rules e.g. technical infeasibility or disproportionate cost
- Statutory guidance and/or rules to be developed?
- Objective setting will take account of
 - > Water status, and
 - > An understanding of environmental pressures and likely response to 'measures', and
 - > The economic and technical feasibility tests of the directive
- Need to start building regulatory framework for 'objective setting', in particular 'technical infeasibility', 'disproportionate cost', extended timeframes and less stringent objectives

Other issues

- Data management and electronic reporting
- Harmonisation
- Economic analysis
- Consultation
- Progress Reporting
- Regulatory Framework

Nitrates Regulations – where are we?

- ECJ Judgment against Ireland – 11 March 2004
- Revised Action Programme sent in October 2004 (Brosnan Recommendations)
- Rejected by Commission – Letter of Formal Notice December 2004
- Consultations with Commission and Farming Organisations
- Regulations made in July 2006

Implementation of binding rules to give legal effect to good farming practice will be critical to Ireland meeting its obligations under the WFD

Other risks (if we falter)

- Threat of daily fines
- Weakening of Ireland's negotiating position
 - > on proposed revisions of measures under CAP RDP e.g. REPS, Compensatory Allowances, Forestry and the Early Retirement Scheme
 - > on discussions on the next round of rural development funding (2007 – 2013)

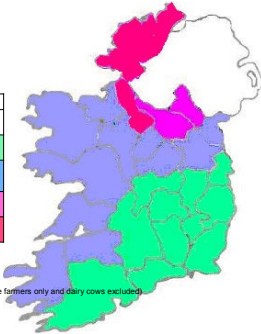
On-farm manure storage and closed periods

Required Storage Capacity	Prohibited application periods		
	Chemical fertiliser	Organic fertilisers	Farmyard Manure
16 weeks	15 Sept – 12 Jan	15 Oct – 12 Jan	1 Nov – 12 Jan
18 weeks	15 Sept – 15 Jan	15 Oct – 15 Jan	1 Nov – 15 Jan
22 weeks	15 Sept – 31 Jan	15 Oct – 31 Jan	1 Nov – 31 Jan
20 weeks	15 Sept – 31 Jan	15 Oct – 31 Jan	1 Nov – 31 Jan

* 26 weeks storage for pigs and poultry (generally)

* 6 weeks storage for deer, goats and sheep

* reduced storage permitted where animals are overwintered (extensive farmers only and dairy cows excluded)



Thank You