# 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

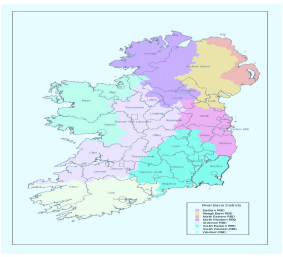
**Website: www.wfdireland.ie**

**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

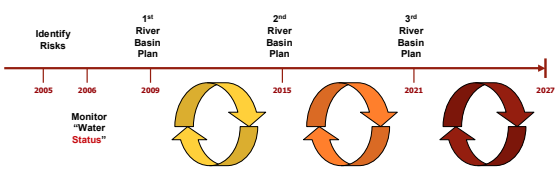
South Eastern RBD
Western RBD
Eastern RBD
South Western RBD
Shannon IRBD
North Western IRBD
Neagh Bann IRBD
North-Eastern RBD NI



## 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

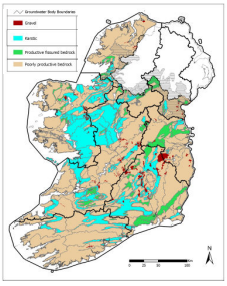
**Principal outputs are:**

- **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 |

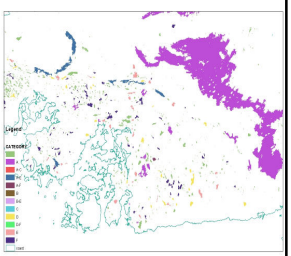


## River Characterisation

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

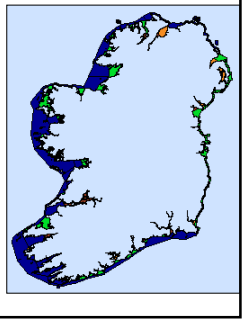

## Lake Characterisation

| Type | |
|---|---|
| 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 |
| CW1 | Coastal Lagoon |
| CW1 | Sea Lochs (Shallow) |
| CW1 | 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)<br>5-50ha lakes in protected areas | 13 | 189<br>556<br>*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 organisatio**
- **Nationally available data sets**
- **Data confidence assessed**
- **Address gaps by further data collection and monitorin programmes**

## Pressures & Impacts Assessment – Risk Assessments

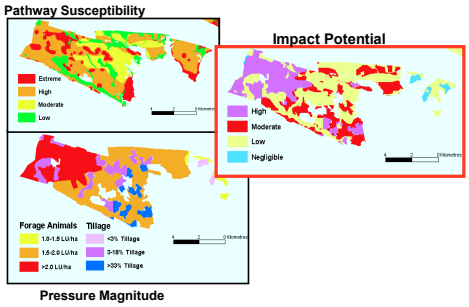
**STEP 2 – Application of Risk Assessment Procedures**

- **Develop and apply assessments for all water categorie**
- **Standardised approach adapted from UK methodologi – background documents available**
- **Groundwater bodies – conceptual understanding usin 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

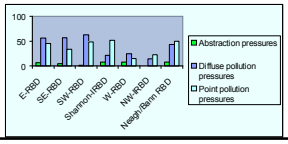
- **Abstractions**
- **Morphological alterations**
- **Point source pressures**
- **Diffuse source pressures**

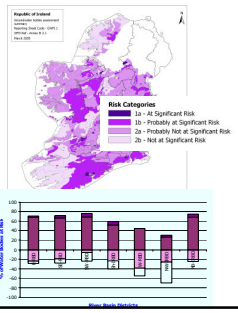
## Risk assessment methodology – groundwater example (nitrates)



## Groundwater

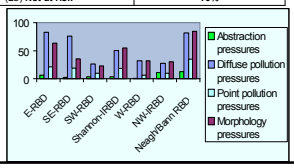
| Risk category | Groundwater bodies % (by number) |
|---|---|
| (1a) **At risk** ***Main pressures*** | **5%** *Diffuse source pollution* *Point source pollution* |
| (1b) **Probably at risk** ***Main pressures*** | **56%** *Diffuse source pollution* *Point source pollution* |
| (1a+1b) **Total at risk**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

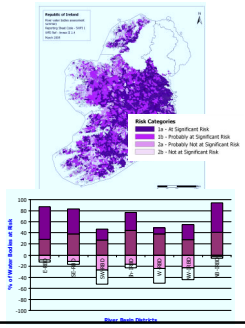


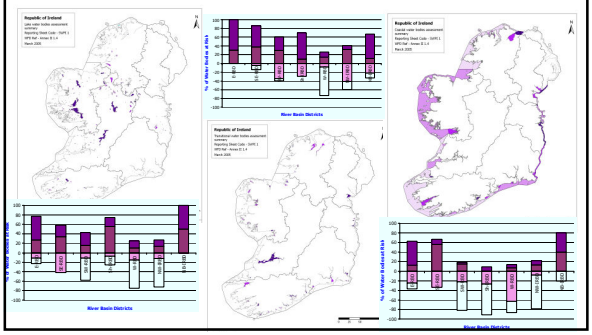

## Rivers

| Risk category | River water bodies % (by number) |
|---|---|
| (1a) **At risk** ***Main pressures*** | **29%** *Diffuse source pollution* *Morphological alterations* |
| (1b) **Probably at risk** ***Main pressures*** | **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** ***Main pressures*** | **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** ***Main pressures*** | **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

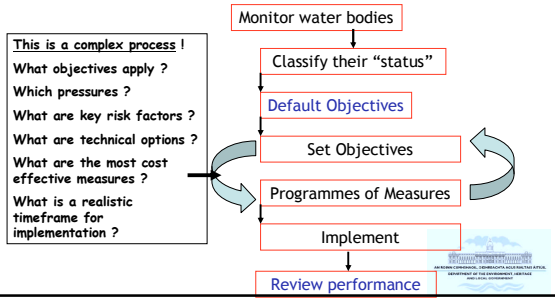
- **This first risk assessment analysis is based on the best available information – to prioritise next steps (but NOT water status classification)**
- **Screening procedure**
- **To be validated by monitoring and further investigation – different confidence levels in risk assessment outcome**
- **Collaborative 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

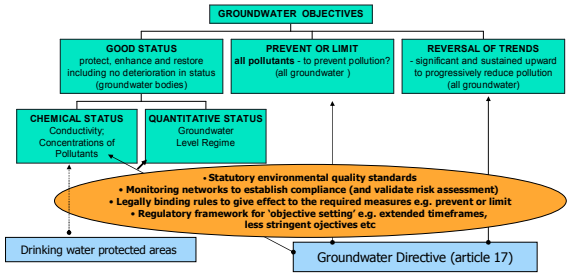
Groundwaters

- 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**

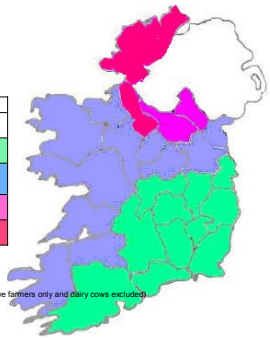
## Other risks (if we falter)

- 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 outwintered (extensive farmers only and dairy cows excluded)



## Thank You