

eastern  
river basin district

# Draft Programme of Measures

## *Ryewater WMU*

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1. Water Framework Directive
2. Overview of Water Management Unit
3. Status of Water
4. Objectives
5. Protected Areas
6. What are the Problems to address?
7. Programme of Measures
8. Alternative Objectives
9. What happens next?
10. What can you do?

Appendix 1&2: Programme of Measures



# Document Control Sheet

<b>Project</b>	Eastern River Basin District			
<b>Report</b>	Draft - Ryewater - River and Lake Programme of Measures - for download			
<b>Date</b>	December 2008			
<b>Project No:</b> 39325		<b>Document Reference:</b> 39325/ERBD40/DG134 - S		
<b>Version</b>	<b>Author</b>	<b>Reviewed</b>	<b>Checked</b>	<b>Date</b>
Draft 1	AOC/AC	AGH	AOC	DEC 2008



# Water Framework Directive

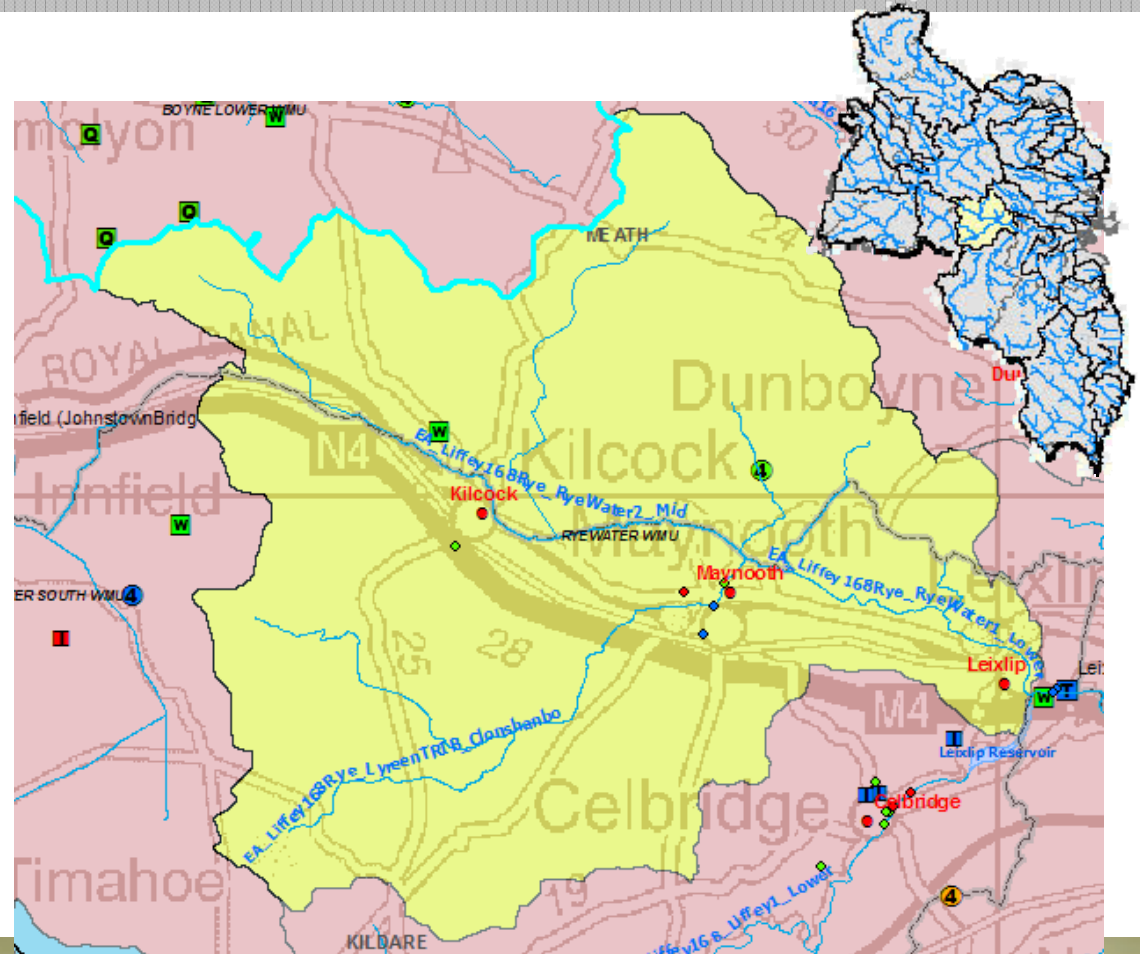
- ❑ The Draft River Basin Management Plan was published on the 22<sup>nd</sup> December 2008 for Public Consultation.
- ❑ This Programme of Measures accompanies the River Basin Management Plan created for the Eastern River Basin District.
- ❑ The River Basin Management Plan can be downloaded from the website, whilst more detail of the Programme of Measures is contained in the River Basin Management System which can be accessed through your Local Authority.
- ❑ The River Basin Management System is a web-based tool that assists Local Authorities to store information about the condition of their waters and the Programme of Measures for their improvement.
- ❑ For more information please visit [www.erbd.ie](http://www.erbd.ie)



# Overview of Water Management Unit

































## Geography

- ❑ Local Authorities: 57% Kildare, 43% Meath
- ❑ River Length: 66 km
- ❑ HMWB and AWB: Royal Canal main Line
- ❑ Land use: Predominantly land-use is for agriculture
  - 79% pasture use
  - 15% arable
  - urban populations cover 3% of the area for example at Kilcock and Maynooth.



# Risk Assessment Legend

See [www.erbd.ie](http://www.erbd.ie) for more information on Article 5 Risk Assessment

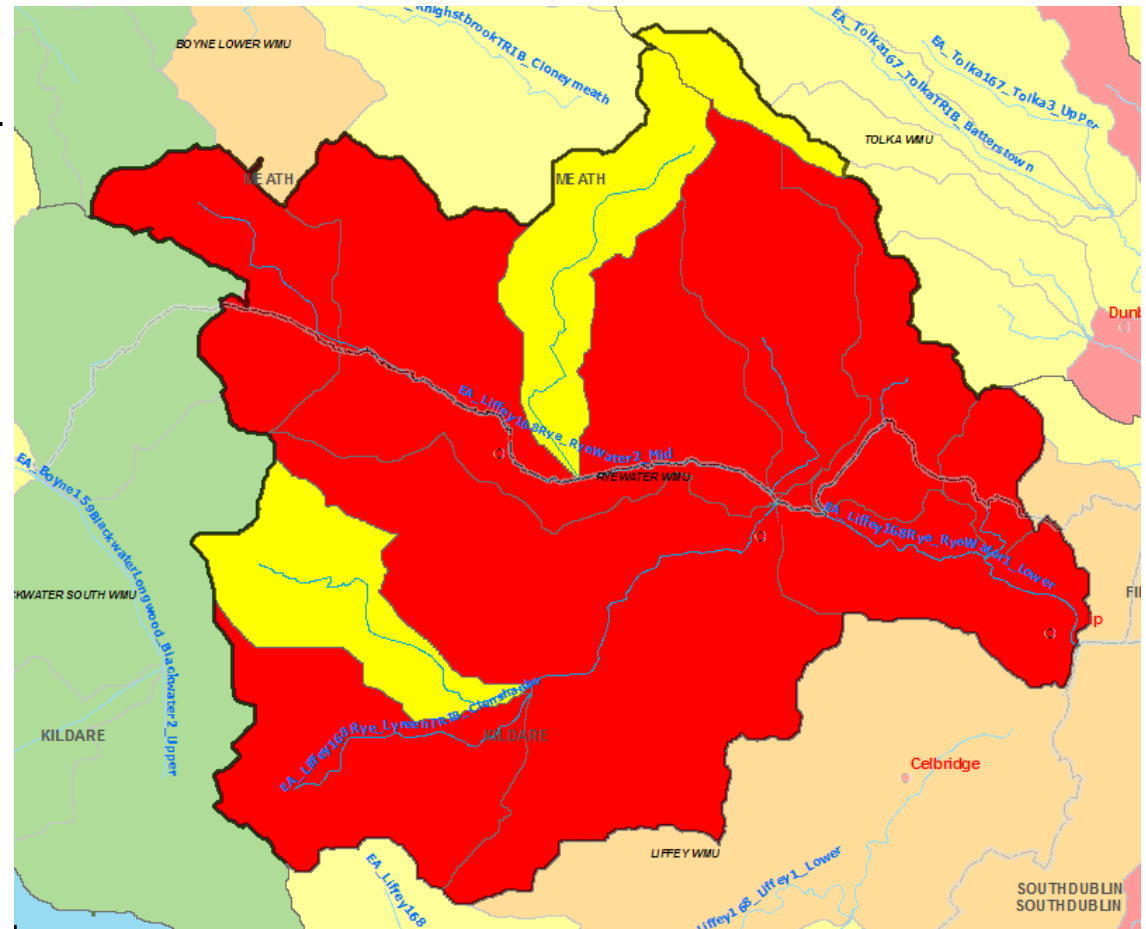
Risk	Symbol with Level of Risk	Risk	Symbol with Level of Risk
Abstraction			
CSO	 1a  1b  2a  2b	WWTPs	 1a  1b  2a  2b
Hydrometric Station	 ACTIVE  INACTIVE  OBSOLETE	WTPs	 2a
IPC Facilities	 1a  1b  2a  2b	Landfills	 1b  2a  2b
IPC Rivers	 1a  1b  2a  2b	Mines	 1a  1b  2a
Section 4	 1a  1b  2a  2b	Quarries	 2a
Based on Article 5 Risk Assessment: <b>1a</b> : At risk, <b>1b</b> : Probably at risk, <b>2a</b> : Probably not at risk, <b>2b</b> : Not at risk			

# Status of Water

The existing condition of our waters was determined by the Environmental Protection Agency using water quality, ecology and morphology monitoring data.

River Status:

<b>Moderate</b>	20%
<b>Bad</b>	80%



*The percentage status is determined by the number of reportable segments or sub basins. For this reason the percentage might not seem representative.*

# Objectives

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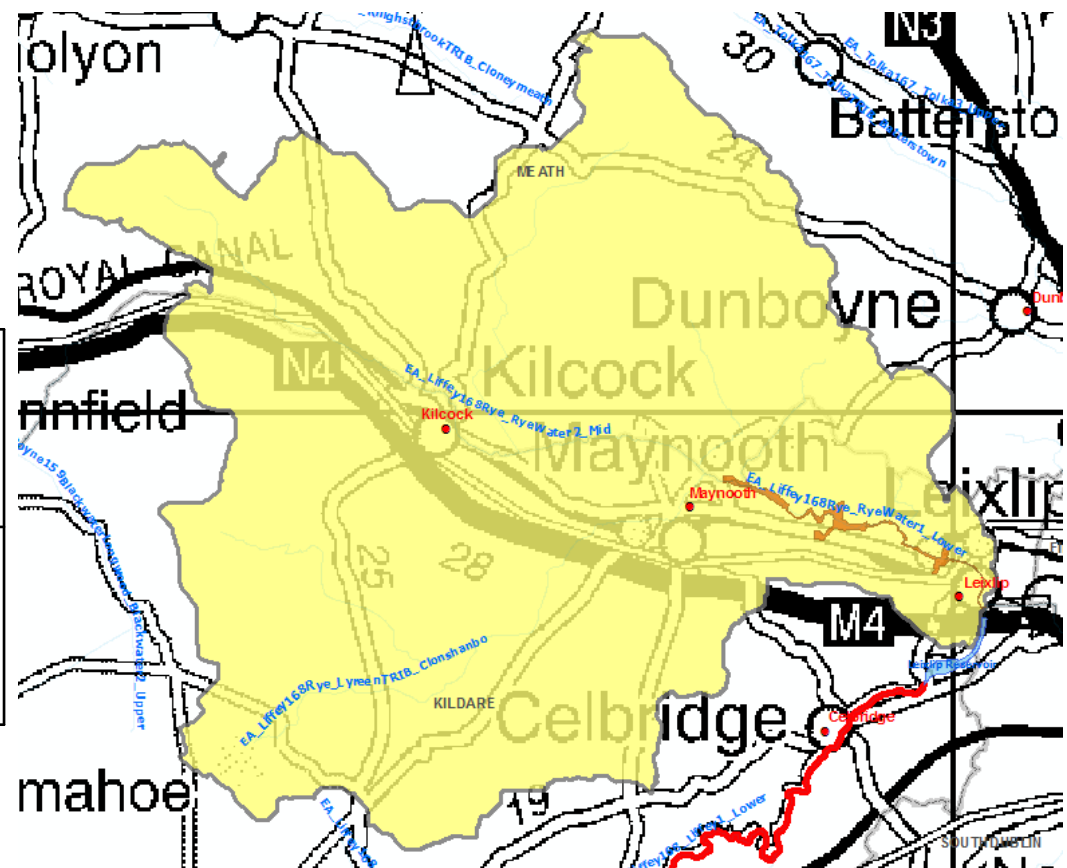
- ❑ Waters must be of satisfactory quality and sufficient quantity to protect the aquatic environment and its beneficial uses.
- ❑ We have four core objectives:
  1. Prevent deterioration and in particular maintain High or Good Status
  2. Improve waters to achieve Good Status where appropriate
  3. Progressively reduce chemical pollution
  4. Achieve our protected area objectives










# Protected Areas








- Some areas require greater protection because they contain rare and vulnerable habitats or wildlife. Other protected areas are sensitive because of their beneficial use for humans, such as drinking water sources or shellfish areas.

Special Areas of Conservation (Habitat) (2)	✓	Rye Water Valley/Carton,
National Heritage Areas (4)	✓	Donadea Wood, Royal Canal, Rye Water Valley/Carton



# Protected Areas Legend

Type of Protected area	Symbol
Drinking water – Monitoring point	
Drinking Water – Rivers	
Drinking Water - Groundwater	
Drinking Water – Surface water	
Nutrient Sensitive rivers	
Nutrient Sensitive Areas	
National Heritage Areas	

Type of Protected area	Symbol
Special Protected Areas	
Special Areas of Conservation	
Beaches	
Recreational lakes	
Salmonid Waters	
Register protected Areas – Water Dependant Habitats	
Shellfish	

# What are the problems to address?

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In the Eastern River Basin District an online management system allows local authorities to store, assess and make Programmes of Measures on all the information emerging relating to the Water Framework Directive.

The first step is to identify any issues that might prevent us from reaching the ultimate target of 'Good Status' (please see plan for a full definition of 'Good Status').

## **In Ryewater the problems are:**

- High Nutrients (Phosphorus)
- Oxygen Demand
- Low Ecological Rating
- Dredging

# What could be causing these problems?

Pressure	County	% contribution
Agriculture	Kildare	60
	Meath	75
Usage and Discharge of Dangerous Substances	Meath	1
Forestry	Meath	2
Landfills, Quarries, Mines and Contaminated Lands	Meath	1
Wastewater and Industrial Discharges	Kildare	30
	Meath	1
Wastewater from Unsewered Properties	Kildare	10
	Meath	20
Morphology	Meath	At Risk

- ❑ The main problem in the Ryewater is considered to be agriculture.
- ❑ Combined sewer and pumping station overflow (wastewater discharge) are also considered to significant pressures in Kildare.
- ❑ The Lyreen river is heavily polluted and nutrients caught in the sediment will take time to discharge.
- ❑ The percentages are approximate estimates of relative pressures and will assist in prioritising measures.

*All percentages are estimated based on available data, analysis and expert judgement.*

# Programme of Measures

- Having assessed the current condition of our waters, the extent of areas to protect, and the risks and pressures affecting our waters, we can now determine the measures needed to bring them all back to good status.
- We must aim to achieve full implementation of all basic measures before 2015. If the implementation of all Basic Measures before 2015 will not get us to Good Status then we must select necessary Supplementary Measures.

<i>Basic Measures</i>	Measures required by law
<i>Supplementary Measures</i>	Non-statutory measures deemed necessary

- The following pages detail the proposed Programme of Measures. We have also proposed an Alternative Programme of Measures that, in light of the large number of measures to be taken, prioritises certain measures for the first cycle of the plan (2010 – 2015).
- ***Please see the Appendix for the full list of basic and supplementary measures selected in both the Proposed and Alternative Programme of Measures.***

# Proposed Programme of Measures

*This proposed Programme of Measures aims to achieve the 4 core objectives as described earlier by fully implementing all basic measures and also implementing supplementary measures where deemed necessary.*

## **Basic Measures:**

A full list of basic measures is listed in the Draft River Basin Management Plan. It includes the regulations enacted from the following 11 European Directives and also requires member states to create measures for 11 other issues:

### **11 European Directives**

1. Bathing Water Directive
2. Habitats Directive
3. Birds Directive
4. Drinking Water Directive
5. Major Accidents (Seveso) Directive
6. Environmental Impact Assessment Directive
7. Sewage Sludge Directive
8. Urban Waste Water Treatment Directive
9. Plant Protection Products Directive
10. Nitrates Directive
11. Integrated Pollution Prevention Control Directive

### **11 Other Basic Measures**

1. Cost recovery for water use
2. Measures to promote efficient and sustainable use
3. Protection of drinking water sources
4. Control of abstraction and impoundment
5. Authorisation of discharges to groundwater
6. Control of point source discharges
7. Control of diffuse source pollution
8. Control of priority substances
9. Control of physical modifications of surface waters
10. Controls on other activities impacting water status
11. Prevention or reduction of the impact of accidental pollution incidents

# Proposed Programme of Measures - Rivers

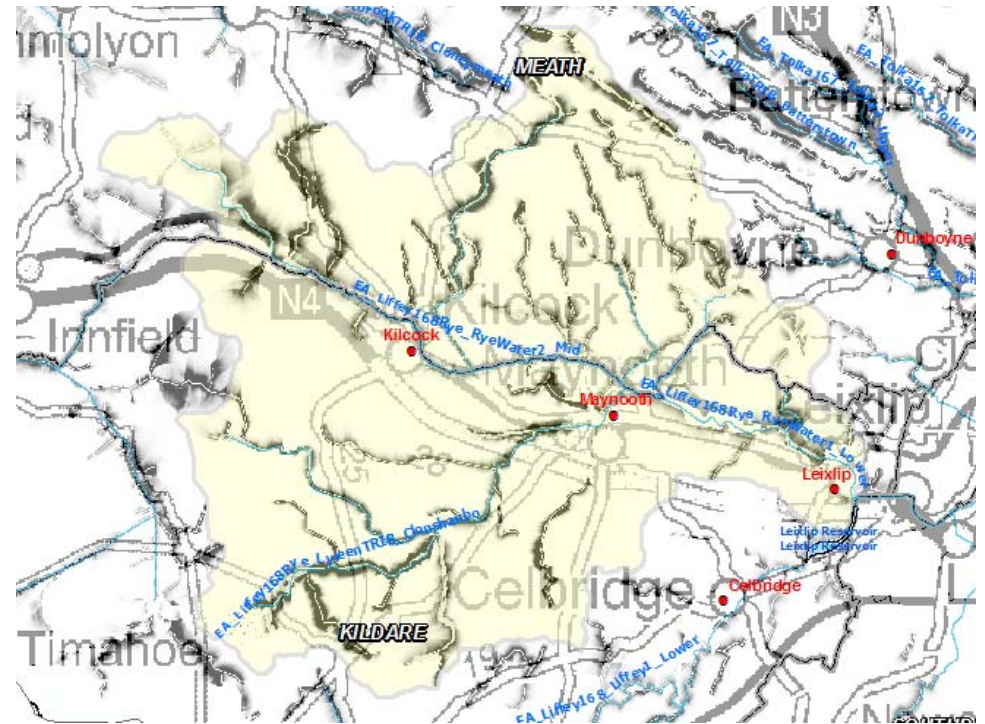
❑ **Supplementary Measures (In descending order of cost):**

<b>Top Ten Supplementary Measures - River Sub-catchment</b>
Diffuse Runoff (Urban) - Storm Sewers Separation (Screening & Treatment)
CSO - Upgrades and Rehabilitation
Enforce Regulations on Septic Systems
Implement Community Digestors for Alternative Energy
Restrict Cattle Access to rivers - Create Cattle Drinking points
Public awareness
Diffuse Runoff (Urban) - Gullies Management
Diffuse Runoff (Urban) - Implement SUDS
Diffuse Runoff (Urban) - Street Cleaning Programme
Further Investigate cause of failure

# Alternative Programme of Measures – Basic Measures

*We have prepared an Alternative Programme of Measures for comparison. This Programme of Measures selects the measures to prioritise for implementation during the first 6 year plan that are thought to be most effective, but still aims to achieve Good Status as early as possible*

By prioritising the measures to be implemented in the first cycle, the Alternative Scenario aims to save time and money by focussing on the most effective measures first.

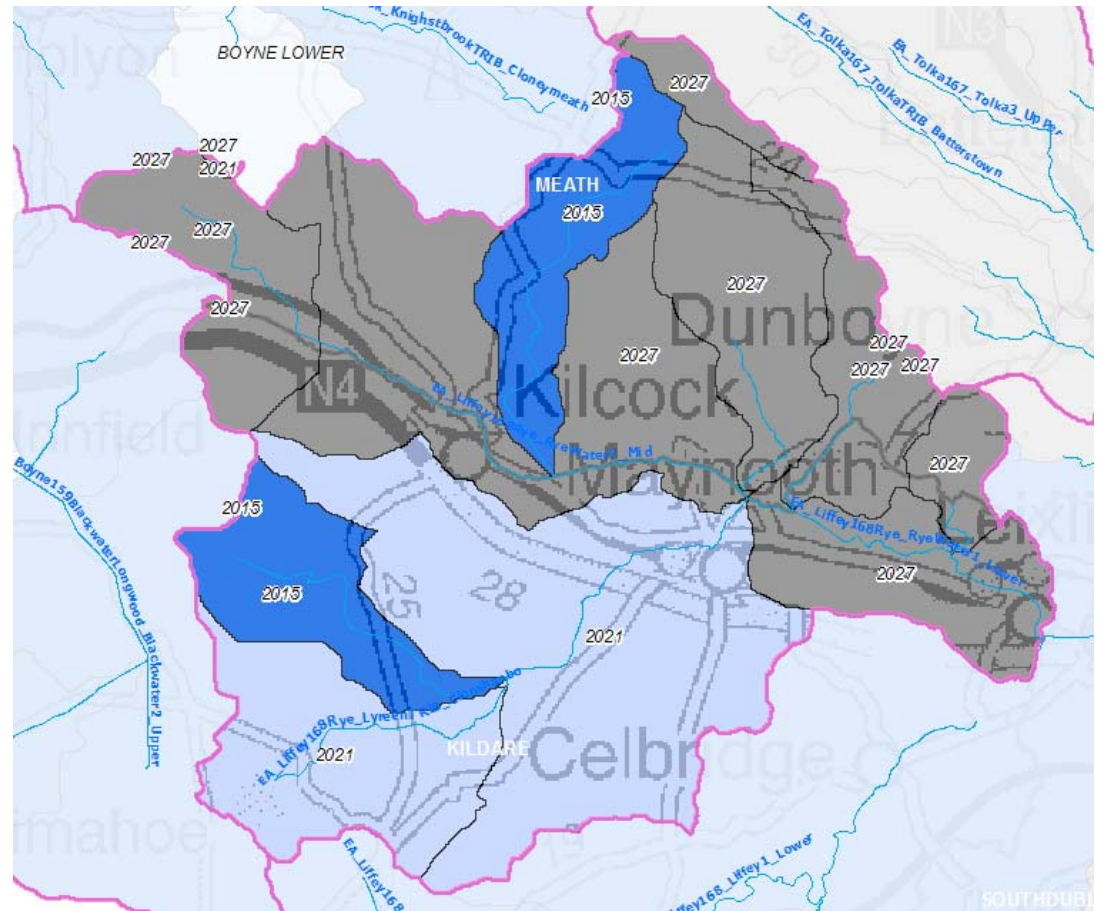


*Phosphorus modelling by the ERBD project shows that of the entire Ryewater Catchment only 12% of the Kildare land area and 14% of the Meath Land area are of high risk of causing direct runoff into the river.*

# Alternative Objectives – Extended Timescale

- In some cases due to technical infeasibility, disproportionate cost, the natural condition of the waterbody or new physical modifications it may not be possible to achieve all core objectives by 2015.
- The main pressure preventing achievement of Good Status is thought to be diffuse agricultural pollution. Full implementation of the measures is expected to correct this, however recovery time will mean that the larger rivers will not achieve Good Status before 2015.

2015	20%
2021	40%
2027	100%



*The percentage status is determined by the number of reportable segments or subbasins. For this reason the percentage might not seem representative.*

# Alternative Objectives - Heavily Modified and Artificial Waterbodies

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- ❑ Some surface waters have been substantially changed in character to allow uses such as:
  - Water storage
  - Public supply
  - Flood defences
  - Land drainage.
- ❑ These waterbodies are called ***Heavily Modified***. This designation recognises that the waterbody cannot be returned to its natural condition and therefore sets an alternative objective of Good Ecological Potential.
- ❑ Some waterbodies are entirely ***Artificial*** for example canals and for the same reasoning are set the alternative objective of Good Ecological Potential.
- ❑ We must still achieve good chemical condition, prevention of deterioration and achieve our protected area objectives.

# Heavily Modified and Artificial Waterbodies Status and Measures

## *Artificial Water Body*






### Royal Canal Main Line

- ❑ **Reason for designation:** Man-made canal
- ❑ **Status:** Good Ecological Potential
- ❑ **Measures:** None identified



# Heavily Modified and Artificial Water Bodies Legend

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Heavily Modified (HM) or Artificial Water Bodies (AWB)	Symbol
HM - Rivers	
HM - Marine	
HM - Lakes	
AWB - Canal	
AWB - Reservoirs	

# What can you do?

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## ***You have your say!***

- Now is your chance to have a say on the Programme of Measures:
  - Have all issues been addressed?
  - Do you have any measures to add to the proposed Programme of Measures?
  - What do you think about the Alternative Programme of Measures?
  - Would you spend more to achieve our goals faster?
  
- We can all help to implement this important legislation by thinking about our impact on the water environment in our everyday lives.



# How to comment

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Please *have your say* in any of the following ways:

1. Email your comments to [comments@erbd.ie](mailto:comments@erbd.ie) and include River Basin Management Plan Comments in the subject line

2. Write to:

River Basin Management Plan Comments

Project Co-ordinator

Eastern River Basin District Project Office

Dublin City Council

68-70 Marrowbone Lane, 4<sup>th</sup> Floor

Dublin 8



# Appendix 1:

## Proposed Programme of Measures



# Programme of Measures Key

<b>ABS</b>	Abstractions
<b>AGR</b>	Agricultural Point and Diffuse Sources
<b>AGR-PS</b>	Unlicensed Agricultural Point Sources
<b>Chem</b>	Chemical Fertiliser
<b>CROSS</b>	Planning, Development and other sources
<b>DLRCC</b>	Dun Laoghaire Rathdown County Council
<b>DS</b>	Dangerous Substances
<b>ECO</b>	Poor Ecology
<b>FOR</b>	Forestry
<b>IPPC</b>	Industrial Sources
<b>Manure</b>	Manure Fertilisers
<b>MORP</b>	Intensive Land use
<b>S4</b>	Local Authority Licensed Discharges
<b>WWTP</b>	Wastewater Treatment Plants
<b>DATA+</b>	An Absence of sufficient data
<b>HS</b>	To Protect High Status Waters
<b>Septic</b>	Onsite Wastewater Treatment Systems
<b>U-DIFF</b>	Urban Diffuse Pollution

# Proposed Programme of Measures

## – Basic Measures for Rivers

Local Authority	Parent ID Name	MeasureName	Source
KILDARE	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS
KILDARE	National Water Pricing Policy Framework (1998)	National Water Pricing Policy Framework (1998)	ABS
KILDARE	Water Supplies Act 1942	Water Supplies Act 1942	ABS
KILDARE	EC (Good Agricultural Practice for Protection of Waters) Regulations (S.I. 378 of 2006 and S.I. 526 of 2007)	EC (Good Agricultural Practice for Protection of Waters) Regulations (S.I. 378 of 2006 and S.I. 526 of 2007)	AGR
KILDARE	Planning Development Acts 2000 - 2006	Planning Development Acts 2000 - 2006	CROSS
KILDARE	Planning and Development Regulations 2001 - 2007	Planning and Development Regulations 2001 - 2007	CROSS
KILDARE	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
KILDARE	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
KILDARE	EPA (Licensing) Regulations, 1994 & 2004	EPA (Licensing) Regulations, 1994 & 2004	IPPC
KILDARE	Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001	Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 - 2001	Manure
KILDARE	Forestry Act 1946 and 1988	Forestry Act 1946 and 1988	Manure
KILDARE	Local Government (Water Pollution) Act 1 of 1977 and amendments	Local Government (Water Pollution) Act 1 of 1977 and amendments	S4
KILDARE	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
KILDARE	Water Services Act 2007	Water Services Act 2007	WWTP
MEATH	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	Quality of Surface Water intended for the Abstraction of Drinking Water (S.I. 294 of 1989)	ABS

# Proposed Programme of Measures

## – Basic Measures for Rivers (cont.)

Local Authority	Parent ID Name	MeasureName	Source
MEATH	National Water Pricing Policy Framework (1998)	National Water Pricing Policy Framework (1998)	ABS
MEATH	Water Supplies Act 1942	Water Supplies Act 1942	ABS
MEATH	EC (Good Agricultural Practice for Protection of Waters) Regulations (S.I. 378 of 2006 and S.I. 526 of 2007)	EC (Good Agricultural Practice for Protection of Waters) Regulations (S.I. 378 of 2006 and S.I. 526 of 2007)	AGR
MEATH	Planning Development Acts 2000 - 2006	Planning Development Acts 2000 - 2006	CROSS
MEATH	Planning and Development Regulations 2001 - 2007	Planning and Development Regulations 2001 - 2007	CROSS
MEATH	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	EC (Authorisation, Placing on the Market, Use and Control of Plant Protection Products), 2003 and amendments	DS
MEATH	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	EC (Classification Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations, 2001	DS
MEATH	EPA (Licensing) Regulations, 1994 & 2004	EPA (Licensing) Regulations, 1994 & 2004	IPPC
MEATH	Forestry Act 1946 and 1988	Forestry Act 1946 and 1988	Manure
MEATH	Local Government (Water Pollution) Act 1 of 1977 and amendments	Local Government (Water Pollution) Act 1 of 1977 and amendments	S4
MEATH	Urban Waste Water Treatment Regulations, 2001 - 2004	Urban Waste Water Treatment Regulations, 2001 - 2004	WWTP
MEATH	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	Waste Water Discharge (Authorisation) Regulations (S.I. 684 of 2007)	WWTP
MEATH	Water Services Act 2007	Water Services Act 2007	WWTP

# Proposed Programme of Measures – Supplementary Measures for Rivers

Local Authority	Measure Name	Measure Type	Source
KILDARE	Investigate Fats, Oils and Grease Issues	Guidance	WWTP
KILDARE	Emphasise linkage between Planning, Water Services, and Environmental Sections within Local Authorities for Planning Purposes	Proposed	CROSS
KILDARE	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	Proposed	ABS
KILDARE	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	Proposed	ABS
KILDARE	OPW - Environmental Drainage Maintenance Guidance Notes	Proposed	MORP
KILDARE	Diffuse Runoff (Urban) - Storm Sewers Separation (Screening & Treatment)	Supplementary	U-DIFF
KILDARE	CSO - Upgrades and Rehabilitation	Supplementary	WWTP
KILDARE	Implement Community Digestors for Alternative Energy	Supplementary	WWTP
KILDARE	Enforce Regulations on Septic Systems	Supplementary	Septic
KILDARE	Restrict Cattle Access to rivers - Create Cattle Drinking points	Supplementary	AGR-PS
KILDARE	Public awareness	Supplementary	Septic
KILDARE	Diffuse Runoff (Urban) - Implement SUDS	Supplementary	U-DIFF
KILDARE	Diffuse Runoff (Urban) - Gullies Management	Supplementary	U-DIFF
KILDARE	Diffuse Runoff (Urban) - Street Cleaning Programme	Supplementary	U-DIFF
KILDARE	Further Investigate cause of failure	Supplementary	DATA+
KILDARE	Further Investigate cause of failure	Supplementary	DATA+
MEATH	Emphasise linkage between Planning, Water Services, and Environmental Sections within Local Authorities for Planning Purposes	Proposed	CROSS
MEATH	Department of Agriculture - Code of Good Practice and Guidelines on the use of biosolids in Agriculture, 1999	Proposed	Manure
MEATH	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	Proposed	ABS
MEATH	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	Proposed	ABS
MEATH	Development Plans/Local Area Plans - Plans should integrate OSWTS Risk matrices	Proposed	Septic
MEATH	LAs to adopt a common Register of approved Site Assessors and common Code of Practice for maintaining register	Proposed	Septic
MEATH	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Proposed	Septic
MEATH	Enforce Regulations on Septic Systems	Supplementary	Septic
MEATH	Implement Community Digestors for Alternative Energy	Supplementary	WWTP
MEATH	Restrict Cattle Access to rivers - Create Cattle Drinking points	Supplementary	AGR-PS

# Appendix 2:

## Alternative Programme of Measures



# Alternative Programme of Measures

## – Basic Measures for Rivers

Local Authority	Measure Name	Sub-Measure Name	Source
MEATH	EC (Good Agricultural Practice for Protection of Waters) Regulations (S.I. 378 of 2006 and S.I. 526 of 2007)	Conduct Farm Surveys	AGR
MEATH	EC (Good Agricultural Practice for Protection of Waters) Regulations (S.I. 378 of 2006 and S.I. 526 of 2007)	Improve farmyard structure/operations to divert rainwater runoff	AGR-PS
MEATH	EC (Good Agricultural Practice for Protection of Waters) Regulations (S.I. 378 of 2006 and S.I. 526 of 2007)	Soiled water generation minimisation practises	AGR-PS
MEATH	EC (Good Agricultural Practice for Protection of Waters) Regulations (S.I. 378 of 2006 and S.I. 526 of 2007)	Fertiliser/manure/soiled water/effluent/slurry/silage storage facilities to prevent seepage to ground or surface water	AGR-PS
MEATH	EC (Good Agricultural Practice for Protection of Waters) Regulations (S.I. 378 of 2006 and S.I. 526 of 2007)	Nutrient management	Manure
MEATH	Local Government (Water Pollution) Act 1 of 1977 and amendments	Enforce Section 4s (discharges to waterbodies)	S4
MEATH	Urban Waste Water Treatment Regulations, 2001 - 2004	Collecting systems for p.e.'s >2,000 (unless negligible benefits or excessive costs)	WWTP

# Alternative Programme of Measures – Supplementary Measures for Rivers

Local Authority	Measure Name	Measure Type	Source
KILDARE	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	Proposed	ABS
KILDARE	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	Proposed	ABS
KILDARE	Restrict Cattle Access to rivers - Create Cattle Drinking points	Supplementary	AGR-PS
KILDARE	Emphasise linkage between Planning, Water Services, and Environmental Sections within Local Authorities for Planning Purposes	Supplementary	CROSS
KILDARE	Further Investigate cause of failure	Supplementary	DATA+
KILDARE	Further Investigate cause of failure	Supplementary	DATA+
KILDARE	OPW - Environmental Drainage Maintenance Guidance Notes	Guidance	MORP
KILDARE	Public awareness	Proposed	Septic
KILDARE	Enforce Regulations on Septic Systems	Supplementary	Septic
KILDARE	Investigate Fats, Oils and Grease Issues	Supplementary	WWTP
MEATH	Modernise Abstraction Legislation, including a system for licensing surface water abstractions	Proposed	ABS
MEATH	Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater	Proposed	ABS
MEATH	Restrict Cattle Access to rivers - Create Cattle Drinking points	Supplementary	AGR-PS

# Alternative Programme of Measures

## – Supplementary Measures for Rivers (cont.)

Local Authority	Measure Name	Measure Type	Source
MEATH	Emphasise linkage between Planning, Water Services, and Environmental Sections within Local Authorities for Planning Purposes	Supplementary	CROSS
MEATH	Department of Agriculture - Code of Good Practice and Guidelines on the use of biosolids in Agriculture, 1999	Guidance	Manure
MEATH	Development Plans/Local Area Plans - Plans should integrate OSWTS Risk matrices	Proposed	Septic
MEATH	LAs to adopt a common Register of approved Site Assessors and common Code of Practice for maintaining register	Proposed	Septic
MEATH	LAs to utilise risk maps of OSWTS to inform decision making and target areas for inspections	Proposed	Septic
MEATH	Enforce Regulations on Septic Systems	Supplementary	Septic
MEATH	Implement Community Digestors for Alternative Energy	Supplementary	WWTP