

## **Comhairle Chontae na Mí Meath County Council**



## **Phosphorus Regulations Implementation Report 2006**

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**Prepared in accordance with**

**S.I. No. 258 of 1998**

**Local Government ( Water Pollution ) Act, 1977 ( Water Quality  
Standards for Phosphorus ) Regulations, 1998**

**November 2006**

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## Preface

### **S.I. 258 of 1998, Local Government (Water Pollution) Act, 1977 (Water Quality Standards for Phosphorus) Regulations, 1998.**

The regulations set interim water quality standards to be achieved by 2007. In the case of river sites the baseline sites are those sites which were assigned a Q Value in the period 1995-1997.

| <b>If</b>  | <b>Then</b>  |  |
|--|--|--|
| <b>The existing Q Value falls into the category below:</b> | <b>Either<br/>The minimum Q Value to be achieved is:</b> | <b>Or<br/>The median Molybdate Reactive Phosphorus concentration( ugP/L ) to be achieved is:</b> |
| <b>5</b>   | <b>5</b>   | <b>15</b>  |
| <b>4-5</b>   | <b>4-5</b>   | <b>20</b>  |
| <b>4</b>   | <b>4</b>   | <b>30</b>  |
| <b>3-4</b>   | <b>4</b>   | <b>30</b>  |
| <b>3</b>   | <b>3-4</b>   | <b>50</b>  |
| <b>2-3</b>   | <b>3</b>   | <b>70</b>  |
| <b>Less than or equal to 2</b>                             | <b>3</b>   | <b>70</b>  |

Q Value is the Biological Quality Rating as assessed by EPA staff during National Rivers Monitoring Programmes.

Molybdate Reactive Phosphate ( MRP ) median concentration to be determined from a minimum of 10 samples taken at intervals of 4 weeks or longer in any 12 month consecutive period.

The standards can be met by achieving the Q Value or MRP target.

The percentage of sites in Meath meeting the biological targets is also presented as this figure will be lower than the percentage of sites meeting either target.

### **Data used to assess compliance**

EPA Biological Surveys of River Quality are carried out on 3 yearly cycles. The majority of river sites in Meath belong to the Boyne catchment area and as biological surveys for this catchment were conducted in summer 2006, the provisional 2006 results have been used for this report in the interests of presenting the most up to date appraisal of water quality and compliance in the county. The release of this data by EPA is gratefully acknowledged.

Median MRP quoted in this report is the annual median MRP based on 12 consecutive monthly results for the year July 2005 to June 2006 inclusive. As MRP concentrations can follow highly seasonal patterns influenced by plant uptake and river flow rate it is important that the annual median is based on evenly distributed sampling events to avoid a biased median.

MRP was analysed by Flow Injection Analysis on a Lachat QC8000. Method Detection Limit <1 ug P/L and Practical Quantitation Limit 4 ug P/L, as derived according to Standard Methods, 20<sup>th</sup> edition.

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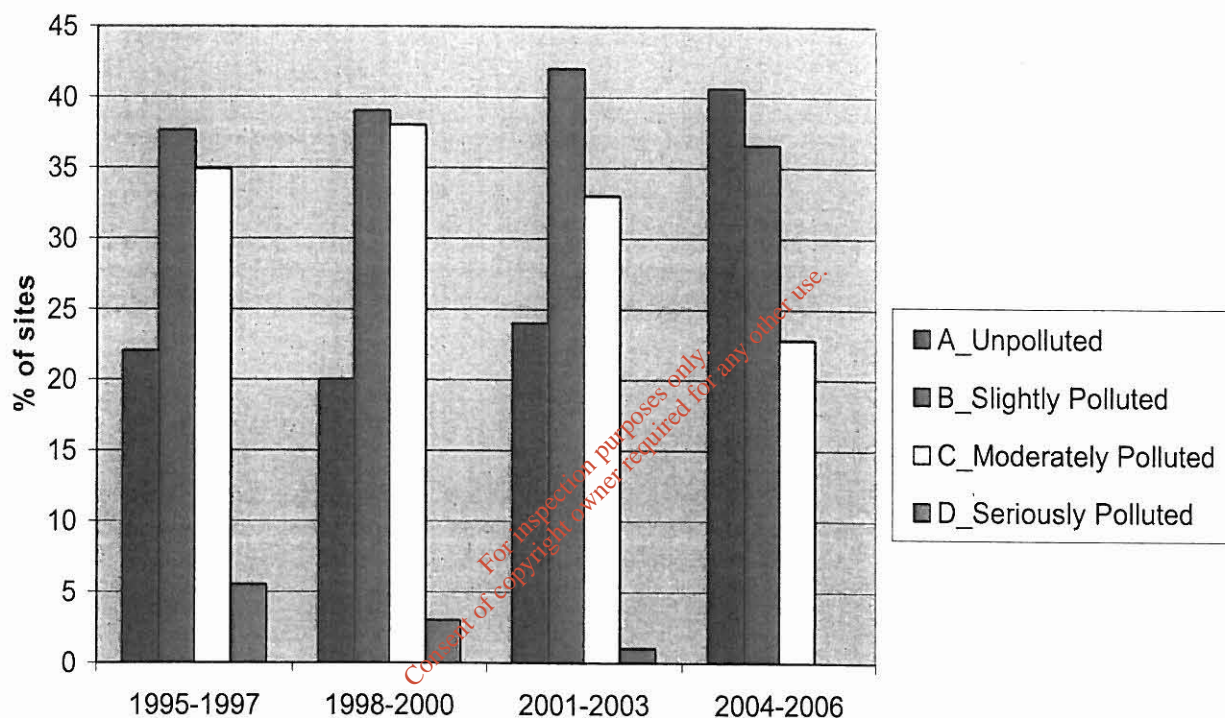


## Section 1: Water Quality in the Functional Area

### 1.1 Biological Survey of River Quality

110 river sites in Meath were assigned a Q Value in the 1995-1997 period and these are the baseline sites for which the Phosphorus Regulations set water quality targets.

The graph below shows the percentage of river sites in Meath in each quality class for the 3 year periods from 1995-1997 to 2004-2006.



**Figure 1.1: Water Quality Status in Meath - 1995 to 2006, source EPA Biological Surveys**

There has been a substantial improvement in water quality in County Meath since the baseline survey was carried out in 1995-1997. The percentage of stations classed unpolluted has increased from 22% in 1997 to a current figure of 40.6%.

Slight and Moderate Pollution has reduced ( 72.5% in 1997, 59.4% now ), while Serious Pollution is now eliminated among the baseline sites ( 5.5% in 1997, 0% now ).

While the number of seriously polluted sites has been falling steadily since 1997, the increase in unpolluted sites is most marked in the recent period. The percentage of stations classed unpolluted has increased from 24% in 2003 to 40.6% in 2006.

The improvements can, in some cases, be attributed to substantial infrastructural developments such as Navan, Johnstownbridge and Edenderry WWTPs.

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The Local Authority has also worked hard on farm surveys, discharge licensing, water quality investigations and in using the powers of the Water Pollution Acts to remove pollution sources.

While the recent improvements are very welcome, it is worth noting that nationally, the EPA have classed 70.2% of channel length as unpolluted, ( EPA, Environment in Focus 2006 ).

Clearly, further improvements in water quality in Meath are required, to approach the national average and beyond that to achieve “Good Status” in all waters by 2015, as required by the Water Framework Directive.

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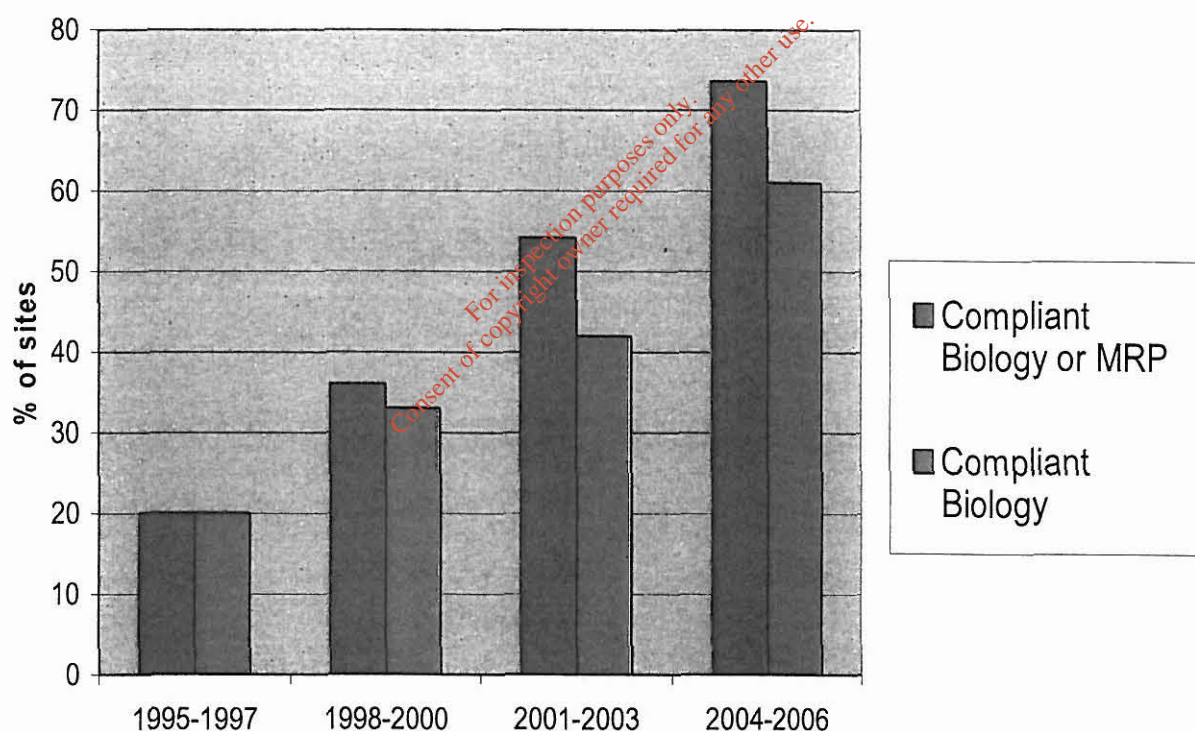
## 1.2 Compliance with 2007 water quality standards

S.I. 258 of 1998, the Phosphorus Regulations, sets interim standards to be achieved by 2007.

Sites with Q4, Q4-5 and Q5 ( Unpolluted ) must maintain their Q Value, while sites with poorer water quality must achieve an incremental improvement. Thus a site which was Q3 in the baseline must achieve Q3-4 or better ( or the MRP target ) to comply with the standards. This site then complies with the regulations due to the improvement although water quality may be Q3-4 which is slightly polluted.

Many sites in Meath have improved sufficiently in water quality since the baseline to comply with the regulation's interim targets, although some of these sites will require further improvement to achieve Q4 unpolluted status.

Graphed below is the trend in Percentage Compliance for river sites in Meath since the baseline years 1995-1997.



**Figure 1.2: Compliance with 2007 Quality Standards in Meath**

Comparing the 2001-2003 period to the 2004-2006 period, overall compliance ( Biology or MRP ) has improved from 54.1% to 73.6%, while compliance with biological targets has improved from 41.9% to 61%, a significant improvement.



## Section 2: Implementation of Measures

**Table 2.1.**

Table 2.1 describes the Implementation Programme which is in place for the County as a whole. The programme builds on measures contained in the 2004 Implementation Report and reflects a determination to improve and protect water quality through systematic and prioritised effort.

The principal measures employed are:

Discharge Licensing  
Municipal Wastewater Treatment Plants  
Farm Surveys  
Active Enforcement of Water Pollution Acts  
Integration of Planning and Water Quality Functions  
Groundwater Protection Scheme  
Participation in River Basin District Management Projects  
Liaison with partners in catchment management  
River Monitoring  
MWWTP monitoring  
Laboratory procedures  
Geographic Information Systems  
General Public Education Campaigns

This programme is being actively pursued by Meath CC and details are given of progress to date for each measure.

**Table 2.2**

Table 2.2 describes the Implementation Programme for each river catchment. The table details progress to date for each identified measure and sets out work to be undertaken in the forthcoming implementation period.

The measures and issues identified here result from a detailed, systematic review of catchment pressures, impacts, experience to date and state of compliance. GIS has proved a valuable tool in drawing together information on compliance, monitoring, phosphorus sources, pressures, land use, and enforcement and in framing this information in a meaningful geographic context.

In line with an environmental management systems approach, the measures identified here for forthcoming implementation result from a review of progress to date, the relative success of measures to date and outstanding compliance issues.

### Section 3: Progress to date

#### 3.1 Planning Control and Enforcement Measures

##### Discharge Licensing

Progress during reporting period

- 1 All facilities are visited quarterly for trade effluent sampling.
- 2 Results of Council sampling and results submitted by Licensee are reviewed for compliance with terms of licence.
- 3 Follow-up by letter and site visit where licence conditions breached, Letters issued to 25 Licensees since 2004. 3 Section 4 Licensees prosecuted for non-compliance.
- 4 Programme to audit licences in operation, 16 out of 57 Licences have been audited so far, most in the last year.
- 5 Database of Discharge Licence Enforcement established which summarises status, compliance and enforcement measures to date.
- 6 21 new Discharge Licences issued in 2004 / 2005.
- 7 5 Licences currently in review process.
- 8 12 Licences revoked where discharge had ceased.

Problems Encountered

- 1 Enforcement required in some cases to ensure Licensee submits results.
- 2 Exceedances of Emission Limit Values due to inadequate or poorly maintained treatment / abatement facilities
- 3 Adequate Hydrometric data for receiving waters not always available for assimilative capacity calculations.

Future Plans

- 1 The monitoring programme is well established and continued enforcement will ensure that issues of non-compliance are progressively reduced
- 2 The programme to audit all licences is well underway and this will be continued progressively over the next 2 years. Recommendations on Minimum Criteria for Environmental Inspections to inform the methodology.
- 3 New Licences will continue to be issued as appropriate
- 4 Licence review process will continue, prioritising Licences by the potential for improvement.

##### Municipal Wastewater Treatment Plants

Progress during reporting period

- 1 Water Services Investment Programmes advanced by Infrastructure Section. New Plants built in Longwood, Ballivor, Dunshaughlin. Upgraded networks in Dunshaughlin, East Meath, Navan, Enfield, Ashbourne.



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- 2 Assessment of Needs 2006 prepared by Infrastructure Section and submitted to DEHLG. 31 Schemes identified, 17 relate to new or upgraded WWTPs or sewer networks.
- 3 Dedicated Operation and Maintenance Team has responsibility for maintenance and servicing of new and upgraded plants. This helps the new plants achieve the expected performance as service issues are addressed promptly. The host of WWTPs upgraded since 1999 have consistently achieved good P removal efficiency.
- 4 Of the 30 water quality sites which improved in Q value between 2001-2003 and 2004-2006, at least 9 of these cases are probably associated with upgrades in upstream WWTPs.

### Problems Encountered

- 1 Unfortunately only 6 of the 26 Schemes identified in the 2003 AoNs were included in subsequent WSIPs and hence many of the schemes in AoNs 2006 are required in the short to medium term to cope with ageing infrastructure and large population increases.
- 2 Delays encountered in delivering Meath Grouped Towns and Villages DBO Sewerage Scheme. Approval granted in 2006 to proceed to tender stage. Contractors to be appointed and construction to start in early 2007. Many of these schemes are of critical importance to improving poor water quality in rivers which currently fail the standards of the Phosphorus Regulations.
- 3 Inadequacies in sewer networks can have significant impact on water quality. Poor networks suffering high infiltration will contribute to hydraulic overloading at WWTPs and sewer overflows. If a WWTP is upgraded and performs well, the full value of environmental benefits that should flow from this investment will not be realised if the associated network and pumping stations are not also upgraded.

### Future Plans

- 1 The Assessment of Needs 2006 sets out priorities for investment in wastewater treatment infrastructure between now and 2010. 17 Sewerage Schemes costing at €135.5M are identified.  
It is hoped that future WSIPs will advance these schemes and will drive significant further improvements in water quality.

## Farm Surveys

### Progress during reporting period

- 1 2004 Implementation Report identified non-compliant sites in 14 catchments where agriculture was a main pressure. Significant Farm Survey work has been carried out in 8 of these catchments to date, with 193 surveys by August 2006. Co-operation from farmers is generally very good.
- 2 Standardised Farm Survey record sheet is completed and includes a detailed sketch of the farmyard and buildings layout.
- 3 Land Holding, Pollution Risk and Recommended Action have been recorded in GIS for all farms surveyed to date. This is a summary of the Farm Survey data but is straightforward in terms of data entry and contains the basics.
- 4 Where necessary, farms are re-inspected and Water Pollution Acts used to rectify the problems identified. 44 re-inspections, 30 S12 notices served to date.

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- 5 Print-outs of GIS aerial photography have proved helpful in correctly identifying land holdings with the farmer where 6 inch maps are out-dated.
- 6 Calling card used to make contact with farmer where necessary.
- 7 Where a farmer is in REPS farmyard management is generally very good and pollution risk is low.
- 8 Availability of grants under the Farm Waste Management Scheme has increased applications for farm improvement works.
- 9 The Athboy catchment is one area which was prioritised for farm surveys in the 2004 Implementation Report. The extensive survey work in the upper half of the catchment appears to have contributed to improved water quality where 3 river sites have improved in Q value in the 2004-2006 period.

### Problems Encountered

- 1 Slow process. If farmer is absent from farm at time of visit a second visit will be required, calling card used. More likely where farmer is part-time.
- 2 Co-operation generally very good.

### Future Plans

- 1 Farm Surveys identified as key measure in forthcoming Implementation period in 14 river catchments.
- 2 The introduction of S.I. 788 of 2005, The European Communities ( Good Agricultural Practice for Protection of Waters ) Regulations 2005 will further strengthen water quality protection measures.

## Active Enforcement of Water Pollution Acts

### Progress during reporting period

- 1 2 staff assigned full time to pollution complaints investigation.
- 2 All pollution complaints are logged in Call Management System database and assigned to person responsible. Inspection reports and recommendations logged on system also.
- 3 179 investigations carried out from July 2004 to July 2006.
- 4 76 Warning Letters, 87 Section 12 notices and 3 prosecutions since July 2004.
- 5 See Appendix A4 for breakdown by pollution type.

### Problems Encountered

- 1 Significant demand on resources, level of pollution risk can vary but all complaints must be investigated.

### Future Plans

- 1 Meath CC will continue to investigate all pollution complaints and use the WPA where necessary.



## **Integration of Planning and Water Quality Functions**

### **Progress during reporting period**

- 1 Applications which could impact on water quality are referred to Environment Section and review in light of Phosphorus Regulations and assimilative capacity.
- 2 Water Quality monitoring data was made available for the process of Drafting a new County Development Plan.
- 3 Site suitability assessments are required for single dwelling applications.
- 4 Environment Section now assessing agriculture related applications to ensure proposed developments comply with the European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2006.

### **Problems Encountered**

- 1 Staff resources in dealing with large volume of planning applications which require attention.

### **Future Plans**

- 1 Continuing implementation of the Water Framework Directive through drafting and adoption of River Basin Management Plans will increase the profile of water quality issues as the plans will have a statutory recognition similar to development plans.

## **Groundwater Protection Scheme**

### **Progress during reporting period**

- 1 The Geological Survey of Ireland has completed a Groundwater Protection Scheme for County Meath. The scheme comprises Land Surface Zoning based on groundwater vulnerability and potential, and a Groundwater Protection Response matrix for potentially polluting activities. The scheme allows Meath CC to account for these factors in planning, licensing and water protection. Groundwater can contribute a significant proportion to river base flow in summer low flow conditions.

## **3.2 Consultative and Co-operative Measures**

### **River Basin District Management Projects**

#### **Progress during reporting period**

- 1 Relevant environmental datasets and results shared with RBD project consultants for Eastern, Neagh-Bann and Shannon RBDs. Data used in Article 5 Characterisation Report, Risk Assessments and will contribute to draft River Basin Management Plans.
- 2 River Basin District Advisory Council established which includes 2 elected representatives from Meath County Council. Will play an important role in public consultation on water management issues and forthcoming River Basin Management Plans.
- 3 Participation in ERBD / SRBD working groups on Web-GIS, monitoring and LIMS.

- 4 Meath CC monitoring data used to validate mass balance water quality models for Athboy, upper Boyne, Blackwater (Kells), Blackwater (Longwood), Deel and Ryewater catchments. Modelling to be used in design and testing of WFD Programme of Measures.

#### Future Plans

- 1 Implementation of the Water Framework Directive and the strong public consultation elements within it will promote public engagement on water management issues.

### **Liaison with partners in catchment management**

#### Progress during reporting period

- 1 Meath CC will continue to liaise with partners in catchment management. This includes working with Fisheries Boards, EPA and Teagasc to address issues impacting on water quality.
- 2 Co-operation with neighbouring Local Authorities such as the co-ordination of river surveys with Fingal County Council and co-operation with Kildare County Council on monitoring measures.

#### Future Plans

- 1 Further coordination with neighbouring local authorities is envisaged in catchments with non-compliant sites where the relevant pressures on water quality cross county boundaries, such as those identified in Table 2.2, e.g Cavan, Westmeath, Kildare and Louth County Councils.

### **3.3 Monitoring Measures**

#### **River monitoring**

#### Progress during reporting period

- 1 Monthly physico-chemical sampling programme extended to all 198 river sampling sites in the National Rivers Monitoring Programme. In-situ measurements and nutrient analysis by flow injection analyser.
- 2 Programme will be reviewed and integrated with WFD monitoring requirements.
- 3 Water quality results stored in access database.
- 4 Hydrometric data collected at staff gauges in tandem with sampling programme.
- 5 Updated monitoring results have been reviewed. MRP Seasonal Averages graphed by channel length as a screening tool for impact of point source phosphorus on all rivers in the county.
- 6 28 investigative surveys in 10 catchments carried out since 2004. Surveys involve river walk and nutrients spot sampling at locations identified in 2004 Implementation Report.
- 7 2 staff trained in Small Stream Risk Score surveys. 49 full Surveys carried out at locations identified by RBD projects.

#### Problems Encountered



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- 1 Investigative surveys in some catchments have been inconclusive, where high MRP concentrations extend to uppermost reaches. Further survey work will be required to resolve these P sources. In some of these cases the catchments have a high water table, poorly drained soils and the P source may be diffuse pollution.
- 2 SSRS surveys not feasible at some locations subject to channelisation and dredging.

### Future Plans

- 1 Monitoring programmes will adapt to incorporate requirements of Water Framework Directive.
- 2 SSRS may be used in future investigations where appropriate, with results reviewed to assess circumstances suitable for SSRS survey.
- 3 Reporting of water quality monitoring data in the future will be facilitated by software in development by EPA and LGCSB. Move to Labinfo in 2007 to facilitate on-line upload to central data repository.

## MWWTP monitoring

### Progress during reporting period

- 1 26 WWTPs sampled at influent, effluent and receiving waters. Programme extends to plants below 500 pe. Mostly grab sampling.
- 2 Parameters measured align with requirements of Urban Wastewater Treatment Regulations: BOD, COD, SS, Total P, Total N.
- 3 See Appendix A2 for summary of discharge monitoring results for year to June 2006.
- 4 Internal communications procedure established whereby Area Engineer is notified by environmental technician if Emission Limit Values at a WWTP are exceeded so that corrective action can be taken.
- 5 Overflow from Kells WWTP will be monitored as per EPA Audit recommendation of Oct 2006 so BOD and P loading from storm water events can be established.

## Monitoring Laboratory Procedures

### Progress during reporting period

- 1 Rivers Lab participates in Aquacheck and EPA Proficiency Testing Schemes. Method Validations performed and QC procedures employed including use of traceable standards and Certified Reference Materials.
- 2 Effluent Lab participates in EPA Intercalibration Scheme and has increased QC procedures.

### Future Plans

- 1 Laboratory Information Management Systems to be used to facilitate streamlined reporting of results to EPA, via on-line upload.
- 2 Future reporting may require details which describe the quality of the data reported by each method, such as Limit of Detection, Limit of Quantitation, Accuracy, Precision and Uncertainty.



## **Geographic Information Systems**

### **Progress during reporting period**

- 1 Liaison with Spatial Services Section to access Mapinfo datasets of relevance to Environment Section. GIS used to present and interrogate data.
- 2 GIS layers used by Environment Section include Aerial Photography, OS series, Groundwater Protection Schemes.
- 3 Meath CC data such as Farm Surveys, River monitoring, WWTP monitoring and Discharge Licence monitoring converted to Mapinfo files for integration with other geo-data.

### **Future Plans**

- 1 New datasets generated by WFD implementation projects such as sub-basin delineations from Digital Terrain Model, 1<sup>st</sup> and 2<sup>nd</sup> order streams and P Loss Risk to be used in future survey work.
- 2 Web-GIS resources to be used for queries at RBD scale.
- 3 Consideration to be given to use of GPS units in logging locations of pollution complaints investigations. This would allow the reports already archived in Call Management System to be map-linked, bringing this valuable information into the GIS domain.

## **3.4 Public education and Advisory Measures**

### **General Public Education Campaigns**

#### **Progress during reporting period**

- 1 The Council website has been re-designed and is to go live before end of 2006. The new site will include material on water quality, legislation, pollution sources, discharge licensing, agriculture, septic tanks and Water Framework Directive.
- 2 Websites have been maintained by each of the River Basin District Management Projects which give information on work undertaken for the WFD. Results of Risk Assessments are available through on-line reporting tools.

## Conclusions

Water Quality in Co. Meath has improved substantially since 1995-1997, the baseline period for the Phosphorus Regulations, with a marked improvement in the most recent period.

24% of river stations were classed unpolluted in the 2001-2003 period, this has risen to 40.6% unpolluted in 2004-2006.

Compliance with the water quality targets of the regulations now stands at 73.6% ( Biology or MRP ), up from 54.1% in 2004. Compliance with the Biological targets now stands at 61%, up from 41.9% in 2004. This represents improved water quality at a significant number of stations.

Meath County Council has implemented the programme of measures set out in the 2004 Phosphorus Regulations Implementation Report through systematic and prioritised measures aimed at improving and protecting water quality.

Measures such as Farm Surveys and Investigative Surveys have been focused on non-compliant catchments identified in the 2004 report. The Water Pollution Acts have been used in response to pollution complaints and in rectifying problems identified through survey work.

GIS information has been used in a strategic manner to locate and characterise potential pollution sources.

The Discharge Licensing programme has progressed with significant activity in monitoring, enforcement, auditing, review and granting of licences.

River and WWTP monitoring programmes have been updated and provide detailed feedback and guidance in tackling outstanding water quality problems.

Investment in upgraded Wastewater Treatment facilities has delivered improved water quality in several catchments. The Assessment of Needs 2006 identifies 17 Sewerage Schemes needed to address ageing infrastructure and / or large population increases. It is hoped forthcoming WSIPs will advance these schemes and drive significant further improvement in water quality.

The Water Framework Directive will bring further benefits through the process of adopting and implementing River Basin Management Plans and by involving wide public participation.

While the recent improvements in water quality are very welcome, Meath County Council recognises that much remains to be done. The measures set out in this Implementation Report derive from a detailed, systematic review, per catchment - of pressures, impacts, experience to date and state of compliance.

It is hoped the implementation of this programme will advance ongoing efforts to protect water quality and will bring further improvements in the period ahead.



# Appendix A1

## Discharge Licences

| Licence No | S4_S16 | Company_Name                         | Address  | Effluent_Type     |
|------------|--------|--------------------------------------|--|-------------------|
| 03/4       | S4     | A Truss Limited                      | Rathcairn Industrial Estate, Rathcairn, Co Meath     | Domestic effluent |
| 00/4       | S4     | Balbradagh Developments              | Robinstown Co Meath                                  | Domestic effluent |
| 94/2       | S4     | Boyne Valley Visitors Centre         | Staleen, Donore, Co. Meath                           | Domestic effluent |
| 02/2       | S4     | Carmel Clarke                        | Top Filling Station Drumbaragh Kells Co Meath        | Petrol station    |
| 03/1       | S4     | Carnaross Sand & Gravel Limited      | Pottlereagh Carnaross Kells co Meath                 | Quarry            |
| 02/8       | S4     | Carrigdun Estates Limited            | Abbeyfield Clonard                                   | Domestic effluent |
| 01/2       | S4     | Commissioners of Public Works        | EU Vet. Offices, Derrypatrick, Grange, Kiltale.      | Domestic effluent |
| 92/3       | S4     | Denis Coakley Ltd.                   | Bracetown Clonee                                     | Domestic effluent |
| 99/2       | S4     | Devey Healthcare Ltd                 | Holmpatrick Skerries Co. Dublin                      | Domestic effluent |
| 02/6       | S4     | Donal Bowens                         | Blacklion Stores Balrath Co Meath                    | Petrol station    |
| 04/4       | S4     | Dunderry Lodge                       | Dunderry, Co. Meath                                  | Domestic effluent |
| 02/10      | S4     | Dunsany Construction Limited         | Killeen Dunsany Co Meath                             | Domestic effluent |
| 05/10      | S4     | Emeraldford Ltd. M1 Hotel            | Stamullen, Co. Meath.                                | Domestic effluent |
| 04/7       | S4     | Gafan Developments                   | Summerhill, Co. Meath                                | Domestic effluent |
| 05/05      | S4     | Gardenworks Ltd                      | Gardenworks, Piercetown, Dunboyne, Co. Meath         | Domestic effluent |
| 89/2       | S4     | Gormanstown College                  | Gormanstown, Co. Meath                               | Domestic effluent |
| 03/6       | S4     | Irish Asphalt Ltd                    | Newtown, Duleek Co Meath                             | Quarry            |
| 01/4       | S4     | Irish Asphalt Ltd                    | Newtown, Duleek                                      | Quarry            |
| 04/3       | S4     | John Lynch Jnr                       | Scanlons Pub, Kilberry Cross, Kilberry, Co. Meath    | Domestic effluent |
| 04/2       | S4     | Keegan Quarries                      | Tromman Rathmolyon Co Meath                          | Quarry            |
| 04/6       | S4     | Kilbrew Nursing Home                 | Kilbrew, Co. Meath                                   | Domestic effluent |
| 05/04      | S4     | Kilbride National School             | Kilbride, Clonee, Co. Meath                          | Domestic effluent |
| 04/11      | S4     | Killegland Developments Ltd          | Ashbourne, Co. Meath                                 | Domestic effluent |
| 05/06      | S4     | Kilsaran Concrete Ltd                | Mulhussey, Co. Meath                                 | Quarry            |
| 00/3       | S4     | Kilsaran Concrete Ltd                | Tullykane Kilmessan Co Meath                         | Quarry            |
| 95/1       | S4     | Largo Foods Exports Ltd              | Kilbrew, Ashbourne, Co. Meath                        | Food Processing   |
| 91/1       | S4     | Lismullen Educational Foundation Ltd | Lismullin Conference Centre, Tara, Navan, Co. Meath. | Domestic effluent |
| 02/4       | S4     | Maguires Filling Station             | Kiltale Co Meath                                     | Petrol station    |
| 94/1       | S4     | Martin Naughton                      | Stackallen House, Slane, Co. Meath                   | Domestic effluent |
| 92/2       | S4     | Maynooth Mission to China            | Dalgan Park Navan                                    | Domestic effluent |
| 02/3       | S4     | Michael Curran                       | Kells Road Oldcastle Co Meath                        | Petrol station    |
| 02/5       | S4     | Millbrook Motors                     | Millbrook Oldcastle Co Meath                         | Petrol station    |

|       |     |                                      |  |                       |
|-------|-----|--------------------------------------|--|-----------------------|
| 91/2  | S4  | Mosney Holiday Centre                | Mosney, Co. Meath                                      | Domestic effluent     |
| 99/3  | S4  | Mountain House Quarries              | Heronstown Lobinstown Co. Meath                        | Quarry                |
| 01/3  | S4  | Natures Best                         | Carnes West, Duleek                                    | Food Processing       |
| 93/2  | S4  | NEC Semiconductors Ltd.              | Ballivor, Co. Meath                                    | Ind_semiconductors    |
| 05/09 | S4  | Newgrange Meats                      | Painstown, Slane, Co. Meath.                           | Food Processing       |
| 04/10 | S4  | Noonan Construction                  | Gormanstown, Co. Meath                                 | Domestic effluent     |
| 00/2  | S4  | Pender & Walsh                       | Moynalvy   | Domestic effluent     |
| 00/6  | S4  | Peter & Ann Waters                   | Rathdrinagh Beauparc Navan Co Meath                    | Domestic effluent     |
| 00/1  | S4  | Readymix (Dublin) Ltd                | Tromman Rathmolyon Co Meath                            | Quarry                |
| 05/08 | S4  | Readymix (ROI) Ltd.                  | Annagor, Duleek, Co. Meath                             | Quarry                |
| 04/5  | S4  | Roadstone Provinces Limited          | Carrickdexter, Slane, Co. Meath                        | Quarry                |
| 03/2  | S4  | Roadstone Provinces Limited          | Commons Duleek Co Meath                                | Quarry                |
| 04/9  | S4  | Rockview Developments                | Duleek, Co. Meath                                      | Domestic effluent     |
| 05/07 | S4  | St. Claires Nursing Home             | Stamullen, Co. Meath                                   | Domestic effluent     |
| 90/4  | S4  | Warrenstown Agr College              | Warrenstown, Drumree, Co. Meath                        | Domestic effluent     |
| 97/1  | S16 | E & G Manly                          | Unit 4, Ashbourne Ind Est                              | Domestic effluent     |
| 95/2  | S16 | Esso Irl. Ltd.                       | Stillorgan, Co. Dublin                                 | Petrol station        |
| 92/2  | S16 | International Paper Ireland          | Ashbourne, Co. Meath                                   | Ind_Printing/manufact |
| 05/2  | S16 | MBW Autos, Ashbourne Service Station | Milltown, Ashbourne, Co. Meath                         | Petrol station        |
| 92/3  | S16 | N.E.C.                               | Ballivor, Co. Meath                                    | Ind_semiconductors    |
| 04/1  | S16 | Smurfit News Press Ltd.              | IDA Industrial Estate, Virginia Road, Kells, Co. Meath | Ind_Printing/manufact |
| 02/1  | S16 | Statoil Ireland Limited              | Kingscourt Road Navan Co Meath                         | Petrol station        |
| 02/2  | S16 | Trimfold Limited                     | Athboy Road Trim Co Meath                              | Ind_Printing/manufact |
| 97/2  | S16 | Twinmeadow Ltd.                      | Enfield Ind. Est.                                      | Food Processing       |

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## Discharge Licensing Activity

Discharge Licensing  
July 2004 to Aug 2006

| Licence | Current Licences | Licences issued 2004-2006 | Licences revoked 2004-2006 | Licencees issued with Warning Letters | Licences subject to Audit Visits | Licence under review | Legal Action |
|---------|------------------|---------------------------|----------------------------|---------------------------------------|----------------------------------|----------------------|--------------|
| S4      | 47               | 17                        | 8                          | 26                                    | 14                               | 3                    | 2            |
| S16     | 10               | 4                         | 4                          | 1                                     | 2                                | 2                    | 0            |
| Total   | 57               | 21                        | 12                         | 25                                    | 16                               | 5                    | 2            |

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Sampling visit by Meath CC to all Discharge Licence locations quarterly  
21 new Discharge Licences issued from 2004 to 2006  
12 Licences revoked following review of inactive licences.  
Most Audit Visits carried out in the last year  
5 Licences currently under review.



Appendix A2  
WWTP discharge monitoring results

| Plant Name             | Sampling Period | Sample Type | BOD exceedances > 25 mg/L | COD exceedances > 125 mg/L | TSS exceedances > 35 mg/L | Total P annual average ( mg P/L ) ( sort 2 ) | Total N annual average ( mg N/L ) | Sample Total | Max Exceedances per parameter ( sort 1 ) |
|------------------------|-----------------|-------------|---------------------------|----------------------------|---------------------------|--|-----------------------------------|--------------|--|
| Duleek                 | July'05_June'06 | Grab        | 12                        | 6                          | 10                        | 3.3  | 21.5                              | 14           | 12                                       |
| Donore                 | July'05_June'06 | Grab        | 8                         | 6                          | 7                         | 4.2  | 33.7                              | 9            | 8  |
| Dunshaughlin ( 2 )     | July'05_June'06 | Grab        | 3                         | 3                          | 5                         | 2.0  | 19.2                              | 9            | 5  |
| Kilmainhamwood         | July'05_June'06 | Grab        | 5                         | 3                          | 5                         | 1.9  | 35.1                              | 8            | 5  |
| Ballivor               | July'05_June'06 | Grab        | 3                         | 0                          | 5                         | 1.5  | 17.8                              | 11           | 5  |
| Athboy                 | July'05_June'06 | Grab        | 4                         | 1                          | 3                         | 3.1  | 25.2                              | 11           | 4  |
| Summerhill             | July'05_June'06 | Grab        | 2                         | 0                          | 3                         | 2.7  | 29.4                              | 7            | 3  |
| Castletown             | July'05_June'06 | Grab        | 2                         | 2                          | 3                         | 2.0  | 20.8                              | 5            | 3  |
| Stamullen              | July'05_June'06 | Grab        | 2                         | 1                          | 2                         | 1.4  | 20.0                              | 12           | 2  |
| Oldcastle              | July'05_June'06 | Grab        | 2                         | 2                          | 2                         | 1.3  | 12.7                              | 13           | 2  |
| IDA Kells              | July'05_June'06 | Grab        | 1                         | 1                          | 1                         | 5.4  | 32.3                              | 4            | 1  |
| Dunderry               | July'05_June'06 | Grab        | 0                         | 0                          | 1                         | 3.1  | 23.8                              | 2            | 1  |
| Slane                  | July'05_June'06 | Grab        | 1                         | 0                          | 1                         | 2.5  | 15.3                              | 7            | 1  |
| Nobber                 | July'05_June'06 | Grab        | 0                         | 0                          | 1                         | 2.5  | 19.2                              | 6            | 1  |
| Crossakeel             | July'05_June'06 | Grab        | 0                         | 0                          | 1                         | 2.0  | 20.2                              | 3            | 1  |
| Kentstown              | July'05_June'06 | Grab        | 1                         | 0                          | 0                         | 1.4  | 18.8                              | 5            | 1  |
| Johnstownbridge        | July'05_June'06 | Grab        | 0                         | 0                          | 1                         | 1.3  | 13.6                              | 8            | 1  |
| Dunshaughlin ( 1 )     | July'05_June'06 | Grab        | 0                         | 0                          | 1                         | 1.2  | 15.9                              | 9            | 1  |
| Longwood ( New plant ) | July'05_June'06 | Grab        | 1                         | 0                          | 1                         | 1.1  | 12.6                              | 9            | 1  |
| Kilmessan              | July'05_June'06 | Grab        | 0                         | 0                          | 0                         | 4.1  | 16.4                              | 5            | 0  |
| Kildalkey              | July'05_June'06 | Grab        | 0                         | 0                          | 0                         | 2.5  | 18.8                              | 5            | 0  |
| Kells                  | July'05_June'06 | Grab        | 0                         | 0                          | 0                         | 2.2  | 9.5                               | 12           | 0  |
| Navan                  | July'05_June'06 | Grab        | 0                         | 0                          | 0                         | 2.0  | 18.5                              | 11           | 0  |
| Drumconrath            | July'05_June'06 | Grab        | 0                         | 0                          | 0                         | 1.7  | 24.7                              | 7            | 0  |
| Carlanstown            | July'05_June'06 | Grab        | 0                         | 0                          | 0                         | 1.0  | 32.5                              | 7            | 0  |
| Trim                   | July'05_June'06 | Grab        | 0                         | 0                          | 0                         | 0.9  | 13.4                              | 12           | 0  |

Appendix A3

Farm Surveys  
July 2004 - Aug  
2006

| Catchment            | Farms<br>Surveyed | High Risk | Medium<br>Risk | Low Risk | Re-<br>inspected | S.12<br>served | S.12<br>Pending | S.3<br>Prosecutions |
|----------------------|-------------------|-----------|----------------|----------|------------------|----------------|-----------------|---------------------|
| Athboy               | 45                | 15        | 10             | 20       | 21               | 14             | 1               | 0                   |
| Blackwater ( Kells ) | 37                | 9         | 3              | 25       | 3                | 3              | 0               | 0                   |
| Devilins             | 34                | 12        | 6              | 16       | 0                | 0              | 6               | 2                   |
| Stonyford            | 22                | 3         | 0              | 19       | 2                | 1              | 0               | 0                   |
| Dee                  | 20                | 6         | 3              | 11       | 9                | 7              | 0               | 0                   |
| Killary              | 13                | 5         | 1              | 7        | 4                | 3              | 0               | 0                   |
| Nanny                | 9                 | 1         | 3              | 5        | 4                | 1              | 0               | 0                   |
| Mattock              | 8                 | 1         | 0              | 7        | 0                | 0              | 0               | 0                   |
| Hurley               | 2                 | 2         | 0              | 0        | 0                | 0              | 0               | 0                   |
| Moynalty             | 1                 | 1         | 0              | 0        | 1                | 1              | 0               | 0                   |
| Boycetown            | 1                 | 0         | 0              | 1        | n/a              | n/a            | n/a             | 0                   |
| Knightsbrook         | 1                 | 0         | 0              | 1        | n/a              | n/a            | n/a             | 0                   |
| Total                | 193               | 55        | 26             | 112      | 44               | 30             | 7               | 2                   |

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# Appendix A4

## Pollution Complaints Investigations July 2004 to June 2006

| Pollution Type     | Investigations | Warning Letters | S 12 served | S 23 served | Prosecution |
|--------------------|----------------|-----------------|-------------|-------------|-------------|
| Farm Effluent      | 71             | 22              | 43          | 1           | 2           |
| Septic Tank        | 38             | 10              | 27          | 0           | 0           |
| Licensed Discharge | 31             | 29              | 1           | 0           | 1           |
| Oil Spill          | 24             | 7               | 14          | 1           | 0           |
| Wastewater         | 10             | 5               | 1           | 2           | 0           |
| Other              | 5              | 3               | 1           | 1           | 0           |
|                    |                |                 |             |             |             |
| Total              | 179            | 76              | 87          | 5           | 3           |

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# Appendix A5

## Investigative River Surveys July 2004 to July 2006

| Catchment    | Surveyed                 | Survey days | Investigative samples |
|--------------|--------------------------|-------------|-----------------------|
| Athboy       | April, May 2005          | 6           | 49                    |
| Inny         | July 2005                | 6           | 44                    |
| Mosney       | Sep, Oct 2005, July 2006 | 4           | 17                    |
| Broadmeadow  | Mar, April 2005          | 3           | 62                    |
| Boycetown    | April, May 2005          | 2           | 21                    |
| Fairyhouse   | Sep 2005, July 2006      | 2           | 13                    |
| Dee          | Aug 2005                 | 2           | 12                    |
| Tolka        | Oct 2005, July 2006      | 2           | 15                    |
| Knightsbrook | May 2005                 | 1           | 9                     |
| Moynalty     | Jun 2006                 | 1           | 6                     |
| Total        |                          | 29          | 248                   |

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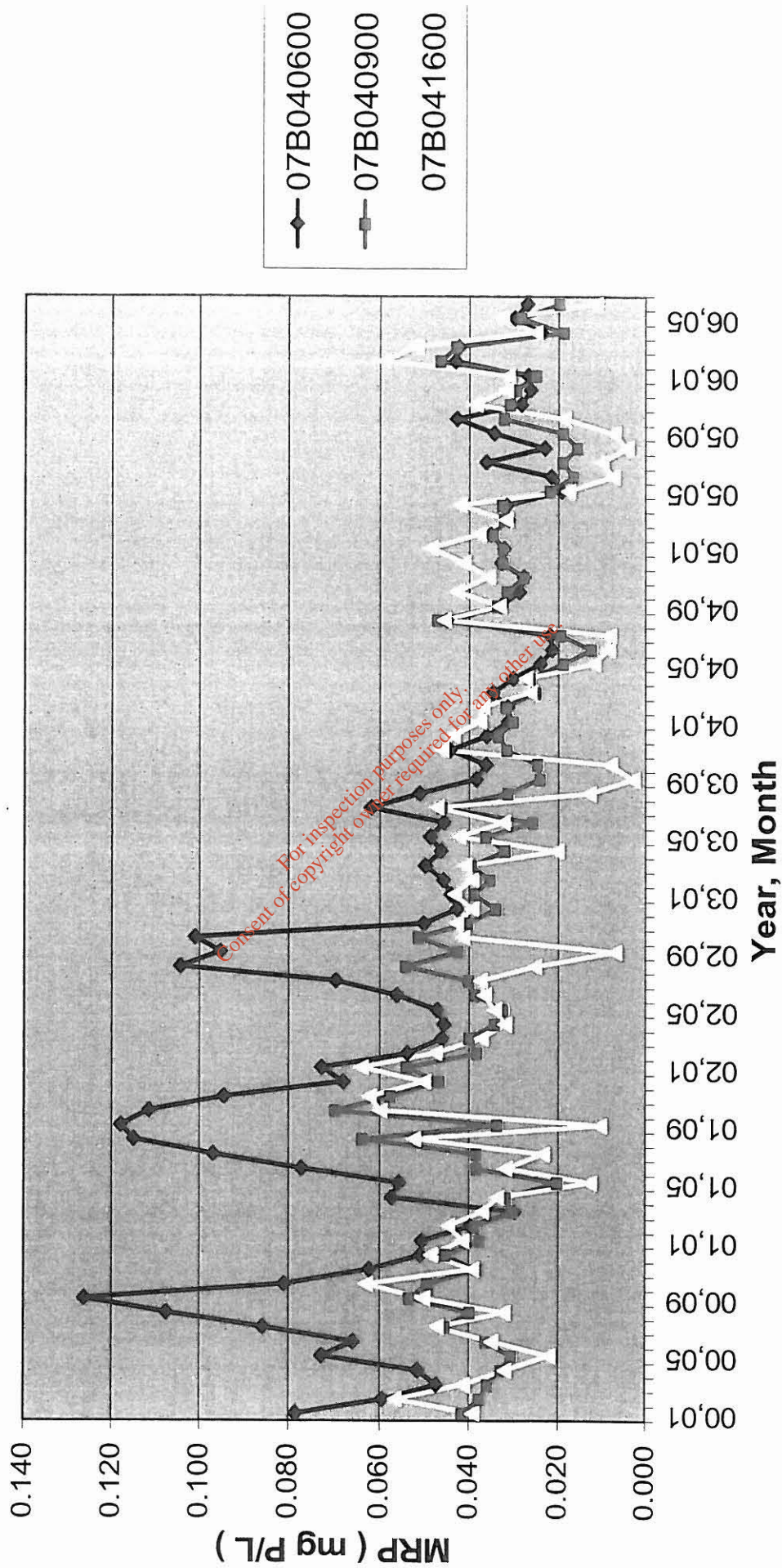
## Appendix A6

IPPC Licences in County Meath  
( source EPA )

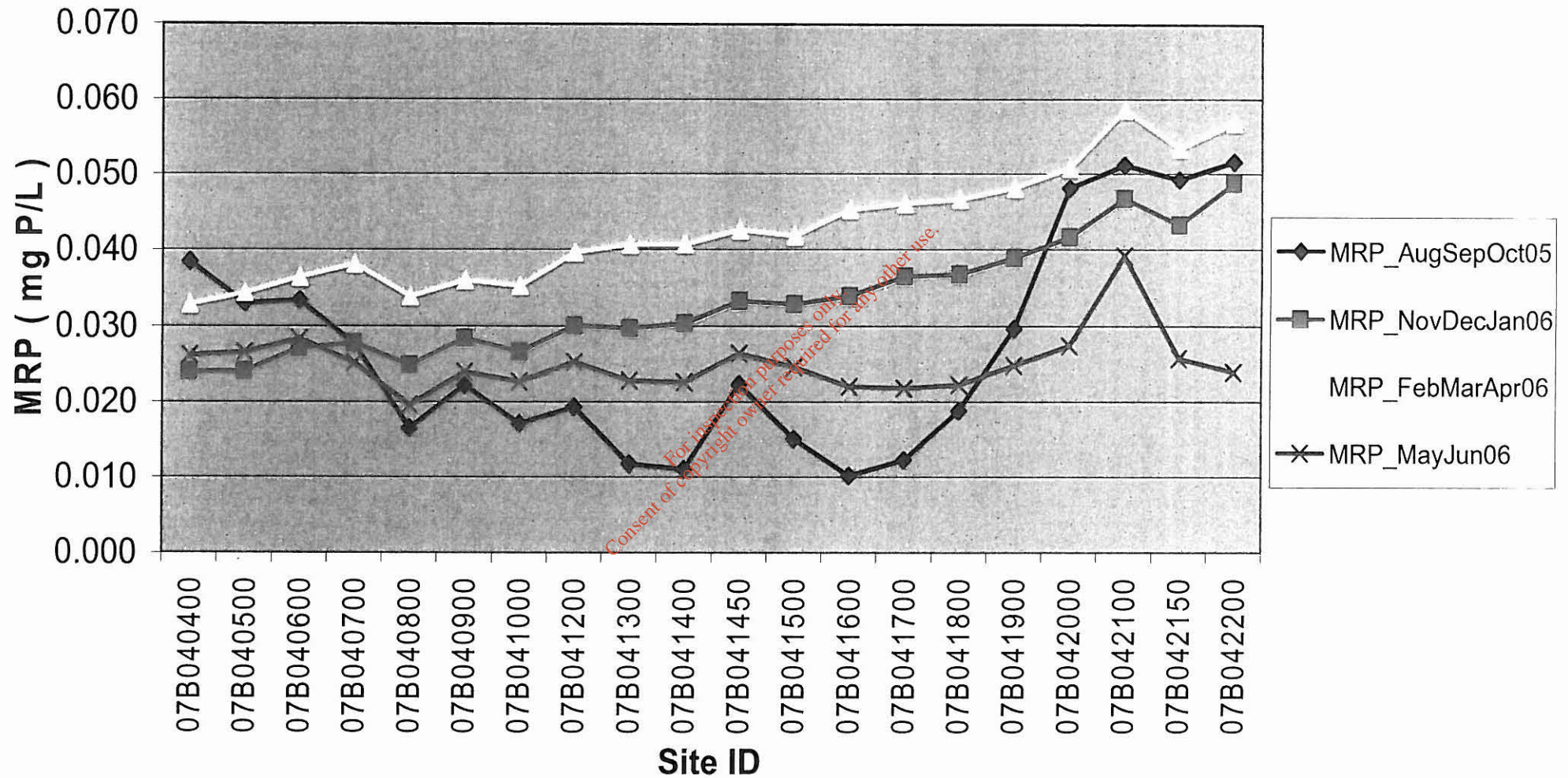
| Reg No.  | Name                                    | Address  |
|----------|---|--|
| P0037-03 | College Proteins Limited                | College Rd, Nobber, Co. Meath  |
| P0055-01 | Irish Industrial Explosives Ltd.        | Clonagh, Co. Kildare, Meath  |
| P0140-01 | Complex Tooling & Molding Limited       | Oldcastle Rd, Kells, Co. Meath   |
| P0172-01 | Cabglove Limited                        | Mullaghboy Ind Est, Navan, Co. Meath   |
| P0211-01 | Sherlock Brothers Limited               | Beechmount Ind Est, Navan, Co. Meath   |
| P0237-01 | Polyglass Limited                       | Ashbourne Ind Est, Ashbourne, Co. Meath  |
| P0281-01 | Loredo Limited                          | Unit 120, Ashbourne Ind Est, Ashbourne, Co. Meath  |
| P0354-01 | Doherty Brothers Timber Company Limited | Ashbourne Ind Est, Ashbourne, Co. Meath  |
| P0402-02 | P Carney Limited                        | Crossakiel, Kells, Co. Meath   |
| P0456-01 | Mr Jack Marry                           | Danestown, Kentsdown, Navan, Co. Meath   |
| P0475-01 | Kells Stainless Limited                 | Oldcastle Rd, Kells, Co. Meath   |
| P0487-03 | Lagan Cement Limited                    | Killaskillen, Kinnegad, Co. Meath  |
| P0490-01 | Navan Carpets Limited                   | Kells Rd, Navan, Co. Meath   |
| P0506-01 | Bord Na Mona Energy Limited             | Kilberry Group, Ballivor Works, Ballivor, Navan, Co. Meath                               |
| P0516-01 | Tara Mines Limited                      | Knockumber House, Navan, Co. Meath   |
| P0583-01 | Xtratherm Limited                       | Liscartan Ind Est, Kells Rd, Navan, Co. Meath  |
| P0588-01 | Gleneagle Woodcrafts Limited            | Railway Yard, Oldcastle, Co. Meath   |
| P0604-01 | Trimproof Limited                       | Fairgreen, Trim, Co. Meath   |
| P0612-01 | Mr John Kiernan                         | Ballynamoney Pig Unit, Ballynamona, Bailieboro, Co. Cavan, ( spreadlands in Co. Meath ). |
| P0618-02 | Mr Jack Marry                           | Broomfield Pig Unit, Broomfield, Starinagh, Collon, Co. Meath                            |
| P0683-01 | Scottish and Southern Energy plc.       | Carranstown and Caulstown, Dulleek, Co. Meath  |
| P0519-02 | Gypsum Industries                       | Lisnabow, Kilmainhamwood, Kells, Co. Meath ( and Co. Monaghan facility )                 |



## Monthly MRP at 3 Boyne sites - 2000 to 2006



## Boyne main channel MRP Seasonal Averages





## Appendix A8 - Changes in Q Value

## Work which may have contributed to improvement

| River                   | Site_Code | MRP med<br>mgP/L | Q value<br>Baseline | Q_2001-<br>2003 | Q_2004-<br>2006 | Change<br>in Q | WWTP<br>upgrade | Farm<br>Survey | WPA<br>Enforce | Details   |
|-------------------------|-----------|------------------|---------------------|-----------------|-----------------|----------------|-----------------|----------------|----------------|---|
| Athboy                  | 07A010200 | 0.027            | 3                   | 3               | 4               | 1              |                 | yes            | yes            | Farm Surveys in Athboy catchment  |
| Blackwater ( Longwood ) | 07B020200 | 0.048            | 3-4                 | 3               | 4               | 1              | yes             |                |                | Johnstown Br, new WWTP 2002   |
| Boycetown               | 07B030300 | 0.026            | 3                   | 3               | 4               | 1              |                 |                |                |   |
| Delvin                  | 08D010400 | 0.137            | 3                   | 3               | 4               | 1              | yes             |                |                | Stammullen WWTP upgrade 2002  |
| Hurley                  | 08H010400 | 0.126            | 3-4                 | 3               | 4               | 1              |                 |                |                |   |
| Dee                     | 06D010450 | 0.053            | 3-4                 | 3-4             | 4               | 0.5            |                 | yes            | yes            | Farm Surveys in Dee catchment   |
| Athboy                  | 07A010050 | 0.025            | 3-4                 | 3-4             | 4               | 0.5            |                 | yes            | yes            | Farm Surveys in Athboy catchment  |
| Athboy                  | 07A010100 | 0.031            | 4                   | 3-4             | 4               | 0.5            |                 | yes            | yes            | Farm Surveys in Athboy catchment  |
| Athboy                  | 07A010500 | 0.059            | 3                   | 3-4             | 4               | 0.5            |                 |                |                |   |
| Boycetown               | 07B030200 | 0.030            | 3                   | 3               | 3-4             | 0.5            |                 |                |                |   |
| Boyne                   | 07B040600 | 0.029            | 3-4                 | 3               | 3-4             | 0.5            | yes             |                |                | Edenderry WWTP upgrade  |
| Boyne                   | 07B040900 | 0.027            | 4                   | 3-4             | 4               | 0.5            | yes             |                |                | Edenderry WWTP upgrade  |
| Boyne                   | 07B041200 | 0.028            | 4                   | 3-4             | 4               | 0.5            | yes             |                |                | Edenderry WWTP upgrade  |
| Deel                    | 07D010600 | 0.015            | 3-4                 | 3-4             | 4               | 0.5            |                 |                |                |   |
| Devlins                 | 07D020140 | 0.111            | 2/0                 | 3-4             | 4               | 0.5            |                 | yes            | yes            | Farm Surveys, 2 S3 prosecutions farm effl.                                      |
| Kinnegad                | 07K010300 | 0.032            | 3                   | 3-4             | 4               | 0.5            |                 |                |                |   |
| Moynalty                | 07M030800 | 0.040            | 3-4                 | 3-4             | 4               | 0.5            | yes             |                | yes            | Carlanstown, new WWTP 2002. Works to remedy silage effluent contamination.      |
| Moynalty                | 07M030900 | 0.046            | 4                   | 3-4             | 4               | 0.5            | yes             |                |                | Carlanstown, new WWTP 2002.   |
| Skane                   | 07S010150 | 0.185            | 2-3                 | 2-3             | 3               | 0.5            | yes             |                |                | Dunshaughlin WWTP interim upgrade   |
| Skane                   | 07S010300 | 0.115            | 2-3                 | 2-3             | 3               | 0.5            | yes             |                |                | Dunshaughlin WWTP interim upgrade   |
| Yellow ( Blackwater )   | 07Y011100 | 0.037            | 3                   | 3               | 3-4             | 0.5            |                 |                |                |   |
| Dunshaughlin Stream     | 08D030300 | 0.141            | 1-2                 | 2-3/0           | 3               | 0.5            |                 |                |                |   |
| Fairyhouse              | 08F010500 | 0.136            | 3                   | 2-3/0           | 3               | 0.5            |                 |                | yes            | S12, proprietary sys replaced septic tank.                                      |
| Nanny                   | 08N010040 | 0.129            | 2-3                 | 2               | 2-3             | 0.5            |                 |                |                |   |
| Nanny                   | 08N010280 | 0.117            | 3                   | 3-4             | 4               | 0.5            |                 |                |                |   |
| Nanny                   | 08N010700 | 0.116            | 3-4                 | 3               | 3-4             | 0.5            |                 |                | yes            | Sewer line overflow rectified.  |
| Ratoath                 | 08R010150 | 0.177            | 2                   | 2-3             | 3               | 0.5            |                 |                |                |   |
| Ryewater                | 09R010300 | 0.058            | 3-4                 | 3-4             | 4               | 0.5            |                 |                | yes            | S12, septic tank replaced by proprietary system. 3 further S12s (septic tanks). |
| Tolka                   | 09T010300 | 0.166            | 2                   | 3               | 3-4             | 0.5            |                 |                |                |   |
| Inny                    | 26I010300 | 0.029            | 4                   | 3               | 3-4             | 0.5            |                 |                |                |   |
| Killary Water           | 06K010500 | 0.058            | 3-4                 | 4               | 3-4             | -0.5           |                 |                |                |   |
| Ryewater                | 09R010100 | 0.054            | 3-4                 | 4               | 3-4             | -0.5           |                 |                |                |   |
| Athboy                  | 07A010020 | 0.028            | 4                   | 4               | 3               | -1             |                 |                |                |   |



Table 2.1: Implementation Programme Summary Table For County

| Measure                                      | Target                             | Action  | Timeframe | Person(s) Responsible | Progress to date  | Corrective Action   | Action Completed within timeframe? |
|--|------------------------------------|---|-----------|-----------------------|---|---|------------------------------------|
| Planning Control and Enforcement Measures    |                                    |   |           |                       |   |   |                                    |
| <b>Discharge Licensing</b>                   | Enforce existing S4 / S16 Licences | All facilities visited quarterly for scheduled trade effluent sampling.                                     | Ongoing   | SES, ET               | Quarterly sampling programme fully operative  |   | Ongoing                            |
|  |                                    | Results of Council sampling and results submitted by Licensee reviewed for compliance with terms of Licence | Ongoing   | SES, ET               | Follow up by letter and site visit where licence conditions breached. Letters issued to 25 Licensees since 2004. 3 Section 4 Licensees prosecuted for non-compliance.   |   | Ongoing                            |
|  |                                    | Programme to audit Licences for detailed assessment of compliance issues.                                   | Ongoing   | SES, ET               | 16 out of 57 Licences have been audited so far, most in the last year.  |   | Ongoing                            |
|  |                                    | Establish and maintain database of Discharge Licence enforcement.   | Ongoing   | SES                   | Database updated to track licence status, compliance and enforcement measures.  |   | Ongoing                            |
|  | Issue new Licences where necessary | New Licences issued, incorporating appropriate P Emission Limit Values                                      | Ongoing   | SES                   | 21 new discharge licences issued in 2004 / 2005   |   | Ongoing                            |
|  | Review Licences where necessary    | 5 Licences selected for review.   | Ongoing   | SES                   | 5 Licences currently in review process.   |   | Ongoing                            |
|  | Update Licence Register            | Licences where discharge activity has ceased are revoked.   | Ongoing   | SES                   | 12 Licences revoked since 2004.   |   | Ongoing                            |
| <b>Municipal Wastewater Treatment Plants</b> | Review Performance of WWTPs.       | Results of discharge monitoring, river monitoring and plant performance collated.                           | Completed | SES, EC               | Identified deficiencies are now addressed in WSIP or 2006 Assessment of Needs.  |   | yes                                |
|  | Upgrade / Construct WWTPs          | 2006 Assessment of Needs submitted to DEHLG by Infrastructure Section.                                      | Completed | SE (Inf)<br>SE (Env)  | 31 Schemes identified in 2006 AoNs, 17 schemes relate to new / upgraded WWTPs or sewer networks. Much of the infrastructure is required in the short / medium term due to large increases in population pressure and ageing infrastructure. | Approval required for works identified in AoNs.                               | yes                                |
|  |                                    | Water Services Investment Programme advanced by Infrastructure section.                                     | Ongoing   | SE (Inf)              | New plants built serving Longwood, Ballivor. New plant for Dunshaughlin built (and has come into operation in Nov 2006). P removal in all new plants. Current WSIP 2005-2007 contains €96.8M approved for Sewerage schemes in Co. Meath.    |   | Ongoing                            |
|  |                                    | Meath Grouped Towns and Villages DBO Sewerage Scheme in WSIP 2005-2007, cost €35M.                          |           | SE (Inf)              | Will provide new and upgraded plants for: Athboy/Rathcairn, Donore, Duleek, Kilmainhamwood, Moynalty, Rathmolyon and Summerhill. Construction to start early 2007.  | Tenders to be assessed by end 2006, Contractor to be appointed in early 2007. | no                                 |

| Measure  | Target   | Action   | Timeframe | Person(s) Responsible | Progress to date   | Corrective Action                               | Action Completed within timeframe? |
|--|--|--|-----------|-----------------------|--|---|------------------------------------|
|  | Upgrade Sewerage Networks  | Water Services Investment Programme advanced by Infrastructure section.  | Ongoing   | SE (Inf)              | Upgraded network in Dunshaughlin, East Meath, Navan, Enfield, Ashbourne.   |   | yes                                |
|  |  |  |           |                       | Ashbourne / Ratoath / Kilbride Sewerage Scheme Phase 2, construction to start 2006.  |   | Ongoing                            |
|  |  | 2006 Assessment of Needs submitted to DEHLG by Infrastructure Section.   | Completed | SE (Inf)<br>SE (Env)  | Much of the infrastructure is required in short / medium term due to large increases in population pressure and ageing infrastructure.                     | Approval required for works identified in AoNs. | yes                                |
| <b>Farm Surveys</b>  | Carry out Farm Surveys in targeted catchments  | 2004 Implementation Report identified non-compliant sites in 14 catchments with agriculture as main pressure.  | Ongoing   | SES, ET               | Significant Farm Survey activity in 8 catchments.<br>193 surveys by Aug 2006.<br>See Appendix A3.  |   | Ongoing                            |
|  |  | Standardised Farm Survey report. Land holding, Pollution Risk and Recommended Action recorded in GIS.  | Ongoing   | SES                   | For all farms surveyed to date the land area, Pollution Risk and Recommended Action have been recorded in GIS.   |   | Ongoing                            |
|  |  | 2006 Implementation Report to identify river stretches prioritised for Farm Surveys in forthcoming period.   | Ongoing   | SES, ET               | River stretches will be prioritised from Non-Compliant sites with Agriculture as significant pressure, based on data review in 2006 Implementation Report. |   | Ongoing                            |
|  | Follow-up inspections where risks identified.  | Follow-up surveys where pollution risk identified, with use of Water Pollution Act where necessary.  | Ongoing   | SES, EC, ET           | 44 follow-up surveys, 30 S12 notices served. Good co-operation from farmers.   |   | Ongoing                            |
| <b>Active Enforcement of Water Pollution Acts</b>          | Investigate all reported pollution complaints.   | 2 staff assigned full time to water pollution complaints investigation.  | Ongoing   | SES, ES, AS           | System fully operative.<br>179 investigations July 2004-2006.<br>See Appendix A4 for breakdown by pollution type.  |   | Ongoing                            |
|  |  | Complaints investigated promptly, inspection report(s) and follow-up recommendations logged.   | Ongoing   | ES, AS                | System fully operative.<br>179 investigations July 2004-2006.  |   | Ongoing                            |
|  |  | Water Pollution Act used where necessary.  | Ongoing   | SES, ES, AS           | 76 warning letters,<br>87 S 12s,<br>3 prosecutions since July 2004   |   | Ongoing                            |
|  | Use Pollution Complaints database to log and track pollution complaint investigations. | All pollution complaints logged in Call Management System database and assigned to person responsible. Inspection report(s) and recommendations logged on database also. | Ongoing   | ES, AS                | System fully operative.<br>179 investigations July 2004-2006.  |   | Ongoing                            |
| <b>Integration of Planning and Water Quality functions</b> | Improve integration of planning and water quality functions                            | Referral process for applications which could impact on water quality.   | Ongoing   | SE (Env)<br>SP        | Applications assessed with regard to Phosphorus Regs targets and assimilative capacity.  |   | Ongoing                            |



| Measure                              | Target   | Action  | Timeframe     | Person(s) Responsible | Progress to date  | Corrective Action                                       | Action Completed within timeframe? |
|--------------------------------------|--|---|---------------|-----------------------|---|---|------------------------------------|
|                                      |  | Environment Section now assessing agriculture related planning applications with a view to ensuring water quality protection. | Ongoing       | SE (Env) SES          | Assessed to ensure that any proposed agricultural developments comply with the European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2006. |   | Ongoing                            |
|                                      |  | Environment Section assesses planning applications for single dwelling developments with a discharge to percolation area.     | Ongoing       |                       | To ensure compliance with EPA manual Treatment Systems for Single Houses  |   | Ongoing                            |
|                                      |  | Water Quality monitoring results available to Planning Section.   | Completed     | SE (Env) SP           | Data helpful in drafting County Development Plan.   |   | yes                                |
| <b>Groundwater Protection Scheme</b> | Use Scheme in planning, licensing and water protection activities.     | Geological Survey of Ireland has completed scheme for Co. Meath.  | Ongoing       | SE (Env) SP           | Scheme informs the planning, licensing and water protection functions.  |   | Ongoing                            |
| <b>Monitoring Measures</b>           |  |   |               |                       |   |   |                                    |
| <b>River Monitoring</b>              | Sample all river sites on National Rivers Monitoring Programme monthly | 198 sites in Meath in National Rivers Monitoring Programme, physico-chem sampling and in-situ measurements monthly.           | Ongoing       | SES, EC, ET           | Sampling monthly at all sites since 2004. Programme will be reviewed / integrated with WFD monitoring.  |   | Ongoing                            |
|                                      |  | Water Quality results stored in access database.  | Ongoing       | EC                    | Results stored in access database, with import of nutrient results from Lachat files. Moving to Labinfo in 2007.  |   | Ongoing                            |
|                                      |  | Hydrometric data collected through staff gauge readings on monitored rivers.  | Ongoing       | EC                    | Staff gauges read in tandem with physico-chemical sampling.   |   | Ongoing                            |
|                                      | Review updated physico-chem monitoring results.                        | Seasonal MRP averages graphed by channel length as a screening tool to test for impact of point source phosphorus.            | Annual review | EC, SES               | All river channels in NRMP have been reviewed and results guide implementation measures by filtering for point and non-point impacts per site.                              |   | Ongoing                            |
|                                      | Carry out investigative river surveys.                                 | Investigative surveys with river walk and nutrients spot sampling, targeted by 2004 Implementation report.                    | Ongoing       | SES, EC               | 28 surveys in 10 catchments to pinpoint P sources. Some surveys allied with farm survey work. Future surveys will also use SSRS where appropriate. See Appendix A5.         |   | Ongoing                            |
|                                      | Small Stream Risk Score surveys  | 2 Technicians trained. Survey locations provided by RBD projects.   | Completed     | SES, EC, ET           | 81 locations visited. 49 full SSRS surveys. 47 "at risk". 2 "probably at risk".   |   | Completed                          |
| <b>MWWTP monitoring</b>              | Sample all WWTs in accordance with UWWT regulations.                   | 26 WWTs sampled at influent, effluent and receiving water.  | Ongoing       | ET                    | Programme fully operative. Extends to plants < 500 pe. Mostly grab sampling.  | Composite Samplers to be put in place as per UWWT Regs. | Ongoing                            |
|                                      |  | BOD, COD, TSS, Total P, Total N measured in all discharges.   | Ongoing       | ET                    | Programme fully operative. See Appendix A2 for summary table of WWT discharge monitoring results for year to June 2006.   |   | Ongoing                            |



| Measure                                  | Target  | Action   | Timeframe   | Person(s) Responsible | Progress to date   | Corrective Action | Action Completed within timeframe? |
|--|---|--|-------------|-----------------------|--|-------------------|------------------------------------|
| Monitoring Laboratory Procedures         | To improve and maintain laboratory procedures.  | Laboratories participate in Proficiency Testing Schemes and employ QC procedures for each test method. | Ongoing     | EC, ET                | Rivers Lab participates in Aquacheck and EPA Proficiency Testing schemes. Method Validation and QC procedures including use of Certified Reference Materials. Effluent Lab participates in EPA Intercal scheme and has reviewed QC procedures.   | Ongoing           | Ongoing                            |
| Geographic Information Systems           | To use GIS to store, present and interrogate relevant data.   | Liaison with Spatial Services section. Mapinfo datasets used.  | Ongoing     | SES, EC               | Relevant geo-data available to and used by Environment section. GIS layers include Groundwater Protection Scheme and Aerial Photography. Intend to use new datasets generated by WFD projects such as sub-basin delineations from Digital Terrain Model and P Loss Risk in future survey work. | Ongoing           | Ongoing                            |
|  |   | Mapinfo proving a useful aid in Farm Survey programme.   | Ongoing     | ET                    | Aerial photography GIS layer can help to correctly identify farm boundaries, where 6 inch maps are out-dated. Land area, Pollution Risk and recommended action recorded in GIS.  | Ongoing           | Ongoing                            |
|  |   | Survey and Monitoring data converted to Mapinfo files for integration with geo-data.                   | Ongoing     | SES, EC, ET           | River monitoring, WWT monitoring, Farm survey data, Discharge Licence data imported to Mapinfo. GPS used to capture co-ordinates for new discharge licence locations.  | Ongoing           | Ongoing                            |
|  |   | Use Web-GIS resources for queries at RBD scale.  | By end 2007 | RBDs, SES, EC         | Web-GIS tools in development as means to share information at RBD level.   | Ongoing           | Ongoing                            |
| Consultative and Co-operative Measures   |   |  |             |                       |  |                   |                                    |
| River Basin District Management Projects | To participate fully in RBD projects and WFD implementation. Meath is part of Eastern, Neagh-Bann and Shannon RBDs. | Relevant environmental datasets and extensive monitoring results shared with RBD project consultants.  | Ongoing     | SE, SES, EC           | Data used in Characterisation Report, Risk Assessments and will contribute to draft RBMPs.   | Ongoing           | Ongoing                            |
|  |   | Establishment of RBD Advisory Council  | Completed   |                       | RBDAC includes 2 elected representatives from Meath County Council.  | Ongoing           | Ongoing                            |

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| Measure  | Target  | Action   | Timeframe   | Person(s) Responsible  | Progress to date  | Corrective Action  | Action Completed within timeframe? |
|--|---|--|-------------|------------------------|---|--|------------------------------------|
|  |   | Participation in ERBD working groups on Monitoring, LIMS, Web GIS.   | Ongoing     | SES, EC                | Working groups provide feedback to Project consultants developing WFD management tools.   |  |                                    |
|  |   | Meath CC river monitoring data used to validate mass balance water quality models for Athboy, upper Boyne, Blackwater ( Kells ), Blackwater (Longwood ), Deel and Ryewater catchments. | Completed   | RBD Projects, SES, EC. | Modelling to be expanded to other catchments as an aid in designing WFD Programmes of Measures.   |  | Ongoing                            |
| <b>Liaison with partners in Catchment Management</b> | To work effectively with partner organisations in addressing water quality issues.                  | Liaison with Fisheries Boards, EPA and Teagasc. Coordination with neighbouring Local Authorities.  | Ongoing     | SE (Env)               | Coordination with Fingal CC on river surveys in Broadmeadow catchment and with Kildare CC on monitoring. Further work required in border catchments with non-compliant sites. | MCC propose to meet with Cavan, Westmeath, Kildare, Louth CC re cross-border water quality issues and WWTP discharges. | Ongoing                            |
| Public Education and Advisory Measures               |   |  |             |                        |   |  |                                    |
| <b>General Public Education Campaigns</b>            | To provide information on water quality issues, the Phosphorus Regulations and the role of Meath CC | Update Council website to provide overview of water quality in county and reflect recent developments in water quality legislation and protection.                                     | By end 2006 | SES, EC                | Re-designed website to launch by end 2006 including material on water quality, legislation, pollution sources, agriculture, septic tanks, Water Framework Directive.          |  | By end 2006                        |
|  |   |  |             |                        |   |  |                                    |

SE ( Senior Engineer ), SES ( Senior Executive Scientist ), ES ( Executive Scientist ), EC ( Executive Chemist ), AS ( Assistant Scientist ), ET ( Environmental Technician ), RBD ( River Basin District Management Project )

Table 2.2: Implementation Programme Summary Table for Rivers

| Code  | River         | Stations    | Standards to be achieved at sites  | Measures      | Timeframe | Responsible for Implementation | Progress to date  | Corrective Action                                      | Action Completed on time | Revised Timeframe |
|-------|---------------|-------------|--|---------------|-----------|--------------------------------|---|--|--------------------------|-------------------|
| 06D01 | Dec           | 0025 - 0600 | 0025 - Q4<br>0035 - Q3-4<br>0200 - Q3-4<br>0360 - Q4<br>0450 - Q4<br>0600 - Q3-4 | Farm Surveys  | end 2006  | SES, ET                        | 20 Farms Surveyed, 6 high risk, 3 medium risk, 11 low risk. 9 re-inspected. 7 S12 Notices served.   | Re-inspections ongoing enforcement of WPA Farm Surveys | ongoing                  |                   |
|       |               |             |  | River Surveys | end 2006  | SES, EC, ET                    | 2 days river survey and investigative sampling upstream of 06D010035, between 06D010450 and 0400. unrestricted cattle access.   |  | yes                      |                   |
|       |               |             |  | Enforce WPA   | ongoing   | SES, ES, AS                    | 2 staff full time on pollution complaints investigation All calls logged and reported through Call Management System. See Appendix A4.  |  |                          |                   |
|       |               |             |  | WWTPs         |           | SE_Inf<br>SE_Env               | Nobber WWTP monitored, effluent complies with UWWT Regs. Included in 2006 AoNs in Grouped DBO, 2010.  |  |                          | start 2010        |
| 06K01 | Killary Water | 0100 - 0500 | 0100 - Q4<br>0500 - Q4   | Comments      |           |                                | 2 IPC facilities in catchment. 06D010035 has remained at Q3 since 2003. Further farm and river surveys required upstream of 06D010035.  |  |                          | by end 2007       |
|       |               |             |  | Farm Surveys  | end 2006  | SES, ET                        | 13 Farms Surveyed. 5 high risk, 1 medium risk, 7 low risk. 4 re-inspected. 3 S12 Notices served.  | Re-inspections ongoing enforcement of WPA Farm Surveys | ongoing                  | by end 2007       |
|       |               |             |  | Enforce WPA   | ongoing   | SES, ES, AS                    | Further Farm Surveys required, non-compliant sites. 2 staff full time on pollution complaints investigation All calls logged and reported through Call Management System. See Appendix A4.        |  |                          |                   |
|       |               |             |  | WWTPs         | 2010      | SE_Inf<br>SE_Env               | Lobinstown WWTP, Castletown WWTP both schemes included in 2006 AoNs in Group of 15 Villages DBO sewerage Scheme, 2010   | Approval required for works identified in AoNs         |                          | start 2010        |
| 06K04 | Kilmainham    | 0055 - 0100 | 0055 - Q4<br>0075 - Q4<br>0100 - Q4  | Comments      |           |                                | Both sites are Q3-4 as in baseline period, non-compliant. Episodic high MRP measured during wetter months, rather than low flow MRP increases. Further farm surveys and re-inspections scheduled. |  |                          |                   |
|       |               |             |  | Enforce WPA   | ongoing   | SES, ES, AS                    | 2 staff full time on pollution complaints investigation All calls logged and reported through Call Management System. See Appendix A4.  |  |                          |                   |
|       |               |             |  | WWTPs         |           | SE_Inf<br>SE_Env               | Kilmainhamwood WWTP, overloaded. Upgrade approved in WSIP, delayed, construction start 2007. WWTP discharges downstream of 06K040100.   | Upgrade WWTP construction to start in early 2007.      |                          | completed in 2009 |
|       |               |             |  | Comments      |           |                                | All 3 sites retained Q4 in the 2006 Biological Survey, comply.  |  |                          |                   |



| Code  | River                | Stations    | Standards to be achieved at sites  | Measures      | Timeframe | Responsible for Implementation | Progress to date  | Corrective Action  | Action Completed on time | Revised Timeframe               |
|-------|----------------------|-------------|--|---------------|-----------|--------------------------------|---|--|--------------------------|---------------------------------|
| 07A01 | Athboy               | 0020 - 0500 | 0020 - Q4<br>0050 - Q4<br>0070 - Q4<br>0100 - Q4<br>0200 - Q3-4<br>0300 - Q4<br>0400 - Q4<br>0500 - Q3-4 | Farm Surveys  | end 2006  | SES, ET                        | 45 Farms Surveyed, 15 high risk, 10 medium risk, 20 low risk. 21 re-inspected to date.<br>14 S12 Notices served.<br>Further surveys scheduled for 2006 / 2007.  | Re-inspections ongoing enforcement of WPA<br>Farm Surveys  | ongoing                  | by end 2007                     |
|       |                      |             |  | River Surveys | end 2006  | SES, EC, ET                    | 6 days river survey and investigative sampling between 07A010020 and 07A010100, in conjunction with farm surveys. All minor tribs and inputs sampled.   |  | yes                      |                                 |
|       |                      |             |  | Enforce WPA   | ongoing   | SES, ES, AS                    | 2 staff full time on pollution complaints investigation All calls logged and reported through Call Management System. See Appendix A4.  |  |                          |                                 |
|       |                      |             |  | WWTPs         |           | SE_Inf<br>SE_Env               | Crossakiel, Athboy, Clonmellon, Kildalkey WWTPs. Athboy WWTP impacting 07A010300 to 07A010500, upgrade approved in WSIP, delayed, construction start 2007. Kildalkey sewer network - groundwater infiltration problem. Crossakiel included in 2006 AoNs in Grouped DBO, 2010.   | upgrade Athboy WWTP inc P removal<br>Kildalkey network rehabilitation  | no                       | completed in 2009               |
|       |                      |             |  | Comments      |           |                                | Farm Surveys to date in upper catchment above Athboy. 3 sites improved in Q value, 1 site deteriorated since 2003. Improvements may be due to farm surveys.   |  |                          |                                 |
| 07B01 | Blackwater ( Kells ) | 1000 - 1800 | 1000 - Q3-4<br>1100 - Q4<br>1200 - Q4<br>1300 - Q4<br>1400 - Q4<br>1500 - Q4<br>1800 - Q3-4              | Farm Surveys  | end 2006  | SES, ET                        | 37 Farms Surveyed, 9 high risk, 3 medium risk, 25 low risk. 3 re-inspected to date.<br>3 S12 Notices served.  | Re-inspections ongoing enforcement of WPA  | ongoing                  |                                 |
|       |                      |             |  | Enforce WPA   | ongoing   | SES, ES, AS                    | 2 staff full time on pollution complaints investigation All calls logged and reported through Call Management System. See Appendix A4.<br>3 Discharge Licences monitored. 1 new S16 Licence issued since 2004. Warning letters to 2 Licencees.  |  |                          |                                 |
|       |                      |             |  | WWTPs         |           | SE_Inf<br>SE_Env               | Kells WWTP impacting, hydraulically overloaded, effluent passes UWWT Regs standards due to dilution of the load entering plant. Large MRP impact seen in river data. Upgrade of ageing WWTP and collection network proposed in 2003 AoNs, not approved in WSIPs to date. Proposed in 2006 AoNs, proposed construction start 2009 Kells WWTP overflow to be monitored as per EPA Audit recommendation of Oct 06. Establish TP and BOD loading from storm water events. | Upgrade Kells WWTP and collection network. Approval required for works identified in AoNs.<br>monitor overflow and develop response for storm water events |                          | to start 2009<br>Oct-06 onwards |
|       |                      |             |  | Comments      |           |                                | L. Ramor outflow impacts on water quality in river downstream.  |  |                          |                                 |

| Code  | River                  | Stations    | Standards<br>to be achieved<br>at sites          | Measures               | Timeframe<br>Responsible<br>for<br>Implementation | Progress to date  | Corrective Action | Action Revised<br>Completed Timeframe |
|-------|------------------------|-------------|--|------------------------|---|---|-------------------|---------------------------------------|
| 07B02 | Blackwater ( Longwood) | 0100 - 0600 | 0100 - Q4<br>0200 - Q4<br>0400 - Q4<br>0600 - Q4 | Farm Surveys end 2007  | SES, ET   | Farm Surveys to be targeted in lower catchment, upstream of non-compliant sites 0600 and 0400.<br>Focus on potential high risk areas with connectivity / proximity to river or feeder streams.                      | Farm Surveys      | by end 2007                           |
|       |                        |             |  | Enforce WPA ongoing    | SES, ES, AS                                       | All calls logged and reported through Call Management System. See Appendix A4.<br>1 S16 Discharge Licence, currently being reviewed.  |                   |                                       |
|       |                        |             |  | Completed SE Inf       | SE Env  | New WWT at Longwood commissioned 2005, P removal,<br>Annual average Total P at July06: 1.1 mg P/L.<br>New WWT at Johnstownbridge commissioned 2002,<br>P removal. Annual average Total P at July06: 1.3 mg P/L.     |                   |                                       |
|       |                        |             | Comments   |                        |   | Site 0200 has improved from Q3 to Q4 which is probably due to benefits from Johnstownbridge WWT.<br>Lower catchment sites need improvement, WWTPs upgraded so focus on diffuse sources and Farm surveys.            |                   |                                       |
| 07B03 | Boycelown              | 0200 - 0300 | 0200 - Q3-4                                      | Farm Surveys end 2006  | SES, ET   | I farm surveys required upstream of site 07B030200, Q3-4.   | Farm Surveys      | by end 2007                           |
|       |                        |             |  | River Surveys end 2006 | SES, EC, ET                                       | 2 days river survey and investigative sampling carried out between 07B030200 and 07B030100.   |                   | no                                    |
|       |                        |             |  | Enforce WPA ongoing    | SES, ES, AS                                       | 2 staff full time on pollution complaints investigation All calls logged and reported through Call Management System. See Appendix A4.<br>2 S4 Discharge Licences monitored. Warning letters issued to 2 Licensees. |                   |                                       |
|       |                        |             |  | WWTPs                  |   | No WWTPs in catchment.  |                   |                                       |
|       |                        |             |  | Comments               |   | Both sites have improved Q values in 2006 Biological Survey, sites comply. Some arable land and Tagaras Research Centre in upper catchment.   |                   |                                       |

| Code  | River        | Stations    | Standards to be achieved at sites | Measures      | Timeframe | Responsible for Implementation | Progress to date   | Corrective Action                              | Action Completed on time | Revised Timeframe         |
|-------|--------------|-------------|-----------------------------------|---------------|-----------|--------------------------------|--|--|--------------------------|---------------------------|
| 07B04 | Boyne        | 0400 - 2200 | 0400 - Q3-4                       | Farm Surveys  | end 2006  | SES, ET                        | To date all farms surveyed are in catchments of Boyne tributaries.   | Re-inspections ongoing enforcement of WPA      | ongoing                  |                           |
|       |              |             | 0600 - Q4                         | River Surveys | end 2006  | SES, EC, ET                    | River surveys in catchments of Boyne tributaries.  |  | yes                      |                           |
|       |              |             | 0800 - Q4                         |               |           |                                |  |  |                          |                           |
|       |              |             | 0900 - Q4                         | Enforce WPA   | ongoing   | SES, ES, AS                    | 2 staff full time on pollution complaints investigation<br>All calls logged and reported through Call Management System. See Appendix A4.<br>11 S4 and 4 S16 Discharge Licences monitored.<br>5 Licences issued since 2004.<br>Warning letters to 6 Licensees. 5 Licenced facilities audited.<br>Legal action initiated on 1 licence.  |  |                          |                           |
|       |              |             | 1000 - Q4                         |               |           |                                |  |  |                          |                           |
|       |              |             | 1200 - Q4                         |               |           |                                |  |  |                          |                           |
|       |              |             | 1400 - Q3-4                       |               |           |                                |  |  |                          |                           |
|       |              |             | 1500 - Q4                         |               |           |                                |  |  |                          |                           |
|       |              |             | 1600 - Q4                         |               |           |                                |  |  |                          |                           |
|       |              |             | 1800 - Q4                         |               |           |                                |  |  |                          |                           |
|       |              |             | 1900 - Q3                         | WWTPs         |           | SE_Inf<br>SE_Env               | Navan, Trim, Donore, Slane, Dunderry WWTPs monitored.<br>Navan and Trim plants commissioned since 2000, P removal.<br>Navan / Johnstown sewerage scheme in WSIP 2005.<br>Navan and Trim sewer network improvements needed and proposed in AoNs 2006. Both proposed to start 2008.<br>Donore WWTP upgrade in WSIP 2003, delayed, construction to start early 2007. Slane WWTP in AoNs 2006.<br>Edenderry WWTP ( Offaly ) upgraded, P removal. | Approval required for works identified in AoNs | yes                      | 2008<br>completed in 2009 |
|       |              |             | 2000 - Q3-4                       |               |           |                                |  |  | no                       |                           |
|       |              |             | 2100 - Q3-4                       |               |           |                                |  |  |                          |                           |
|       |              |             | 2150 - Q4                         |               |           |                                |  |  |                          |                           |
|       |              |             | 2200 - Q4                         |               |           |                                |  |  |                          |                           |
|       |              |             |                                   | Comments      |           |                                | MRP in upper Boyne main channel greatly reduced since Edenderry WWTP upgraded, e.g. site 07B040600 median MRP was 77 ugP/L in 2000, now 29 ugP/L.<br>6 sites have improved in Q value since baseline.<br>12 of 15 sites on main channel now comply.  |  |                          |                           |
| 07C04 | Castlejordan | 0100 - 0190 | 0100 - Q4                         | Enforce WPA   | ongoing   | SES, ES, AS                    | 2 staff full time on pollution complaints investigation<br>All calls logged and reported through Call Management System. See Appendix A4.  |  |                          |                           |
|       |              |             | 0190 - Q4                         | WWTPs         |           | SE_Inf<br>SE_Env               | Ballinabrackey WWTP upgrade included in 2006 AoNs in Grouped DBO, 2010.<br>Milltownpass and Rochfortbridge WWTPs ( Westmeath ).  |  |                          |                           |



|       |      |             |                        |               |          |             |  |   |     |             |
|-------|------|-------------|------------------------|---------------|----------|-------------|--|---|-----|-------------|
|       |      |             |                        | Comments      |          |             | Both sites have deteriorated from Q3-4 in baseline to Q3. However very low MRP, annual median 11 and 14 ug P/L. May be influenced by high ammonium and siltation from IPC Licensed peat extraction. Previous surveys indicate impaired quality upstream of influence of Rochfortbridge WWTP. | Investigation in liaison with Westmeath CC. Offally CC and EPA to separate peatland and WWTP effects. |     | by end 2007 |
| 07D01 | Deel | 0400 - 0600 | 0400 - Q4<br>0600 - Q4 | River Surveys | end 2006 | SES, EC, ET | Annual median MRP is 0.015 mg P/L at both sites. Sites meet P Regs targets.  |   | yes |             |
|       |      |             |                        | Enforce WPA   | ongoing  | SES, ES, AS | 2 staff full time on pollution complaints investigation<br>All calls logged and reported through Call Management System. See table A1  |   |     |             |
|       |      |             |                        | WWTPs         |          |             | Killucan ( Westmeath ).  |   |     |             |

| Code  | River        | Stations    | Standards to be achieved at sites       | Measures      | Timeframe | Responsible for Implementation | Progress to date   | Corrective Action                         | Action Completed on time | Revised Timeframe |
|-------|--------------|-------------|---|---------------|-----------|--------------------------------|--|---|--------------------------|-------------------|
| 07D02 | Devilins     | 0140 - 0300 | 0140 - Q3<br>0300 - Q3-4                | Farm Surveys  | end 2006  | SES, ET                        | 34 Farms Surveyed, 12 high risk, 6 medium risk, 16 low risk. 6 S12 Notices served 2 S3 prosecutions  | Re-inspections ongoing enforcement of WPA | ongoing                  |                   |
|       |              |             |   | Enforce WPA   | ongoing   | SES, ES, AS                    | 2 staff full time on pollution complaints investigation<br>All calls logged and reported through Call Management System. See Appendix A4.  |   |                          |                   |
|       |              |             |   | WWTPs         |           |                                | No WWTPs in catchment  |   |                          |                   |
|       |              |             |   | Comments      |           |                                | Both sites have improved in Q values since 1997 and comply with 2007 targets, however further improvements needed. Catchment slopes steeply to river so high run-off risk. 2 x IPC facilities. 1 other facility applying for S4 licence. |   |                          |                   |
| 07K01 | Kinnegad     | 0100 - 0300 | 0100 - Q4<br>0300 - Q3-4                | Enforce WPA   | ongoing   | SES, ES, AS                    | 2 staff full time on pollution complaints investigation<br>All calls logged and reported through Call Management System. See Appendix A4.  |   |                          |                   |
|       |              |             |   | WWTPs         |           |                                | Kinnegad WWTP ( Westmeath )- d/s site has improved Q value from Q3 in baseline to Q4 in 2006, median MRP 32ugP/L.  |   |                          |                   |
|       |              |             |   | Comments      |           |                                | 07K010100 ( u/s Kinnegad ) passes MRP target but Q value now Q3. Siltation and eutrophication noted in EPA surveys. 2 IPC facilities, Cement manufacture and peat extraction upstream of this site.                                      | Liaise with EPA                           |                          |                   |
| 07K02 | Knightsbrook | 0300 - 0500 | 0300 - Q3-4<br>0360 - Q3-4<br>0500 - Q4 | Farm Surveys  | end 2006  | SES, ET                        | 1 Farm surveyed, low risk. Further surveys required, prioritise upper catchment where MRP is high upstream of Summerhill.  | Farm Surveys upstream of 07K020300        |                          | by end 2007       |
|       |              |             |   | River Surveys | end 2006  | SES, EC, ET                    | 1 day investigative sampling u/s of 07K020300. Summerhill WWTP impacting. High MRP in upstream section and tributaries also. Further river and farm surveys required.  | Surveys upstream 0300                     |                          | by end 2007       |
|       |              |             |   | Enforce WPA   | ongoing   | SES, ES, AS                    | 2 staff full time on pollution complaints investigation  |   |                          |                   |

| Code  | River    | Stations    | Standards to be achieved at sites   | Measures   | Timeframe                       | Responsible                           | Progress to date  | Corrective Action  | Action Revised                        |
|-------|----------|-------------|---|--|---------------------------------|---------------------------------------|---|--|---------------------------------------|
| 07M01 | Mattock  | 0100 - 0300 | 0100 - Q3-4<br>0200 - Q4<br>0300 - Q4   | Farm Surveys<br>River Surveys<br>Enforce WPA<br>Comments<br>WTPs | end 2006<br>end 2006<br>ongoing | SES, ET<br>SES, EC, ET<br>SES, ES, AS | 8 farms surveyed, 7 low risk, 1 high risk<br>Further surveys required.<br>Investigative survey required in upper reaches to isolate effect of Collon WTP.<br>2 staff full time on pollution complaints investigation<br>All calls logged and reported through Call Management System. See Appendix A4.<br>Collon WTP ( Louth ) discharges in upper reach<br>2 upper sites have improved by half a Q each since baseline.<br>Upper site has high MRP, especially in summer, indicating point source of P.<br>1 IPC facility ( Piggery ) in catchment.<br>High slope and run-off risk in upper catchment. | Re-inspections ongoing<br>enforcement of WPA.<br>Farm Surveys. | ongoing<br>by end 2007<br>by end 2007 |
| 07M03 | Moynally | 0070 - 0900 | 0070 - Q4<br>0090 - Q4<br>0300 - Q3-4<br>0400 - Q3-4<br>0600 - Q4<br>0800 - Q4<br>0900 - Q4 | Farm Surveys<br>River Surveys                                    | end 2007<br>end 2006            | SES, ET<br>SES, EC, ET<br>SES, ES, AS | Farm surveys to protect Q4 status of upper reaches.<br>Non-compliant sites in vicinity of Mullagh so prioritise this pressure.<br>1 day investigative survey to date, further surveys required.<br>2 separate point sources indicated in vicinity of Mullagh:<br>1st from Mullagh tributary, likely WWTP, 2nd source indicated between 03M030100 and 03M030300, ie. main channel<br>Moynally at Mullagh but upstream of WWTP and tributary.<br>Investigative survey at this stretch to identify sources.<br>2 staff full time on pollution complaints investigation                                     | Farm Surveys<br>Investigative survey.<br>Liaise with Cavan CC  | by end 2007<br>by end 2007            |



|  |  |  |  |          |  |                  |   |                      |  |                   |
|--|--|--|--|----------|--|------------------|---|----------------------|--|-------------------|
|  |  |  |  |          |  |                  | All calls logged and reported through Call Management System. See Appendix A4.  |                      |  |                   |
|  |  |  |  | WWTPs    |  | SE_Inf<br>SE_Env | Mullagh ( Cavan ) WWTP discharges to Mullagh tributary, upgraded, includes P removal. Monthly MRP sampling of Moynalty mainchannel shows large P input at Mullagh evident in summer low flows, indicating point source of P. Carlanstown WWTP built 2002, performing well. Moynalty WWTP upgrade in WSIP, delayed, construction to start in early 2007. | Liaise with Cavan CC |  | completed in 2009 |
|  |  |  |  | Comments |  |                  | 2 sites upstream of Mullagh are Q4.<br>2 lowermost sites downstream of Carlanstown have both improved to Q4 in 2006 Biological survey.<br>Sites downstream of Mullagh unsatisfactory quality, unchanged.  |                      |  |                   |

| Code  | River     | Stations    | Standards to be achieved at sites   | Measures     | Timeframe | Responsible for Implementation | Progress to date   | Corrective Action  | Action Completed on time | Revised Timeframe |
|-------|-----------|-------------|---|--------------|-----------|--------------------------------|--|--|--------------------------|-------------------|
| 07S01 | Skane     | 0150 - 0600 | 0150 - Q3<br>0300 - Q3<br>0500 - Q3-4<br>0600 - Q3-4  | Enforce WPA  | ongoing   | SES, ES, AS                    | 2 staff full time on pollution complaints investigation<br>All calls logged and reported through Call Management System. See Appendix A4.  |  |                          |                   |
|       |           |             |   | WWTPs        |           | SE_Inf<br>SE_Env               | Dunshaughlin WWTP discharging to upper Skane, poor dilution available in receiving waters, large impact on MRP and biology. New WWTP built at Castletown / Tara, 16000 pc, P removal, will discharge to Boyne. ( New plant came into operation in Nov 2006 ). Will greatly improve water quality in Skane. Kilmessan WWTP to be replaced by Castletown / Tara plant. | New WWTP funded from WSIP.                                   |                          | by end 2006       |
|       |           |             |   | Comments     |           |                                | Interim upgrade of Dunshaughlin WWTP has brought some improvement in water quality, however still impaired at Q3. New plant expected to improve water quality significantly.   |  |                          |                   |
| 07S02 | Stonyford | 0015 - 0400 | 0015 - Q3-4<br>0030 - Q3-4<br>0045 - Q4<br>0055 - Q4<br>0090 - Q4<br>0300 - Q4<br>0400 - Q4 | Farm Surveys | end 2006  | SES, ET                        | 22 farms surveyed in upper catchment, 3 high risk, 19 low risk. 2 farms re-inspected, 1 S12 issued. Further surveys and re-inspections required in upper reaches.  | Re-inspections ongoing<br>enforcement of WPA<br>Farm Surveys | ongoing                  |                   |
|       |           |             |   | Enforce WPA  | ongoing   | SES, ES, AS                    | 2 staff full time on pollution complaints investigation<br>All calls logged and reported through Call Management System. See Appendix A4.  |  |                          |                   |
|       |           |             |   | WWTPs        |           | SE_Inf<br>SE_Env               | Ballivor WWTP, new plant 2005, P removal, but infiltration problem with collection network. Delvin WWTP ( Westmeath ).   |  |                          |                   |



|       |                         |      |             |                     |             |   |                        |             |  |
|-------|-------------------------|------|-------------|---------------------|-------------|---|------------------------|-------------|--|
| 07Y01 | Yellow ( Blackwater )   | 1100 | 1100 - Q3-4 | Enforce WPA ongoing | SES, ES, AS | 2 staff full time on pollution complaints investigation<br>All calls logged and reported through Call Management<br>System. See Appendix A4.<br>No WWTs in catchment.<br>Unsewered population.<br>Investigative river survey and farm surveys required.<br>River station improved to Q 3-4 in 2006. | River and Farm Surveys | by end 2007 |  |
| 07Y02 | Yellow ( Castlejordan ) | 0300 | 0300 - Q4   | Enforce WPA ongoing | SES, ES, AS | 2 staff full time on pollution complaints investigation<br>All calls logged and reported through Call Management<br>System. See Appendix A4.<br>No WWTs in catchment.<br>Site has maintained Q 4 since 1997.<br>Annual median MRP 18 ug P/L.  |                        |             |  |

|       |             |             |                                   |                        |             |   |   |   |                                  |                   |
|-------|-------------|-------------|-----------------------------------|------------------------|-------------|---|---|---|----------------------------------|-------------------|
| Code  | River       | Stations    | Standards to be achieved at sites | Measures               | Timeframe   | Responsible   | Progress to date  | Corrective Action   | Action Completed                 | Revised Timeframe |
| 08B02 | Broadmeadow | 0400 - 0500 | 0400 - Q3-4                       | River Surveys end 2006 | SES, ES, AS | 3 days investigative surveys carried out to date, including survey coordinated with Fingal CC.  | 2 staff full time on pollution complaints investigation<br>All calls logged and reported through Call Management<br>System. See Appendix A4.<br>3 S16 discharge licences, 1 under review.<br>1 active S4 discharge licence. 1 S4 licence revoked.   | Phase 2 approved in WSIP required to upgrade sewer capacity.<br>New Pumping Stations pump effluent to Dublin for treatment.<br>completed, effluent no longer discharged to Broadmeadow. | Phase 2 at Design/Planning stage |                   |
|       |             | 0400 - Q3   | 0500 - Q3                         | Enforce WPA ongoing    | SES, ES, AS | 2 staff full time on pollution complaints investigation<br>All calls logged and reported through Call Management<br>System. See Appendix A4.<br>3 S16 discharge licences, 1 under review.<br>1 active S4 discharge licence. 1 S4 licence revoked. | High background MRP, >100 ugP/L in winter, >200 ugP/L in summer. Originating in upper catchment from Ratoath branch upstream of Ratoath and from Dunshaughlin branch upstream of Ashbourne.<br>High water table, poorly drained soils, diffuse sources in upper reaches may be influential. |   |                                  |                   |

|       |        |             |   |             |         |                  |  |   |  |             |
|-------|--------|-------------|---|-------------|---------|------------------|--|---|--|-------------|
| 08D01 | Delvin | 0080 - 0400 | 0080 - Q4<br>0250 - Q3-4<br>0400 - Q3-4 | Enforce WPA | ongoing | SES, ES, AS      | Investigative Surveys required in upper branches.<br>2 staff full time on pollution complaints investigation<br>All calls logged and reported through Call Management System. See Appendix A4.<br>4 S4 discharge licences, 1 currently under review to reduce phosphorus load discharged.  | 1 S4 under review   |  | by end 2006 |
|       |        |             |   | WWTPs       |         | SE_Inf<br>SE_Env | Stamullen WWTP upgraded 2002, P removal recently improved.<br>AoN 2006 proposes East Meath Sewerage Scheme, major new WWTP at Gormanstown to serve Stamullen, Mosney and Gormanstown.<br>Garristown WWTP ( Fingal ) discharging to upper reaches.<br>Naul WWTP ( Fingal ) discharges u/s 08D010250. Both plants to be upgraded by summer 2007, ( contractors appointed ).<br>Meath CC have met with Fingal CC to liase on water quality. | Approval required for new plant identified in AoNs 2006.<br><br>Garristown and Naul WWTP upgrade (Fingal) |  | mid 2007    |
|       |        |             |   | Comments    |         |                  | River is high in MRP from upper reaches below Garristown.<br>08D010080 has dropped from Q3-4 in baseline to Q3.<br>Both lower sites have improved from Q3 in baseline to Q4.<br>MRP input evident at Stamullen / Gormanstown.<br>Arable land area significant in catchment. Siltation noted in EPA biological surveys.   | Investigative river surveys and farm surveys req'd.   |  | by end 2007 |

| Code  | River               | Stations | Standards to be achieved at sites | Measures      | Timeframe | Responsible for Implementation | Progress to date   | Corrective Action  | Action Completed on time | Revised Timeframe |
|-------|---------------------|----------|-----------------------------------|---------------|-----------|--------------------------------|--|--|--------------------------|-------------------|
| 08D03 | Dunshaughlin stream | 0300     | 0300 - Q3                         | Enforce WPA   | ongoing   | SES, ES, AS                    | 2 staff full time on pollution complaints investigation<br>All calls logged and reported through Call Management System. See Appendix A4.  |  |                          |                   |
|       |                     |          |                                   | WWTPs         |           |                                | No WWTP in catchment<br>River rises near Dunshaughlin but town WWTP discharges to Skane river.   |  |                          |                   |
|       |                     |          |                                   | Comments      |           |                                | High background MRP, >100 ugP/L in winter, >300 ugP/L in summer. Summer flows are higher in MRP which points to unsewered population, point source or groundwater.<br>High water table, poorly drained soils, so diffuse sources could be a major influence.<br>Site has improved from Q1-2 in baseline to Q3 in 2005. | Investigative river survey-point sources, septic tanks, groundwater. |                          | by end 2007       |
| 08F01 | Fairyhouse          | 0500     | 0500 - Q3-4                       | River Surveys | end 2006  | SES, EC, ET                    | 2 days investigative river surveys in summer conditions.<br>Some high MRP inputs found but river showed elevated MRP ( > 1 mg P/L ) and low dissolved oxygen   | Further investigations required in unsewered areas. Use WPA where    |                          | by end 2007       |

| Code  | River  | Stations | Standards to be achieved | Measures               | Timeframe Responsible for implementation | Progress to date  | Corrective Action                                  | Action Revised |
|-------|--------|----------|--------------------------|------------------------|--|---|--|----------------|
| 08M02 | Mosney | 0100     | 0100 - Q3-4              | Farm Surveys end 2007  | SES, ET                                  | Farm Surveys required, non-compliant site with agriculture pressures in catchment.                      | Farm Surveys                                       | by end 2007    |
|       |        |          |                          | River Surveys end 2006 | SES, EC, ET                              | 4 days investigative river surveys.   | Follow-up and resolution to investigative surveys. | by end 2007    |
|       |        |          |                          | Enforce WPA ongoing    | SES, ES, AS                              | 2 staff full time on pollution complaints investigation during rainfall, currently under investigation. |  |                |
|       |        |          |                          |                        |  | All calls logged and reported through Call Management System. See Appendix A4.                          |  |                |
|       |        |          |                          |                        |  | I S4 Licence, under review. Discharges downstream of river station.                                     |  |                |
|       |        |          |                          |                        |  | No WWTP discharges in catchment.  |  |                |
|       |        |          |                          |                        |  | Arable land significant in upper catchment.   |  |                |



|       |       |             |  |              |          |                  |  |   |         |                   |
|-------|-------|-------------|--|--------------|----------|------------------|--|---|---------|-------------------|
| 08N01 | Nanny | 0040 - 0700 | 0040 - Q3<br>0110 - Q3-4<br>0280 - Q3-4<br>0500 - Q3-4<br>0650 - Q4<br>0700 - Q4 | Farm Surveys | end 2006 | SES, ET          | M1 road drainage found to contribute during rainfall events. 08M020100 has remained at Q3 however median MRP is close to target at 0.056 mg P/L.<br>9 farms surveyed in lower catchment, 5 high risk, 4 low risk. 4 farms re-inspected, 1 S12 issued.<br>Further surveys and re-inspections required. Surveys to target areas upstream of 2006 report non-compliant sites.<br>2 staff full time on pollution complaints investigation<br>All calls logged and reported through Call Management System. See Appendix A4.<br>9 S4 Discharge Licences, Audit Visits to 6 Licensed Facilities, Warning Letters issued to 7 Licensees.<br>Duleek WWTP overloaded, P removal interim works in 2000, upgrade approved on WSIP, delayed, construction to start in early 2007. To be completed in 2009.<br>Kenstown WWTP built 2001, P removal, wet weather overflows. High MRP from upper to lower reaches, 100 ug P/L in winter, 170 to 300 ug P/L in summer.<br>Kenstown and Duleek WWTPs impacting but high MRPs also noted upstream of these impacts.<br>Arable farmland significant in catchment, 1 IPC licenced piggyery, 1 IPC licenced cement manufacturing facility.<br>No MRP impact seen from Knockharley Landfill. | Re-inspections ongoing enforcement of WPA                 | ongoing | by end 2007       |
|       |       |             |  | Enforce WPA  | ongoing  | SES, ES, AS      |  | Continued enforcement to resolve non-compliances.         |         |                   |
|       |       |             |  | WWTPs        |          | SE_Inf<br>SE_Env |  | Upgrade Duleek WWTP                                       |         | completed in 2009 |
|       |       |             |  | Comments     |          |                  |  | Further farm surveys required in upper and lower reaches. |         | by end 2007       |

| Code  | River   | Stations | Standards to be achieved at sites | Measures      | Timeframe | Responsible for Implementation | Progress to date  | Corrective Action | Action Completed on time | Revised Timeframe |
|-------|---------|----------|-----------------------------------|---------------|-----------|--------------------------------|---|-------------------|--------------------------|-------------------|
| 08R01 | Ratoath | 0150     | 0150 - Q3                         | River Surveys |           | SES, EC, ET                    | Surveys to concentrate on uppermost reaches, upstream of 08R010100, near Dunshaughlin to identify MRP sources / discharges.               |                   |                          | by end 2007       |
|       |         |          |                                   | Enforce WPA   | ongoing   | SES, ES, AS                    | 2 staff full time on pollution complaints investigation<br>All calls logged and reported through Call Management System. See Appendix A4. |                   |                          |                   |
|       |         |          |                                   | WWTPs         |           |                                | No WWTPs in catchment.<br>Ashbourne/Ratoath/Kilbride Sewerage Scheme phase 1 completed, effluent no longer discharged to Ratoath stream.  |                   |                          |                   |









Table 1.1: Water Quality in the Functional Area

| River Name              | Site Code | Location                     | Baseline<br>Q Value<br>1995-'97 | Baseline<br>MRP<br>( ug/L P ) | Is Baseline<br>Quality<br>Satisfactory | Current<br>Q Value<br>2004-'06 | Current<br>MRP<br>ug/L P | Q Standard<br>to achieve<br>2007 | MRP<br>Standard<br>to achieve<br>by 2007<br>( ug/L P ) | Has Either<br>Standard<br>Been<br>Achieved? | Does an<br>Article 3<br>Extension<br>Apply? | Where Quality is Unsatisfactory What is the Principal<br>Source of Pollution?            |
|-------------------------|-----------|------------------------------|---------------------------------|-------------------------------|--|--------------------------------|--------------------------|----------------------------------|--|---|---|--|
| Dee                     | 06D010025 | Br to N. of Ervy X-Rds       | 4                               |                               | Yes                                    | 4                              | 26                       | 4                                | 30   | Yes   | No  | Satisfactory quality.  |
| Dee                     | 06D010035 | Br u/s Whitewood L           | 3                               |                               | No                                     | 3                              | 31                       | 3-4                              | 50   | Yes   | No  | Agriculture  |
| Dee                     | 06D010200 | Deegvee Br                   | 3                               | 69                            | No                                     | 3-4                            | 45                       | 3-4                              | 50   | Yes   | No  | Agriculture  |
| Dee                     | 06D010360 | Br SE of Rockfield Ho        | 3-4                             | 78                            | No                                     | 4                              | 47                       | 4                                | 30   | Yes   | No  | Satisfactory quality.  |
| Dee                     | 06D010450 | Hem Br                       | 3-4                             | 78                            | No                                     | 4                              | 53                       | 4                                | 30   | Yes   | No  | Satisfactory quality.  |
| Dee                     | 06D010600 | Burley Br                    | 3                               | 78                            | No                                     | 4                              | 52                       | 3-4                              | 50   | Yes   | No  | Satisfactory quality.  |
| Killary Water           | 06K010100 | Killary Br Upper             | 3-4                             |                               | No                                     | 3-4                            | 64                       | 4                                | 30   | No  | No  | Agriculture, High risk farms identified. Cattle access.                                  |
| Killary Water           | 06K010500 | SW Br u/s Dee R confl        | 3-4                             |                               | No                                     | 3-4                            | 58                       | 4                                | 30   | No  | No  | Agriculture  |
| Kilmainham              | 06K040055 | Breaky Br                    | 3-4                             |                               | No                                     | 4                              | 54                       | 4                                | 30   | Yes   | No  | Satisfactory quality.  |
| Kilmainham              | 06K040075 | Br N of Kilflannan           | 4                               |                               | Yes                                    | 4                              | 51                       | 4                                | 30   | Yes   | No  | Satisfactory quality.  |
| Kilmainham              | 06K040100 | Br u/s Whitewood L           | 4                               | 85                            | Yes                                    | 4                              | 59                       | 4                                | 30   | Yes   | No  | Satisfactory quality.  |
| Athboy                  | 07A010020 | Br NW of Dogstown            | 4                               |                               | Yes                                    | 3                              | 28                       | 4                                | 30   | Yes   | No  | Recent deterioration, to be investigated.  |
| Athboy                  | 07A010050 | Br W of Kilskeer             | 3-4                             |                               | No                                     | 4                              | 25                       | 4                                | 30   | Yes   | No  | Satisfactory quality.  |
| Athboy                  | 07A010070 | Br W of Johnsbrook Ho        | 4                               |                               | Yes                                    | 4                              | 32                       | 4                                | 30   | Yes   | No  | Satisfactory quality.  |
| Athboy                  | 07A010100 | Br nr Clonleasan Ho          | 4                               | 82                            | Yes                                    | 4                              | 31                       | 4                                | 30   | Yes   | No  | Satisfactory quality.  |
| Athboy                  | 07A010200 | Just u/s Athboy Br           | 3                               | 65                            | No                                     | 4                              | 27                       | 3-4                              | 50   | Yes   | No  | Satisfactory quality.  |
| Athboy                  | 07A010300 | Br 2km SE of Athboy          | 3-4                             | 124                           | No                                     | 3                              | 53                       | 4                                | 30   | No  | No  | WWTP Athboy  |
| Athboy                  | 07A010400 | Tremblestown Br              | 3-4                             | 117                           | No                                     | na                             | 55                       | 4                                | 30   | No  | No  | WWTP Athboy, WWTP Kildalkey  |
| Athboy                  | 07A010500 | Kilnagross Br                | 3                               | 121                           | No                                     | 4                              | 59                       | 3-4                              | 50   | Yes   | No  | Satisfactory quality.  |
| Blackwater ( Kells )    | 07B011000 | Daly's Br                    | 3                               | 52                            | No                                     | 3-4                            | 30                       | 3-4                              | 50   | Yes   | No  | L. Ramor outflow, Agriculture  |
| Blackwater ( Kells )    | 07B011100 | Br nr Camaross               | 4                               | 55                            | Yes                                    | 3-4                            | 29                       | 4                                | 30   | Yes   | No  | L. Ramor outflow, Agriculture  |
| Blackwater ( Kells )    | 07B011200 | Mabe's Br                    | 4                               | 49                            | Yes                                    | 3-4                            | 30                       | 4                                | 30   | Yes   | No  | L. Ramor outflow, Agriculture  |
| Blackwater ( Kells )    | 07B011300 | Sedenrath Br (Headford Br)   | 3-4                             | 85                            | No                                     | 3-4                            | 39                       | 4                                | 30   | No  | No  | WWTP Kells   |
| Blackwater ( Kells )    | 07B011400 | Bloomsberry Br (250m u/s)    | 4                               | 111                           | Yes                                    | 4                              | 42                       | 4                                | 30   | Yes   | No  | Satisfactory quality.  |
| Blackwater ( Kells )    | 07B011500 | Donaghpatrick Br             | 4                               | 95                            | Yes                                    | 4                              | 45                       | 4                                | 30   | Yes   | No  | Satisfactory quality.  |
| Blackwater ( Kells )    | 07B011800 | Pollboy Br (Slane Rd) Navan  | 3                               | 96                            | No                                     | na                             | 45                       | 3-4                              | 50   | Yes   | No  |  |
| Blackwater ( Longwood ) | 07B020100 | Br at Johnstown              | 4                               | 57                            | Yes                                    | 4                              | 31                       | 4                                | 30   | Yes   | No  | Satisfactory quality.  |
| Blackwater ( Longwood ) | 07B020200 | Blackwater Br                | 3-4                             | 91                            | No                                     | 4                              | 48                       | 4                                | 30   | Yes   | No  | Satisfactory quality.  |
| Blackwater ( Longwood ) | 07B020400 | Br NE of Longwood            | 3-4                             | 85                            | No                                     | 3-4                            | 52                       | 4                                | 30   | No  | No  | WWTP Longwood, Agriculture.  |
| Blackwater ( Longwood ) | 07B020600 | Br u/s Boyne R confl         | 3-4                             | 85                            | No                                     | 3-4                            | 47                       | 4                                | 30   | No  | No  | Agriculture.   |
| Boycetown               | 07B030200 | Br N of Martinstown          | 3                               | 48                            | No                                     | 3-4                            | 30                       | 3-4                              | 50   | Yes   | No  | Agriculture  |
| Boycetown               | 07B030300 | Scurlockstown Br             | 3                               | 38                            | No                                     | 4                              | 26                       | 3-4                              | 50   | Yes   | No  | Satisfactory quality.  |
| Boyne                   | 07B040400 | Ballyboggan Br               | 3                               | 101                           | No                                     | 4                              | 31                       | 3-4                              | 50   | Yes   | No  | Satisfactory quality.  |
| Boyne                   | 07B040600 | Ashfield Br                  | 3-4                             |                               | No                                     | 3-4                            | 29                       | 4                                | 30   | Yes   | No  | Agriculture. Clonard WWTP. Edenderry WWTP was main impact previously, now much improved. |
| Boyne                   | 07B040800 | Inchamore Br                 | 3-4                             | 72                            | No                                     | 4                              | 23                       | 4                                | 30   | Yes   | No  | Satisfactory quality.  |
| Boyne                   | 07B040900 | Scarriff Br                  | 4                               |                               | Yes                                    | 4                              | 27                       | 4                                | 30   | Yes   | No  | Satisfactory quality.  |
| Boyne                   | 07B041000 | Derrinydaly Br               | 4                               | 58                            | Yes                                    | 4                              | 25                       | 4                                | 30   | Yes   | No  | Satisfactory quality.  |
| Boyne                   | 07B041200 | West Br Trim                 | 4                               |                               | Yes                                    | 4                              | 28                       | 4                                | 30   | Yes   | No  | Satisfactory quality.  |
| Boyne                   | 07B041400 | u/s Knightsbrook R confluent | 3                               |                               | No                                     | 3-4                            | 26                       | 3-4                              | 50   | Yes   | No  | Sewage Pumping Station Trim.   |



| Boyne        | 07B041500 | Bective Br               | 3-4              | 70                    | No                               | 3-4                      | 27                 | 4                          | 30                                       | Yes                                | No                                    | Knightsbrook River. Sewage Pumping Station Trim.   |
|--------------|-----------|--------------------------|------------------|-----------------------|----------------------------------|--------------------------|--------------------|----------------------------|--|------------------------------------|---------------------------------------|--|
| Boyne        | 07B041600 | Ballinter Br             | 3-4              | 82                    | No                               | na                       | 28                 | 4                          | 30                                       | Yes                                | No                                    |  |
| River Name   | Site Code | Location                 | Baseline Q Value | Baseline MRP (ug/L P) | Is Baseline Quality Satisfactory | Current Q Value 2004-'06 | Current MRP ug/L P | Q Standard to achieve 2007 | MRP Standard to achieve by 2007 (ug/L P) | Has Either Standard Been Achieved? | Does an Article 3(1) Extension Apply? | Where Quality is Unsatisfactory What is the Principal Source of Pollution?   |
| Boyne        | 07B041800 | Railway Br Navan         | 3-4              | 65                    | No                               | na                       | 33                 | 4                          | 30                                       | No                                 | No                                    | Possible P inputs from Navan sewer network, currently being upgraded.  |
| Boyne        | 07B041900 | 2km d/s Navan (LHS)      | 2-3              |                       | No                               | na                       | 35                 | 3                          | 70                                       | Yes                                | No                                    | Had improved to Q3-4 by 2003 after new Navan WWTP built with discharge point downstream of this station.   |
| Boyne        | 07B042000 | Broadboyne Br            | 3                | 107                   | No                               | 3-4                      | 41                 | 3-4                        | 50                                       | Yes                                | No                                    | Navan Urban Area ( sewer network ).  |
| Boyne        | 07B042100 | Slane Br                 | 3                | 95                    | No                               | 3-4                      | 45                 | 3-4                        | 50                                       | Yes                                | No                                    | WWTP Slane, P accumulated upstream in catchment.   |
| Boyne        | 07B042150 | Ford S of Broc Ho        | 3-4              |                       | No                               | 3-4                      | 41                 | 4                          | 30                                       | No                                 | No                                    | WWTP Slane, P accumulated upstream in catchment.   |
| Boyne        | 07B042200 | Oldbridge (Obelisk Br)   | 3-4              | 98                    | No                               | 3-4                      | 41                 | 4                          | 30                                       | No                                 | No                                    | P accumulated upstream in catchment.   |
| Castlejordan | 07C040100 | Baltinoran Br            | 3-4              | 54                    | No                               | 3                        | 11                 | 4                          | 30                                       | Yes                                | No                                    | Poor Q value but very low MRP. May be influenced by high ammonium or siltation from upstream IPC Licensed Peat extraction. Previous surveys indicate impaired quality u/s of influence of Rochfortbridge WWTP. |
| Castlejordan | 07C040190 | Castlejordan Br          | 3-4              | 83                    | No                               | 3                        | 13                 | 4                          | 30                                       | Yes                                | No                                    | See 07C040100 above.   |
| Deel         | 07D010400 | Inan Br                  | 3-4              | 114                   | No                               | 3-4                      | 15                 | 4                          | 30                                       | Yes                                | No                                    | Agriculture.   |
| Deel         | 07D010600 | Br u/s Boyne R confl     | 3-4              | 36                    | No                               | 4                        | 15                 | 4                          | 30                                       | Yes                                | No                                    | Satisfactory quality.  |
| Devlin's     | 07D020140 | Br S of Grange X-Rds     | 2/0              | 202                   | No                               | 4                        | 11                 | 3                          | 70                                       | Yes                                | No                                    | Satisfactory quality.  |
| Devlin's     | 07D020300 | Ford u/s Mattock R confl | 3                | 200                   | No                               | 3-4                      | 91                 | 3-4                        | 50                                       | Yes                                | No                                    | Agriculture. High run-off risk ( steeply sloped ) land.  |
| Kinnegad     | 07K010100 | Ballivor Rd Br Kinnegad  | 3-4              | 49                    | No                               | 3*                       | 14                 | 4                          | 30                                       | Yes                                | No                                    | Poor Q value but very low MRP. Siltation, eutrophication noted in EPA Biological Surveys. 2 IPC facilities ( Cement production and Peat extraction ) upstream.   |
| Kinnegad     | 07K010300 | Clonard Br               | 3                | 80                    | No                               | 4                        | 32                 | 3-4                        | 50                                       | Yes                                | No                                    | Satisfactory quality.  |
| Knightsbrook | 07K020300 | Dangan Br                | 3                | 163                   | No                               | 2-3                      | 116                | 3-4                        | 50                                       | No                                 | No                                    | WWTP Summerhill, Agriculture   |
| Knightsbrook | 07K020360 | Br nr Summerstown Ho     | 3-4              | 163                   | No                               | 4                        | 96                 | 4                          | 30                                       | Yes                                | No                                    | Satisfactory quality.  |
| Knightsbrook | 07K020500 | Br u/s Boyne R confl     | 4                | 130                   | Yes                              | 3-4                      | 78                 | 4                          | 30                                       | No                                 | No                                    | WWTP Summerhill, Agriculture   |
| Mattock      | 07M010100 | Boyd's Br                | 3                | 148                   | No                               | 3-4*                     | 107                | 3-4                        | 50                                       | Yes                                | No                                    | Agriculture, WWTP Collon   |
| Mattock      | 07M010200 | Br u/s Devlins R confl   | 3-4              | 170                   | No                               | 4                        | 73                 | 4                          | 30                                       | Yes                                | No                                    | Satisfactory quality.  |
| Mattock      | 07M010300 | New Br u/s Boyne R confl | 4                | 145                   | Yes                              | na                       | 63                 | 4                          | 30                                       | No                                 | No                                    | Agriculture.   |
| Moynalty     | 07M030070 | Clogagh Br               | 3-4              |                       | No                               | 4                        | 46                 | 4                          | 30                                       | Yes                                | No                                    | Satisfactory quality.  |
| Moynalty     | 07M030090 | Skearke Br               | 4                |                       | Yes                              | 4                        | 39                 | 4                          | 30                                       | Yes                                | No                                    | Satisfactory quality.  |
| Moynalty     | 07M030300 | Br d/s Rosehill Br       | 3                |                       | No                               | 3-4                      | 38                 | 3-4                        | 50                                       | Yes                                | No                                    | Agriculture  |
| Moynalty     | 07M030400 | Br u/s Main Ch confl     | 3                |                       | No                               | 3                        | 132                | 3-4                        | 50                                       | No                                 | No                                    | WWTP Mullagh   |
| Moynalty     | 07M030600 | Moynalty Br              | 3-4              | 130                   | No                               | 3-4                      | 48                 | 4                          | 30                                       | No                                 | No                                    | WWTP Mullagh   |
| Moynalty     | 07M030800 | Carlanstown Br           | 3-4              | 78                    | No                               | 4                        | 40                 | 4                          | 30                                       | Yes                                | No                                    | Satisfactory quality.  |
| Moynalty     | 07M030900 | Fyanstown Br             | 4                | 76                    | Yes                              | 4                        | 46                 | 4                          | 30                                       | Yes                                | No                                    | Satisfactory quality.  |
| Skane        | 07S010150 | 2 km d/s Drumree Br      | 2-3              |                       | No                               | 3                        | 185                | 3                          | 70                                       | Yes                                | No                                    | WWTP Dunshaughlin (replaced by new plant at Tara Nov06)  |
| Skane        | 07S010300 | Athronan Br              | 2-3              |                       | No                               | 3                        | 115                | 3                          | 70                                       | Yes                                | No                                    | WWTP Dunshaughlin (replaced by new plant at Tara Nov06)  |
| Skane        | 07S010500 | 2.5 km d/s Kilmessan     | 3                | 271                   | No                               | 3-4                      | 108                | 3-4                        | 50                                       | Yes                                | No                                    | WWTP Dunshaughlin (see above), Agriculture.  |
| Skane        | 07S010600 | Dowdstown Br             | 3                | 173                   | No                               | 3-4                      | 78                 | 3-4                        | 50                                       | Yes                                | No                                    | WWTP Dunshaughlin (see above), Agriculture.  |
| Stonyford    | 07S020015 | Br N of Boherard         | 3                |                       | No                               | 3                        | 13                 | 3-4                        | 50                                       | Yes                                | No                                    | Agriculture  |
| Stonyford    | 07S020030 | Snipe's Br               | 3                |                       | No                               | 3-4                      | 18                 | 3-4                        | 50                                       | Yes                                | No                                    | Agriculture  |



| Stonyford            | 07S020045 | Br NW of Gechanstown          | 3-4              |                       | No                               | 3-4                      | 14               | 4                          | 30                                       | Yes                                | No                                    | Agriculture   |
|----------------------|-----------|-------------------------------|------------------|-----------------------|----------------------------------|--------------------------|------------------|----------------------------|--|------------------------------------|---------------------------------------|---|
| Stonyford            | 07S020055 | Curlingford Br                | 3-4              |                       | No                               | 3-4                      | 9                | 4                          | 30                                       | Yes                                | No                                    | Agriculture   |
| Stonyford            | 07S020090 | Br u/s Rathkenna Br           | 4                |                       | Yes                              | 4                        | 18               | 4                          | 30                                       | Yes                                | No                                    | Satisfactory quality.   |
| Stonyford            | 07S020300 | Shanco Br                     | 4                | 37                    | Yes                              | 4                        | 19               | 4                          | 30                                       | Yes                                | No                                    | Satisfactory quality.   |
| River Name           | Site Code | Location                      | Baseline Q Value | Baseline MRP (ug/L P) | Is Baseline Quality Satisfactory | Current Q Value 2004-'06 | Current MRP ug/L | Q Standard to achieve 2007 | MRP Standard to achieve by 2007 (ug/L P) | Has Either Standard Been Achieved? | Does an Article 3(1) Extension Apply? | Where Quality is Unsatisfactory What is the Principal Source of Pollution?          |
| Stonyford            | 07S020400 | Stonyford Br                  | 4                | 62                    | Yes                              | 4                        | 21               | 4                          | 30                                       | Yes                                | No                                    | Satisfactory quality.   |
| Yellow ( Blackwater  | 07Y011100 | Br u/s Blackwater R confl     | 3                | 52                    | No                               | 3-4                      | 37               | 3-4                        | 50                                       | Yes                                | No                                    | Agriculture. Arable area.   |
| Yellow ( Castlejorda | 07Y020300 | Clongall Br                   | 4                | 56                    | Yes                              | 4                        | 18               | 4                          | 30                                       | Yes                                | No                                    | Satisfactory quality.   |
| Broadmeadow          | 08B020400 | Br 0.5km u/s Ashbourne Br     | 3                |                       | No                               | 2-3                      | 125              | 3-4                        | 50                                       | No                                 | No                                    | Ashbourne and Ratoath urban areas   |
| Broadmeadow          | 08B020500 | Milltown Br                   | 1-2              | 881                   | No                               | 2-3                      | 127              | 3                          | 70                                       | No                                 | No                                    | Ashbourne urban area  |
| Delvin               | 08D010080 | Br W of Naul                  | 3-4              |                       | No                               | 3                        | 93               | 4                          | 30                                       | No                                 | No                                    | WWTP Garristown. Agriculture.   |
| Delvin               | 08D010250 | Br NW of Forty Acres          | 3                |                       | No                               | 4                        | 89               | 3-4                        | 50                                       | Yes                                | No                                    | Satisfactory quality.   |
| Delvin               | 08D010400 | Br nr Bridgefoot House        | 3                | 240                   | No                               | 4                        | 137              | 3-4                        | 50                                       | Yes                                | No                                    | Satisfactory quality.   |
| Dunshaughlin Streat  | 08D030300 | Cookstown Br                  | 1-2              |                       | No                               | 3                        | 141              | 3                          | 70                                       | Yes                                | No                                    | MRP above 100 ugP/L all year round.   |
| Fairyhouse           | 08F010500 | Br at Donaghmore X-Rds        | 3                |                       | No                               | 3                        | 136              | 3-4                        | 50                                       | No                                 | No                                    | Septic tanks, Agriculture. Channel dredging in upper Fairyhouse in 2006.            |
| Hurley               | 08H010200 | Br at Painestown              | 3-4              | 189                   | No                               | 3-4                      | 131              |                            | 30                                       | No                                 | No                                    | S4 Licensed Discharge, Agriculture  |
| Hurley               | 08H010280 | Rathfeigh Old Bridge          | 3-4              | 209                   | No                               | 4                        | 121              | 4                          | 30                                       | Yes                                | No                                    | Satisfactory quality.   |
| Hurley               | 08H010400 | Just u/s Nanny R confl        | 3-4              | 222                   | No                               | 4                        | 126              | 4                          | 30                                       | Yes                                | No                                    | Satisfactory quality.   |
| Mosney               | 08M020100 | Br S of Mosney Ho             | 3                |                       | No                               | 3                        | 50               | 3-4                        | 50                                       | No                                 | No                                    | Agriculture. M1 road drainage a P source in rainfall events.                        |
| Nanny                | 08N010040 | Folistown Br                  | 2-3              |                       | No                               | 2-3                      | 129              | 3                          | 70                                       | No                                 | No                                    | Agriculture, Septic tanks   |
| Nanny                | 08N010110 | East Br Kentstown             | 3                |                       | No                               | 2-3                      | 148              | 3-4                        | 50                                       | No                                 | No                                    | WWTP Kentstown  |
| Nanny                | 08N010280 | Br d/s Nanny Br               | 3                |                       | No                               | 4                        | 117              | 3-4                        | 50                                       | Yes                                | No                                    | Satisfactory quality.   |
| Nanny                | 08N010500 | Br NE of Bellewstown Ho       | 3                | 296                   | No                               | 3-4                      | 151              | 3-4                        | 50                                       | Yes                                | No                                    | WWTP Dulleck, Agriculture, Tillage.   |
| Nanny                | 08N010650 | Dardistown Br                 | 4                | 202                   | Yes                              | na                       | 118              | 4                          | 30                                       | No                                 | No                                    | WWTP Dulleck, Agriculture, Tillage.   |
| Nanny                | 08N010700 | Br at Julianstown             | 3-4              | 210                   | No                               | 3-4                      | 116              | 4                          | 30                                       | No                                 | No                                    | WWTP Dulleck, Agriculture, Tillage.   |
| Ratoath Stream       | 08R010150 | Br in Ratoath                 | 2                |                       | No                               | 3                        | 177              | 3                          | 70                                       | Yes                                | No                                    | High MRP at source of watercourse which originates u/s of Ratoath, in Dunshaughlin. |
| Ryewater             | 09R010100 | Balfeghan Br                  | 3-4              | 101                   | No                               | 3-4                      | 54               | 4                          | 30                                       | No                                 | No                                    | Agriculture main influence.   |
| Ryewater             | 09R010200 | 500 m d/s Kilcock Br          | 3-4              |                       | No                               | na                       | 52               | 4                          | 30                                       | No                                 | No                                    | Agriculture main influence. No MRP point source impact at Kilcock.                  |
| Ryewater             | 09R010300 | Anne's Br                     | 3-4              | 98                    | No                               | 4                        | 58               | 4                          | 30                                       | Yes                                | No                                    | Satisfactory quality.   |
| Ryewater             | 09R010400 | Kildare Br                    | 3                | 176                   | No                               | 3                        | 90               | 3-4                        | 50                                       | No                                 | No                                    | Lyreen river, very high MRP.  |
| Tolka                | 09T010300 | Br at Black Bull              | 2                | 277                   | No                               | 3-4                      | 166              | 3                          | 70                                       | Yes                                | No                                    | High background MRP. Batterstown WWTP. Agriculture. Unrestricted cattle access.     |
| Tolka                | 09T010500 | Rusk Br                       | 2                | 192                   | No                               | na                       | 104              | 3                          | 70                                       | No                                 | No                                    | High background MRP u/s of Dunboyne.  |
| Tolka                | 09T010600 | Dunboyne Rd Br u/s Clonee     | 3                | 197                   | No                               | 3-4                      | 94               | 3-4                        | 50                                       | Yes                                | No                                    | High background MRP. Unsewered areas. Agriculture.                                  |
| Inny                 | 26I010060 | Br NW of Ballinvally          | 3                |                       | No                               | 3                        | 15               | 3-4                        | 50                                       | Yes                                | No                                    | Low MRP. Cattle access points upstream.   |
| Inny                 | 26I010100 | Br 1 km S of Oldcastle        | 3-4              | 46                    | No                               | na                       | 15               | 4                          | 30                                       | Yes                                | No                                    | Agriculture. Extensive Drainage works.  |
| Inny                 | 26I010200 | Castlecor: 1st Br d/s St 0100 | 3-4              | 78                    | No                               | 3                        | 24               | 4                          | 30                                       | Yes                                | No                                    | WWTP Oldcastle  |
| Inny                 | 26I010300 | Ballinrink Br                 | 4                | 53                    | Yes                              | 3-4                      | 29               | 4                          | 30                                       | Yes                                | No                                    | WWTP Oldcastle  |