

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.

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

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, 20th 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.

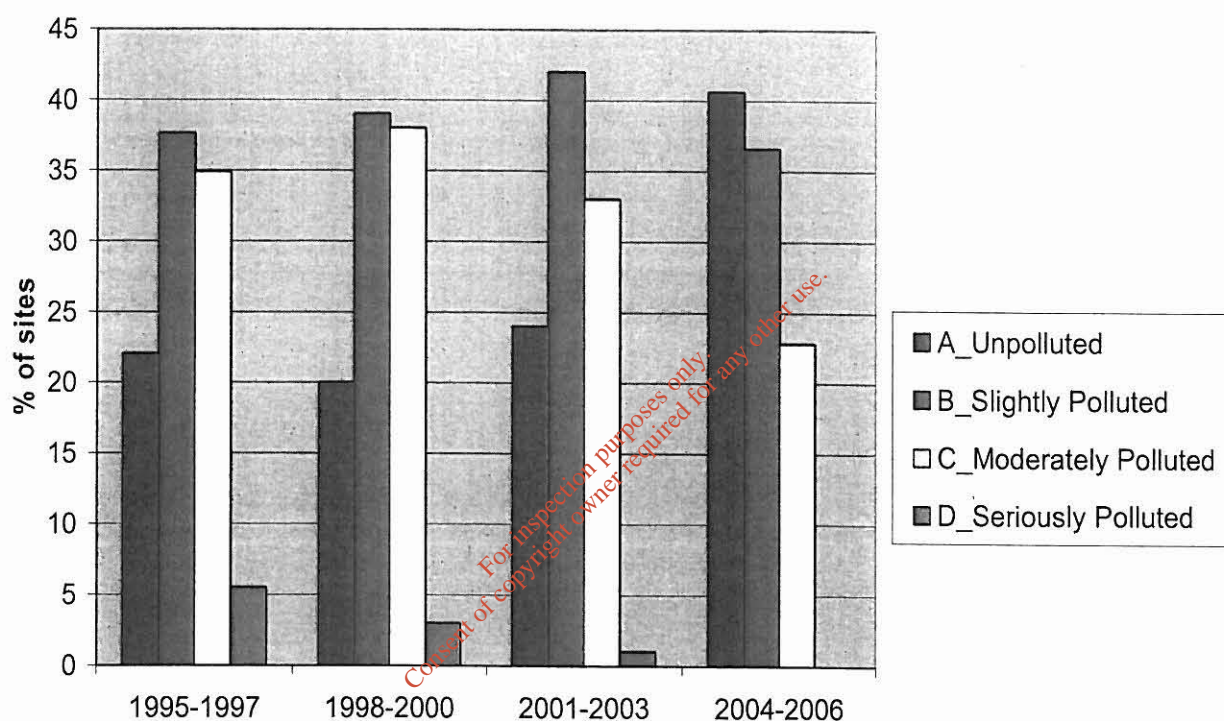


Figure 1.1: Water Quality Status in Meath - 1995 to 2006, source EPA Biological Surveys

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.

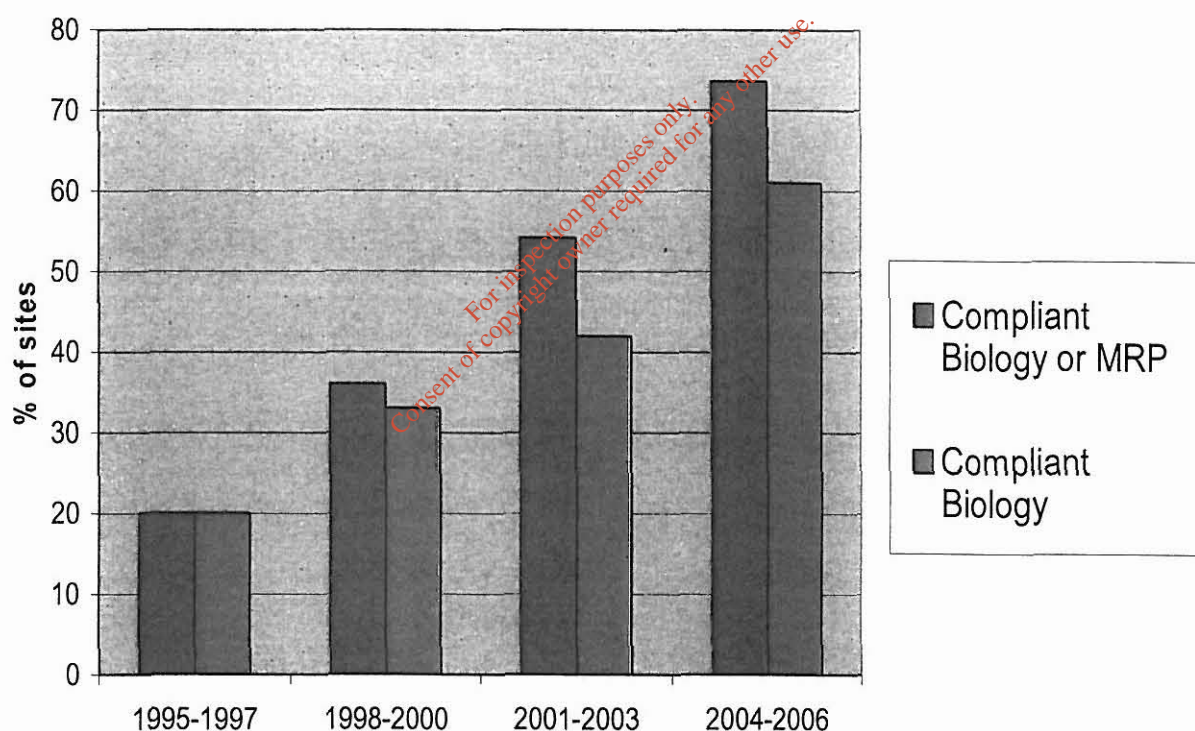


Figure 1.2: Compliance with 2007 Quality Standards in Meath

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, 1st and 2nd 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 Surveyed	High Risk	Medium Risk	Low Risk	Re- inspected	S.12 served	S.12 Pending	S.3 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

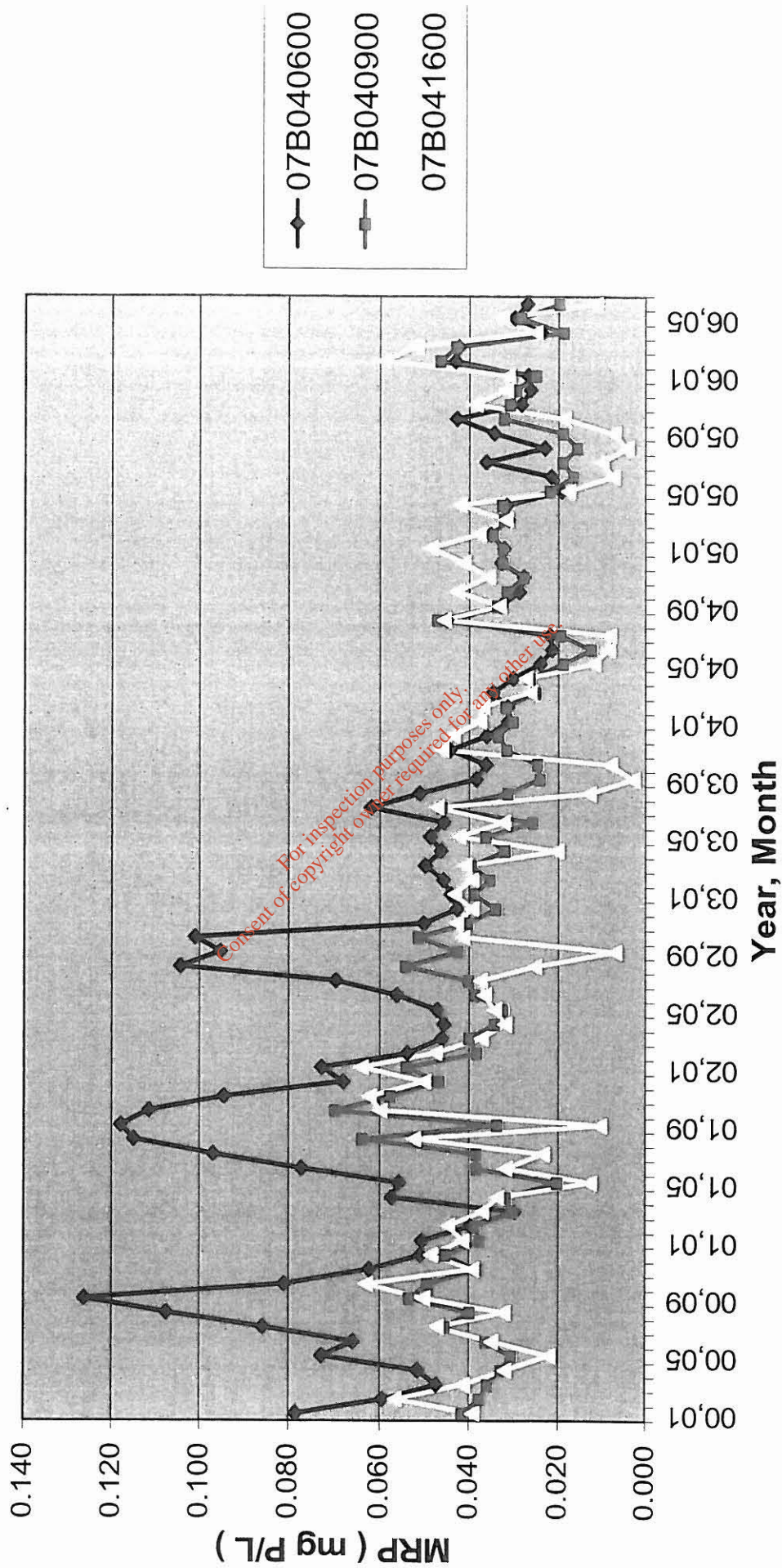
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Appendix A6

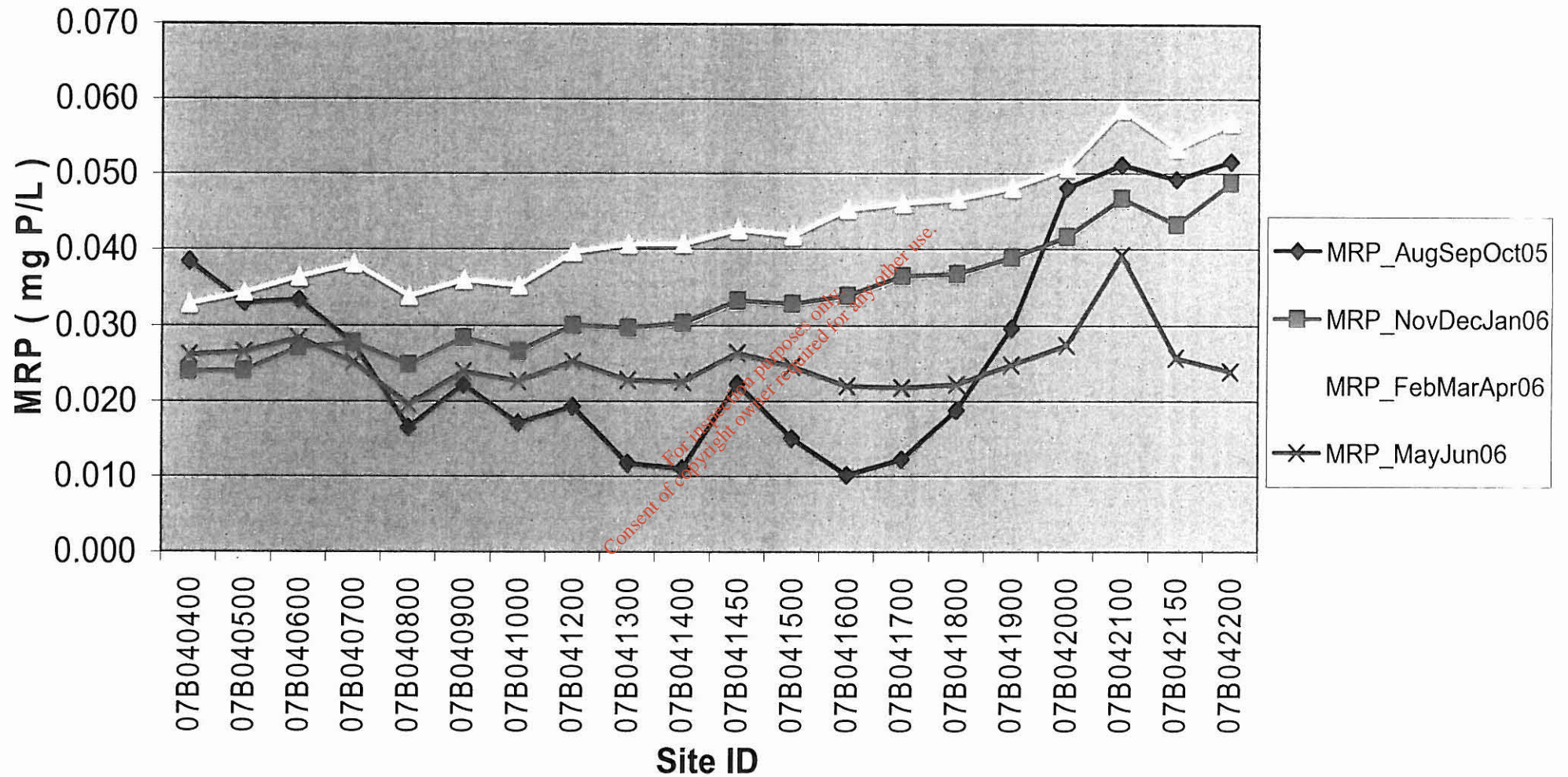
IPPC Licences in County Meath
(source EPA)

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 mgP/L	Q value Baseline	Q_2001- 2003	Q_2004- 2006	Change in Q	WWTP upgrade	Farm Survey	WPA 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							
Discharge Licensing	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
Municipal Wastewater Treatment Plants	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) 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) 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
Farm Surveys	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. 193 surveys by Aug 2006. 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
Active Enforcement of Water Pollution Acts	Investigate all reported pollution complaints.	2 staff assigned full time to water pollution complaints investigation.	Ongoing	SES, ES, AS	System fully operative. 179 investigations July 2004-2006. 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. 179 investigations July 2004-2006.		Ongoing
		Water Pollution Act used where necessary.	Ongoing	SES, ES, AS	76 warning letters, 87 S 12s, 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. 179 investigations July 2004-2006.		Ongoing
Integration of Planning and Water Quality functions	Improve integration of planning and water quality functions	Referral process for applications which could impact on water quality.	Ongoing	SE (Env) 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
Groundwater Protection Scheme	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
Monitoring Measures							
River Monitoring	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
MWWTP monitoring	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, 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
Liaison with partners in Catchment Management	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							
General Public Education Campaigns	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 0035 - Q3-4 0200 - Q3-4 0360 - Q4 0450 - Q4 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 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 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. Further Farm Surveys required, non-compliant sites.	Re-inspections ongoing enforcement of WPA Farm Surveys	ongoing	by end 2007
				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	2010	SE_Inf 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 0075 - Q4 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 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 0050 - Q4 0070 - Q4 0100 - Q4 0200 - Q3-4 0300 - Q4 0400 - Q4 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. 14 S12 Notices served. Further surveys scheduled for 2006 / 2007.	Re-inspections ongoing enforcement of WPA 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 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 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 1100 - Q4 1200 - Q4 1300 - Q4 1400 - Q4 1500 - Q4 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. 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. 3 Discharge Licences monitored. 1 new S16 Licence issued since 2004. Warning letters to 2 Licencees.			
				WWTPs		SE_Inf 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. monitor overflow and develop response for storm water events		to start 2009 Oct-06 onwards
				Comments			L. Ramor outflow impacts on water quality in river downstream.			

Code	River	Stations	Standards to be achieved at sites	Measures	Timeframe	Responsible for implementation	Progress to date
07B02	Blackwater (Longwood)	0600 - 0600	0100 - Q4 0200 - Q4 0400 - Q4 0600 - Q4	Farm Surveys end 2007	SES, ET	Farm Surveys to be targeted in lower catchment, upstream of non-compliant sites 0600 and 0400. Focus on potential high risk areas with connectivity / proximity to river or feeder streams.	Farm Surveys on time
07B03	Boyclownn	0200 - 0300	0200 - Q3-4 0300 - Q3-4	Farm Surveys end 2006 River Surveys end 2006 Enforce WPA ongoing	SES, ES, AS SES, EC, ET SES, ES, AS	All calls logged and reported through Call Management System. See Appendix A4. 2 staff full time on pollution complaints investigation Farms surveys required upstream of site 07B030200, Q3-4. Farm surveys requested upstream of site 07B030200, Q3-4 between 07B030200 and 07B030100. All calls logged and reported through Call Management System. See Appendix A4. 2 S4 Discharge Licences monitored. Warning letters issued to 2 Licensees. No WWTPs in catchment.	No WWTPs in catchment. Both sites have improved Q values in 2006 Biological Survey, sites comply. Some arable land and Teagasc 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							
			1000 - Q4	Enforce WPA	ongoing	SES, ES, AS	2 staff full time on pollution complaints investigation			
			1200 - Q4				All calls logged and reported through Call Management System. See Appendix A4.			
			1400 - Q3-4				11 S4 and 4 S16 Discharge Licences monitored.			
			1500 - Q4				5 Licences issued since 2004.			
			1600 - Q4				Warning letters to 6 Licensees. 5 Licenced facilities audited.			
			1800 - Q4				Legal action initiated on 1 licence.			
			1900 - Q3							
			2000 - Q3-4	WWTPs		SE_Inf SE_Env	Navan, Trim, Donore, Slane, Dunderry WWTPs monitored.		yes	
			2100 - Q3-4				Navan and Trim plants commissioned since 2000, P removal.			
			2150 - Q4				Navan / Johnstown sewerage scheme in WSIP 2005.			
			2200 - Q4				Navan and Trim sewer network improvements needed and proposed in AoNs 2006. Both proposed to start 2008.	Approval required for works identified in AoNs	no	2008 completed in 2009
							Donore WWTP upgrade in WSIP 2003, delayed, construction to start early 2007. Slane WWTP in AoNs 2006.			
							Edenderry WWTP (Offaly) upgraded, P removal.			
				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.			
							6 sites have improved in Q value since baseline. 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			
			0190 - Q4				All calls logged and reported through Call Management System. See Appendix A4.			
				WWTPs		SE_Inf SE_Env	Ballinabrackey WWTP upgrade included in 2006 AoNs in Grouped DBO, 2010.			
							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 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 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 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 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 0300 - Q3-4	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			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 0360 - Q3-4 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 for implementation	Responsible	Progress to date	Corrective Action	Action Revised
07M01	Mattock	0100 - 0300	0100 - Q3-4 0200 - Q4 0300 - Q4	Farm Surveys River Surveys Enforce WPA WTPs Comments	end 2006 end 2006 ongoing	SES, ET SES, EC, ET SES, ES, AS	8 farms surveyed, 7 low risk, 1 high risk Further surveys required. Investigative survey required in upper reaches to isolate effect of Collon WTP. 2 staff full time on pollution complaints investigation All calls logged and reported through Call Management System. See Appendix A4. Collon WTP (Louth) discharges in upper reach 2 upper sites have improved by half a Q each since baseline. Upper site has high MRP, especially in summer, indicating point source of P. 1 IPC facility (Pigery) in catchment. High slope and run-off risk in upper catchment.	Re-inspections ongoing enforcement of WPA. Farm Surveys.	ongoing by end 2007 by end 2007
07M03	Moynally	0070 - 0900	0070 - Q4 0090 - Q4 0300 - Q3-4 0400 - Q3-4 0600 - Q4 0800 - Q4 0900 - Q4	Farm Surveys River Surveys	end 2007 end 2006	SES, ET SES, EC, ET SES, ES, AS	Farm surveys to protect Q4 status of upper reaches. Non-compliant sites in vicinity of Mullagh so prioritise this pressure. 1 day investigative survey to date, further surveys required. 2 separate point sources indicated in vicinity of Mullagh: 1st from Mullagh tributary, likely WWTP, 2nd source indicated between 03M030100 and 03M030300, ie. main channel Moynally at Mullagh but upstream of WWTP and tributary. Investigative survey at this stretch to identify sources. 2 staff full time on pollution complaints investigation	Farm Surveys Investigative survey. Liaise with Cavan CC	by end 2007 by end 2007 by end 2007

							All calls logged and reported through Call Management System. See Appendix A4.			
				WWTPs		SE_Inf 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. 2 lowermost sites downstream of Carlanstown have both improved to Q4 in 2006 Biological survey. 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 0300 - Q3 0500 - Q3-4 0600 - Q3-4	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 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 0030 - Q3-4 0045 - Q4 0055 - Q4 0090 - Q4 0300 - Q4 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 enforcement of WPA Farm Surveys	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.			
				WWTPs		SE_Inf 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 All calls logged and reported through Call Management System. See Appendix A4. No WWTs in catchment. Unsewered population. Investigative river survey and farm surveys required. 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 All calls logged and reported through Call Management System. See Appendix A4. No WWTs in catchment. Site has maintained Q 4 since 1997. Annual median MRP 18 ug P/L.			

Code	River	Stations	Standards to be achieved at sites	Measures	Timeframe	Responsible	Project to date	Corrective Action	Action Completed	Revised Timeframe
08B02	Broadmeadow	0400 - 0500	0400 - Q3-4	River Surveys end 2006	SES, ES, AS	SES, ES, AS	3 days investigative surveys carried out to date, including survey coordinated with Fingal CC.	Project to date	yes	
		0500 - Q3		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. 3 S16 discharge licences, 1 under review. 1 active S4 discharge licence. 1 S4 licence revoked.				
						SE_Inf	Ashbourne/Ratoath/Killbride Sewerage Scheme phase 1 completed, effluent no longer discharged to Broadmeadow.			
						SE_Env	New Pumping Stations pump effluent to Dublin for treatment. Phase 2 approved in WSIP required to upgrade sewer capacity.	Phase 2 at Design/Planning stage		
							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. High water table, poorly drained soils, diffuse sources in upper reaches may be influential.			

08D01	Delvin	0080 - 0400	0080 - Q4 0250 - Q3-4 0400 - Q3-4	Enforce WPA	ongoing	SES, ES, AS	Investigative Surveys required in upper branches. 2 staff full time on pollution complaints investigation All calls logged and reported through Call Management System. See Appendix A4. 4 S4 discharge licences, 1 currently under review to reduce phosphorus load discharged.	1 S4 under review		by end 2006
				WWTPs		SE_Inf SE_Env	Stamullen WWTP upgraded 2002, P removal recently improved. AoN 2006 proposes East Meath Sewerage Scheme, major new WWTP at Gormanstown to serve Stamullen, Mosney and Gormanstown. Garristown WWTP (Fingal) discharging to upper reaches. Naul WWTP (Fingal) discharges u/s 08D010250. Both plants to be upgraded by summer 2007, (contractors appointed). Meath CC have met with Fingal CC to liase on water quality.	Approval required for new plant identified in AoNs 2006. Garristown and Naul WWTP upgrade (Fingal)		mid 2007
				Comments			River is high in MRP from upper reaches below Garristown. 08D010080 has dropped from Q3-4 in baseline to Q3. Both lower sites have improved from Q3 in baseline to Q4. MRP input evident at Stamullen / Gormanstown. 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 All calls logged and reported through Call Management System. See Appendix A4.			
				WWTPs			No WWTP in catchment 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. High water table, poorly drained soils, so diffuse sources could be a major influence. 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. 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 at sites	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 0110 - Q3-4 0280 - Q3-4 0500 - Q3-4 0650 - Q4 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. 9 farms surveyed in lower catchment, 5 high risk, 4 low risk. 4 farms re-inspected, 1 S12 issued. Further surveys and re-inspections required. Surveys to target areas upstream of 2006 report non-compliant sites. 2 staff full time on pollution complaints investigation All calls logged and reported through Call Management System. See Appendix A4. 9 S4 Discharge Licences, Audit Visits to 6 Licensed Facilities, Warning Letters issued to 7 Licensees. 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. 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. Kenstown and Duleek WWTPs impacting but high MRPs also noted upstream of these impacts. Arable farmland significant in catchment, 1 IPC licenced piggyery, 1 IPC licenced cement manufacturing facility. 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 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 All calls logged and reported through Call Management System. See Appendix A4.			
				WWTPs			No WWTPs in catchment. Ashbourne/Ratoath/Kilbride Sewerage Scheme phase 1 completed, effluent no longer discharged to Ratoath stream.			

							All calls logged and reported through Call Management System. See Appendix A4. 2 S4 Discharge Licences, 1 Licence issued in 2005. 2 further Licences revoked as replaced by Waste Licence. Warning Letter to 1 Licensee. Audit visit to 1 Licensed facility.				
						WWTPs	Battertown WWTP serves only a limited number of houses in village. New plant for Battertown proposed in 2006 AoNs as part of Group of 15 Villages DBO Sewerage Scheme. Dunboyne served by connection to Dublin sewer network.			Approval required for new WWTP in Battertown.	start 2010
						Comments	3 sites have improved in Q value since baseline, 0300 and 0600 meet Biological targets. High unsewered population in catchment. Upper Tolka u/s and d/s of Battertown shows high MRP during summer low flows. Point sources such as unsewered population a suspected factor. Unrestricted cattle access also noted in surveys. Area has a high water table with poorly drained soils, diffuse pollution may contribute to high MRP levels.			Septic tank surveys. New sewer network to decrease unsewered population	by end 2007

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Code	River	Stations	Standards to be achieved at sites	Measures	Timeframe for Implementation	Responsible for Implementation	Progress to date	Corrective Action	Action Completed on time	Revised Timeframe
26101	Inny	0060 - 0300	0060 - Q3-4 0100 - Q4 0200 - Q4	Farm Surveys River Surveys	end 2006	SES, ET SES, EC, ET	Farm Surveys to be carried out in upper catchment. 6 days investigative river surveys in 2005, in upper catchment, eastern and southern branches to stream source.	Farm Surveys		by end 2007

Table 1.1: Water Quality in the Functional Area

River Name	Site Code	Location	Baseline Q Value 1995-'97	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?	What is the Principal
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