# Interim Report on the Biological Survey of River Quality

## Results of the 2004 Investigations

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## PREFACE

Section 65 (3c) of the Environmental Protection Agency Act, 1992, requires the Environmental Protection Agency (EPA) to "*carry out, cause to be carried out, or arrange for such monitoring as it may consider necessary for the purposes of the programme"*. The "programme" referred to is the national environmental monitoring programme which the Agency is responsible for implementing or having implemented. In the present context the objectives of this programme are

a) to establish the ongoing quality status of our rivers and streams
b) to monitor quality changes and trends over time
c) to assess the performance of pollution control and abatement measures
d) to provide feedback to the responsible control agencies and
e) to inform the general public

In relation to the "control agencies" mentioned above the responsibility for the licensing and regulation of large/complex industrial and other processes (including intensive agriculture) rests with EPA whereas the control and abatement of pollution from older and ''non-scheduled'' industry, from sewage and from agriculture remains the statutory responsibility of the local authorities.

The biological survey which is currently carried out by Agency biologists in Dublin, Kilkenny and Castlebar forms an essential element of the national monitoring programme. This survey was initiated by the then An Foras Forbartha (AFF) in 1971 when some 2,900km of channel on the larger rivers and their more important tributaries were biologically assessed for the first time. Since then the scope of the investigations has been steadily extended so that by 1990 virtually all of the rivers and streams depicted on the Ordnance Survey Map entitled "Rivers and their Catchment Basins" had been examined .

Although there are very many smaller streams which do not appear on this map, and which are not included in the survey, those which are shown are considered to form an acceptably representative national baseline.

The total number of rivers and streams in this baseline now stands at 1072; these are biologically surveyed at some 3,100 locations extending over 13,100 kilometres of channel. For logistical reasons just a third of this baseline can be surveyed in any year and thus the baseline takes three years to survey.

The survey is complemented by the physico-chemical measurements of river quality made by the Regional Water Laboratories at Castlebar, Kilkenny and Monaghan and those of the many local authority laboratories. Such chemical data are required to assess compliance with prescribed physico-chemical standards and for the precise identification and quantification of pollutants in waters.

This interim report continues the series issued by AFF from 1973 to 1986 and by the Environmental Research Unit (ERU) from 1989 to 1991.

## CONTENTS

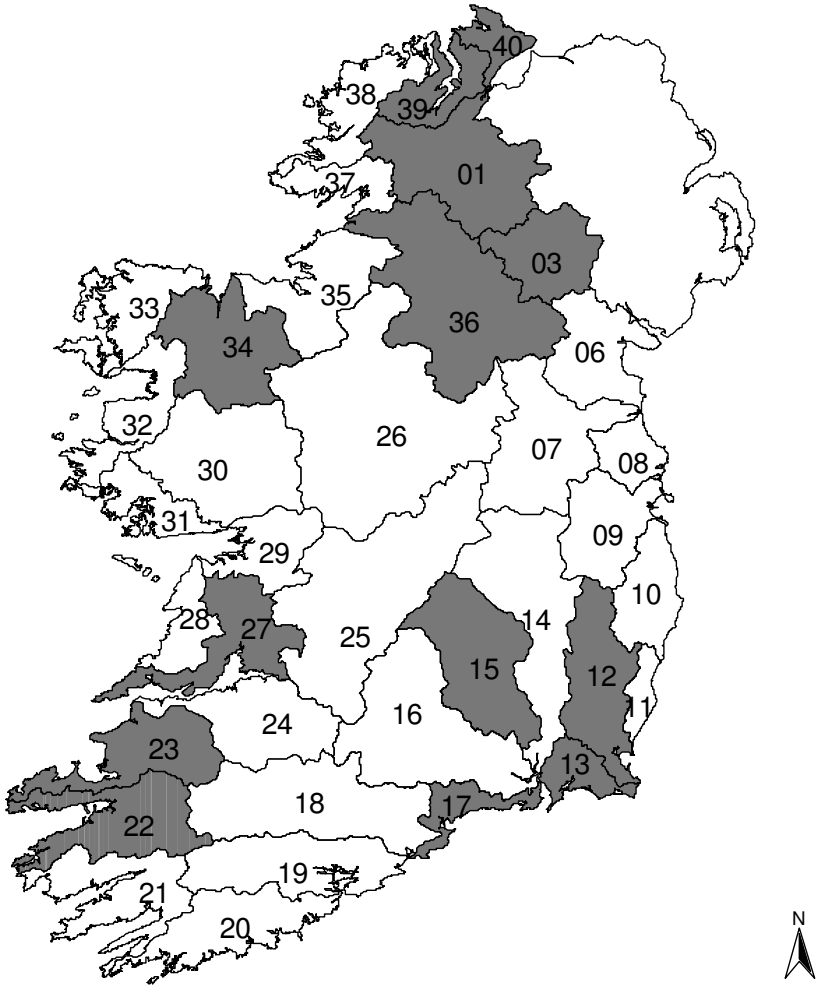


**Fig. 1. Hydrometric Areas of Ireland. Shaded areas surveyed in 2004.**

# INTRODUCTION

This report presents the results of the biological river quality investigations carried out in the year 2004 in which 583 locations on 223 rivers and streams were surveyed in those Hydrometric Areas indicated in Fig. 1 and below:-

| H.A. | No. of | No of Sts in Class:- | | | | |
|---|---|---|---|---|---|---|
| Number | Rivers | A | B | C | D | Total |
| **01** | 17 | 17 | 8 | 15 | 1 | 41 |
| **03** | 5 | 6 | 2 | 10 | - | 18 |
| **12** | 31 | 66 | 25 | 6 | 1 | 98 |
| **13** | 8 | 11 | 7 | 3 | - | 21 |
| **15** | 6 | 9 | 16 | 8 | 1 | 34 |
| **17** | 9 | 19 | 6 | 1 | - | 26 |
| **22** | 27 | 51 | 3 | 4 | 2 | 60 |
| **23** | 11 | 17 | 3 | 1 | - | 21 |
| **27** | 10 | 5 | 4 | 7 | - | 16 |
| **34** | 25 | 58 | 4 | 1 | 4 | 67 |
| **36** | 29 | 50 | 29 | 18 | 2 | 99 |
| **39** | 28 | 34 | 6 | 10 | 2 | 52 |
| **40** | 17 | 20 | 2 | 6 | 2 | 30 |
| **TOTALS** | **223** | **363** | **115** | **90** | **15** | **583** |

This is the first year in the current 3-year cycle of investigation (2004–2006) in which the national baseline of some 13,100 km of river channel is to be reassessed. All available biological and physico-chemical data acquired in the previous (2001–2003) cycle are set out and discussed in a report published by the Environmental Protection Agency (EPA) in May 2005 (Toner et al., 2001)

## POLLUTION TYPES AND SOURCES

The commonest type of pollution - organic pollution - is caused by sewage, animal manure slurries and food processing wastes: as the waste is consumed by the organisms of decay the oxygen in the water is used up and the breakdown products (including phosphorus and nitrogen compounds) are released into the water. The main effects of organic pollution are therefore, the depletion of oxygen in the area immediately below the discharge and eutrophication (i.e., enrichment) in the recovery zone further downstream. Eutrophication, which is also caused by the inappropriate and/or excessive application of organic (slurry) and inorganic (artificial) manure to agricultural and forestry lands, has become very widespread in recent years and in the period 1998- 2000 it was estimated that approximately one third of river channel length surveyed was affected to some degree. The characteristic symptom of eutrophication in rivers is abnormally luxuriant growths of water weed and filamentous algae which cause a variety of problems in affected waters.
Toxic pollution is commonly caused by poisons such as sheep dip, mining wastes and industrial discharges and its effects are recognisably different to those caused by organic wastes. Physical pollution refers to siltation arising from quarrying, bog and forestry development and arterial drainage.
Some wastes (e.g., sewage and manure slurries) commonly exert the three effects viz. organic, toxic and physical.

## WATER QUALITY ASSESSMENT

As more fully discussed in Appendix I, water quality and water pollution assessment methods fall into two main categories - biological methods and chemical methods. Each approach has its own particular applications, strengths and weaknesses but ideally a combination of both is preferable to either on its own.

### Biological Surveys: General

Biological surveys are usually undertaken in the summer–autumn period (June–September) when flows are likely to be relatively low and water temperatures highest. Surveys during this period are likely, therefore, to coincide with the worst conditions to be expected in those reaches affected by waste inputs. Material for examination is obtained by a `kick' sampling technique in the faster-flowing areas of the river or stream (riffles) and the examination and assessment of water quality is made on site.
Measurements of DO saturation and water temperature, as well as observations on macrophyte and algal abundance, substratum type, water appearance and other biological and physical features are also recorded.

## The Survey of 2004

In the pages which follow the biotic index ascribed to each location surveyed in the current year is set out together with the Q values recorded in the previous surveys plus a brief assessment of the current quality position. Following this is a section setting out details of sampling locations and general catchment characteristics.
A summary and explanation of the terminology employed in these assessments is set out in Appendix I.

## THE PHOSPHORUS REGULATIONS

Government Regulations (S.I. No. 258 of 1998) intended to counter eutrophication have been introduced in recent years. In order to comply with the requirements of the Regulations and also with the Dangerous Substances in Water Directive (CEC 1976) phosphorus inputs to surface waters must be curtailed. The effectiveness or otherwise of measures designed to achieve this objective must be assessed and the Regulations allow for either chemical or biological assessment methods to be used. This approach is proposed because of the statistically robust cause-effect relationship which has been established between P concentrations and eutrophication status (McGarrigle *et. al.,* 1992).
As stated above, quality ratings of Q4 and higher represent satisfactory conditions where eutrophication is unlikely to be a problem. Because annual median P values in such waters rarely exceed 30 μg P/l this concentration has been adopted as the target value to be achieved by 2007. Because of the relationship between P values and eutrophication, progress towards achieving the specified targets may assessed with reference to EPA biological surveys or by chemical analysis. Table 2 below summarises the requirements of Regulations. Only those rivers and streams biologically surveyed by EPA in the period 1995-1997 are covered by the Regulations: these are set out in the floppy disc which accompanies the National Water Quality Report for that period (Lucey *et. al.,* 1999).

| TABLE 2. Phosphorus Standards Regulations target values for Irish Rivers | | |
|---|---|---|
| ***If*** | *Then* | |
| **The current Q-Value[1] falls into the category below:** | ***Either*** **The minimum Q-Value[1] to be achieved is:** | ***Or*** **The annual median orthophosphate concentration[2] (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** | **3-4** | **50** |
| **≤2** | **3** | **70** |

[1] Biological Quality Rating (Q-Value) as assessed by EPA staff during National River Monitoring Programmes.

[2] Molybdate-Reactive Phosphate (MRP) Median concentration to be determined as a minimum of 10 samples taken at intervals of four weeks or longer in any twelve consecutive month period. Where the requisite number of samples has not been taken within such period, the median concentration shall be determined from sampling conducted over such period, being a period not exceeding 24 months, as required to obtain a minimum of 15 samples taken at intervals of four weeks or longer.

# HYDROMETRIC AREA 01

***Foyle***

| | |
|---|---|
| Bunadaowen | 01B01 |
| Burn Daurnett | 01B02 |
| Carrigans | 01C01 |
| Clogher (Finn) | 01C06 |
| Cloghroe | 01C05 |
| Cross Roads Stream | 01C04 |
| Cummirk | 01C03 |
| Deele (Donegal) | 01D01 |
| Elatagh | 01E02 |
| Finn (Donegal) | 01F01 |
| Greenhill Stream[1] | 01G02 |
| Mourne beg | 01M01 |
| Reelan | 01R01 |
| Rough Burn | 01R02 |
| St. Johnston[1] | 01S01 |
| Stranagappoge | 01S02 |
| Swilly Burn | 01S03 |

[1] indicates non-baseline rivers i.e., those which are not shown on the O.S. map entitled ''Rivers and their Catchment Basins''

# Ecological Assessment of Rivers 2004

River and Code : **BUNADAOWEN** **01/B/01**
Tributary of : Mourne Beg OS Catchment No: 63
OS Grid Ref : H 082 879 Date(s) Surveyed : 25/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1990 | 1994 | 1997 | 1998 | 2001 | 2004 |
| 0100 | Br u/s Mourne Beg confl | 4* | 3 | 4* | 3 | 3* | 3 |

***Assessment:*** In 2004 the Bunadowen had a measured conductivity of 38.5 µS/cm on the day of sampling indicating low alkalinity, acidic conditions. Faunal diversity was very low with only six taxa noted in the sample. The catchment is dominated by coniferous forestry plantations which cover over 40% of the upstream catchment. It is likely that the extensive forestry plantations have caused an increase in acidity reducing the faunal diversity.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0100 | Br u/s Mourne Beg confl | 208144 | 387425 | 12 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 151 | 10 | 93 | 7 | 0 | 44 | 30 | 0.0 | 0 | 0 | 26 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 01

River and Code : **BURN DAURNETT** **01/B/02**
Tributary of : Finn (Donegal) OS Catchment No: 62
OS Grid Ref : H 143 944 Date(s) Surveyed : 25/08/2004

| Stations No. | Biological Quality Ratings (Q Values) 1975 | 1979 | 1987 | 1988 | 1990 | 1994 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | - | - | 4-5 | - | 3 | 3 | 3 | 2-3 | 2-3 | 2-3/0 |
| 0100 | - | 4-5 | 4 | - | 3-4 | - | - | - | - | - |
| 0200 | 1/0 | - | 1-2 | 2-3 | 1 | 2-3 | 2-3 | 2-3 | 2-3 | 2-3 |
| 0300 | - | - | 2 | 2-3 | 3 | - | - | - | - | - |

***Assessment:*** In 2004 the Burn Daurnett was once again quite severely polluted by the discharges from a water treatment works upstream of station 0010. The river is still moderately polluted in Ballybofey at Station 0200.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0010 | Blackburn Bridge | 209556 | 391993 | 12 | DL |
| 0100 | Burn Daurnett Bridge | 212744 | 393499 | 12 | DL |
| 0200 | Bridge N.W. of Daisy Hill | 213721 | 393806 | 12 | DL |
| 0300 | Br just u/s Finn River confl | 214354 | 394243 | 12 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 104 | 5 | 100 | 0 | 0 | 27 | 63 | 0.0 | 0 | 0 | 11 |
| 0200 | 23 | 25 | 100 | 0 | 5 | 11 | 25 | 0.3 | 28 | 0 | 31 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **CARRIGANS** **01/C/01**
Tributary of : Null OS Catchment No: 61
OS Grid Ref : C 370 112 Date(s) Surveyed : 14/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1994 | 1997 | 1998 | 2002 | 2004 |
|---|---|---|---|---|---|---|
| 0150 | Bridge N. of Garshooey Lower | 4 | 3-4 | 3 | 3 | 3 |
| 0200 | Bridge at Carrigans | 3 | 3 | 2-3 | 3 | 2-3 |

***Assessment:*** The Carrigans was moderately polluted at both sites examined in 2004.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0150 | Bridge N. of Garshooey Lower | 238323 | 414086 | 7 | DL |
| 0200 | Bridge at Carrigans | 236470 | 411713 | 7 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0150 | 39 | 0 | 100 | 0 | 100 | 0 | 0 | 0.0 | 0 | 0 | 0 |
| 0200 | 6 | 35 | 100 | 0 | 56 | 1 | 5 | 0.0 | 36 | 0 | 2 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 01

River and Code : **CLOGHER (FINN)** **01/C/06**
Tributary of : Reelan OS Catchment No: 62
OS Grid Ref : H 018 964 Date(s) Surveyed : 18/08/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1990 | 1994 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0100 | Br W Ballykergan | 4-5 | 3-4 | 3-4 | 3 | 3-4 | 3/0 |

***Assessment:*** The Clogher River had musty smelling organic mats on the substratum and a very sparse fauna - only eight taxa were recorded which is significantly lower than on all previous sampling occasions.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Br W Ballykergan | 201750 | 394904 | 11 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 85 | 38 | 49 | 51 | 5 | 9 | 62 | 0.0 | 1 | 0 | 23 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **CLOGHROE** **01/C/05**
Tributary of : Deele (Donegal) OS Catchment No: 61
OS Grid Ref : C 170 008 Date(s) Surveyed : 20/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1990** | **1994** | **1997** | **1998** | **2001** | **2004** |
| 0200 | Cloghroe Bridge | 4 | 4 | 4 | 4 | 4 | 4 |
| 0300 | Callan Bridge | 5 | 4 | - | - | - | - |
| 0400 | Br d/s Callan Br | - | - | 5 | 4-5 | 4 | 4 |

***Assessment:*** The Cloghroe river was satisfactory in August 2004

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0200 | Cloghroe Bridge | 214182 | 400009 | 6 | DL |
| 0300 | Callan Bridge | 216310 | 399360 | 6 | DL |
| 0400 | Br d/s Callan Br | 216351 | 400136 | 6 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 116 | 8 | 100 | 0 | 14 | 11 | 58 | 0.0 | 11 | 0 | 5 |
| 0400 | 72 | 11 | 100 | 0 | 17 | 8 | 45 | 0.0 | 22 | 0 | 7 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 01

River and Code : **CROSS ROADS STREAM** **01/C/04**
Tributary of : Finn (Donegal) OS Catchment No: 62
OS Grid Ref : H 207 935 Date(s) Surveyed : 19/08/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1990 | 1994 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0200 | Br at Monellan Ho | - | - | 4 | 4 | 4-5 | 4 |
| 0300 | Bridge W. of Avaltygort Hill | 4 | 4 | - | - | - | - |
| 0400 | Bridge at Cross Roads | 2-3 | 3-4 | - | - | - | - |
| 0500 | 0.2 km d/s Br at Cross Roads | - | - | 3-4 | 3-4 | 3-4 | 3 |

***Assessment:*** An ongoing water quality problem is apparent at Station 0500, downstream of the bridge in Cross Roads village. The upper site (0200) was of satisfactory quality.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Br at Monellan Ho | 218899 | 391671 | 12 | DL |
| 0300 | Bridge W. of Avaltygort Hill | 219892 | 392865 | 12 | DL |
| 0400 | Bridge at Cross Roads | 219994 | 393201 | 12 | DL |
| 0500 | 0.2 km d/s Br at Cross Roads | 220033 | 393256 | 12 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 65 | 4 | 100 | 0 | 56 | 4 | 24 | 0.0 | 13 | 0 | 3 |
| 0300 | 25 | 12 | 100 | 0 | 42 | 4 | 18 | 0.5 | 20 | 0 | 15 |
| 0400 | 17 | 12 | 100 | 0 | 42 | 4 | 18 | 1.1 | 20 | 0 | 15 |
| 0500 | 16 | 12 | 100 | 0 | 42 | 4 | 18 | 1.2 | 20 | 0 | 15 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **CUMMIRK** **01/C/03**
Tributary of : Finn (Donegal) OS Catchment No: 62
OS Grid Ref : B 993 018 Date(s) Surveyed : 18/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1990 | 1994 | 1997 | 1998 | 2001 | 2004 |
| 0100 | Cummirk Bridge (Upper) | 5 | 4 | 4 | 4 | 4-5 | 4-5 |
| 0300 | Cummirk Bridge (Lower) | 4-5 | 4 | 4 | 4 | 4 | 4 |

***Assessment:*** Satisfactory.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0100 | Cummirk Bridge (Upper) | 198086 | 406366 | 11 | DL |
| 0300 | Cummirk Bridge (Lower) | 199540 | 401838 | 11 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 162 | 17 | 63 | 37 | 5 | 11 | 69 | 0.0 | 0 | 3 | 12 |
| 0300 | 115 | 35 | 82 | 18 | 11 | 6 | 66 | 0.0 | 0 | 1 | 16 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 01

River and Code : **DEELE (DONEGAL)** **01/D/01**
Tributary of : Foyle OS Catchment No: 61
OS Grid Ref : C 340 002 Date(s) Surveyed : 20/08/2004

| Stations No. | Biological Quality Ratings (Q Values) 1973 | 1977 | 1980 | 1985 | 1990 | 1994 | 1997 | 1998 | 2001 | 2002 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0040 | - | - | - | - | 5 | 4-5 | 4-5 | 4 | 4-5 | - | 5 |
| 0100 | - | - | 5 | 5 | 5 | - | - | - | 4-5 | - | - |
| 0150 | 5 | 5 | 4-5 | 5 | 5 | 4 | 4 | - | - | - | - |
| 0200 | - | - | 4-5 | 5 | 4 | - | - | 4-5 | 4 | - | 4-5 |
| 0300 | 4-5 | 5 | 5 | 5 | 5 | 4 | 3-4 | 4 | 4-5 | - | - |
| 0410 | - | 3-4 | - | 3-4 | 4-5 | - | - | - | - | - | - |
| 0500 | 5 | 3-4 | 5 | 3 | 4-5 | 2-3 | 2-3 | 2-3 | 3 | - | 2-3 |
| 0540 | - | - | - | - | - | - | - | 4 | 4 | - | 4 |
| 0600 | 4-5 | 4 | 4 | 3-4 | 4 | 4-5 | 4 | 4 | 4 | - | 4 |
| 0650 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | - | 4 | 4 |

***Assessment:*** An improvement in water quality was apparent in the upper Deel River (0040, 0200) in August 2004. A slight deterioration was noted below Convoy (0500) where the river was moderately polluted. Quality recovers in the lower section (0540, 0600, 0650)

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0040 | Bridge N. of Aughkeely | 212377 | 402836 | 6 | DL |
| 0100 | Bridge near Newtown | 215000 | 402300 | 6 | DL |
| 0150 | 1st Br d/s Br near Newtown | 215910 | 401828 | 6 | DL |
| 0200 | 2nd Br d/s Br near Newtown | 216284 | 401428 | 6 | DL |
| 0300 | Glasly Bridge | 220320 | 400662 | 6 | DL |
| 0410 | 200 m d/s Bridge in Convoy | 222400 | 401202 | 6 | DL |
| 0500 | Bridge 1.5 km S.E. of Convoy | 223102 | 400452 | 6 | DL |
| 0540 | Br S. of Milltown | 224514 | 399628 | 12 | DL |
| 0600 | Ballymonaster Bridge | 227362 | 399086 | 12 | DL |
| 0650 | Bridge in Ballindrait | 230522 | 399805 | 12 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0040 | 144 | 20 | 100 | 0 | 0 | 3 | 71 | 0.0 | 13 | 1 | 11 |
| 0150 | 87 | 34 | 100 | 0 | 8 | 4 | 59 | 0.1 | 16 | 1 | 12 |
| 0200 | 77 | 35 | 100 | 0 | 8 | 4 | 58 | 0.7 | 17 | 1 | 11 |
| 0300 | 37 | 81 | 100 | 0 | 23 | 3 | 37 | 0.4 | 27 | 0 | 10 |
| 0410 | 24 | 90 | 100 | 0 | 29 | 3 | 34 | 1.2 | 24 | 0 | 9 |
| 0500 | 19 | 95 | 100 | 0 | 31 | 3 | 32 | 1.4 | 24 | 0 | 8 |
| 0540 | 10 | 104 | 100 | 0 | 34 | 3 | 29 | 1.4 | 25 | 0 | 8 |
| 0600 | 8 | 116 | 100 | 0 | 38 | 2 | 26 | 1.3 | 26 | 0 | 7 |
| 0650 | 5 | 127 | 100 | 0 | 41 | 2 | 24 | 1.2 | 25 | 0 | 6 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **ELATAGH** **01/E/02**
Tributary of : Finn (Donegal) OS Catchment No: 62
OS Grid Ref : C 021 012 Date(s) Surveyed : 18/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1990** | **1994** | **1997** | **1998** | **2001** | **2004** |
| 0100 | Br N of Stranabrack Lr | - | 3 | 4-5 | 3-4 | 4 | 3 |
| 0200 | Bridge E. of Abratt Lower | 5 | - | - | - | - | - |
| 0300 | Elatagh Bridge | 5 | 4 | 4 | 4-5 | 4-5 | 3 |

***Assessment:*** A significant deterioration was noted in the Elatagh River in August 2004.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0100 | Br N of Stranabrack Lr | 202752 | 404399 | 11 | DL |
| 0300 | Elatagh Bridge | 202010 | 401244 | 11 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 140 | 13 | 100 | 0 | 2 | 26 | 57 | 0.0 | 6 | 0 | 9 |
| 0300 | 100 | 29 | 100 | 0 | 8 | 13 | 58 | 0.0 | 3 | 0 | 19 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 01

River and Code : **FINN (DONEGAL)** **01/F/01**
Tributary of : N OS Catchment No: 62
OS Grid Ref : H 332 980 Date(s) Surveyed : 19/08/2004

| Stations No. | Biological Quality Ratings (Q Values) 1971 | 1973 | 1977 | 1980 | 1984 | 1990 | 1994 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | - | 5 | - | 5 | 4-5 | 4-5 | 4 | 4 | 4-5 | 4-5 | 4-5 |
| 0350 | - | - | - | - | - | - | - | 4-5 | 4-5 | 4-5 | 4 |
| 0400 | 5 | 5 | 5 | 5 | 5 | 5 | 4-5 | 4-5 | 4-5 | 4-5 | 4 |
| 0460 | - | - | - | - | - | - | - | - | - | - | 3 |
| 0500 | 5 | 5 | 4-5 | 5 | 5 | 4-5 | 4 | 4-5 | 4-5 | 4 | 3-4 |
| 0600 | 5 | 5 | 4-5 | 4 | 4-5 | 4-5 | 4-5 | 4-5 | 5 | 3 | 3 |
| 0800 | 4-5 | 4 | 3 | 4 | 3-4 | 3 | 3 | 3 | 2 | 4 | 3-4 |
| 0900 | 4 | 4 | 4 | 4 | 4 | 3-4 | 4 | 4 | 4 | 4 | 3-4 |
| 0920 | - | - | - | - | - | - | - | - | - | - | 3-4 |
| 1100 | 4-5 | 4-5 | 4 | 4 | 4 | 4 | 4 | - | 4-5 | 4 | 3-4 |

***Assessment:*** No change was noted in the upper Finn (0200) in comparison with 2001, when surveyed in August 2004. A drop in quality was noted at station 0350 and 0400 with the loss of some sensitive taxa noted in comparison with August 2001. A more significant drop in quality was noted, however, downstream of the confluence of the Reelan River (qv). Station 0460 is a newly added station, first sampled in 2004, in order to assess the impact of the pollution from the Reelan River. The main Finn channel appears to be strongly affected by this new pollution source. The Finn is a large 6th order river channel at this new station, some 30 metres in width, and the decline in quality suggests that a major pollution event had occurred prior to sampling. Quality was also reduced at Glenmore Br (0500) and again upstream of Ballybofey (0600). Significant bridge engineering works at Station 0800 made it difficult to assess the water quality river at this point downstream of Stranorlar/Ballybofey and the new wastewater treatment plant. At Killygordon (Stations 0900 and 0920) the river was slightly polluted again and similarly at 1100, Castlefinn quality appeared impaired. The main feature of the survey was the effect of the Reelan pollution incident on the main Finn channel at the new station 0460 and for some considerable distance downstream.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Bridge S. of Bellanamore | 196334 | 402172 | 11 | DL |
| 0350 | Br 100 m u/s Elatagh R confl | 202000 | 401008 | 11 | DL |
| 0400 | Bridge due S. of Cloghan | 204145 | 398435 | 11 | DL |
| 0460 | Footbridge Br S Ballybotemple | 205330 | 397110 | 11 | DL |
| 0500 | Glenmore Br | 208317 | 396322 | 12 | DL |
| 0600 | Bridge 2.5 km u/s Ballybofey | 212475 | 395036 | 12 | DL |
| 0600 | Bridge 2.5 km u/s Ballybofey | 212475 | 395036 | 12 | DL |
| 0800 | Bridge S. of Stranorlar | 215180 | 394560 | 12 | DL |
| 0900 | Bridge S. of Killygordon | 220587 | 393797 | 12 | DL |
| 0920 | 150M D/S Br S. of Killygordon | 220587 | 393797 | 12 | DL |
| 1100 | Castlefin Bridge | 226293 | 394582 | 12 | DL |

# Ecological Assessment of Rivers 2004

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 126 | 48 | 91 | 9 | 7 | 5 | 72 | 0.0 | 6 | 3 | 7 |
| 0350 | 94 | 109 | 90 | 10 | 10 | 5 | 69 | 0.0 | 3 | 2 | 12 |
| 0400 | 67 | 152 | 93 | 7 | 11 | 6 | 65 | 0.0 | 3 | 1 | 14 |
| 0500 | 34 | 281 | 87 | 13 | 12 | 7 | 61 | 0.0 | 4 | 1 | 16 |
| 0600 | 20 | 310 | 88 | 12 | 14 | 7 | 57 | 0.0 | 4 | 1 | 17 |
| 0800 | 16 | 349 | 89 | 11 | 15 | 7 | 53 | 0.6 | 7 | 1 | 17 |
| 0900 | 9 | 386 | 90 | 10 | 18 | 7 | 49 | 0.7 | 9 | 1 | 17 |
| 0920 | 9 | 386 | 90 | 10 | 18 | 7 | 49 | 0.7 | 9 | 1 | 17 |
| 1100 | 5 | 447 | 92 | 8 | 24 | 7 | 43 | 0.8 | 10 | 0 | 15 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

River and Code : **GREENHILL STREAM**[1] **01/G/02**
Tributary of : Carrigans OS Catchment No: 61
OS Grid Ref : Null Date(s) Surveyed : 14/09/2004

| Stations No. | Biological Quality Ratings (Q Values) 1973 | 1977 | 1979 | 1981 | 1985 | 1990 | 1994 | 1997 | 1998 | 2002 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0090 | - | - | - | - | - | - | - | - | - | 2-3 | - |
| 0100 | - | - | - | - | - | 1/0 | 1 | 1-2/0 | 1/0 | 2 | 1-2 |

***Assessment:*** The Greenhill Stream was once again seriously polluted when surveyed in September 2004. A discharge of silage effluent causing sewage fungus growths is once again the most obvious cause of the immediate problem at station 0100. This is an example of a very long-term farm pollution problem that has not been addressed by the farm(s) involved.

***Previously reported the Greenhill Branch of the Carrigans River (01C01).***

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Br at Greenhill | 235517 | 412179 | 7 | DL |

[1] indicates non baseline rivers i.e., those which are not shown on the O.S. map entitled ''Rivers and their Catchment Basins''

# Ecological Assessment of Rivers 2004

River and Code : **MOURNE BEG** **01/M/01**
Tributary of : Derg OS Catchment No: 63
OS Grid Ref : H 230 827 Date(s) Surveyed : 25/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1990** | **1994** | **1997** | **1998** | **2001** | **2004** |
| 0100 | Red Burn Bridge | 4 | 4 | 4* | 3-4* | 3-4* | 3-4* |
| 0200 | Bridge S.W. of Tonreagh | 4 | 4 | 4* | 4* | 4* | 4* |

***Assessment:*** A very slight improvement in quality was noted in the Mourne Beg in comparison with late August 2001. A small number of *Baetis* were noted in August 2004, which as an acid sensitive genus suggests a marginal improvement in the acidic nature of this river. The upper site (0100) is impoverished with only eight macroinvertebrate taxa recorded together with extensive filamentous algae while 15 invertebrate taxa were recorded at the lower site (0200) downstream of the confluence of the Bunadowen River (qv). It is believed that the acidity of this system, which is naturally acidic, is further enhanced by the extensive coniferous forestry plantations upstream.

*Acidification

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0100 | Red Burn Bridge | 205778 | 389372 | 12 | DL |
| 0200 | Bridge S.W. of Tonreagh | 209995 | 388312 | 12 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc | Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 174 | 4 | 65 | 35 | 0 | 22 | 78 | 0.0 | 0 | | 0 | 0 |
| 0200 | 133 | 29 | 90 | 10 | 0 | 26 | 56 | 0.0 | 0 | | 3 | 15 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 01

River and Code : **REELAN** **01/R/01**
Tributary of : Finn (Donegal) OS Catchment No: 62
OS Grid Ref : H 042 979 Date(s) Surveyed : 19/08/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1990 | 1994 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0200 | Ford W. of Carrickagh | 5 | 4 | 4-5 | 4 | 4-5 | 3-4 |
| 0500 | Reelan Bridge | 5 | 4-5 | 4 | 3-4 | 4-5 | 3 |

***Assessment:*** This river is an important tributary of the Finn River and the drop in quality seen in 2004 was regarded as highly significant. The impact extended into the main Finn River channel (qv). On discovery the local authority and fisheries board were immediately notified and an investigation into the potential source of the pollution was initiated. A number of potential sources were examined including a sheep dip unit, industrial waste disposal and forestry activities. Measures to prevent future occurrences of this type of pollution were put in place and it is hoped that these will be successful in restoring the water quality of this important river.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Ford W. of Carrickagh | 197761 | 396488 | 11 | DL |
| 0500 | Reelan Bridge | 202343 | 397088 | 11 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 121 | 34 | 78 | 22 | 0 | 3 | 62 | 0.0 | 3 | 0 | 32 |
| 0500 | 64 | 90 | 70 | 30 | 6 | 7 | 60 | 0.0 | 2 | 0 | 25 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **ROUGH BURN** **01/R/02**
Tributary of : Finn (Donegal) OS Catchment No: 62
OS Grid Ref : H 092 962 Date(s) Surveyed : 19/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1989** | **1994** | **1997** | **1998** | **2001** | **2004** |
| 0200 | Aghaveagh Br | 4-5 | 4 | 4-5 | 3 | 3 | 4 |

***Assessment:*** A significant improvement in water quality was recorded in August 2004 in the Rough Burn in comparison with August 2001.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0200 | Aghaveagh Br | 209289 | 396079 | 12 | DL |

River and Code : **ST JOHNSTON**[1] **01/S/01**
Tributary of : Foyle OS Catchment No: 61
OS Grid Ref : C 351 097 Date(s) Surveyed : 14/09/2004

| Stations No. | Biological Quality Ratings (Q Values) 1973 | 1977 | 1979 | 1981 | 1985 | 1988 | 1990 | 1994 | 1997 | 1998 | 2002 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 4-5 | 4 | 3 | 4 | 2-3 | - | 2-3 | - | - | - | - | - |
| 0200 | - | - | - | - | 3 | - | 3 | - | - | - | - | - |
| 0280 | - | - | - | - | 2 | 2 | 1-2 | 3 | 2-3 | 1-2 | 2 | 3 |
| 0300 | 3 | 2-3 | 1 | 1 | - | - | - | - | - | - | - | - |

***Assessment:*** Although moderately polluted, an improvement was noted in the St. Johnston in comparison with August 2002. 'Sewage fungus' previously abundant on the substratum at site 0280 in St. Johnston was not observed in September 2004.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Bridge N. of Magheracloy | 231140 | 408780 | 7 | DL |
| 0200 | Bridge N.E. of Kinnacolly | 233215 | 409535 | 7 | DL |
| 0280 | Second Bridge u/s Foyle River | 234545 | 409924 | 7 | DL |
| 0300 | First Bridge u/s Foyle River | 234814 | 409877 | 7 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0280 | 9 | 23 | 100 | 0 | 49 | 0 | 3 | 0.0 | 43 | 0 | 4 |
| 0300 | 9 | 23 | 100 | 0 | 49 | 0 | 3 | 0.4 | 43 | 0 | 4 |

Alt is in metres Area is km$^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.[1]

[1] indicates non-baseline rivers i.e., those which are not shown on the O.S. map entitled ''Rivers and their Catchment Basins''

# Ecological Assessment of Rivers 2004

River and Code : **STRANAGOPPOGE** **01/S/02**
Tributary of : Finn (Donegal OS Catchment No: 62
OS Grid Ref : B 963 024 Date(s) Surveyed : 18/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1990** | **1994** | **1997** | **1998** | **2001** | **2004** |
| 0100 | Br W Tieveragh | - | 3-4 | 3-4 | 3-4 | 4-5 | 3-4 |
| 0200 | Bridge u/s Finn River confl | 5 | 4 | 4 | 4-5 | 4-5 | 4-5 |

***Assessment:*** The upper Stranagappoge River (0100) had once again deteriorated when surveyed in August 2004. Musty smelling organic mats were apparent on the substratum and the abundance and diversity of sensitive macroinvertebrates was reduced. The lower section showed a recovery (0200) maintaining the high quality noted in 2001.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0100 | Br W Tieveragh | 192954 | 399129 | 11 | DL |
| 0200 | Bridge u/s Finn River confl | 195802 | 401810 | 11 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 183 | 6 | 100 | 0 | 0 | 2 | 66 | 0.0 | 0 | 0 | 32 |
| 0200 | 138 | 18 | 100 | 0 | 0 | 10 | 63 | 0.0 | 8 | 2 | 18 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 01

River and Code : **SWILLY BURN** **01/S/03**
Tributary of : Foyle OS Catchment No: 61
OS Grid Ref : C 352 046 Date(s) Surveyed : 14/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1973 | 1977 | 1981 | 1985 | 1994 | 1997 | 1998 | 2002 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | Br NE of Tullyvinny | 5 | 5 | 4-5 | 4 | 3 | 3-4 | 3-4 | 4 | 4 |
| 0200 | Br 1.5 km SE of Raphoe | 3 | 3 | 3 | 2 | 2-3 | 3 | 2-3 | 3 | 2-3 |

***Assessment:*** The upper Swilly Burn (0100) was unchanged in terms of water quality but a slight deterioration was noted downstream of Raphoe (0200) where the river was moderately polluted.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Br NE of Tullyvinny | 224284 | 402134 | 6 | DL |
| 0200 | Br 1.5 km SE of Raphoe | 226411 | 401893 | 6 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 32 | 5 | 100 | 0 | 63 | 7 | 20 | 0.0 | 8 | 0 | 3 |
| 0200 | 15 | 11 | 100 | 0 | 69 | 3 | 10 | 3.5 | 12 | 0 | 2 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# HYDROMETRIC AREA 03

***Bann (Ulster)***

| | |
|---|---|
| Blackwater (Monaghan) | 03B01 |
| Clontibret Stream | 03C01 |
| Conawary (Lower) | 03C02 |
| Mountain Water | 03M01 |
| Scotstown | 03S02 |

# Ecological Assessment of Rivers 2004

River and Code : **BLACKWATER (MONAGHAN)** **03/B/01**
Tributary of : Lough Neagh OS Catchment No: 68
OS Grid Ref : H 922 637 Date(s) Surveyed : 17/08/2004

| Stations No. | Biological Quality Ratings (Q Values) 1971 | 1973 | 1977 | 1981 | 1983 | 1985 | 1989 | 1993 | 1996 | 1998 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 4-5 | 4-5 | 4-5 | 4-5 | 3-4 | 3-4 | - | - | - | - | - |
| 0130 | - | - | - | - | - | - | 3-4 | 4 | 4 | 4 | 3 |
| 0300 | 4 | 4 | 3-4 | 4 | 4 | 3-4 | 3-4 | 4 | 4 | 4 | 4 |
| 0500 | 4 | 4 | 3-4 | 4 | 3-4 | 3-4 | - | - | - | - | - |
| 0510 | - | - | - | - | - | - | 3 | 3 | 3-4 | 3 | 3-4 |
| 0600 | 3 | 3 | 2 | 3 | 2-3 | 3 | 2-3 | 3 | - | - | - |
| 0650 | - | - | - | - | - | - | 2-3 | - | 2-3 | 3 | 3 |
| 0800 | 4 | 3-4 | 3-4 | 3 | 3 | 3 | 3 | 3 | 2-3 | 3 | 3 |

***Assessment:*** Despite a minor improvement at Milltown (0510) the Blackwater was again in an unsatisfactory overall condition in August 2004: the complete absence of sensitive macroinvertebrates below Scotstown (0130) and Monaghan (0650, 0800) was indicative of considerable ecological disruption. Sewage and industrial discharges suspected.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Br 1 km u/s Scotstown* | 260202 | 337086 | 28 | MN |
| 0130 | 1.5 km d/s Scotstown Br | 261322 | 335999 | 28 | MN |
| 0300 | 1st Br d/s Ballinode | 263898 | 335742 | 28 | MN |
| 0500 | Br nr Milltown | 266388 | 334653 | 28 | MN |
| 0510 | 250m d/s Br nr Milltown | 266519 | 334591 | 28 | MN |
| 0600 | Br on Monaghan-Aughnacloy Rd | 267509 | 335234 | 28 | MN |
| 0650 | Faulkland Br (Upr) | 269240 | 337125 | 28 | MN |
| 0800 | Newmills Br | 271921 | 338773 | 28 | MN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 77 | 15 | 0 | 100 | 47 | 9 | 7 | 0.0 | 12 | 0 | 25 |
| 0130 | 64 | 50 | 0 | 100 | 41 | 3 | 20 | 1.4 | 17 | 0 | 17 |
| 0300 | 57 | 63 | 0 | 100 | 49 | 2 | 16 | 1.8 | 17 | 0 | 14 |
| 0500 | 52 | 123 | 27 | 73 | 70 | 3 | 8 | 2.0 | 9 | 0 | 7 |
| 0510 | 51 | 123 | 27 | 73 | 70 | 3 | 8 | 2.0 | 9 | 0 | 7 |
| 0600 | 50 | 124 | 27 | 73 | 71 | 3 | 8 | 2.1 | 9 | 0 | 7 |
| 0650 | 45 | 140 | 28 | 72 | 71 | 3 | 7 | 3.7 | 8 | 0 | 7 |
| 0800 | 39 | 143 | 27 | 73 | 72 | 3 | 7 | 3.6 | 8 | 0 | 7 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 03

River and Code : **CLONTIBRET STREAM** **03/C/01**
Tributary of : Blackwater (Monaghan) OS Catchment No: 68
OS Grid Ref : H 734 381 Date(s) Surveyed : 17/08/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1989 | 1990 | 1993 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|
| 0600 | Br in Clontibret | 3 | - | 3 | 3 | 3 | 3 | 3 |
| 1100 | Br SW of Clerran | 2-3 | 3 | - | - | - | 3 | 3 |
| 1400 | Br E of Killyneill X-Roads | 3 | - | 3-4 | 4 | 3 | 3 | 3 |

***Assessment:*** This once great brown trout stream was again considerably polluted at each of the three locations surveyed in August 2004: agriculture and sewage suspected.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0600 | Br in Clontibret | 275776 | 328860 | 28 | MN |
| 1100 | Br SW of Clerran | 274410 | 331650 | 28 | MN |
| 1400 | Br E of Killyneill X-Roads | 273851 | 335733 | 28 | MN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0600 | 119 | 5 | 100 | 0 | 62 | 0 | 4 | 0.0 | 34 | 0 | 0 |
| 1400 | 38 | 60 | 97 | 3 | 90 | 2 | 1 | 0.0 | 6 | 0 | 1 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **CONAWARY (LOWER)** **03/C/02**
Tributary of : Blackwater (Monaghan) OS Catchment No: 68
OS Grid Ref : H 658 348 Date(s) Surveyed : 17/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | |
|---|---|---|---|---|
| No. | Location | **1989** | **1993** | **1996** |
| 1100 | White Br | 3 | 3 | 3 |
| 1300 | Br u/s Blackwater R confl | 2-3 | - | 3 |

***Assessment:*** Agriculture is suspected as the cause of the continuing poor quality of this small stream in which the very unbalanced macroinvertebrate fauna continues to be devoid of sensitive species. Unsatisfactory. No change.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 1100 | White Br | 263927 | 332559 | 28 | MN |
| 1300 | Br u/s Blackwater R confl | 265434 | 334559 | 28 | MN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1100 | 60 | 27 | 80 | 20 | 99 | 0 | 0 | 1.0 | 0 | 0 | 0 |
| 1300 | 54 | 45 | 73 | 27 | 93 | 4 | 0 | 2.2 | 0 | 0 | 1 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 03

River and Code : **MOUNTAIN WATER** **03/M/01**
Tributary of : Blackwater (Monaghan) OS Catchment No: 68
OS Grid Ref : H 678 438 Date(s) Surveyed : 30/08/2004

| Stations | Biological Quality Ratings (Q Values) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | **1971** | **1973** | **1977** | **1981** | **1983** | **1985** | **1989** | **1993** | **1994** | **1996** | **1998** | **2001** | **2004** |
| 0100 | - | 5 | 5 | 5 | 5 | 5 | 5 | 4-5 | 5 | 4-5 | 4-5 | 4-5 | 4-5 |
| 0200 | 4-5 | 5 | 4-5 | 4-5 | 5 | 5 | 5 | 1/0 | 3-4 | 4-5 | 4-5 | 4-5 | 4 |
| 0400 | 4-5 | 4-5 | 4 | 4-5 | 4-5 | 4-5 | 4-5 | 2/0 | 3-4 | 4 | 4-5 | 4 | 3-4 |
| 0500 | 4 | 4 | 2 | 3-4 | 3 | 3 | 3 | 3/0 | 3 | 3-4 | 3 | 3 | 3 |
| 0650 | - | - | - | 4 | 4-5 | 3 | 3 | 3/0 | 3 | 3 | 3 | 3 | 3 |

***Assessment:*** Continues satisfactory upstream of Emyvale and considerably polluted by suspected sewage and possibly other discharges below the village. Considerable substratum siltation and a paucity of sensitive species indicated some ecological stress in the Golan area (0200) in 2004.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0100 | Coyle's Br | 259662 | 346197 | 18 | MN |
| 0200 | Br NE of Golan | 262670 | 343971 | 19 | MN |
| 0400 | 1st Br u/s Emyvale | 267050 | 343345 | 19 | MN |
| 0500 | Br 1.1 km d/s Emyvale | 268546 | 343108 | 19 | MN |
| 0650 | Br N of Glaslough | 272001 | 342192 | 19 | MN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 152 | 6 | 0 | 100 | 0 | 25 | 58 | 0.0 | 2 | 0 | 15 |
| 0200 | 104 | 18 | 0 | 100 | 4 | 19 | 37 | 0.0 | 27 | 0 | 13 |
| 0400 | 59 | 35 | 0 | 100 | 25 | 10 | 20 | 0.0 | 38 | 0 | 7 |
| 0500 | 45 | 39 | 0 | 100 | 32 | 9 | 17 | 0.5 | 35 | 0 | 6 |
| 0650 | 40 | 59 | 0 | 100 | 55 | 6 | 11 | 0.4 | 23 | 0 | 4 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **SCOTSTOWN** **03/S/02**
Tributary of : Blackwater (Monaghan) OS Catchment No: 68
OS Grid Ref : H 608 369 Date(s) Surveyed : 18/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1989 | 1993 | 1996 | 1998 | 2001 | 2004 |
| 0200 | Br S of Knockballyroney | 5 | 5 | 5 | 4-5 | 4-5 | 4-5 |
| 0400 | Br at Mill S of Dromscor | 5 | 4-5 | 4-5 | 4 | 4-5 | 4 |
| 0500 | Br u/s Scotstown Br | 4-5 | 4-5 | 4-5 | 4-5 | 4 | 4 |

***Assessment:*** Although continuing satisfactory at each of the three locations surveyed two unwelcome developments emerged in 2004: the appearance of *Cladophora* sp., a filamentous algae indicative of increasing eutrophication at Dromscor (0400) and considerable siltation and substratum compaction upstream of Scotstown (0500).

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0200 | Br S of Knockballyroney | 258876 | 341359 | 18 | MN |
| 0400 | Br at Mill S of Dromscor | 260043 | 339693 | 28 | MN |
| 0500 | Br u/s Scotstown Br | 261106 | 337600 | 28 | MN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 149 | 4 | 0 | 100 | 5 | 0 | 59 | 0.0 | 4 | 0 | 32 |
| 0400 | 92 | 18 | 0 | 100 | 22 | 1 | 47 | 0.0 | 17 | 0 | 13 |
| 0500 | 73 | 32 | 0 | 100 | 35 | 1 | 28 | 0.5 | 21 | 0 | 15 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# HYDROMETRIC AREA 12

***Slaney & Wexford Harbour***

| | |
|---|---|
| Askinvillar Stream | 12A03 |
| Ballingale Stream | 12B06 |
| Ballycarney Stream | 12B07 |
| Bann | 12B01 |
| Blacklion Stream | 12B04 |
| Blackwater Stream (Bann) | 12B08 |
| Boro | 12B02 |
| Borris Stream | 12B05 |
| # Browns Beck Brook | 12B03 |
| Camolin Stream | 12C08 |
| Carrigower | 12C06 |
| Clody | 12C03 |
| Coolboy Stream | 12C07 |
| Corbally Stream | 12C04 |
| Derreen | 12D01 |
| Derry | 12D02 |
| Douglas (Ballon) | 12D03 |
| Douglas Kiltegan) | 12D04 |
| Glasha (Slaney) | 12G01 |
| Killeen Stream (Boro) | 12K03 |
| Knickeen | 12K01 |
| Lask | 12L01 |
| Little Slaney | 12L02 |
| Mine | 12M01 |
| Rosnastraw Stream | 12R01 |
| Shillelagh | 12S01 |
| Slaney | 12S02 |
| Sow | 12S03 |
| Tinnacross Stream | 12T01 |
| Tinnokilla Stream | 12T02 |
| Urrin | 12U01 |

# Browns Beck Brook was seriously polluted at time of this survey

# Ecological Assessment of Rivers 2004

River and Code : **ASKINVILLAR STREAM** **12/A/03**
Tributary of : Urrin OS Catchment No: 175
OS Grid Ref : S 864 450 Date(s) Surveyed : 22/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1987** | **1991** | **1995** | **1998** | **2001** | **2004** |
| 0100 | Whitney's Br | 5 | - | - | - | - | - |
| 0200 | Askinvillar Br | - | 4-5 | 4 | 4-5 | 4-5 | 4 |

***Assessment:*** Continuing satisfactory. No major change.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0100 | Whitney's Br | - | - | 68 | WX |
| 0200 | Askinvillar Br | 284907 | 145806 | 68 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 99 | 5 | 100 | 0 | 33 | 7 | 60 | 0.0 | 0 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 12

River and Code : **BALLINGALE STREAM** **12/B/06**
Tributary of : Slaney OS Catchment No: 175
OS Grid Ref : S 964 498 Date(s) Surveyed : 21/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1987 | 1991 | 1995 | 1998 | 2001 | 2004 |
| 0300 | Ballycadden Br | 4 | 4 | 3 | 3-4 | 4 | 4 |
| 0600 | Br SW of Ballaman | - | - | 4-5 | - | 4 | 4 |
| 0900 | Br u/s Slaney R confl | 4 | 4-5 | 4 | 4-5 | 4 | 3-4* |

***Assessment:*** Quality again generally just 'Fair' (Q4) but some ecological upset was apparent in the lower reaches (0900) at the time of this survey in September 2004.
*Heavy Siltation.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0300 | Ballycadden Br | 298402 | 156354 | 69 | WX |
| 0600 | Br SW of Ballaman | 297777 | 152829 | 69 | WX |
| 0900 | Br u/s Slaney R confl | 297777 | 152829 | 69 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 70 | 9 | 100 | 0 | 32 | 2 | 0 | 0.0 | 62 | 0 | 4 |
| 0600 | 41 | 17 | 100 | 0 | 40 | 2 | 0 | 0.0 | 56 | 0 | 2 |
| 0900 | 41 | 17 | 100 | 0 | 40 | 2 | 0 | 0.0 | 56 | 0 | 2 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **BALLYCARNEY STREAM** **12/B/07**
Tributary of : Slaney OS Catchment No: 175
OS Grid Ref : S 967 490 Date(s) Surveyed : 03/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1987 | 1991 | 1995 | 1998 | 2001 | 2004 |
| 0400 | Br d/s Tinnashrule Br | - | 4 | 3-4 | 4-5 | 4 | 3-4* |
| 0700 | Br u/s Slaney R confl | 4-5 | 3-4 | 4 | 4 | 4 | 3-4 |

***Assessment:*** This potentially excellent trout stream was severely damaged by watering animals and heavily silted at Station 0400 and the lower reaches (0700) were in a distinctly over-enriched condition in early September 2004. Continuing decline. Unsatisfactory. Agriculture suspected.
*Heavy siltation.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0400 | Br d/s Tinnashrule Br | 299936 | 152226 | 69 | WX |
| 0700 | Br u/s Slaney R confl | 296789 | 148954 | 69 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0400 | 52 | 14 | 100 | 0 | 33 | 6 | 0 | 0.0 | 54 | 0 | 6 |
| 0700 | 13 | 1,006 | 100 | 0 | 50 | 6 | 7 | 0.9 | 30 | 0 | 6 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 12

River and Code : **BANN** **12/B/01**
Tributary of : Slaney OS Catchment No: 175
OS Grid Ref : S 985 447 Date(s) Surveyed : 28/09/2004

| Stations No. | Biological Quality Ratings (Q Values) 1971 | 1975 | 1979 | 1983 | 1987 | 1989 | 1991 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | - | - | - | - | - | 5 | 3-4 | 4 | 4-5 | 4 | 4-5 |
| 0200 | - | - | - | - | - | 5 | 4 | 4-5 | 4-5 | 4-5 | 4-5 |
| 0400 | 5 | 4 | 5 | 4-5 | - | 5 | 4-5 | - | 4-5 | 3-4* | 4 |
| 0440 | - | - | - | - | - | - | - | 4-5 | 4 | 3-4* | - |
| 0450 | - | - | - | - | - | 4-5 | 4 | - | - | - | 3-4 |
| 0600 | 4 | 4 | 4-5 | 4 | 4 | 4-5 | 4 | 3-4 | 3 | 3 | 4 |
| 0900 | 4-5 | 4 | 4 | 4 | 4 | 4-5 | 3 | 3-4 | 3-4 | 3-4 | 4 |
| 1000 | 4-5 | 4 | 4 | 4 | 4 | 4-5 | 3-4 | 4 | 4-5 | 3-4 | 3-4 |

***Assessment:*** Following a considerable improvement at Milshoge Bridge (0600) and minor improvements at Margerry's and Doran's Bridges (0400, 0900) the Bann was assessed as mostly satisfactory when surveyed in late September 2004. Pollution effects persisted, however, in the Island Bridge area (0450) and in the lowermost reaches (1000) where luxuriant algal growths and faunal imbalances indicated excessive nutrient input. Increased siltation, moss and algal growths at Pallis Bridge (0100) indicate that the upper reaches of the Bann may now be at risk from forestry development: another area requiring attention is downstream at Hollyfort (0200) where unrestricted cattle access poses a significant threat to the continuation of good ecological quality. Action is now required to prevent any deterioration in these areas and also to redress the pollution cited above.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Pallis Br | 311591 | 168208 | 62 | WX |
| 0200 | Br at Hollyfort | 312177 | 164156 | 62 | WX |
| 0400 | Margerry's Br | 311485 | 159358 | 69 | WX |
| 0440 | 1km u/s Island Br | 309830 | 157847 | 69 | WX |
| 0450 | Island Br | - | - | 69 | WX |
| 0600 | Milshoge Br | 306357 | 152217 | 69 | WX |
| 0900 | Doran's Br | 302213 | 148485 | 69 | WX |
| 1000 | Bann Br | 298773 | 144825 | 69 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 152 | 15 | 100 | 0 | 36 | 18 | 20 | 0.0 | 14 | 0 | 11 |
| 0200 | 90 | 41 | 100 | 0 | 57 | 10 | 9 | 0.0 | 16 | 0 | 8 |
| 0400 | 63 | 56 | 100 | 0 | 55 | 10 | 6 | 0.0 | 23 | 0 | 6 |
| 0440 | 52 | 90 | 100 | 0 | 55 | 7 | 4 | 0.4 | 30 | 0 | 4 |
| 0600 | 30 | 116 | 100 | 0 | 53 | 6 | 3 | 0.5 | 34 | 0 | 3 |
| 0900 | 20 | 160 | 100 | 0 | 49 | 7 | 2 | 0.8 | 38 | 0 | 3 |
| 1000 | 10 | 177 | 100 | 0 | 48 | 6 | 2 | 0.8 | 40 | 0 | 3 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **BLACKLION STREAM (CARLOW)** **12/B/04**
Tributary of : Derreen (Carlow) OS Catchment No: 175
OS Grid Ref : S 870 703 Date(s) Surveyed : 09/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1989** | **1991** | **1995** | **1998** | **2001** | **2004** |
| 0200 | Br at Blacklion | 3 | 4-5 | 4 | 4 | 3-4* | 3-4 |
| 0400 | Br u/s Derreen R confl | 4 | 4-5 | 4 | - | 4 | 4 |

***Assessment:*** As in 2001 this stream was considerably affected by heavy siltation and over-enrichment by suspected tillage farming in its upper reaches (0200) but by the time it reached the Derreen River it had recovered to 'fair' quality.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0200 | Br at Blacklion | 289992 | 167643 | 61 | CW |
| 0400 | Br u/s Derreen R confl | 287118 | 170233 | 61 | CW/WW |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 93 | 5 | 100 | 0 | 32 | 5 | 0 | 0.0 | 55 | 0 | 7 |
| 0400 | 74 | 36 | 100 | 0 | 48 | 1 | 4 | 0.0 | 42 | 0 | 4 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 12

River and Code : **BLACKWATER STREAM (BANN)** **12/B/08**
Tributary of : Bann (Wexford) OS Catchment No: 175
OS Grid Ref : T 120 643 Date(s) Surveyed : 31/08/1998

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1987 | 1991 | 1995 | 1998 | 2001 | 2004 |
| 0200 | Blackwater Br | 4 | 4 | 4 | 3-4 | 3 | 4-5 |

***Assessment:*** A major improvement was recorded in this stream which was assessed as satisfactory in late September 2004. Cattle access still poses a threat, however, as do the several new houses in the immediate vicinity of the location sampled.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0200 | Blackwater Br | 311437 | 164817 | 62 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 102 | 11 | 100 | 0 | 62 | 7 | 4 | 0.0 | 27 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **BORO** **12/B/02**
Tributary of : Slaney OS Catchment No: 175
OS Grid Ref : S 975 359 Date(s) Surveyed : 23/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1980 | 1984 | 1987 | 1991 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|
| 0040 | Tomanine Br | - | - | 3/0 | 3-4 | 3 | 3* | 3-4* | 4 |
| 0080 | Boro Br | - | - | 3/0 | 4 | 3-4 | 3-4* | 4 | 4 |
| 0200 | Ballymackesy Br | 3-4 | 4 | 3-4 | - | 3-4 | 3-4* | 3-4 | 4 |
| 0340 | Ballinvarry Br | - | - | - | 4 | 4 | 3-4* | 3-4 | 4 |
| 0400 | Br NW of Wilton Castle | 4 | 4 | 4 | 4 | 4 | 3-4* | 3-4 | 4 |
| 0600 | Kilcarbry Br | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 3-4 |

***Assessment:*** All but the lowermost station on the Boro showed some improvement, mainly it is suspected, as a result of considerable flooding prior to this survey in 2004. Indicators of widespread ecological stress include faunal imbalances, enhanced weed growth and substratum siltation and compaction. Agriculture, forestry and sewage all contribute to threaten the ecological status of this river.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0040 | Tomanine Br | 282957 | 138652 | 68 | WX |
| 0080 | Boro Br | 286741 | 137604 | 68 | WX |
| 0200 | Ballymackesy Br | 289100 | 135130 | 77 | WX |
| 0340 | Ballinvarry Br | 291586 | 132783 | 77 | WX |
| 0400 | Br NW of Wilton Castle | 294268 | 135425 | 77 | WX |
| 0600 | Kilcarbry Br | 297086 | 136389 | 69 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0040 | 86 | 19 | 100 | 0 | 39 | 27 | 18 | 0.0 | 14 | 0 | 2 |
| 0080 | 55 | 50 | 100 | 0 | 51 | 13 | 8 | 0.0 | 26 | 0 | 2 |
| 0200 | 43 | 85 | 100 | 0 | 51 | 10 | 4 | 0.0 | 33 | 0 | 1 |
| 0340 | 31 | 130 | 100 | 0 | 51 | 7 | 3 | 0.0 | 38 | 0 | 1 |
| 0400 | 17 | 140 | 100 | 0 | 52 | 8 | 3 | 0.0 | 37 | 0 | 1 |
| 0600 | 5 | 179 | 100 | 0 | 51 | 6 | 2 | 0.1 | 40 | 0 | 1 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 12

River and Code : **BORRIS STREAM (SLANEY)** **12/B/05**
Tributary of : Slaney OS Catchment No: 175
OS Grid Ref : S 943 533 Date(s) Surveyed : 21/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1987** | **1991** | **1995** | **1998** | **2001** | **2004** |
| 0300 | Br u/s Slaney R confl | 4 | 4 | 4 | 4-5 | 4 | 3* |

***Assessment:*** This small stream was devoid of sensitive macroinvertebrates, heavily silted and possibly recovering from a toxic event when surveyed in September 2004. Agriculture suspected.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0300 | Br u/s Slaney R confl | 294392 | 153394 | 69 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 26 | 13 | 100 | 0 | 22 | 0 | 0 | 0.0 | 76 | 0 | 2 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **BROWN'S BECK BROOK** **12/B/03**
Tributary of : Carrigower OS Catchment No: 175
OS Grid Ref : S 916 960 Date(s) Surveyed : 07/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1989** | **1991** | **1995** | **1998** | **2001** | **2004** |
| 0200 | Donard Br | 2-3 | 4 | 4 | 4-5 | 3-4 | 2 |

***Assessment:*** Abundant sewage fungus indicated serious pollution in this Donard Bridge area in September. Silage effluent suspected.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0200 | Donard Br | 292678 | 197792 | 56 | WW |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 172 | 11 | 100 | 0 | 35 | 18 | 24 | 0.0 | 8 | 0 | 15 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 12

River and Code : **CAMOLIN STREAM** **12/C/08**
Tributary of : Bann (Wexford) OS Catchment No: 175
OS Grid Ref : T 064 524 Date(s) Surveyed : 29/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| No. | Location | **1979** | **1983** | **1987** | **1991** | **1995** | **1998** | **2001** | **2004** |
| 0300 | Kilcloran Br | - | - | 4 | 3 | 4-5 | 4-5 | 4 | 3* |
| 0400 | Bay Br | 4 | 4 | 3-4 | 3 | - | - | - | - |

***Assessment:*** Very heavy siltation plus faunal disruption indicated considerable ecological upset at Kilcloran Bridge in 2004. Agriculture suspected.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0300 | Kilcloran Br | 306234 | 152553 | 69 | WX |
| 0400 | Bay Br | - | - | 69 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 34 | 15 | 100 | 0 | 23 | 18 | 0 | 0.7 | 55 | 0 | 4 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **CARRIGOWER** **12/C/06**
Tributary of : Slaney OS Catchment No: 175
OS Grid Ref : S 900 936 Date(s) Surveyed : 09/09/1998

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1989 | 1991 | 1995 | 1998 | 2001 | 2004 |
| 0200 | Br SE of Cowpasture | 4 | 4 | - | - | - | - |
| 0300 | Merginstown Br | - | - | 3-4 | 3-4 | 3-4 | 3-4 |
| 0600 | Br d/s Whitestown Br | - | 4-5 | 4-5 | 4-5 | 3-4 | 3-4 |

***Assessment:*** Excessive weed and algal growth indicated considerable eutrophication at both locations surveyed on the Carrigower in 2004. Fencing is urgently required to prevent unrestricted cattle access at 0600 where stream banks and bed were severely damaged by watering animals. Unsatisfactory. No change.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0200 | Br SE of Cowpasture | - | - | 55 | WW |
| 0300 | Merginstown Br | 291277 | 198167 | 55 | WW |
| 0600 | Br d/s Whitestown Br | 290725 | 194830 | 55 | WW |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 154 | 20 | 100 | 0 | 80 | 4 | 2 | 0.0 | 12 | 0 | 2 |
| 0600 | 135 | 46 | 100 | 0 | 67 | 8 | 7 | 1.0 | 11 | 0 | 6 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 12

River and Code : **CLODY** **12/C/03**
Tributary of : Slaney OS Catchment No: 175
OS Grid Ref : S 913 569 Date(s) Surveyed : 21/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| No. | Location | 1979 | 1981 | 1984 | 1987 | 1991 | 1995 | 1998 | 2001 | 2004 |
| 0080 | Br near Source | - | - | - | 4 | 4-5 | 4 | 4-5 | 4-5 | 4-5 |
| 0200 | Ford (Br) 3km u/s Bunclody | 5 | 4 | 3-4 | 4 | 4-5 | 4 | 4-5 | 4-5 | 5 |
| 0300 | Clody Br Bunclody | 3-4 | 4 | 3-4 | 4 | 3-4 | 3/0 | 4-5 | 3-4 | 4 |

***Assessment:*** Following an improvement in its lower reaches (0300) the Clody River was in a satisfactory condition in September 2004. This is one of the few high quality rivers remaining in the catchment and as such it is worthy of special protection.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0080 | Br near Source | 286115 | 155292 | 68 | CW/WX |
| 0200 | Ford (Br) 3km u/s Bunclody | 289682 | 154877 | 68 | CW/WX |
| 0300 | Clody Br Bunclody | 291006 | 156850 | 17 | CW/WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0080 | 121 | 12 | 100 | 0 | 6 | 39 | 37 | 0.0 | 12 | 0 | 6 |
| 0200 | 63 | 28 | 100 | 0 | 20 | 21 | 30 | 0.0 | 24 | 0 | 5 |
| 0300 | 34 | 36 | 100 | 0 | 21 | 18 | 25 | 0.8 | 28 | 0 | 7 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **COOLBOY STREAM** **12/C/07**
Tributary of : Derry OS Catchment No: 175
OS Grid Ref : T 009 689 Date(s) Surveyed : 15/09/1998

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1987 | 1991 | 1995 | 1998 | 2001 | 2004 |
| 0200 | Br u/s Coolboy Br | 4 | 4 | 4 | 4 | 4 | 4 |
| 0700 | Lattin Br | 4-5 | - | 4-5 | 4-5 | 4-5 | 4-5 |

***Assessment:*** Despite the presence of slime growths at Station 0200 and heavy siltation at Lattin Bridge (0700) this stream continued to support a reasonably diverse aquatic fauna and as such it was assessed as satisfactory in 2004.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0200 | Br u/s Coolboy Br | 304471 | 168439 | 62 | WW |
| 0700 | Lattin Br | 301064 | 168953 | 62 | WW |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 84 | 11 | 100 | 0 | 39 | 12 | 0 | 0.0 | 25 | 0 | 24 |
| 0700 | 66 | 101 | 100 | 0 | 52 | 7 | 2 | 0.6 | 19 | 0 | 19 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 12

River and Code : **CORBALLY STREAM** **12/C/04**
Tributary of : Slaney OS Catchment No: 175
OS Grid Ref : S 995 421 Date(s) Surveyed : 02/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1987 | 1988 | 1991 | 1994 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|
| 0200 | Kilcormick Br | 2 | 3 | 1 | 2 | 3-4 | 3 | 3 | 4 |
| 0300 | Ballincash Br | 3 | - | 3 | 3-4 | - | - | - | - |
| 0400 | Ballymoty Br | - | - | - | - | 3 | 4-5 | 3 | 4-5 |
| 0600 | Cooladine Br | 4-5 | - | - | - | 4 | 4-5 | 3-4* | 4-5 |
| 0900 | White's Br | 3-4 | - | 3 | - | 4 | 4 | 4 | 3-4* |

***Assessment:*** Despite considerable substratum siltation the Corbally Stream was in a mostly satisfactory biological condition when surveyed in September 2004, a very marked improvement in comparison with its generally unsatisfactory status in 2001. Only the lowermost reaches (0900) remain in need of improvement.
*Heavy Siltation.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Kilcormick Br | 307395 | 143956 | 69 | WX |
| 0300 | Ballincash Br | - | - | 69 | WX |
| 0400 | Ballymoty Br | 304456 | 141076 | 69 | WX |
| 0600 | Cooladine Br | 301619 | 139502 | 69 | WX |
| 0900 | White's Br | 299506 | 141965 | 69 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 61 | 11 | 100 | 0 | 66 | 0 | 0 | 0.0 | 31 | 0 | 3 |
| 0400 | 45 | 38 | 100 | 0 | 51 | 0 | 0 | 0.0 | 48 | 0 | 1 |
| 0600 | 35 | 48 | 100 | 0 | 52 | 0 | 0 | 0.0 | 47 | 0 | 1 |
| 0900 | 5 | 56 | 100 | 0 | 50 | 0 | 0 | 0.2 | 50 | 0 | 1 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **DERREEN** **12/D/01**
Tributary of : Slaney OS Catchment No: 175
OS Grid Ref : S 854 689 Date(s) Surveyed : 07/09/2004

| Stations No. | Biological Quality Ratings (Q Values) 1976 | 1980 | 1983 | 1986 | 1989 | 1991 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0050 | - | - | - | - | 5 | 5 | 4 | 4-5 | 4-5 | 4-5 |
| 0100 | - | 4 | 5 | 4-5 | 5 | 1/0 | - | - | - | - |
| 0150 | - | - | - | - | - | - | 4 | 5 | 4 | 4-5 |
| 0200 | 5 | 4 | 4 | 4-5 | 4-5 | 3/0 | - | - | - | - |
| 0300 | - | 3 | 3 | 3-4 | 3 | 3 | 4 | 4-5 | 4-5 | 4 |
| 0400 | 3-4 | 4 | 4 | 4 | 4 | 3 | - | - | - | - |
| 0420 | - | - | - | - | - | 3 | 4-5 | 4 | 4 | 3-4 |
| 0500 | 4-5 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 0550 | - | - | - | - | 4-5 | 4 | - | 4 | 4 | 4 |
| 0600 | 4-5 | 4 | 4 | 4 | 4 | 4 | 3-4 | 4-5 | 4 | - |
| 0700 | 4 | 4 | 4 | 4 | 4-5 | 4 | - | - | - | 4-5 |

***Assessment:*** Generally satisfactory but slime and silt indicated some adverse impact in the Hacketstown area (0420) in 2004. Sewage and industrial discharges suspected.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0050 | Br SW of Toorboy | 299625 | 187418 | 62 | WW |
| 0100 | Rathcoyle Br | - | - | 62 | WW |
| 0150 | Br NE of Ballykilmurray Lr | 299839 | 183644 | 62 | WW |
| 0200 | 2nd Ford u/s Hacketstown Br | - | - | 62 | CW |
| 0300 | Hacketstown Br | 296822 | 180758 | 62 | CW |
| 0400 | Saulsford Br | - | - | 62 | CW |
| 0420 | Br d/s Saulsford Br | 293715 | 179811 | 62 | CW |
| 0500 | Acaun Br | 289980 | 177944 | 61 | CW |
| 0550 | Knockeen Br | 289532 | 174694 | 61 | CW/WW |
| 0600 | Knockloe Br | 287548 | 173257 | 61 | CW/WW |
| 0700 | Rathglass Br | 287089 | 170322 | 61 | CW/WW |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0050 | 212 | 9 | 100 | 0 | 11 | 21 | 63 | 0.0 | 0 | 0 | 4 |
| 0150 | 160 | 35 | 100 | 0 | 33 | 22 | 31 | 0.0 | 4 | 0 | 9 |
| 0300 | 126 | 60 | 100 | 0 | 49 | 15 | 25 | 0.2 | 4 | 0 | 7 |
| 0420 | 109 | 70 | 100 | 0 | 54 | 13 | 21 | 0.5 | 6 | 0 | 6 |
| 0500 | 91 | 123 | 100 | 0 | 58 | 7 | 13 | 0.5 | 17 | 0 | 4 |
| 0550 | 85 | 175 | 100 | 0 | 57 | 7 | 9 | 0.4 | 23 | 0 | 4 |
| 0600 | 81 | 194 | 100 | 0 | 56 | 6 | 8 | 0.3 | 26 | 0 | 3 |
| 0700 | 74 | 199 | 100 | 0 | 56 | 6 | 8 | 0.4 | 26 | 0 | 3 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 12

River and Code : **DERRY** **12/D/02**
Tributary of : Slaney OS Catchment No: 175
OS Grid Ref : S 900 598 Date(s) Surveyed : 09/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1976 | 1980 | 1984 | 1987 | 1991 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | Cross Br | - | 4 | 4 | 4 | 4 | 4 | 4-5 | 4 | 3-4 |
| 0200 | Tinahely Br | - | 4 | 4 | 4 | 4-5 | 4-5 | 4-5 | 4 | 4-5 |
| 0300 | 0.5km d/s Tinahely Br | 4 | 4 | 3 | 4 | - | - | - | - | - |
| 0350 | Greenahll Br | - | - | - | 3-4 | 4-5 | 4 | 4-5 | 4-5 | 4-5 |
| 0400 | Deegin's Br | - | 4 | 3-4 | 4 | 4 | - | - | - | - |
| 0500 | Shillelagh Br | - | - | - | 4 | 3-4 | 4 | 4-5 | 4 | 3-4 |
| 0600 | 0.5km d/s Shillelagh Br | - | 4 | 3-4 | 4 | - | - | - | - | - |
| 0700 | Balisland Br | 4 | 4 | 4 | 4 | 4 | 3-4/0 | 4-5 | 3-4* | 4 |
| 0800 | Ford N of Garryhasten | - | - | - | - | 4 | 3-4 | 4 | 4 | 4 |
| 0900 | Clonegall Br | 4 | 4 | 4 | 4 | 4 | - | - | - | - |
| 1000 | Just u/s Slaney R confl | - | 4 | 4 | 4 | 4 | 4-5 | 4-5 | 4 | 4 |

***Assessment:*** Water quality was generally satisfactory in the Derry River in early September 2004 but as indicated by conditions at Cross Bridge (0100) the upper reaches were being slightly polluted, apparently by discharges in the Hacketstown area and similar conditions were also evident in Shillelagh ((0500). Although achieving a satisfactory rating there was evidence of some enrichment at each of the three locations surveyed in the lower river (i.e., below Shillelagh).

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Cross Br | 301177 | 174962 | 62 | WW |
| 0200 | Tinahely Br | 303696 | 173264 | 62 | WW |
| 0300 | 0.5km d/s Tinahely Br | - | - | 62 | WW |
| 0350 | Greenahll Br | 302129 | 170746 | 62 | WW |
| 0400 | Deegin's Br | - | - | 62 | WW |
| 0500 | Shillelagh Br | 299106 | 167968 | 62 | WW |
| 0600 | 0.5km d/s Shillelagh Br | - | - | 62 | WW |
| 0700 | Balisland Br | 297818 | 164508 | 62 | WW |
| 0800 | Ford N of Garryhasten | 293227 | 162775 | 62 | CW/WX |
| 0900 | Clonegall Br | - | - | 61 | CW/WX |
| 1000 | Just u/s Slaney R confl | 290088 | 159878 | 68 | CW/WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 126 | 25 | 100 | 0 | 61 | 6 | 1 | 0.0 | 5 | 0 | 27 |
| 0200 | 89 | 33 | 100 | 0 | 50 | 5 | 5 | 0.0 | 15 | 0 | 26 |
| 0350 | 72 | 60 | 100 | 0 | 54 | 6 | 3 | 0.0 | 17 | 0 | 20 |
| 0500 | 60 | 122 | 100 | 0 | 53 | 9 | 3 | 0.7 | 17 | 0 | 17 |
| 0700 | 51 | 136 | 100 | 0 | 53 | 9 | 2 | 0.7 | 19 | 0 | 15 |
| 0800 | 44 | 224 | 100 | 0 | 51 | 8 | 1 | 0.7 | 28 | 0 | 11 |
| 1000 | 38 | 247 | 100 | 0 | 49 | 8 | 1 | 0.6 | 31 | 0 | 10 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **DOUGLAS (BALLON)** **12/D/03**
Tributary of : Slaney OS Catchment No: 175
OS Grid Ref : S 855 685 Date(s) Surveyed : 09/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1976 | 1980 | 1983 | 1989 | 1991 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | Myshall Br | - | 4 | 3 | 4-5 | 3-4 | 3-4 | 4 | 3-4 | 3-4* |
| 0160 | Sandbrooke Br | - | - | - | 4-5 | 3/0 | 3 | 3-4 | 3-4 | 3 |
| 0200 | Sragh Br | - | 4 | 3/0 | 4-5 | 4 | 3 | 3-4 | 3-4 | 4 |
| 0400 | Bang Up Br | 4 | 4 | 4-5 | - | 3-4 | 3 | 3-4 | 3-4 | 3-4 |

***Assessment:*** As in 2001 the Douglas River was in a generally unsatisfactory condition at most points surveyed in September 2004. There was a smell of human faeces at Myshall Bridge (0100) where deep banks of silt were also recorded and the stream was totally overgrown and devoid of sensitive species at Sandbrook Bridge (0160) while excessive weed and algal growths indicated marked eutrophication also at Bang-Up Bridge (0400).

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Myshall Br | 282212 | 160836 | 61 | CW |
| 0160 | Sandbrooke Br | 284235 | 167947 | 61 | CW |
| 0200 | Sragh Br | 284474 | 163964 | 61 | CW |
| 0400 | Bang Up Br | 284719 | 168146 | 61 | CW |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 93 | 6 | 100 | 0 | 78 | 2 | 3 | 0.0 | 13 | 0 | 5 |
| 0160 | 65 | 26 | 100 | 0 | 60 | 0 | 1 | 0.2 | 37 | 0 | 2 |
| 0200 | 81 | 15 | 100 | 0 | 69 | 1 | 1 | 0.0 | 27 | 0 | 2 |
| 0400 | 64 | 41 | 100 | 0 | 55 | 0 | 0 | 0.7 | 43 | 0 | 1 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 12

River and Code : **DOUGLAS (KILTEGAN)** **12/D/04**
Tributary of : Derreen (Carlow) OS Catchment No: 175
OS Grid Ref : S 932 806 Date(s) Surveyed : 08/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1989 | 1991 | 1995 | 1998 | 2001 | 2004 |
| 0300 | Highpark Br | 4-5 | - | 3 | 4-5 | 4-5 | 4 |
| 0700 | Lucas Br | 4 | 4-5 | 4 | 4 | 3-4 | 4 |

***Assessment:*** Following a slight improvement in the upper reaches quality was assessed as Fair at both points surveyed on the Douglas in 2004. Cattle access needs to be restricted to protect this stream.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0300 | Highpark Br | 296237 | 184211 | 62 | WW |
| 0700 | Lucas Br | 292749 | 181645 | 62 | CW |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 145 | 11 | 100 | 0 | 61 | 0 | 13 | 0.0 | 25 | 0 | 0 |
| 0700 | 105 | 37 | 100 | 0 | 63 | 1 | 4 | 0.7 | 31 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **GLASHA (SLANEY)** **12/G/01**
Tributary of : Slaney OS Catchment No: 175
OS Grid Ref : S 946 528 Date(s) Surveyed : 21/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| No. | Location | 1979 | 1981 | 1984 | 1987 | 1991 | 1995 | 2001 | 2004 |
| 0100 | Br S of Gorteen | 4 | 4 | 3-4 | 4-5 | - | 3-4 | 3 | 4-5 |
| 0200 | Coolattin Br | 4 | 4 | 4 | 4 | 4-5 | 3/0 | 3 | 3* |

***Assessment:*** A major improvement was recorded in the Gorteen area (0100) but there was no such improvement in the lower reaches (0200) where the very sparse macroinvertebrate fauna indicated the likelihood of a recent wipe-out by a toxin such as sheep-dip.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0100 | Br S of Gorteen | 289739 | 149784 | 68 | WX |
| 0200 | Coolattin Br | 294303 | 152611 | 69 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 83 | 7 | 100 | 0 | 44 | 6 | 15 | 0.0 | 34 | 0 | 0 |
| 0200 | 25 | 28 | 100 | 0 | 46 | 3 | 6 | 0.0 | 46 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 12

River and Code : **KILLEEN STREAM (BORO)** **12/K/03**
Tributary of : BORO OS Catchment No: 175
OS Grid Ref : S 867 376 Date(s) Surveyed : 23/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1991 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|
| 0200 | Milltown Br | 3-4 | 3 | 3 | 4 | 4 |
| 0400 | Garraun Br | 4 | 3 | 3 | 4 | 4 |

***Assessment:*** Quality was assessed as Fair at both locations surveyed but as with the lower Glasha (q.v.) the very sparse macroinvertebrate fauna in the lower Killeen Stream (0400) may be related to the biota recovering from a (?toxic) pollution event.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Milltown Br | 284481 | 140999 | 68 | WX |
| 0400 | Garraun Br | 286785 | 137886 | 68 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 99 | 8 | 100 | 0 | 92 | 2 | 6 | 0.0 | 1 | 0 | 0 |
| 0400 | 57 | 17 | 100 | 0 | 70 | 2 | 3 | 0.0 | 25 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **KNICKEEN** **12/K/01**
Tributary of : Slaney OS Catchment No: 175
OS Grid Ref : S 985 937 Date(s) Surveyed : 07/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1989 | 1991 | 1995 | 1998 | 2001 | 2004 |
| 0100 | Br NE of Golier | 5 | 5 | 5 | - | - | - |
| 0250 | Br NW of Ballyvoghan | - | - | - | 5 | 5 | 4-5 |

***Assessment:*** Continuing satisfactory.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0100 | Br NE of Golier | 299153 | 195914 | 56 | WW |
| 0250 | Br NW of Ballyvoghan | 298665 | 194867 | 56 | WW |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 244 | 6 | 100 | 0 | 0 | 28 | 67 | 0.0 | 0 | 0 | 5 |
| 0250 | 216 | 12 | 100 | 0 | 0 | 21 | 66 | 0.0 | 0 | 0 | 13 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 12

River and Code : **LASK** **12/L/01**
Tributary of : Bann OS Catchment No: 175
OS Grid Ref : T 108 591 Date(s) Surveyed : 28/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1979 | 1983 | 1987 | 1991 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|
| 0080 | Br NW of Craan | - | - | 4 | 3 | 3-4 | 3 | 3-4* | 4 |
| 0100 | Craanford Br | 4 | 4-5 | 4 | - | - | 3-4 | - | - |
| 0300 | Br u/s Bann R confl | - | - | 3-4 | 3-4 | 4-5 | 3-4 | 4 | 3 |

***Assessment:*** Has improved in its upper reaches (0080) but has significantly deteriorated in the area just above the Bann (0300) confluence where excessive siltation and algal growths and the complete absence of sensitive macroinvertebrates indicated considerable ecological impact. Domestic discharges and agriculture suspected.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0080 | Br NW of Craan | 307865 | 162302 | 62 | WX |
| 0100 | Craanford Br | 309064 | 160194 | 62 | WX |
| 0300 | Br u/s Bann R confl | 310848 | 159035 | 69 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0080 | 90 | 14 | 100 | 0 | 68 | 5 | 0 | 0.0 | 26 | 0 | 1 |
| 0100 | 71 | 23 | 100 | 0 | 61 | 5 | 0 | 0.1 | 33 | 0 | 1 |
| 0300 | 58 | 87 | 100 | 0 | 55 | 8 | 4 | 0.4 | 29 | 0 | 4 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **LITTLE SLANEY** **12/L/02**
Tributary of : Slaney OS Catchment No: 175
OS Grid Ref : S 935 300 Date(s) Surveyed : 07/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1989 | 1991 | 1995 | 1998 | 2001 | 2004 |
| 0100 | Ford S of Coan | 5 | 5 | 4 | 5 | 4-5 | - |
| 0300 | Rostyduff Br | 4-5 | 5 | | - | - | 3-4 |

***Assessment:*** Blue-green algal slime and the absence of sensitive Plecopteran (stonefly) species indicated slight pollution effects at Rostyduff Bridge in September 2004. Agriculture and forestry suspected.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0100 | Ford S of Coan | 298447 | 191763 | 56 | WW |
| 0300 | Rostyduff Br | 295819 | 192450 | 56 | WW |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 235 | 4 | 100 | 0 | 0 | 0 | 91 | 0.0 | 0 | 0 | 9 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 12

River and Code : **MINE** **12/M/01**
Tributary of : Derry OS Catchment No: 175
OS Grid Ref : S 977 631 Date(s) Surveyed : 20/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1987 | 1991 | 1995 | 1998 | 2001 | 2004 |
| 0200 | Money Br | 4-5 | 4-5 | 3-4 | 4 | 4 | 4 |
| 0400 | Tombreen Br | 4 | 3-4 | 3-4 | 3 | 4 | 3-4 |
| 0600 | Ballingate Br | 4 | 4 | 3-4 | 3-4 | 3-4 | 3-4 |

***Assessment:*** Although this stream was enriched and physically damaged by cattle at Money Bridge (0200), water quality there was 'Fair' but downstream conditions were unsatisfactory, primarily because of the ecological effects of very heavy siltation and eutrophication. Agriculture and sewage (from Carnew) suspected.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0200 | Money Br | 303119 | 160397 | 62 | WX |
| 0400 | Tombreen Br | 300371 | 162146 | 62 | WW |
| 0600 | Ballingate Br | 297752 | 163984 | 62 | WW |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 82 | 18 | 100 | 0 | 37 | 6 | 0 | 0.0 | 50 | 0 | 7 |
| 0400 | 61 | 29 | 100 | 0 | 40 | 4 | 0 | 0.0 | 52 | 0 | 4 |
| 0600 | 50 | 62 | 100 | 0 | 46 | 4 | 0 | 0.9 | 47 | 0 | 2 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **ROSNASTRAW STREAM** **12/R/01**
Tributary of : Derry OS Catchment No: 175
OS Grid Ref : T 038 720 Date(s) Surveyed : 09/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Location | 1987 | 1988 | 1991 | 1995 | 1998 | 2001 | 2004 |
| 0200 | Br u/s Rosnastraw Br | 4 | - | 4 | 4 | 4 | 4 | 3-4 |
| 0400 | Kilcommon Br | 2 | 3 | 3 | 3 | 3 | 3-4 | 3 |

***Assessment:*** Upper reaches (0200) slightly polluted, possibly by domestic effluents, lower reaches (0400) significantly polluted by cattle manure. Unsatisfactory and detrtiorating.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0200 | Br u/s Rosnastraw Br | 306165 | 170789 | 62 | WW |
| 0400 | Kilcommon Br | 304197 | 172003 | 62 | WW |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 90 | 9 | 100 | 0 | 35 | 22 | 0 | 0.0 | 31 | 0 | 12 |
| 0400 | 78 | 19 | 100 | 0 | 47 | 11 | 0 | 0.0 | 24 | 0 | 19 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 12

River and Code : **SHILLELAGH** **12/S/01**
Tributary of : Derry(Slaney) OS Catchment No: 175
OS Grid Ref : S991 680 Date(s) Surveyed : 10/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | |
|---|---|---|---|---|---|
| No. | Location | **1995** | **1998** | **2001** | **2004** |
| 0500 | Br us Derry R confl | 3-4/0 | 4-5 | 3* | 4 |

***Assessment:*** Has improved considerably since 2001. Satisfactory.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0500 | Br us Derry R confl | 299015 | 168068 | 62 | WW |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0500 | 62 | 16 | 100 | 0 | 63 | 20 | 6 | 1.0 | 2 | 0 | 8 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **SLANEY** **12/S/02**
Tributary of : Sea - Wexford Harbour OS Catchment No: 175
OS Grid Ref : S 975 314 Date(s) Surveyed : 31/08/2004

| Stations No. | Biological Quality Ratings (Q Values) 1971 | 1975 | 1979 | 1981 | 1983 | 1984 | 1987 | 1991 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | - | - | 5 | - | - | 4 | 4 | 5 | 4-5 | 5 | 4-5 | 4 |
| 0200 | - | - | 4 | - | - | 4-5 | 4-5 | 5 | 5 | 4-5 | 4 | 4-5 |
| 0400 | - | - | 4-5 | - | - | 4-5 | 4 | 4-5 | 4-5 | 5 | 4-5 | 4 |
| 0600 | - | - | 4 | - | - | 4-5 | 4-5 | 4-5 | 4-5 | 5 | 4-5 | 4 |
| 0700 | 5 | 5 | 4 | - | - | 4-5 | 4 | 3 | 4-5 | 4-5 | 4 | 4-5 |
| 0770 | - | - | - | - | - | - | - | - | 4-5 | 4-5 | 4 | - |
| 0800 | - | - | 4-5 | - | - | 4-5 | 4 | - | - | - | - | 4-5 |
| 0900 | 5 | 5 | 4 | - | - | 4-5 | 4 | 4 | 4 | 4 | 4 | - |
| 1000 | - | - | - | - | - | 4-5 | 4 | - | - | - | - | 4-5 |
| 1020 | - | - | - | - | - | - | - | 4 | 4-5 | 4-5 | 4-5 | - |
| 1100 | - | - | - | - | - | 4 | 4 | 4 | 4-5 | 4-5 | 4-5 | 3-4 |
| 1200 | 5 | 4-5 | 4-5 | 5 | 4-5 | 4-5 | 4-5 | 4 | 4-5 | 4-5 | 4-5 | 3-4 |
| 1290 | - | - | - | - | - | - | 4 | 4 | 4 | 4-5 | 4-5 | 4 |
| 1400 | 4-5 | 4-5 | 3-4 | 3-4 | 3-4 | 3-4 | 3-4 | 3-4 | 3-4 | 3-4 | 3-4 | 4 |
| 1600 | - | - | - | - | - | 3-4 | 3-4 | 3-4 | 3-4 | 4-5 | 3-4 | 3-4 |
| 1800 | 4-5 | 4 | 4 | 4 | - | 3-4 | 3-4 | 4 | 3-4 | 4-5 | 4 | 4 |
| 2000 | 5 | 3-4 | 3-4 | 3-4 | 3-4 | 3 | 3 | 3 | 3-4 | 3-4 | 4 | 4-5 |
| 2100 | 5 | 4 | 4 | - | - | 3-4 | 4 | 3 | 3-4 | 3-4 | 3-4 | 4 |
| 2200 | - | 4-5 | 4 | - | - | 3-4 | 4 | 3-4 | - | - | - | - |
| 2220 | - | - | - | - | - | - | - | - | 3-4 | 4 | 4 | 4 |

***Assessment:*** Continuing mostly satisfactory and quality has improved considerably below Clohamon since 2001 but there were indications of over-enrichment downstream of Rathvilly (1100, 1200) and again below the eutrophic Douglas (Ballon) at Kilcarry Bridge (1600) in early September 2004.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Seskin Br | 297663 | 193902 | 56 | WW |
| 0200 | Kelsha Br | 293976 | 194242 | 56 | WW |
| 0400 | Waterloo Br | 290456 | 193461 | 55 | WW |
| 0600 | Tuckmill Br | 287638 | 191459 | 55 | WW |
| 0700 | Just d/s Baltinglass Br | 286802 | 188494 | 61 | WW |
| 0770 | Maiden's Ford | 288183 | 186455 | 61 | WW |
| 0800 | Aldborough Br | 288898 | 185614 | 61 | WW |
| 0900 | Ford u/s Rathvilly | 288171 | 182990 | 61 | CW |
| 1000 | Rathvilly Br | 287749 | 182163 | 61 | CW |
| 1020 | 1km d/s Rathvilly Br | 286889 | 181415 | 61 | CW |
| 1100 | Rathmore Br | 285623 | 178625 | 61 | CW |
| 1200 | Moatabower Br | 283201 | 177713 | 61 | CW |
| 1290 | 0.5km u/s Tullow Br | 285033 | 173231 | 61 | CW |
| 1400 | Ford 3km d/s Tullow Br | 285063 | 171194 | 61 | CW |

# Hydrometric Area 12

| | | | | | |
|---|---|---|---|---|---|
| 1600 | Kilcarry Br | 289268 | 162439 | 61 | CW |
| 1800 | Slaney Br Bunclody | 291360 | 156942 | 68 | WX |
| 2000 | 1.3km d/s Clohamon Br | 293337 | 154002 | 69 | WX |
| 2100 | Ballycarney Br | 296784 | 148846 | 69 | WX |
| 2200 | Scarawalsh Br | 298371 | 145069 | 69 | WX |
| 2220 | Just W of Salsborough Br | 299833 | 143348 | 69 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 178 | 27 | 100 | 0 | 1 | 10 | 78 | 0.0 | 0 | 0 | 11 |
| 0200 | 157 | 46 | 100 | 0 | 19 | 14 | 53 | 0.0 | 0 | 0 | 15 |
| 0400 | 137 | 78 | 100 | 0 | 29 | 11 | 40 | 0.0 | 0 | 0 | 19 |
| 0600 | 121 | 153 | 100 | 0 | 49 | 9 | 23 | 0.3 | 5 | 0 | 13 |
| 0700 | 117 | 167 | 100 | 0 | 51 | 9 | 22 | 0.8 | 5 | 0 | 12 |
| 0770 | 112 | 173 | 100 | 0 | 52 | 8 | 21 | 1.1 | 6 | 0 | 12 |
| 0800 | 110 | 175 | 100 | 0 | 52 | 8 | 21 | 1.1 | 6 | 0 | 12 |
| 0900 | 102 | 207 | 100 | 0 | 54 | 8 | 19 | 0.9 | 8 | 0 | 10 |
| 1020 | 98 | 217 | 100 | 0 | 54 | 8 | 18 | 1.0 | 10 | 0 | 10 |
| 1100 | 91 | 228 | 100 | 0 | 53 | 7 | 17 | 1.0 | 12 | 0 | 9 |
| 1200 | 84 | 238 | 100 | 0 | 54 | 7 | 16 | 0.9 | 13 | 0 | 9 |
| 1290 | 71 | 249 | 100 | 0 | 54 | 7 | 16 | 1.0 | 14 | 0 | 8 |
| 1400 | 67 | 256 | 100 | 0 | 54 | 7 | 15 | 1.6 | 14 | 0 | 8 |
| 1600 | 42 | 576 | 100 | 0 | 55 | 5 | 10 | 0.9 | 24 | 0 | 5 |
| 1800 | 30 | 849 | 100 | 0 | 53 | 6 | 7 | 0.9 | 26 | 0 | 7 |
| 2000 | 24 | 905 | 100 | 0 | 51 | 7 | 8 | 1.0 | 27 | 0 | 7 |
| 2100 | 13 | 1,006 | 100 | 0 | 50 | 6 | 7 | 0.9 | 30 | 0 | 6 |
| 2200 | 8 | 1,031 | 100 | 0 | 49 | 6 | 7 | 0.9 | 31 | 0 | 6 |
| 2220 | 6 | 1,250 | 100 | 0 | 49 | 6 | 6 | 0.8 | 32 | 0 | 5 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **SOW** **12/S/03**
Tributary of : Sea - Slaney Estuary OS Catchment No: 178
OS Grid Ref : T 049 263 Date(s) Surveyed : 03/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1980 | 1984 | 1987 | 1991 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|
| 0100 | Ballinkeel Br | 4 | 4 | 4 | 3* | 3-4 | 3 | 4 | 3-4 |
| 0200 | Kilmallock Br | 4 | 4-5 | 4 | 4 | 3-4 | - | - | - |
| 0250 | Aughgarr Br | | | | | | 3-4 | 4 | 3-4* |
| 0300 | Coolamain Br | 4-5 | 4 | 4 | 4 | - | - | - | - |
| 0370 | Randalsmill Br | - | - | - | - | 4 | 4 | 4 | 4-5 |

***Assessment:*** DO was reduced to just 51 percent of saturation at Ballinkeel Bridge (0100) where the substratum was heavily silted as it was also at Aughgarr Bridge (0250) downstream: tillage and possibly sewage (from Ballaghkeen) are suspected as the likely sources of the slight pollution recorded at these points. As indicated by the biotic index (Q4-5) at Randallsmill Bridge (0370) the lower river had maintained its satisfactory quality status.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Ballinkeel Br | 302894 | 134688 | 77 | WX |
| 0200 | Kilmallock Br | 303293 | 131847 | 77 | WX |
| 0250 | Aughgarr Br | 303368 | 130469 | 77 | WX |
| 0300 | Coolamain Br | - | - | 77 | WX |
| 0370 | Randalsmill Br | 303555 | 128473 | 77 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 37 | 29 | 100 | 0 | 43 | 1 | 0 | 0.0 | 42 | 0 | 13 |
| 0200 | 34 | 44 | 100 | 0 | 42 | 1 | 0 | 0.0 | 48 | 0 | 9 |
| 0250 | 32 | 49 | 100 | 0 | 43 | 1 | 0 | 0.0 | 48 | 0 | 8 |
| 0370 | 27 | 54 | 100 | 0 | 43 | 1 | 0 | 0.0 | 49 | 0 | 8 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 12

River and Code : **TINNACROSS STREAM** **12/T/01**
Tributary of : Slaney OS Catchment No: 175
OS Grid Ref : S 997 434 Date(s) Surveyed : 02/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1987 | 1991 | 1995 | 1998 | 2001 | 2004 |
| 0400 | Carrigeen Br | 4 | 3-4 | 3-4 | 3 | 3-4* | 4 |
| 0600 | Crane Br | 4 | 4 | 4 | 4 | 4 | 4 |

***Assessment:*** This stream is somewhat enriched at both locations surveyed but following a slight improvement at Carrigeen Bridge (0400) its biological condition was assessed as just about satisfactory in early September 2004.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0400 | Carrigeen Br | 304811 | 147940 | 69 | WX |
| 0600 | Crane Br | 300956 | 143700 | 69 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0400 | 40 | 19 | 100 | 0 | 62 | 1 | 0 | 0.0 | 37 | 0 | 0 |
| 0600 | 15 | 34 | 100 | 0 | 62 | 1 | 0 | 0.0 | 38 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **TINNOKILLA STREAM** **12/T/02**
Tributary of : Slaney OS Catchment No: 175
OS Grid Ref : S 979 275 Date(s) Surveyed : 23/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1989 | 1991 | 1995 | 1998 | 2001 | 2004 |
| 0200 | Spring Br | 3 | 3 | 4 | 4 | 4 | 4 |
| 0700 | Br NE of Tinokilla | - | 3-4 | 4-5 | 4 | 4 | 4 |

***Assessment:*** Continuing satisfactory at both locations surveyed. Heavy siltation still impacts the lower reaches (0700) but, as yet ecological integrity has not been too badly affected.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0200 | Spring Br | 292285 | 127974 | 77 | WX |
| 0700 | Br NE of Tinokilla | 297218 | 129146 | 77 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 49 | 5 | 100 | 0 | 63 | 0 | 0 | 0.0 | 37 | 0 | 0 |
| 0700 | 17 | 21 | 100 | 0 | 71 | 2 | 0 | 0.0 | 28 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 12

River and Code : **URRIN** **12/U/01**
Tributary of : Slaney OS Catchment No: 175
OS Grid Ref : S 971 388 Date(s) Surveyed : 22/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1980 | 1986 | 1989 | 1991 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|
| 0050 | Ballycrystal Br | - | - | 5 | 5 | 4-5 | 5 | 5 | 4-5 |
| 0200 | Buck's Br | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4 |
| 0250 | Br S of Curraghgraigue | - | - | 4-5 | 4-5 | 3-4 | 4-5 | 5 | 4-5 |
| 0300 | Kiltrea Br | 4 | 4-5 | 3-4 | 4-5 | 3/0 | 4-5 | 4-5 | 4-5 |
| 0360 | Verona Br | - | - | 3 | 5 | 3-4 | 4-5 | 4-5 | - |
| 0400 | Carley's Br | 4 | 3-4 | - | - | - | - | - | - |
| 0500 | John's Br | - | - | 4 | 4-5 | 3-4 | 3-4 | 3-4 | 3-4 |

***Assessment:*** Continuing satisfactory over most of its course. Indications of some ecological upset at John's Bridge (0500) in Enniscorthy.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0050 | Ballycrystal Br | 286398 | 148585 | 68 | WX |
| 0200 | Buck's Br | 286973 | 144130 | 68 | WX |
| 0250 | Br S of Curraghgraigue | 289700 | 143627 | 68 | WX |
| 0300 | Kiltrea Br | 291944 | 140836 | 68 | WX |
| 0360 | Verona Br | 294677 | 139925 | 69 | WX |
| 0400 | Carley's Br | 295750 | 139510 | 69 | WX |
| 0500 | John's Br | 296966 | 138914 | 69 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0050 | 117 | 10 | 100 | 0 | 18 | 12 | 47 | 0.0 | 0 | 0 | 23 |
| 0200 | 61 | 42 | 100 | 0 | 43 | 8 | 25 | 0.0 | 15 | 0 | 9 |
| 0250 | 44 | 51 | 100 | 0 | 43 | 7 | 21 | 0.0 | 23 | 0 | 7 |
| 0300 | 27 | 68 | 100 | 0 | 42 | 6 | 16 | 0.0 | 31 | 0 | 6 |
| 0360 | 14 | 102 | 100 | 0 | 42 | 4 | 10 | 0.0 | 40 | 0 | 4 |
| 0500 | 5 | 115 | 100 | 0 | 42 | 3 | 9 | 0.5 | 41 | 0 | 3 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# HYDROMETRIC AREA 13

***Ballyteigue-Bannow***

| | |
|---|---|
| Battlestown | 13B04 |
| Begerin Stream | 13B05 |
| Bridgetown (Wexford) | 13B01 |
| Cleristown | 13C04 |
| Corock | 13C01 |
| Duncormick | 12D01 |
| Heathpark Stream | 13H01 |
| Mulmontry | 13M01 |
| Owenduff (Wexford) | 13O01 |
| Tintern Abbey Stream | 13T01 |

# Ecological Assessment of Rivers 2004

River and Code : **BATTLESTOWN STREAM** **13/B/04**
Tributary of : Sea - Bannow Bay OS Catchment No: J2
OS Grid Ref : S 784 066 Date(s) Surveyed : 15/08/2002

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1993 | 1996 | 1998 | 2002 | 2004 |
|---|---|---|---|---|---|---|
| 0500 | Br E of Ballygow | 3 | 3 | 4 | 4 | 3-4 |

***Assessment:*** Deterioration, to slightly polluted conditions, since previous survey at the only location examined.. In the past (1993 and 1996) was moderately polluted by farmyard slurry.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0500 | Br E of Ballygow | 277946 | 107172 | 76 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0500 | 10 | 8 | 100 | 0 | 36 | 0 | 0 | 0.0 | 64 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 13

River and Code : **BEGERIN STREAM** **13/B/05**
Tributary of : Owenduff (Wexford) OS Catchment No: 181
OS Grid Ref : S 784 213 Date(s) Surveyed : 29/07/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1987 | 1991 | 1996 | 1998 | 2002 | 2004 |
|---|---|---|---|---|---|---|---|
| 0050 | Carnagh Br | 3-4 | 4 | 4 | 4 | 4 | 4 |

***Assessment:*** Satisfactory.

***Formerly reported as theWest Branch of Owenduff (Wexford) 13O01***

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0050 | Carnagh Br | 277792 | 122194 | 76 | WX |

# Ecological Assessment of Rivers 2004

River and Code : **BRIDGETOWN (WEXFORD)** **13/B/01**
Tributary of : Sea - at Ballyteige Bay OS Catchment No: 179
OS Grid Ref : S 924 084 Date(s) Surveyed : 16/08/2002

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1987** | **1991** | **1996** | **1998** | **2002** | **2004** |
| 0020 | Gainstown Bridge | 4 | 4 | 2-3 | 3-4 | 3-4 | 4 |
| 0080 | Br E of Common | - | - | 3-4 | 3-4 | 4 | 3-4 |

***Assessment:*** Improved, from slightly polluted conditions, in upper reaches but deteriorated, since previous examination, in lower freshwater reach where unsatisfactory.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0020 | Gainstown Bridge | 298937 | 115731 | 77 | WX |
| 0080 | Br E of Common | 300109 | 111409 | 77 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0020 | 66 | 3 | 100 | 0 | 24 | 23 | 0 | 0.0 | 37 | 0 | 15 |
| 0080 | 15 | 8 | 67 | 33 | 49 | 9 | 0 | 0.0 | 36 | 0 | 6 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 13

River and Code : **CLERISTOWN STREAM** **13/C/04**
Tributary of : Bridgetown OS Catchment No: 179
OS Grid Ref : S 974 095 Date(s) Surveyed : 26/07/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1993 | 1996 | 1998 | 2002 | 2004 |
|---|---|---|---|---|---|---|
| 0200 | Brownstown Br | 3 | 4 | 3-4 | 4 | 3-4 |
| 0400 | Castle Br | 4 | 3 | 3-4 | 4 | 2-3 |

***Assessment:*** Deterioration at both locations, from being satisfactory in 2002, to slightly and moderately polluted conditions respectively at Brownstown Bridge (0200) and Bridge upstream Bridgetown R confluence or Castle Bridge (0400). At the latter, which is near Balwinstown, slime growths (sewage fungus), indicating an organic effluent discharge, were recorded.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Brownstown Br | 296469 | 112734 | 77 | WX |
| 0400 | Castle Br | 297051 | 110211 | 77 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 25 | 4 | 100 | 0 | 74 | 2 | 0 | 0.0 | 24 | 0 | 0 |
| 0400 | 9 | 16 | 75 | 25 | 55 | 6 | 0 | 0.0 | 39 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **COROCK** **13/C/01**
Tributary of : Sea - at Bannow Bay OS Catchment No: 180
OS Grid Ref : S 848 133 Date(s) Surveyed : 14/08/2002

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1987 | 1991 | 1996 | 1998 | 2002 | 2004 |
|---|---|---|---|---|---|---|---|
| 0020 | Aughaloe Bridge | 4 | 4 | 3 | 3-4 | 3-4 | 4 |
| 0080 | Cullenstown Bridge | 4-5 | 4-5 | 4 | 4 | 4 | 4 |
| 0100 | Foulkesmill Br | 4 | 3-4 | 4 | 4 | 4 | 4 |
| 0150 | E of Coolcliffe Ho | 4 | 4 | 4 | 4 | 4 | 4 |

***Assessment:*** With improvement at the uppermost location (0020), since the 2002 survey, the Corock was satisfactory throughout in 2004 marking only the second time in 17 years of biological monitoring that such status was achieved.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0020 | Aughaloe Bridge | 284142 | 126432 | 77 | WX |
| 0080 | Cullenstown Bridge | 286126 | 122359 | 77 | WX |
| 0100 | Foulkesmill Br | 285387 | 118696 | 77 | WX |
| 0150 | E of Coolcliffe Ho | 286186 | 116982 | 77 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0020 | 50 | 15 | 100 | 0 | 59 | 1 | 0 | 0.0 | 40 | 0 | 0 |
| 0080 | 20 | 41 | 100 | 0 | 60 | 2 | 0 | 0.0 | 38 | 0 | 0 |
| 0100 | 9 | 62 | 100 | 0 | 54 | 2 | 0 | 0.0 | 44 | 0 | 0 |
| 0150 | 6 | 127 | 100 | 0 | 55 | 3 | 0 | 0.0 | 40 | 0 | 2 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 13

River and Code : **DUNCORMICK** **13/D/01**
Tributary of : Sea - at Ballyteige Bay OS Catchment No: 179
OS Grid Ref : S 918 093 Date(s) Surveyed : 27/07/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1981 | 1985 | 1987 | 1988 | 1991 | 1994 | 1996 | 2002 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | Br E of Ballynagale | 3 | 3-4 | 3-4 | - | 2 | 3 | 2-3 | 2-3 | 3 |
| 0280 | Tullycanna Bridge | - | - | 2-3 | 3 | 3 | - | 3-4 | 4 | 4 |
| 0350 | (W) Br nr Duncormick Rly St | - | - | 3-4 | - | 3-4 | - | 4 | 3-4 | 3-4 |

***Assessment:*** Two of the three locations examined continue to be unsatisfactory, downstream of Taghmon (0200) and upstream of Duncormick (0350), due respectively to moderately and slightly polluted conditions. Improvement recorded in 2002 at the other location, Tullycanna Bridge (0280), maintained in the latest survey.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Br E of Ballynagale | 292156 | 117632 | 77 | WX |
| 0280 | Tullycanna Bridge | 290008 | 114297 | 77 | WX |
| 0350 | (W) Br nr Duncormick Rly St | 291265 | 110850 | 77 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 45 | 4 | 100 | 0 | 74 | 0 | 0 | 6.2 | 20 | 0 | 0 |
| 0280 | 29 | 13 | 100 | 0 | 49 | 0 | 0 | 2.0 | 49 | 0 | 0 |
| 0350 | 8 | 36 | 100 | 0 | 44 | 1 | 0 | 0.7 | 53 | 0 | 1 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **HEATHPARK STREAM** **13/H/01**
Tributary of : Owenduff (Wexford) OS Catchment No: 181
OS Grid Ref : S 796 236 Date(s) Surveyed : 29/07/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1987 | 1991 | 1996 | 1998 | 2002 | 2004 |
|---|---|---|---|---|---|---|---|
| 0020 | Ballynabola Bridge (Old) | 4 | 4 | 3-4 | 4 | 3-4 | 3-4 |

***Assessment:*** Again slightly polluted.

***Formerly reported as the East Branch of Owenduff (Wexford) 13O01***

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0020 | Ballynabola Bridge (Old) | 280079 | 123667 | 76 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0020 | 47 | 31 | 100 | 0 | 47 | 4 | 0 | 0.0 | 45 | 0 | 4 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 13

River and Code : **MULMONTRY** **13/M/01**
Tributary of : Corock OS Catchment No: 180
OS Grid Ref : S 864 174 Date(s) Surveyed : 14/08/2002

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1987 | 1991 | 1996 | 1998 | 2002 | 2004 |
|---|---|---|---|---|---|---|---|
| 0300 | Browncastle Br | 4 | 4 | 3-4 | 3-4 | 4 | 4 |
| 0500 | Tottenhamgreen Bridge | 4 | 4-5 | 4 | 4 | 4 | 3-4 |
| 0700 | Goff's Bridge | 4-5 | 4 | 4-5 | 4 | 4 | 4 |

***Assessment:*** An increase in algal biomass was recorded since previous survey with Tottenhamgreen Bridge (0500) exhibiting signs of eutrophication.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0300 | Browncastle Br | 291436 | 121857 | 77 | WX |
| 0500 | Tottenhamgreen Bridge | 288793 | 120170 | 77 | WX |
| 0700 | Goff's Bridge | 287163 | 118531 | 77 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 25 | 26 | 100 | 0 | 54 | 6 | 0 | 0.0 | 32 | 0 | 8 |
| 0500 | 13 | 52 | 100 | 0 | 57 | 3 | 0 | 0.1 | 36 | 0 | 4 |
| 0700 | 8 | 57 | 100 | 0 | 57 | 4 | 0 | 0.1 | 36 | 0 | 4 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **OWENDUFF (WEXFORD)** **13/O/01**
Tributary of : Sea - Bannow Bay OS Catchment No: 181
OS Grid Ref : S 848 133 Date(s) Surveyed : 29/07/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1987 | 1991 | 1996 | 1998 | 2002 | 2004 |
|---|---|---|---|---|---|---|---|
| 0060 | Rathnageeragh Bridge | 3 | 4 | 4 | 4 | - | - |
| 0180 | Mullinderry Bridge | 4 | 4 | 3-4 | 4 | 4 | 4 |
| 0240 | Taylorstown Bridge | 4-5 | 4 | - | 4 | 4 | 3-4* |

***Note:* *For East Branch see Heathpark Stream 13H01***
***For West Branch see Begerin Stream 13B05***

***Assessment:*** Satisfactory except for the final location, Taylorstown Bridge (0240), where alum/sand washings, from the nearby waterworks, had led to siltation of the river-bed.

*Siltation

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0060 | Rathnageeragh Bridge | 278598 | 120452 | 76 | WX |
| 0180 | Mullinderry Bridge | 280999 | 116623 | 76 | WX |
| 0240 | Taylorstown Bridge | 282075 | 114627 | 76 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0060 | 35 | 51 | 100 | 0 | 55 | 3 | 0 | 0.0 | 38 | 0 | 4 |
| 0180 | 14 | 93 | 100 | 0 | 52 | 2 | 1 | 0.0 | 43 | 0 | 3 |
| 0240 | 7 | 103 | 100 | 0 | 51 | 2 | 1 | 0.0 | 45 | 0 | 2 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 13

River and Code : **TINTERN ABBEY STREAM** **13/T/01**
Tributary of : Sea - at Bannow Bay OS Catchment No: j2
OS Grid Ref : S 794 100 Date(s) Surveyed : 15/08/2002

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1987 | 1988 | 1991 | 1994 | 1996 | 1998 | 2002 | 2004 |
|---|---|---|---|---|---|---|---|---|---|
| 0900 | Bridge near Tintern Abbey | 4-5 | - | 3 | - | 3 | 3 | 4 | 3 |

***Assessment:*** Reversion to unsatisfactory conditions in 2004 at the only location examined, Bridge at Tintern Abbey, where satisfactory in 2002 for only the second time since surveys began in 1987.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0900 | Bridge near Tintern Abbey | 279387 | 109968 | 76 | WX |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0900 | 7 | 21 | 100 | 0 | 37 | 2 | 0 | 0.0 | 58 | 0 | 3 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

*Survey will be completed in 2005*

# HYDROMETRIC AREA 15 (Part)

***Nore***

| | |
|---|---|
| Arrigle | 15A02 |
| Caherlesk Stream | 15C12 |
| Desart Stream | 15D04 |
| Ennisnag Stream | 15E02 |
| Glory | 15G01 |
| Nore | 15N01 |

# Ecological Assessment of Rivers 2004

River and Code : **ARRIGLE** **15/A/02**
Tributary of : Nore OS Catchment No: 184
OS Grid Ref : S 609 387 Date(s) Surveyed : 08/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| No. | Location | 1980 | 1986 | 1989 | 1991 | 1995 | 1998 | 2001 | 2004 |
| 0100 | Br W of Ballyconnaught | 4 | 4 | 4 | 3-4 | 3-4 | 3-4 | 3-4 | 3-4 |
| 0200 | Br SW of Garrandarragh | 4 | 4 | 4 | 4 | - | - | - | - |
| 0250 | Ballycorcoran Br | - | - | 4 | 4 | 4 | 4 | 4 | 4 |
| 0300 | Ballyduff Br | 5 | 4-5 | 4 | 3-4 | 4 | 4 | 4 | 3-4 |

***Assessment:*** Mostly unsatisfactory, due to slight pollution, following deterioration at final location (0300), which is downstream of a fish farm, since previous survey.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0100 | Br W of Ballyconnaught | 262181 | 130064 | 76 | KK |
| 0200 | Br SW of Garrandarragh | 260702 | 132205 | 76 | KK |
| 0250 | Ballycorcoran Br | 260436 | 135045 | 76 | KK |
| 0300 | Ballyduff Br | 260809 | 138221 | 68 | KK |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 97 | 17 | 100 | 0 | 73 | 5 | 0 | 0.0 | 12 | 0 | 10 |
| 0200 | 72 | 26 | 100 | 0 | 73 | 9 | 0 | 0.0 | 11 | 0 | 7 |
| 0250 | 48 | 38 | 100 | 0 | 72 | 12 | 0 | 0.0 | 10 | 0 | 6 |
| 0300 | 14 | 47 | 100 | 0 | 72 | 10 | 0 | 0.0 | 13 | 0 | 5 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 15 (Part)

River and Code : **CAHERLESK STREAM** **15/C/12**
Tributary of : Kings OS Catchment No: 184
OS Grid Ref : S 455 433 Date(s) Surveyed : 09/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1993 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|
| 0200 | Br near Ballytobin House | 3 | - | - | - | - |
| 0400 | Cormick Br | - | 3 | 3 | 3 | 3 |

***Assessment:*** Continuing moderately polluted as a result of suspected agricultural sources.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Br near Ballytobin House | | | | KK |
| 0400 | Cormick Br | 245626 | 143207 | 67 | KK |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0400 | 50 | 17 | 11 | 89 | 64 | 0 | 0 | 0.0 | 36 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **DESART STREAM** **15/D/04**
Tributary of : King's (Kilkenny) OS Catchment No: 184
OS Grid Ref : S 453 432 Date(s) Surveyed : 09/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Location | 1989 | 1991 | 1994 | 1995 | 1998 | 2001 | 2004 |
| 0300 | Br S of Desart Demesne | 3-4 | 3 | - | 3 | 3-4 | 3 | 3 |
| 0500 | Br d/s Br SE of Knockreagh | 2-3 | 2 | 3 | 2-3 | 3-4 | 3 | 3 |

***Assessment:*** Continuing unsatisfactory, at both locations, due to moderate pollution from suspected agricultural sources.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0300 | Br S of Desart Demesne | 243703 | 147539 | 67 | KK |
| 0500 | Br d/s Br SE of Knockreagh | 244060 | 145107 | 67 | KK |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 72 | 15 | 0 | 100 | 76 | 2 | 0 | 0.0 | 14 | 0 | 7 |
| 0500 | 62 | 19 | 0 | 100 | 78 | 2 | 0 | 0.0 | 14 | 0 | 7 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 15 (Part)

River and Code : **ENNISNAG STREAM** **15/E/02**
Tributary of : King's (Kilkenny) OS Catchment No: 184
OS Grid Ref : S 525 440 Date(s) Surveyed : 09/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1989** | **1991** | **1995** | **1998** | **2001** | **2004** |
| 0700 | Br in Ennisnag | 3-4 | 4 | 3-4* | 3-4 | 3-4 | 3 |

***Assessment:*** Further decrease in biological diversity, since previous survey, at the only location examined, upstream of King's R confluence, on this stream whose upstream sites dry-out in some summers.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0700 | Br in Ennisnag | 252490 | 144022 | 67 | KK |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0700 | 31 | 47 | 0 | 100 | 58 | 0 | 0 | 0.0 | 42 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **GLORY** **15/G/01**
Tributary of : King's (Kilkenny) OS Catchment No: 184
OS Grid Ref : S 484 430 Date(s) Surveyed : 09/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1980 | 1986 | 1989 | 1991 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|
| 0020 | Br SW of Kilmaganny | - | - | 4 | 4 | - | - | - | - |
| 0040 | Br N of Kilmaganny | - | - | 3-4 | 3 | 1 | - | - | - |
| 0045 | 0.1 km d/s Br N of Kilmaganny | - | - | - | - | 1 | 2-3 | 2 | 2 |
| 0100 | Br SE of Rogerstown Br | 5 | 4 | 3 | 4 | 3-4 | 4 | 3-4 | 3 |
| 0200 | Chapelizod Br South | 5 | 4 | 4 | 3-4 | 3 | 3-4 | 4 | 3 |
| 0300 | Br u/s King's R confl | 5 | 4 | 4 | 4 | 3 | 4 | 4 | 3-4 |

***Assessment:*** Further deterioration, since previous survey, with the result that all four locations were unsatisfactory in 2004. Continuing seriously polluted, due to sewage, at the first location below Kilmaganny (0045). Moderately polluted at the two middle locations (0100 and 0200), downstream of Dunamaggan, and slightly polluted at the final location (0300) before the confluence with the King's River. Despite the widespread pollution parts of the river still support the protected crayfish species.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0020 | Br SW of Kilmaganny | - | - | 67 | KK |
| 0040 | Br N of Kilmaganny | 245885 | 135201 | 67 | KK |
| 0045 | 0.1 km d/s Br N of Kilmaganny | 245775 | 135218 | 67 | KK |
| 0100 | Br SE of Rogerstown Br | 246832 | 137121 | 67 | KK |
| 0200 | Chapelizod Br South | 248509 | 139863 | 67 | KK |
| 0300 | Br u/s King's R confl | 248364 | 143103 | 67 | KK |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0040 | 61 | 8 | 89 | 11 | 91 | 2 | 0 | 0.0 | 7 | 0 | 0 |
| 0045 | 61 | 7 | 88 | 12 | 91 | 0 | 0 | 0.0 | 8 | 0 | 0 |
| 0100 | 55 | 14 | 75 | 25 | 80 | 8 | 0 | 0.0 | 9 | 0 | 3 |
| 0200 | 53 | 62 | 53 | 47 | 70 | 8 | 0 | 0.0 | 18 | 0 | 4 |
| 0300 | 44 | 371 | 47 | 53 | 70 | 7 | 0 | 0.0 | 20 | 0 | 3 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 15 (Part)

River and Code : **NORE** **15/N/01**
Tributary of : Barrow/Nore/Suir Estuary OS Catchment No: 184
OS Grid Ref : S 706 306 Date(s) Surveyed : 01/09/2004

| Stations No. | Biological Quality Ratings (Q Values) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **1971** | **1975** | **1979** | **1981** | **1984** | **1987** | **1991** | **1995** | **1998** | **2001** | **2004** |
| 0030 | - | - | - | - | - | - | - | 3 | 4 | 3 | 4 |
| 0080 | - | - | - | - | - | - | 3-4 | 3-4 | 3-4 | 3-4 | 3-4 |
| 0100 | - | - | 4-5 | 4-5 | 4 | 4 | 4 | - | - | - | - |
| 0200 | - | - | 3 | 4 | 3-4 | 3-4 | 4 | 3 | 3-4 | 3-4 | 3-4 |
| 0300 | 5 | 4-5 | 4 | 4 | 4 | 3-4 | 3-4 | 3-4 | 3-4 | 3-4 | 3-4 |
| 0400 | 5 | 5 | 4-5 | - | 3-4 | 3-4 | 4 | 4 | 3-4 | 3-4 | 3-4 |
| 0500 | 4-5 | 4-5 | 4-5 | - | - | 4 | - | 4* | 4 | 4 | 4 |
| 0580 | - | - | - | - | - | - | - | 3-4 | 3-4 | 4 | 4 |
| 0600 | 5 | 4-5 | 5 | - | 4-5 | 4-5 | 4 | - | - | - | - |
| 0700 | - | - | 4 | - | 3-4 | 4 | 4 | 4 | 3-4 | 4 | 3-4 |
| 0800 | 5 | 5 | 4-5 | - | 4 | 4 | 4 | - | - | - | - |
| 0900 | - | - | - | - | 4 | 4-5 | 4 | 4 | 3-4 | 3-4 | 3-4 |
| 1000 | 5 | 5 | 5 | - | 4 | 4 | 4 | - | - | - | - |
| 1100 | 5 | 5 | 4-5 | - | 4 | 4 | 4-5 | 3-4 | 3-4 | 4 | 4 |
| 1300 | 4-5 | 4-5 | 4-5 | - | 4 | 4 | 4 | 3-4 | 4 | 4-5 | 4-5 |
| 1450 | 5 | 4-5 | 4 | 4 | 4 | 3-4 | 3-4 | 3-4 | 4 | 3-4 | 3-4 |
| 1500 | 4-5 | 4 | 3-4 | 4 | 3-4 | 3-4 | 3-4 | - | - | - | - |
| 1600 | 5 | 5 | 3-4 | 4 | 3-4 | 4 | 4 | 3-4 | 4 | 4 | 4 |
| 1700 | - | - | 4 | - | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 1800 | 5 | 4-5 | 5 | - | 5 | 5 | 4 | 4 | 4-5 | 4 | 4 |
| 1950 | 3-4 | 3 | - | - | 2-3 | 4 | 3-4 | 3-4 | 3-4 | 3-4 | 3-4* |
| 2000 | - | - | 3 | 3-4 | 3-4 | 4 | 4 | 3 | 3-4 | 3 | 3-4 |
| 2100 | - | - | 4 | - | 3-4 | 3-4 | 4 | 4 | - | - | - |
| 2120 | - | - | 4 | - | 3-4 | 3-4 | 4 | 4 | 4 | 3-4 | 3-4 |
| 2200 | - | - | 4 | - | 3-4 | 4 | 4 | 3-4 | 3-4 | 3-4 | 3-4 |
| 2305 | 4-5 | 4-5 | 3-4 | 3 | 3 | 2 | 2 | 2 | 3 | 2 | 3-4 |
| 2310 | 4-5 | 4-5 | 3-4 | 4 | 3-4 | 3-4 | 3-4 | 3-4 | 3-4 | 3-4 | 3 |
| 2320 | - | - | - | - | - | - | - | 3 | 3-4 | 3-4 | 3 |
| 2400 | - | - | 4 | 4 | 4 | 4 | 3-4 | 3-4 | 4 | 4 | 3-4 |

***Assessment:*** Continuing mainly unsatisfactory, with further deterioration recorded in 2004, due largely to widespread eutrophication with just eight of the 23 locations examined satisfactory. Three locations (0700, 2320 and 2400) had declined in quality, since previous survey, while four others had improved (0030, 1950, 2000 and 2305) but only one of these to a satisfactory status. Siltation effects, due to Kilkenny Flood Relief Scheme, were recorded in the Ossory Bridge (1950) reach of the river while sings of sewage discharges were evident at Thomastown (2305). Numbers of both protected species, the pearl mussel and crayfish, have declined recently with an unexplained collapse of the Nore crayfish population occurring in August 2004.

*Siltation

# Ecological Assessment of Rivers 2004

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0030 | Br SW of Clonakenny | 210834 | 180507 | 59 | TN |
| 0080 | Nore Br | 213153 | 181463 | 60 | TN |
| 0100 | Curragunneen Br | 214207 | 182899 | 60 | WD |
| 0200 | Nore Br, SE of Roscrea | 217232 | 185677 | 60 | TN |
| 0300 | Quaker's Br | 221099 | 186962 | 60 | LS |
| 0400 | New Br, WNW of Borris-in-Ossory | 223718 | 187833 | 60 | LS |
| 0500 | Br S of Coolrain | 229321 | 190565 | 54 | LS |
| 0580 | Danganroe Br | 232593 | 193087 | 54 | LS |
| 0600 | Castletown, New Road Br | 234208 | 192101 | 54 | WD |
| 0700 | Kilbricken Br | 236144 | 190004 | 54 | LS |
| 0800 | New Br | 237453 | 187978 | 60 | WD |
| 0900 | Poorman's Br | 240775 | 185967 | 60 | LS |
| 1000 | Waterloo Br | 241165 | 184062 | 60 | WD |
| 1100 | Watercastle Br | 242572 | 180312 | 60 | LS |
| 1300 | Tallyho Br | 242319 | 176232 | 60 | LS |
| 1450 | Ballyragget Br | 244528 | 170813 | 60 | KY |
| 1500 | 1.5 km d/s Ballyragget | 244009 | 169382 | 60 | WD |
| 1600 | Lismaine Br | 244102 | 166118 | 60 | KK |
| 1700 | Threecastles Br | 245811 | 162687 | 60 | KK |
| 1800 | 1 km u/s Green's Br, Kilkenny | 250457 | 157314 | 67 | KK |
| 1950 | Fennessy's Mill (Ossory Br) | 252280 | 154969 | 67 | KK |
| 2000 | NE of Warrington, d/s Kilkenny | 253739 | 154473 | 67 | KK |
| 2100 | Bennettsbridge, 600 m d/s br | 255340 | 148725 | 67 | KK |
| 2120 | 1 km d/s Bennettsbridge | 255341 | 148743 | 67 | KK |
| 2200 | Ballylinch Br | 254688 | 143592 | 67 | KK |
| 2305 | Thomastown Br (LHS) | 258572 | 141743 | 67 | KK |
| 2310 | Thomastown Br (RHS) | 258572 | 141743 | 67 | KK |
| 2320 | 1 km d/s Thomastown Br | 259179 | 141770 | 67 | KK |
| 2400 | Brownsbarn Br | 261808 | 139168 | 68 | KK |

# Hydrometric Area 15 (Part)

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0030 | 130 | 6 | 94 | 6 | 87 | 8 | 0 | 0.0 | 5 | 0 | 0 |
| 0080 | 120 | 19 | 72 | 28 | 92 | 3 | 0 | 0.0 | 5 | 0 | 0 |
| 0100 | 112 | 30 | 67 | 33 | 95 | 2 | 0 | 0.0 | 3 | 0 | 0 |
| 0200 | 101 | 47 | 58 | 42 | 92 | 1 | 1 | 0.0 | 2 | 0 | 3 |
| 0300 | 100 | 83 | 45 | 55 | 74 | 6 | 8 | 0.3 | 6 | 0 | 7 |
| 0400 | 100 | 109 | 40 | 60 | 76 | 5 | 6 | 0.2 | 6 | 0 | 6 |
| 0500 | 95 | 153 | 35 | 65 | 77 | 5 | 5 | 0.4 | 7 | 0 | 6 |
| 0580 | 92 | 269 | 55 | 45 | 59 | 17 | 9 | 0.2 | 9 | 0 | 5 |
| 0600 | 90 | 275 | 54 | 46 | 60 | 16 | 9 | 0.4 | 9 | 0 | 6 |
| 0700 | 88 | 339 | 53 | 47 | 60 | 15 | 10 | 1.0 | 9 | 0 | 5 |
| 0800 | 86 | 347 | 52 | 48 | 60 | 15 | 10 | 0.9 | 9 | 0 | 5 |
| 0900 | 81 | 429 | 42 | 58 | 61 | 12 | 10 | 0.8 | 9 | 0 | 6 |
| 1000 | 79 | 474 | 38 | 62 | 63 | 12 | 10 | 1.2 | 9 | 0 | 5 |
| 1100 | 76 | 489 | 37 | 63 | 62 | 12 | 10 | 1.2 | 9 | 0 | 5 |
| 1300 | 71 | 947 | 19 | 81 | 69 | 8 | 6 | 1.0 | 11 | 0 | 5 |
| 1450 | 64 | 1,059 | 17 | 83 | 71 | 8 | 5 | 1.1 | 11 | 0 | 4 |
| 1500 | 62 | 1,067 | 17 | 83 | 71 | 8 | 5 | 1.2 | 11 | 0 | 4 |
| 1600 | 58 | 1,105 | 17 | 83 | 71 | 8 | 5 | 1.1 | 12 | 0 | 4 |
| 1700 | 53 | 1,235 | 15 | 85 | 72 | 7 | 4 | 1.1 | 12 | 0 | 4 |
| 1800 | 44 | 1,570 | 12 | 88 | 72 | 8 | 3 | 1.1 | 11 | 0 | 5 |
| 1950 | 40 | 1,648 | 11 | 89 | 72 | 7 | 3 | 1.5 | 12 | 0 | 5 |
| 2000 | 38 | 1,705 | 11 | 89 | 72 | 7 | 3 | 1.5 | 12 | 0 | 4 |
| 2100 | 29 | 1,768 | 10 | 90 | 71 | 7 | 3 | 1.4 | 13 | 0 | 4 |
| 2120 | 29 | 1,768 | 10 | 90 | 71 | 7 | 3 | 1.4 | 13 | 0 | 4 |
| 2200 | 21 | 2,222 | 10 | 90 | 73 | 6 | 2 | 1.2 | 14 | 0 | 4 |
| 2305 | 14 | 2,309 | 12 | 88 | 73 | 6 | 2 | 1.3 | 14 | 0 | 4 |
| 2310 | 14 | 2,309 | 12 | 88 | 73 | 6 | 2 | 1.3 | 14 | 0 | 4 |
| 2320 | 13 | 2,358 | 12 | 88 | 73 | 6 | 2 | 1.3 | 14 | 0 | 4 |
| 2400 | 8 | 2,418 | 15 | 85 | 73 | 6 | 2 | 1.3 | 14 | 0 | 4 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# HYDROMETRIC AREA NO. 17

***Colligan-Mahon***

| | |
|---|---|
| Araglin (Colligan) | 17A01 |
| Brickey | 17B01 |
| Colligan | 17C01 |
| Dalligan | 17D01 |
| Dunhill | 17D02 |
| Leperstown Stream | 17L01 |
| Mahon | 17M01 |
| Morragen | 17M02 |
| Tay | 17T01 |

# Ecological Assessment of Rivers 2004

River and Code : **ARAGLIN (COLLIGAN)** **17/A/01**
Tributary of : Colligan OS Catchment No: 188
OS Grid Ref : S 232 024 Date(s) Surveyed : 16/06/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1987 | 1991 | 1996 | 1998 | 2001 | 2004 |
| 0300 | Coum Br | 4 | 4-5 | 4-5 | 4-5 | 4 | 4-5 |
| 0400 | Ballynakill Br | 4 | 4 | 4-5 | 4-5 | 4 | 4-5 |

***Assessment:*** Continuing satisfactory.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0300 | Coum Br | 224892 | 103680 | 82 | WD |
| 0400 | Ballynakill Br | 223154 | 102480 | 82 | WD |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 154 | 9 | 100 | 0 | 4 | 8 | 25 | 0.0 | 12 | 0 | 51 |
| 0400 | 90 | 35 | 100 | 0 | 33 | 6 | 23 | 0.0 | 6 | 0 | 32 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 17

River and Code : **BRICKEY** **17/B/01**
Tributary of : Sea - Dungarvan Harbour OS Catchment No: 189
OS Grid Ref : X 243 902 Date(s) Surveyed : 15/06/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1987 | 1991 | 1996 | 2001 | 2004 |
|---|---|---|---|---|---|---|
| 0030 | Canty Br | 3 | 3 | - | - | - |
| 0050 | Knockmaon Br | - | - | 3 | 3 | 4 |
| 0070 | Drehidatogher Br | 3-4 | 3* | - | - | |
| 0090 | Br u/s Twomile Br | 3-4 | 3-4 | 3-4 | 3-4 | 3-4 |

***Assessment:*** Significant improvement at Knockmahon Bridge (0050), since previous survey, but continuing slightly polluted at the other location (0090) examined where the river is subject to tidal influence.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0030 | Canty Br | - | - | 82 | WD |
| 0050 | Knockmaon Br | 218746 | 93400 | 82 | WD |
| 0070 | Drehidatogher Br | - | - | 82 | WD |
| 0090 | Br u/s Twomile Br | 222101 | 91318 | 82 | WD |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0050 | 6 | 11 | 23 | 77 | 79 | 2 | 0 | 2.4 | 17 | 0 | 0 |
| 0090 | 2 | 34 | 40 | 60 | 74 | 6 | 0 | 2.4 | 15 | 0 | 2 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **COLLIGAN** **17/C/01**
Tributary of : Sea - Dungarvan Harbour OS Catchment No: 188
OS Grid Ref : X 262 933 Date(s) Surveyed : 16/06/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1981 | 1984 | 1987 | 1991 | 1996 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|
| ***West Branch*** | | | | | | | | |
| 0090 | Scart Br (West) | - | - | 4-5 | 4 | 4-5 | 4 | 4-5 |
| ***East Branch*** | | | | | | | | |
| 0100 | Scart Br (East) | 5 | 4 | 4-5 | 4 | 4-5 | 4 | 4-5 |
| ***Main Channel*** | | | | | | | | |
| 0150 | Br ESE of Lackandarra | - | - | - | - | 4-5 | 4-5 | 4-5 |
| 0180 | Colligan Br | - | - | 4 | 4 | 4-5 | 4-5 | 4-5 |
| 0250 | Killadangan Br | - | - | - | 4 | 4 | 4 | 4 |

***Assessment:*** Continuing satisfactory.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0090 | Scart Br (West) | 222967 | 104892 | 82 | WD |
| 0100 | Scart Br (East) | 222960 | 104927 | 82 | WD |
| 0150 | Br ESE of Lackandarra | 223066 | 102061 | 82 | WD |
| 0180 | Colligan Br | 222017 | 98002 | 82 | WD |
| 0250 | Killadangan Br | 223210 | 95188 | 82 | WD |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0090 | 120 | 15 | 100 | 0 | 25 | 0 | 43 | 0.0 | 0 | 0 | 32 |
| 0100 | 121 | 15 | 100 | 0 | 25 | 0 | 43 | 0.0 | 0 | 0 | 32 |
| 0150 | 85 | 54 | 100 | 0 | 37 | 6 | 21 | 0.0 | 7 | 0 | 29 |
| 0180 | 44 | 77 | 100 | 0 | 47 | 7 | 15 | 0.0 | 8 | 0 | 23 |
| 0250 | 11 | 84 | 98 | 2 | 48 | 9 | 14 | 0.0 | 8 | 0 | 21 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 17

River and Code : **DALLIGAN** **17/D/01**
Tributary of : Sea - E. of Dungarvan Harbour OS Catchment No: 187
OS Grid Ref : X 335 950 Date(s) Surveyed : 17/06/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1987 | 1991 | 1996 | 1998 | 2001 | 2004 |
| 0050 | Br E of Glendalligan | 4 | 4 | 4 | 4 | 4 | 4 |
| 0100 | Br S of Shanbally | 4 | 4 | 3-4 | 4 | 4 | 4 |
| 0300 | Ballyvoyle New Br | 4 | 4 | 3-4 | 4 | 4 | 4-5 |

***Assessment:*** Continuing satisfactory.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0050 | Br E of Glendalligan | 229488 | 100223 | 82 | WD |
| 0100 | Br S of Shanbally | 230999 | 97508 | 82 | WD |
| 0300 | Ballyvoyle New Br | 233814 | 95971 | 82 | WD |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0050 | 147 | 7 | 100 | 0 | 12 | 20 | 58 | 0.0 | 0 | 0 | 10 |
| 0100 | 68 | 13 | 100 | 0 | 29 | 21 | 32 | 0.0 | 4 | 0 | 15 |
| 0300 | 24 | 18 | 100 | 0 | 47 | 15 | 22 | 0.0 | 5 | 0 | 11 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **DUNHILL** **17/D/02**
Tributary of : Sea - E. of Dunbrattin Head OS Catchment No: k2
OS Grid Ref : X 496 988 Date(s) Surveyed : 21/06/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1990** | **1991** | **1996** | **1998** | **2001** | **2004** |
| 0100 | Ballyphilip Br | 3-4 | 2-3 | 3 | 2 | 3-4 | 3-4 |
| 0200 | Br W of Dunhill Lodge | 3-4 | 3 | 3 | 3-4 | 3-4 | 3-4 |

***Assessment:*** Slightly polluted at both locations. Constructed wetlands are sited near both locations discharging respectively immediately upstream of Ballyphilip Bridge (0100) and downstream of Bridge W of Dunhill Lodge (0200).

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0100 | Ballyphilip Br | 250744 | 102651 | 82 | WD |
| 0200 | Br W of Dunhill Lodge | 250541 | 100753 | 82 | WD |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 10 | 12 | 100 | 0 | 61 | 0 | 0 | 0.0 | 32 | 0 | 7 |
| 0200 | 4 | 15 | 100 | 0 | 63 | 0 | 0 | 0.0 | 29 | 0 | 8 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 17

River and Code : **LEPERSTOWN STREAM** **17/L/01**
Tributary of : Sea - Tramore Bay OS Catchment No: k2
OS Grid Ref : S 641 012 Date(s) Surveyed : 21/06/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1994 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|
| 0300 | Aughanodrish Br | 3 | 3 | 3 | 3 | 3 |

***Assessment:*** Continuing moderately polluted.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0300 | Aughanodrish Br | 265710 | 102128 | 76 | WD |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 21 | 7 | 100 | 0 | 76 | 4 | 0 | 0.0 | 10 | 4 | 5 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **MAHON** **17/M/01**
Tributary of : Sea - Bunmahon Bay OS Catchment No: 185
OS Grid Ref : X 434 988 Date(s) Surveyed : 22/07/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1987 | 1991 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0100 | Mahon Br | 3-4 | 4 | 4 | 4 | 4 | 4-5 |
| 0140 | Br S of Ballyboy | 3-4 | 3 | 4 | 4 | 4 | 4 |
| 0200 | Br just S of Kilmacthomas | 3 | 3 | 4 | 3-4 | 3-4 | 3-4 |
| 0300 | Aughshemus Br | 4 | 4 | 4 | 4 | 4 | 4 |
| 0350 | E of Seafield | 4 | 4 | 4 | 4 | 4 | 4 |

***Assessment:*** No change. Satisfactory except downstream of Kilmacthomas where again slightly polluted apparently as a result of sewage discharges. An unsightly discharge of alum/sand, from the waterworks at Aughshemus Bridge (0300), was occurring at the time of the survey and from accumulations along the left-hand-side of the river would appear to be of a chronic nature.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Mahon Br | 234225 | 106019 | 75 | WD |
| 0140 | Br S of Ballyboy | 236739 | 105686 | 82 | WD |
| 0200 | Br just S of Kilmacthomas | 239661 | 105641 | 82 | WD |
| 0300 | Aughshemus Br | 241686 | 102677 | 82 | WD |
| 0350 | E of Seafield | 242275 | 101069 | 82 | WD |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 87 | 11 | 100 | 0 | 6 | 0 | 23 | 0.0 | 0 | 0 | 72 |
| 0140 | 54 | 35 | 100 | 0 | 47 | 5 | 11 | 0.0 | 3 | 0 | 34 |
| 0200 | 29 | 61 | 100 | 0 | 55 | 4 | 7 | 0.6 | 12 | 0 | 22 |
| 0300 | 10 | 73 | 100 | 0 | 59 | 3 | 6 | 0.8 | 13 | 0 | 18 |
| 0350 | 6 | 91 | 100 | 0 | 63 | 3 | 5 | 0.7 | 15 | 0 | 15 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 17

River and Code : **MORRAGEN** **17/M/02**
Tributary of : Mahon OS Catchment No: 185
OS Grid Ref : S 392 065 Date(s) Surveyed : 22/07/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1987 | 1991 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0100 | Rahoughtragh Br | 3 | 4 | 3-4 | 3-4 | 4 | 3-4 |
| 0200 | Kilnagrange Br | 4 | 4 | 4 | 4 | 4 | 3-4 |

***Assessment:*** Deterioration at both locations, to slightly polluted conditions, since previous survey, marking the first time that biological water quality has been less than satisfactory in the 17-year period of monitoring at Kilnagrange Bridge (0200).

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Rahoughtragh Br | 240198 | 109506 | 75 | WD |
| 0200 | Kilnagrange Br | 239349 | 106523 | 75 | WD |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 81 | 4 | 100 | 0 | 75 | 0 | 1 | 0.0 | 17 | 0 | 7 |
| 0200 | 34 | 13 | 100 | 0 | 70 | 3 | 0 | 0.1 | 23 | 0 | 3 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **TAY** **17/T/01**
Tributary of : Sea - Dungarvan Bay OS Catchment No: 186
OS Grid Ref : X 368 970 Date(s) Surveyed : 22/06/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1976 | 1984 | 1987 | 1991 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|
| 0050 | Aughnacurra Br | - | - | 4-5 | 4-5 | 4-5 | 4 | 3-4 | 4-5 |
| 0100 | Br N of Lemybrien | - | 4-5 | 4-5 | 4-5 | 4 | 4 | 3-4 | 4-5 |
| 0250 | Durrow Br | - | - | - | - | 4-5 | 4 | 4 | 4-5 |
| 0300 | Br S of Kilminnin | 4-5 | 4-5 | 4-5 | 4 | - | - | - | - |
| 0400 | Stradbally Br | - | - | 4-5 | 4 | 4 | 4 | 4 | 4 |

***Assessment:*** Satisfactory throughout following abatement of agricultural pollution, recorded in previous survey, at upper two sampling locations (0050 and 0100).

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0050 | Aughnacurra Br | 231942 | 104035 | 82 | WD |
| 0100 | Br N of Lemybrien | 233504 | 102342 | 82 | WD |
| 0250 | Durrow Br | 234019 | 98720 | 82 | WD |
| 0300 | Br S of Kilminnin | - | - | 82 | WD |
| 0400 | Stradbally Br | 236823 | 97209 | 82 | WD |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0050 | 93 | 19 | 100 | 0 | 19 | 9 | 39 | 0.0 | 7 | 0 | 27 |
| 0100 | 63 | 23 | 100 | 0 | 28 | 8 | 33 | 0.0 | 6 | 0 | 25 |
| 0250 | 33 | 53 | 100 | 0 | 56 | 7 | 16 | 0.0 | 4 | 0 | 16 |
| 0400 | 3 | 67 | 100 | 0 | 60 | 7 | 13 | 0.0 | 5 | 0 | 15 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# HYDROMETRIC AREA 22 (Part)

***Laune – Maine – Dingle Bay***

| | |
|---|---|
| Beheenagh | 22B01 |
| Behy | 22B02 |
| Caragh | 22C02 |
| Carhan | 22C03 |
| Coomnacarrig | 22C06 |
| Cottoners | 22C05 |
| Crinnagh | 22C07 |
| Deenagh | 22D01 |
| Derreen | 22D02 |
| Emlagh | 22E01 |
| Ferta | 22F01 |
| Finow | 22F04 |
| Gaddagh | 22G01 |
| Gearhameen | 22G03 |
| Groin | 22G08 |
| Gweestin | 22G06 |
| Loe | 22L03 |
| Loo | 22L04 |
| Meelagh | 22M02 |
| Milltown (Kerry) | 22M03 |
| Owenalondrig | 22O01 |
| Owenascaul | 22O02 |
| Owenreagh | 22O03 |
| Owenroe (Caragh) | 22O04 |
| Owgarriff (Finow) | 22O06 |
| Owneykeagh | 22O05 |
| Quagmire | 22Q01 |

Due to curtailment of field activities in 2004 the following rivers were not surveyed: they will be surveyed in 2005:- Brown Flesk, Croaghane, Dogue, Fahaduff, Finglas (Laune), Flesk, Glantane, Laune, Little Maine, Maine & Shanowen (Maine)

# Ecological Assessment of Rivers 2004

River and Code : **BEHEENAGH** **22/B/01**
Tributary of : Owneykeagh OS Catchment No: 207
OS Grid Ref : W 090 907 Date(s) Surveyed : 16/07/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1990 | 1994 | 1996 | 1998 | 2001 | 2004 |
| 0400 | Br N of Gortderrig | 4-5 | 4-5 | 4-5 | 4 | 3-4 | 4 |
| 0600 | Br u/s Owneykeagh R confl | 4 | 4 | 4 | 4 | 4 | 4-5 |

***Assessment:*** Satisfactory following amelioration at first location, Bridge North of Gortderrig (0400), since previous survey.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0400 | Br N of Gortderrig | 112873 | 88373 | 79 | KY |
| 0600 | Br u/s Owneykeagh R confl | 109770 | 90919 | 79 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0400 | 154 | 9 | 89 | 11 | 22 | 0 | 71 | 0.0 | 6 | 0 | 2 |
| 0600 | 112 | 25 | 49 | 51 | 40 | 0 | 55 | 0.0 | 4 | 0 | 1 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 22 (Part)

River and Code : **BEHY (KERRY)** **22/B/02**
Tributary of : Sea - Dingle Bay OS Catchment No: 209
OS Grid Ref : V 657 920 Date(s) Surveyed : 10/06/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1990 | 1994 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| ***Coomnacronia Lake Branch*** | | | | | | | |
| 0300 | Br W of Ballynakilly Br | 4-5 | 4-5 | 4 | 4 | 4-5 | 4-5 |
| ***Coomaglaslaw Branch*** | | | | | | | |
| 0400 | First Br d/s Coomaglaslaw L | 4 | 4-5 | 4 | 4-5 | 4-5 | 4-5 |
| ***Main Channel*** | | | | | | | |
| 0800 | Second Br d/s Coomasaharn L | 4 | 4 | - | 4 | 4 | 4-5 |
| 1000 | Ballynakilly Br | 4-5 | 4-5 | 4 | 4-5 | 4-5 | 4-5 |
| 1300 | Behy Br | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |

***Assessment:*** Continuing satisfactory.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0300 | Br W of Ballynakilly Br | 64299 | 87740 | 83 | KY |
| 0400 | First Br d/s Coomaglaslaw L | 62455 | 86766 | 83 | KY |
| 0800 | Second Br d/s Coomasaharn L | 63965 | 85693 | 83 | KY |
| 1000 | Ballynakilly Br | 64433 | 87860 | 83 | KY |
| 1300 | Behy Br | 66485 | 90857 | 78 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 60 | 14 | 100 | 0 | 4 | 0 | 50 | 0.0 | 2 | 6 | 38 |
| 0800 | 125 | 12 | 100 | 0 | 4 | 0 | 46 | 0.0 | 0 | 7 | 43 |
| 1000 | 56 | 34 | 100 | 0 | 5 | 0 | 57 | 0.0 | 11 | 5 | 22 |
| 1300 | 11 | 45 | 100 | 0 | 16 | 1 | 53 | 0.5 | 11 | 4 | 16 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **CARAGH** **22/C/02**
Tributary of : Sea - Castlemaine Harbour OS Catchment No: 208
OS Grid Ref : V 675 938 Date(s) Surveyed : 29/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1990 | 1994 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0200 | Br SW of Cloghfune | 4 | 4 | 4 | 4-5 | 4-5 | 4 |
| 0400 | Foot-bridge d/s Owenroe R confl | 5 | 5 | 4-5 | 4-5 | 4-5 | 4-5 |
| 0600 | Blackstones Br | 5 | 5 | 5 | 5 | 5 | 5 |
| 0680 | 1.2km u/s Caragh Br | - | 4 | 3-4 | 3-4 | 3-4 | 3-4 |

***Assessment:*** Mostly satisfactory but again eutrophic downstream of Lough Caragh (0680). Good stocks of the protected pearl mussel exist in parts of the river.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Br SW of Cloghfune | 76021 | 80760 | 78 | KY |
| 0400 | Foot-bridge d/s Owenroe R confl | 72092 | 81555 | 78 | KY |
| 0600 | Blackstones Br | 70954 | 86375 | 78 | KY |
| 0680 | 1.2km u/s Caragh Br | 70074 | 91800 | 78 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 70 | 12 | 100 | 0 | 14 | 0 | 67 | 0.0 | 0 | 0 | 19 |
| 0400 | 40 | 52 | 100 | 0 | 6 | 0 | 58 | 0.0 | 9 | 2 | 24 |
| 0600 | 19 | 107 | 100 | 0 | 5 | 3 | 63 | 0.0 | 9 | 2 | 17 |
| 0680 | 6 | 165 | 97 | 3 | 4 | 5 | 62 | 0.0 | 9 | 4 | 16 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 22 (Part)

River and Code : **CARHAN** **22/C/03**
Tributary of : Valentia River OS Catchment No: 211
OS Grid Ref : V 484 798 Date(s) Surveyed : 09/06/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1990 | 1994 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0100 | Br N of Canburrin | - | - | - | 3-4 | 3-4 | 3-4 |
| 0200 | Foot-bridge E of Inchimacteige | 4 | 4 | 4 | 4 | 3-4 | 4 |

***Assessment:*** Continuing unsatisfactory at Bridge North of Canburrin (0100), which is downstream of a forestry plantation, due to the effects of eutrophication. Reversion to satisfactory conditions at the other location examined, Foot-bridge South of Bahagh (0200), since previous survey. The foot-bridge which had collapsed prior to the 2001 survey had vanished between then and latest visit.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Br N of Canburrin | 51037 | 77143 | 83 | KY |
| 0200 | Foot-bridge E of Inchimacteige | 51260 | 79050 | 83 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 59 | 4 | 100 | 0 | 5 | 43 | 50 | 0.0 | 0 | 0 | 2 |
| 0200 | 25 | 15 | 100 | 0 | 10 | 11 | 77 | 0.0 | 0 | 0 | 2 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **COOMNACARRIG** **22/C/06**
Tributary of : Caragh OS Catchment No: 208
OS Grid Ref : V 717 818 Date(s) Surveyed : 29/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1990** | **1994** | **1996** | **1998** | **2001** | **2004** |
| 0300 | Dromalonhurt Br | 4 | 4 | 4-5 | 4-5 | 4-5 | 4-5 |

***Assessment:*** Continuing satisfactory.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0300 | Dromalonhurt Br | 69699 | 81749 | 78 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 122 | 11 | 100 | 0 | 0 | 0 | 93 | 0.0 | 0 | 0 | 7 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 22 (Part)

River and Code : **COTTONER'S (LAUNE)** **22/C/05**
Tributary of : Laune OS Catchment No: 207
OS Grid Ref : V 667 957 Date(s) Surveyed : 11/06/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1990 | 1994 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0100 | Br NW of Breanlee | - | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| 0400 | Br N of Glancuttaun Lower | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| 0600 | Br u/s Laune R confl | 4 | 4 | 3-4 | 3-4 | 3-4 | 4 |

***Assessment:*** Satisfactory following some amelioration in eutrophic effects, since previous survey, at final location (0600) which is 200 m upstream of the Laune River confluence. The pearl mussel, a protected species, lives in parts of the river.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Br NW of Breanlee | 76789 | 86771 | 78 | KY |
| 0400 | Br N of Glancuttaun Lower | 77827 | 91566 | 78 | KY |
| 0600 | Br u/s Laune R confl | 78526 | 95437 | 78 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 138 | 5 | 100 | 0 | 0 | 0 | 85 | 0.0 | 0 | 6 | 9 |
| 0400 | 50 | 21 | 100 | 0 | 7 | 0 | 72 | 0.0 | 11 | 2 | 7 |
| 0600 | 4 | 34 | 84 | 16 | 15 | 0 | 68 | 0.0 | 10 | 1 | 6 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **CRINNAGH** **22/C/07**
Tributary of : Upper Lake - Killarney OS Catchment No: 207
OS Grid Ref : V 928 826 Date(s) Surveyed : 14/07/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1990** | **1994** | **1996** | **1998** | **2001** | **2004** |
| 0200 | Cromglen Br | 5 | 5 | 5 | 5 | 5 | 5 |

***Assessment:*** Continuing satisfactory with high ecological quality again recorded.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0200 | Cromglen Br | 92826 | 82623 | 78 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc** | **Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 20 | 11 | 100 | 0 | 0 | 8 | 92 | 0.0 | 0 | | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 22 (Part)

River and Code : **DEENAGH** **22/D/01**
Tributary of : Lough Leane OS Catchment No: 207
OS Grid Ref : V 945 902 Date(s) Surveyed : 15/07/2004

| Stations No. | Biological Quality Ratings (Q Values) 1971 | 1976 | 1981 | 1986 | 1990 | 1994 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0045 | - | - | - | - | 3-4 | 3-4 | 3 | 3 | 3 | 3 |
| 0100 | 5 | 4-5 | 4-5 | 4 | 4-5 | 4 | 4-5 | 4 | 4 | 4 |
| 0200 | 5 | 5 | 5 | 4 | 4-5 | 4 | 4 | 4 | 4 | 4 |
| 0300 | 4 | 4-5 | 5 | 4 | 4-5 | - | - | - | - | - |
| 0600 | - | - | - | - | - | 4-5 | 4 | 4 | - | - |

***Assessment:*** No change. Mostly satisfactory but continuing moderately polluted in upper reaches (0045) due to suspected agricultural sources. The final location (0600) was dropped from the sampling schedule in 2001 due to restricted access.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0045 | Br NE of Tulloram | 102097 | 94592 | 79 | KY |
| 0100 | Br near Woodpark | 98935 | 93508 | 78 | KY |
| 0200 | Deenagh Br | 95996 | 91957 | 78 | KY |
| 0300 | King's Br | - | - | 78 | KY |
| 0600 | Br just u/s L Leane | 95306 | 90261 | 78 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0045 | 149 | 5 | 0 | 100 | 86 | 0 | 14 | 0.0 | 0 | 0 | 0 |
| 0100 | 93 | 22 | 0 | 100 | 75 | 0 | 20 | 0.0 | 5 | 0 | 0 |
| 0200 | 37 | 29 | 0 | 100 | 76 | 2 | 15 | 0.2 | 5 | 0 | 1 |
| 0600 | 24 | 31 | 0 | 100 | 74 | 3 | 14 | 1.5 | 5 | 0 | 2 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **DERREEN (KERRY)** **22/D/02**
Tributary of : Sea at Portmagee OS Catchment No: O3
OS Grid Ref : V 451 742 Date(s) Surveyed : 09/06/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1994 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|
| 0100 | Dereen Br | 4 | 4 | 4 | 4 | 4 |

***Assessment:*** Continuing satisfactory.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Dereen Br | 46623 | 72388 | 83 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 11 | 13 | 100 | 0 | 42 | 0 | 35 | 0.0 | 0 | 0 | 23 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 22 (Part)

River and Code : **EMLAGH** **22/E/01**
Tributary of : Sea - Castlemaine Harbour OS Catchment No: t3
OS Grid Ref : Q 660 006 Date(s) Surveyed : 18/06/2002

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1990 | 1994 | 1996 | 1998 | 2002 | 2004 |
|---|---|---|---|---|---|---|---|
| 0200 | Br W of Emlagh | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| 0400 | Br at Inch | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |

***Assessment:*** Continuing satisfactory.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Br W of Emlagh | 64845 | 103310 | 71 | KY |
| 0400 | Br at Inch | 65606 | 101289 | 71 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 75 | 18 | 100 | 0 | 25 | 8 | 52 | 0.0 | 4 | 0 | 11 |
| 0400 | 8 | 22 | 100 | 0 | 25 | 6 | 53 | 0.0 | 3 | 0 | 12 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **FERTA** **22/F/01**
Tributary of : Valentia River OS Catchment No: 210
OS Grid Ref : V 500 801 Date(s) Surveyed : 10/06/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1990 | 1994 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| ***North Branch*** | | | | | | | |
| 0100 | Coulagh Br | 5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| ***South Branch*** | | | | | | | |
| 0500 | Toon Br | 4 | 4-5 | 4 | 4-5 | 4-5 | 4-5 |
| ***Main Channel*** | | | | | | | |
| 0700 | Br ENE of Derreenmoria | 4 | 4-5 | 4 | 4 | 4 | 4 |
| 1000 | Deelis Br | 3 | 3-4 | 3-4 | 3-4 | 3 | 3 |

***Assessment:*** Continuing mostly satisfactory but again poor ecological quality was recorded at the final location , Deelis Bridge (1000), on the main channel.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Coulagh Br | 57037 | 83300 | 83 | KY |
| 0500 | Toon Br | 56181 | 82222 | 83 | KY |
| 0700 | Br ENE of Derreenmoria | 54882 | 82239 | 83 | KY |
| 1000 | Deelis Br | 50814 | 81601 | 83 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0500 | 66 | 10 | 100 | 0 | 10 | 3 | 43 | 0.0 | 0 | 0 | 44 |
| 0700 | 40 | 20 | 100 | 0 | 15 | 2 | 31 | 0.0 | 1 | 0 | 52 |
| 1000 | 2 | 53 | 100 | 0 | 25 | 1 | 45 | 0.0 | 5 | 0 | 24 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 22 (Part)

River and Code : **FINOW** **22/F/04**
Tributary of : Flesk OS Catchment No: 207
OS Grid Ref : W 010 875 Date(s) Surveyed : 14/10/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1990 | 1994 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0100 | Br 0.3km u/s L Guitane | - | 5 | 5 | 5 | 4-5 | 5 |
| 0300 | Br (Ford) u/s Flesk R confl | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |

***Assessment:*** Satisfactory with no significant change. The pearl mussel, a protected species, lives in parts of the river.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Br 0.3km u/s L Guitane | 103336 | 83943 | 79 | KY |
| 0300 | Br (Ford) u/s Flesk R confl | 100855 | 87339 | 79 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 82 | 10 | 69 | 31 | 0 | 0 | 97 | 0.0 | 2 | 0 | 1 |
| 0300 | 54 | 39 | 62 | 38 | 11 | 1 | 61 | 0.0 | 8 | 8 | 12 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **GADDAGH** **22/G/01**
Tributary of : Laune OS Catchment No: 207
OS Grid Ref : V 841 937 Date(s) Surveyed : 13/07/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1990** | **1994** | **1996** | **1998** | **2001** | **2004** |
| 0300 | Ford SW of Gortboy | 4 | 4-5 | 4-5 | 5 | 4-5 | 4-5 |
| 0400 | Gaddagh Br | 4 | 4 | 4-5 | 4-5 | 4 | 4 |
| 0500 | Gortnaskarry Br | 4 | 4-5 | 4 | 3-4 | 3-4 | 3-4 |

***Assessment:*** Mostly satisfactory but eutrophic effects were again recorded in lowermost reach (0500).

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0300 | Ford SW of Gortboy | 82856 | 88415 | 78 | KY |
| 0400 | Gaddagh Br | 83836 | 91571 | 78 | KY |
| 0500 | Gortnaskarry Br | 83731 | 93518 | 78 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 96 | 21 | 100 | 0 | 10 | 0 | 76 | 0.0 | 2 | 0 | 13 |
| 0400 | 25 | 37 | 96 | 4 | 23 | 0 | 62 | 0.0 | 6 | 0 | 9 |
| 0500 | 11 | 42 | 86 | 14 | 32 | 1 | 54 | 0.9 | 5 | 0 | 8 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 22 (Part)

River and Code : **GEARHAMEEN** **22/G/03**
Tributary of : Owenreagh OS Catchment No: 207
OS Grid Ref : V 877 819 Date(s) Surveyed : 14/07/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1990 | 1994 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0100 | Br N of Cockow | - | 5 | 4 | 4-5 | 4-5 | 4-5 |
| 0300 | Br u/s Owenreagh R confl | 5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |

***Assessment:*** Continuing satisfactory with no change.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Br N of Cockow | 82407 | 80967 | 78 | KY |
| 0300 | Br u/s Owenreagh R confl | 87501 | 82162 | 78 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 65 | 13 | 100 | 0 | 0 | 0 | 79 | 0.0 | 5 | 0 | 15 |
| 0300 | 29 | 31 | 100 | 0 | 2 | 3 | 77 | 0.0 | 3 | 1 | 14 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **GROIN** **22/G/08**
Tributary of : Castlemaine Harbour OS Catchment No: 198
OS Grid Ref : Q 794 023 Date(s) Surveyed : 17/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1990** | **1994** | **1996** | **1998** | **2002** | **2004** |
| 0300 | Br E of White Gate Crossroads | 4-5 | 4 | 4-5 | 4 | 4-5 | 4 |

***Assessment:*** Continuing satisfactory. No significant change.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0300 | Br E of White Gate Crossroads | 78907 | 103917 | 71 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 12 | 4 | 100 | 0 | 5 | 0 | 94 | 0.0 | 0 | 0 | 1 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 22 (Part)

River and Code : **GWEESTIN** **22/G/06**
Tributary of : Laune OS Catchment No: 207
OS Grid Ref : V 833 948 Date(s) Surveyed : 13/07/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1990 | 1994 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0300 | Doneen Br | - | 4 | 4 | 4-5 | 4 | 4 |
| 0600 | Gweestin Br | 3 | 4 | 3-4 | 3-4 | 4 | 4 |
| 0900 | Br u/s Listry Br | - | 4 | 4 | 4 | 4 | 4 |
| 1200 | Gweestin Br | 2-3 | 3 | 2-3 | 3 | 3 | 3 |

***Assessment:*** Mostly satisfactory. Improvement recorded at upper Gweestin Bridge (0600) in 2001 has been maintained. Remaining unsatisfactory at final location, lower Gweestin Bridge (1200), due to moderately polluted conditions.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0300 | Doneen Br | 97002 | 97701 | 78 | KY |
| 0600 | Gweestin Br | 92347 | 98241 | 78 | KY |
| 0900 | Br u/s Listry Br | 87651 | 97734 | 78 | KY |
| 1200 | Gweestin Br | 83778 | 94948 | 78 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 101 | 11 | 0 | 100 | 60 | 0 | 36 | 0.0 | 3 | 0 | 0 |
| 0600 | 55 | 22 | 0 | 100 | 65 | 0 | 20 | 0.0 | 15 | 0 | 0 |
| 0900 | 31 | 59 | 0 | 100 | 78 | 0 | 7 | 0.0 | 15 | 0 | 0 |
| 1200 | 10 | 67 | 0 | 100 | 78 | 0 | 7 | 0.0 | 14 | 0 | 1 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **LOE** **22/L/03**
Tributary of : Laune OS Catchment No: 207
OS Grid Ref : V 883 915 Date(s) Surveyed : 15/07/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1990** | **1994** | **1996** | **1998** | **2001** | **2004** |
| 0100 | Br just d/s Black Lake | - | 3-4 | 4-5 | 4-5 | 5 | 4-5 |
| 0400 | Br u/s Laune R confl | 4 | 4 | 4 | 4 | 4 | 4-5 |

***Assessment:*** Continuing satisfactory with no significant change. There was a faint smell of sewage at the second location which is just upstream of confluence with the Laune River.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0100 | Br just d/s Black Lake | 87690 | 87792 | 78 | KY |
| 0400 | Br u/s Laune R confl | 88005 | 90821 | 78 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 100 | 10 | 100 | 0 | 0 | 0 | 83 | 0.0 | 0 | 0 | 17 |
| 0400 | 24 | 16 | 97 | 3 | 11 | 0 | 77 | 0.0 | 1 | 0 | 11 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 22 (Part)

River and Code : **LOO** **22/L/04**
Tributary of : Flesk OS Catchment No: 207
OS Grid Ref : W 087 814 Date(s) Surveyed : 13/10/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1990 | 1994 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0100 | Agnanus Br | - | 4 | 4 | 4 | 4 | 4 |
| 0400 | Loo Br | 4 | 4 | 4 | 3-4 | 4 | 4 |

***Assessment:*** Satisfactory. No change.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Agnanus Br | 104511 | 78891 | 79 | KY |
| 0400 | Loo Br | 108561 | 81399 | 79 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 79 | 5 | 99 | 1 | 0 | 20 | 62 | 0.0 | 0 | 0 | 18 |
| 0400 | 64 | 32 | 98 | 2 | 3 | 11 | 74 | 0.0 | 0 | 0 | 13 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **MEELAGH** **22/M/02**
Tributary of : Caragh OS Catchment No: 208
OS Grid Ref : V 707 866 Date(s) Surveyed : 28/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1990 | 1994 | 1996 | 1998 | 2001 | 2004 |
| 0100 | Br u/s Caragh R confl | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4 |

***Assessment:*** Satisfactory but with some loss of ecological quality due to slight enrichment. Parts of the river support the protected pearl mussel.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0100 | Br u/s Caragh R confl | 70052 | 86278 | 78 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 27 | 14 | 100 | 0 | 0 | 3 | 57 | 0.0 | 1 | 0 | 38 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 22 (Part)

River and Code : **MILLTOWN (KERRY)** **22/M/03**
Tributary of : Sea - Dingle Harbour OS Catchment No: 206
OS Grid Ref : Q 435 011 Date(s) Surveyed : 18/08/20024

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1990 | 1994 | 2002 | 2004 |
|---|---|---|---|---|---|
| 0100 | Glens Br | 4 | 4 | - | - |
| 0110 | Br SE of Reenconnell | - | - | 3-4 | 3-4 |
| 0200 | Br E of Gallán | 3 | 3 | 3 | 2 |
| 0300 | Ford SE of Cill Fhiontain | 3 | 3 | 3 | 2-3 |

***Assessment:*** Continuing unsatisfactory throughout, due respectively to slight, serious and moderate pollution, with further deterioration, since previous survey, at two of the three locations. The causes of pollution are: suspected forestry at 0110; agricultural discharges at 0200, where abundant slime growths were present downstream of a drain carrying farm waste to river 30m downstream of bridge from right-hand side; and fish-farm sources in lower reach, at 0300, where agricultural waste was also getting to river immediately downstream of the ford from right-hand side.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Glens Br | - | - | 70 | KY |
| 0110 | Br SE of Reenconnell | 42967 | 105894 | 70 | KY |
| 0200 | Br E of Gallán | 43119 | 104792 | 70 | KY |
| 0300 | Ford SE of Cill Fhiontain | 42831 | 102273 | 70 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0110 | 54 | 2 | 100 | 0 | 20 | 0 | 68 | 0.0 | 2 | 0 | 9 |
| 0200 | 35 | 13 | 100 | 0 | 29 | 0 | 42 | 0.0 | 13 | 0 | 16 |
| 0300 | 12 | 21 | 100 | 0 | 34 | 0 | 42 | 0.0 | 13 | 0 | 11 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **OWENALONDRIG** **22/O/01**
Tributary of : Sea - Dingle Bay OS Catchment No: 202
OS Grid Ref : Q 490 004 Date(s) Surveyed : 18/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1990 | 1994 | 1996 | 1998 | 2002 | 2004 |
| 0200 | Br d/s Fairy Glen | 4 | 4 | 4 | 4 | 4 | 4 |
| 0500 | Br in Foheraghmore | 4 | 4 | 3-4 | 4 | 3 | 2 |

***Assessment:*** Further deterioration, since last survey, at the second of the two sample locations examined with moderate-abundant slime growths indicating the significant organic waste loading. The cause of the seriously polluted condition was farm waste entering the river, from left-hand side, 100m upstream of Bridge in Foheraghmore (0500).

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0200 | Br d/s Fairy Glen | 53742 | 102058 | 70 | KY |
| 0500 | Br in Foheraghmore | 50820 | 100429 | 70 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 81 | 7 | 100 | 0 | 17 | 0 | 53 | 0.0 | 0 | 0 | 30 |
| 0500 | 17 | 18 | 100 | 0 | 44 | 0 | 32 | 0.0 | 0 | 0 | 24 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 22 (Part)

River and Code : **OWENASCAUL** **22/O/02**
Tributary of : Sea - Dingle Bay OS Catchment No: 200
OS Grid Ref : Q 596 003 Date(s) Surveyed : 17/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1990** | **1994** | **1996** | **1998** | **2002** | **2004** |
| 0800 | Br 1.6km u/s Anascaul | 4 | 4 | 4-5 | 4-5 | 4 | 4 |
| 1000 | Br 1.3km d/s Anascaul | - | 4-5 | 4-5 | 4-5 | 4 | 4-5 |

***Assessment:*** Continuing satisfactory. A colony of the protected pearl mussel disappeared from the upper reach (0800), between 1998 and 2002, where adjacent land clearance work and development had taken place.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0800 | Br 1.6km u/s Anascaul | 59393 | 103268 | 70 | KY |
| 1000 | Br 1.3km d/s Anascaul | 59346 | 101025 | 70 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0800 | 56 | 12 | 100 | 0 | 7 | 0 | 62 | 0.0 | 0 | 3 | 28 |
| 1000 | 9 | 39 | 100 | 0 | 40 | 0 | 33 | 0.7 | 4 | 1 | 21 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **OWENREAGH** **22/O/03**
Tributary of : Upper Lake Killarney OS Catchment No: 207
OS Grid Ref : V 892 819 Date(s) Surveyed : 14/07/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1990 | 1994 | 1996 | 1998 | 2001 | 2004 |
| 0100 | Br E of Graignagreana | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| 0200 | Just u/s trib from Looscaunagh L | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |
| 0400 | Br u/s Upper Lake | 5 | 5 | 5 | 5 | 5 | 5 |

***Assessment:*** Continuing satisfactory. No change. The pearl mussel, a protected species, lives in parts of the river.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0100 | Br E of Graignagreana | 84009 | 78588 | 78 | KY |
| 0200 | Just u/s trib from Looscaunagh Lough | 87629 | 79496 | 78 | KY |
| 0400 | Br u/s Upper Lake | 88404 | 82103 | 78 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 120 | 9 | 100 | 0 | 0 | 0 | 61 | 0.0 | 9 | 0 | 30 |
| 0200 | 91 | 22 | 100 | 0 | 0 | 1 | 65 | 0.0 | 7 | 0 | 27 |
| 0400 | 20 | 62 | 100 | 0 | 1 | 5 | 69 | 0.0 | 4 | 1 | 20 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 22 (Part)

River and Code : **OWENROE (CARAGH)** **22/O/04**
Tributary of : Caragh OS Catchment No: 208
OS Grid Ref : V 728 814 Date(s) Surveyed : 29/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1990 | 1994 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0200 | 1.1km u/s Caragh R confl | 4-5 | 4 | 4 | 4-5 | 4-5 | 4-5 |

***Assessment:*** Continuing satisfactory at the only location sampled which is some 4 km downstream of Cloon Lough and about 1 km upstream of the Caragh River confluence. The pearl mussel was formerly fished from this river but is now protected and the practice is illegal.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | 1.1km u/s Caragh R confl | 72882 | 80908 | 78 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 45 | 29 | 100 | 0 | 0 | 0 | 62 | 0.0 | 7 | 4 | 27 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **OWGARRIFF (FINOW)** **22/O/06**
Tributary of : Finow OS Catchment No: 207
OS Grid Ref : W 008 860 Date(s) Surveyed : 13/10/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1990 | 1994 | 1996 | 1998 | 2001 | 2004 |
| 0100 | Owgarriff Br | 5 | 5 | 4-5 | 4 | 4-5 | 4-5 |

***Assessment:*** Continuing satisfactory at the only location sampled which is approx. 3.5 km downstream of Lough Garagarry.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0100 | Owgarriff Br | 100632 | 85963 | 79 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 70 | 11 | 79 | 21 | 8 | 0 | 44 | 0.0 | 11 | 3 | 34 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 22 (Part)

River and Code : **OWNEYKEAGH** **22/O/05**
Tributary of : Flesk OS Catchment No: 207
OS Grid Ref : W 054 868 Date(s) Surveyed : 16/07/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1990 | 1994 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0200 | Br WNW of Drom | 4-5 | 4-5 | 4-5 | 4-5 | 4 | 4 |
| 0400 | Br u/s Flesk R confl | 4-5 | 4 | 4-5 | 4-5 | 4 | 4-5 |

***Assessment:*** Continuing satisfactory at both locations on this river with the alternative spelling of Owneyskeagh.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Br WNW of Drom | 108069 | 88593 | 79 | KY |
| 0400 | Br u/s Flesk R confl | 106791 | 86952 | 79 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 77 | 98 | 16 | 84 | 46 | 2 | 42 | 0.0 | 8 | 0 | 2 |
| 0400 | 60 | 105 | 17 | 83 | 46 | 1 | 41 | 0.0 | 8 | 0 | 4 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **QUAGMIRE** **22/Q/01**
Tributary of : Owneykeagh OS Catchment No: 207
OS Grid Ref : W 090 907 Date(s) Surveyed : 15/07/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1990** | **1994** | **1996** | **1998** | **2002** | **2004** |
| 0200 | Br d/s Tooreennamult Br | - | 4 | 4-5 | 4-5 | 4-5 | 4 |
| 0400 | Annagh Br | 4 | 4 | 4 | 4-5 | 4 | 4 |

***Assessment:*** Continuing satisfactory at both locations but with some signs of slight enrichment.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0200 | Br d/s Tooreennamult Br | 110341 | 98438 | 79 | KY |
| 0400 | Annagh Br | 109629 | 95047 | 79 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc** | **Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 176 | 6 | 0 | 100 | 49 | 1 | 45 | 0.0 | 0 | | 0 | 5 |
| 0400 | 126 | 35 | 0 | 100 | 51 | 3 | 35 | 0.0 | 9 | | 0 | 1 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# HYDROMETRIC AREA 23 (Part)

***Tralee Bay – Feale***

| | |
|---|---|
| Feohanagh | 23F02 |
| Finglas | 23F03 |
| Glashoreag | 23G03 |
| Glennahoo | 23G05 |
| Lee (Tralee) | 23L01 |
| Lyracrumpane | 23L02 |
| Owencashla | 23O02 |
| Owenmore (Kerry) | 23O03 |
| Owennafeana | 23O04 |
| Scorid | 23S01 |
| Smearlagh | 23S02 |

Time constraints prevented a full survey in 2004: survey will be completed in 2005.

# Ecological Assessment of Rivers 2004

River and Code : **FEOHANAGH** **23/F/02**
Tributary of : Sea - Smerwick Harbour OS Catchment No: 205
OS Grid Ref : Q 388 097 Date(s) Surveyed : 18/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1987** | **1991** | **1996** | **1998** | **2002** | **2004** |
| 0100 | Droichead an Bhaile Bhric | 5 | 5 | 5 | 5 | 4-5 | 4 |
| 0500 | Br at Feohanagh | 5 | 4-5 | 4 | 4 | 4-5 | 4 |

***Assessment:*** Continuing satisfactory but with increased algal biomass recorded at the first location, Ballybrack Bridge/Droichead an Bhaile Bhric (0100), since previous surveys.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0100 | Droichead an Bhaile Bhric | 42099 | 108866 | 70 | KY |
| 0500 | Br at Feohanagh | 39400 | 109821 | 70 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 61 | 11 | 100 | 0 | 3 | 0 | 30 | 0.0 | 3 | 0 | 64 |
| 0500 | 1 | 30 | 100 | 0 | 31 | 0 | 32 | 0.0 | 1 | 0 | 36 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 23 (Part)

River and Code : **FINGLAS** **23/F/03**
Tributary of : Sea - Tralee Bay OS Catchment No: t3
OS Grid Ref : Q 701 103 Date(s) Surveyed : 21/06/2002

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1993 | 1996 | 1998 | 2002 | 2004 |
|---|---|---|---|---|---|---|
| 0400 | Br d/s Curraduff Br | 5 | 5 | 4-5 | 4-5 | 5 |

***Assessment:*** Continuing satisfactory with high ecological quality recorded in the latest survey.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0400 | Br d/s Curraduff Br | 69867 | 109708 | 71 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0400 | 15 | 15 | 100 | 0 | 18 | 0 | 72 | 1.3 | 0 | 0 | 9 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **GLASHOREAG** **23/G/03**
Tributary of : Smearlagh OS Catchment No: 194
OS Grid Ref : Q 980 195 Date(s) Surveyed : 30/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1989** | **1993** | **1996** | **1998** | **2001** | **2004** |
| 0200 | Ivy Br | 4 | 4 | 4 | 3-4 | 4 | 4-5 |

***Assessment:*** Again satisfactory with further increase in ecological quality recorded.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0200 | Ivy Br | 97335 | 119638 | 71 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 145 | 17 | 0 | 100 | 0 | 16 | 56 | 0.0 | 7 | 0 | 21 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 23 (Part)

River and Code : **GLENNAHOO** **23/G/05**
Tributary of : Scorid OS Catchment No: 201
OS Grid Ref : Q 538 113 Date(s) Surveyed : 20/06/2002

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1991 | 1996 | 1998 | 2002 | 2004 |
|---|---|---|---|---|---|---|
| 0200 | Br u/s Scorid R confl | 4-5 | 4-5 | 4-5 | 4-5 | 3-4 |

***Assessment:*** Significant reduction in ecological quality, since 2002, at the only location examined which is approximately 150m upstream of the confluence with the Scorid River. A dead sea-trout was found at the time of the survey which may, or may not, indicate that a pollution event had occurred in the recent past.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Br u/s Scorid R confl | 53850 | 111270 | 70 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 2 | 13 | 100 | 0 | 14 | 0 | 49 | 0.0 | 0 | 0 | 37 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **LEE (TRALEE)** **23/L/01**
Tributary of : Sea - Tralee Bay OS Catchment No: 196
OS Grid Ref : Q 815 132 Date(s) Surveyed : 20/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Location | **1985** | **1987** | **1991** | **1996** | **1998** | **2001** | **2004** |
| 0030 | Ahnambraher Br (RHS) | - | 3 | 3 | 2 | 3 | 2 | 3-4 |
| 0035 | Ahnambraher Br (LHS) | - | 3 | 3 | 4 | 3 | 3-4 | 3-4 |
| 0050 | Ballyseedy Br | 4 | 3 | 4 | 4 | 3-4 | 3-4 | 4 |
| 0100 | 2nd Br d/s Bally Mullen Mills | 3-4 | 3-4 | 4 | 3 | 3 | 2-3 | 3 |

***Assessment:*** Slightly polluted, satisfactory and moderately polluted respectively with some improvement in ecological quality recorded at all three locations.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0030 | Ahnambraher Br (RHS) | 89700 | 114346 | 71 | KY |
| 0035 | Ahnambraher Br (LHS) | 89700 | 114346 | 71 | KY |
| 0050 | Ballyseedy Br | 87875 | 112886 | 71 | KY |
| 0100 | 2nd Br d/s Bally Mullen Mills | 84460 | 113368 | 71 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0030 | 34 | 19 | 0 | 100 | 71 | 1 | 18 | 0.0 | 0 | 0 | 11 |
| 0035 | 34 | 19 | 0 | 100 | 71 | 1 | 18 | 0.0 | 0 | 0 | 11 |
| 0050 | 12 | 31 | 12 | 88 | 75 | 1 | 11 | 2.4 | 3 | 0 | 8 |
| 0100 | 5 | 62 | 20 | 80 | 67 | 1 | 15 | 4.4 | 9 | 0 | 4 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 23 (Part)

River and Code : **LYRACRUMPANE** **23/L/02**
Tributary of : Smearlagh OS Catchment No: 194
OS Grid Ref : Q 982 232 Date(s) Surveyed : 30/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1989 | 1993 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0100 | Br u/s Smearlagh R confl | 4 | 4 | 4 | 4 | 4 | 4-5 |

***Assessment:*** Continuing satisfactory.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Br u/s Smearlagh R confl | 98121 | 123176 | 71 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 110 | 12 | 0 | 100 | 8 | 16 | 72 | 0.0 | 2 | 0 | 2 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **OWENCASHLA** **23/O/02**
Tributary of : Sea - Tralee Bay OS Catchment No: 199
OS Grid Ref : Q 653 114 Date(s) Surveyed : 21/06/2002

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1987 | 1991 | 1996 | 1998 | 2002 | 2004 |
| 0300 | First Br u/s Sea | 4 | 4-5 | 4-5 | 4-5 | 4 | 4 |

***Assessment:*** Satisfactory.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0300 | First Br u/s Sea | 64757 | 111353 | 71 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 12 | 16 | 100 | 0 | 7 | 16 | 77 | 0.0 | 0 | 0 | 1 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 23 (Part)

River and Code : **OWENMORE (KERRY)** **23/O/03**
Tributary of : Sea - Brandon Bay OS Catchment No: 203
OS Grid Ref : Q 513 110 Date(s) Surveyed : 19/08/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1987 | 1991 | 1996 | 1998 | 2002 | 2004 |
|---|---|---|---|---|---|---|---|
| ***Lough Cruttia Branch*** | | | | | | | |
| 0100 | Br d/s L. Cruite | 5 | 5 | 5 | 4-5 | 5 | 4-5 |
| ***Cloghane Branch*** | | | | | | | |
| 0200 | 0.5 km d/s L Gal | 4 | 5 | 4-5 | 4-5 | 4-5 | 4 |
| ***Main Channel*** | | | | | | | |
| 0300 | Br at Boherboy | 5 | 5 | 5 | 5 | 5 | 5 |

***Assessment:*** Continuing satisfactory. A lake effect, with moderate amounts of filamentous algae, is consistently recorded downstream of Lough Gal (0200) and is usually most pronounced in late summer.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Br d/s L. Cruite | 49161 | 108563 | 70 | KY |
| 0200 | 0.5 km d/s L Gal | 48674 | 106961 | 70 | KY |
| 0300 | Br at Boherboy | 51285 | 110745 | 70 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 63 | 4 | 100 | 0 | 0 | 0 | 47 | 0.0 | 3 | 6 | 44 |
| 0300 | 2 | 30 | 100 | 0 | 1 | 0 | 62 | 0.0 | 4 | 1 | 33 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **OWENNAFEANA** **23/O/04**
Tributary of : Sea - Brandon Bay OS Catchment No: 204
OS Grid Ref : Q 524 146 Date(s) Surveyed : 20/06/2002

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1987** | **1991** | **1996** | **1998** | **2002** | **2004** |
| 0100 | Teer Br | 4 | 4-5 | 4-5 | 4-5 | 4-5 | 4 |

***Assessment:*** Satisfactory but with a small discharge of domestic sewage reaching the river, apparently from a septic tank, immediately upstream of bridge from the right-hand-side.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0100 | Teer Br | 51756 | 113899 | 70 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 31 | 12 | 100 | 0 | 3 | 0 | 88 | 0.0 | 1 | 0 | 9 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 23 (Part)

River and Code : **SCORID** **23/S/01**
Tributary of : Sea - Brandon Bay OS Catchment No: 201
OS Grid Ref : Q 537 114 Date(s) Surveyed : 20/06/2002

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1987** | **1991** | **1996** | **1998** | **2002** | **2004** |
| 0100 | Kilmore Br | 4-5 | 4-5 | - | - | - | - |
| 0200 | Br E of Kilmurry | - | - | 4-5 | 4-5 | 4-5 | 4-5 |

***Assessment:*** Continuing satisfactory.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0100 | Kilmore Br | | | | |
| 0200 | Br E of Kilmurry | 53318 | 110144 | 70 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 20 | 14 | 100 | 0 | 3 | 0 | 62 | 0.0 | 10 | 2 | 23 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **SMEARLAGH** **23/S/02**
Tributary of : Feale OS Catchment No: 194
OS Grid Ref : R 030 330 Date(s) Surveyed : 30/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1987 | 1993 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0300 | Br SE of Reanagowan Crossroads | - | - | 4-5 | 4 | 4 | 4-5 |
| 0400 | Br u/s Lyracrumpane R confl | 4-5 | 4 | 4-5 | 4-5 | 4-5 | 4-5 |
| 0500 | Br NE of Gortacloghane | 4 | 4 | 4 | 4 | 4 | 4 |
| 0700 | Kennelly's Br | 3-4 | 4 | 4 | 4 | 4 | 4 |
| 0710 | Kennelly's Br | - | 3 | 4 | 4 | 4 | 4 |

***Assessment:*** Continuing satisfactory. No change.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0300 | Br SE of Reanagowan Crossroads | 97580 | 118967 | 71 | KY |
| 0400 | Br u/s Lyracrumpane R confl | 98350 | 123279 | 71 | KY |
| 0500 | Br NE of Gortacloghane | 101400 | 126612 | 72 | KY |
| 0700 | Kennelly's Br | 102540 | 132324 | 64 | KY |
| 0710 | Kennelly's Br | 102540 | 132324 | 64 | KY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 151 | 18 | 0 | 100 | 4 | 34 | 44 | 0.0 | 3 | 0 | 14 |
| 0400 | 106 | 51 | 0 | 100 | 4 | 23 | 48 | 0.0 | 10 | 0 | 15 |
| 0500 | 70 | 85 | 0 | 100 | 13 | 21 | 50 | 0.0 | 6 | 0 | 10 |
| 0700 | 29 | 128 | 0 | 100 | 28 | 14 | 43 | 0.2 | 6 | 0 | 9 |
| 0710 | 29 | 128 | 0 | 100 | 28 | 14 | 43 | 0.2 | 6 | 0 | 9 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# HYDROMETRIC AREA 27

## (PART ONLY)

***Shannon Estuary North***

| | |
|---|---|
| Ballymacooda Lough Stream | 27B01 |
| Castlelodge | 27C01 |
| Clareen (Fergus) | 27C06 |
| Cloondanagh Lough Stream | 27C13 |
| Cullaun | 27C14 |
| Hell | 27H01 |
| Inch | 27I01 |
| Laghtyshaughnessy L. Str. | 27L03 |
| Liskenny | 27L01 |
| Lissycasey Stream | 27L04 |

Due to time constraints only some of the rivers in this area were surveyed in 2004: survey will be completed in 2005

# Ecological Assessment of Rivers 2004

River and Code : **BALLYMACOODA LOUGH STREAM[1] 27/B/01**
Tributary of : Clareen (Fergus) OS Catchment No: 17
OS Grid Ref : Null Date(s) Surveyed : 22/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1988 | 1991 | 1998 | 2004 |
|---|---|---|---|---|---|
| 0500 | Br at Ballyvullaghan | 4 | 2-3 | 4 | 4 |

***Assessment:*** An improvement in water quality was noted in 2004 at Station 0500 on the Ballymacooda tributary of the Clareen River.

***Previously reported as the Ballymacooda Lough Branch of Clareen (Fergus) 27C06***

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0500 | Br at Ballyvullaghan | 130699 | 170928 | 57 | CE |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0500 | 12 | 2 | 0 | 100 | 99 | 0 | 0 | 0.0 | 1 | 0 | 0 |

Alt is in metres Area is km$^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.[1]

[1] indicates non-baseline rivers i.e., those which are not shown on the O.S. map entitled ''Rivers and their Catchment Basins''

# Hydrometric Area 27 (Part)

River and Code : **CASTLELODGE** **27/C/01**
Tributary of : Muckanagh Lough OS Catchment No: 158
OS Grid Ref : R 378 932 Date(s) Surveyed : 20/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1988 | 1991 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0700 | Bridge u/s Lough Aslaun | 4 | 4 | 3 | 3 | 3 | 3 |
| 0900 | Bridge u/s Muckanagh Lough | 4 | 4 | 3 | 2-3 | 3 | 2-3 |

***Assessment:*** The Castlelodge has low dissolved oxygen at the upper site sampled (0700). While crayfish were present, the overall biological quality appears impaired with a notable lack of sensitive species that would normally be expected in a river of this type. The system may be heavily influenced by groundwater as this is a karst limestone region. The lower site (0900) has a significant cattle access point that results in nutrient and organic matter additions to the river at this point. The faunal diversity is surprisingly low at this point and it is dominated by highly tolerant species.

***For Station 0300 see Laghtyshaughnessy Lough Stream 27L03***

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0700 | Bridge u/s Lough Aslaun | 141931 | 196216 | 52 | GY |
| 0900 | Bridge u/s Muckanagh Lough | 139605 | 194171 | 52 | CE |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0700 | 22 | 13 | 0 | 100 | 67 | 6 | 0 | 0.0 | 9 | 0 | 18 |
| 0900 | 19 | 20 | 0 | 100 | 63 | 4 | 0 | 0.0 | 11 | 2 | 20 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **CLAREEN (FERGUS)** **27/C/06**
Tributary of : Sea - Fergus Estuary OS Catchment No: 158
OS Grid Ref : R 323 685 Date(s) Surveyed : 22/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Location | **1986** | **1988** | **1991** | **1997** | **1998** | **2001** | **2004** |
| 0540 | Br just S Killerk | - | - | - | 4 | 4 | 4 | 3-4 |
| 0600 | Clareen Bridge | 4 | 4 | 3 | 3 | 3 | 3 | - |

***Assessment:*** A slight disimprovement was noted in the quality of the Clareen where sampled (0540) in 2004.

***For Station 0500 see: Ballymacooda Lough Stream 27B01.***

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0540 | Br just S Killerk | 129344 | 170141 | 57 | CE |
| 0600 | Clareen Bridge | 131222 | 169578 | 57 | CE |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0540 | 33 | 5 | 0 | 100 | 59 | 0 | 20 | 0.0 | 18 | 0 | 3 |
| 0600 | 3 | 23 | 0 | 100 | 82 | 0 | 5 | 0.0 | 9 | 0 | 4 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 27 (Part)

River and Code : **CLOONDANAGH LOUGH STREAM** **27/C/13**
Tributary of : Rine OS Catchment No: 158
OS Grid Ref : R 475 818 Date(s) Surveyed : 21/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1988 | 1991 | 1996 | 1998 | 2001 | 2004 |
| 0300 | Drumullan Br | 3-4 | 3-4 | 3 | 3-4 | 3 | 3-4 |

***Assessment:*** This River Rine tributary lacks any sensitive faunal species. The upper catchment is afforested and land use in the lower section appears to be mainly low intensity farming. Extensive cattle access to the river in the vicinity of Station 0300 may be in part at least responsible for the poor quality observed. Drumullan Bridge (0300) lies on a karstified aquifer so there may be some groundwater influence here. The upper section of the catchment is on sandstone and has extensive forestry plantations.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0300 | Drumullan Br | 147444 | 181819 | 58 | CE |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 51 | 9 | 51 | 49 | 33 | 20 | 5 | 0.0 | 17 | 3 | 22 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **CULLAUN** **27/C/14**
Tributary of : Rine OS Catchment No: 155
OS Grid Ref : 524933849 Date(s) Surveyed : 21/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1996 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|
| 0100 | Cullaun Bridge | 3-4 | 3/0 | 4 | 3-4 | 3-4 |

***Assessment:*** The Cullaun River flows from Lough Cullaunyheeda and is strongly influenced by water quality in the lake. Quality was little changed on that observed in 2001 and was classified as slightly polluted. Significant species such as *Ephemera danica* have not been recorded in the river since 1998.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Cullaun Bridge | 147755 | 175526 | 58 | CE |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 30 | 14 | 0 | 100 | 72 | 2 | 5 | 2.5 | 16 | 0 | 3 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 27 (Part)

River and Code : **HELL** **27/H/01**
Tributary of : Rine OS Catchment No: 158
OS Grid Ref : R 445 765 Date(s) Surveyed : 21/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1986 | 1988 | 1991 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|
| 0200 | Bridge WSW Carrahan | - | 4 | 4 | 3-4 | 4 | 4 | 4 |
| 0400 | Hell Bridge | 4-5 | 4 | 3-4 | 3 | 4 | 4 | 3 |

***Assessment:*** A deterioration in quality was noted at Hell Bridge in the lower section of the river (0400) with no sensitive species found here in September 2001.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Bridge WSW Carrahan | 142938 | 180757 | 58 | CE |
| 0400 | Hell Bridge | 144212 | 176920 | 58 | CE |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 41 | 7 | 14 | 86 | 58 | 10 | 12 | 0.0 | 10 | 0 | 9 |
| 0400 | 28 | 22 | 5 | 95 | 73 | 5 | 4 | 0.0 | 6 | 0 | 13 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **INCH (CLARE)** **27/I/01**
Tributary of : Fergus OS Catchment No: 158
OS Grid Ref : R 333 782 Date(s) Surveyed : 22/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Location | 1986 | 1988 | 1991 | 1997 | 1998 | 2001 | 2004 |
| 0200 | Kilmaley Bridge | 4-5 | 4 | 4-5 | 4-5 | 4 | 4 | 4 |
| 0400 | Bridge WSW Rathkerry | 4 | 4 | 4 | 5 | 4 | 4-5 | 4-5 |
| 0600 | Inch Bridge | 4 | 4 | 4 | 4-5 | 4 | 4 | 4 |
| 0800 | Claureen Bridge | 4 | 4 | 4 | 4 | 4 | 4 | 3 |

***Assessment:*** The Inch (Clare) is a tributary of the Fergus River joining the Fergus in Ennis town. Overall quality is satisfactory in the upper and middle reaches (0200 to 0600) but quality deteriorated at the last site examined, Claureen Bridge (0800) in Ennis.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0200 | Kilmaley Bridge | 125256 | 174566 | 57 | CE |
| 0400 | Bridge WSW Rathkerry | 127372 | 173823 | 57 | CE |
| 0600 | Inch Bridge | 130180 | 175368 | 57 | CE |
| 0800 | Claureen Bridge | 132829 | 178109 | 58 | CE |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 61 | 27 | 0 | 100 | 28 | 13 | 14 | 0.0 | 18 | 0 | 27 |
| 0400 | 39 | 41 | 0 | 100 | 39 | 10 | 11 | 0.0 | 18 | 0 | 22 |
| 0600 | 16 | 47 | 0 | 100 | 44 | 9 | 10 | 0.0 | 18 | 0 | 19 |
| 0800 | 6 | 55 | 0 | 100 | 49 | 8 | 8 | 2.9 | 16 | 0 | 17 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 27 (Part)

River and Code : **LAGHTYSHAUGHNESSY LOUGH STREAM** **27/L/03**
Tributary of : Castlelodge OS Catchment No: 158
OS Grid Ref : Null Date(s) Surveyed : 20/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1988 | 1991 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0300 | Bridge SE of Derry | 3 | 3 | 2-3 | 3 | 3 | 2-3 |

***Assessment:*** The Laghtyshaughnessy Lough Stream was again moderately polluted when surveyed in September 2004.

***Previously reported as the North Branch of the Castlelodge River (27C01)***

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0300 | Bridge SE of Derry | 143239 | 196262 | 52 | GY |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 27 | 2 | 0 | 100 | 86 | 0 | 0 | 0.0 | 0 | 0 | 14 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **LISKENNY** **27/L/01**
Tributary of : Lough Cullynaheeda OS Catchment No: 155
OS Grid Ref : R 481 753 Date(s) Surveyed : 21/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1980 | 1985 | 1988 | 1991 | 1996 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0070 | Coulty Br | - | - | 3 | 2-3 | - | - | 3 | 3 | 3-4 |
| 0100 | Wyndham's Bridge | 3-4 | 3 | 3 | 3 | 2-3 | - | 3 | 3 | - |
| 0200 | Bridge u/s L Cullynaheeda | - | - | 4 | 4 | 3 | 3 | 3 | 3 | 3 |

***Assessment:*** The Liskenny was slightly polluted in the upper section (0070) and moderately polluted upstream of its confluence with Lough Cullynaheeda (0200).

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0070 | Coulty Br | 149812 | 178042 | 58 | CE |
| 0100 | Wyndham's Bridge | 149183 | 177526 | 58 | CE |
| 0200 | Bridge u/s L Cullynaheeda | 149247 | 175349 | 58 | CE |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0070 | 40 | 4 | 0 | 100 | 88 | 0 | 0 | 0.0 | 12 | 0 | 0 |
| 0100 | 36 | 10 | 0 | 100 | 74 | 0 | 0 | 3.6 | 23 | 0 | 0 |
| 0200 | 29 | 5 | 0 | 100 | 70 | 0 | 9 | 0.0 | 13 | 0 | 9 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 27 (Part)

River and Code : **LISSYCASEY STREAM** **27/L/04**
Tributary of : Owenslieve OS Catchment No: 158
OS Grid Ref : - - Date(s) Surveyed : 22/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1988 | 1991 | 1997 | 2000 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0300 | Br NW Gortygeeheen | - | - | 3-4 | 4 | 4 | 3 |
| 0400 | Just u/s Main Channel confl | 3-4 | 3-4 | - | - | - | - |

***Assessment:*** Water quality in the Lissycasey had declined in quality since 2001.

***Previously reported as the Lissycasey Branch of the Owenslieve 27O02***

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0300 | Br NW Gortygeeheen | 121015 | 165573 | 57 | CE |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | -99 | 2 | 0 | 100 | 32 | 0 | 62 | 0.0 | 0 | 0 | 6 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# HYDROMETRIC AREA 34 (PART)

***Moy and Killala Bay***

| | |
|---|---|
| Behy (N. Mayo) | 34B08 |
| Bellanamean | 34B04 |
| Bellawaddy | 34B05 |
| Burren Stream (Clydagh) | 34B13 |
| Callow Loughs Stream | 34C08 |
| Carroward | 34C09 |
| Charlestown Stream | 34C28 |
| Clydagh (Castlebar) | 34C05 |
| Crumlin (Lough Cullin) | 34C11 |
| Eignagh | 34E01 |
| Glenree | 34G01 |
| Leaffony | 34L01 |
| Lenyvee | 34L06 |
| Mad | 34M04 |
| Moy | 34M02 |
| Mullaghanoe | 34M03 |
| Oughtagh | 34O05 |
| Owenaher | 34O01 |
| Owengarve (Sligo) | 34O03 |
| Owenlobnaglaur | 34O04 |
| Spaddagh | 34S03 |
| Strade | 34S04 |
| # Tubbercurry[1] | 34T02[1] |
| # Tubbercurry Stream[1] | 34T03[1] |
| Yellow (Foxford) | 34Y01 |

# Rivers denoted thus had seriously polluted stretch(es) at the time of this survey.

Due to time constraints not all rivers were surveyed in 2004; survey will be completed in 2005

[1] indicates non-baseline rivers i.e., those which are not shown on the O.S. map entitled ''Rivers and their Catchment Basins''

# Ecological Assessment of Rivers 2004

River and Code : **BEHY (NORTH MAYO)** **34/B/08**
Tributary of : Glenree OS Catchment No: 110
OS Grid Ref : G 283 182 Date(s) Surveyed : 17/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1989** | **1993** | **1995** | **1998** | **2002** | **2004** |
| 0300 | Br S Bunnyconnellan W | 5 | 3* | 5 | 5 | 4-5 | 4-5 |
| 0400 | Behy Bridge | 5 | 4 | 4-5 | 3-4/0 | 4-5 | 4-5 |

***Assessment:*** Satisfactory.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0300 | Br S Bunnyconnellan W | 132533 | 317178 | 24 | MO |
| 0400 | Behy Bridge | 128781 | 318132 | 24 | MO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 54 | 7 | 68 | 32 | 33 | 0 | 66 | 0.0 | 1 | 0 | 0 |
| 0400 | 20 | 35 | 34 | 66 | 56 | 1 | 37 | 0.0 | 3 | 0 | 3 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 34 (Part)

River and Code : **BELLANAMEAN** **34/B/04**
Tributary of : Eighnagh OS Catchment No: 110
OS Grid Ref : G 412 086 Date(s) Surveyed : 03/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1989 | 1993 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0200 | Br 1.5 km NE of L. Naskea | - | 4 | 4-5 | 4 | 4-5 | 4-5 |
| 0300 | Bridge N. of Belclare | 5 | 5 | - | - | - | - |
| 0500 | Bridge u/s Eignagh River | 4-5 | 3-4 | 4-5 | 4-5 | 4-5 | 4-5 |

***Assessment:*** The Bellanamean was generally of satisfactory quality in early September 2004 albeit with some signs of erosion and siltation in the catchment.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Br 1.5 km NE of L. Naskea | 136660 | 309539 | 24 | SO |
| 0500 | Bridge u/s Eignagh River | 140639 | 309098 | 24 | SO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 151 | 5 | 100 | 0 | 0 | 0 | 64 | 0.0 | 23 | 0 | 12 |
| 0500 | 46 | 13 | 77 | 23 | 14 | 2 | 40 | 0.0 | 24 | 0 | 19 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **BELLAWADDY** **34/B/05**
Tributary of : Killala Bay (at Enniscrone) OS Catchment No: 111
OS Grid Ref : G 284 296 Date(s) Surveyed : 06/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| No. | Location | **1982** | **1986** | **1989** | **1993** | **1995** | **1999** | **2001** | **2004** |
| 0100 | Bridge E. of Tullylin (main road) | 5 | 3-4 | 3 | 4 | 3 | 4 | 4 | 4 |
| 0150 | Bridge u/s Knocknagower Br | - | - | 3-4 | 4-5 | - | - | - | - |
| 0200 | Knocknagower Bridge | 4 | 4 | 4 | 4 | 4 | 4 | 4-5 | 4 |
| 0300 | Bridge in Enniscrone | 3 | 3-4 | 4 | 4 | - | - | - | - |

***Assessment:*** This hard water river was in satisfactory condition if somewhat eutrophic in the lower stretches (0100).

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0100 | Bridge E. of Tullylin (main road) | 133470 | 327924 | 24 | SO |
| 0200 | Knocknagower Bridge | 129852 | 328499 | 24 | SO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 61 | 5 | 0 | 100 | 62 | 0 | 35 | 0.0 | 0 | 0 | 3 |
| 0200 | 31 | 11 | 0 | 100 | 70 | 0 | 22 | 0.0 | 7 | 0 | 1 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 34 (Part)

River and Code : **BRUSNA (NORTH MAYO)** **34/B/07**
Tributary of : Glenree OS Catchment No: 110
OS Grid Ref : G 289 190 Date(s) Surveyed : 03/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1989 | 1993 | 1995 | 1999 | 2001 | 2002 | 2004 |
|---|---|---|---|---|---|---|---|---|
| 0200 | Bridge E. of Emlymoran | 4-5 | 4-5 | 4-5 | 4 | 4 | - | 4 |
| 0300 | Br W of Carha | - | 4 | - | - | - | - | - |
| 0400 | Bridge W. of Cloonta | 4 | - | 5 | 4-5 | - | 4-5 | 4-5 |
| 0600 | Just u/s Glenree River confl | 4-5 | 4-5 | 4 | 4-5 | - | 4 | 4-5 |

***Assessment:*** The Brusna was in satisfactory condition in September 2004 over its length.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Bridge E. of Emlymoran | 131636 | 323930 | 24 | SO |
| 0300 | Br W of Carha | 131090 | 322546 | 24 | SO/MO |
| 0400 | Bridge W. of Cloonta | 130196 | 320988 | 24 | MO |
| 0600 | Just u/s Glenree River confl | 128608 | 319117 | 24 | MO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 55 | 12 | 0 | 100 | 43 | 4 | 52 | 0.0 | 1 | 0 | 0 |
| 0400 | 38 | 28 | 1 | 99 | 38 | 5 | 46 | 0.0 | 5 | 0 | 5 |
| 0600 | 25 | 32 | 1 | 99 | 44 | 5 | 42 | 0.0 | 5 | 0 | 5 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **BURREN STREAM (CLYDAGH)** **34/B/13**
Tributary of : Clydagh (Castlebar) OS Catchment No: 110
OS Grid Ref : Null Date(s) Surveyed : 09/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| No. | Location | **1981** | **1986** | **1989** | **1993** | **1995** | **1998** | **2001** | **2004** |
| 0015 | Br W Derrylahan | - | - | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |

***Assessment:*** This Clydagh tributary was in good condition but lacked any of the sensitive heptagenid mayfly species that are usually found here.

***Formerly reported as the East Branch of the Clydagh River (Castlebar) 34C05***

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0015 | Br W Derrylahan | 114531 | 297212 | 31 | MO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0015 | 100 | 7 | 100 | 0 | 0 | 0 | 71 | 0.0 | 0 | 0 | 29 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 34 (Part)

River and Code : **CALLOW LOUGHS STREAM** **34/C/08**
Tributary of : Yellow (Foxford) OS Catchment No: 110
OS Grid Ref : G 293 062 Date(s) Surveyed : 03/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1989 | 1993 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0200 | Second Br d/s Callow Loughs | 4 | 4 | - | - | - | - |
| 0300 | Bridge u/s Yellow River | 4 | 4-5 | 4 | 4-5 | 4-5 | 4-5 |

***Assessment:*** This tributary of the Yellow River (qv) was notable for the occurrence of the red algae, *Hildenbrandia,* on the stones. The macroinvertebrate community indicated good water quality in 2004.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Second Br d/s Callow Loughs | 130085 | 304855 | 24 | MO |
| 0300 | Bridge u/s Yellow River | 129356 | 305629 | 24 | MO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 19 | 9 | 100 | 0 | 0 | 4 | 53 | 0.0 | 29 | 13 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **CARROWARD** **34/C/09**
Tributary of : Moy OS Catchment No: 110
OS Grid Ref : M 290 985 Date(s) Surveyed : 23/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1989** | **1993** | **1995** | **1998** | **2001** | **2004** |
| 0300 | Bridge N.W. of Bohola | 4-5 | 4-5 | 4 | 4 | 4 | 4 |
| 0600 | Bridge E. of Ardacarha | 4-5 | 4-5 | - | - | - | - |
| 0700 | Br 0.5 km u/s Moy R confl | - | 3* | 4 | 4-5 | 4 | 4-5 |

***Assessment:*** Both sites examined on the Carroward were satisfactory in September 2004.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0300 | Bridge N.W. of Bohola | 130068 | 295648 | 31 | MO |
| 0700 | Br 0.5 km u/s Moy R confl | 128945 | 298316 | 31 | MO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 32 | 5 | 0 | 100 | 0 | 4 | 24 | 0.0 | 72 | 0 | 0 |
| 0700 | 15 | 11 | 0 | 100 | 20 | 2 | 10 | 0.0 | 68 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 34 (Part)

River and Code : **CHARLESTOWN STREAM[1]** **34/C/28**
Tributary of : Mullaghanoe OS Catchment No: 110
OS Grid Ref : G 475 027 Date(s) Surveyed : 01/09/2004

| Stations No. | Biological Quality Ratings (Q Values) 1977 | 1980[1] | 1983 | 1985 | 1989 | 1993 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0070 | - | 5 | 5 | - | 4-5 | 4-5 | - | - | - | - |
| 0100 | - | 3 | 4 | 4-5 | 3 | 4 | 2-3 | 2-3 | 3-4 | 3-4 |

***Assessment:*** The Charlestown Stream was slightly polluted when surveyed in September 2004.

***Previously reported as Charlestown Branch of the Mullaghanoe 34M03***

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Bridge W.N.W. of Bellahy | 147505 | 302542 | 32 | SO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 60 | 25 | 72 | 28 | 60 | 1 | 13 | 2.0 | 4 | 0 | 21 |

Alt is in metres Area is km$^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

[1] indicates non-baseline rivers i.e., those which are not shown on the O.S. map entitled ''Rivers and their Catchment Basins''

# Ecological Assessment of Rivers 2004

River and Code : **CLYDAGH (CASTLEBAR)** **34/C/05**
Tributary of : Castlebar River OS Catchment No: 110
OS Grid Ref : G 229 004 Date(s) Surveyed : 09/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| No. | Location | 1981 | 1986 | 1989 | 1993 | 1995 | 1998 | 2001 | 2004 |
| 0020 | Br S of Lenanea (at BM598' ) | - | - | - | 5 | - | - | - | - |
| 0030 | Br NW Ardvarney | - | - | 5 | 5 | 5 | 5 | 4-5 | 4-5 |
| 0050 | Bridge N.W. of Naspleenagh L | 5 | 5 | 5 | 5 | - | - | - | - |
| 0070 | Br SW Sranalee | - | - | - | - | 4-5 | 4 | 4-5 | 4 |
| 0100 | Clydagh Bridge | 5 | 4-5 | 5 | 4 | - | - | - | - |
| 0120 | Footbridge SE Cloonkesh | - | - | 5 | 4 | - | - | - | 4-5 |
| 0140 | Br SW Ballyguin | - | - | 3-4 | 4-5 | 4 | 4-5 | - | 3-4 |
| 0150 | Bridge E. of Ballyguin | 4-5 | 5 | - | - | - | - | 4-5 | - |
| 0200 | Br NE Ballyart | 5 | 5 | 3 | 4-5 | 4 | 4 | 5 | 4 |

***Note: Station 0015 now included with Burren Stream (Clydagh) 34B13***

***Assessment:*** In August 2004 the Clydagh River was of satisfactory quality in its upper reaches (0030 to 0120). A decline in quality was noted at Station 0140. At this point an iron leachate was noted entering the river from a small first order stream upstream of the bridge. A spring well at the source of this stream approximately 200m upstream has a sign stating that the water is 'unfit for human consumption' indicating groundwater pollution in the area. Water quality recovers at the lowermost site (0200) upstream of its confluence with the Castlebar/Manulla system.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0020 | Br S of Lenanea | 111350 | 297410 | 31 | MO |
| 0030 | Br NW Ardvarney | 114243 | 296525 | 31 | MO |
| 0050 | Bridge N.W. of Naspleenagh L | 115580 | 295175 | 31 | MO |
| 0070 | Br SW Sranalee | 117008 | 295781 | 31 | MO |
| 0100 | Clydagh Bridge | 117220 | 294430 | 31 | MO |
| 0120 | Footbridge SE Cloonkesh | 118779 | 294075 | 31 | MO |
| 0140 | Br SW Ballyguin | 119571 | 294692 | 31 | MO |
| 0150 | Bridge E. of Ballyguin | 120910 | 294140 | 31 | MO |
| 0200 | Br NE Ballyart | 122211 | 296142 | 31 | MO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0030 | 104 | 6 | 100 | 0 | 0 | 9 | 80 | 0.0 | 0 | 0 | 11 |
| 0070 | 64 | 34 | 100 | 0 | 0 | 12 | 67 | 0.0 | 2 | 0 | 20 |
| 0100 | 58 | 35 | 100 | 0 | 0 | 12 | 66 | 0.0 | 2 | 0 | 20 |
| 0140 | 32 | 48 | 93 | 7 | 3 | 11 | 62 | 0.0 | 6 | 0 | 18 |
| 0200 | 15 | 53 | 88 | 12 | 6 | 10 | 57 | 0.0 | 10 | 0 | 17 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 34 (Part)

River and Code : **CRUMLIN (LOUGH CULLIN)** **34/C/11**
Tributary of : Lough Cullin OS Catchment No: 110
OS Grid Ref : G 222 018 Date(s) Surveyed : 16/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1989** | **1994** | **1995** | **1998** | **2002** | **2004** |
| 0300 | Bridge u/s Lough Cullin | 4-5 | 4 | 3-4 | 4 | 3-4* | 4-5 |

***Assessment:*** A significant improvement was noted in the Crumlin in 2004 in comparison with August 2002.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0300 | Bridge u/s Lough Cullin | 121092 | 301325 | 31 | MO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 17 | 20 | 100 | 0 | 0 | 3 | 48 | 0.0 | 38 | 5 | 6 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **EIGNAGH** **34/E/01**
Tributary of : Moy OS Catchment No: 110
OS Grid Ref : G 433 080 Date(s) Surveyed : 03/09/2004

| Stations No. | Biological Quality Ratings (Q Values) 1977 | 1979 | 1981 | 1986 | 1989 | 1993 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | - | - | 5 | 5 | 5 | 5 | 4-5 | 4-5 | 5 | 5 |
| 0200 | - | 4-5 | 5 | 4-5 | 4-5 | 4-5 | 4 | 4 | 4-5 | 5 |
| 0300 | 5 | - | 4-5 | 5 | 4-5 | 4-5 | 4 | 4-5 | 4 | 4-5 |

***Assessment:*** The Eignagh River was generally of a very high standard when surveyed in early September 2004.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0080 | Br 1.2 km d/s L. Talt | 140960 | 313905 | 24 | SO |
| 0100 | Bridge 1.75 km d/s Lough Talt | 141442 | 313659 | 24 | SO |
| 0200 | Bridge in Aclare | 141020 | 310045 | 24 | SO |
| 0300 | Br u/s Moy River at Cloongoonagh | 143097 | 308108 | 24 | SO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 81 | 13 | 100 | 0 | 16 | 4 | 70 | 0.0 | 2 | 8 | 0 |
| 0200 | 50 | 34 | 73 | 27 | 32 | 3 | 44 | 0.0 | 14 | 3 | 4 |
| 0300 | 41 | 59 | 61 | 39 | 31 | 3 | 43 | 0.0 | 14 | 2 | 8 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 34 (Part)

River and Code : **GLENREE** **34/G/01**
Tributary of : Sea - Moy Estuary OS Catchment No: 110
OS Grid Ref : G 255 195 Date(s) Surveyed : 17/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1979 | 1981 | 1986 | 1989 | 1993 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0020 | Bridge near Carrownaglogh | - | - | - | - | 5 | 4-5 | 5 | 4-5 | 4-5 |
| 0050 | Bridge 2 km E. of Cloonta | - | - | 5 | 5 | 5 | 5 | - | 5 | 5 |
| 0053 | Br. SE of Cloonta | - | - | - | - | - | - | 4-5 | - | - |
| 0060 | 0.7 km u/s Brusna River confl | - | - | - | - | 5 | 4-5 | 5 | 4-5 | 4-5 |
| 0100 | Ford u/s Rathkip | 5 | 5 | 5 | 5 | 4-5 | - | - | - | - |
| 0200 | Bunree Bridge | 4 | 4-5 | 4 | 4 | 4-5 | 4-5 | 4 | 4-5 | 4-5 |

***Assessment:*** This important Moy tributary, the Glenree, was in good condition when surveyed with little change on the 2001 survey.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0020 | Bridge near Carrownaglogh | 136084 | 319511 | 24 | MO |
| 0050 | Bridge 2 km E. of Cloonta | 132475 | 320862 | 24 | MO |
| 0053 | Br. SE of Cloonta | 131539 | 320499 | 24 | MO |
| 0060 | 0.7 km u/s Brusna River confluence | 129030 | 319334 | 24 | MO |
| 0100 | Ford u/s Rathkip | 126883 | 317994 | 24 | MO |
| 0200 | Bunree Bridge | 125500 | 319402 | 24 | MO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0020 | 107 | 9 | 97 | 3 | 5 | 14 | 69 | 0.0 | 7 | 0 | 4 |
| 0050 | 55 | 13 | 69 | 31 | 14 | 10 | 60 | 0.0 | 7 | 0 | 9 |
| 0053 | 48 | 14 | 67 | 33 | 16 | 10 | 58 | 0.0 | 8 | 0 | 8 |
| 0060 | 30 | 19 | 48 | 52 | 24 | 7 | 55 | 0.0 | 6 | 0 | 9 |
| 0100 | 14 | 93 | 23 | 77 | 47 | 3 | 41 | 0.0 | 4 | 0 | 5 |
| 0200 | 4 | 96 | 23 | 77 | 47 | 3 | 40 | 0.7 | 4 | 0 | 5 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **LEAFFONY** **34/L/01**
Tributary of : Sea - Killala Bay OS Catchment No: 112
OS Grid Ref : G 310 358 Date(s) Surveyed : 06/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| No. | Location | 1982 | 1986 | 1989 | 1993 | 1995 | 1999 | 2001 | 2004 |
| 0100 | Culleens Br | 4-5 | 4-5 | 4-5 | 4 | 4-5 | 4-5 | 4 | 4 |
| 0150 | Bridge at Gortagheen | - | 4-5 | 4 | 4 | - | - | - | - |
| 0180 | Br SW Carragh Town | - | - | - | - | 3-4 | 4 | 4 | 4 |
| 0200 | Ford N. of Leaffony | 4 | 4 | 3-4 | 4 | - | - | - | - |
| 0260 | Br S Cabraghkeel | - | - | 4 | 4 | 3 | 4 | 3-4 | 3-4 |
| 0300 | Br at Cabraghkeel | 4 | 4 | 4 | - | - | - | - | - |

***Assessment:*** The Leaffony showed little change in status compared with the 2001 survey. The lowermost site (0260) appeared quite eutrophic with a dissolved oxygen level of 129% saturation.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0100 | Culleens Br | 135229 | 329497 | 24 | SO |
| 0180 | Br SW Carragh Town | 133857 | 333099 | 24 | SO |
| 0260 | Br S Cabraghkeel | 131466 | 335886 | 24 | SO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 64 | 10 | 0 | 100 | 29 | 1 | 52 | 0.0 | 0 | 0 | 18 |
| 0180 | 29 | 20 | 0 | 100 | 54 | 0 | 29 | 0.0 | 7 | 0 | 9 |
| 0260 | 4 | 35 | 0 | 100 | 61 | 0 | 16 | 0.0 | 17 | 0 | 5 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 34 (Part)

River and Code : **LENYVEE** **34/L/06**
Tributary of : Owenaher OS Catchment No: 110
OS Grid Ref : G 424 179 Date(s) Surveyed : 02/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1989 | 1993 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0300 | Br ESE Loughannagally | 4-5 | 4-5 | 4-5 | 4-5 | 5 | 5 |

***Assessment:*** The Lenyvee was of high quality when sampled in early September 2004.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0300 | Br ESE Loughannagally | 141856 | 317227 | 24 | SO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 151 | 6 | 100 | 0 | 0 | 6 | 51 | 0.0 | 0 | 0 | 43 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **MAD** **34/M/04**
Tributary of : Moy OS Catchment No: 110
OS Grid Ref : G 493 170 Date(s) Surveyed : 02/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1989** | **1993** | **1995** | **1998** | **2001** | **2004** |
| 0100 | Bridge u/s Moy River confl | 5 | 3-4 | 3 | 3 | 3-4 | 4 |

***Assessment:*** Satisfactory with an improvement in quality noted since 2001.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0100 | Bridge u/s Moy River confl | 149230 | 317304 | 25 | SO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 72 | 8 | 98 | 2 | 1 | 0 | 97 | 0.0 | 0 | 0 | 1 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 34 (Part)

River and Code : **MOY** **34/M/02**
Tributary of : Sea - Killala Bay OS Catchment No: 110
OS Grid Ref : G 254 197 Date(s) Surveyed : 28/07/2004

| Stations No. | Biological Quality Ratings (Q Values) 1971 | 1973 | 1977 | 1980 | 1982 | 1984 | 1989 | 1993 | 1995 | 1998 | 2001 | 2003 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | - | - | - | - | - | - | - | - | - | - | 3 | - | 3-4 |
| 0050 | - | - | - | 5 | - | 5 | 5 | 5 | 4-5 | 4-5 | 3 | - | 4 |
| 0100 | 5 | 5 | 5 | 5 | - | 5 | 5 | 5 | 4-5 | 5 | 4 | - | 4-5 |
| 0150 | - | - | - | 5 | - | 5 | 5 | 5 | - | - | - | - | - |
| 0300 | 5 | 5 | 5 | 5 | - | 5 | 5 | 5 | 4-5 | 4-5 | 4-5 | - | 4-5 |
| 0350 | - | - | - | 4 | - | 4-5 | - | - | - | - | - | 3/0 | - |
| 0390 | - | - | - | - | - | - | - | - | 4 | - | - | - | - |
| 0400 | 5 | - | 5 | 4 | - | 4 | 4-5 | 3 | 3 | 4-5 | 4-5 | 3-4 | 4-5 |
| 0420 | - | - | - | 4-5 | - | 4 | 5 | 4-5 | 4 | 4 | 4-5 | - | 4 |
| 0470 | - | - | - | 5 | - | 4 | 4 | 4 | 4 | 4 | 4-5 | - | 4 |
| 0500 | 5 | 5 | 4-5 | 5 | - | 4-5 | 5 | 4 | 4-5 | 4-5 | 4-5 | - | 4-5 |
| 0590 | - | - | - | - | - | - | - | - | - | - | 4-5 | - | - |
| 0600 | 5 | - | 5 | 5 | - | 5 | 4-5 | 4-5 | - | - | - | - | - |
| 0610 | - | - | - | - | - | 3-4 | 4 | 3 | 4 | 4 | 4 | - | 4 |
| 0650 | - | - | - | 4 | - | 4-5 | 4 | 4-5 | 4-5 | 4-5 | 4-5 | - | 4 |
| 0700 | 5 | 5 | 5 | 5 | - | 4-5 | 4 | 4-5 | 4-5 | 4 | 4-5 | - | 4-5 |
| 0750 | - | - | - | - | - | - | - | - | 5 | 5 | 5 | - | - |
| 0770 | - | - | - | - | - | - | - | - | 4 | 4 | 4 | - | - |
| 0800 | 4-5 | 5 | 4 | 3-4 | 3 | 3 | 3 | 3 | 3 | 3 | 3-4 | - | - |
| 0850 | - | - | - | - | - | - | 4-5 | 4-5 | 4-5 | 4-5 | 4 | - | - |
| 0900 | - | - | - | - | 4 | 4 | 4-5 | 4-5 | 4 | 4-5 | 4-5 | - | - |
| 0960 | - | - | - | - | 4 | 4 | 4 | - | 4 | 4 | - | - | - |
| 1040 | - | - | - | - | - | - | - | - | - | - | 4 | - | - |
| 1050 | 5 | 4 | 4 | 4 | - | 4 | 4 | 3* | 3-4 | 4 | 4 | - | - |
| 1055 | - | - | - | - | - | - | - | 4 | - | - | - | - | - |

***Assessment:*** A slight improvement was noted in the uppermost Moy site (0010), which was first sampled in 2001 to account for the effect of forestry activities in the upper catchment of the main Moy River. At this location the river had extensive organic mats on the substratum with unexpectedly abundant filamentous algal growths. The macroinvertebrate fauna here was of lower quality than would be expected at a remote upland site such as this, with many expected species missing. A more notable improvement in comparison with 2001 was apparent at the second site (0050) where good status was achieved once again. Quality thereafter was satisfactory over the entire length of the Moy to Ballina. It is important to note, however, that a major fish kill occurred in the summer of 2003 in the section between Annagh Br (0300) and Banada Bridge (0400) downstream of the confluence of the Tubbercurry River. A severely toxic substance emanating from the Tubbercurry River (qv) killed large numbers of salmonid fish. Even sticklebacks, normally regarded as being quite pollution tolerant, were killed. The impact of this event was no longer apparent in the macroinvertebrate community when surveyed in July 2004 approximately one year later.

# Ecological Assessment of Rivers 2004

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0010 | Branchfield Bridge | 152937 | 320469 | 25 | - |
| 0050 | Cloonbaniff Br | 152304 | 319444 | 25 | SO |
| 0100 | Bridge S.E. of Cloonacool | 149279 | 316791 | 25 | SO |
| 0150 | Ford u/s Metal Bridge | 147300 | 314900 | 25 | SO |
| 0300 | Annagh Bridge | 146661 | 312324 | 24 | SO |
| 0350 | Tullanaglug d/s Tubercurry R | 147800 | 310900 | 24 | SO |
| 0390 | 1 km u/s Banada Br | 146894 | 310677 | 24 | SO |
| 0400 | Bridge at Banada | 146503 | 310006 | 24 | SO |
| 0420 | Ford N. of Ballygallagart | 143500 | 308942 | 24 | SO |
| 0470 | Ford near Bellanacurra | 140391 | 304616 | 24 | MO |
| 0500 | Cloonacannana Bridge | 138932 | 302397 | 32 | MO |
| 0590 | U/s Swinford R confl LHS | 134858 | 301535 | 32 | MO |
| 0600 | Br near Cloongullaun (RHS) | 134766 | 301455 | 32 | MO |
| 0610 | Br near Cloongullaun (LHS) | 134766 | 301455 | 32 | MO |
| 0650 | Ford 2 km u/s Gweestion River | 131052 | 298834 | 31 | MO |
| 0700 | Ballylahan Bridge | 127589 | 299311 | 31 | MO |
| 0750 | At Bleanmore | 126160 | 300835 | 31 | MO |
| 0770 | U/s Foxford Br LHS | 126787 | 304037 | 24 | MO |
| 0800 | 1 km N of Foxford (RHS) | 126978 | 304787 | 24 | MO |
| 0850 | Near Bunnafinglas | 126287 | 310392 | 24 | MO |
| 0900 | U/s Corroy River - nr Hollywood Ho | 124827 | 313872 | 24 | MO |
| 0960 | 0.5 km d/s Corroy River confl | 124933 | 314030 | 24 | MO |
| 1040 | 0.6km u/s Ardnaree Bridge LHS | 124324 | 318278 | 24 | MO |
| 1050 | 0.3 km u/s Ardnaree Br (LHS) | 124421 | 318510 | 24 | MO |
| 1055 | 0.3 km u/s Ardnaree Bidge (RHS) | 124495 | 318535 | 24 | MO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0050 | 68 | 16 | 75 | 25 | 6 | 2 | 60 | 0.0 | 26 | 0 | 6 |
| 0100 | 55 | 52 | 52 | 48 | 24 | 1 | 51 | 0.0 | 20 | 0 | 4 |
| 0300 | 47 | 133 | 61 | 39 | 27 | 7 | 43 | 0.0 | 11 | 0 | 13 |
| 0400 | 44 | 176 | 46 | 54 | 39 | 5 | 35 | 0.8 | 10 | 0 | 10 |
| 0420 | 41 | 182 | 45 | 55 | 40 | 5 | 35 | 0.8 | 10 | 0 | 10 |
| 0470 | 37 | 438 | 37 | 63 | 40 | 2 | 36 | 0.8 | 10 | 0 | 10 |
| 0500 | 33 | 484 | 35 | 65 | 41 | 2 | 36 | 0.9 | 10 | 0 | 10 |
| 0600 | 30 | 531 | 34 | 66 | 42 | 2 | 36 | 0.9 | 9 | 0 | 10 |
| 0610 | 30 | 531 | 34 | 66 | 42 | 2 | 36 | 0.9 | 9 | 0 | 10 |
| 0650 | 16 | 585 | 31 | 69 | 41 | 2 | 35 | 1.0 | 11 | 0 | 10 |
| 0700 | 10 | 935 | 21 | 79 | 36 | 1 | 32 | 0.9 | 17 | 0 | 12 |
| 0750 | 9 | 974 | 20 | 80 | 35 | 1 | 32 | 0.9 | 19 | 0 | 12 |
| 0770 | 8 | 1,805 | 24 | 76 | 29 | 2 | 31 | 1.0 | 22 | 4 | 11 |
| 0800 | 7 | 1,806 | 24 | 76 | 29 | 2 | 31 | 1.0 | 22 | 4 | 11 |
| 0850 | 4 | 1,879 | 27 | 73 | 28 | 2 | 32 | 1.0 | 22 | 4 | 10 |
| 0900 | 2 | 1,922 | 27 | 73 | 29 | 2 | 32 | 1.0 | 22 | 4 | 10 |
| 0960 | 2 | 1,947 | 27 | 73 | 29 | 2 | 32 | 1.0 | 22 | 4 | 10 |
| 1050 | 1 | 1,976 | 27 | 73 | 30 | 2 | 32 | 1.0 | 21 | 4 | 10 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 34 (Part)

River and Code : **MULLAGHANOE** **34/M/03**
Tributary of : Moy OS Catchment No: 110
OS Grid Ref : G 404 048 Date(s) Surveyed : 01/09/2004

| Stations No. | Biological Quality Ratings (Q Values) 1977 | 1980 | 1983 | 1985 | 1989 | 1993 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0140 | - | - | - | - | - | 3 | 3 | 4 | 4 | 4 |
| 0190 | - | - | - | - | - | - | 3 | 3-4 | 3-4 | 4 |
| 0200 | - | 3-4 | 3-4 | - | 3-4 | 4 | - | - | 4 | - |
| 0220 | - | - | - | - | - | - | 3 | 3-4 | - | 4 |
| 0250 | 4 | - | - | - | 4 | - | - | - | - | - |
| 0300 | - | 4 | 4-5 | - | 3-4 | 4 | 3-4 | 3-4 | 4 | 4 |

***Assessment:*** The Mullaghanoe River was satisfactory at all locations sampled. An improvement was noted at Station 0190 downstream of the confluence of the Charlestown Stream (qv).

***For Charlestown Branch see Charlestown Stream 34C28***

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0140 | Bridge N of Cloonmeen West | 150637 | 301360 | 32 | MO |
| 0190 | 0.2 km d/s Charlestown Branch | 147322 | 302944 | 32 | SO |
| 0200 | Bridge at Cloonlaughil | 146108 | 303662 | 32 | SO |
| 0220 | Br SW of Cully Cross Roads | 144812 | 304053 | 24 | SO |
| 0300 | Bridge 1 km u/s Moy River | 141063 | 304857 | 24 | SO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0140 | 83 | 3 | 56 | 44 | 23 | 0 | 25 | 0.0 | 0 | 0 | 52 |
| 0190 | 58 | 40 | 50 | 50 | 54 | 0 | 16 | 1.7 | 11 | 0 | 17 |
| 0200 | 52 | 5 | 100 | 0 | 0 | 0 | 64 | 0.0 | 23 | 0 | 12 |
| 0220 | 48 | 45 | 45 | 55 | 54 | 0 | 17 | 1.5 | 11 | 0 | 16 |
| 0300 | 39 | 51 | 39 | 61 | 52 | 0 | 20 | 1.3 | 12 | 0 | 15 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **OUGHTAGH** **34/O/05**
Tributary of : Moy OS Catchment No: 110
OS Grid Ref : M 275 993 Date(s) Surveyed : 23/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1989 | 1993 | 1995 | 1998 | 2001 | 2004 |
| 0300 | Br near Carrowgowan House | - | 4 | 4 | 4 | 3-4 | 4 |
| 0400 | Bridge u/s Moy River confl | 4 | 4-5 | 4 | 4 | 3-4 | 4 |

***Assessment:*** An improvement in quality was noted in the Oughtagh River in comparison with October 2001.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0300 | Br near Carrowgowan House | 127562 | 294712 | 31 | MO |
| 0400 | Bridge u/s Moy River confl | 127445 | 299069 | 31 | MO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 43 | 4 | 0 | 100 | 0 | 7 | 27 | 0.0 | 66 | 0 | 0 |
| 0400 | 11 | 9 | 0 | 100 | 16 | 3 | 11 | 0.0 | 70 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 34 (Part)

River and Code : **OWENAHER** **34/O/01**
Tributary of : Moy OS Catchment No: 110
OS Grid Ref : G 463 134 Date(s) Surveyed : 02/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1977 | 1986 | 1989 | 1993 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|
| 0050 | Ford E. of Zion Hill | - | 5 | 5 | 4-5 | 4-5 | 4-5 | 5 | 4-5 |
| 0100 | Bellanagraugh Bridge | 5 | 5 | 5 | 5 | 4-5 | 4-5 | 4-5 | 4 |

***Assessment:*** While the Owenaher was generally satisfactory, a number of expected macroinvertebrate taxa were missing when sampled in September 2004 indicating a slight decline in water quality.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0050 | Ford E. of Zion Hill | 143117 | 317186 | 24 | SO |
| 0100 | Bellanagraugh Bridge | 144389 | 313851 | 24 | SO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0050 | 105 | 22 | 100 | 0 | 2 | 29 | 35 | 0.0 | 0 | 0 | 34 |
| 0100 | 51 | 40 | 100 | 0 | 16 | 19 | 40 | 0.0 | 0 | 0 | 25 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **OWENGARVE (SLIGO)** **34/O/03**
Tributary of : Moy OS Catchment No: 110
OS Grid Ref : G 435 075 Date(s) Surveyed : 31/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| No. | Location | 1977 | 1980 | 1984 | 1989 | 1993 | 1995 | 1998 | 2001 | 2004 |
| 0010 | Bridge at Derrynabrock | - | 5 | 4-5 | 4-5 | 5 | 4-5 | 4-5 | 4-5 | 4-5 |
| 0050 | Ford N.W. of Srah Upper | - | 5 | 4-5 | 4-5 | 4-5 | 4-5 | 5 | 4 | 4 |
| 0080 | Fords near Botinny | - | - | - | 5 | 5 | - | - | - | - |
| 0100 | Bridge in Curry | - | 5 | 4-5 | 4 | 5 | 4-5 | 5 | 4 | 4-5 |
| 0150 | Ford S. of Rathmagurry Ho | - | - | - | 5 | 4 | - | - | - | - |
| 0200 | Dawros Br | 5 | 5 | 5 | 5 | 5 | 4-5 | 3-4 | 5 | 4-5 |

***Assessment:*** The Owengarve River was satisfactory overall when surveyed in late August 2004.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0010 | Bridge at Derrynabrock | 158793 | 302104 | 32 | MO |
| 0050 | Ford N.W. of Srah Upper | 154929 | 303986 | 32 | MO |
| 0100 | Bridge in Curry | 149323 | 306156 | 32 | SO |
| 0200 | Dawros Br | 145310 | 307417 | 24 | SO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 97 | 7 | 70 | 30 | 1 | 0 | 63 | 0.0 | 28 | 0 | 9 |
| 0050 | 72 | 44 | 47 | 53 | 40 | 0 | 39 | 0.0 | 12 | 0 | 10 |
| 0100 | 58 | 83 | 31 | 69 | 37 | 0 | 37 | 0.0 | 11 | 0 | 15 |
| 0200 | 43 | 121 | 21 | 79 | 40 | 0 | 37 | 1.0 | 11 | 0 | 12 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 34 (Part)

River and Code : **OWENLOBNAGLAUR** **34/O/04**
Tributary of : Owengarve (Sligo) OS Catchment No: 110
OS Grid Ref : G 558 033 Date(s) Surveyed : 31/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1989** | **1993** | **1995** | **1998** | **2001** | **2004** |
| 0100 | Br NE Currinah | 4 | 4-5 | - | - | - | - |
| 0200 | Br S Calveagh Lr | 4-5 | 4-5 | 4-5 | 4 | 4 | 4 |

***Assessment:*** The Owenlobnagaur was satisfactory - slightly eutrophic but not significantly different from recent surveys.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0100 | Br NE Currinah | 157506 | 298842 | 32 | RN |
| 0200 | Br S Calveagh Lr | 155565 | 301288 | 32 | RN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 88 | 9 | 69 | 31 | 50 | 0 | 24 | 0.0 | 21 | 0 | 5 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **SPADDAGH** **34/S/03**
Tributary of : Moy OS Catchment No: 110
OS Grid Ref : M 323 999 Date(s) Surveyed : 01/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| No. | Location | 1981 | 1985 | 1989 | 1993 | 1995 | 1999 | 2001 | 2004 |
| 0050 | Br N. of Castlesheenaghan | 4-5 | 5 | 4-5 | 4-5 | 4-5 | 4 | 4 | 4-5 |
| 0100 | Bridge N.E. of Esker | 5 | 4-5 | 4-5 | 4-5 | 4 | 3 | 4 | 4 |
| 0200 | Bridge u/s Moy River confl | 5 | 4-5 | 4-5 | 4-5 | 4-5 | 3-4* | 4 | 4 |

***Assessment:*** The Spaddagh River was in satisfactory condition over its length.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0050 | Br N. of Castlesheenaghan | 139460 | 296734 | 32 | MO |
| 0100 | Bridge N.E. of Esker | 136348 | 298660 | 32 | MO |
| 0200 | Bridge u/s Moy River confl | 132382 | 299369 | 32 | MO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0040 | 77 | 5 | 0 | 100 | 22 | 0 | 61 | 0.0 | 9 | 0 | 8 |
| 0050 | 77 | 5 | 0 | 100 | 22 | 0 | 61 | 0.0 | 9 | 0 | 8 |
| 0100 | 52 | 11 | 0 | 100 | 32 | 0 | 37 | 4.5 | 5 | 0 | 21 |
| 0200 | 25 | 15 | 0 | 100 | 24 | 0 | 28 | 3.3 | 25 | 0 | 19 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 34 (Part)

River and Code : **STRADE** **34/S/04**
Tributary of : Moy OS Catchment No: 110
OS Grid Ref : M 267 995 Date(s) Surveyed : 23/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1989 | 1993 | 1995 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0800 | Br at Knockafall | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 | 4 |

***Assessment:*** The Strade River was satisfactory in late September 2004.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0800 | Br at Knockafall | 126154 | 298216 | 31 | MO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0800 | 15 | 23 | 0 | 100 | 8 | 3 | 35 | 0.0 | 48 | 0 | 7 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **TUBBERCURRY**[1] **34/T/02**
Tributary of : Moy OS Catchment No: 110
OS Grid Ref : G 270 085 Date(s) Surveyed : 02/09/2004

| Stations No. | Biological Quality Ratings (Q Values) 1973 | 1977 | 1979 | 1980 | 1982 | 1986 | 1989 | 1990 | 1991 | 1993 | 1995 | 1998 | 2001 | 2003 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0005 | - | - | - | 4 | 4 | 4-5 | 4-5 | - | - | 4-5 | - | - | - | - | - |
| 0050 | - | - | - | 1 | 1-2 | 2-3 | 2 | 1-2 | - | 2 | 2 | 2-3 | 2 | - | 1-2 |
| 0100 | 1 | 1 | 1 | 2 | 3 | 3 | - | - | - | 2-3 | - | - | - | - | - |
| 0150 | - | - | - | - | - | - | 3 | - | - | 3 | - | - | - | - | - |
| 0200 | - | - | 3 | 3 | 3 | 3-4 | 3 | - | - | 3 | 3 | 3 | 3 | 3/0 | 2-3 |

***Assessment:*** The Tubbercurry River was seriously polluted in September 2004 downstream of Tubbercurry town (0050). A recovery to moderate pollution was recorded in the lower reaches just upstream of the Moy River. In addition to the scheduled 2004 survey a special survey was undertaken on 9 September 2003 following a major fish kill [1]on the Moy River (qv). The source of the event was tracked to the Tubbercurry River and toxic conditions were noted at Station 0200 on the Tubbercurry with dead invertebrates and dead fish including sticklebacks and trout noted on the substratum.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0005 | Br N. of Carrowntubber | 152157 | 313820 | 25 | SO |
| 0050 | Br 1 km W. of Tubbercurry | 151078 | 311707 | 25 | SO |
| 0100 | Br N. of Rue Cross Roads | 150280 | 311600 | 25 | SO |
| 0150 | Br N of Tullanaglug | 148618 | 311525 | 25 | SO |
| 0200 | Br just u/s Moy River | 147608 | 311425 | 24 | SO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0050 | 72 | 16 | 0 | 100 | 65 | 0 | 13 | 8.5 | 13 | 0 | 0 |
| 0200 | 50 | 22 | 0 | 100 | 73 | 0 | 11 | 6.5 | 9 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

[1] indicates non-baseline rivers i.e., those which are not shown on the O.S. map entitled ''Rivers and their Catchment Basins''

# Hydrometric Area 34 (Part)

River and Code : **TUBBERCURRY STREAM**[1] **34/T/03**
Tributary of : Tubbercurry OS Catchment No: 110
[2] OS Grid Ref :
G 514 120 Date(s) Surveyed : 17/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 2004 |
|---|---|---|
| 0300 | N17 Bridge in Tubbercurry | 2 |
| 0400 | At old railway bridge | 1-2 |
| 0500 | 0.1 km d/s old Railway Br | 1-2 |

***Assessment:*** This stream was seriously polluted over the length surveyed downstream of Tubbercurry Town. The Tubbercurry Stream is a tributary of the main Tubbercurry River (qv). This stream was surveyed biologically for the first time in 2004. Serious pollution was recorded at Station 0300 on the N17 ring road (Q2). What appeared to be a discharge of raw sewage was noted downstream of Station 0300 leading to severe growths of 'sewage fungus' in the river. Thus, at Station 0400 at the old railway bridge the stream had deteriorated even further in quality to Q1-2 indicating very poor conditions. Station 0500 is downstream of the discharge drain leading from the Basta factory. There was no obvious difference in quality between Stations 0400 and 0500 at the time of sampling. The substratum of the stream was white due to the extensive sewage fungus growth. This tributary is at least partly responsible for the poor condition of the main Tubbercurry River.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0300 | N17 Bridge in Tubbercurry | 152136 | 311935 | 25 | SO |
| 0400 | At old railway bridge | 151965 | 312030 | 25 | SO |
| 0500 | 0.1 km d/s old Railway Br | 151850 | 312065 | 25 | SO |

[1] indicates non-baseline rivers i.e., those which are not shown on the O.S. map entitled ''Rivers and their Catchment Basins''

# Ecological Assessment of Rivers 2004

River and Code : **YELLOW (FOXFORD)** **34/Y/01**
Tributary of : Moy OS Catchment No: 110
OS Grid Ref : G 270 085 Date(s) Surveyed : 03/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| No. | Location | 1981 | 1986 | 1989 | 1993 | 1995 | 1998 | 2001 | 2004 |
| 0100 | Ford W. of Corlee | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 0200 | Bridge S. of Church Village | 5 | 5 | 5 | 5 | - | - | - | - |
| 0400 | Bridge u/s Moy River confl | - | - | 5 | 5 | 4-5 | 4-5 | 4-5 | 4-5 |

***Assessment:*** The Yellow (Foxford) was in satisfactory condition when sampled in early September 2004.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0100 | Ford W. of Corlee | 132280 | 308607 | 24 | MO |
| 0200 | Bridge S. of Church Village | 129895 | 305897 | 24 | MO |
| 0400 | Bridge u/s Moy River confl | 128236 | 306728 | 24 | MO |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 102 | 20 | 100 | 0 | 0 | 2 | 90 | 0.0 | 4 | 0 | 3 |
| 0200 | 19 | 35 | 100 | 0 | 1 | 2 | 80 | 0.0 | 15 | 0 | 2 |
| 0400 | 10 | 47 | 100 | 0 | 2 | 2 | 73 | 0.0 | 19 | 2 | 1 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# HYDROMETRIC AREA NO. 36

***Erne***

| | |
|---|---|
| Aghacashlaun | 36A03 |
| Aghnacliffe Stream | 36A06 |
| Annadale Stream | 36A05 |
| Annalee | 36A02 |
| Avaghon Lake Stream | 36A07 |
| | |
| Bawnboy | 36B07 |
| Blackwater (Newtowngore) | 36B04 |
| Blackwater (Swanlinbar) | 36B03 |
| Bunnoe | 36B05 |
| | |
| Cavan | 26C02 |
| # Conawary (Upper) | 36C11 |
| [Cornavannoge] | [36C04] |
| Cullies | 36C03 |
| | |
| Dromore | 36D02 |
| Drumane Stream | 36D04 |
| | |
| # Erne | 36E01 |
| | |
| Finn (Monaghan) | 36F01 |
| | |
| Knappagh | 36K01 |
| | |
| Laheen Stream | 36L02 |
| Laragh | 36L01 |
| Legga Stream | 36L03 |
| | |
| Madabawn | 36M02 |
| Magherarney | 36M01 |
| Maghery | 36M03 |
| | |
| Owensallagh | 36O01 |
| | |
| Rag | 36R01 |
| [Roo] | [36R02] |
| | |
| Stradone | 36S02 |
| Swanlinbar | 36S01 |
| | |
| Templeport Stream | 36T01 |
| | |
| [Waterfoot] | [36W03] |
| | |
| Yellow (Ballinamore) | 36Y01 |

[Cornavannoge, Roo & Waterfoot will be surveyed in 2005]

# Rivers denoted thus had seriously polluted stretch(es) at the time of this survey.

# Ecological Assessment of Rivers 2003

River and Code : **AGHACASHLAUN** **36/A/03**
Tributary of : St John's Lough OS Catchment No: 123
OS Grid Ref : H 082 090 Date(s) Surveyed : 14/06/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1989 | 1993 | 1997 | 1998 | 2001 | 2004 |
| 0300 | Aghlin Br | 5 | 4-5 | 5 | 4-5 | 4-5 | 3-4* |
| 0500 | Aghacashlaun Br | 5 | 4-5 | 4-5 | 4-5 | 4-5 | 4-5 |

***Assessment:*** Forestry activities are strongly suspected as causing the deterioration at Aghlin Bridge (0300) where heavy siltation and excessive algal growths were observed in 2004. Quality continued to be of a high standard downstream (0500) but the bed and bank damage by cattle watering there could be prevented by simple fencing.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0300 | Aghlin Br | 206515 | 313452 | 26 | LM |
| 0500 | Aghacashlaun Br | 204880 | 310860 | 26 | LM |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 96 | 15 | 0 | 100 | 2 | 14 | 67 | 0.0 | 15 | 0 | 3 |
| 0500 | 70 | 27 | 0 | 100 | 4 | 8 | 57 | 0.0 | 30 | 0 | 2 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 36

River and Code : **AGHNACLIFFE STREAM** **36/A/06**
Tributary of : Lough Gowna OS Catchment No: 123
OS Grid Ref : N 275 887 Date(s) Surveyed : 18/06/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1982 | 1989 | 1993 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|
| 0400 | 1st Br u/s L Gowna | 4-5 | 4 | 4-5 | 4-5 | 4-5 | 4 | 4-5 |

***Assessment:*** Continuing satisfactory.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0400 | 1st Br u/s L Gowna | 227350 | 288747 | 34 | LD |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0400 | 67 | 14 | 100 | 0 | 96 | 0 | 0 | 0.0 | 0 | 0 | 4 |

Alt is in metres Area is km$^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2003

River and Code : **ANNADALE STREAM** **36/A/05**
Tributary of : Lough Scur OS Catchment No: 123
OS Grid Ref : H 030 092 Date(s) Surveyed : 14/06/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1988 | 1993 | 1997 | 1998 | 2001 | 2004 |
| 0300 | Br NE of Carrickaport | 4-5 | 4-5 | 4 | 4 | 4 | 4 |
| 0500 | Br u/s Lough Scur | 4-5 | 4 | 4 | 3 | 3 | 3 |

***Assessment:*** Despite heavy siltation the biota in upper reaches indicated reasonably satisfactory conditions but the lower reaches were again significantly adversely affected by suspected forestry activities in 2004.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0300 | Br NE of Carrickaport | 201589 | 310409 | 26 | LM |
| 0500 | Br u/s Lough Scur | 203529 | 309665 | 33 | LM |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 70 | 10 | 5 | 95 | 58 | 4 | 17 | 0.0 | 11 | 0 | 10 |
| 0500 | 63 | 17 | 3 | 97 | 57 | 5 | 14 | 0.0 | 18 | 0 | 6 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 36

River and Code : **ANNALEE** **36/A/02**
Tributary of : Lough Oughter OS Catchment No: 123
OS Grid Ref : H 393 101 Date(s) Surveyed : 29/06/2004

| Stations No. | Biological Quality Ratings (Q Values) 1971 | 1977 | 1979 | 1980 | 1982 | 1986 | 1989 | 1993 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0080 | - | - | - | - | - | - | 3-4 | 3-4 | 3-4 | 4-5 | 3-4* | 4 |
| 0150 | - | - | - | - | - | - | - | 3-4 | 3 | 3 | 3 | 3 |
| 0200 | 4-5 | 4 | 4 | 3 | 3-4 | 3-4 | - | - | - | - | - | - |
| 0250 | - | - | - | - | - | - | 3-4 | 3-4 | 4 | 3-4 | 3-4* | 3-4 |
| 0300 | - | - | 4 | 4-5 | 4-5 | 3 | - | - | - | - | - | - |
| 0350 | - | - | - | - | - | - | 3 | 4 | 4 | 3-4 | 4 | 4 |
| 0500 | 5 | 3 | 3/0 | 4 | 5 | 5 | 2-3 | 4-5 | 4-5 | 3 | 4 | 4 |
| 0600 | - | - | 4 | 3-4 | 4 | 4 | 2-3 | 4 | 4-5 | 3-4 | 3-4 | 4 |
| 0800 | 5 | 4 | 5 | 5 | 5 | 4-5 | 3-4 | 4-5 | 4-5 | 4 | 4-5 | 4 |
| 0900 | - | - | 4 | 4-5 | 4-5 | 4-5 | 4 | 4 | 4 | 4 | 3-4 | 4 |
| 1000 | 3 | 3-4 | - | - | - | 4-5 | 4 | 4 | 4 | 4 | 3-4 | 3-4 |
| 1150 | - | 4 | - | 4 | 4-5 | 5 | 3-4 | 4-5 | 4-5 | 4 | 3-4 | 4-5 |
| 1300 | - | - | 4 | 4 | 4 | 4-5 | 3-4 | - | - | - | - | - |
| 1350 | - | - | - | - | - | 4-5 | 4-5 | 4 | 3-4 | 4 | 3-4 | 3-4 |
| 1400 | - | - | - | 3-4 | 3-4 | 3-4 | 3-4 | 4 | 3-4 | 3-4 | 3 | 3-4 |

***Assessment:*** A widespread slight improvement was recorded in the quality of the Annalee in 2004. This was apparent at five of the twelve locations surveyed, including Station 1400 downstream of the Cavan River. A more marked improvement was apparent in the Curraghanoe area (1150) where quality has been restored to a highly satisfactory status (Q4-5). Despite this favourable state of affairs the upper river continued to be adversely affected by eutrophic outflows from Loughs Sillan and Tacker and also by heavy substratum siltation at several locations (0080, and 0250 to 0500).

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0080 | 2nd Br u/s L Sillan | 272660 | 306124 | 35 | CN |
| 0150 | Annafarney Br | 268391 | 306322 | 35 | CN |
| 0200 | Br u/s L Tacker | 268046 | 307553 | 35 | CN |
| 0250 | 1st Br d/s L Tacker | 268196 | 308876 | 35 | CN |
| 0300 | Br nr Lisclogher | 267800 | 309900 | 28 | CN |
| 0350 | Br nr Ann's Fort | 265753 | 310346 | 28 | CN |
| 0500 | New Grove Br | 262451 | 310839 | 28 | CN |
| 0600 | Br SE of Fort William | 259354 | 312835 | 27 | CN |
| 0800 | Br NW of Rakenny Ho | 253489 | 311541 | 27 | CN |
| 0900 | Ballynallon Br | 250064 | 311589 | 27 | CN |
| 1000 | Ballyhaise Br | 245253 | 311608 | 27 | CN |
| 1150 | Br nr Curraghanoe | 243384 | 312004 | 27 | CN |
| 1300 | Butlersbridge (d/s side) | 240817 | 310466 | 27 | CN |
| 1350 | 0.2km u/s Cavan R confl | 240254 | 310101 | 27 | CN |
| 1400 | 0.2km d/s Cavan R confl | 240253 | 310340 | 27 | CN |

# Ecological Assessment of Rivers 2003

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0080 | 98 | 16 | 100 | 0 | 82 | 0 | 0 | 0.2 | 18 | 0 | 0 |
| 0150 | 95 | 58 | 100 | 0 | 79 | 0 | 0 | 1.1 | 15 | 4 | 1 |
| 0200 | 92 | 76 | 100 | 0 | 78 | 0 | 0 | 0.8 | 16 | 4 | 1 |
| 0250 | 91 | 79 | 100 | 0 | 76 | 0 | 0 | 0.8 | 17 | 5 | 1 |
| 0350 | 81 | 168 | 100 | 0 | 80 | 1 | 0 | 0.7 | 14 | 4 | 0 |
| 0500 | 66 | 223 | 100 | 0 | 78 | 1 | 0 | 0.5 | 17 | 3 | 1 |
| 0600 | 64 | 253 | 100 | 0 | 79 | 1 | 0 | 0.7 | 16 | 3 | 0 |
| 0800 | 60 | 508 | 100 | 0 | 84 | 1 | 0 | 0.7 | 10 | 2 | 2 |
| 0900 | 54 | 700 | 99 | 1 | 86 | 1 | 0 | 0.5 | 9 | 2 | 2 |
| 1000 | 50 | 746 | 99 | 1 | 86 | 1 | 0 | 0.5 | 9 | 2 | 2 |
| 1150 | 50 | 760 | 99 | 1 | 85 | 1 | 0 | 0.5 | 9 | 2 | 2 |
| 1300 | 48 | 772 | 99 | 1 | 85 | 1 | 0 | 0.5 | 9 | 2 | 2 |
| 1350 | 49 | 0 | 100 | 0 | 100 | 0 | 0 | 0.0 | 0 | 0 | 0 |
| 1400 | 49 | 859 | 96 | 4 | 86 | 1 | 0 | 1.0 | 8 | 2 | 2 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 36

River and Code : **AVAGHON LAKE STREAM** **36/A/07**
Tributary of : Dromore OS Catchment No: 123
OS Grid Ref : H 660 173 Date(s) Surveyed : 12/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1989 | 1993 | 1997 | 1998 | 2001 | 2004 |
| 0200 | 2nd Br d/s L Avaghon | - | 3 | 3 | 3 | 3 | 3 |
| 0600 | Br u/s Dromore R confl | 3 | 3-4 | 3 | 3 | 3 | 3 |

***Assessment:*** Moderate pollution of suspected agricultural origin continues unabated. Unsatisfactory. No change.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0200 | 2nd Br d/s L Avaghon | 267819 | 314158 | 28 | MN |
| 0600 | Br u/s Dromore R confl | 266555 | 317142 | 28 | MN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 122 | 5 | 100 | 0 | 73 | 0 | 0 | 0.0 | 16 | 11 | 0 |
| 0600 | 79 | 0 | 100 | 0 | 100 | 0 | 0 | 0.0 | 0 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2003

River and Code : **BAWNBOY** **36/B/07**
Tributary of : Blackwater (Newtowngore) OS Catchment No: 123
OS Grid Ref : H 200 158 Date(s) Surveyed : 15/06/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1989 | 1993 | 1997 | 1998 | 2001 | 2004 |
| 0300 | 1st Br u/s Brackley L | 4-5 | 4-5 | 4-5 | 5 | 4-5 | 4-5 |
| 0500 | Br u/s Bellaboy L | 3-4 | 4-5 | 4 | 4 | 4 | 4 |

***Assessment:*** Continuing very good quality upstream of Bellaboy Lough (0300) but increasing siltation, algal growth and tolerant macroinvertebrate species indicate ecological stress below this lake(0500).

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0300 | 1st Br u/s Brackley L | 219275 | 321692 | 26 | CN |
| 0500 | Br u/s Bellaboy L | 220895 | 317704 | 27 | CN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 60 | 5 | 0 | 100 | 0 | 0 | 29 | 0.0 | 43 | 0 | 28 |
| 0500 | 56 | 24 | 0 | 100 | 15 | 7 | 9 | 0.0 | 42 | 8 | 19 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 36

River and Code : **BLACKWATER (NEWTOWNGORE)** **36/B/04**
Tributary of : Ballymagauran Lake OS Catchment No: 123
OS Grid Ref : H 207 134 Date(s) Surveyed : 16/06/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| No. | Location | **1982** | **1986** | **1989** | **1990** | **1993** | **1997** | **1998** | **2001** | **2004** |
| 0180 | Br NW of Knockmore | - | - | - | - | 5 | 5 | 4-5 | 5 | 4-5 |
| 0200 | Br NE of Sradrinan | 5 | 5 | - | 5 | 4-5 | 4-5 | 4 | 5 | 4 |
| 0400 | Killyran Br | 4-5 | 4-5 | 3-4 | 4 | 5 | 5 | 4 | 4-5 | 4 |
| 0600 | Br u/s Ballymagauran L | 4 | 5 | - | 4 | 4 | 4 | 4-5 | - | 4 |

***Assessment:*** Continuing generally satisfactory but increased algal production and siltation allied with changes in faunal composition indicate increasing ecological pressures in the lower reaches.

***For Stations 0040 & 0100 see Derradda Stream 36D07***

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0180 | Br NW of Knockmore | 215425 | 319694 | 26 | CN |
| 0200 | Br NE of Sradrinan | 216372 | 317085 | 26 | CN/LM |
| 0400 | Killyran Br | 220277 | 314605 | 27 | CN |
| 0600 | Br u/s Ballymagauran L | 220800 | 313100 | 27 | CN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0180 | 99 | 7 | 0 | 100 | 0 | 11 | 46 | 0.0 | 43 | 0 | 0 |
| 0200 | 67 | 19 | 0 | 100 | 0 | 8 | 41 | 0.0 | 49 | 0 | 1 |
| 0400 | 53 | 93 | 0 | 100 | 25 | 6 | 17 | 0.0 | 38 | 4 | 11 |
| 0600 | -99 | 101 | 0 | 100 | 26 | 5 | 16 | 0.0 | 38 | 4 | 10 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2003

River and Code : **BLACKWATER (SWANLINBAR)** **36/B/03**
Tributary of : Swanlinbar OS Catchment No: 123
OS Grid Ref : H 200 272 Date(s) Surveyed : 15/06/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1989** | **1993** | **1997** | **1998** | **2001** | **2004** |
| 0400 | Br SE of Gorteen (on Tributary) | 4-5 | 4-5 | 4-5 | 4-5 | 5 | 5 |

***Assessment:*** Continuing highly satisfactory.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0400 | Br SE of Gorteen (on Tributary) | 219252 | 325040 | 26 | CN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0400 | 60 | 16 | 0 | 100 | 0 | 4 | 35 | 0.0 | 53 | 0 | 8 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 36

River and Code : **BUNNOE** **36/B/05**
Tributary of : Annalee OS Catchment No: 123
OS Grid Ref : H 505 124 Date(s) Surveyed : 10/08/2004

| Stations No. | 1983 | 1985 | 1987 | 1988 | 1989 | 1993 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|
| | Biological Quality Ratings (Q Values) | | | | | | | | | |
| 0090 | - | - | - | - | - | 3 | 3 | 3-4 | 3 | 4 |
| 0300 | - | 1 | 1-2 | 2-3 | - | - | - | - | 2-3 | - |
| 0400 | 1-2 | 3 | 1-2 | 2-3 | 3 | 3-4 | 4 | - | 3 | 4 |
| 0500 | 3-4 | 4 | 4 | - | 3-4 | 3-4 | 3-4 | 3-4 | 3 | 3-4 |
| 0700 | 4-5 | 4-5 | 4-5 | - | 3-4 | 4 | 3-4 | 3-4 | 3-4 | 3-4 |

***Assessment:*** Following a marked improvement since 2001 the upper half of the Bunnoe river was assessed as satisfactory (Fair quality) in August 2004. Some improvement was also apparent in the lower reaches (0500) but further pollution abatement will be required before satisfactory conditions are fully restored here. Agriculture is suspected as the cause of the less than satisfactory state of the lower river.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0090 | Rly Br Aghadrumkeen | 261631 | 322968 | 28 | MN |
| 0300 | Doohat Br | - | - | 27 | MN |
| 0400 | Dianmore Br | 255171 | 318370 | 27 | MN |
| 0500 | Br W of Killynenagh L | 252344 | 316054 | 27 | CN |
| 0700 | Br u/s Annalee R confl | 250376 | 313112 | 27 | CN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0090 | 98 | 8 | 100 | 0 | 98 | 2 | 0 | 0.0 | 0 | 0 | 0 |
| 0400 | 89 | 54 | 100 | 0 | 96 | 0 | 0 | 0.0 | 0 | 1 | 3 |
| 0500 | 75 | 65 | 100 | 0 | 93 | 0 | 0 | 0.0 | 4 | 1 | 3 |
| 0700 | 61 | 80 | 100 | 0 | 87 | 0 | 0 | 0.0 | 10 | 1 | 2 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2003

River and Code : **CAVAN** **36/C/02**
Tributary of : Annalee OS Catchment No: 123
OS Grid Ref : H 475 112 Date(s) Surveyed : 01/07/2004

| Stations | Biological Quality Ratings (Q Values) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | **1978** | **1980** | **1984** | **1986** | **1987** | **1989** | **1993** | **1997** | **1998** | **2001** | **2004** |
| 0040 | - | - | - | - | - | 3 | 3-4 | 3 | 4 | 3 | 3 |
| 0085 | - | - | - | - | - | - | 3-4 | 4-5 | 4 | 4 | 4 |
| 0300 | - | - | - | 2 | 2 | 2-3 | 3 | 2-3 | 2-3 | 2-3 | 2-3 |
| 0400 | 2 | 2 | 2 | 2-3 | 2-3 | 2-3 | 3 | 2-3 | 2-3 | 2-3 | 2-3 |

***Assessment:*** The Shantemon Lake Branch was again significantly polluted at Breffni park (0040) in June 2004. The Main Channel continued to be in a satisfactory condition upstream of Cavan (0085) but this situation is threatened by heavy cattle usage at this location: fencing is required to restrict cattle access. Once again quality deteriorated considerably below Cavan town (0300, 0400) where the river was very heavily silted and was characterised by excessive algal growth and a faunal composition indicative of considerable organic pollution.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0040 | Br nr Breffni Park | 241865 | 303710 | 34 | CN |
| 0085 | Br E of Thomascourt/Drumroosk | 241582 | 301090 | 34 | CN |
| 0300 | Br d/s St 0200 (SE of Drumkeen Ho.) | 241292 | 306905 | 34 | CN |
| 0400 | Br u/s Annalee R confl | 240105 | 310093 | 27 | CN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0040 | 62 | 58 | 90 | 10 | 92 | 1 | 1 | 3.4 | 2 | 0 | 0 |
| 0085 | 86 | 10 | 100 | 0 | 93 | 0 | 5 | 0.0 | 2 | 0 | 0 |
| 0300 | 50 | 67 | 87 | 13 | 90 | 1 | 1 | 6.1 | 2 | 0 | 0 |
| 0400 | 50 | 85 | 74 | 26 | 89 | 2 | 1 | 5.5 | 1 | 1 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 36

River and Code : **CONAWARY (UPPER)** **36/C/11**
Tributary of : Ulster Canal OS Catchment No: 123
OS Grid Ref : H 616 313 Date(s) Surveyed : 09/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | |
|---|---|---|---|---|
| No. | Location | **1998** | **2001** | **2004** |
| 0500 | Br d/s Greagh Lough Branch | 3 | 3* | 2 |

***Assessment:*** Pollution by suspected agriculture worsened considerably in this stream and was assessed as 'serious' at Station 0500 in 2004: Unsatisfactory. Further deterioration.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0500 | Br d/s Greagh Lough Branch | 259901 | 327906 | 27 | MN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0500 | 124 | 0 | 100 | 0 | 100 | 0 | 0 | 0.0 | 0 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2003

River and Code : **CULLIES** **36/C/03**
Tributary of : Lough Oughter OS Catchment No: 123
OS Grid Ref : H 256 013 Date(s) Surveyed : 18/06/2004

| Stations No. | Biological Quality Ratings (Q Values) 1977 | 1979 | 1981 | 1983 | 1985 | 1989 | 1990 | 1993 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | - | - | 3-4 | 2 | 3-4 | 3 | - | 3 | 3 | 3-4 | 3* | 4 |
| 0550 | - | - | 4 | 3 | 4 | 2-3 | - | 3-4 | 3-4 | 3 | 3-4* | 3-4* |
| 0600 | 3 | 3 | 3-4 | 3 | 3-4 | 1-2 | 3-4 | 3-4 | 3-4 | 3 | 3 | 3* |
| 0650 | - | - | 3-4 | 4 | - | 3 | - | 3-4 | 3-4 | 3-4 | 3* | 3-4* |
| 0750 | 4 | 3-4 | 4 | 3-4 | 4 | 2 | 3-4 | 3-4 | 3-4 | 3 | 4 | 4 |
| 0800 | 2-3 | 1-2 | 2 | 3 | 4 | 2 | 3 | 3 | - | - | - | - |
| 0900 | - | - | 2-3 | 2-3 | 3 | 2 | 2-3 | 2-3 | 2-3 | 3 | 2-3 | 3 |

***Assessment:*** While conditions continued to be of a satisfactory standard in the upper (0300) and middle (0750) reaches, the overall quality profile of the Cullies River in 2004 was very similar to that of 2001 i.e., generally depressed by lake outflows and heavy siltation and also by suspected sewage and industrial impacts below Killeshandra (0900) where DO was reduced to 54 percent at the time of this survey in mid-June 2004. Very low water levels would have further exacerbated the effects of any pollutant inputs at this time.
*Heavy Siltation and/or lake effects.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0300 | Br u/s Gulladoo L | 224800 | 298600 | 34 | LD/LM |
| 0550 | Br u/s Drumhart L | 226258 | 302626 | 34 | LM |
| 0600 | Kilbrackan Br | 226255 | 304329 | 34 | CN/LM |
| 0650 | Br d/s Laheen L | 226964 | 307657 | 34 | CN |
| 0750 | Br d/s Disert L | 228803 | 307807 | 34 | CN |
| 0800 | Br u/s Town L | 229900 | 308200 | 34 | CN |
| 0900 | New Br | 231389 | 308801 | 34 | CN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 58 | 80 | 100 | 0 | 90 | 1 | 4 | 0.7 | 3 | 2 | 1 |
| 0550 | 48 | 98 | 100 | 0 | 90 | 0 | 3 | 0.6 | 3 | 2 | 1 |
| 0600 | 49 | 108 | 100 | 0 | 90 | 0 | 3 | 0.5 | 2 | 3 | 1 |
| 0650 | 45 | 165 | 76 | 24 | 79 | 1 | 2 | 0.3 | 11 | 2 | 5 |
| 0750 | 46 | 170 | 74 | 26 | 79 | 1 | 2 | 0.3 | 10 | 3 | 5 |
| 0900 | 48 | 185 | 70 | 30 | 80 | 1 | 2 | 0.5 | 10 | 3 | 5 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 36

River and Code : **DERRADDA STREAM** **36/D/07**
Tributary of : Blackwater (Newtowngore) OS Catchment No: 123
OS Grid Ref : Null Date(s) Surveyed : 16/06/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1982 | 1986 | 1989 | 1993 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|
| 0040 | Drumderg Br | - | - | - | 5 | 4-5 | 4-5 | - | 4 |
| 0100 | Derrinivver Br | 5 | 5 | 4-5 | 4-5 | 5 | - | 4-5 | 4-5 |

***Assessment:*** Continuing satisfactory at both locations surveyed in June 2004.Formerly reported as the upper reaches of the Blackwater (Newtowngore 36B04).

***Previously reported as the Derradda Branch of the Blackwater (Newtowngore) 36B04***

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0040 | Drumderg Br | 212183 | 317447 | 26 | CN |
| 0100 | Derrinivver Br | - | - | 26 | CN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0040 | 85 | 6 | 0 | 100 | 0 | 17 | 41 | 0.0 | 19 | 0 | 23 |

Alt is in metres Area is km$^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2003

River and Code : **DROMORE** **36/D/02**
Tributary of : Annalee OS Catchment No: 123
OS Grid Ref : H557 122 Date(s) Surveyed : 11/08/2004

| Stations No. | 1971 | 1977 | 1980 | 1982 | 1984 | 1986 | 1989 | 1993 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Biological Quality Ratings (Q Values) | | | | | | | | | | | |
| ***Lough Major Branch*** | | | | | | | | | | | | |
| 0015 | - | - | - | - | - | - | - | 4 | 4-5 | 4 | 4 | 4-5 |
| 0036 | - | - | - | - | - | - | 3-4 | 4 | 3-4 | 3-4 | 3-4 | 3-4 |
| ***Main Channel*** | | | | | | | | | | | | |
| 0075 | | | | | | | | | 3 | 3 | 3 | 4 |
| 0090 | - | - | - | - | - | - | 1 | 3-4 | 3-4 | 3-4 | 3 | 3-4 |
| 0150 | - | - | 2 | 2 | 2 | 3 | 2 | 3 | 3-4 | 3-4 | - | 3 |
| 0200 | 4 | 4 | 3-4 | 3-4 | - | 3-4 | 2-3 | 3 | 2-3 | 3 | 3 | 3-4 |
| 0300 | 4 | 2 | 3-4 | 3-4 | 3-4 | 3-4 | 3 | 3-4 | 3 | 3 | 3 | 3 |
| 0500 | - | - | 4 | 4 | 3-4 | 3 | 3 | 3 | 3 | 3 | 3-4 | 3-4 |
| 0700 | 4-5 | 2-3 | 3 | 4 | 3 | 3-4 | 3 | 3 | 3-4 | 3 | 3 | 3 |
| 0900 | 4-5 | 4-5 | 4-5 | 4-5 | 4 | 4 | 3-4 | 4 | 4 | 4-5 | 4 | 4 |

***Assessment:*** Quality improvements were recorded at each of the three locations surveyed on the Lough Major Branch (0015, 0036 and 0200) and also at two points (0075 and 0090) on the upper Main Channel in August 2004. The most noteworthy of these improvements was in the Bartley's Grove area (0075) where conditions were assessed as satisfactory, a major improvement over former conditions. For the most part, however, conditions remained below a satisfactory standard, largely due to the effects of sewage and agriculture on the lakes along the rivers course and the further effects of these lake outflows on the biota of the river itself. Bottom siltation was excessive at several points viz. 0036, 0300, 0500 and 0700 and DO was significantly reduced also at 0300 and 0700.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| ***Lough Major Branch*** | | | | | |
| 0015 | Br W of Killycrom | 278600 | 320800 | 28 | MN |
| 0036 | Br d/s Ballintra Br | 274400 | 320100 | 28 | MN |
| ***Main Channel*** | | | | | |
| 0075 | Br SW of Bartley's Grove | 269096 | 324195 | 28 | MN |
| 0090 | Br SE of Edenaferkin | 269573 | 322131 | 28 | MN |
| 0150 | Meeting House Lane Br Ballybay | 271686 | 320500 | 28 | MN |
| 0200 | Br d/s L Major | 271940 | 320165 | 28 | MN |
| 0300 | Balladian Br | 269589 | 319748 | 28 | MN |
| 0500 | Ballynascarva Br | 264655 | 316409 | 28 | MN |
| 0700 | Br W of Clementstown | 259132 | 314766 | 27 | CN |
| 0900 | Killycreeny Br (Mid) | 255694 | 313094 | 27 | CN |

# Hydrometric Area 36

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0015 | 98 | 7 | 100 | 0 | 95 | 0 | 0 | 0.0 | 5 | 0 | 0 |
| 0036 | 80 | 45 | 100 | 0 | 94 | 0 | 2 | 0.0 | 4 | 0 | 0 |
| 0075 | 98 | 20 | 100 | 0 | 99 | 1 | 0 | 0.0 | 0 | 0 | 0 |
| 0090 | 88 | 30 | 100 | 0 | 98 | 1 | 0 | 0.0 | 1 | 0 | 0 |
| 0150 | 79 | 40 | 100 | 0 | 98 | 1 | 0 | 0.4 | 1 | 0 | 0 |
| 0200 | 79 | 50 | 100 | 0 | 93 | 1 | 2 | 0.4 | 3 | 0 | 0 |
| 0300 | 78 | 118 | 100 | 0 | 96 | 1 | 1 | 0.6 | 2 | 0 | 0 |
| 0500 | 80 | 166 | 100 | 0 | 95 | 1 | 1 | 0.4 | 2 | 1 | 0 |
| 0700 | 76 | 216 | 100 | 0 | 90 | 1 | 0 | 0.7 | 3 | 2 | 4 |
| 0900 | 67 | 222 | 100 | 0 | 89 | 1 | 0 | 0.7 | 3 | 2 | 3 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2003

River and Code : **ERNE** **36/E/01**
Tributary of : Sea - Ballyshannon OS Catchment No: 123
OS Grid Ref : G 877 614 Date(s) Surveyed : 12/08/2004

| Stations No. | Biological Quality Ratings (Q Values) 1971 | 1973 | 1977 | 1979 | 1981 | 1984 | 1989 | 1993 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | - | - | 4 | 4 | 4 | 4-5 | 3-4 | 4 | 4 | 4 | 4 | 4 |
| 0200 | - | - | - | - | 5 | 5 | 2-3 | 4-5 | 4 | 3-4 | 3-4 | 4 |
| 0400 | - | - | - | 4 | 3-4 | 3-4 | 2-3 | 3-4 | 3-4 | 3-4 | 3-4 | 3-4 |
| 0500 | 5 | - | 2 | 4 | 4 | 4 | 3-4 | 3-4 | 3-4 | 3-4 | 4 | 3-4 |
| 0700 | - | - | 2-3 | 5 | 5 | 5 | 4 | 4 | 4 | 3-4 | 4 | 3-4 |
| 0900 | 5 | 5 | 3-4 | 3-4 | 3 | 3 | 3-4 | 3 | 3 | 3 | 3 | 3-4 |
| 1000 | - | - | - | 4 | 4-5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 1100 | 5 | 5 | 4-5 | 4-5 | 4 | 4-5 | 4-5 | 4 | 4 | 4 | 4 | 4 |
| 1300 | 4-5 | 4 | 3 | 3 | 3 | 3-4 | 3-4 | 3-4 | 3-4 | - | 3-4 | 3-4 |
| 1400 | 4 | - | - | - | 3-4 | 3-4 | 3 | 3-4 | 3 | 3 | 3 | 3-4 |
| 1410 | - | - | - | - | - | - | - | - | - | 3 | 1 | 1 |

***Assessment:*** Slight improvements in its upper, middle and lower reaches (0200, 0900 & 1400) were to some extent offset by slight deteriorations at several points (0500, 0700) on the Erne in 2004. The river is subject to over-enrichment from suspected agriculture and probably other sources at several points (0400, 0500, 0700 & 1400) and it is also affected by outflows from Loughs Gowna (at 0900) and Oughter (at 1300). Water transparency and faunal composition have improved markedly below Lough Oughter in recent years and this is attributed to the filtration activities of the large populations of zebra mussel (Dreissena sp.) which have appeared since 2001. Sewage was again observed accessing the right hand side of the river just below Kilconny Bridge, Belturbet at the time of this survey.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Br 3km SW of Crosskeys | 246239 | 295265 | 34 | CN |
| 0200 | Derrin Br | 242600 | 292915 | 34 | CN |
| 0400 | Br at Carrigan | 239215 | 293185 | 34 | CN |
| 0500 | Legwee Br | 237669 | 292429 | 34 | CN |
| 0700 | Kilsarn Br | 235283 | 290632 | 34 | CN |
| 0900 | Dingin's Br | 233149 | 294883 | 34 | CN |
| 1000 | Br E of Corlismore | 235578 | 297398 | 34 | CN |
| 1100 | Bellahillan Br | 235617 | 301507 | 34 | CN |
| 1300 | Baker's Br | 237780 | 312584 | 27 | CN |
| 1400 | Br at Kilconny Belturbet (RHS) | 236117 | 317097 | 27 | CN |
| 1410 | Kilconny Belturbet (LHS) | 236211 | 317269 | 27 | CN |

# Hydrometric Area 36

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 99 | 19 | 100 | 0 | 93 | 0 | 5 | 1.4 | 0 | 0 | 0 |
| 0200 | 84 | 42 | 100 | 0 | 95 | 0 | 3 | 0.6 | 0 | 0 | 1 |
| 0400 | 76 | 66 | 100 | 0 | 92 | 0 | 4 | 2.1 | 0 | 1 | 1 |
| 0500 | 71 | 83 | 100 | 0 | 91 | 0 | 6 | 1.7 | 0 | 1 | 0 |
| 0700 | 64 | 96 | 100 | 0 | 91 | 0 | 6 | 1.4 | 0 | 1 | 0 |
| 0900 | 62 | 278 | 92 | 8 | 86 | 1 | 5 | 0.6 | 1 | 6 | 2 |
| 1000 | 53 | 291 | 92 | 8 | 86 | 1 | 5 | 0.6 | 1 | 5 | 2 |
| 1100 | 48 | 336 | 93 | 7 | 87 | 1 | 4 | 0.6 | 1 | 5 | 2 |
| 1300 | 48 | 1,483 | 88 | 12 | 84 | 1 | 2 | 0.8 | 7 | 3 | 3 |
| 1400 | 47 | 1,492 | 88 | 12 | 84 | 1 | 2 | 0.8 | 7 | 3 | 3 |
| 1410 | 47 | 1,496 | 87 | 13 | 84 | 1 | 2 | 0.8 | 7 | 3 | 3 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2003

River and Code : **FINN (MONAGHAN)** **36/F/01**
Tributary of : Upper Lough Erne OS Catchment No: 123
OS Grid Ref : H 422 200 Date(s) Surveyed : 09/08/2004

| Stations No. | Biological Quality Ratings (Q Values) 1971 | 1973 | 1977 | 1980 | 1982 | 1984 | 1989 | 1993 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | - | - | - | - | - | - | 3-4 | 4-5 | 4-5 | 4 | 3 | 3-4* |
| 0080 | - | - | - | - | - | - | 3 | 4 | 3 | 4 | 4 | 4 |
| 0100 | 5 | 5 | 4-5 | 4 | 4-5 | 4-5 | 3-4 | 4 | 3-4 | 4 | 3-4 | 3-4 |
| 0200 | 5 | 4-5 | 4-5 | 4 | 4 | 4 | 3-4 | 4 | 3 | 3-4 | 3 | 4 |
| 0400 | - | - | 3-4 | 3-4 | 3-4 | 3-4 | 3-4 | 3 | 3-4 | 3-4 | 3 | 4 |
| 0500 | 3-4 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3-4 |

***Assessment:*** An overall improvement in water quality was indicated in the Finn River in 2004; this was most marked in the reach below the Magherarney River (q.v.) (i.e., from 0200) which had itself significantly improved since 2001. Slight improvements were also apparent in the upper (0010) and lowermost (0500) reaches but further improvement is required at these points and also at Stone Bridge (0100) where conditions remain at a less than satisfactory standard.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0010 | Br at Mill NW of Kilcreen | 256057 | 335418 | 27 | MN |
| 0080 | E of Aghafin Lough | 252797 | 329862 | 27 | MN |
| 0100 | Stone Br | 254401 | 328407 | 27 | MN |
| 0200 | Annamakiff Br | 254563 | 326483 | 27 | MN |
| 0400 | Scarvy Br | 251806 | 324610 | 27 | MN |
| 0500 | Cumber Br | 249939 | 323331 | 27 | MN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 80 | 1 | 0 | 100 | 100 | 0 | 0 | 0.0 | 0 | 0 | 0 |
| 0080 | 56 | 1 | 0 | 100 | 94 | 6 | 0 | 0.0 | 0 | 0 | 0 |
| 0100 | 56 | 5 | 0 | 100 | 99 | 1 | 0 | 0.0 | 1 | 0 | 0 |
| 0200 | 48 | 79 | 26 | 74 | 95 | 1 | 1 | 0.0 | 0 | 0 | 2 |
| 0400 | 47 | 103 | 43 | 57 | 97 | 1 | 1 | 0.0 | 0 | 0 | 1 |
| 0500 | 47 | 118 | 41 | 59 | 96 | 1 | 1 | 0.6 | 0 | 0 | 1 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 36

River and Code : **KNAPPAGH** **36/K/01**
Tributary of : Annalee OS Catchment No: 123
OS Grid Ref : H 678 099 Date(s) Surveyed : 28/06/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1977 | 1981 | 1985 | 1989 | 1993 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | Br u/s Bellatrain L | - | 4 | 3-4 | 3-4 | 3 | 3 | 3 | 3* | 4 |
| 0400 | Lackan Br | 4 | 4 | 3-4 | 3 | 3-4 | 3 | 3 | 3-4* | 3-4* |
| 0700 | Br u/s Annalee R confl | - | 4-5 | 4 | 3 | 3-4 | 3-4 | 3 | 3-4* | 4 |

***Assessment:*** A marked improvement in water quality was recorded in the Knappagh River in late June 2004 when conditions were assessed as satisfactory in the middle (0200) and lower (0700) reaches. Heavy siltation and the effects of the several lakes upstream of Lacken bridge (0400) continued to adversely affect biological diversity in this section of the river.

- Siltation plus lake effects.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Br u/s Bellatrain L | 274468 | 310701 | 28 | MN |
| 0400 | Lackan Br | 270618 | 311430 | 28 | MN |
| 0700 | Br u/s Annalee R confl | 267974 | 310045 | 28 | CN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 106 | 44 | 100 | 0 | 86 | 0 | 0 | 1.3 | 9 | 4 | 0 |
| 0400 | 108 | 66 | 100 | 0 | 81 | 2 | 0 | 0.8 | 12 | 4 | 0 |
| 0700 | 86 | 79 | 100 | 0 | 82 | 1 | 0 | 0.7 | 12 | 4 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2003

River and Code : **LAHEEN STREAM** **36/L/02**
Tributary of : Cullies OS Catchment No: 123
OS Grid Ref : H 266 075 Date(s) Surveyed : 17/06/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1989 | 1993 | 1997 | 1998 | 2001 | 2004 |
| 0300 | Br W of Aghavilla | - | 4 | 4 | 4 | 3* | 4-5 |
| 0600 | Farmullagh Br | - | 3-4 | 3-4 | 3 | 3* | - |
| 0800 | Br u/s Cullies R confl | 3 | 3-4 | 3-4 | 3 | 3* | 3-4 |

***Assessment:*** A Major improvement was recorded in the upper reaches (0300) of this stream in June 2004 but the lower reaches, although somewhat better than in 2001, continued to be distinctly over-enriched by suspected agriculture (slurry).

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0300 | Br W of Aghavilla | 221091 | 305820 | 34 | LM |
| 0600 | Farmullagh Br | 224215 | 307477 | 34 | LM |
| 0800 | Br u/s Cullies R confl | 226482 | 307687 | 34 | LM |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 63 | 10 | 38 | 62 | 24 | 0 | 0 | 0.0 | 36 | 3 | 37 |
| 0600 | 55 | 31 | 18 | 82 | 42 | 0 | 0 | 0.0 | 39 | 1 | 18 |
| 0800 | 49 | 38 | 14 | 86 | 48 | 0 | 1 | 0.0 | 36 | 1 | 14 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 36

River and Code : **LARAGH** **36/L/01**
Tributary of : Annalee
OS Grid Ref : H 532 117
OS Catchment No: 123
Date(s) Surveyed : 01/07/2004

| Stations No. | Biological Quality Ratings (Q Values) 1971 | 1978 | 1982 | 1986 | 1989 | 1993 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0015 | - | - | 3-4 | - | 4 | 3-4 | 3 | 3 | - | - |
| 0030 | - | - | - | - | 4 | - | 4-5 | 4-5 | 4 | 4-5 |
| 0050 | - | - | 5 | 5 | 4 | 4-5 | 4-5 | 4 | 4 | 4 |
| 0080 | - | - | - | - | - | 4-5 | 4-5 | 4-5 | 4 | 4 |
| 0200 | - | 3 | 4-5 | 5 | 4-5 | 3-4 | 4-5 | 4-5 | 3-4 | 3-4 |
| 0400 | 4-5 | 4 | 4-5 | 5 | 4-5 | 4-5 | 4-5 | 4-5 | 3-4 | 3-4 |

***Assessment:*** Despite heavy siltation at all but the uppermost location (0030) sensitive biota were present in sufficient numbers to reflect satisfactory quality over most of the river but excessive algal production indicated substantial enrichment of the lower reaches (0200, 0400) by suspected agriculture (slurry). Severe bank damage at Drumgur Bridge (0050) is attributed to cattle access indicating the necessity for fencing.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0015 | 1st Br d/s Acanon Lough | 256838 | 302239 | 35 | CN |
| 0030 | Br N of Clifferna | 254202 | 301997 | 35 | CN |
| 0050 | Drumgur Br | 252931 | 305190 | 35 | CN |
| 0080 | Laragh Br | 251393 | 305216 | 34 | CN |
| 0200 | McShane's Br | 251005 | 306798 | 34 | CN |
| 0400 | Main Rd Br u/s Annalee R | 252908 | 311299 | 27 | CN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0015 | 159 | 9 | 100 | 0 | 91 | 0 | 0 | 0.0 | 0 | 5 | 4 |
| 0030 | 126 | 25 | 100 | 0 | 95 | 0 | 0 | 0.0 | 2 | 2 | 1 |
| 0050 | 97 | 29 | 100 | 0 | 94 | 0 | 0 | 0.0 | 2 | 2 | 2 |
| 0080 | 83 | 45 | 99 | 1 | 92 | 0 | 1 | 0.0 | 2 | 1 | 4 |
| 0200 | 73 | 85 | 92 | 8 | 94 | 0 | 1 | 0.0 | 2 | 1 | 3 |
| 0400 | 61 | 99 | 92 | 8 | 95 | 0 | 1 | 0.0 | 1 | 0 | 2 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2003

River and Code : **LEGGA STREAM** **36/L/03**
Tributary of : Gulladoo Lough OS Catchment No: 123
OS Grid Ref : N 233 992 Date(s) Surveyed : 18/06/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Location | 1989 | 1990 | 1993 | 1997 | 1998 | 2001 | 2004 |
| 0300 | 1st Br d/s Doogary L | 1-2 | 4 | 3 | 4 | 3 | 3* | 4 |
| 0600 | Farmullagh Br | 1 | 2-3 | 3 | 3 | 3 | 3-4 | - |
| 0700 | Drumury Br | 3 | - | 3 | 4 | 3 | 3-4 | 3-4* |

***Assessment:*** Further improvement was recorded at Station 0300 in 2004 restoring conditions there to a satisfactory status: the lower reaches were heavily silted, apparently as a result of recent dredging, and as such were in an unsatisfactory condition from the ecological aspect.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0300 | 1st Br d/s Doogary L | 220291 | 296202 | 34 | LD/LM |
| 0600 | Farmullagh Br | 221845 | 297091 | 34 | LD/LM |
| 0700 | Drumury Br | 223332 | 298973 | 34 | LD/LM |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 55 | 21 | 100 | 0 | 85 | 2 | 9 | 0.1 | 0 | 0 | 3 |
| 0600 | 58 | 29 | 100 | 0 | 84 | 2 | 7 | 0.1 | 4 | 0 | 3 |
| 0700 | 50 | 3 | 100 | 0 | 87 | 0 | 0 | 0.0 | 13 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 36

River and Code : **MADABAWN STREAM** **36/M/02**
Tributary of : Annalee OS Catchment No: 123
OS Grid Ref : H 650 100 Date(s) Surveyed : 29/06/2004

| Stations No. | 1979 | 1980 | 1982 | 1984 | 1986 | 1989 | 1990 | 1993 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Biological Quality Ratings (Q Values) | | | | | | | | | | | |
| ***East Branch*** | | | | | | | | | | | | |
| 0070 | - | - | - | - | - | 2 | 3 | 4 | 3-4 | 3-4 | 3 | 3-4 |
| 0200 | - | - | 3/0 | 1 | 3 | 3 | - | 4 | 4 | 3 | 4 | 4 |
| ***Main Channel*** | | | | | | | | | | | | |
| 0600 | 3-4 | 3-4 | 3-4 | 3 | 3 | 3 | - | 4 | 4 | 4 | 3-4 | 4 |

***Assessment:*** Upper reaches (0070) almost fully recovered; middle and lower reaches satisfactory in 2004.The stream had been dredged at Station 0200 since the previous survey.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0070 | S Br Canningstown | 262565 | 303872 | 35 | CN |
| 0200 | Lucas's Br | 264362 | 307310 | 35 | CN |
| 0600 | Br u/s Annalee R confl | 264547 | 309860 | 35 | CN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0070 | 120 | 14 | 100 | 0 | 58 | 0 | 0 | 0.0 | 42 | 0 | 0 |
| 0200 | 92 | 20 | 100 | 0 | 56 | 0 | 0 | 0.0 | 44 | 0 | 0 |
| 0600 | 78 | 43 | 100 | 0 | 65 | 0 | 0 | 0.0 | 35 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2003

River and Code : **MAGHERARNEY** **36/M/01**
Tributary of : Finn (Monaghan) OS Catchment No: 123
OS Grid Ref : H 556 280 Date(s) Surveyed : 09/08/2004

| Stations | Biological Quality Ratings (Q Values) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | **1973** | **1977** | **1980** | **1982** | **1986** | **1987** | **1989** | **1993** | **1997** | **1998** | **2001** | **2004** |
| 0150 | - | - | - | - | - | 3 | 3 | 3 | 3 | 3 | 2-3 | 3 |
| 0200 | 5 | 3 | 2-3 | 2 | 2 | 2-3 | 2-3 | 3 | 3 | 3 | 2/0 | 3 |

***Assessment:*** Had improved below Smithboro' (0200) since 2001 but was still far from satisfactory there and again at 0150 upstream. Agriculture and industry suspected.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0150 | Br E of Smithborough | 259808 | 330603 | 27 | MN |
| 0200 | Magherarney Br | 257868 | 329856 | 27 | MN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0150 | 56 | 21 | 6 | 94 | 98 | 2 | 0 | 0.0 | 0 | 0 | 0 |
| 0200 | 52 | 28 | 18 | 82 | 98 | 1 | 0 | 0.0 | 0 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 36

River and Code : **MAGHERY** **36/M/03**
Tributary of : Magherarney OS Catchment No: 123
OS Grid Ref : H 574 293 Date(s) Surveyed : 09/08/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1986 | 1989 | 1993 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|
| 0200 | Br SW of Kilmore L | - | 3 | 3-4 | 3 | 3 | 3 | 3 |
| 0900 | Wats Br | - | - | - | 3 | 3 | 2-3 | 3 |
| 1200 | Hagan's Br | 2-3 | 2-3 | 3 | 3 | 3 | 3 | 3 |

***Assessment:*** Moderate pollution of suspected agricultural origin continued in 2004. Unsatisfactory. No change.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Br SW of Kilmore L | 254990 | 336826 | 27 | MN |
| 0900 | Wats Br | 256817 | 333997 | 27 | MN |
| 1200 | Hagan's Br | 256957 | 330156 | 27 | MN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 101 | 4 | 0 | 100 | 42 | 12 | 22 | 0.0 | 4 | 0 | 20 |
| 0900 | 65 | 10 | 0 | 100 | 69 | 5 | 10 | 0.0 | 2 | 0 | 14 |
| 1200 | 54 | 19 | 0 | 100 | 84 | 3 | 5 | 0.0 | 1 | 0 | 7 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2003

River and Code : **OWENSALLAGH** **36/O/01**
Tributary of : Blackwater (Swanlinbar) OS Catchment No: 123
OS Grid Ref : H 188 240 Date(s) Surveyed : 15/06/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | |
|---|---|---|---|---|---|---|
| No. | Location | **1993** | **1997** | **1998** | **2001** | **2004** |
| 0500 | Br E of Drumcor | 5 | 5 | 3-4* | 4-5 | 4-5 |

***Assessment:*** This small tributary of the Blackwater (Swanlinbar) maintained its satisfactory quality status in 2004.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0500 | Br E of Drumcor | 218498 | 323375 | 26 | CN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0500 | 67 | 9 | 0 | 100 | 0 | 7 | 60 | 0.0 | 22 | 0 | 11 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 36

River and Code : **RAG (CAVAN)** **36/R/01**
Tributary of : Woodford (Cavan) OS Catchment No: 123
OS Grid Ref : H 347 207 Date(s) Surveyed : 16/06/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Location | 1982 | 1985 | 1989 | 1993 | 1997 | 2001 | 2004 |
| 0600 | Br nr Killywilly Ho | 4 | 3 | 2-3 | 3 | 3 | 3-4 | 3-4 |
| 0800 | Br u/s Tee L Lr | 1 | 4-5 | 2-3 | 3 | 3 | 4 | 4 |

***Assessment:*** As in 2001 the Rag was affected by waters from Killywilly lake at 0600 but conditions were again satisfactory in the lower reaches (0800).

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0600 | Br nr Killywilly Ho | 230360 | 317920 | 27 | CN |
| 0800 | Br u/s Tee L Lr | 232598 | 318019 | 27 | CN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0600 | 47 | 31 | 0 | 100 | 63 | 0 | 11 | 3.4 | 20 | 2 | 0 |
| 0800 | 49 | 49 | 0 | 100 | 66 | 1 | 7 | 2.2 | 20 | 3 | 2 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2003

River and Code : **STRADONE** **36/S/02**
Tributary of : Laragh OS Catchment No: 123
OS Grid Ref : H 532 117 Date(s) Surveyed : 02/07/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1978 | 1982 | 1986 | 1989 | 1993 | 1997 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0075 | 2nd Br d/s L Alion | - | - | - | 4-5 | 3-4 | 4 | 3-4 | 4 | 4 |
| 0200 | Drumcrow Br | 4-5 | 4 | 4 | 4-5 | 4-5 | 4 | 3-4 | 4 | 4 |

***Assessment:*** Despite heavy siltation and enhanced weed growth at Station 0075 the presence of sensitive species indicated that the Stradone River was of a satisfactory ('fair') quality standard at both locations surveyed in 2004.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0075 | 2nd Br d/s L Alion | 249085 | 302183 | 34 | CN |
| 0200 | Drumcrow Br | 250002 | 304862 | 34 | CN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0075 | 91 | 16 | 100 | 0 | 100 | 0 | 0 | 0.0 | 0 | 0 | 0 |
| 0200 | 80 | 24 | 94 | 6 | 99 | 0 | 0 | 0.0 | 1 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 36

River and Code : **SWANLINBAR** **36/S/01**
Tributary of : Upper Lough Erne OS Catchment No: 123
OS Grid Ref : H 265 327 Date(s) Surveyed : 15/06/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| No. | Location | 1977 | 1981 | 1985 | 1989 | 1993 | 1997 | 1998 | 2001 | 2004 |
| 0100 | Commas Br | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4-5 | 4-5 |
| 0300 | 0.6km d/s Swanlinbar Br | 5 | 5 | 5 | 4 | 4-5 | 4-5 | 4-5 | 4-5 | 3-4 |

***Assessment:*** Continuing satisfactory upstream of Swanlinbar but had deteriorated below the village in 2004. Sewage suspected.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0100 | Commas Br | 214898 | 324800 | 26 | CN |
| 0300 | 0.6km d/s Swanlinbar Br | 219750 | 327141 | 26 | CN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 214 | 11 | 0 | 100 | 0 | 9 | 91 | 0.0 | 0 | 0 | 0 |
| 0300 | 59 | 22 | 0 | 100 | 0 | 6 | 71 | 0.0 | 14 | 0 | 10 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2003

River and Code : **TEMPLEPORT LAKE STREAM** **36/T/01**
Tributary of : Bawnboy OS Catchment No: 123
OS Grid Ref : H 207 163 Date(s) Surveyed : 15/06/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No. | Location | 1982 | 1989 | 1993 | 1997 | 1998 | 2001 | 2004 |
| 0600 | Br u/s Templeport L | 4 | 3 | 3 | 3 | 4 | 3 | 3/0 |

***Assessment:*** This stream was significantly polluted by suspected toxic influences in mid-June 2004. The location sampled is downstream of a water treatment plant.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0600 | Br u/s Templeport L | 222189 | 316463 | 27 | CN |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0600 | 57 | 11 | 0 | 100 | 74 | 1 | 6 | 0.0 | 5 | 0 | 13 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 36

River and Code : **YELLOW (BALLINAMORE)** **36/Y/01**
Tributary of : Garadice Lake OS Catchment No: 123
OS Grid Ref : H 168 110 Date(s) Surveyed : 17/06/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| No. | Location | 1981 | 1985 | 1989 | 1993 | 1997 | 1998 | 2001 | 2004 |
| 0050 | Stralongford Br | - | - | 4 | 4 | 4 | 2/0 | 4 | 4 |
| 0200 | Mill Br | 5 | 5 | 4 | 5 | 4-5 | 4 | 4-5 | 4 |

***Assessment:*** Slime and algal growths indicated that this river continued to be affected by forestry development in 2004 but it retained its tenuous grip on 'satisfactory' status.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0050 | Stralongford Br | 207422 | 316829 | 26 | LM |
| 0200 | Mill Br | 208193 | 312999 | 26 | LM |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0050 | 162 | 12 | 0 | 100 | 0 | 48 | 52 | 0.0 | 0 | 0 | 0 |
| 0200 | 76 | 19 | 0 | 100 | 3 | 41 | 39 | 0.0 | 17 | 0 | 1 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# HYDROMETRIC AREA 39

***Lough Swilly***

| | |
|---|---|
| Aghaweel | 39A01 |
| Bullaba | 39B01 |
| Burnfoot | 39B02 |
| Camowen (Crana)[1] | 39C08 |
| Cashelnacor | 39C01 |
| Corravaddy Burn | 39C03 |
| Crana | 39C02 |
| Dooballagh Burn | 39D02 |
| Drumbarnet Stream | 39D03 |
| Drumhallagh | 39D01 |
| Glashagh (Crana) | 39G06 |
| Glashagh (Lower) | 39G02 |
| Glashagh (Upper) | 39G01 |
| Glaskeelan | 39G05 |
| Glenalla | 39G03 |
| Glenvar | 39G04 |
| Leannan | 39L01 |
| Leslie Hill Stream | 39L05 |
| Lownagh | 39L04 |
| Lurgy | 39L02 |
| # Maggy's Burn[1] | 39M01 |
| Mill (Donegal) | 39M02 |
| Owenboy (Crana) | 39O04 |
| Owenerk | 39O02 |
| Owennasop | 39O05 |
| Owenwee (L. Gartan) | 39O03 |
| Skeoge | 39S01 |
| Swilly | 39S02 |

# Rivers denoted thus had seriously polluted stretch(es) at the time of this survey.

[1] indicates non-baseline rivers i.e., those which are not shown on the O.S. map entitled ''Rivers and their Catchment Basins''

# Ecological Assessment of Rivers 2004

River and Code : **AGHAWEEL** **39/A/01**
Tributary of : Sea - Lough Swilly OS Catchment No: a7
OS Grid Ref : C 305 377 Date(s) Surveyed : 27/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| No. | Location | **1987** | **1988** | **1989** | **1991** | **1996** | **1998** | **2001** | **2004** |
| 0300 | Ballyannan Bridge | 2/0 | - | 3 | - | 3 | 3 | 3 | 3 |
| 0400 | Castle Ross Bridge | 2/0 | 2-3/0 | 4 | 4 | 4-5 | 3 | 4 | 4-5 |

***Assessment:*** The upper Aghaweel River (0300) was moderately polluted when examined in late August 2004. The lower station 0400) was in satisfactory condition showing further improvement on the 2001 rating.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0300 | Ballyannan Bridge | 232232 | 437679 | 3 | DL |
| 0400 | Castle Ross Bridge | 230783 | 437959 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 69 | 3 | 100 | 0 | 1 | 15 | 43 | 0.0 | 19 | 0 | 22 |
| 0400 | 23 | 10 | 100 | 0 | 23 | 4 | 32 | 0.0 | 28 | 0 | 13 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 39

River and Code : **BULLABA** **39/B/01**
Tributary of : Lough Gartan OS Catchment No: 31
OS Grid Ref : C 037 148 Date(s) Surveyed : 12/08/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1988 | 1991 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0100 | 500 m u/s Owenwee River | 5 | 5 | 5 | 5 | 5 | 5 |

***Assessment:*** Satisfactory. Little change was noted in this upland acid river.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | 500 m u/s Owenwee River | 201100 | 413760 | 6 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 79 | 15 | 100 | 0 | 0 | 0 | 68 | 0.0 | 0 | 0 | 32 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **BURNFOOT** **39/B/02**
Tributary of : Sea - Lough Swilly OS Catchment No: 35
OS Grid Ref : C 352 238 Date(s) Surveyed : 26/08/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1987 | 1991 | 1996 | 1998 | 2004 |
|---|---|---|---|---|---|---|
| 0200 | Third Br u/s Samp Stat 0500 | 4-5 | 4-5 | 4-5 | 4-5 | 3-4* |
| 0600 | Bridge in Burnfoot | 3-4 | 4-5 | 4 | 4 | 4* |

***Assessment:*** The upper Burnfoot River (0200) was badly impacted by suspended solids emanating from a large quarry. The lower station (0600) was satisfactory at the Bridge in Burnfoot. A diesel oil leak, however, entered the river some 50 m downstream of the bridge on the left hand bank, apparently emanating from a yard just downstream of the bridge.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Third Br u/s Samp Stat 0500 | 241721 | 424590 | 7 | DL |
| 0600 | Bridge in Burnfoot | 237963 | 423688 | 7 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 36 | 10 | 100 | 0 | 42 | 4 | 24 | 2.2 | 10 | 0 | 19 |
| 0600 | 8 | 21 | 100 | 0 | 49 | 2 | 19 | 1.7 | 12 | 0 | 16 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

River and Code : **CAMOWEN (CRANA)[1]** **39/C/08**
Tributary of : Crana OS Catchment No: 9
OS Grid Ref : C 452 339 Date(s) Surveyed : 27/08/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 2004 |
|---|---|---|
| 0100 | 0.1km u/s confluence with Crana | 3 |

***Assessment:*** The Camowen was added to the survey in 2004 on foot of poor results at the uppermost Crana River site (qv). The composition of invertebrate fauna suggests that the river is impacted. Forestry, sheep grazing and wind turbine construction access roads appear to be the principle activities in the catchment. The river lacked any sensitive taxa but appeared relatively clean - the substratum was not silted and nor were there any obvious filamentous algal growths. The river does not appear to be particularly acidic in that there were a number of acid-sensitive mayflies present.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | 0.1km u/s confluence with Crana | 245304 | 433975 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 151 | 5 | 100 | 0 | 2 | 15 | 83 | 0.0 | 0 | 0 | 0 |

Alt is in metres Area is km$^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.[1]

[1] indicates non-baseline rivers i.e., those which are not shown on the O.S. map entitled ''Rivers and their Catchment Basins''

# Ecological Assessment of Rivers 2004

River and Code : **CASHELNACOR** **39/C/01**
Tributary of : Crana OS Catchment No: 9
OS Grid Ref : C 358 345 Date(s) Surveyed : 27/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1987** | **1991** | **1996** | **1998** | **2001** | **2004** |
| 0200 | Bridge u/s Crana River confl | 4-5 | 5 | 4-5 | 3-4 | 4 | 4 |

***Assessment:*** Satisfactory albeit somewhat more silted than expected.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0200 | Bridge u/s Crana River confl | 235846 | 434602 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 40 | 7 | 100 | 0 | 25 | 1 | 51 | 0.3 | 10 | 0 | 12 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 39

River and Code : **CORRAVADDY BURN** **39/C/03**
Tributary of : Swilly OS Catchment No: 51
OS Grid Ref : C 192 112 Date(s) Surveyed : 11/08/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1987 | 1991 | 1996 | 1998 | 2004 |
|---|---|---|---|---|---|---|
| 0140 | Second Br u/s Cullion Bridge | 4-5 | 4 | - | - | - |
| 0250 | Br d/s Cullion Br | 4-5 | 4 | 4 | 4 | 2/0 |

***Assessment:*** A toxic event had occurred in the Corravaddy Burn shortly before the survey date. Dead invertebrates were noted on the substratum. The whole community structure had been altered with the fauna now dominated by Tubificidae which survive well in cases of serious organic pollution. The stream is located in a suburban area of Letterkenny with many houses with septic tanks in the catchment. Donegal County Council were informed of the problem on the day of the survey as a more detailed survey was required to pinpoint the precise nature of the pollution.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0140 | Second Br u/s Cullion Bridge | 217580 | 408827 | 6 | DL |
| 0250 | Br d/s Cullion Br | 219164 | 410207 | 6 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0250 | 10 | 8 | 82 | 18 | 36 | 4 | 14 | 0.0 | 2 | 0 | 44 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **CRANA** **39/C/02**
Tributary of : Sea - Lough Swilly OS Catchment No: 9
OS Grid Ref : C 344 325 Date(s) Surveyed : 28/08/2004

| Stations No. | Biological Quality Ratings (Q Values) 1973 | 1977 | 1981 | 1986 | 1987 | 1991 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0080 | - | - | - | - | - | - | - | - | - | 4 |
| 0100 | 5 | 5 | 5 | 4-5 | 5 | 4-5 | 4-5 | 4 | 4 | 3-4 |
| 0200 | - | - | 5 | 5 | 5 | 4 | 4 | 4 | - | - |
| 0225 | - | - | - | - | - | - | - | - | 4 | 4 |
| 0300 | 5 | 5 | 5 | 4-5 | 4-5 | 5 | - | - | 4-5 | 4 |
| 0350 | - | - | - | - | - | - | 4-5 | 4 | - | - |
| 0400 | 5 | 4-5 | 4-5 | 4 | 5 | 4 | - | - | - | - |
| 0500 | 5 | 5 | 5 | 4 | 5 | 4-5 | 4 | 4 | 4 | 4 |

***Assessment:*** The upper site on the Crana (0100) had deteriorated since last surveyed in 2001. Sensitive taxa had declined and the substratum was coated with musty smelling organic mats typically associated with land drainage activities. The catchment has extensive forestry plantations and a number of wind turbines. Additional samples were taken in 2004 on the Camowen River (qv) and at Srath Br on the Crana (0080) in order to delimit the extent of the water quality problem more accurately. The sample taken at Srath Br (0080) on the upper mainstem Crana River showed a decline relative to expected status at this point with evidence of siltation - a white coloured coating on the stones and the musty organic mats coated with cyanobacteria growths typical downstream of forestry impacts in upland areas. This site nonetheless received a Q4 primarily on the basis of its macroinvertebrate fauna, which was significantly better than at Site 0100. As indicated, however, it is of poorer quality than would be expected for such a remote upland river site.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0080 | Srath Br | 245229 | 433779 | 3 | DL |
| 0100 | Bridge near Stracarragh | 244123 | 434300 | 3 | DL |
| 0200 | E. of Bindoo | 241003 | 434189 | 3 | DL |
| 0300 | Br NNW Druminderry | 238800 | 434300 | 3 | DL |
| 0350 | Br d/s Druminderry Br | 237930 | 434502 | 3 | DL |
| 0400 | Cockhill Br | 235367 | 433744 | 3 | DL |
| 0500 | First Br d/s Br at Cock Hill | 234816 | 432897 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 120 | 27 | 97 | 3 | 1 | 7 | 78 | 0.0 | 0 | 4 | 11 |
| 0200 | 98 | 45 | 97 | 3 | 6 | 7 | 74 | 0.0 | 0 | 3 | 10 |
| 0350 | 64 | 52 | 97 | 3 | 8 | 6 | 74 | 0.0 | 0 | 2 | 10 |
| 0400 | 26 | 96 | 98 | 2 | 12 | 4 | 70 | 0.4 | 3 | 1 | 10 |
| 0500 | 13 | 98 | 98 | 2 | 12 | 4 | 69 | 0.9 | 4 | 1 | 9 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 39

River and Code : **DOOBALLAGH BURN** **39/D/02**
Tributary of : Sea - Lough Swilly OS Catchment No: 51
OS Grid Ref : C 231 105 Date(s) Surveyed : 11/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1987 | 1991 | 1996 | 1998 | 2001 | 2004 |
| 0110 | Bridge at Pluck Mill | 4-5 | 4-5 | 3 | 4 | 4-5 | 4 |
| 0200 | Bridge N Pluck Mill | 5 | 5 | 4-5 | 4-5 | 4-5 | 4 |

***Assessment:*** Satisfactory in early August 2004, but of lower quality than in late July 2001.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0110 | Bridge at Pluck Mill | 220000 | 407698 | 6 | DL |
| 0200 | Bridge N Pluck Mill | 222868 | 410325 | 6 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0110 | 90 | 5 | 29 | 71 | 42 | 0 | 27 | 0.0 | 18 | 0 | 14 |
| 0200 | 9 | 11 | 68 | 32 | 67 | 0 | 14 | 0.0 | 12 | 0 | 6 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **DRUMBARNET STREAM** **39/D/03**
Tributary of : Sea - Lough Swilly OS Catchment No: 51
OS Grid Ref : C 305 188 Date(s) Surveyed : 26/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1987 | 1989 | 1991 | 1996 | 1998 | 2004 |
| 0600 | Bridge N. of Moyle | 2 | 2 | 2-3 | 2-3/0 | 2 | 2-3 |

***Assessment:*** An improvement in quality was noted but the Drumbarnet Stream remained moderately polluted when surveyed in August 2004.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0600 | Bridge N. of Moyle | 229865 | 416938 | 6 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0600 | 6 | 9 | 100 | 0 | 47 | 0 | 0 | 0.0 | 53 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 39

River and Code : **DRUMHALLAGH** **39/D/01**
Tributary of : Sea - Lough Swilly OS Catchment No: 32
OS Grid Ref : C 296 328 Date(s) Surveyed : 17/08/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1989 | 1991 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0300 | Legland Bridge | 4-5 | 5 | - | - | - | - |
| 0400 | Br N of Lugher | - | - | 5 | - | 4-5 | 4-5 |
| 0500 | Drumhallagh Bridge | 4 | 5 | - | 4 | 3-4 | 3 |

***Assessment:*** The upper station (0400) was satisfactory but the lowermost site at Drumhallagh Bridge (0500) showed signs of moderate levels of pollution in August 2004.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0400 | Br N of Lugher | 228244 | 431731 | 3 | DL |
| 0500 | Drumhallagh Bridge | 229618 | 432580 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0400 | 54 | 7 | 100 | 0 | 0 | 0 | 76 | 0.0 | 24 | 0 | 0 |
| 0500 | 2 | 15 | 100 | 0 | 5 | 2 | 65 | 0.0 | 22 | 0 | 7 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **GLASHAGH (CRANA)** **39/G/06**
Tributary of : Crana OS Catchment No: 9
OS Grid Ref : C 411 432 Date(s) Surveyed : 27/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1987 | 1991 | 1996 | 1998 | 2001 | 2004 |
| 0100 | Bridge upstream Crana R confl | 4 | 3 | 3 | 3-4 | 3 | 4 |

***Assessment:*** An improvement in water quality was noted in this Crana tributary which had previously suffered from silage effluent discharges.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0100 | Bridge upstream Crana R confl | 241495 | 434338 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 107 | 7 | 96 | 4 | 11 | 0 | 89 | 0.0 | 0 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 39

River and Code : **GLASHAGH (LOWER)** **39/G/02**
Tributary of : Leannan OS Catchment No: 31
OS Grid Ref : C 196 197 Date(s) Surveyed : 17/08/2004

| Stations No. | Biological Quality Ratings (Q Values) 1973 | 1977 | 1981 | 1986 | 1988 | 1991 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0075 | - | - | - | - | - | - | - | - | 4 | 3-4 |
| 0100 | 5 | 4-5 | 4-5 | 4 | 4 | 4 | 4 | 3-4 | - | - |
| 0200 | - | - | - | - | - | 3 | 4 | 4 | 3-4 | 3-4 |

***Assessment:*** The Glashagh Lower River suffered a drop in quality at the upper site examined in comparison with 2001 - in particular excessive numbers of blackfly larvae (Simuliidae) were noted at Station 0075. The lower site was slightly polluted again as in 2001.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0075 | Br E Killydesert | 215741 | 416504 | 6 | DL |
| 0100 | Br 1 km N.W. of Ellistrin | 216946 | 417187 | 6 | DL |
| 0200 | Crooked Br | 218987 | 419422 | 6 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 27 | 13 | 100 | 0 | 45 | 2 | 10 | 4.8 | 30 | 0 | 8 |
| 0200 | 16 | 25 | 100 | 0 | 41 | 5 | 9 | 2.5 | 33 | 0 | 9 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **GLASHAGH (UPPER)** **39/G/01**
Tributary of : Leannan OS Catchment No: 31
OS Grid Ref : C 114 157 Date(s) Surveyed : 12/08/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1988 | 1991 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0200 | Bridge N. of Drumbologe | 5 | 5 | 5 | 4-5 | 4-5 | 3 |
| 0400 | Bridge u/s Leannan River | 5 | 4-5 | 5 | 4-5 | 4-5 | 3 |

***Assessment:*** The Glashagh (Upper) River which is a tributary of the Leannan appears to have suffered a major pollution event. Water quality as evidenced by macroinvertebrates in particular had declined dramatically in comparison with late July 2001.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Bridge N. of Drumbologe | 208159 | 413207 | 6 | DL |
| 0400 | Bridge u/s Leannan River | 209629 | 415234 | 6 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 65 | 17 | 100 | 0 | 0 | 0 | 56 | 0.0 | 30 | 0 | 14 |
| 0400 | 42 | 26 | 100 | 0 | 8 | 1 | 51 | 0.0 | 27 | 0 | 13 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 39

River and Code : **GLASKEELAN** **39/G/05**
Tributary of : Lough Gartan OS Catchment No: 31
OS Grid Ref : C 051 164 Date(s) Surveyed : 12/08/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1988 | 1991 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0100 | Glaskeelan Br | 4-5 | 4-5 | 4 | 4 | 3-4 | 4 |

***Assessment:*** Satisfactory. An improvement in quality was noted at Glaskeelan Bridge in comparison with 2001 when the trees in the catchment immediately adjacent and upstream of this site had been recently clear-felled.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Glaskeelan Br | 205190 | 417345 | 6 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 71 | 16 | 97 | 3 | 0 | 0 | 72 | 0.0 | 2 | 3 | 23 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **GLENALLA** **39/G/03**
Tributary of : Sea - Lough Swilly OS Catchment No: 33
OS Grid Ref : C 258 253 Date(s) Surveyed : 01/04/1708

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1989 | 1991 | 1996 | 1998 | 2001 | 2004 |
| 0100 | Glentidaly Bridge | 4-5 | 4-5 | - | - | - | - |
| 0180 | Headleys Br (900m u/s Ray br) | - | - | 4-5 | 3-4 | 4 | 4 |
| 0200 | Br 450 m u/s Ray Br | 4 | 4-5 | - | - | - | - |

***Assessment:*** Satisfactory.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0100 | Glentidaly Bridge | 223998 | 427273 | 2 | DL |
| 0180 | Headleys Br (900m u/s Ray br) | 225111 | 425542 | 2 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 87 | 5 | 100 | 0 | 8 | 8 | 43 | 0.0 | 5 | 0 | 35 |
| 0180 | 14 | 9 | 100 | 0 | 14 | 10 | 44 | 0.0 | 6 | 0 | 26 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 39

River and Code : **GLENVAR** **39/G/04**
Tributary of : Sea - Lough Swilly OS Catchment No: 10
OS Grid Ref : C 270 359 Date(s) Surveyed : 17/08/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1989 | 1991 | 1996 | 1998 | 2001 |
|---|---|---|---|---|---|---|
| 0300 | Br at Milltown | 4-5 | 4-5 | 4-5 | 4 | 4-5 |

***Assessment:*** Satisfactory with no significant change in status since 2001.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0300 | Br at Milltown | 226554 | 434982 | 2 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 32 | 9 | 100 | 0 | 19 | 0 | 71 | 0.0 | 11 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **LEANNAN** **39/L/01**
Tributary of : Sea - Lough Swilly OS Catchment No: 31
OS Grid Ref : C 227 213 Date(s) Surveyed : 13/08/2004

| Stations No. | Biological Quality Ratings (Q Values) 1973 | 1977 | 1980 | 1985 | 1988 | 1991 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | - | - | 5 | 4-5 | 4 | 4 | 4-5 | 4-5 | 4-5 | 4-5 |
| 0200 | 5 | 4-5 | 5 | 4-5 | 4-5 | 5 | - | - | - | 4 |
| 0250 | - | - | - | - | - | - | - | - | - | 3-4 |
| 0300 | 5 | 4-5 | 5 | 5 | 4-5 | 4-5 | 4 | 5 | 4 | 3-4 |
| 0400 | 5 | 4 | - | - | 5 | 4 | - | - | - | - |
| 0450 | - | - | 5 | 4-5 | 4 | - | - | - | - | - |
| 0500 | 4-5 | 4 | 3-4 | 3-4 | 4 | 4-5 | 4 | 4-5 | 3-4 | 4 |
| 0600 | 4-5 | 4-5 | 4 | 4 | 4 | 5 | 4 | 4-5 | 4 | 4 |
| 0800 | 5 | 5 | 4 | 5 | 4 | 4-5 | 4-5 | 4-5 | 4 | 4-5 |

***Assessment:*** The upper Leannan (0100) just downstream of lough Gartan was satisfactory. Station 0200, located downstream of a fish farm, was also satisfactory. A major drop in water quality was noted at Dromore Br (0300) and a new site was added upstream of that at Bellaned Br (0250) which had not been previously sampled. Both of these sites were polluted. The Glashagh (Upper) (qv) joins the Leannan between Station 0200 and 0250. This tributary appeared to have suffered a major pollution incident prior to the 2004 survey and this may be also have affected the main channel of the River Leannan. Further downstream quality had improved somewhat at Station 0500 in comparison with 2001, no change at 0600 and a slight improvement at the lowermost site 0800.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Gartan Bridge | 206881 | 416990 | 6 | DL |
| 0200 | Barrack Bridge | 209517 | 415967 | 6 | DL |
| 0250 | Bellanaed Bridge | 211383 | 416406 | 6 | DL |
| 0300 | Dromore Bridge | 212486 | 417658 | 6 | DL |
| 0450 | At Ballyboe u/s Lurgy River | 215000 | 420800 | 6 | DL |
| 0500 | Ballydone Br (u/s L Fern) | 216451 | 421904 | 6 | DL |
| 0600 | Drumman Br (d/s L Fern) | 219011 | 421891 | 6 | DL |
| 0800 | Br NNE Bayhill | 221996 | 420893 | 6 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 69 | 77 | 99 | 1 | 0 | 2 | 59 | 0.0 | 14 | 4 | 21 |
| 0300 | 33 | 136 | 99 | 1 | 9 | 3 | 50 | 0.0 | 17 | 2 | 19 |
| 0500 | 17 | 188 | 99 | 1 | 15 | 3 | 45 | 0.3 | 18 | 2 | 17 |
| 0600 | 16 | 211 | 99 | 1 | 20 | 3 | 41 | 0.4 | 17 | 2 | 17 |
| 0800 | 2 | 255 | 99 | 1 | 24 | 3 | 35 | 0.6 | 19 | 2 | 16 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 39

River and Code : **LESLIE HILL STREAM** **39/L/05**
Tributary of : Sea - Swilly Estuary OS Catchment No: 51
OS Grid Ref : C 236 101 Date(s) Surveyed : 11/08/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1987 | 1991 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0400 | Bridge W. of Kincraigy | 4-5 | 5 | - | 3-4* | 4 | 4 |
| 0600 | Bridge at Leslie Hill | 4 | 5 | 4-5 | 4 | 4-5 | 4 |

***Assessment:*** Water quality was satisfactory at both sites surveyed on the Leslie Hill Stream in August 2004. An illegal waste dumping site was discovered on the bank of the river at station 0600 containing agrochemical containers which appeared to have been burned and then buried on the river bank. Donegal County Council investigated this immediately on notification of the discovery.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0400 | Bridge W. of Kincraigy | 223097 | 408248 | 6 | DL |
| 0600 | Bridge at Leslie Hill | 223927 | 409632 | 6 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0400 | 30 | 12 | 85 | 15 | 60 | 1 | 9 | 0.0 | 14 | 0 | 16 |
| 0600 | 11 | 17 | 75 | 25 | 55 | 1 | 8 | 0.0 | 19 | 0 | 17 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **LOWNAGH** **39/L/04**
Tributary of : Swilly OS Catchment No: 51
OS Grid Ref : C 061 093 Date(s) Surveyed : 11/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1987 | 1991 | 1996 | 1998 | 2001 | 2004 |
| 0100 | Second Br u/s Swilly River | 5 | 4 | - | - | - | - |
| 0200 | Br u/s Leannan R confl | - | - | 4-5 | 4-5 | 4 | 4 |

***Assessment:*** Satisfactory.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0200 | Br u/s Leannan R confl | 206132 | 409138 | 6 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 68 | 5 | 100 | 0 | 8 | 0 | 80 | 0.0 | 0 | 0 | 12 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 39

River and Code : **LURGY** **39/L/02**
Tributary of : Leannan OS Catchment No: 31
OS Grid Ref : C 150 208 Date(s) Surveyed : 13/08/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1973 | 1977 | 1980 | 1985 | 1988 | 1991 | 1996 | 1998 | 2001 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | Goldrum Bridge | - | - | 4 | 4-5 | 4 | 5 | 4 | 4 | 3 |
| 0200 | Prockliss Bridge | 5 | 4-5 | 4 | 4-5 | 4-5 | 5 | - | - | - |
| 0300 | Bridge u/s Leannan River | 4-5 | 4-5 | 3 | 4 | 3 | 4-5 | 3 | 4 | 4 |

***Assessment:*** The upper site examined on the Lurgy (0100) had deteriorated in quality in comparison with 2001 whereas the lower site downstream of Kilmacrennan (0300) showed an improvement in quality.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Goldrum Bridge | 212254 | 422915 | 6 | DL |
| 0200 | Prockliss Bridge | 213700 | 420900 | 6 | DL |
| 0300 | Bridge u/s Leannan River | 214924 | 421057 | 6 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 70 | 16 | 95 | 5 | 28 | 0 | 48 | 0.0 | 14 | 0 | 10 |
| 0300 | 21 | 39 | 98 | 2 | 32 | 3 | 40 | 0.9 | 17 | 0 | 7 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **MAGGY'S BURN**[1] **39/M/01**
Tributary of : Lough Fern OS Catchment No: 31
OS Grid Ref : C 184 247 Date(s) Surveyed : 17/08/2004

| Stations | Biological Quality Ratings (Q Values) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | **1973** | **1977** | **1979** | **1981** | **1985** | **1988** | **1989** | **1990** | **1991** | **1996** | **1998** | **2001** | **2004** |
| 0300 | 2 | 1 | 1 | 3 | 2-3 | 1 | 2 | - | 2 | 2 | 3 | 2 | 2 |

***Assessment:*** The Maggy's Burn had a dissolved oxygen saturation of 13.3% when sampled in August 2004. The macroinvertebrate fauna was comprised of highly tolerant species and quality was poor.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0300 | Just u/s Lough Fern | 218592 | 424904 | 2 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 20 | 9 | 100 | 0 | 51 | 0 | 16 | 3.5 | 15 | 0 | 14 |

Alt is in metres Area is km$^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.[2]

[1]indicates non-baseline rivers i.e., those which are not shown on the O.S. map entitled ''Rivers and their Catchment Basins''

# Hydrometric Area 39

River and Code : **MILL (DONEGAL)** **39/M/02**
Tributary of : Sea - Lough Swilly OS Catchment No: 34
OS Grid Ref : C 346 314 Date(s) Surveyed : 26/08/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1973 | 1980 | 1985 | 1989 | 1991 | 1996 | 1998 | 2004 |
|---|---|---|---|---|---|---|---|---|---|
| 0050 | Ford N.E. of Deehan's Town | - | 5 | 4-5 | 4-5 | 5 | 5 | 4-5 | 4 |
| 0100 | Bridge SW of Tullydush | 5 | 5 | 5 | 5 | 5 | 5 | 4-5 | 4 |
| 0300 | D/s Old Railway Br | - | 2 | 3 | 3-4 | 4 | 3-4 | 4 | 4 |

***Assessment:*** Satisfactory at all sites examined although of lower overall quality than would be expected for an upland mountain stream of this type.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0050 | Ford N.E. of Deehan's Town | 240743 | 430044 | 3 | DL |
| 0100 | Bridge SW of Tullydush | 238343 | 430153 | 3 | DL |
| 0300 | D/s Old Railway Br | 234965 | 431639 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0050 | 129 | 16 | 100 | 0 | 0 | 24 | 60 | 0.0 | 0 | 0 | 15 |
| 0100 | 81 | 26 | 99 | 1 | 2 | 19 | 57 | 0.0 | 0 | 0 | 22 |
| 0300 | 9 | 44 | 96 | 4 | 10 | 15 | 57 | 0.9 | 2 | 0 | 15 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **OWENBOY (CRANA)** **39/O/04**
Tributary of : Crana OS Catchment No: 9
OS Grid Ref : G 369 344 Date(s) Surveyed : 08/09/1998

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1987 | 1991 | 1996 | 1998 | 2004 |
|---|---|---|---|---|---|---|
| 0400 | Kinnagoe Bridge | 5 | 4-5 | 4-5 | 4-5 | 4 |

***Assessment:*** Satisfactory.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0400 | Kinnagoe Bridge | 237547 | 435508 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0400 | 62 | 28 | 100 | 0 | 11 | 0 | 77 | 0.0 | 6 | 0 | 6 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 39

River and Code : **OWENERK** **39/O/02**
Tributary of : Sea - Lough Swilly OS Catchment No: 8
OS Grid Ref : C 292 394 Date(s) Surveyed : 09/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1973 | 1980 | 1985 | 1987 | 1991 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | Owenerk Bridge | 5 | 5 | 5 | 4-5 | 5 | 5 | 5 | 4-5 | 4 |
| 0200 | Br SW Milltown | 5 | 5 | 5 | 5 | 4-5 | 5 | 5 | 5 | 4-5 |

***Assessment:*** While water quality was 'satisfactory' at both sites there appeared to be an overall decline in quality in comparison with the 2001 survey. Significant siltation and algal growths were noted at the upper site (0100) in particular.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Owenerk Bridge | 232491 | 441500 | 3 | DL |
| 0200 | Br SW Milltown | 229778 | 439585 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 116 | 9 | 100 | 0 | 0 | 0 | 99 | 0.0 | 1 | 0 | 0 |
| 0200 | 10 | 20 | 100 | 0 | 2 | 2 | 80 | 0.0 | 7 | 0 | 8 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **OWENNASOP** **39/O/05**
Tributary of : Crana OS Catchment No: 9
OS Grid Ref : C 440 344 Date(s) Surveyed : 26/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1987 | 1991 | 1996 | 1998 | 2001 | 2004 |
| 0100 | Bridge at Stracarragh | 4-5 | 4-5 | 4 | 4 | 3-4 | 3 |

***Assessment:*** The Owennasop was moderately polluted in August 2004. The river had quite extensive algal growths and musty organic mats on the substratum. Water quality has declined in the Owennasop since the building of the Pollan dam upstream some 700m above the sample point. There are, however, some forestry plantations draining into the Owennasop separately from the Pollan reservoir and a more detailed investigation would be required to distinguish between, for example, decay products from the flooded area of the reservoir (which included significant area of trees) and losses of silt and nutrients from other activities in the catchment not draining through the reservoir.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0100 | Bridge at Stracarragh | 244148 | 434373 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 121 | 16 | 95 | 5 | 1 | 3 | 78 | 0.0 | 0 | 7 | 11 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 39

River and Code : **OWENWEE (LOUGH GARTAN)** **39/O/03**
Tributary of : Bullaba OS Catchment No: 31
OS Grid Ref : C 013 137 Date(s) Surveyed : 12/08/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1988** | **1991** | **1996** | **1998** | **2001** | **2004** |
| 0100 | Br NW Stramore | 4-5 | 4-5 | 3-4 | 4-5 | 4 | 4 |

***Assessment:*** Satisfactory.

| **Sampling Stations** | | **National Grid Ref.** | | **Discovery** | **County** |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0100 | Br NW Stramore | 201536 | 413468 | 6 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 77 | 9 | 100 | 0 | 0 | 0 | 67 | 0.0 | 0 | 0 | 33 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **SKEOGE** **39/S/01**
Tributary of : Sea - Lough Swilly OS Catchment No: 51
OS Grid Ref : C 354 232 Date(s) Surveyed : 26/08/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1980 | 1985 | 1987 | 1988 | 1991 | 1996 | 1998 | 2004 |
|---|---|---|---|---|---|---|---|---|---|
| 0050 | Bridge S.W. of Magheryard | - | - | 3 | - | 3 | 3 | 3 | 3 |
| 0100 | Bridge E. of Skeoge | 3-4 | 3 | 2-3 | 3 | 2-3 | - | - | - |
| 0300 | Bridge u/s Lough Swilly | - | 3 | 2-3 | 3 | 2-3 | 2-3 | 3 | 3 |

***Assessment:*** The Skeoge River was again moderately polluted when surveyed in August 2004.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0050 | Bridge S.W. of Magheryard | 240996 | 423105 | 7 | DL |
| 0100 | Bridge E. of Skeoge | 239600 | 422000 | 7 | DL |
| 0300 | Bridge u/s Lough Swilly | 237864 | 423024 | 7 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0050 | 42 | 3 | 100 | 0 | 62 | 0 | 0 | 0.0 | 37 | 0 | 1 |
| 0300 | 5 | 18 | 100 | 0 | 51 | 0 | 8 | 0.0 | 39 | 0 | 2 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 39

River and Code : **SWILLY** **39/S/02**
Tributary of : Sea - Lough Swilly OS Catchment No: 51
OS Grid Ref : C 195 117 Date(s) Surveyed : 11/08/2004

| Stations No. | Biological Quality Ratings (Q Values) 1971 | 1973 | 1977 | 1980 | 1985 | 1987 | 1991 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0050 | - | 5 | 5 | 5 | 4-5 | 5 | 4-5 | 4-5 | 4 | 4-5 | 4 |
| 0100 | - | - | - | 5 | 5 | 4 | 4-5 | 4 | 4-5 | 4-5 | 4-5 |
| 0200 | 5 | 5 | 5 | 5 | 5 | 5 | 3/0 | 4 | 5 | 4-5 | 4 |

***Assessment:*** The Swilly River was generally satisfactory. A slight drop in quality was noted at the upper site (0050) and at the lowermost site sampled (0200).

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0050 | Swilly Br (near Breenagh) | 205979 | 409165 | 6 | DL |
| 0100 | Br at Rashedoge (Fox Hall) | 210276 | 410021 | 6 | DL |
| 0200 | Bridge at Newmills | 212277 | 409118 | 6 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0050 | 67 | 18 | 100 | 0 | 18 | 18 | 30 | 0.0 | 0 | 0 | 34 |
| 0100 | 31 | 44 | 100 | 0 | 22 | 10 | 45 | 0.0 | 2 | 0 | 21 |
| 0200 | 14 | 53 | 100 | 0 | 20 | 11 | 47 | 0.0 | 4 | 0 | 19 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# HYDROMETRIC AREA 40

***Donagh - Moville***

| | |
|---|---|
| Ballyboe | 40B03 |
| Ballyhallan | 40B01 |
| # Bredagh | 40B02 |
| Cabry | 40C03 |
| Clonmany | 40C01 |
| Cloontagh | 40C04 |
| Culdaff | 40C02 |
| Donagh | 40D01 |
| Drung | 40D02 |
| Glennagannon | 40G01 |
| Keenagh | 40K01 |
| Long Glen | 40L01 |
| Lough Nastackan Stream | 40L03 |
| Malin Stream | 40M01 |
| Portaleen Stream | 40P02 |
| # Roosky | 40S05 |
| (Shivnagh)* | (40S05) |
| Straid | 40S01 |

# Rivers denoted thus had seriously polluted stretch(es) at the time of this survey.

*Note: Shivnagh River now included with the Clonmany River.

# Ecological Assessment of Rivers 2004

River and Code : **BALLYBOE** **40/B/03**
Tributary of : Sea - Trawbreaga Bay (at Malin) OS Catchment No: a
OS Grid Ref : C 473 499 Date(s) Surveyed : 15/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | **1987** | **1993** | **1996** | **1998** | **2001** | **2004** |
| 0400 | Br u/s Malin Br | 4 | 4 | 4 | 4 | 4 | 4 |

***Assessment:*** The lower Ballyboe (0400) is subjected to occasional salt water intrusion. Water quality appears little changed on previous surveys.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0400 | Br u/s Malin Br | 248114 | 449702 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0400 | 5 | 8 | 100 | 0 | 59 | 0 | 29 | 0.0 | 12 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 40

River and Code : **BALLYHALLAN** **40/B/01**
Tributary of : Clonmany OS Catchment No: 4
OS Grid Ref : C 371 463 Date(s) Surveyed : 10/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1987 | 1993 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0100 | Bridge S.W. of Tirhoran | 4-5 | 3 | 4-5 | - | - | - |
| 0200 | Bridge u/s Clonmany River | 5 | 4 | 4-5 | 5 | 4 | 4 |

***Assessment:*** The Ballyhallan River was in satisfactory condition when surveyed in September 2001.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Bridge S.W. of Tirhoran | 235864 | 444238 | 3 | DL |
| 0200 | Bridge u/s Clonmany River | 236909 | 446031 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 98 | 6 | 100 | 0 | 8 | 0 | 67 | 0.0 | 0 | 0 | 25 |
| 0200 | 19 | 9 | 100 | 0 | 16 | 0 | 56 | 0.0 | 3 | 0 | 24 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **BREDAGH** **40/B/02**
Tributary of : Sea - Lough Foyle OS Catchment No: 13
OS Grid Ref : C 611 382 Date(s) Surveyed : 15/09/2004

| Stations | Biological Quality Ratings (Q Values) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| No. | **1973** | **1977** | **1987** | **1988** | **1989** | **1993** | **1996** | **1998** | **2001** | **2004** |
| 0200 | 5 | 5 | 4-5 | - | - | 3 | 4-5 | 4 | 4-5 | 4-5 |
| 0300 | 5 | 4 | 4 | - | - | - | - | - | - | - |
| 0400 | - | - | 2 | 1 | 1 | 1 | 1 | 1-2 | 2 | 2 |

***Assessment:*** The upper Bredagh (0200) was satisfactory when surveyed in September 2004. The lower station in Moville (0400) was again seriously polluted.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0200 | Moglass Bridge | 258225 | 442594 | 3 | DL |
| 0300 | 1 km u/s Moville Bridge | 260530 | 439000 | 4 | DL |
| 0400 | Br in Moville | 261059 | 438427 | 4 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc | Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 108 | 6 | 100 | 0 | 11 | 0 | 83 | 0.0 | 2 | | 0 | 4 |
| 0400 | 7 | 18 | 100 | 0 | 40 | 0 | 49 | 1.5 | 8 | | 0 | 1 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 40

River and Code : **CABRY** **40/C/03**
Tributary of : Sea - Lough Foyle OS Catchment No: 11
OS Grid Ref : C 518 311 Date(s) Surveyed : 11/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1987 | 1993 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|
| 0200 | Bridge u/s Lough Foyle | 5 | 4 | 5 | 4 | 4-5 | 4 |

***Assessment:*** Satisfactory.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Bridge u/s Lough Foyle | 251474 | 431328 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 5 | 11 | 99 | 1 | 29 | 1 | 44 | 0.0 | 5 | 0 | 21 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **CLONMANY** **40/C/01**
Tributary of : Sea - Tullagh Bay OS Catchment No: 4
OS Grid Ref : C 358 482 Date(s) Surveyed : 09/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| No. | Location | **1973** | **1980** | **1985** | **1987** | **1993** | **1996** | **1998** | **2001** | **2004** |
| 0050 | SE Cloghglass* | - | - | - | - | - | 3 | 4 | 4 | 3 |
| 0100 | Meendoran Bridge | - | 3-4 | 4-5 | 4 | 3 | 3-4 | 4 | 4 | 2-3 |
| 0150 | Clehagh Bridge | 5 | 4 | 4-5 | 4 | 4 | - | - | - | - |
| 0200 | Bridge W. of Clonmany | 4 | 4-5 | 4 | 3-4 | 4 | 4 | 4 | 4 | 3 |

***Assessment:*** A serious deterioration in quality was noted at Meendoran Bridge (0100) in September 2004. This is believed to be primarily due to water works discharges. Water quality had also deteriorated at the lower site West of Clonmany village (0200). The upper site (0050) was moderately polluted indicating a deterioration in quality compared with 2001 and 1998.

****Station 0050 was previously reported as a Shivnagh River station.***

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0050 | SE Cloghglass | 237893 | 442473 | 3 | DL |
| 0100 | Meendoran Bridge | 239063 | 444418 | 3 | DL |
| 0150 | Clehagh Bridge | 238000 | 445900 | 3 | DL |
| 0200 | Bridge W. of Clonmany | 237113 | 446383 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 42 | 13 | 100 | 0 | 11 | 0 | 50 | 0.0 | 7 | 6 | 26 |
| 0200 | 13 | 37 | 100 | 0 | 23 | 0 | 56 | 0.5 | 6 | 2 | 13 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 40

River and Code : **CLOONTAGH** **40/C/04**
Tributary of : Clonmany OS Catchment No: 4
OS Grid Ref : C 385 451 Date(s) Surveyed : 09/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1987 | 1993 | 1996 | 1998 | 2001 | 2004 |
| 0400 | Gortaran Bridge | 4-5 | 4 | 4-5 | 4 | 4 | 4 |

***Assessment:*** Satisfactory water quality in September 2004. Evidence of illegal fly-tipping was noted along the bank of the river at Gortaran Bridge.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0400 | Gortaran Bridge | 238737 | 445028 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0400 | 35 | 14 | 100 | 0 | 18 | 0 | 75 | 0.0 | 4 | 0 | 2 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **CULDAFF** **40/C/02**
Tributary of : Sea - Culdaff Bay OS Catchment No: 12
OS Grid Ref : C 532 494 Date(s) Surveyed : 15/09/2004

| Stations | Biological Quality Ratings (Q Values) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | **1973** | **1980** | **1985** | **1987** | **1988** | **1989** | **1993** | **1996** | **1998** | **2001** | **2004** |
| 0050 | - | 4 | 4-5 | 2-3 | 2-3 | 2 | 4 | 3-4 | 3 | 4 | 4 |
| 0100 | 4-5 | 4-5 | 4-5 | 3 | - | - | 4 | 4 | 4 | 4 | 3-4 |
| 0150 | 5 | 4 | 4 | 4 | - | - | 4 | 3-4 | 3-4 | 4 | 4 |

***Assessment:*** A deterioration was noted in the middle reaches of the Culdaff (0100) when surveyed in mid September 2001.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| **No.** | **Location** | **X** | **Y** | **Series No.** | **Code** |
| 0050 | Bridge S Gleneely | 254652 | 443448 | 3 | DL |
| 0100 | Gleneely Bridge | 251873 | 446209 | 3 | DL |
| 0150 | Bridge near Holmes | 252613 | 448560 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| **No.** | **Alt** | **Area** | **Sil** | **Cal** | **Pasture** | **Forestry** | **Bogs** | **Urban** | **Misc Ag.** | **Water** | **Other** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0050 | 51 | 17 | 100 | 0 | 13 | 0 | 69 | 0.0 | 13 | 0 | 5 |
| 0100 | 15 | 47 | 100 | 0 | 32 | 0 | 55 | 0.0 | 10 | 0 | 4 |
| 0150 | 2 | 58 | 96 | 4 | 35 | 0 | 49 | 0.0 | 10 | 0 | 5 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 40

River and Code : **DONAGH** **40/D/01**
Tributary of : Sea - Trawbreaga Bay OS Catchment No: 6
OS Grid Ref : C 465 480 Date(s) Surveyed : 10/09/2004

| Stations No. | Biological Quality Ratings (Q Values) 1971 | 1973 | 1977 | 1980 | 1985 | 1987 | 1988 | 1989 | 1993 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0040 | - | - | - | - | - | - | - | - | - | 4-5 | 4-5 | 4-5 | 4-5 |
| 0100 | - | 5 | - | 5 | 4-5 | 4-5 | - | - | 4 | 4-5 | 4-5 | 4 | 4 |
| 0200 | 5 | - | 4-5 | 4 | 4 | 4-5 | - | - | 4 | - | - | - | - |
| 0300 | - | - | - | 1/0 | 1-2 | 1 | 1 | 2 | 1 | 1 | - | 1-2 | 4-5 |
| 0400 | 1 | 2 | 1 | 1 | 2-3 | 1 | 1-2 | 3-4 | 2-3 | 1-2 | 1-2 | 2 | 4 |

***Assessment:*** The upper Donagh retained its high quality status (0040) and satisfactory conditions were recorded at 0100 upstream of Carndonagh. A most remarkable improvement was noted downstream of Carndonagh (0100) consequent on the commissioning of a new municipal wastewater treatment plant. September 2004 is the first time on record that satisfactory conditions have been recorded in the lower Donagh. This location received a Q1 in 1971 and remained seriously polluted even following the closure of the alcohol factory in Carndonagh in the late 1980s. 'Sewage fungus' became less abundant in the river but discharges from the town continued to depress water quality in the river as can be seen from the low Q-Values in the table above. The results clearly demonstrate how effective modern wastewater treatment plants can be in preventing pollution.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0040 | Br d/s Johnston's Br | 247328 | 439797 | 3 | DL |
| 0100 | Bridge u/s Carndonagh Br | 246483 | 443968 | 3 | DL |
| 0200 | Carndonagh Bridge | 246813 | 445146 | 3 | DL |
| 0300 | 1.5 km d/s Carndonagh Br | 247142 | 445869 | 3 | DL |
| 0400 | Corvish Bridge | 247368 | 447458 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc | Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0040 | 83 | 10 | 95 | 5 | 11 | 10 | 46 | 0.0 | 0 | | 0 | 34 |
| 0100 | 48 | 28 | 95 | 5 | 21 | 4 | 58 | 0.0 | 3 | | 0 | 14 |
| 0300 | 19 | 33 | 95 | 5 | 26 | 3 | 52 | 2.3 | 4 | | 0 | 13 |
| 0400 | 5 | 34 | 96 | 4 | 28 | 3 | 51 | 2.6 | 4 | | 0 | 12 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **DRUNG** **40/D/02**
Tributary of : Sea - Lough Foyle OS Catchment No: 14
OS Grid Ref : C 540 340 Date(s) Surveyed : 15/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1987 | 1993 | 1996 | 1998 | 2001 | 2004 |
| 0200 | Br at Vances Point | 4 | 4-5 | 4 | 3-4 | 4 | 4 |

***Assessment:*** The Drung was in satisfactory condition in September 2004. Some saline influence was noted and in particular the presence of *Enteromorpha*.

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0200 | Br at Vances Point | 253931 | 434079 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 5 | 8 | 100 | 0 | 17 | 9 | 28 | 1.3 | 39 | 0 | 7 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 40

River and Code : **GLENNAGANNON** **40/G/01**
Tributary of : Sea - Trawbreaga Bay OS Catchment No: 7
OS Grid Ref : C 474 482 Date(s) Surveyed : 10/09/2004

| Stations No. | Biological Quality Ratings (Q Values) 1971 | 1973 | 1977 | 1981 | 1985 | 1987 | 1993 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | - | - | - | 5 | 4 | 4-5 | 4 | - | - | - | - |
| 0015 | - | - | - | - | - | - | - | 4-5 | 5 | 4-5 | 4-5 |
| 0100 | 5 | 5 | 4 | 4-5 | 5 | 4 | 4 | 3-4 | 4 | 4 | - |
| 0200 | 5 | 5 | 4 | 4-5 | 5 | 4 | 4-5 | 4-5 | 4 | 4 | 4 |

***Assessment:*** Satisfactory with no change noted at the two sites surveyed in September 2004.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0010 | Bridge d/s Lough Inn | 251500 | 439200 | 3 | DL |
| 0015 | Br SW Shones Hill | 249822 | 440795 | 3 | DL |
| 0100 | Glennagannen Br | 247797 | 445025 | 3 | DL |
| 0200 | Strawbridge Br | 247880 | 447642 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0015 | 147 | 14 | 100 | 0 | 0 | 0 | 100 | 0.0 | 0 | 0 | 0 |
| 0100 | 30 | 26 | 98 | 2 | 25 | 0 | 75 | 0.2 | 0 | 0 | 0 |
| 0200 | 4 | 29 | 99 | 1 | 30 | 0 | 68 | 1.0 | 0 | 0 | 1 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **KEENAGH** **40/K/01**
Tributary of : Sea - White Strand Bay OS Catchment No: 1
OS Grid Ref : C 413 564 Date(s) Surveyed : 15/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1973 | 1980 | 1986 | 1987 | 1993 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | Hugh Roe's Br | 5 | 5 | 4 | 5 | 5 | 4 | 4 | 4-5 | 4 |
| 0300 | Keenagh Br | 5 | 4 | 4-5 | 5 | 4 | - | - | - | - |
| 0400 | Br SW Carnmalin | - | 4 | 5 | 5 | 4-5 | 4 | 4 | 4 | 4 |

***Assessment:*** The Keenagh River was in satisfactory condition in September 2004.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Hugh Roe's Br | 245357 | 454361 | 3 | DL |
| 0300 | Keenagh Br | 243282 | 455523 | 3 | DL |
| 0400 | Br SW Carnmalin | 241481 | 456827 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 47 | 16 | 100 | 0 | 21 | 0 | 62 | 0.0 | 11 | 0 | 5 |
| 0300 | 18 | 22 | 100 | 0 | 30 | 0 | 49 | 0.0 | 17 | 0 | 4 |
| 0400 | 1 | 29 | 100 | 0 | 33 | 0 | 48 | 0.0 | 15 | 0 | 3 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 40

River and Code : **LONG GLEN** **40/L/01**
Tributary of : Sea - Kinnoge Bay OS Catchment No: b
OS Grid Ref : C 628 462 Date(s) Surveyed : 15/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1994 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|
| 0200 | Br u/s Kinnagoe Bay | 4 | 4-5 | 3 | 4 | 4 |

***Assessment:*** Satisfactory water quality but the river is marred by rubbish dumping off the bridge just upstream of Kinnoge Bay.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Br u/s Kinnagoe Bay | 262659 | 446185 | 4 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 33 | 6 | 100 | 0 | 32 | 0 | 61 | 0.0 | 7 | 0 | 1 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **LOUGH NASTACKAN STREAM** **40/L/03**
Tributary of : Sea - Tremone Bay OS Catchment No: b
OS Grid Ref : C 692 475 Date(s) Surveyed : 15/10/1998

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1994 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|
| 0400 | Br u/s Sea (White Strand) | 4-5 | 3 | 4-5 | 4 | 4-5 |

***Assessment:*** Satisfactory.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0400 | Br u/s Sea (White Strand) | 259088 | 447485 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0400 | 5 | 11 | 100 | 0 | 44 | 0 | 32 | 0.0 | 23 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 40

River and Code : **MALIN STREAM** **40/M/01**
Tributary of : Sea - Trawbreaga Bay OS Catchment No: a
OS Grid Ref : C 467 498 Date(s) Surveyed : 15/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1987 | 1993 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|
| 0200 | Bridge NE of Malin | 4 | 4 | 1/0 | 2-3 | 3 |
| 0300 | Bridge W of Malin | 3-4 | - | 1 | 3 | 3 |

***Assessment:*** Both sites examined on the Malin Stream appear moderately polluted. Station 0200 is upstream of the town continues to be impacted by agricultural pollution albeit less severe than in 1998 and 2001. The lower site is more difficult to assess as it is periodically affected by salt water but the presence of *Chironomus* larvae suggests that it is still polluted as the stream flows into the sea at Malin Town.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Bridge NE of Malin | 247119 | 450398 | 3 | DL |
| 0300 | Bridge W. of Malin | 246770 | 450005 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0200 | 11 | 7 | 100 | 0 | 48 | 0 | 36 | 0.0 | 12 | 0 | 5 |
| 0300 | 1 | 10 | 100 | 0 | 56 | 1 | 28 | 0.0 | 11 | 0 | 3 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **PORTALEEN** **40/P/02**
Tributary of : Sea - S of Glengad Head OS Catchment No: a
OS Grid Ref : C 523 527 Date(s) Surveyed : 15/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1994 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|
| 0100 | Portaleen Bridge | 3 | 4 | 4 | 4 | 3-4 |

***Assessment:*** The Portaleen Stream was slighly polluted when surveyed in mid September 2004.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0100 | Portaleen Bridge | 252025 | 452691 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 22 | 4 | 100 | 0 | 32 | 0 | 50 | 0.0 | 18 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Hydrometric Area 40

River and Code : **ROOSKY** **40/R/01**
Tributary of : Sea - Lough Foyle OS Catchment No: 15
OS Grid Ref : C 526 326 Date(s) Surveyed : 15/09/2004

| Sampling Stations No. | Location | Biological Quality Ratings (Q Values) 1987 | 1988 | 1993 | 1996 | 1998 | 2001 | 2004 |
|---|---|---|---|---|---|---|---|---|
| 0200 | Mullinroe Bridge | 1-2 | 2-3 | 2 | - | - | 1 | 1-2 |
| 0300 | Br u/s Lough Foyle | 2 | 2-3 | 1/0 | 1-2 | 2-3 | 2 | 3 |

***Assessment:*** The upper Roosky (0200) was again suffering from severe farm pollution in September 2004 with intensive 'sewage fungus' growths on the substratum. Quality recovered somewhat and was moderately polluted at the lower site (0300) upstream of Lough Foyle.

| Sampling Stations No. | Location | National Grid Ref. X | Y | Discovery Series No. | County Code |
|---|---|---|---|---|---|
| 0200 | Mullinroe Bridge | 251710 | 433704 | 3 | DL |
| 0300 | Br u/s Lough Foyle | 252553 | 432716 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0300 | 8 | 3 | 98 | 2 | 43 | 0 | 37 | 0.0 | 20 | 0 | 0 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Ecological Assessment of Rivers 2004

River and Code : **STRAID** **40/S/01**
Tributary of : Sea - Trawbreaga Bay OS Catchment No: 5
OS Grid Ref : C 429 488 Date(s) Surveyed : 10/09/2004

| Sampling Stations | | Biological Quality Ratings (Q Values) | | | | | |
|---|---|---|---|---|---|---|---|
| No. | Location | 1987 | 1993 | 1996 | 1998 | 2001 | 2004 |
| 0100 | Craignahorna Bridge | 5 | - | 4 | 4-5 | 4 | 4 |
| 0400 | 1 km d/s Strath's Bridge | 5 | 4 | 4-5 | 4 | 4-5 | 4-5 |

***Assessment:*** Satisfactory in September 2004. No change in comparison with 2001

| Sampling Stations | | National Grid Ref. | | Discovery | County |
|---|---|---|---|---|---|
| No. | Location | X | Y | Series No. | Code |
| 0100 | Craignahorna Bridge | 243418 | 443559 | 3 | DL |
| 0400 | 1 km d/s Strath's Bridge | 243363 | 448254 | 3 | DL |

**Site Altitude and Upstream Catchment Characteristics (where available):**

| No. | Alt | Area | Sil | Cal | Pasture | Forestry | Bogs | Urban | Misc Ag. | Water | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0100 | 108 | 6 | 100 | 0 | 0 | 0 | 100 | 0.0 | 0 | 0 | 0 |
| 0400 | 9 | 20 | 100 | 0 | 17 | 2 | 76 | 0.0 | 4 | 0 | 1 |

Alt is in metres Area is $km^2$ and Sil, Cal are % siliceous and calcareous bedrock and Pasture, Forestry, etc., are % of catchment area.

# Note on Alternative River Names

The great majority of the names assigned to rivers in this Report are those shown on the One-Inch Ordnance Survey Maps and which are in everyday usage. However, in many instances the maps denote different reaches of rivers by separate names, at times without there being an obvious boundary between the designations. In addition, very many of the rivers (major watercourses such as the Barrow, Erne or Shannon excepted) will have local names which do not find their way onto official maps or records. Clearly, the topic is one of great complexity and one which is unlikely ever to be covered definitively.

The names adopted in this Report reflect the usages of the monitoring agencies, national and local, and are considered to be the most reasonable choices. It is recognised that some of the designations are arbitrary, but this is unavoidable. However, where the compilers of this Report are aware of alternative river names details have been presented in the table below. It should be noted that some of such alternative river names may, on maps or in local usage, refer to specific reaches rather than to rivers as a whole.

| River Name | River Name adopted in Report |
|---|---|
| ACORE | See MONEFELIM [14/M/03] |
| AFFICK | See RINE [27/R/01] |
| AGHASLANE | See AGHACASHLAUN [36/A/03] |
| AGHAGRANIA STREAM | See DRUMSHANBO STREAM [26D05] |
| AHACLARE | See OWENOGARNEY [27/O/01] |
| AHAPHUCA | See SHEEP [18/S/03] |
| ALTDERG | See OWENMORE [MAYO] [33/O/04] |
| ALTNACALLY STREAM | See GWEEBARRA [38/G/02] |
| ANNAGH [GALWAY] | See BOLEYNEENDORRISH [29/B/04] |
| ANNAMOE | See AVONMORE [10/A/05] |
| ANNESTOWN | See DUNHILL [17D02] |
| ARAGLEN | See OWENTARAGLIN [18/O/09] |
| ARDNAGLASS | See DUNMORAN [35D16] |
| ARDSOLLUS | See RINE [27/R/01] |
| ARDULTAGH | See KILCROW [25/K/01] |
| ATTYCHRAAN | See FUNSHION [18/F/05] |
| AUGHASLANE | See AGHACASHLAUN [36/A/03] |
| AUGHAVARIA | See BILBOA [25/B/03] |
| BACK BURN | See MILL [DONEGAL] [39/M/02] |
| BALLINLOUGH (Longford) | See RHINE (26/R/04) |
| BALLINTRILLICK | See BALLAGHNATRILLICK [35/B/02] |
| BALLYBEG [TIPPERARY] | See BREAGAGH [TIPP] [16/B/03] |
| BALLYGRIFFY | See SHALLEE [27/S/01] |
| BALLYMACDONNELL | See OWENOGARNEY [27/O/01] |
| BALLYMAHON [SUIR] | See FARNEYBRIDGE [16/F/02] |
| BALLYNAHOW | See FARNEYBRIDGE [16/F/02] |
| BALTRACEY | See CLONSHANBO [09/C/03] |
| BARDINCH | See SULLANE [19/S/02] |
| BARNES | See ESKE [37/E/05] |
| BARORA | See Moynalty (07M03) |
| BARRA | See GWEEBARRA [38/G/02] |
| BAURERAGH | See SHEEN [21/S/01] |
| BAUTEOGE | See STRADBALLY [14/S/02] |
| BAWNDUFF | See OWENDUFF [BLACKSOD] [33/O/01] |
| BEALBOY | See YELLOW [FOXFORD] [34/Y/01] |
| BEALNACARRA | See RECESS [31/R/01] |
| BELLADOOAN | See BREAGHWY [34/B/06] |

*Alternative River names [Continued*

| River Name | River Name adopted in Report |
|---|---|
| BELVIEW | See ATHBOY [07/A/01] |
| BLACK [DRISH] | See DRISH [16/D/02] |
| BLACK [KILDARE/LAOIS] | See FIGILE [14F01] |
| BLACK [LOUTH] | See RASKEAGH [06/R/02] |
| BOHERBAUN | See TULLY STREAM [14/T/02] |
| BOOLAHALLAGH | See FINISK [18/F/02] |
| BOOLYREE | See RINE [27/R/01] |
| BREANOGE | See AUGHBOY [WEXFORD] [11/A/02] |
| BROCKAGH | See OWENNABROCKAGH [32/O/04] |
| BUINGEA | See CUMMER [19/C/02] |
| BUNGOSTEEN | See STRAGAR [37/S/02] |
| BUNOWEN [SUCK] | See AHASCRAGH [26/A/01] |
| BUNRATTY | See OWENOGARNEY [27/O/01] |
| CAHER | See GRANEY [SHANNON] [25/G/04] |
| CALVERSTOWN STREAM | See KILCULLEN STREAM [09/K/02] |
| CAMOWEN | See CRANA [39/C/02] |
| CAPPAGH [FLESK] | See FINOW [22/F/04] |
| CARHEENY | See MOYREE [27/M/02] |
| CARN | See CLOONALAGHAN [33/C/01] |
| CARNAHORNA | See FAYMORE [38/F/01] |
| CARROWBEG [WESTPORT] | See WESTPORT [32/W/01] |
| CARROWKEEL [DEALAGH] | See DEALAGH [28/D/01] |
| CASTLE | See CULLIES [36/C/03] |
| CASTLEPOOK | See BREGOGE [18/B/04] |
| CLADDAGH | See SWANLINBAR [36/S/01] |
| CLARE [TIPPERARY] | See ANNAGH [TIPPERARY] [25/A/02] |
| CLARIN | See CLARINBRIDGE [29/C/02] |
| CLAUREEN [CLARE] | See INCH [CLARE] [27/I/01] |
| CLOGHATANNY | See MOATE STREAM (25/M/05) |
| CLOGHER BURN | See CLOGHER [FINN] [01/C/06] |
| CLOGHOGE RIVER | See AVONMORE [10/A/05] |
| CLONARD | See KINNEGAD [07/K/01] |
| CLONBROCK | See AHASCRAGH [26/A/01] |
| CLONYMEATH | See KNIGHTSBROOK [07/K/02] |
| CLOON [MAYO] | See AILLE [MAYO] [30/A/02] |
| CLOONARD | See FRANCIS [26/F/05] |
| CLOONASCRAGH | See BALLINURE [26/B/01] |
| CLYDAGH [KERRY] | See FLESK [KERRY] [22/F/02] |
| COARSE | See OWENGARVE [SLIGO] [34/O/03] |
| COOKSTOWN | See GLENCULLEN [10/G/02] |
| COORACLARE | See DOONBEG [28/D/02] |
| CORBAUN | See RHINE [26/C/08] |
| CORKER | See OILY [37/O/01] |
| CORDUFF | See BALLOUGH STREAM [08/B/03] |
| CORLEA | See BLEACH [25/B/07] |
| CORRIES | See BACK [BORRIS] [14/B/06] |
| CORRYDOO | See CARTRON [33/C/02] |
| COUNTY (SLIGO/FERMANAGH) | See KILCOO [35/K/04] |
| COUMNAGUN | See OWENOGARNEY [27/O/01] |
| CREGGAN | See CASTLETOWN [06/C/01] |
| CROAGH | See BUNCROWEY [35/B/09] |
| CROLLY | See GWEEDORE [38/G/03] |

*Alternative River names [Continued*

| River Name | River Name adopted in Report |
|---|---|
| CROMOGE | See FISHMOYNE [16/F/03] |
| CRONAMUCK | See CLOGHER [FINN] [01/C/06] |
| CRONANTY BURN | See CRONANIV BURN [38/C/06] |
| CROWAGH | See BUNCROWEY [35/B/09] |
| CRUMLIN [CORRIB] | See DOOGHTA [30/D/02] |
| CRUMPAUN (LAOIS) | See Killeen Stream (Douglas) (14/K/04) |
| CUCKOO STREAM | See MAYNE [09/M/03] |
| CULLEEN | See LEAFFONY [34/L/01] |
| CULLENAGH | See INAGH [ENNISTYMON] [28/I/01] |
| CULLYHANNA | See CASTLETOWN [06/C/01] |
| CULLY STREAM | See SMALL (25/S/05) |
| CURMEEN STREAM | See CLYDA [18/C/02] |
| CUSH | See Triogue [14T01]7 |
| CUSHALING | See FIGILE [14/F/01] |
| DANGAN | See KNIGHTSBROOK [07/K/02] |
| DANGANSALLAGH | See FINNOW [FOHERISH] [19/F/01] |
| DEANSGRANGE STREAM | See KILL OF THE GRANGE STREAM [10/K/02] |
| DERRY [ROCHFORTBRIDGE] | See ROCHFORTBRIDGE STREAM [07/R/04] |
| DERRYPATRICK | See BOYCETOWN [07/B/03] |
| DERRYRAANE | See O'CALLAGHANSMILLS [27/O/03] |
| DININ [BARROW] | See BLACK [BORRIS] [14/B/06] |
| DONARD BROOK | See BROWNS BECK BROOK [12/B/03] |
| DOONANALLA | See OWENNAYLE (26/O/05) |
| DOOYERTHA | See RAFORD [29/R/01] |
| DRUMSILLAGH | See Mountrice 25/M/03 |
| DUNDONNELL STREAM | See KILLEGLAN [26/K/04] |
| DUNKELLIN | See KILCOLGAN [29/K/01] |
| DURRUS | See FOUR MILE WATER [21/F/02] |
| EEL WEIR STREAM | See KILTACLARE STREAM [26/K/06] |
| FINNOW STREAM | See BALLYCLOGH STREAM [18B08] |
| FINSHENAGH STREAM | See CLONSHIRE [24/C/03] |
| FORKHILL | See KILCURRY [06/K/02] |
| FRIAR'S LOUGH STREAM | See LORRHA STREAM [25/L/05] |
| FUARAWN | See CLAREEN STREAM (25C13) |
| FURROOR | See INCH [CLARE] [27/I/01] |
| GALLANAGH STREAM | See CONAWARY [03/C/02] |
| GARRA | See DRUMCONRATH [06/D/04] |
| GEESLAUN | See POLLAGH [34/P/01] |
| GLANAGEENTY | See LITTLE MAINE [22/L/02] |
| GLANMORE | See CROANSHAGH [21/C/05] |
| GLASHA (LAOIS) | See DUNRALLY STREAM [14D05] |
| GLASHA STREAM (BARROW) | See LEVITSTOWN STREAM (14/L/02) |
| GLENDREE | See CLOGHAUN [25/C/07] |
| GLENEELY | See CULDAFF [40/C/02] |
| GLENGLOSH | See BEALANABRACK [30 |
| GLENMALURE | See AVONBEG [10/A/04] |
| GLENNADEEGAN | See TARSAGHAUNMORE [33/T/01] |
| GLENOMRA | See BROADFORD [27/B/02] |
| GLENNTOGHER | See DONAGH [40/D/01] |
| GLENUMMERA | See BUNDORRAGHA [32/B/01] |
| GLOREEN | See BALLYROAN [15/B/01] |
| GORT | See CANNAHOWNA [29/C/01] |

*Alternative River names [Continued*

| River Name | River Name adopted in Report |
|---|---|
| GORTLOUGHRA | See OWVANE [CORK] [21/O/07] |
| GRAIGUE | See AWBEG [BUTTEVANT] [18/A/05] |
| GRANGE [ROSCOMMON] | See OWENUR [26/O/06] |
| GREYGROVE | See DOONBEG [28/D/02] |
| HARTWELL STREAM | See RATHMORE STREAM [09/R/02] |
| HOLLYMOUNT | See MOYREE [27/M/02] |
| INCHALUGHOGE | See OWENOGARNEY [27/O/01] |
| IRE | See ISKE SULLAS (16/I/01) |
| ISKULE STREAM | See ALLAGHAUN [23/A/01] |
| IVALE | See RATHCOOL [18/R/01] |
| KEELOGYBOY STREAM | See WILLSBOROUGH STREAM [35/W/01] |
| KERRY | See GLENGARRIFF [21/G/03] |
| KILGORMAN | SeeINCH [WEXFORD] [11/I/01] |
| KILL [LIFFEY] | See PAINESTOWN [09/P/01 |
| KILLACLOGHER | See ABBERT [30/A/01] |
| KILLEEN STREAM | See MILLTOWN STREAM [12/M/02] |
| KILLEGAR | See CULLIES [36/C/03] |
| KILLEGAR STREAM | See LAHEEN STREAM [36/L/02] |
| KILLIMOR | See KILCROW [25/K/01] |
| KILLINAPARSON STREAM | See COUNTY [LAOIS/OFFALY] [25/C/21] |
| KILLORAN | See KILCROW [25/K/01] |
| KILMAINHAM | See DEE [06/D/01] |
| KILMALEY | See INCH [CLARE] [27/I/01] |
| KILMASHOGE | See OWENADOHER [09O01] |
| KILTHA | See WOMANAGH [19/W/01] |
| KILWARDEN | See KINNEGAD [07/K/01] |
| LABBADISH | See LESLIE HILL STREAM [39/L/05] |
| LAGAN | See GLYDE [06/G/02] |
| LATOON | See RINE [27/R/01] |
| LAVALLY | See CLARINBRIDGE [29/C/02] |
| LEGAN STREAM | See LENAMORE STREAM [26/L/06] |
| LISFARRELL STREAM | See CLOONCOOSE STREAM [26/C/20] |
| LOUGH ALICK STREAM | See CORROY [34/C/06] |
| LOUGH TALT | See EIGHNAGH [34/E/01] |
| LOUGHEA | See GRANEY [SHANNON] [25/G/04] |
| LOUGHINN | See GLENNAGANNON [40/G/01] |
| MEENGILCARRY | See STRAGAR [37S02] |
| MEENATOMISH | See CRANA [39/C/02] |
| MILL [GALWAY] | See CLARINBRIDGE [29/C/02] |
| MOANAHA | See NENAGH [25/N/01] |
| MOINEEN | See BISHOP'S LOUGH STREAM [26/B/13] |
| MONGAGH | See CASTLEJORDAN [07/C/04] |
| MOONEEN | See BUNOW [25/B/25] |
| MOYNALVY | See KNIGHTSBROOK [07/K/02] |
| MUINGERROON NORTH Stream | See BELLANABOY [33/B/07] |
| MULKEAR [TIPPERARY] | See NEWPORT [TIPPERARY] [25/N/02] |
| MULLAHEERA | See DEEL [NEWCASTLEWEST] [24/D/02] |
| NEWBRIDGE | See CULLIES [36/C/03] |
| OILTIAGH BROOK | See KNICKEEN [12/K/01] |
| OULYSALLIS | See DIRTY [20/D/01] |
| OWBAUN | See OWBEG [ROUGHTY] [21/O/02] |
| OWENABINDERG | See STRAID [40/S/01] |

*Alternative River names [Continued*

| River Name | River Name adopted in Report |
|---|---|
| OWENACHARRA | See INNY (26/I/01) |
| OWENAGLAGGIN | See NAD [18/N/01] |
| OWENALTDERRY | See RAY [38/R/01] |
| OWENBEAGH | See OWENVEAGH [38/O/14] |
| OWENBEG [CALABBER] | See CALABBER [38/C |
| OWENBEG [NORE] | See OWVEG [NORE] [15/O/01] |
| OWENBOY [COOLANEY] | See OWENBEG [COOLANEY] [35/O/01] |
| OWENCAM | See CULDAFF [40/C/02] |
| OWENDUFF [SLIGO] | See DUNNEILL [35/D/06] |
| OWENGARR | See BUNDORRAGHA [32/B/01] |
| OWENINY | See OWENMORE [MAYO] [33/O/04] |
| OWENKILLEW | See MILL [DONEGAL] [39/M/02] |
| OWENMORE [BALLINA] | See GLENREE [34/G/01] |
| OWENMORE [CLIFDEN] | See RECESS [31/R/01] |
| OWENMORE [CLOONAGHMORE] | See CLOONAGHMORE [34/C/03] |
| OWENMORE [ERRIFF] | See ERRIFF [32/E/01] |
| OWENNASHRONE | See LEE [CORK] [19/L/03] |
| OWENROE [MOYNALTY] | See Moynalty (07M03) |
| OWENROE [OWENTOCKER] | See OWENTOCKER [38/O/06] |
| OWENYKEEVAN | See FINNED [35/F/01] |
| PARK | See NADREEGEEL L. STREAM [07/N/01] |
| POLLARDSTOWN STREAM | See CLONCUMBER STREAM [14C17] |
| POULANEIGH | See BREAGAGH [TIPPERARY] [16/B/03] |
| QUIN | See RINE [27/R/01] |
| RAMPART | See BLACKWATER [KELLS] [07/B/01] |
| RAMPART STREAM | See NEWMARKET STREAM [18/N/02] |
| RATHROE | See BREAGHWY [34/B/06] |
| RATTY | See OWENOGARNEY [27/O/01] |
| RIVERSTOWN | See BIG [LOUTH] [06/B/01] |
| ROSNAMUCKYDUFF | See BELLAWADDY [34/B/05] |
| SCAR | See CLERISTOWN STREAM [13C04] |
| SCARDAN | See OWENMORE [M'HAMILTON] [35/O/02] |
| SCARRIFF | See GRANEY 25/G/04 |
| SCRAMOGE [SOUTH] | See LISSAPHOBBLE [26/L/04] |
| SHANOW | See BRICK [23/B/03] |
| SHANOWEN [DONEGAL] | See DUNTALLY [38/D/03] |
| SHEAN | See SHEEN [21/S/01] |
| SHIVEN [NORTH] | See KILLIAN [26/K/01] |
| SKIVILEEN | See CREEGH [28/C/02] |
| SLIEVENOHERA | See KILLEENGARRIFF [25/K/02] |
| SOOLVANE | See FARNEYBRIDGE [16/F/02] |
| SRUELL | See EANYMORE WATER [37/E/02] |
| SRUHANACROW MORE | See SHALLOGAN [38/S/03] |
| STONESTOWN | See STONYFORD [07/S/02] |
| STRANAGARTAN STREAM | See GLEN [CARRICK] [37/G/01] |
| TICKNOCK STREAM | See TEMPLERAINY STREAM [10/T/04] |
| TIMOGUE | See CROOKED [STRADBALLY] 14C02 |
| TIMAHOE | See STRADBALLY [14S02] |
| TOGHER | See DOUGLAS [BRIDE] [18/D/02] |
| TOMEEN | See RINE [27/R/01] |
| TOOR BROOK | See LEMONSTOWN STREAM [09/L/03] |
| TOOREEN | See COOLEEN [28/C/05] |

*Alternative River names [Continued*

| River Name | River Name adopted in Report |
|---|---|
| TOORMORE (Mayo) | See CASTLEBAR [34/C/01] |
| TRAMORE [CORK] | See DOUGLAS [LEE] [19/D/05] |
| TREMBLESTOWN | See ATHBOY [07/A/01] |
| TROUGH | See BLACKWATER [CLARE] [25/B/06] |
| TUAM | See NANNY [TUAM] [30/N/01] |
| TULLYVALLAN | See CASTLETOWN [06/C/01] |
| TURRA | See BOLEYNEENDORRISH [29/B/04] |
| TWO MILE WATER | See ABBEY [36/A/01] |
| WHITE [LIMERICK] | See OWVANE [LIMERICK] [24/O/02] |
| WHITEHOUSE | See STRAID [40/S/01] |

# Index to the Rivers surveyed in 2004

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# APPENDIX I

**BIOLOGICAL AND PHYSICO-CHEMICAL SURVEILLANCE AND WATER QUALITY ASSESSMENT OF RIVERS**

# APPENDIX I
# BIOLOGICAL AND PHYSICO-CHEMICAL SURVEILLANCE AND WATER QUALITY ASSESSMENT OF RIVERS

## INTRODUCTION

The various uses of rivers inevitably involve conflicting interests and often such uses disrupt river ecology. The fact that several of the more important beneficial uses of rivers (e.g. abstraction, amenity, waste disposal) are dependent on biological processes is rarely appreciated: if the self-purification process, for example, is disrupted (e.g. by pollution, drainage or over-abstraction) some or all beneficial uses may be impaired or lost. It is important, therefore, to keep ecological disruption to a minimum and to maintain the aquatic ecosystem in a healthy, functional condition. Progress towards this goal can be monitored by chemical or biological means or, preferably, by a combination of both. In general it could be said that whilst physico-chemical analysis may measure the *causes* of pollution (i.e. the pollutants) biological analysis is the only means whereby the ecological *effects* of pollution can be measured.

The most commonly encountered forms of pollution in this country are eutrophication and organic pollution; less frequently encountered are non-organic types such as toxic pollution (e.g. by sheep dip or industrial chemicals), siltation (e.g. arising from over-grazing, drainage, quarrying or stone-cutting operations) and, in recent years, acidification in sensitive afforested areas. The term eutrophication is used to describe the abnormal production of plants of all kinds (micro- and macroscopic) in surface waters affected by excessive inputs of the plant nutrients nitrogen and phosphorus. Such inputs arise a) by the leaching or overland runoff from agricultural lands of inorganic nitrogen and phosphorus and b) by the breakdown of organic matter such as sewage, food-processing or other industrial wastes or land-spread animal manure slurries. Eutrophication of surface waters may be also encountered in areas where land is disturbed for peat harvesting or forestry purposes. Organic pollution is a term used to describe the oxygen depleting effects caused by the breakdown of organic wastes (e.g. sewage) in receiving waters. This bio-degradation or self-purification process, as it is called, is dependent, initially at least, on aerobic micro-organisms which reduce the organic material to its constituent elements and in the process consume oxygen. In the presence of organic matter, therefore, ambient dissolved oxygen (DO) levels fall whilst the biochemical oxygen demand (BOD) - a measurement of the rate of oxygen usage by aerobic micro-organisms - rises; this process also leads to eutrophication due to the release of compounds of nitrogen and phosphorus.

The measurement of the ambient concentrations of such parameters, therefore, gives a good indication of the condition of the water as regards contamination by organic waste. Traditionally, this type of waste has mostly originated at 'point-source' discharges (sewage, industrial wastes), but in recent years an ever increasing proportion arises from 'diffuse' agricultural sources i.e., run-off from land of wastes from intensive animal-rearing operations, the development of which in the past 15 to 20 years has been accompanied by a very marked increase in the extent of eutrophication.

All types of pollution cause physico-chemical and biological changes in receiving waters and so the assessment of water quality/pollution may be approached from the chemical or the biological aspect. In practice, a combination of both approaches is preferable to either on its own.

### Biological Assessment

In the presence of pollution, characteristic and well-documented changes are induced in the flora and fauna of rivers and streams. Particularly well documented are the changes brought about by organic pollution in the macroinvertebrate community i.e., the immature aquatic stages of aerial insects (mayflies, stoneflies etc.) together with Crustacea (e.g. shrimps), Mollusca (e.g. snails and bivalves), Oligochaeta (worms) and Hirudinea (leeches).

The changes which occur are due to the varying sensitivities of the different components of the community to the stresses caused by pollution. It is known that similar organisms inhabit similar habitats and that the most sensitive species inhabit the riffle areas. It is also well known that community diversity declines in the presence of pollution and that sensitive species are progressively replaced by more tolerant forms as pollution increases. Ideally, all the components of the aquatic biota (the micro- and macro-fauna and flora) should be utilised but in practice macroinvertebrate community analysis is found to be satisfactory for routine water quality monitoring purposes.

For the purposes of the EPA assessment procedure benthic macroinvertebrates have been divided into five arbitrary 'Indicator Groups' as follows: Group A, the sensitive forms, Group B, the less sensitive forms, Group C, the tolerant forms, Group D, the very tolerant forms and Group E, the most tolerant forms. These groups, and their relationships with the Biotic Index (Q values) are set out below.

In contrast to physico-chemical surveys which extend throughout the year, biological surveys are usually undertaken in the summer-autumn period (June-October) when flows are likely to be relatively low and water temperatures highest. Surveys during this period are likely, therefore, to coincide with the worst conditions to be expected in those reaches affected by waste inputs.

Biological material for examination is obtained by sampling in the shallower, faster-flowing areas (riffles) and the assessment of water quality is made on site. Having determined the relative proportions of the various organisms in the sample, water quality is inferred by a comparison of this data with that which might be expected from unpolluted habitats of the type under investigation. Other relevant factors such as the intensity of algal and/or weed development, water turbidity, bottom siltation, substratum type, current speed and water depth, DO saturation and water temperature, are also taken into account in the assessment procedure.
Relationships between water quality and macroinvertebrate community structure are usually described by means of a numerical scale of values. Such a compression of biological information inevitably results in a loss of meaningful information but some such procedure is essential if this information is to be meaningful to non-biologists. The EPA scheme of Biotic Indices or Quality (Q) Values and its relationship to water quality is set out here.

| **'Q' Value** | **Community Diversity** | **Water Quality** | **Condition*** |
|---|---|---|---|
| **Q5** | High | Good | Satisfactory |
| **Q4** | Reduced | Fair | Satisfactory |
| **Q3** | Low | Doubtful | Unsatisfactory |
| **Q2** | Very Low | Poor | Unsatisfactory |
| **Q1** | Little/None | Bad | Unsatisfactory |

* 'Condition' refers to the likelihood of interference with beneficial or potential beneficial uses.

The intermediate values (Q1-2, 2-3, 3-4 etc.) denote transitional conditions. The scheme mainly reflects the effects of organic pollution (i.e. deoxygenation and eutrophication) but where a toxic effect is apparent or suspected the suffix '0' is added to the biotic index (e.g. Q1/0, 2/0 or 3/0). An asterisk after the Q value indicates something worthy of special attention, typically heavy siltation of the substratum. The scheme may be further simplified as shown by the classification set out below:-

| **Biotic Index** | **Quality Status** | **Quality Class** |
|---|---|---|
| Q5, Q4-5, Q4 | Unpolluted | Class A |
| Q3-4 | Slightly Polluted | Class B |
| Q3, Q2-3 | Moderately Polluted | Class C |
| Q2, Q1-2, Q1 | Seriously Polluted | Class D |

Class A waters are those in which problems relating to existing or potential beneficial uses are unlikely to arise and they are, therefore, regarded as being in a 'satisfactory' condition. Classes B, C and D are to a lesser or greater extent 'unsatisfactory' in this regard. For example, the main characteristic of Classes B and C waters is eutrophication which may interfere with the amenity, abstraction or fisheries potential. In Class D waters excessive organic loading lead to deoxygenation and may produce 'sewage fungus' growths, and as a consequence most beneficial uses are severely curtailed or eliminated.

# Biological Assessment of Water Quality in Eroding Reaches (Riffles & Glides) of Rivers and Streams*

Biotic Indices (Q Values) and typical associated macroinvertebrate community structure. See overleaf for details of the Faunal Groups.

| **Macroinvertebrate Faunal Groups**** | **Q5** | **Q4** | **Q3-4** | **Q3** | **Q2** | **Q1** |
|---|---|---|---|---|---|---|
| **Group A** | At least 3 taxa well represented | At least 1 taxon in reasonable numbers | At least 1 taxon Few - Common | Absent | Absent | Absent |
| **Group B** | Few to Numerous | Few to Numerous | Few/Absent to Numerous | Few/Absent | Absent | Absent |
| **Group C** | Few | Common to Numerous *Baetis rhodani* often Abundant Others: never Excessive | Common to Excessive (usually Dominant or Excessive) | Dominant to Excessive | Few or Absent | Absent |
| **Group D** | Few or Absent | Few or Absent | Few/Absent to Common | Few/Absent to Common | Dominant to Excessive | Few or Absent |
| **Group E** | Few or Absent | Few or Absent | Few or Absent | Few or Absent | Few / Absent to Common | Dominant |
| **Additional Qualifying Criteria** | | | | | | |
| ***Cladophora*** spp. Abundance | Trace only or None | Moderate growths (if present) | May be Abundant to Excessive growths | May be Excessive growths | Few or Absent | None |
| **Macrophytes** (Typical abundance) | Normal growths or absent | Enhanced growths | May be Luxuriant growths | May be Excessive growths | Absent to Abundant | Present/Absent |
| **Slime Growths (Sewage Fungus)** | Never | Never | Trace or None | May be Abundant | May be Abundant | None |
| **Dissolved Oxygen** Saturation | Close to 100% at all times | 80% - 120% | Fluctuates from < 80% to >120% | Very unstable. Potential fish-kills | Low (but > 20%) | Very low, sometimes zero |
| **Substratum Siltation** | None | May be light | May be light | May be considerable | Usually heavy | Usually very heavy and anaerobic |

Note occurrence/abundance of groups in above table refers to some but not necessarily all of the constituents of the group. The Additional Qualifying Criteria apply in virtually all circumstances. Single specimens may be ignored. Seasonal and other relevant factors (i.e., drought, floods) must be taken into account.

* Macroinvertebrate criteria do not apply to rivers with mud, bedrock or sand substrata, very sluggish or torrential flow, head-water or high altitude streams and those affected by significant ground water input, excessive calcification, drainage, canalisation, culverting, marked shading etc.

** See Further Observations overleaf.

| Macroinvertebrates grouped according to their sensitivity to organic pollution | | | | | |
|---|---|---|---|---|---|
| **TAXA** | **Group A** | **Group B** | **Group C** | **Group D** | **Group E** |
| | *Sensitive* | *Less Sensitive* | *Tolerant* | *Very Tolerant* | *Most Tolerant* |
| **Plecoptera** | All except *Leuctra* spp. | *Leuctra* spp. | | | |
| **Ephemeroptera** | Heptageniidae<br>Siphlonuriidae<br>*Ephemera danica* | Baetidae<br>(excl. *Baetis rhodani*)<br>Leptophlebidae | *Baetis rhodani*<br>Caenidae<br>Ephemerellidae | | |
| **Trichoptera** | | Cased spp. | Uncased spp. | | |
| **Odonata** | | All taxa | | | |
| **Megaloptera** | | | | Sialidae | |
| **Hemiptera** | | ***Aphelocheirus aestivalis*** | All except *A. aestivalis* | | |
| **Coleoptera** | | | Coleoptera | | |
| **Diptera** | | | Chironomidae (excl. *Chironomus* spp.)<br>Simuliidae Tipulidae | | *Chironomus* spp.<br>*Eristalis* sp. |
| **Hydracarina** | | | Hydracarina | | |
| **Crustacea** | | | *Gammarus* spp.<br>*Austropotamobius pallipes* | *Asellus* spp.<br>*Crangonyx* spp. | |
| **Gastropoda** | | | Gastropoda<br>(excl. *Lymnaea peregra* & *Physa* sp.) | *Lymnaea peregra*<br>*Physa* sp. | |
| **Lamellibranchiata** | ***Margaritifera margaritifera*** | | *Anodonta* spp. | Sphaeriidae | |
| **Hirudinea** | | | *Piscicola* sp. | All except *Piscicola* sp. | |
| **Oligochaeta** | | | | | Tubificidae |
| **Platyhelminthes** | | | All | | |

**Observations on Q Determination Scheme**

**Q5 assigned if :-**

a) Group A at least *common** : Typically with ***either*** one or more Heptageniidae spp or *Ephemera* sp. plus three or more Plecoptera spp ***or else*** four or more Plecoptera species present
b) Group B ranging from scarce/absent to numerous
c) Group C not more than *common** but *B. rhodani may be* dominant*
d) Groups D and E *scarce** or absent.
e) Macrophytes, if present, diverse and not excessive in development.
f) Filamentous algae if present not excessive
g) *Cladophora*, sewage 'fungus' and other slime growths/complexes absent.
h) substrata clean and unsilted.
i) DO close to 100% at all times.

* As defined below.

**Q4 asssigned if :-**

a) At least ***one*** Group A taxon present in, at least, *fair numbers**
b) Group B taxa may be *common**, *scarce** or absent
c) *B. rhodani* usually *dominant** Other Group C taxa never *excessive**
d) Groups D and E may be present in *small numbers** or absent
e) Macrophyte & algal growths not excessive
f) *Cladophora,* if present, not excessive
g) Sewage 'fungus' and other slime growths absent
h) Substrata may be lightly silted
i) DO ranging from 80 to 120%

**Q3-4 assigned if :-**

a) At least ***one*** Group A taxon present in, at least *small numbers**.
b) Group B *common**, *scarce** or absent
c) Group C *numerous**, *dominant* or excessive**.
d) Group D *common**, *scarce** or absent
e) Group E *scarce** or absent.
f) Macrophytes and algal growths usually luxuriant, often excessive.
g) *Cladophora*, usually excessive.
h) Sewage 'fungus' and other slime growths sometimes present in small amounts.
i) Substrata may be considerably silted.
j) DO ranging from < 80 to >120%.

**Q3 assigned if :-**

a) Group A absent.
b) Group B *fair numbers**, *scarce** or absent
c) Group C usually *excessive** (*Gammarus, Hydropsyche* etc. may be fungus infested).
a) Groups D (excl. *Asellus) common**, *scarce** or absent
e) Group E *scarce** or absent
f) Macrophytes, if present often silted and/or infested with epiphytic algae.
g) *Cladophora* usually excessive.
h) Sewage 'fungus' and other slime growths/complexes may be considerable.
i) Substrata may be heavily silted.
j) DO ranging from <80 to >120%.

**Q2 assigned if :-**

a) Groups A and B absent.
b) Group C *scarce** or absent.
c) *Asellus sp.* c*ommon* to excessive**. Other Group D taxa may be c*ommon**, *numerous** or *excessive**.
d) Group E may be *common**.
e) Macrophytes, if present silted and/or infested with epiphytic algae/sewage fungus.
f) *Cladophora* not usually apparent.
g) Sewage fungus and other slime growths/complexes usually considerable.
h) Substrata usually heavily silted. Often smells of sewage/detergent.
i) DO usually quite low (20 - 50%)

**Q1 assigned if :-**

a) Groups A, B and C absent.
b) Groups D *scarce** or absent
c) Group E *dominant**.
d) Macrophytes absent.
e) *Cladophora* absent.
f) Sewage 'fungus' and other slime growths/complexes present or absent.
g) Substrata usually heavily silted with anaerobic deposits. Often smells of $H_2S$.
h) DO usually very low, sometimes zero.

**Continued**

***1)*** The above scheme outlines the typical macroinvertebrate composition of rivers and streams unaffected (Q5) or variously affected (Q4 to Q1) by organic waste inputs.

***2)*** Where possible all available habitats should be sampled by kick sampling, stone washing and weed sweeping.

***3)*** Single specimens may be ignored as they are likely to have drifted from upstream.

***4)*** Q5 only ascribed in absolutely pristine conditions with diverse and balanced faunal community.

***5)*** Providing points f and g (at Q5 and Q4 above) not breached Q5 and Q4 may be <u>also</u> ascribed where faunal criteria not met due to:-
*a*) significant ground-water input
*b*) very hard, calcareous conditions
*c*) very oligotrophic conditions
*d)*other relevant factors

***6)*** The terms "Taxon/Taxa" are defined by the level of identification for each Class/Order as follows :-

| | |
|---|---|
| Platyhelminthes | genus |
| Oligochaeta | family |
| Hirudinea | genus |
| Mollusca | genus |
| Crustacea | family |
| Plecoptera | genus |
| Ephemeroptera | genus |
| Trichoptera | genus |
| Odonata | genus |
| Megaloptera | genus |
| Hemiptera | genus |
| Coleoptera | family |
| Diptera | family |
| (Chironomidae :- *thummi-plumosus* or non-*thummi-plumosus*) | |
| Hydracarina | presence |

| **Abundance Category** | **<u>Approximate</u> Percentage Frequency of Occurrence*** |
|---|---|
| Present | 1 or 2 individuals |
| Scarce/Few | <1% |
| Small numbers | <5% |
| Fair numbers | 5 -10% |
| Common | 10 - 20% |
| Numerous | 25 - 50% |
| Dominant | 50 - 75% |
| Excessive | >75% |

* Per 2 minute kick sample + stone washing.

Eutrophication is typically to be found in the recovery zones below seriously or moderately organically polluted reaches or, as stated above it may arise as a consequence of the run-off of nutrients from agricultural or forestry land. Waters assessed as Q3-4 (slightly polluted - Class B) are essentially transitional between the satisfactory Class A and the unsatisfactory Class C but it was considered prudent to classify such waters as unsatisfactory primarily because of the potential adverse effects on game fish (salmon and trout) and game fisheries. Wild game-fish will be severely stressed or killed by nocturnal DO depletion which may occur in such waters, particularly in times of low flow and elevated temperature. Where such stress is a regular feature game fish will disappear and they may be replaced by more tolerant varieties of coarse fish. Even if game fish survive, the angling potential of such waters may be severely impaired by the filamentous algal and/or weed growths which are a common feature of slightly polluted waters.

Table I.1 (below) sets out some of the principal characteristics of the four water quality classes and the relationship between these and the biotic indices (Q1 to Q5).

**Physico-Chemical Assessment of Water Quality**

For the assessment of organic pollution the more commonly measured parameters include DO, BOD, Ammonia, Oxidised Nitrogen (Nitrites plus Nitrates) and Phosphates. Continuous records of concentration and flow would form the ideal basis for water quality assessment but in practice this is impossible for financial, technical and logistical reasons. Reliance must, therefore, be placed on discrete samples; because such samples constitute only a minute fraction of the whole body of water under investigation and because they are only representative of conditions at the particular time of sampling the interpretation of data arising from such samples requires great care.

Unlike the biological assessment of water quality, where the incidence and intensity of pollution is based on the degree to which the chosen organism association deviates from its expected natural diversity, the physico-chemical assessment is usually based on a comparison of the measurements made with water quality criteria or with standards derived from such criteria. The setting of national standards for water, sewage and other effluents by the Minister for the Environment is provided for

## Table I.1 General characteristics of the various Biological Quality Classes

| **Quality Classes** | **Class A** | | **Class B** | **Class C** | **Class D** | |
|---|---|---|---|---|---|---|
| **Quality Ratings (Q)** | **Q5** | **Q4** | **Q3-4** | **Q3** | **Q2** | **Q1** |
| **Pollution Status** | Pristine, unpolluted | Unpolluted | Slight Pollution | Moderate Pollution | Heavy Pollution | Gross Pollution |
| **Organic Waste Load** | None | None | Light | Considerable | Heavy | Excessive |
| **Maximum B.O.D.** | Low (< 3 mg/l) | Low (< 3 mg/l) | Often elevated | High at times | Usually high | Usually very high |
| **Dissolved Oxygen** | Close to 100% | 80%-120% | <80% to >120% | Very unstable. | Low to zero | Very low or zero |
| **Annual Median ortho-Phosphate** | ~0.015 mg P/l | ~0.030 mg P/l | ~0.045 mg P/l | ~0.070 mg P/l | usually > 0.1 mg P/l | usually > 0.1 mg P/l |
| **Siltation** | None | May be light | May be light | May be considerable | Usually heavy | Usually v. heavy and anaerobic |
| **'Sewage Fungus'** | Never | Never | Never | May be some | Usually abundant | May be abundant |
| **Filamentous Algae** | Limited development | Diverse communities | *Cladophora* may be abundant | *Cladophora* may be excessive | May be abundant | Usually none |
| **Macrophytes** | Good diversity Limited growths | Considerable growths | Reduced diversity Luxuriant growths | Limited diversity Excessive growths | Tolerant species only. May be abundant. | Usually none or tolerant species only. |
| **Macroinvertebrates (from shallow riffles)** | Diverse communities. Normal density. Sensitive forms usually numerous. | High diversity. Increased density. Sensitive forms scarce or common. | Very high diversity. Very high density. Sensitive forms scarce. | Sensitive forms absent. Tolerant forms common. Low diversity. | Tolerant forms only. Very low diversity. | Most tolerant forms. Minimal diversity. |
| **Water Quality** | Highest quality | Fair quality | Variable quality | Doubtful quality | Poor quality | Bad quality |
| **Abstraction Potential** | Suitable for all | Suitable for all | Potential problems | Advanced treatment | Low grade abstractions | Extremely limited |
| **Fishery Potential** | Game fisheries | Good game fisheries | Game fish at risk | Coarse fisheries | Fish usually absent | Fish absent |
| **Amenity value** | Very high | High | Considerable | Reduced | Low | Zero |
| **Condition** | **Satisfactory** | **Satisfactory** | **Transitional** | **Unsatisfactory** | **Unsatisfactory** | **Unsatisfactory** |

under the Local Government (Water Pollution) Act, 1977 and the Environmental Protection Agency Act, 1992. Regulations setting standards for phosphorus (S.I. No. 258 of 1998) have been issued under the Water Pollution Act by the Minister in order to combat eutrophication of surface waters and to give effect to the requirements of Council Directive 76/464/EEC on pollution caused by certain dangerous substances. The recently issued phosphorus regulations are unique in that they not only set standards for the element in question but they also take into account the biological quality of rivers and the trophic status of lakes as assessed by EPA. This is a recognition of the eutrophication effects of excess phosphorus and of the biological assessment schemes used by EPA. The Regulations apply to rivers and lakes assessed by EPA in the period 1995 to 1997 and require that ***either*** the chemical ***or*** the biological criteria specified must be met by the 31st of December 2007 unless there are good reasons - which are specified - why these criteria cannot be met. For waters surveyed subsequent to 1997 the standards must be met within ten years of the first survey.

**Standards for Phosphorus in Rivers**

($\mu$g P/l = micro-grammes per litre).

The annual ***median*** concentration of molybdate reactive phosphate shall not exceed

a) 15 $\mu$g P/l in Q5 waters
b) 20 $\mu$g P/l in Q4-5 waters
c) 30 $\mu$g P/l in Q4 waters
d) 50 $\mu$g P/l in Q3-4 waters
e) 70 $\mu$g P/l in Q3 waters

**or**

f) that existing satisfactory biological quality conditions (i.e., Q5, Q4-5 and Q4) be maintained and
g) that less than satisfactory biological conditions (Q3-4 or less) be improved. In general the improvement required is of half a quality rating (e.g., Q3-4 to Q4) but seriously polluted waters (Q2 or less) must be restored to Q3 as a minimum requirement

**Standards for Phosphorus in Lakes**

The annual **mean** concentration of total phosphorus shall fall within the ranges

a) $\leq$5 $\mu$g P/l in Ultra-Oligotrophic lakes
b) >5 to $\leq$10 $\mu$g P/l in Oligotrophic lakes
c) >10 to $\leq$20 $\mu$g P/l in Mesotrophic lakes
d) >20 to $\leq$50 $\mu$g P/l in Eutrophic lakes.

**or**

e) that existing satisfactory biological quality conditions (defined as Ultra-Oligotrophic, Oligotrophic and Mesotrophic status) be maintained and
f) that unsatisfactory biological conditions (Eutrophic, Hypertrophic) be improved as follows - Eutrophic waters to achieve Mesotrophic status and Hypertrophic waters to achieve Eutrophic status.

In addition to the phosphorus regulations, legally binding standards for water quality in Ireland arise from various EC Directives. Of particular relevance in the present context are the 'Surface Water' and 'Freshwater Fish' Directives (C.E.C., 1975, 1978). The former deals with the quality requirements of waters used as sources of public supply while the latter sets standards for waters harbouring game or coarse fisheries, although these are legally binding only in the case of 'designated' waters. Both of these Directives are now the subject of National Regulations, (Minister for the Environment, 1988, 1989). A digest of these standards and guidelines for the more important of the physico-chemical parameters of pollution by organic wastes as appropriate to fishery salmonid) waters is set out below:

| **FreshwaterFish Regulations** | **Water Quality Guidelines** |
|---|---|
| **Dissolved Oxygen ( DO) :** | |
| 50% of samples $\geq$ 9 mg/l $O_2$ | 50% of samples $\geq$ 9 mg/l $O_2$<br>95% of samples $\geq$ 6 mg/l $O_2$<br>No sample < 4 mg/l $O_2$ |
| **Biochemical Oxygen Demand (BOD):** | |
| $\leq$ 5 mg/l | $\leq$4 mg/l |
| **Ammonia:** | |
| $\leq$ 0.02 mg/l NH3 or $\leq$ 0.016 mg/l N* $\leq$ 0.8 mg/l N** | $\leq$ 0.02 mg/l NH3 $\leq$0.016mg/l N* |

* = un-ionised ** = total

These limits are more stringent than those applicable to the same parameters in abstraction

waters receiving standard -treatment, as set out in the 'Surface Water' Regulations. The same position holds in the case of most other water quality parameters so that the suitability of waters for fisheries is usually a good assurance of their suitability for abstraction and for many other uses. The major exceptions are nitrate and microbiological quality in which cases even high levels of contamination will not *directly* affect fish life.

**Advantages and Shortcomings of the two Quality Assessment Methods**

Physico-chemical techniques have the merit of being precise, discriminatory and quantitative and they are, therefore, essential if unpolluted waters are to be chemically typed or if pollutants in water are to be identified and their concentrations quantified. Information of this type is essential to good water management as it provides the basic information required by licensing authorities for the assessment of compliance by licensed discharges with prescribed standards. With regard to general water quality monitoring, however, and particularly where a large number of clean rivers are to be monitored - as in this country - a distinct disadvantage of a purely chemical approach is the cost; whereas just two biological samples per annum (winter and summer) would normally provide a reasonably accurate assessment of average water quality, a considerably greater number of physico-chemical samples would normally be required to achieve such an assessment with the same degree of confidence.

A knowledge of the types of pollutants likely to be present is a prerequisite for effective chemical monitoring. With the increasing complexity of many industrial effluents this may prove to be difficult if not impossible in certain circumstances. Furthermore, if a discharge is irregular or surreptitious there is a good chance that it will not be detected at all by routine chemical monitoring programmes. Since benthic macroinvertebrate communities respond to a wide range of water quality characteristics and pollutants and because they can reflect the effects of mixed pollutants these shortcomings can often be overcome by biological analysis.

A disadvantage of the biological approach is that, although capable of detecting ecological change, indicative of water quality change, it does not identify the specific cause of a change; for this physico-chemical analysis is essential, especially in the case of toxic pollution. It should also be pointed out that whilst water indicated to be of poor quality on biological grounds is suspect for most uses, water indicated to be of good quality on such grounds, although acceptable for most uses including fisheries, may not always be free from pathogens or harmful trace organics and may not therefore be acceptable as drinking water. Assessment of this aspect requires specific microbiological and physico-chemical tests. Finally, in assessing water quality from data involving benthic communities due recognition must be given to the influences of other ecological factors such as depth and flow rate, substratum type, the influence of shading and seasonal changes in life cycle.

From the foregoing it may be appreciated that both physico-chemical and biological water quality assessment techniques have their own particular applications, advantages and disadvantages so that only by a combination of both may the limitations of each be overcome and a thorough understanding of the total situation be gained. The advantages and shortcomings of the two approaches are summarised below.

**Comparison of Biological and Chemical Water Quality Assessment Techniques**

| **REALM** | **PERFORMANCE** | |
|---|---|---|
| | **Chemical** | **Biological** |
| **Precision** (Pollutant concentration assessment) | Good | Poor |
| **Discrimination** (Pollutant identification) | Good | Poor |
| **Measure of Effects** | No | Yes |
| **Cost** | High | Low |
| **Single Sample Value** | Poor | Good |

**CONCLUSION:** ***Combination of both techniques preferable to either alone.***