GOOLE AND AIRMYN INTERNAL DRAINAGE BOARD

Environmental Survey of the District to enable production of a Biodiversity Statement

Report to the Board – January 1999

1.0 Introduction

1.1 The Internal Drainage District was surveyed by an Environmental Scientist during the summer of 1998 for ecological features.

1.2 A selection of drains was surveyed in detail, with the wider district being surveyed in less detail to gain an impression of the overall state of the habitats present.

1.3 The basis of the survey was intended to provide a detailed assessment of the drainage system at present and form an opinion to forward to the Biodiversity Action Planners of the Local Auhtority. This is included as Appendix A to this report.

2.0 Survey Method

2.1 Individual drains were selected for the ease of access afforded. Many of the sites surveyed were at road or track crossings. This allowed easy access for measuring items such as water depth and salinity levels.

2.2 All flora and fauna features were noted and marked on annotated plans for future reference.

2.3 Adjoining land uses were noted and any impact these may have on the drain habitat were recorded.

2.4 Physical attributes for each site, such as water depth and channel width as well as salinity were noted.

3.0 The Survey

3.1 The survey covered the following drains in detail:

Hook Clough Pumping Station Approach Drain
Towns Drain at M62 and Glews
Church Lane Drain
Drain alongside South Field, Hook
Southfield Lane Drain (New Cut)
Hook Drain
Old Drain at disused railway
Potter Grange Pumping Station Approach Drain
Long Lane Drain
Drain across Airmyn Butts
Drain crossing Airmyn Road at Glews

3.2 The individual survey sheets are included as Appendix B. Map 1 shows the approximate locations of the survey points.

3.3 In general terms, the drains surveyed were of uniform cross section and highly maintained and engineered to a flood defence capability.

3.4 The habitat value of these drains is consistent with the engineered drain. In some places where water quality and the adjoining land use permitted, well developed habitats were present.

3.5 The remaining drains in the district were surveyed by visit and no detailed notes were taken. This approach was adopted as time constraints did not allow complex survey and the samples taken were judged to reflect the adopted watercourses generally.

4.0 Conclusions to the Survey

4.1 The majority of the drains in the district run through arable lands which limits their capacity to develop into mature aquatic habitats. The adjoining intensive land use is known to have a direct influence on the development of ditch habitats.

4.2 The drains which run through urban areas are often severely degraded by virtue of their position i.e. close to settlement. This tends to lower the water quality markedly as surface and foul waters are allowed to enter the system, legitimately or otherwise. The deposition of waste in the watercourse can often lead to a lowering in water quality. This severely hampers the development of aquatic life.

4.3 A number of watercourses were dry when surveyed. This was surprising to find in a year when rainfall levels are higher that those experienced in recent years.

4.4 Salinity levels and temperatures, in those drains which had water in them, were lower than could reasonably be expected in midsummer. This is attributed to the high rainfall experienced along with lower than average air temperatures.

4.5 Levels of salinity were measured at the inlet of the three Pumping Stations discharging into tidal waters. This was to detect whether there is saline water ingress into the system via the structures. These levels did not vary significantly from levels measured upstream. This cannot be taken as an indication of a total lack of ingress as high water levels meant that the pumps have been operating throughout the summer. Saline water, being more dense that fresh water, will sink to the base of the watercourse. Pumping activity cause turbulence which allows any saline waters to be diluted, thus reducing the salinity.

4.6 Overall, the district has drains which are of value to wildlife, whilst retaining a flood defence function.

4.7 The drain which has the highest habitat value, by virtue of its wild surroundings, is the approach drain to Potter Grange Pumping Station, between the old railway and the Pumping Station.

4.8 The drains which has the lowest habitat value are those leading to Long Lane Drain's junction with Hook Drain, excluding those flowing from the North. This is attributed to the residential nature of adjoining lands and that the area is used as a recreational area by the residents.

4.9 Species protected by the Wildlife and Countryside Act 1981 (as amended) were not observed during this survey. This cannot be taken as a definitive condition as developments may take place over the year.

5.0 Recommendations

5.1 It is recommended that the Board forward a copy of the Biodiversity Submission contained in Appendix A to the Local Authority for their consideration.

5.2 The contents of this report are intended for the Board's guidance and that of the officers in formulating maintenance and capital programmes.

5.3 If the Board feels that saline ingress may be a problem at Pumping Stations then several days of standing water will be necessary to allow any ingress to separate from the drain water. This is best carried out at periods of low fluvial flow and high tides to allow ingress to maximise.

5.4 Any new works to take into account the value to wildlife of making drain batters at a shallow slope. This allows the development of marginal vegetation such as reeds and iris whilst enabling a flow to be maintained through the central channel.

5.5 The drains of the district are in a reasonable condition from an environmental viewpoint with some in very good condition and others in an extremely poor condition.

5.6 The Boards attention is drawn to the recent addition of the water vole to the list of protected species. By its nature this may have serious implications if the vole is found to be living in drains maintained by the Board. The law states that the habitat of the vole is protected and that operations which may damage such habitat must be undertaken in a reasonable manner to avoid damage occurring. Advice should be taken from English Nature, as the Government's nature conservation advisor, as to the appropriate action for the Board to take on maintenance and reprofiling operations.