

## 9.0 CONCLUSIONS

### 9.1 Identification of Information Gaps

The purpose of this initial characterisation (baseline) report was to, as far as currently possible, characterise the water bodies and analyse the pressures within the South Eastern River Basin District. The initial characterisation exercise identified a number of information gaps which need to be addressed to allow completion of the characterisation process for delivery in accordance with the Water Framework Directive by December 2004.

These gaps arise either as a result of additional datasets required by the Water Framework Directive or due to the need for clarification of the methodologies and systems of the Directive which is at a relatively early stage of implementation throughout the EU and Nationally.

### 9.2 Actions Required to Address Information Gaps

These information gaps have been summarised in Table 9.1 which also indicates how these issues are to be addressed.

**Table 9.1 Identified Information Gaps**

Topic	Gap	Action
Characterisation of Surface Waters (Rivers and Lakes)	System to be adopted in Ireland	The EPA is piloting alternative systems for rivers utilizing GIS datasets. Lakes are also being addressed. The systems are likely to be agreed during 2003. Until the systems are firmed up reference conditions cannot be developed and the full Water Framework Directive monitoring requirements cannot be implemented. The Project will adopt the systems to delineate the water bodies within the South Eastern River Basin District.
Characterisation of Surface Waters (Transitional and Coastal Bodies)	Typology and System to be adopted in Ireland	The EPA has commissioned a research study into the approach to be developed with regard to coastal and transitional waters. A typology report is expected early in 2003. Again monitoring programmes cannot be finalized and implemented until this report is available. The Project will adopt the systems to delineate the water bodies within the South Eastern River Basin District.
Characterisation of Groundwaters	Methodology	GSI are currently liaising with GS(NI) and GS(UK) to develop a consistent approach for delineating groundwater bodies within the eco-region. Whilst significant progress has already been made, implementation of monitoring is dependant on completion of characterisation methodology. The Project will adopt the systems to delineate the water bodies within the South Eastern River Basin District.

Topic	Gap	Action
Physical Extent	Delineation of Boundary of River Basin District	The EPA have commissioned a DTM of Ireland to confirm the boundaries of the river basin district. Ground truthing of watersheds is to be undertaken during early 2003 to establish the legal boundary of the River Basin District.
Population Statistics	Up to date human population data	The CSO have released preliminary datasets. Further statistics are expected during 2003.
Geology	National Bedrock Coverage	GSI have been appointed to prepare a consistent and up to date bedrock map for Ireland. This mapping is approximately 75% complete.
Groundwater Bodies & Soils	National Groundwater Bodies and Soils Coverage	GSI have been appointed to prepare a consistent and up to date groundwater bodies map. Teagasc have been commissioned to prepare consistent and up to date soils coverage which will provide the necessary datasets for sand and gravels to be incorporated into the groundwater bodies map. These datasets are expected to be available for the SERBD in late 2003.
Land Cover	Up to Date Land Cover Image	The EPA has commissioned a land cover image for 2000. The dataset is expected to be released in Summer 2003.
Protected Sites	Nature Conservation Sites dependant upon groundwaters	Protected sites dependant on groundwater bodies need to be identified. The EPA has commenced a research study to identify water dependant habitats. Dúchas have commissioned a project to computerise park rangers records to identify these sites. It is desirable that comments on the significance of pressures at these sites are also made available electronically.
Protected Sites	Designation of nutrient sensitive areas	The DELG is in the process of consulting regarding the Government's proposal to adopt a whole country approach and submit a National Action Plan to the European Union to implement the Nitrates Directive. This Action Plan proposes to report on programmes of implementation of on a sample of farms and mini-catchments in Ireland. The objective is to study nitrate loss from agricultural mini-catchments under varying conditions to establish scientific justification for any derogations sought in Nitrogen application rates. It is proposed that if the Project undertakes agricultural studies these will participate in this programme.
Protected Sites	Location of Water Abstraction Schemes	The DELG have commissioned a project to create a national register of abstractions to include location, qualitative and quantitative data. Mapped sources are expected to be available from the Drinking Water National Monitoring Programme in 2004. The South Eastern River Basin District Project will ensure known private abstractions are included in the register.

Agricultural Statistics	Up to date Agricultural Census Data	The preliminary results of the 2002 agricultural census have recently been released. The Project has commissioned Teagasc to process these data to provide up to date livestock density and nutrient input maps. Teagasc have also been commissioned by the Project to prepare Soil Phosphorus, Runoff Risk and Nitrate Vulnerability mapping for use in assuming significance of diffuse pressures.
Sludges	Location of Spreadlands	There is no national database of spreadlands for sludge disposal for agricultural, industrial, water treatment and wastewater treatment plant sludges. The Project will endeavour to collate this information through records held by Local Authorities.
Septic Tanks	Location of Facilities and Dependent Population	The Project will ascertain the availability of this dataset from CSO. Were data to become available it would improve estimates of diffuse loading due to rural populations.
Urban Outfalls & Overflows	Location of Overflows and Outfalls	The Project will endeavour to incorporate existing datasets to be made available by Local Authorities into a database for the South Eastern River Basin District.
Water Status Classification Scheme	Details of Classification Schemes to be adopted	The Common Implementation Strategy guidance into monitoring systems has recently been prepared. Clarification is required at National Co-ordination Group level as to the classification systems for biological, physico-chemical and hydromorphological quality. This may necessitate collection of additional chemical parameters or biological indicators.
Hydromorphological Data	Physical properties datasets	The EPA have commissioned a project through the Central Fisheries Board to develop a nationwide methodology for hydromorphological assessment. Collating of physical datasets through hydromorphological assessments will commence in 2003. It is desirable that hydrological assessments identify significant flow controls as well as reaches/bodies which have been dredged or altered and areas prone to flooding.
Biological Data	Fish Species	Proposals have been prepared for an INTERREG project to survey fish species to provide data for biological reference conditions.
Hydrometric Data	Flow data availability	The EPA have identified deficiencies in the existing hydrometric network within the South Eastern River Basin District. The Project will prioritise investment of its hydrometric budget to provide good quality, automated readings of river flow at key sites. Available data for flood events will also be collated.
Groundwater Quantity	Groundwater Level Data	The Project will supplement the existing groundwater monitoring network to address significant data gaps.
Coastal/Transitional Water Quality Data	Availability of datasets	A research cruise is planned to help characterise the coastal/transitional waters. It is to be conducted by the Marine Institute in conjunction with EPA. The aim of the survey is to address information gaps.

Topic	Gap	Action
Status of Surface Waters	Coverage of datasets	The river status is generally well recorded in the South Eastern River Basin District due to the co-ordinated efforts of the EPA Kilkenny Laboratory. Once sites are characterised the Project Monitoring Programme will endeavour to supplement to existing programmes to address WFD and other national reporting requirements. The sampling frequency may need to be increased in some areas.
Dangerous Substances	Availability of inventories	Local Authorities are preparing an inventory of dangerous substances as a first step to implementing the Dangerous Substances Regulations. An INTERREG funded project is being developed to establish National monitoring needs. A database will be collated by the Project during 2003 once all Local Authorities have submitted their reports. The Project will develop dangerous substances/priority substances monitoring programmes to complement Local Authority measures.
Status of Ground Waters	Coverage of Datasets	The groundwater body characterisation will produce monitoring recommendations to be addressed as part of the Project's monitoring programme. Groundwater level monitoring programmes will also need to be augmented.
Status of WWTP	Monitoring Data	Sampling is not meeting UWWT Regulations requirements or EPA recommendations. The Project Monitoring Programme may supplement existing programmes.
Status of LA Licensed Industries	Monitoring Data	Monitoring is not meeting licence conditions. The Project's Monitoring Programme may supplement existing programmes.
Status of LA Regulated Industries	Licence Review	Some water quality parameters are absent (unregulated) in licenses.
Status of IPC Licensed Industries	Availability of Data	The EPA are reviewing their electronic database for IPC sites. It is desirable that the database incorporates co-ordinates and that monitoring data is made available electronically.
Waste Management Facilities	Availability of Data	There is no national database of monitoring data for licensed facilities. It is recommended that the EPA consider this whilst reviewing their electronic databases.
Agriculture	Status	Several Local Authorities have embarked on programmes of farm surveys and are using the Farms Modules of Labinfo/Catchment Envisage. The Project is endeavouring to support the Local Authorities with adopting GIS technology.
Agriculture	Nutrient Status	Soil Nitrogen tests are not available in Ireland. Procedures exist in other EU countries. Teagasc are to consider developing a testing programme on behalf of the Project.
Agriculture	Effectiveness of Measures	Agricultural pilot studies may be carried out to quantify the effectiveness of implementing measures. Studies have been implemented in some areas (Co Laois, Co North Tipperary, Co South Tipperary, Co Waterford). The Project may also develop studies into representative areas.

Topic	Gap	Action
Intensive Agriculture	Piggery Spreadlands	There is no national digital dataset available for piggery spreadlands. The location of piggery enterprises below IPC threshold is generally not known. South Tipperary Co Co are embarking on studies to collect this dataset and a piggery spreadlands digital database is being created.
Measures	Quantification	Whilst water quality is generally improving according to monitoring programmes there are few programmes which specifically quantify and review the effectiveness of measures. For example, monitoring has been incomplete for several schemes undertaken to improve treatment plants i.e. water quality data is generally not available up and downstream of receiving waters, flow data is absent and the plant effluents may fail discharge standards, suggesting inappropriate management. An EMS approach to water management will be developed by the Project to assist with this aspect. This will additionally improve liaison within Local Authorities for water quality management. South Tipperary Co Co is adopting this approach for its environmental section.

### 9.3 The Way Forward

During the second year of the South Eastern River Basin District Project monitoring systems will be implemented, GIS management systems will be further developed and an EMS system designed for the Project. These activities will address many of the identified data gaps. The Project will also continue to liaise with the National Co-ordination Groups and Working Groups established by the DELG to drive the implementation of the Water Framework Directive. Participation in these groups will agree procedures to address further data gaps ensuring that a full characterisation report can be submitted in accordance with the Water Framework Directive's milestone of December 2004.

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