

Chapter Eleven – Non-Technical Summary

This section of the Draft Environmental Report detailing the Strategic Environmental Assessment is a non technical summary. The purpose of this section is to ensure that the key issues and findings of the Environmental Report will be readily understood and insofar as possible the use of technical jargon is omitted.

Legislative Context - EU Directive on SEA (Directive 2001/42/EC)

The EU Directive on Strategic Environmental Assessment or SEA (Directive 2001/42/EC) came into force in July 2001 and requires Member States of the EU to assess the likely significant¹ environmental effects of plans and programmes prior to their adoption thus providing for the assessment of strategic environmental considerations at an early stage of the decision making process.



SEA – Practical Issues

Strategic Environmental Assessment (SEA) is the formal, systematic evaluation of the likely significant effects of implementing a plan or programme, during the preparation period of the plan or programme, and before a decision is made to formally adopt it. The SEA process thereby assists in and improves the quality of the plan making process by;

- Facilitating the identification and appraisal of alternative plan strategies;
- Raising awareness of the environmental impacts of plans; and
- Encouraging the inclusion of measurable targets and indicators.

The structure of this Environmental Report, which is the result of the Strategic Environmental Assessment, is in accordance with Article 1 of the Directive. This report therefore identifies, describes and evaluates the likely significant effects on the environment of implementing the plan's objectives and policies.

The formulation of the Draft Development Plan and the Strategic Environmental Assessment is an iterative process with each developed simultaneously and in tandem with the other. The making of a Development Plan is the reserved function of the Elected Members and the purpose of the SEA is to ensure that the policies and objectives contained within the plan will lead ultimately to the sustainable development of the County. Both documents must therefore be reviewed together.

The Draft County Development Plan 2009-2015

The plan has two main purposes, firstly it provides a framework of acceptable uses within the County, defining acceptable forms of development and where it should be directed and secondly it provides a detailed basis for the promotion and management of development.

Thus the plan provides a framework for the development of South County Tipperary over the period 2009-2015, incorporating the relevant strategic objectives at a national and regional level into a County specific format, while consolidating local level plans relating to issues such as biodiversity, heritage and community services and setting the context for Local Area and Development Plans.

¹ "Significant Effects" – These effects include secondary, cumulative, synergistic, short, medium and long term, permanent and temporary, positive and negative effects.

The Draft County Development Plan is based on the concept of sustainability, guiding economic and social development while simultaneously protecting the various aspects of the environment within the county. The Plan contains a number of policies and objectives which will facilitate the achievement of this guiding principle.

NB: The South Tipperary area covered by the draft development plan excludes the urban areas (and their environs outside the Town and Borough Council administration areas) of:

- Clonmel town and Environs;
- Carrick-on-Suir and Environs;
- Tipperary Town and Environs; and
- Cashel Town and Environs.

All of the above Town Councils are covered by their own development plans.

Methodology

The methodology used to carry out the Strategic Environmental Assessment (SEA) of the Draft South Tipperary County Development Plan 2009-2015 reflects the requirements of the SEA Directive and other relevant SEA documentation. Moreover, the Directive was transposed into Irish law through the Planning and Development (Strategic Environmental Assessment) Regulations 2004, S.I. No. 436 and the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004, S.I. No. 435.

Baseline Data

The baseline data establishes the current state of the environment and facilitates the identification, evaluation and subsequent monitoring of the effects of the plan. Thus, this information creates a platform whereby existing problems relevant to the Draft County Development Plan (CDP) can be quantified (where possible) or qualified thereby ensuring that the implementation of the Draft County Development Plan does not exacerbate these problems.

Baseline data has been collected from existing sources for each of the various environmental topics described in the SEA Directive i.e. biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage and landscape. No additional studies, as part of the SEA process, have been undertaken.

Population

From the 2006 census, the population of South Tipperary is 83,221, which represents an increase of 5.2% in the County population over the inter censal period from 2002 - 2006.

The findings of the 1996, 2002 and 2006 Census' show that approximately 40% of South Tipperary's population reside in the five main settlements of South Tipperary; Clonmel, Carrick on Suir, Tipperary Town, Cahir and Cashel. This means that approximately 60% of people in South Tipperary reside in settlements of less than 1500 population or in the open countryside². Whilst in the past this proportionate split may have been attributable to the strong agricultural economy, this explanation is no longer sufficient given the decline in agriculture and the changing lifestyle choices of our population.

More significantly perhaps is the fact that many of the village settlements of less than 1500 population have been subject to a decline in population; in some cases a significant decline. Hence the growth that has occurred is in the open countryside rather than within these settlements.

² Areas with a population of less than 1500 are defined as rural areas in the Sustainable Rural Housing Guidelines for Planning Authorities, 2005 issued by the DEHLG.

Biodiversity - Flora and Fauna

Biodiversity has become an integral part of the conservation of our wild areas and is a measure of the number, variety and variability of living organisms within a given area. The primary mechanism for conserving, protecting and enhancing biodiversity is through the National Biodiversity Plan 2002 of which a key concept is that local authorities (and indeed other agencies) share responsibility for the conservation and sustainable use of biodiversity.

An established legal basis exists to protect rare or threatened habitats. In this regard there are a number of areas within the county designated as proposed Natural Heritage Areas, Special Areas of Conservation and Special Protection Areas Protected. The importance of these sites is recognised and they will continue to be afforded protection through enforcement of current legislation and through the support of the local authority working in conjunction with other state/non-state organisations.

Soil and Geology

In general terms South Tipperary is characterized by a broad central plain, within the River Suir Catchment, this plain also contains the distinctive east-west mountain ranges in the south and undulating upland areas to the south.

The upland soils of the Knockmealdown, Galtee, Silevenamon and the Hollyford Hill ranges have been identified as Peaty Podzols, with a low nutrient status and peaty surface. Outcropping rock and poor drainage also limit grazing and forestry uses on this land.

Gley soils are common on the lower slopes of the uplands areas. These soils are heavy, poorly drained soils not given to arable cultivation without extensive drainage and artificial enrichment, and accordingly are limiting to various landuses. Basin Peat is common to the north west of the Slieveardagh hills which has limited use.

Acid brown earth soils are common in the Slieveardagh Hills and western and eastern areas of the southern lowland plains. These soils are similar in character to the Brown and Grey Podzols which cover the northern and central plains. Such soils are more suited to agricultural practice, giving rise to the local term, 'the Golden Vale'. Soils in this area are deep, free draining and medium textured with good moisture retention and are suitable for high quality grassland and tillage.

Water (Surface, Ground and Flooding)

For the purposes of this section of the Environmental Report the water environment is taken to include natural features such as lakes, rivers, streams and groundwater. Flooding is also dealt with in this section. Wastewater treatment and water supplies are dealt with in the material assets section.

Surface Water

There are approximately 350 kilometres of rivers in the County. The Rivers Barrow, Nore, Blackwater, Clashawley and the Lower River Shannon all flow through South Tipperary. Much of the lower River Suir and associated tributaries have been designated as a Special Area of Conservation (SAC). Under the Water Framework Directive the River Suir is a designated 'nutrient sensitive' river due to its use as a source of drinking water and its importance for wildlife. Nutrient Sensitive waters include nitrate vulnerable zones and areas designated as sensitive areas under the Urban Waste Water Treatment Directive (91/271/EEC).

Surface water quality is monitored by the Environmental Protection Agency. The 2005 river water quality report revealed that two-thirds of the locations sampled (16) were unsatisfactory, due to slight and moderate pollution, which is four more than the previous survey representing a significant deterioration in conditions. Three of the 24 locations examined, on the other hand, had improved to satisfactory conditions over the same period.

Groundwater

Groundwater is the water stored underground in formations of saturated rock, sand, gravel, and soil. Surface water and groundwater are intimately linked to each other within the hydrological cycle and is an important source of water for South Tipperary's streams, rivers and lakes. Thus the protection of groundwater quality from the impact of human activities is a high priority.

The Council has been proactive in the protection of groundwater resources and compiled the Groundwater Protection Scheme 1998 (amended 2001), which identifies the main sources for groundwater within the county and the vulnerability of such resources to pollution. The report outlines the geology, hydrogeology and groundwater quality within the County. The local authority have used this information to prepare interpretive maps, which facilitates planning and resource development in the form of a Groundwater Protection Scheme and associated Groundwater Protection Response Matrices. The main purpose of the scheme is to enable initial screening of potentially polluting activities.

Flooding

Parts of the County are subject to periodic flooding, exacerbated where settlements are located at old fording points along the rivers or in low lying areas. In recent years flooding on the rivers Suir, Anner, Multeen, Ara, Aherlow and Clashawley has occurred. Flooding along the River Suir has been exceptional in that the height reached by flood water, the duration of flooding, the extent of the areas affected and the cost of damage to property and infrastructure have all increased. This has been caused by a number of factors, notably, high levels of rainfall and very high tides at Waterford.

Air and Climatic Factors

Air Quality

Air quality is however generally good within the county, with the possible exception of intermittent localised problems, caused by peaks in through traffic, seasonal agricultural practices and infrequent issues concerning odours from industrial operations. The proliferation of HGV's arising from the many industrial activities throughout the county, including mineral extraction, forestry and distribution, can create and exacerbate capacity problems on the rural road networks.

Dust and airborne particulates from quarry operations, fill and construction sites can cause problems, particularly during dry periods when particulates are dispersed during excavation and transport.

Climate Change

Climate change is a transboundary issue affecting the entire globe and is fundamental to social stability and sustainable development. It is widely recognised that the build up of atmospheric Greenhouse Gases (GHG's) such as carbon dioxide is threatening global climate stability. Most GHG emissions are related to the energy generation, transport, agriculture and industry sectors.

Ireland ratified the UN Framework Convention on Climate change in 1994 and the Kyoto Protocol in 1997. Ireland has given an undertaking to limit the net growth of GHG to 13% above 1990 levels by the period 2008-2012. However the economic growth witnessed in Ireland over the past decade has resulted in GHG emissions being 29% above 1990 levels in 2002. Better use of energy and modal shifts in transportation will help to reduce Green House Gas generation.

Material Assets – Transport and Waste

Roads

The administrative area of South Tipperary has a road network of 2,859 km, comprising national Primary, National Secondary, Regional, county and Local roads. The N24 traverses the County, linking the gateway cities of Limerick and Waterford. The N24 is identified as a "key national primary route" in Transport 21 and the preferred route alignments have been identified.

Rail

South Tipperary is traversed by two rail lines; Dublin-Cork and Limerick-Waterford. The Dublin-Cork route offers an hourly service between Dublin and Cork with at least 20 services to Limerick Junction daily mid-week facilitating effective and efficient access to Dublin, Cork and Limerick.

Bus

Bus Eireann provides expressway and rural routes in the county operating throughout the County on a daily or weekly basis. Bus scheduling for commuter transportation (passenger journey to work) is very poorly scheduled and needs to be reconsidered and rescheduled so as to provide an effective alternative to the private car.

In addition, a number of rural transport initiatives, such as Ring a Link, provide an invaluable service to rural dwellers who have no access to private transport and who, without the service, would be isolated. The Ring a Link Service is continually expanding providing affordable transport to rural areas, particularly serving the Tipperary Town, Clonmel and Slieveardagh areas on a weekly or twice weekly basis.

Waste Management

On average, approximately 90% of waste in Ireland is sent to landfill. The average household produces almost 1.5 tonnes of waste a year. This amount of waste can be reduced by prevention, minimisation, reuse and recycling. In fact about half of this waste could usefully be recycled. Recycling reduces the use of raw materials, lowers energy costs and results in less waste going to landfill.

The six Local Authorities in the South-East have collaborated to create and implement a Joint Waste Management Plan, which is aimed at securing the best environmental management of waste, including prevention and minimisation where possible and practical. The Plan aims to ensure that waste is used as a resource, resulting in a better solution for the people and the environment in the South-East.

A total of 26,988 tonnes of household waste was collected by household collection service providers in South Tipperary in 2003. Both the public and private sectors provide household waste collection services. South Tipperary County Council, Clonmel, Carrick-on-Suir, Tipperary and Cashel Urban District Councils are all involved in household waste collection and service approximately 15,000 or 57% of householders. A two-bin collection service has been implemented on all public and privately operated collection routes. Private collectors service approximately 25% of householders. The remaining 4,810 or 18% of householders are assumed not to be participating in a weekly refuse collection.

Material Assets - Water Supplies/ Wastewater Treatment

Water Supplies

South Tipperary County Council maintains 6 regional water supply schemes through a network of 28 water sources, 59 reservoirs and 2,100 km of piping serving over 71,000 people. South Tipperary extracts drinking water from both ground and surface water sources.

South Tipperary County Council prepares a water services needs assessment and programme every five years and there is currently a draft proposal prepared for the period from 2008. This assessment prioritises the strategic water investment proposals for the county, including the Primary and Secondary Service Centres of Clonmel, Carrick on Suir, Tipperary Town and Cashel, in line with the settlement strategy set out in the Draft County Development Plan.

The European Communities (Drinking Water) Regulations, 2000 took effect in Ireland on 1st Jan 2004 and set standards in relation to water quality. The overall rate of compliance in South Tipperary was 97.1%, and was above the national average.

Wastewater Treatment

South Tipperary County Council maintains 16 sewage treatment plants throughout the County. Local Authorities are obliged to provide treatment facilities to a level required under EU legislation. The Water Services Investment Programme – Assessment of Needs (1999) identified the key projects for the improvement of sewage treatment in towns and villages in the County from 2000 to 2006

Landscape

A Landscape Character Assessment of the upland areas has identified eight Landscape Character Areas (LCA's) within the county. These are sections of the county which are treated as a unit in visual and physical terms and may consist of several Landscape Character Types.

The Landscape Character Assessment Phase 1 report identifies the following issues.

Knockmealdown Mountain

- Overgrazing of moorlands and traffic along way-marked walks at viewpoints accessible by road may lead to further depletion of the soil quality locally, potentially affecting biodiversity.

Galtee Mountain

- Traditional settlement pattern and vernacular architecture has been compromised by recent non-agricultural rural housing development.

Slievenamuck

- Continuing associations of legends and stories with Slievenamuck add to historic/cultural value.
- Although limited land capability, the area remains productive, with extensive coniferous forests contributing to the local economy.

Glen of Aherlow

- Traditional settlement pattern and vernacular architecture has been compromised by recent non-agricultural rural housing development and by alternative farm enterprise developments (e.g. pig farms).
- Nationally acknowledged recreational amenity value provides potential for further focused development of the area's tourism economy.

Slievenamon Mountain

- Sparse settlement pattern, limited to lower slopes, where there has been little recent development. Clusters of cultural-historic features and monuments existing suggest long history of agriculture and settlement on the lower slopes of the uplands.
- Marginal quality of the uplands results in limited land capability.

Lingaun Valley

- Combination of socio-cultural and ecological values of the area create the potential for enhanced tourism in the area.

Hollyford Hills

- Sparse settlement structure, resulting in a lack of 'sense of place' or identity.
- Generally marginal quality of the Hills result in limited land capability.

Slieveardagh Hills

- Relatively poorly drained soil (acid brown earth) predominant in the area results in a limited land capability and farmland of generally marginal quality.

Cultural Heritage

South Tipperary is best known for its rich medieval heritage, however there are a number of important prehistoric monuments located within the county. The earliest of these is a passage-tomb at Shrough, on Slievenamuck, south of Tipperary Town which dates to Neolithic times (c. 4000 – 2400 BC). In the western part of the county, around Emly and Lattin, there is a dense concentration of barrows, earth-built burial monuments from the Bronze and Iron Ages (c. 2400 BC – AD 400).

The Rock of Cashel, undoubtedly Ireland's most spectacular medieval religious site, was a pre-Christian centre of power. Cormac's chapel, the extraordinary 12th century Romanesque church is the only example in Ireland with surviving original wall paintings. Other lesser known church sites of the period are Toureen Peakaun and St. Berihert's Kyles, both near Cahir, each with a holy well and fine collection of inscribed slabs.

The Anglo-Normans brought a new order towards the end of the 12th century. The new settlers constructed many large earthen mounds, known as 'mottes' which would have had a timber castle on their summits. They dominated the local landscape and were often built at strategic points such as river crossings, for example at Kilsheelan. One of the largest mottes in the country stands at Knockgraffon, near Cahir.

There were also hall-houses for the lords – such as the castle in Mullinahone. Villages were established, invariably accompanied by a parish church and a tower house. Sometimes these are all that survive of the original settlement, such as Buolick near Littleton. Many towns owe their origins to this period – towns which were contained within the limits of a town wall – Fethard having one of the most intact town walls in Ireland. Cashel and Clonmel also have good stretches of town wall surviving, in both cases this can be best appreciated in the grounds of the Church of Ireland churches. Both Tipperary Town and Emly were also walled, but little evidence remains today.

The other great monuments of the later medieval period are the religious houses with several of the continental orders being attracted to South Tipperary. Among the many fine examples are Athassel Abbey, near Golden, a foundation of the Augustinian Canons; Kilcooly Abbey near Ballingarry; Hoare Abbey at Cashel, the latter two being Cistercian foundations and Moor Abbey in the Glen of Aherlow, founded by the Franciscans.

A number of key settlements within the county are of particular importance because of the quality of historic features, town walls and fortifications, street layouts, building orientation and amenity spaces. South Tipperary Local Authorities in conjunction with local interest groups, The Heritage Council and Fáilte Ireland have appointed consultants to compile the Cashel and Fethard Town Wall Conservation and Management Plans which will guide and manage conservation works and will identify a suite of policies and objectives to manage the development of respective protected structures and associated lands. These towns, along with Clonmel form part of the Irish Walled Town Network.

Alternatives

At the outset of the County Development Plan process, a number of development scenarios were highlighted based on the current and predicted future needs of the County. In broad terms the scenarios were grouped into three viable and differing approaches. Each scenario has a differing outcome and these are discussed further below. The alternatives considered are broadly defined as:

- Option 1 – Non Planned– Non-restrictive (Worst Case);
- Option 2 – Guidance Only – Open for consideration, Developer led; and
- Option 3 – Planned – coordinated and managed - sustainable.

Option 1: Non-Planned

The non-planned approach to the future development of South Tipperary can be viewed as the 'worst-case' scenario. In order to develop under this scenario, the Planning Authority would allow for development to proceed in an ad hoc manner at any location within its functional area. The scenario envisages potentially inappropriate lands around settlements zoned for development without truly assessing the overall need for, or scale of development. As a result development pressure both on the fringes of towns and villages as well as in the open countryside would result. Consequently development would occur in unserved or insufficiently served areas. This policy would not require careful consideration of the environmental impacts of such development, either individually or cumulatively. There would be few or no restrictions on development.

While this alternative would allow for development and would provide some short term economic benefits to the county, it is not sustainable and therefore not a viable or acceptable alternative in practice. Such development is uncontrolled and essentially developer-led but without the key infrastructure in place. This option would result in the development of the county through market forces in an unsustainable manner. The physical and socio-economic characteristics would at best remain as they are, though deterioration is more likely. This scenario takes a short term view of developing the county with no consideration of the long term negative impacts.

This weak planning approach would have the following results:

- A deterioration in the rural landscape and natural environment;
- No clearly definable settlement strategy;
- Promoting development at any location throughout the county;
- Serious traffic congestion and disruption to existing residents throughout the county;
- Inadequate environmental measures, leading to a sub-standard environmental quality;
- Impact negatively on the visual amenity and potential of the County area; and
- Domination of market forces resulting in piecemeal development and a weak socio-economic county structure.

Option 2: Guidance Only

The 'Guidance Only' scenario sets forth the preferred development strategy for the County as envisaged by the County Council. However the implementation of the Plan is somewhat lackluster and would only be viewed as the preferred approach but not the enforceable approach. This scenario favours the developer, though some control is still exerted by the local authority. While development in broad terms will be directed to certain areas, a significant level of flexibility will be employed when considering development in other areas, particularly in sensitive parts of the county. In much the same way as the weak approach, the future development of the county would be haphazard and somewhat uncontrolled, allowing others to dictate the location and scale of development. The result would likely include:

- Reasonable quantity of development within the county, in line with predictions;
- Poor control on development;
- Lack of long term focus; and
- Poor environmental protection.

Option 3: Planned.

A planned approach to the approval of acceptable development within the county will enable development to be targeted to key areas in a sustainable and managed way. This approach ensures that the predicted growth is accommodated in a planned and orderly manner. Ultimately the core issue of sustainability is addressed and significantly a balance between development and environmental protection is enshrined in the plan. Thus, this approach is a long term vision for the County.

The planned approach will result in the implementation of the Settlement Strategy as outlined by the County Council and the targeting of new employment in key areas. The plan will identify key

areas for future growth and will ultimately zone appropriate lands around established settlements thereby promoting their long term sustainability. Furthermore, the linkages between key development areas and strategic transport links to other regions outside of the county will be preserved. This will ultimately promote the long term viability of the identified development nodes.

Severely restrictive policies towards development in highly defined sensitive areas such as those listed as NHA, SPA, SAC or indeed those areas highlighted as being sensitive in terms of ground water resource protection or visually sensitive will apply. Under this scenario the following results are envisaged:

- Implementation of Settlement Strategy and promotion of key settlements;
- Key areas for growth will be identified and promoted;
- Strategic or key routes and linkages will be identified and preserved;
- There will be a high level of environmental protection;
- Valuable natural resources such as water quality are protected; and
- The rural economy and social networks are supported.

Conclusion

The Draft South Tipperary County Development Plan seeks to balance development with environmental protection and conservation, the sustainable approach. The matrix shows that Option 1, adopting a Non-Planned approach, allowing development of all areas with little control exerted, will present significant environmental problems and will be contrary to the principles of sustainable development. This option would not allow for the orderly and sustainable development of the county and is therefore not considered as a desirable option for South Tipperary.

Similarly Option 2, the 'Guidance Only' approach, is not a desirable option. While the Local Authority may set forth its preferred strategy for the future development of the County, it is for guidance purposes only. This option would not realise the long term vision for the County and may instead result in poor environmental protection and ad hoc, unsustainable development.

Option 3 allows for planned development and represents a sustainable approach to planning in the County. Development will be focused within zoned and serviced areas. Significant restrictions will be put in place to development in areas designated for environmental purposes such as NHA, SAC and SPA as well as areas of archaeological importance or where threats to natural resources prevail, such as ground and surface waters.

In conclusion a planned approach to the further development of the county incorporating the principles of sustainable development is the option best suited to South County Tipperary.

Environmental Assessment

It is worth reiterating that the development of the Strategic Environmental Assessment is an iterative process, carried out in conjunction with the development of the Draft County Development Plan. The principal reason for doing so is to ensure that negative environmental impacts are highlighted at an early stage enabling them to be effectively 'designed out' as soon as possible. The result is a Draft County Development Plan which has had due regard to the environmental issues pertaining within the County and any resulting negativity is shown to be minimal.

The long term future development of South Tipperary is framed within the Draft Development Plan for the County. The Council have adopted a 'Planned' approach and correspondingly the policies and objectives contained within the Plan have been devised in accordance with the guiding principles of this strategy. The assessment matrix, provided as Appendix 1 to this Report, has assessed each policy and objective against the Environmental Objectives and has

demonstrated that the Plan has a significant sustainable dimension - the Plan will ensure the orderly development of the County without adversely affecting the quality of the natural and built environment.

Mitigation

The quality of the environment within the County can, in broad terms, be concluded to be high, indicating the importance to the local authority of the various environmental resources. The rich and varied landscape and the wealth of heritage assets form the basis for the high level of amenity in the County. To this end, the mitigation and enhancement measures will ensure the continued protection of the natural and built environments throughout the lifetime of the Plan.

It has been shown in the assessment that the overall impact of the proposed development strategy for the County will have a neutral to positive impact on the environment generally.

It must also be stated that South Tipperary County Council is the planning authority with responsibility for development management within its functional area. The planning process is the principal mechanism available to the local authority to primarily control development and ultimately to prevent adverse environment impacts.

In general terms, all proposals for development will be required to have due regard to the environmental considerations outlined in the Draft County Development Plan. Proposals for development which are deemed contrary to the objectives and policies contained within the Plan will not normally be permitted, and if permitted, not without the appropriate site and development specific mitigation measures.

Monitoring

Under the Planning and Development Act, 2000 (as amended), the County Manager is required to prepare a progress report on the implementation of the plan. The environment is a significant consideration and the progress report will include the key findings of the environmental monitoring programme as outlined in this chapter of the SEA.

Monitoring of the County Development Plan and its implications on the environment is paramount to ensure that the environment of the county is not adversely affected through the plans implementation. Under Article 10 of the SEA Directive monitoring must be carried out of the significant environmental effects directly related to the implementation of the Plan *“in order to, inter alia, to identify at an early stage unforeseen adverse effects and to be able to undertake appropriate remedial action.”* The Department of the Environment, Heritage and Local Government Guidelines on SEA recommends that monitoring does not require new research activity; existing sources of information can be used and the task of data collection can be shared.

While considerable environmental data is directly available to the Council such as water quality, recycling rates etc, other sources of information will be accessed to provide a comprehensive view of the effect of the Plan. In this regard the Local Authority will work with other agencies with environmental mandates to gather data for the purposes of monitoring the implementation of the Plan. Therefore, while monitoring specific elements of the environment is not strictly the preserve of the Council, the Council will continue to liaise and work with the Environmental Protection Agency, The National Parks and Wildlife Service, The Fisheries Board, as well as others in the pursuit of environmental conservation and protection through existing environmental monitoring procedures.

It is proposed, in accordance with the Directive, to base monitoring on a series of indicators which measure changes in the environment, especially changes which are critical in terms of environmental quality, for example water or air pollution levels. The indicators aim to simplify

complex interrelationships and provide information about environmental issues which is easy to understand. An indicative list of environmental indicators is provided in the table overleaf.