Measúnacht Straitéiseach Timpeallachta
Plean Forbartha Dreacht Chondae Lu
2009 - 2015

Strategic Environmental Assessment
Louth County Draft Development Plan
2009 - 2015

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Strategic Environmental Assessment – An Introduction

The EU Directive on Strategic Environmental Assessment or SEA (Directive 2002/42/EC) came into force in July 2001 and requires Member States of the EU to assess the likely significant 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.

Strategic Environmental Assessment (SEA) is a formal, systematic and comprehensive evaluation of the likely significant environmental effects of implementing major public undertakings such as the County Development Plan, before the decision is made to adopt it. Strategic Environmental Assessment can accommodate and if necessary, negate the cumulative environmental impacts which may arise from the implementation of the Development Plan.

The process of preparing a Strategic Environmental Assessment runs in parallel to that of formulating the Development Plan and the same opportunities for comment afforded to the public through the Development Plan process are available for the SEA process. It is an important and integral part of the Development Plan review process. The purpose of SEA is:

- To provide an environmentally sound framework for guiding the making of development plan policies at an early stage
- To integrate environmental considerations into the preparation and adoption of plans
- To improve the environmental sustainability of the new Plan
- To raise awareness of the potential environmental consequences of its implementation so that these consequences may be mitigated or avoided altogether
- To increase public participation in environmental decision making

Strategic Environmental Assessment can be defined as: the formalised, systematic and comprehensive process of evaluating the environmental impacts of a policy, plan or programme and its alternatives, including the preparation of a written report on the findings of the evaluation, and using the findings in publicly accountable decision making.

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

Description of the Plan

The County Development Plan will be the new statutory plan for County Louth for the period 2009-2015. County Louth has three planning authorities operating within its boundaries. Both Drogheda and Dundalk have independent local authorities which produce their own development plans albeit in co-operation with the County Council principally in relation to those suburban environs areas of the two towns which are administratively within the county's territory.

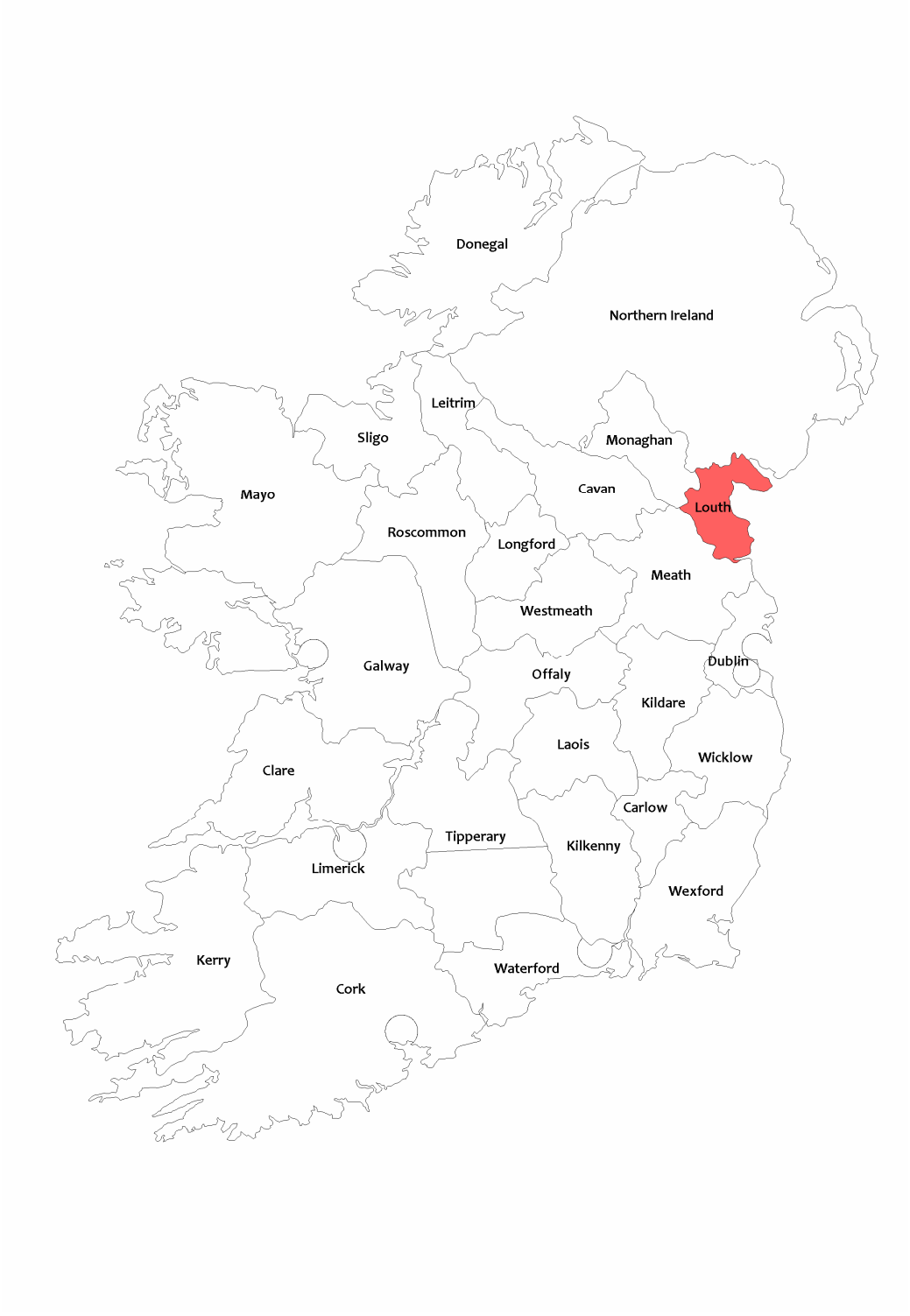
The current Louth County Development Plan 2003 – 2009 will remain in force until June 2009. The new plan, once adopted will supersede the previous plan 2003 – 2009. The plan has two main purposes, firstly to provide a framework of acceptable uses within the County, defining acceptable forms of development and where it should be directed and secondly to provide a detailed basis for the promotion and control of development. The plan thus provides a framework for the development of County Louth over the plan period, incorporating the relevant strategic objectives at a national and regional level into a County specific format.

The Development Plan establishes a framework for the future development of the county as a strong and energetic community, with a beautiful, clean environment, a rich and varied heritage and a vibrant and diverse social, cultural and economic life. The Development Plan seeks to realise this vision both directly in its role as planning, housing, sanitary and roads authority and indirectly by facilitating and promoting the social, economic and cultural development of the County.

Portrait of County Louth

County Louth is strategically located at the geographic centre of the Belfast – Dublin corridor. The county has an area of 821 km^2's, the smallest county in the Irish Republic, sited at its north east extremity. It is bordered by four counties, Monaghan to the west, Meath to the south and Armagh and Down to the North. Some of the adjacent counties contain major population centre's which are in close proximity to Louth. They include Navan in County Meath and Newry, Craigavon and Banbridge in counties Down and Armagh. County Louth is bordered by the Irish Sea to the East. The County's coastline stretches some 61 km from the River Boyne in the south of the County to Carlingford Lough in the north. In contrast to much of the State, Louth is a predominantly urbanised county, however, away from the major towns the county contains a wide variety of landscapes from the hill and mountain areas of Faughart and Cooley in the north to the relatively low lying pastoral areas which dominate the mid and south of the county. The county is blessed with a wealth of natural and manmade features including mountain trails, beaches, nature walks heritage sights and numerous protected structures. The economy of the county, once predominantly industrial, has now evolved into a high tech, knowledge based economy.

Map 1: County Louth within Ireland



Map 2: County Louth contextual map

Methodology

The methodology used to carry out the SEA of the Louth County Development Plan 2009-2015 reflects the requirements of the SEA Directive.

SEA Methodology: Key Stages

Screening: Determination of whether a full SEA is required for the Plan

Scoping Report: Identification of issues and level of detail which the environmental report should address

Preparation of the Environmental Report

Consultation, Revision and Post Plan Adoption Activities

Screening

The screening process involves the determination of whether the implementation of the plan is likely to have significant environmental effects on the environment. The SEA Regulations stipulate that SEA is mandatory for certain plans while screening for SEA is required for other plans that fall below the specified thresholds. It is clear from a review of the available material that an SEA is required for the Louth County Development Plan. In particular it should be noted that the Directive states an environmental assessment shall be carried out for all plans and programmes; "which are prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use and which set the framework for future development consent of projects listed in Annexes I and II to Directive 85/337/EEC"

Directive 85/337/EEC, Annexes I and II list a wide range of built projects, the majority of which are subject to control under the Planning and Development Act 2000. In addition to this, the directive notes that for the purposes of definition:

"Plans and programmes" shall mean plans and programmes, including those co-financed by the European Community, as well as any modifications to them:

- which are subject to preparation and/or adoption by an authority at national, regional
- or local level or which are prepared by an authority for adoption, through a legislative procedure by Parliament or Government, and
- which are required by legislative, regulatory or administrative provisions;

As a statutory requirement under the Planning and Development Act 2000, the Louth County Development Plan 2009 – 2015 clearly falls within this definition of "Plans and Programmes" within the directive. As such, screening of the plan will not be required and the process moves directly to the Scoping Stage.

Scoping

Louth County Council carried out a scoping report to establish the scope and extent of the Environmental Report and to list environmental issues which would require further consideration during the SEA process. Scoping allows for a more focused SEA, dealing with important environmental issues or problems. The scoping exercise was completed in June 2008.

Baseline Data

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

Population and Human Health

The population of County Louth was 110,894 at the time of the 2006 census, which represents an increase of 8.9 % in the County population over the inter censul period of 2002 - 2006. County Louth has a strong settlement structure dominated by the presence of the two largest provincial towns (excluding cities) in the State, Drogheda and Dundalk. These two towns with populations of 28,973 (Drogheda) and 29,037 (Dundalk) account for over 50 % of the total population of the County. When the urban environs of both towns are included within the census figures, the proportion of urban dwellers rises even further. Elsewhere in the County, there is an even spread of population across a range of towns, villages and open countryside. The other urban centres of significance within the County include the towns of Ardee, Dunleer and Carlingford.

Biodiversity, Flora and Fauna

The natural heritage of the county is an important asset and a unique resource within the county.

The variety of habitats, upland areas, marine ecosystems, farmland and aquatic systems, spread throughout the county supports a diverse array of flora and fauna and protecting and conserving these habitats is important both to the county, and also in some instances at national and international level.

There are a number of areas within the county designated as Natural Heritage Areas, Special Areas of Conservation and Special Protection Areas. Notable among the designated sites are Carlingford Lough, Dundalk Bay and the Boyne Coast and Estuary.

Soil

The soil mix in County Louth is surprisingly varied for such a relatively small area. the Cooley Lowlands and Coastal Areas where the underlying cover of limestone and glacial deposits have resulted in a rich soil cover of acid brown earths with some gleys and brown podzolics. In nearby Carlingford Lough and Mountains including West Feede Uplands quite a variety of soils are found. In the higher areas of the peninsula there are Lithosols with blanket peat and peaty podzols. Lower down there are a variety of brown podzolics with gleys and peats. To the west there are acid brown earths with some gleys and podzols. North and West of Dundalk lie the Lower Faughart, Castletown & Flurry River Basins. Here the soils are acid brown earths with a mix of gleys and brown podzolics. There are a few small areas of lowland peat bog. This mixture of soils is reflected in farming patterns through the county with a predominance of smallholdings in the vicinity of the Cooley Peninsula characterized by animal husbandry whilst farms are generally much larger and towards the mid and south of the County and tending towards arable farming except in a few higher pockets north of Drogheda.

Geology

In geological terms Louth is a county of dramatic contrasts within short distances. The Cooley Peninsula acts as a defacto extension of the Mourne Mountains to the north east in Northern Ireland and therefore composed mainly of granite. This high ground dramatically concedes to transition rocks in the flat areas of the peninsula and this is very noteworthy in the environs of Dundalk. The rest of the county is predominantly low lying and flat chiefly characterized by shales and greywackes with the exception of the the lowlying hills noth of Drogheda at in the Fieldstown area and in the vicinity of Collon. The other noticeable geological and topographical features of the county occuar north and west of Dundalk with the emergence of clay based Drumlin landscapes which are more characteristic of counties Monaghan and Down to the north and west.

Ground and Surface Water

The EU Water Framework Directive 2000 sets an agenda for the protection and improvement of water bodies such as rivers, lakes and streams, groundwater resources and coastal / estuarine waters, on the basis of River Basin Districts It is concerned with all "natural" waters and their uses and brings water-related directives under one framework, including those dealing with bathing water, drinking water wells and supplies, water taken from rivers, sewage disposal and the protection of salmon and shellfish habitats. The directive places an onus on local authorities to prevent any deterioration in the existing status of our waters, including the protection of good and high status where it exists, and to ensure that all waters are restored to at least 'good' status by 2015.

River Basin Management Plans

The Water Framework Directive utilises the river basin as the natural unit for water management. Each river basin within a Member State must be assigned to a river basin district (RBD) and the Member State must arrange for co-ordination of administrative arrangements for water management measures in relation to each RBD. County Louth straddles two River Basin Districts; the Neagh Bann and the Eastern River Basin District. However the bulk of County Louth lies within the Neagh Bann River Basin district and is administered as part of the NS Share River Basin District Project.

Draft Neagh Bann River Basin Management Plan 2008

Within the Louth portion of the Neagh Bann RBD, 64% of river ecological status is 'Moderate', 12% is 'Good', 2% is bad and 14% is poor. None of the surveyed rivers achieved 'High' status. With regard to coastal waters both Outer Dundalk Bay and Carlingford Lough achieve moderate status whilst the Mourne Coast (east of the Cooley Peninsula) achieves Good Status. The remaining Louth Coast south of Dundalk to the boundary with the Eastern RBD has a status yet to be determined. Throughout the County Louth portion of the Neagh Bann RBD, groundwater status is good. With regard to surface water chemical status, only Outer Dundalk bay has poor status with the Louth Coast, coastal waterbody yet to be determined.

The County Louth portion of the Neagh Bann RBD draft plan contains a number of basic and supplementary measures which aim to achieve a number of key objectives with regard to rectifying deficiencies in waterbody status. For surface waters, the core objective is to prevent deterioration, and in particular maintain high or good status. For groundwater's, the core objective is to limit pollution inputs and prevent deterioration. In restoring good status the core objectives for surface waters are to improve waters where necessary in order to achieve at least good status. For groundwater's, the core objectives are to improve quantity and chemical quality where necessary to achieve good status. With regard to chemical pollution the core objective is to reverse increasing pollution. In order to achieve these objectives a number of basic and supplementary measures must be taken. The basic measures are required by law. The measures include; cost recovery for water use, promotion of efficient and sustainable water use, protection of drinking water sources, control of abstraction and impoundment, control of point source discharges, control of diffuse source discharges, authorisation of discharges to groundwater's, control of priority substances, controls on physical modifications to surface waters, controls on other activities impacting on water status and prevention or reduction of the impact of accidental pollution incidents. The eleven measures are based on eleven EU directives on water protection. A large number of supplementary measures are also proposed. These include measures which should be considered where the basic measures may not be sufficient to achieve the core objectives. The supplementary measures are targeted at those areas where problems have been identified. Thus urban and industrial discharges have ten (10) supplementary measures, Wastewater from unsewered properties has seven (7), Agriculture has four (4) Landfills, quarries, mines & contaminated lands have two (2) and forestry has twenty (20).

Draft Eastern River Basin Management Plan 2008

The Louth portion of within the Eastern River Basin District accounts for just 1% of the County and 10% of the river basin district. He principal river catchments concerned are the Mattock and Baltray. Estuary and transitional Waters include the Boyne Coast & Estuary whilst there is a Coastal Water zone known as the Boyne Estuary Plume Zone. All the waterbodies concerned have programmes of measures (POMS) devised which, when implemented are designed to achieve good status for each water body. The programmes of measures comprise basic measures which are required by law and non-statutory measures deemed necessary. The Baltray Catchment has been assessed as moderate and is expected to achieve good status by 2015. The Mattock Catchment has also been assessed as moderate, however due to a range of agricultural and domestic pollution sources, the catchment is not expected to achieve goods status by 2015. The Boyne Coast and Estuary (Estuary and Transitional Waters) has a status classed as moderate. It is not expected to achieve good status by 2015 due in large part to the influence of a range of wastewater and industrial discharges. The status of coastal waters within the Louth section of the RBD (Boyne Estuary Plume) is high and is expected to achieve good status by 2015. Within the Louth portion of the Eastern RBD, groundwater status is poor however restoration of groundwater is expected to be complete by 2015.

As with the Neagh Bann draft RBD plan, the Eastern draft RBD has proposed a number of basic and supplementary measures which are intended to address the problems identified in the draft PLAN. These are detailed in the text of the environmental report. Implementation of the Water Framework Directive will have significant implications for existing farming practices, settlement strategies, relevant data availability and water quality itself.

Flooding

Flooding risk is a function of a number of variables or parameters such as high rainfall over prolonged periods, high intensity rainfall, increased runoff, river capacity, reduce floodplain storage etc. Flood risk is an important consideration in the location of new development in throughout the County but more so in coastal locations where the County's extensive coastal exposure could make it especially susceptible to coastal flooding. A combination of high tides, waves, high winds and surges developed from low-pressure systems can lead to extensive flooding. Current predictions of climate change indicate that the risk of flooding from the sea will increase in the future. Any area below current or predicted future peak sea levels, including areas behind existing defences that offer only a certain level of protection, are at risk from flooding in the future. At a more general level current predictions of climate change in Ireland indicate that winters will become wetter and the rainfall distribution 'stormier', and that sea levels will rise. This would mean that areas not currently prone to flooding may be at risk from flooding in the future.

Air and Climatic Factors

Air Quality

Air quality in the County would is generally good, with the exception of intermittent localized problems particularly in urban areas. Ongoing and historical monitoring of air quality at three locations in the county and one adjacent location in County Meath has revealed that only Dundalk has exceeded recommended air quality parameters. This is attributable to traffic peaks and congestion.

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. 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 during the period of the so called 'Celtic Tiger' era resulted in GHG emissions being 29% above 1990 levels in 2002. Most GHG emissions are related to the energy generation, transport, agriculture and industry sectors. Within the State, the greatest increase in GHG emissions over recent years has resulted from the unparalled growth in the use of private internal combustion engine vehicles – cars, for virtually every journey undertaken by individuals. This use of cars has mirrored the growth in the economy during the 'Celtic Tiger' years but is also reflective of the poor provision and utilization of public transport and the lack of acceptance of the viability of other, more sustainable transport modes such as cycling or walking.

Material Assets – General

Material Assets in the area include settlements, buildings, infrastructure and utilities. All of the designated settlements within County Louth ranging from the largest towns to the smallest Category II (b) clusters have plans in place which are designed to direct development to the most appropriate locations taking into account the availability and capacity of infrastructure both existing and proposed. These plans have acted as a catalyst for focused development and the strengthening of the County settlement framework.

County Louth's pivotal location at the centre point of the Belfast – Dublin economic corridor means that it is well serviced by transport, telecommunications and energy infrastructure. In particular, the presence of the M1 road corridor down the spine of the entire county together with the largely parallel intercity and suburban service rail line, means that the county has an enviable location. The County is also traversed by the N2 National Primary route thereby providing ready connectivity to the population centres of the north west of the Island.

Waste Management

Louth County Council has actively been involved in facilitating the delivery of a more sustainable approach to waste management within the County. Key to this was the adoption of the current Waste Management Plan for the North East (2005-2010). Regional Waste Management Plans outline the infrastructure that should be put in place to meet the needs of a growing population and economy. The Waste Management Plan for the North East (2005-2010) policy is based on the internationally recognised waste hierarchy of prevention, minimisation, re-use / recycling, energy recovery and finally the environmentally safe disposal of residue waste in landfill. Implicit in this is the integrated approach to resource management. At national level significant progress has been made towards meeting EU waste recycling targets. A fundamental and growing problem with waste management nationally is the growing volume of waste. The nation is producing over twice as much household and commercial waste as it was a decade ago. Waste generation has been increasing in tandem with the increasing consumption of goods and services.

Material Assets – Water Supplies / Wastewater

At present, the public drinking water in the County is sourced by surface water abstraction from the Boyne, Dee, Glyde and Fane Rivers. Additional abstractions are made from a variety of groundwater sources throughout the County. Some 80% of the County population is served with a public water supply. The water is collected at source and treated to ensure that drinking water supplied to customers meets all EU and national water quality standards. Louth County operate twenty (20) public supply schemes. A number of Group schemes are also supplied from public mains and these are in effect operated by the Council. A further eight (8) private group schemes operate within the County and are supported through the Rural Water Programme. The balance of the remaining residential properties are serviced by individual wells or other private sources of supply.

Louth County Council's Assessment of Needs was carried out to cover the period from 2007-2014 and sets out a strategic investment program of some €169.4 million with prioritised projects, based on objective assessment criteria. The Council will be required to draw up a Water Services Strategic Plan during the course of the Development Plan. The plan will set out a strategy for the provision of water services in the county taking cognisance of sustainable development, affordability, environmental constraints, service quality and regulatory criteria.

Sewage Schemes

The Council directly operate fourteen public sewerage schemes. All of the County's towns and villages have wastewater treatment plants. The plants serving Dundalk and Drogheda are operated under an operation and maintenance contract by a contractor. Secondary treatment is provided at all schemes save Omeath and Greenore where sewage is discharged untreated. Upgrades for four of the existing plants are scheduled for completion in 2009.

Landscape

Louth County Council commissioned a Landscape Character Assessment in 2002. The results of this assessment have informed the preparation of the Draft Louth County Development Plan 2009 – 2015. The Landscape Character Assessment established a range of distinct landscape areas across the County. These landscape areas include;

- Cooley Lowlands and Coastal Area
- Carlingford Lough and Mountains, including West Feede uplands
- Lower Faughart; Castletown and Flurry river basins
- Louth Drumlin and Lake areas
- Muirhevna Plain
- Dundalk Bay Coast
- Dunany, Boyne Estuary Coast
- Uplands of Collon and Monasterboice
- Boyne and Mattock Valleys

Cultural Heritage

Cultural heritage for the purposes of this study includes Architectural Heritage, Archaeology, Protected Structures and Historic Sites (gardens, demesnes, landscapes and battlefields). The architectural heritage of the county represents a finite resource and irreplaceable asset to the county and contributes to the quality of the built environment. Although Louth is Ireland's smallest county, it contains a breadth of historic buildings and sites which bear witness to the importance of the county in the overall history of the Island. Within County Louth there are some 2000 recorded monuments. In addition there are a number Areas of Special Archaeological Potential, which in some cases are extensive and cover, for example, the historic core of a town. These archaeological features are afforded protection under the National Monuments Acts. The County also contains a large number of protected structures. The Draft County Development contains 308 protected structures and on the recommendation of the Minister for the Environment, Heritage and Local Government it is proposed to add a further 402.

Some of the protected structures, including Townley Hall, Rokeby Hall, Barmeath Castle and Beaulieu House are of national importance. Many of the larger protected structures have associated gardens and parks. Considerable numbers survive in varying states of preservation and include town gardens, public and cemetery parks, as well as the numerous gardens and landscapes associated with country houses and demesnes. The County contains seventy four (74) such sites.

The National Inventory of Architectural Heritage has completed a survey of the important architectural elements of the County, which contains a significant number of important buildings and their settings throughout rural and urban areas. These represent important elements of the landscape throughout the County.

Alternatives to the Plan

The issue of alternatives is required to assess the overall philosophy of the County Development Plan. In accordance with the guidelines the alternatives addressed and assessed in this section are realistic and capable of implementation. The alternatives considered are:

Alternative 1: Market Led / Reactive Planning Approach
Alternative 2: Settlement Led Planning Approach
Alternative 3: Environmental Led Planning Approach

The County Development Plan seeks to balance development with environmental protection and conservation. The matrix shows that Alternative 1, the Market Led / Reactive Planning Approach adopting an essentially 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 County Louth.

Similarly Alternative 3, the environmental led approach, whilst desirable in ecological terms would place very heavy constraints on development outside of serviced areas and in particular on one-off housing in the countryside. It would have the effect of focusing development on the larger centres with a consequent decline in the social, cultural and economic wellbeing of rural areas.

Alternative 2, the Settlement Led Planning approach would involve the implementation of a long-term strategic planning approach, marked by a strong role for Drogheda and Dundalk and to a lesser extent, Ardee and Dunleer with the containment of development in areas outside serviced centres and within environmentally sensitive areas. This approach would be marked by focusing on the provision of improved and increased infrastructural services and facilities in and between the larger towns and directing development towards both these settlements and the smaller Category II (a) and Category II (b) settlements.

This latter option 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 the Settlement Led Planning approach to the further development of the county incorporating the principles of sustainable development and in line with national and regional guidance is the option best suited to County Louth

Environmental Assessment of the CDP

The principal component of the SEA involves a broad environmental assessment of the objectives and policies of the County Development Plan. A methodology that utilizes the concept of matrices both to assess the environmental impact and to present the conclusions has been used. It is a process which has helped to refine and refocus the objectives and policies of the County Development Plan and demonstrates the advantage of preparing the CDP in conjunction with the SEA Environmental Report.

The chosen development philosophy has been assessed in terms of sustainability and its potential environmental impact, with the objectives of the Plan assessed against the environmental objectives of the SEA. This assessment shows that overall the Plan is acceptable. It has been shown in this report that almost all of the Plans policies and objectives are consistent with this summary and that in general the Plan will have a neutral to positive impact on the environment as a whole.

The challenge faced over the lifetime of the Plan will be to achieve the stated aims of the Local Authority, which is ultimately to provide well-balanced and sustainable development within the county. This balance will be struck between the needs of the future residents (living and working) and the overall environment which contributes to the identity of the county.

Mitigation Measures

Mitigation measures will ensure that the orderly development of the County will not have an adverse impact on the environment or indeed that the level of impact is reduced to an insignificant level.

A number of measures are proposed which will ensure that the orderly development of the County will not have an adverse impact on the environment and that any level of impact is not significant. The Plan also proposes a series of enhancement measures for certain aspects of the environment which will have beneficial consequences for the environment as a whole. In general terms however, all proposals for development will be required to have due regard to the environmental considerations outlined in the environment chapter of the Draft County Development Plan.

Planning

The planning process is the principal mechanism available to the local authority to primarily control development and ultimately to prevent adverse environment impacts. Any application for planning permission for a new development, extension to existing development or intensification or change of use will be assessed in terms of its potential impact on existing adjacent developments, existing land uses and/or the surrounding landscape. Where such a development would potentially have a significant adverse impact on the amenities of the area through pollution by noise, fumes, dust, grit or vibration, or cause pollution of air, water and / or soil, planning permission will not be forthcoming.

The local authority will continue to liaise with state agencies/departments whose remit is the protection of the environment or aspects of it. To this end the local authority will continue to work closely with the Environmental Protection Agency, The National Parks and Wildlife Service, the Eastern Regional Fisheries Board and others with responsibilities for the various aspects of the environment.

The Environment Section within Louth County Council monitors and controls industries and waste activities that fall outside the EPA 's remit and provide an array of essential environmental services.

These include:

- Water Pollution Monitoring & Control
- Air Pollution Monitoring & Control
- Waste Management Plan Implementation
- Waste Management Permitting & Enforcement
- Control of Hazardous Waste Movements
- Pollution Incident Response
- Environmental Awareness & Education
- Burial Grounds
- Animal Control, Litter Control & Tidy Towns

These activities will continue throughout the lifetime of the County Development Plan 2009-2015 and key indicators will be monitored on an ongoing basis.

Monitoring

The local authority will monitor the implementation of the plan as required under the Planning and Development Act to ensure that the objectives and policies of the County Development Plan are implemented.

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. All of the monitoring proposals put forward will be applied and continued over the lifetime of the plan and will in time form the basis of the next plans baseline study, thereby ensuring a continual and proactive response to environmental protection within the county.

Also, the County Development Plan will be monitored at regular intervals throughout its lifetime.

The County Manager will prepare a report for the elected members on the implementation of the plan outlining the key positives and negatives of its implementation. Environmental considerations will be included. It is considered that monitoring will and should come from existing monitoring sources, i.e. those state agencies with specific roles of responsibility for protecting and monitoring the various aspects of the environment, such as the EPA, NPWS etc. Therefore monitoring is a continual and on-going process.

Chapter 1:

Introduction

Strategic Environmental Assessment is a systematic, on-going process for evaluating, at the earliest appropriate stage of publicly accountable decision-making, the environmental quality, and consequences, of alternative visions and development intentions incorporated in policy, planning or programme initiatives, ensuring full integration of relevant biophysical, economic, social and political considerations. SEA shares much in common with project-level Environmental Impact Assessment (EIA) in that they both aim to minimise the significant environmental impact of a proposed action.

SEA Rationale

The rationale behind this Environmental Report is to identify, describe and evaluate the likely significant effects on the environment arising from the accommodation of future development and growth within the County through the implementation of the County Development Plan 2009 - 2015 together with identifying reasonable alternatives. The Environmental Report is the key consultation document in the SEA process because it provides an explanation of the environmental effects along with an opportunity to comment. The SEA is being carried out in order to comply with the provisions of the SEA Regulations and in order to improve planning and environmental management in the County. This report should be read in conjunction with the Draft Louth County Development Plan 2009 – 2015

Legislative Context, the EU directive on Strategic Environmental Assessment (SEA)

The statutory requirements underpinning the production of an SEA for the Louth County Development Plan 2009 - 2015 are derived from, in the first instance, Directive 2001/42/EC of the European Parliament and of the Council on the Assessment of the Effects of certain Plans and Programmes on the Environment. (June 2001), otherwise known as "the SEA Directive". This directive is affected at national level by the Planning and Development (Strategic Environmental Assessment) Regulations 2004, Statutory Instrument Number 436 of 2004. In summary, the EU Directive states that;

"Environmental assessment is an important tool for integrating environmental considerations into the preparation and adoption of certain plans and programmes which are likely to have significant effects on the environment in the Member States, because it ensures that such effects of implementing plans and programmes are taken into account during their preparation and before their adoption."

Hence the likely impacts upon the environment of implementing some or all elements of the Louth County Development Plan 2009 – 2015 must be carefully assessed in parallel with the preparation of the plan in order that these impacts can be mitigated.

Mandatory Content of SEA (Annex 1: 2001/42/EC)

The information to be provided under the SEA Directive (Article 5(1), subject to Article 5(2) and (3)) includes those elements detailed in Annex 1 of the legislation (Annex 1; 2001/42/EC). Within this descriptive list of the mandatory content of an SEA is contained a number of key environmental indicators which must be examined both as part of the scoping study but more importantly as key elements of the entire SEA process. These include;

- Biodiversity
- Population
- Human health
- Fauna
- Flora
- Soil
- Water
- Air
- Climatic factors
- Material assets
- Cultural heritage
- Architectural heritage
- Archaeological heritage
- Landscape

A SEA of the Louth County Development Plan 2009-2015 is a mandatory requirement and is being carried out in accordance with the provisions of the SEA Regulations. While the Environmental Report and the County Development Plan are two separate documents they should be read in conjunction as both inform each other.


Ardee Riverside Walk


Cooley


St Johns Castle, Carlingford

Chapter 2:

Methodology

The methodology used to carry out the Strategic Environmental Assessment (SEA) of the Draft Louth County Development Plan 2009-2015 reflects the requirements of the SEA Directive and other SEA documentation such as "Implementation of SEA Directive (2001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment – Guidelines for Regional Authorities and Planning Authorities" published by the Department of the Environment, Heritage and Local Government (DoEHLG) and "Development of Strategic Environmental Assessment (SEA) Methodologies for Plans and Programmes in Ireland – Synthesis Report" published by the Environmental Protection Agency in 2003. This section of the report outlines the steps taken in the development of the Louth County Council assessment in accordance with the Directive and its associated regulations.

Stages of the SEA Assessment

The key stages of the SEA process are

1. Screening of proposed Plans/Programmes to determine if an SEA is required
2. Scoping the range and content of the SEA
3. Environmental Report Preparation including identification, prediction, evaluation and mitigation of potential impacts (Draft Plan Stage)
4. Consultation, revision and post plan adoption activities (following assessment of consultation responses)

Key Stages: Details

Screening

It is clear from a review of the available material that an SEA is required for the Louth County Development Plan. In particular it should be noted that the Directive states an environmental assessment shall be carried out for all plans and programmes; "which are prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use and which set the framework for future development consent of projects listed in Annexes I and II to Directive 85/337/EEC"

Directive 85/337/EEC, Annexes I and II list a wide range of built projects, the majority of which are subject to control under the Planning and Development Act 2000. In addition to this, the directive notes that for the purposes of definition:

"Plans and programmes" shall mean plans and programmes, including those co-financed by the European Community, as well as any modifications to them:

- which are subject to preparation and/or adoption by an authority at national, regional
- or local level or which are prepared by an authority for adoption, through a legislative procedure by Parliament or Government, and
- which are required by legislative, regulatory or administrative provisions.

Note: As a statutory requirement under the Planning and Development Act 2000, the Louth County Development Plan 2009 – 2015 Plan clearly falls within this definition of "Plans and Programmes" within the directive.

As such, screening of the plans was not required and the process moved directly to the Scoping Stage.

Scoping

Following the decision to proceed directly to the scoping element of the SEA process, Louth County Council carried out a scoping exercise to establish the scope and extent of the Environmental Report and to list environmental issues which would require further consideration during the SEA process.

The Scoping Report forms a key part of the Strategic Environmental Assessment (SEA) process which is a key component in the formulation of the new Louth County Development Plan. The purpose of the Scoping Report is to ascertain those significant environmental issues which should be taken into consideration in the making of the new Plan. This will ensure that there is full awareness of environmental issues and appropriate responses to environmental concerns are enshrined within the plan making process. Thus the Scoping Report ensures that:

1. The relevant environmental issues are identified so that they can be given proper consideration in the Environmental Report

2. Consultation is undertaken with the relevant statutory bodies; the Environmental Protection Agency (EPA), the Department of the Environmental, Heritage and Local Government (DoEHLG), the Department of Communications, Marine and Natural Resources DCMNR), the public and other interested parties.

Cross Border Consultation

It should be noted that In the case of County Louth, it was also necessary to consult on a cross border basis with the Northern Ireland Environment Agency and Planning Service of the Department of the Environment Northern Ireland (DoENI) due to the potential for significant environmental transboundary effects.

The findings and comments received as part of the scoping exercise have informed the preparation of the draft Environmental Report. Scoping helped the SEA to become focused upon the important issues, such as those relating to existing environmental problems, not wasting resources on unnecessary data collection. It should also be noted that the initial phase of consultation for the County Development Plan provided the general public with an opportunity to raise issues concerning the development plan. Many of the comments made were in relation to environmental issues.

Scoping Observations made by Statutory Consultees

Environmental Assessment scoping letters were sent to the Department of the Environment, Heritage and Local Government (DoEHLG), Department of Communications, Energy and Natural Resources (DCENR), the Environmental Protection Agency (EPA) and the Environmental & Heritage Service of the Department of the Environment Northern Ireland (DoENI). The responses to these letters were taken into account during the carrying out of the Strategic Environmental Assessment.

The Responses were as follows:

Department of Communications, Energy and Natural Resources
Roinn Cumarsáide, Fuinnimh agus Acmhainní Nádúrtha

A written response was received from DCENR. It advised that consideration should be given to the potential for significant impacts on:

- Water Quality by surface water drainage and effluent discharges.
- Interference with inland and marine water morphology and aquatic habitats by watercourse diversion, channel diversion and alteration or removal of river bank vegetation.
- Reduction or diversion of water flows by alteration of land use (leading to alterations in flow regimes)
- The effect of zoning on land use and its potential disturbance of biodiversity.
- Potential increased flood risk resulting from changed land use patterns and climate change.
- Potential increased coastal erosion risks to coastline resulting from developmental pressures.
- The potential disturbance to the ecological and fishery status of waterbodies caused by water abstraction scheme proposals.

DCENR also gave guidance on relevant legislation to be considered and provided a suggested list of consultees including;

- Department of Agriculture, Fisheries and Food: Coastal Protection Section.
- Eastern Regional Fisheries Board
- Office of Public Works
- The Loughs Agency
- Drogheda Port Company
- Dundalk Port Company
- Dublin City Council (in its capacity as Lead Local Authority for the Eastern River Basin District WFD issues).
- Northern Ireland Environment Agency (regarding issues within the Neagh/Bann International RBD).

Finally the DCENR provided generic guidelines as to what should be contained in the preparation of any Environmental Report from this Department's perspective

A written response was received from DoEHLG. It gave generic guidance with regard to the protection of archaeological heritage in the development plan to ensure consistency with national legislation and international charters.

epa
Environmental Protection Agency

The EPA offered guidance regarding SEA methodology, data sources and likely issues in Louth. This guidance was available on an ongoing basis throughout the Plan preparation process. The EPA had specific concerns regarding;

- Designated areas
- Non–designated biodiversity
- Wetlands
- Coastal areas
- Drinking water
- Water Supply
- Zoning linked to provision of adequate and appropriate infrastructure
- Water conservation
- Wastewater treatment
- Water quality
- Groundwater
- Enforcement of planning conditions related to installation, operation and maintenance of septic tank systems
- Flood risk
- Climate change
- Air quality
- Ribbon development and dispersed rural development

The Northern Ireland Environment Agency (NIEA) provided a detailed written response. Its principal concern related to how transboundary impacts would be considered during the environmental assessment of the County Louth Development Plan Review. As such it requested that the Environmental Report should identify existing transboundary environmental problems and should assess the likely significant transboundary effects of implementing the plan. The NIEA had specific concerns regarding;

- Biodiversity
- Flora & Fauna
- Landscape Character
- Fish (particularly in relation to Shellfish and Aquaculture within Carlingford Lough)
- Population and Human Health
- Geology
- Soil
- River Basin Districts
- Air
- Climate Change
- Wind Energy Capabilities
- Wave Energy Capacity
- Built Heritage
- Consideration of Alternative Options

The Planning Service of the Northern Ireland Department of the Environment provided a detailed response. Its response was the result of a inter agency panel approach which also involved Northern Ireland Water and the Northern Ireland Housing Executive. It was concerned with;

- Population trends & analysis
- Conservation & heritage
- Rural development & natural resources
- Settlement plans
- Residential & community facilities
- Tourism, recreation & amenity
- Economic development & employment
- Transportation, communications & energy
- Environmental & piped services
- Transboundary issues
- Landscapes
- Cultural, built & archaeological heritage
- Material assets

- Climatic factors
- Air
- Water
- Soils
- Population & human health
- Biodiversity, flora & fauna
- Scoping report content:

Environmental Baseline Data

In order to facilitate the identification, evaluation and monitoring of the impacts of the Plan, baseline on all aspects of the County Louth environment is presented. This broad focus is then narrowed to concentrate on those areas of the environment which the scoping consultations have identified as likely to be significantly affected.

Interaction with County Development Plan Preparation

The SEA Guidelines indicate that there should be complete integration between the preparation of the environmental report and of the Draft Plan. This is to ensure that the Draft Plan is informed by environmental considerations from the outset.

In carrying out the Strategic Environmental Assessment of the draft Louth County Development Plan 2009 - 2015, the SEA Team were fully involved in the analysis of development options and were in a position to make suggestions throughout the process of plan preparation to ensure that environmental considerations and environmental effects were considered in the formulation of strategic aims and development objectives

Environmental Assessment

The environmental assessment of the policies and objectives of the County Plan is the central component of the Report. The methodology used in the Report comprises of a series of matrixes, which have been used to refine, and where necessary, refocus policies and objectives used in the Draft Louth County Development Plan 2009 - 2015. In predicting likely significant impacts of the plan, existing data sources were used as baseline data.

Mitigation

Strategic Environmental Assessment is a key component informing the direction of the draft development Plan. The final, adopted County Development Plan will contain policy directions which have evolved to anticipate and avoid potentially adverse impacts on the environment. This evolution is perhaps the most important role of the SEA process. Remaining potentially adverse conflicts or impacts may be characterised as 'residual impacts'. These are unavoidable potential impacts that remain after all mitigation measures have been put in place. The majority of these are potential impacts which are likely to be capable of further mitigation through careful, detailed implementation of Local Area Plans, Town and Village Plans and through the development control process.

Monitoring

Article 10 of the SEA Directive requires that monitoring be carried out in order to identify at an early stage any unforeseen adverse effects due to the implementation of the Plan, and to be able to take remedial action. Monitoring and review are key elements of the effective implementation of the County development Plan. It ensures that social, economic and physical objectives are fulfilled and that quality of life issues can be

Difficulties Encountered

The lack of a centralised data source that could make all environmental baseline data for the County available in a consistent format posed a significant difficulty to the SEA process. This difficulty was overcome, where possible by the provision of sufficient time and resources to carry out additional research into individual topics.

Chapter 3:

Summary of key Objectives of Draft Louth County Development Plan 2009 – 2015

The Louth County Development Plan 2009 – 2015 outlines an overall strategy for the proper planning and sustainable development of County Louth over the timescale of the Plan. Spatial planning through the development plan endeavors to achieve balance between the common good and the interests of individual persons. To date there is an excellent record of participation and partnership at local level between Louth County Council, public agencies, service providers, the private sector and the community in general.

This Plan builds on the review of the Louth County Development Plan 2003–2009, taking account of recent key development trends, national, regional and local policy developments and EU legislative requirements, including the application of Strategic Environmental Assessment to certain plans and programmes. The Plan, whilst addressing the planning authority's specific areas of responsibility such as roads and sanitary services, housing, settlement strategy, conservation, heritage, community and social infrastructure also sets out a longer term vision for the manner in which the County can be developed and its environment protected and enhanced, employing the principles of sustainable development. Sustainable development is now at the core of planning process reflecting increasing environmental concerns which have become the focus of national and international policies over recent years. Sustainable development as defined by Brundtland as development which meets the needs of the present without compromising the ability of future generations to meet their own needs. Further detail on Louth County Council's commitment to sustainable development is contained throughout the Plan.

Outline and objectives of Draft Louth County Development Plan 2009 - 2015

Under the Planning and Development Act, 2000, each planning authority in the state must prepare a development plan for its functional area every 6 years. The County Development Plan will be the new spatial statutory plan for County Louth for the period 2009-2015. The plan area excludes the jurisdiction of Drogheda Borough Council and that of Dundalk Town council. In the case of the environs of Dundalk an additional area falling within the jurisdiction of Louth County Council is also excluded as this is covered under a separate plan. This plan, once adopted will supersede the previous plan 2003 – 2009.

The Plan, whilst addressing the planning authority's specific areas of responsibility such as roads and sanitary services, housing, settlement strategy, conservation, heritage, community and social infrastructure also sets out a longer term vision for the manner in which the County can be developed and its environment protected and enhanced, employing the principles of sustainable development. Sustainable development is now at the core of the plan reflecting increasing environmental concerns which have become the focus of national and international policies over recent years.

County Vision

The Draft Louth County Development Plan 2009 – 2015 sets out a strategic vision for the County. This vision for the county is of a place;

- Where people want to live, work, visit and invest now and in the future
- That is well planned, well managed, safe and inclusive
- Where there exists equality of opportunity for all
- Where age matters

The vision for County Louth as enshrined in this development plan is attainable. It seeks to deliver through the planning process, in partnership with the community and other stakeholders, a prosperous and thriving county where no individual or social group is excluded from the benefits of development. It also enshrines the principle of environmental, economic and social sustainability including protection of the county's resources, heritage and the natural and built environments.

The realisation of this vision will be sought by seeking to secure the following overall strategic objectives of this development plan:

County Louth – Strategic Objectives for Draft Development Plan

1. *Direct new development in accordance with the settlement strategy which will provide for the sustainable development of the county for the period 2009 to 2015 and beyond. This will require development to be accessible, energy efficient and including high quality infrastructure and services.*

2. *Facilitate the implementation of a countywide economic renaissance through implementation of the Indecon Economic Development Strategy for County Louth 2009 – 2015. This will, insofar as is possible, seek to provide employment opportunities at locations that are near to the greater majority of the County's residents.*

3. *Facilitate and promote the economic development of the county based on the exploitation of its favourable location on the mid point of Dublin – Belfast corridor and the connectivity which this provides to external markets and services.*

4. *Provide a framework for the management and regulation of development and use of land that will guide day to day planning decisions.*

5. *Protect and nurture the county's rich natural and manmade resources, heritage, and other amenities in accordance with plans and policies developed to specifically address these areas in order that the full potential of the County can be realised particularly in terms of attracting tourist and visitors to the county.*

6. *Planning for greater social inclusion and improvements to the quality of life of all the inhabitants of the county.*

7. *Protection of rural communities in a sustainable manner by encouraging compact development in the county's smaller towns and villages and by protecting the open countryside from urban generated and unsustainable "one off" housing.*

8. *Provide a framework for sustainable development through energy end-use efficiency and encourage the facilitation of an increase in the use of renewable energy in building projects.*

9. *Secure the provision of high quality physical infrastructure to trigger and support appropriate development within the County.*

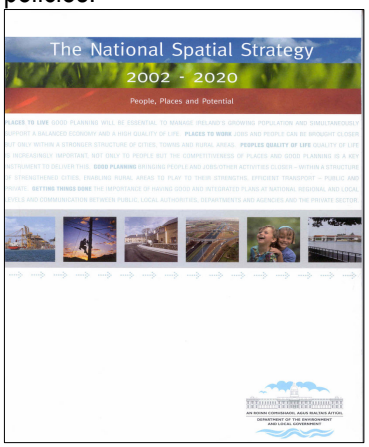
10. *Recognition of the value of people as a human resource to be cherished within families, communities and the economy. This will be achieved in the plan through optimising opportunities for health, education and welfare of all.*

Chapter 4

Relationship with other Plans and Programmes

Draft Louth County Development Plan 2009 - 2015

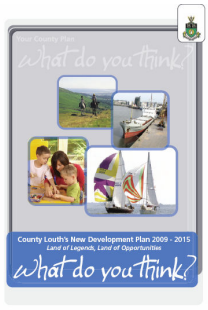
The Louth County Development Plan 2009 – 2015 nestles within a clear hierarchy of spatial policy documents. This hierarchy of plans detailed below follows a format which commences with high level international and / or EU documents feeding progressively down into site specific local plans and policies.



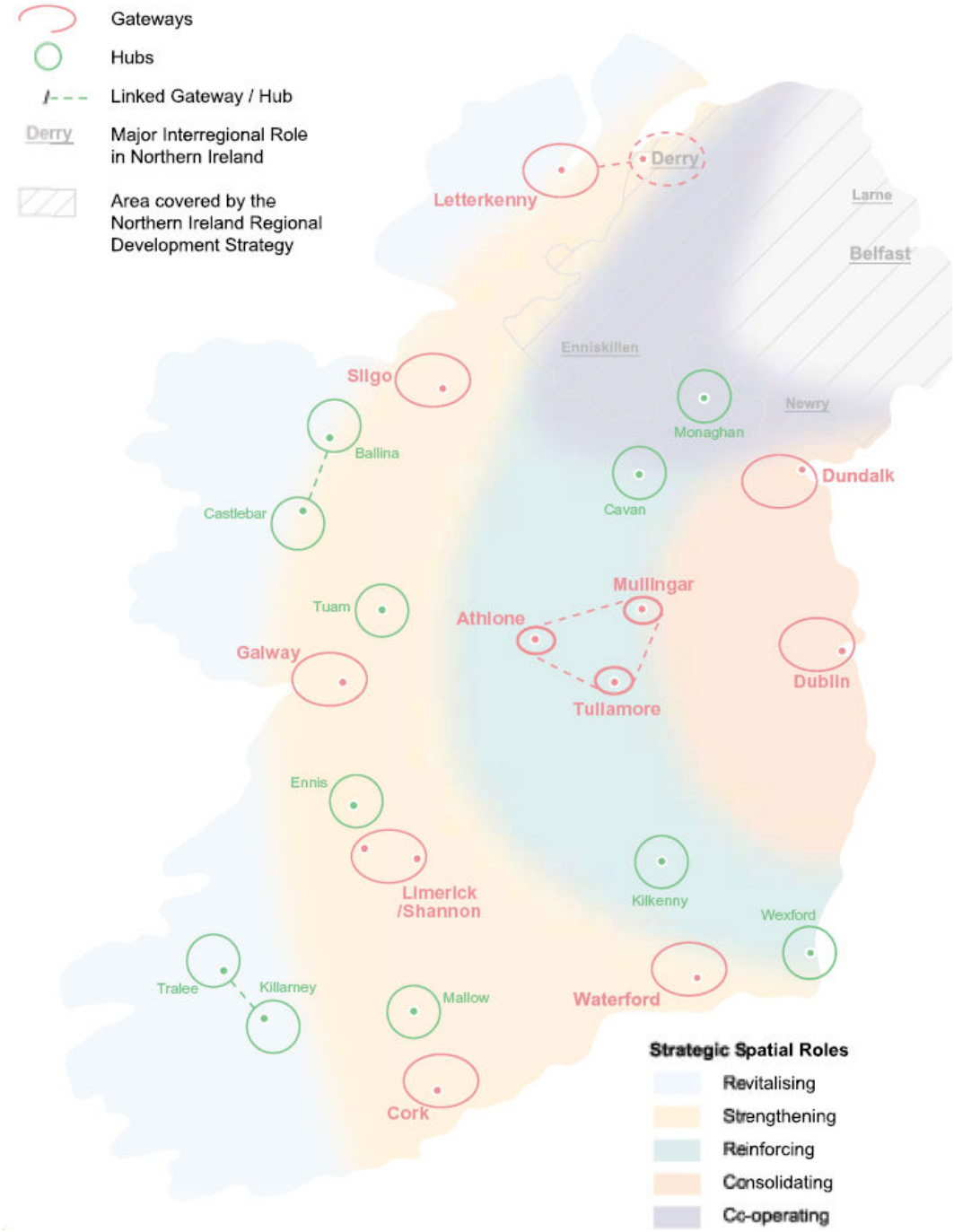
National

National Spatial Strategy 2002 – 2020

The National Spatial Strategy (NSS) is a 20 year planning framework designed to achieve a better balance of social, economic, physical development and population between regions. Its focus is on people, on places and on building communities. It is hoped that it will deliver more balanced regional development and hence a reduction in disparities between and within regions. To achieve this, the strategy identifies a limited number of regional Gateways and Hubs. Within Louth, Dundalk has been designated a NSS Gateway whilst Drogheda is designated a Primary Development Centre. Further details of the role for Louth envisaged under the NSS and the Border Region, Regional Planning Guidelines, are detailed in the section on the Regional Planning Guidelines below.



Map 3: Gateways and Hubs in the National Spatial Strategy Context



Sustainable Development- A Strategy for Ireland, 1997

The concept of sustainable development now permeates every aspect of government policy. The most widely used and well known definition for the term is that set out by the Bruntland Commission (convened 1983); namely, "that it involves meeting the needs of the present generation without prejudicing the ability of future generations to meet their own needs." The key to the concept is the need to achieve a balance between human activity, development and the protection of the environment.

Sustainable Development - A Strategy for Ireland (1997) recognises the need for good spatial planning and the inclusion of sustainability goals in urban and built environment policies. The Strategy recognises that the pattern and density of urban development has a major impact on travel patterns. It encourages activities which entail frequent short duration journey patterns to locate in areas of maximum accessibility to public transport so as to reduce growth in transport demand. As a general principle, the minimisation of potential growth in transport demand will be incorporated as a leading consideration in land use planning.

The Strategy also aims to ensure a clear demarcation between urban and rural land use, to help prevent urban sprawl and to encourage more sustainable development patterns in settlements.

Making Ireland's Development Sustainable (2002)

This document focuses mainly on the link between economic activity and negative pressures on the environment. Sustainable development emerged as an idea in the late 1980s and led to the Earth Summit in Rio de Janeiro in 1992. At the Summit, world leaders agreed to implement an action programme for sustainable development called, Agenda 21. The Irish Government published "Sustainable Development: A Strategy for Ireland" in 1997 which tailors Agenda 21 to Irish circumstances. The publication, Making Ireland's Development Sustainable (2002) reviews progress in sustainable development in Ireland since Rio, assesses the challenge we now face and sets out policies and actions to meet that challenge.

It considers that key initiatives in relation to sustainable development will include

- Working to break the link between economic growth and damage to the environment
- Looking to business and the economic sector to join this work
- Engaging the interest and support of individuals in this agenda
- Implementing the revised National Anti Poverty Strategy 1997, the National Climate Change Strategy 2007 – 2012 and the National Biodiversity and Heritage Plans

National Climate Change Strategy (2007 - 2012)

The strategy was published in 2007. Under Kyoto Protocol, Ireland agreed to a target of limiting its greenhouse gas emissions to 13% above 1990 levels by the first commitment period 2008 – 2012 as part of its contribution to the overall EU target. Ireland ratified the Kyoto Protocol on the 31st May, 2002, along with the EU and all other Member States, and is internationally legally bound to meet the challenging greenhouse gas emissions reduction target.

To ensure Ireland reaches its target under the Kyoto Protocol and, building on measures put in place following the publication of the Climate Change Strategy in 2000, the Government has published the National Climate Strategy 2006.

National Development Plan 2007-2013

The National Development Plan and Community Support Framework (NDP/CSF) 2000-2006 made a major contribution to the State's strong economic performance over the plan period. This was expressed through steady economic growth, high employment levels and significantly enhanced competitiveness. The benefits of projects and programmes in areas including childcare, housing, rural development, training and business innovation were experienced nationwide. The completion of many of these programmes has both improved the social infrastructure and encouraged regional development. NDP 2000 – 2006 invested over €54 billion up to December 2006. The plan invested throughout the country benefiting education, roads, public transport, rural development, industry, water and waste services, social housing, childcare and local development.

The National Development Plan 2007-2013 provides for an indicative investment of €183.7 billion in the broad areas of infrastructure, enterprise, human capital and social inclusion. The vast bulk of this investment (some €143 billion) will be provided by the central exchequer. The objective of this ambitious investment plan is to deliver a better quality of life for all within a strong and vibrant economy that maintains international competitiveness and promotes regional development, social justice and environmental sustainability.

The investment priorities are carefully aligned with the specific objectives of the NSS in achieving balanced regional development. Therefore much of the spending priorities are clearly targeted at areas such as reducing regional peripherality, improving transport links and significantly improving economic infrastructure across the state.

NDP
National Development Plan
Transforming Ireland

The Planning System and Flood Risk Management

In September 2008 the Department of the Environment, Heritage and Local Government in conjunction with the Office of Public Works issued consultation draft guidelines for Planning Authorities on The Planning System and Flood Risk Management. The rationale lying behind the new guidelines has several strands. Firstly, the likelihood that the frequency, pattern and severity of flooding incidents both in Louth and across the state are expected to increase flood risk as a result of climate change. Such patterns are likely to become more common during the lifetime of the plan and beyond. Secondly, built development can, and most likely, has exacerbated the problems of flooding by accelerating and increasing surface water runoff, altering watercourses and removing floodplain storage.

Finally, flood risk prevention must now be firmly built into the planning process as a result of the sustained population and economic growth in Ireland during the course of the previous plan which has resulted in significant additional built development across all areas of the State and none more so than in County Louth. The core objectives of the guidelines are to:

- Avoid inappropriate development in areas at risk of flooding;
- Avoid new developments which might increase flood risk elsewhere, including that which may arise from surface run-off;
- Ensure effective management of residual risks for development permitted in floodplains;
- Avoid unnecessary restriction of national, regional or local economic and social growth;
- Improve the understanding of flood risk among relevant stakeholders;
- Ensure that the requirements of EU and national law in relation to the natural environment and nature conservation are complied with at all stages of flood risk management

Guidelines on Sustainable Residential Development in Urban Areas 2008

These guidelines focus on the creation creating sustainable communities by incorporating the highest design standards and providing a co-ordinated approach to the delivery of essential infrastructure and services. There is a major emphasis in the guidelines on the need for new residential developments to be supported and facilitated by the necessary supporting services and infrastructure. Crucial infrastructure such as education and health facilities, public transport, child-care and community amenities are set as equally important as the usual hard infrastructure needed like water services and road access. The objectives of these new guidelines are to:

- Set out stronger planning requirements to facilitate the development of sustainable communities through strengthening planning and the provision of necessary supporting services and amenities;
- Help achieve the most efficient use of urban land through housing densities that are appropriate to the location involved and availability of supporting services and infrastructure, particularly transport; and
- Set high standards in terms of space and facilities to meet the needs of the Irish context.

Sustainable Rural Housing Guidelines 2005

The guidelines, published by DoEHLG have identified a number of key policy requirements to be considered in the making of a development plan. These include

- Preservation of the quality and character of urban or rural areas
- Protecting and preserving the quality of the environment; including the prevention, limitation, elimination, abatement or reduction of environmental pollution and the protection of waters, groundwater, the seashore and the atmosphere;
- Protecting features of the landscape which are of major importance for wild fauna and flora;

- Preserving the character of the landscape, including views and prospects, and the amenities of places and features of natural beauty or interest.

In dealing with the issue of housing in rural areas, the Guidelines also identify that the development plan is required to detail:

- Links to the housing strategy as the overarching policy context in relation to future housing needs;
- Overall objectives and associated policies for rural settlement;
- Objectives in relation to the various aspects of the natural and cultural heritage;
- Objectives in relation to the identification and protection of key natural assets such as surface and ground water resources, minerals and aggregates; and
- Objectives in relation to the future development and safe operation of transport infrastructure

National Biodiversity Plan, 2002

The National Biodiversity Plan 2002 comprises a set of 91 Actions to halt the current and continuing loss of plant species, as well as the vegetation and habitats they compose by the year 2010. The Plan pays special attention to the need for the integration of the conservation and sustainable use of biological diversity into all relevant sectors. The full and effective integration of biodiversity concerns into the development and implementation of other policies, legislation, and programmes is of crucial importance. The overall objective of the Plan is to secure the conservation, including where possible the enhancement, and sustainable use of biological diversity in Ireland and to contribute to conservation and sustainable use of biodiversity globally. The objectives of the National Biodiversity Plan include to;

- Conserve habitat diversity, including all sites of special biodiversity importance;
- Conserve species diversity;
- Conserve genetic diversity, both wild and domesticated;
- Contribute to the conservation and sustainable use of biodiversity; and
- Advancing other obligations of the European Community Biodiversity Strategy in the EU, regionally and internationally.

National Heritage Plan, 2002

The National Heritage Plan 2002 sets out a vision for the management of the National Heritage and its aim is to "ensure the protection of our Heritage and to promote its enjoyment by all". A key objective of the National Heritage Plan is to promote the role that local communities play in protecting and enhancing Local Heritage. This is achieved through the preparation and adoption of Local Heritage Plans by the Local Authority.

National Climate Change Strategy, 2007-2012

This strategy was published in 2007. Under the Kyoto Protocol, Ireland agreed to a target of limiting its greenhouse gas emissions to 13% above 1990 levels by the first commitment period of 2008 – 2012, as part of its contribution to the overall EU target. Ireland ratified the Kyoto Protocol on the 31st May, 2002, along with the EU and all other Member States, and is internationally legally bound to meet the challenging greenhouse gas emissions reduction target.

The Water Framework Directive, 2000

The Water Framework Directive (WFD) sets a framework for the comprehensive management of water resources in the European Community. It addresses inland surface waters, estuarine and coastal waters and groundwater. The fundamental objective of the Water Framework Directive aims at maintaining "high status" of waters where it exists, preventing any deterioration in the existing status of waters and achieving at least "good status" in relation to all waters by 2015. Member States will have to ensure that a co-ordinated approach is adopted for the achievement of the objectives of the WFD and for the implementation of programmes of measures for this purpose. Irrespective of political boundaries, the river basin is the natural unit for water management; Ireland is divided into eight (8) River Basin Districts, two (2) of which impact upon County Louth. The bulk of County Louth falls within the Neagh Bann International River Basin District, much of which is shared with large areas of Northern Ireland. The remainder of the County, primarily to the south, lies within the Eastern river Basin District.

National Anti-Poverty Strategy 2007-2016

The National Anti-Poverty Strategy (2007-2016) sets out the government's strategic initiative to place the needs of the poor and socially excluded at the top of the national agenda. The strategy recognises the unacceptable scale of poverty and its impact on those directly affected and on the wider society. It also particularly notes the distinct spatial aspects of poverty in urban and rural areas. The strategy emphasises the importance of a cross-departmental policy response in dealing with the problem.

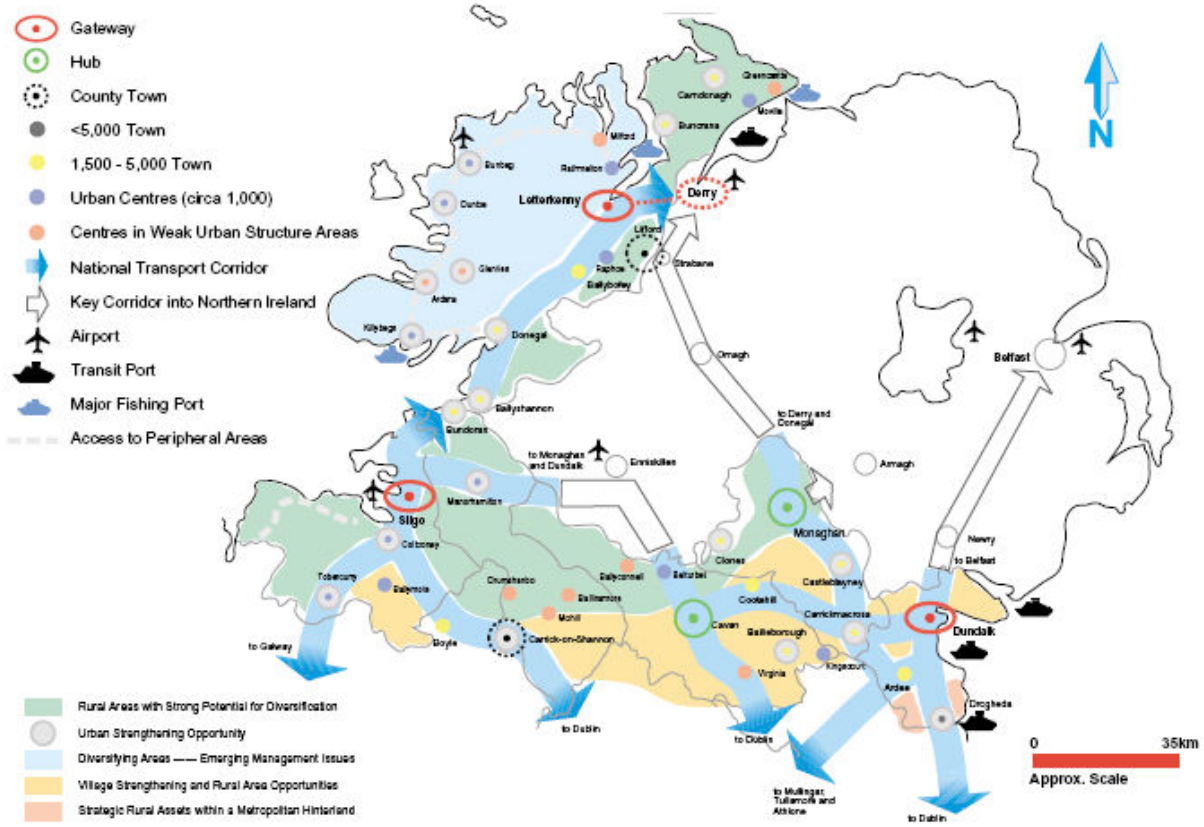
The strategy states that -'The future challenge is one of optimising the current employment and labour mix in Ireland consistent with maintaining sustainable rate of economic and employment growth combined with policies aimed at tackling social exclusion, poverty and inequality'. Its target is to reduce consistent poverty below 2%.

Regional

The Border Regional Authority Regional Planning Guidelines, 2004 (under review)

Louth lies at the eastern extremity of the Border Region within Ireland. The region comprises the counties of Louth, Monaghan, Cavan, Leitrim, Sligo and Donegal. All these counties with the exception of Sligo have the commonality of sharing a land border with Northern Ireland. The Border Region, Regional Planning Guidelines represent the regional outworking of the Irish National Spatial Strategy (NSS), a spatially based multi centred planning model, embodying the principles of sustainable development and designed to foster balanced regional growth across all the regions of Ireland recognising that in order to achieve more balanced regional development, a greater share of economic development must take place outside the Greater Dublin Area. In order to achieve this, a network of regional Gateways, Hubs, a Primary Development Centre and a Regionally Strategic Town have been designated across the Region. These centres will act as conduits for growth within the Irish regions (of which there are eight). The Border Region contains the Gateways of Dundalk, Sligo and Letterkenny together with the hubs of Monaghan and Cavan, the Primary Development Centre of Drogheda and the Regionally Strategic Town of Carrick on Shannon. The Regional Planning Guidelines will be reviewed during the course of the Louth county Development Plan 2009 – 2015.

Map 4: County Louth in the Border Region Settlement Strategy



Waste Management Plan for the North East Region 2005 - 2010

This Plan sets out the waste management policy for the North East Region consisting of counties Cavan, Louth, Meath and Monaghan, who originally came together in 1998 to plan for waste management on a regional basis. The Plan identifies the current position with regard to waste management, the policy for future improvement and development and the means to implement and monitor progress in the years to come. The objective for the Region is to develop a sustainable approach to managing resources, by minimising waste and managing the waste that is generated in a safe and environmentally sound manner. Achieving this will need strong leadership from local authorities but also the participation and support of all sectors of society in the North East.

Regional Development Strategy for Northern Ireland (RDS) 2025

The Regional Development Strategy which offers a strategic and long-term spatial planning perspective on the future development of Northern Ireland up to the year 2025. It was prepared in close consultation with the community and seeks to define an agreed spatial vision for Northern Ireland. A review process commenced for the RDS in 2008.

Local

Housing Strategy for County Louth 2007

In 2006, given the continued increase in house prices, the changing household formation and market conditions, Louth County Council considered it appropriate to carry out an interim review of the 2001 Housing Strategy.

Concurrent with the preparation of the draft 2009 – 2015 County Development Plan the Housing Strategy was reviewed for the purposes of ensuring that the housing needs of the existing and future population of the area will be met. The Housing Strategy is a key starting point in framing development plan objectives and informing the development plan preparation phases.

The Housing Strategy for County Louth 2007 aims to ensure that:

- Sufficient land is zoned and serviced to meet the housing needs of all sectors of the population, both existing and anticipated.
- Housing development is designed and located to make full use of public transport and to give access to education, employment, health, community facilities and other services.
- Specific objectives reflecting the needs of different areas assessed in the strategy are included to ensure that the necessary social and affordable housing will be fully provided.
- The strategy forms an integral part of the development plan and acts as a cornerstone for future housing policy.

Louth County Retail Strategy 2009

The Louth County Retail Strategy 2009 reaffirms the primacy of Dundalk and Drogheda within the county retail hierarchy. It notes that both are well positioned to be the leading retail centres between Belfast and Dublin. Ardee should continue to develop its convenience retail offer in tandem with its expanding population.

The strategy deems Ardee as not suitable for retail warehouse park development in the medium term. In the other towns and villages, the priority is to cater sufficiently for the basic convenience and lower order comparison requirements of their rapidly expanding populations, while in all other centres the aim is to encourage retail development commensurate with population, location and traditional built environment

Louth County Heritage Plan 2004 - 2009

The County Louth Heritage Plan 2007 – 2011 is a strategic framework plan which aims to coordinate the conservation, management and sympathetic development of the county's heritage. It comprises a five year joint work plan for a partnership of many individuals and organisations with an involvement in Louth's heritage. These projects include to date:

- Conservation Plan for Drogheda's Town Walls and Other Defences
- Conservation and Management plan for Carlingford's Town Walls and Other Defences
- Biodiversity Action Plan for Louth 2008-2012

The Louth Heritage Plan covers those aspects of heritage defined in the 1995 Heritage Act. They include monuments; archaeological objects; heritage objects; architectural heritage; flora; fauna; wildlife habitats; landscapes; seascapes; wrecks; geology; heritage gardens and parks and inland waterways. In addition to these issues, the Louth Heritage Plan also covers other topics which the people of Louth identified as being part of their heritage. The aim of the Louth Heritage Plan is to coordinate the conservation, management and sympathetic development of the county's heritage and to encourage community pride in, and responsibility for, the implementation of the Plan.

Louth Biodiversity Action Plan 2008 - 2012

The Louth Biodiversity Action Plan is a strategy to better integrate economic progress with protection of the environment. This can be done by adopting the principle of 'no net loss' where proposed developments have impacts on biodiversity.

The vision for the Biodiversity Action Plan for Louth is to establish a framework for addressing threats to habitats and species in order that they can be conserved for generations to come. It will do this through raising awareness of the value of biodiversity as well as gathering important information on the ecology of species and habitats.

Within County Louth are many habitats and species that are important both internationally and at the local level. For instance, Dundalk Bay is the number one site in Ireland for wintering birds, home to on average 51,000 waterfowl every year. For this reason Dundalk Bay is not only recognised at a national level as a Wildfowl Sanctuary, but also internationally as a European Special Protection Area (SPA) and a Ramsar site. In fact most of the Louth coast is designated in one way or another so that, including the marine area, it has one of the largest proportions of protected areas in Ireland.

County Louth - Landscape Character Assessment 2002

A landscape character assessment was completed for the entire county outside the major towns in 2002. This assessment was prepared in accordance with draft guidelines issued by the Department of the Environment and Local Government. The aim of these guidelines is to:

- Heighten the awareness of the importance of landscape in all aspects of physical planning;
- Provide guidance to planners and to others as to how landscape considerations should be dealt with;
- Indicate specific requirements for development plans and development centres.

Nine landscape character areas have been identified in County Louth. They represent geographical areas with a particular landscape type or types.

Meath County Development Plan 2007 – 2013

The County Meath Development Plan 2007 – 2013 aims to guide development within the county in accordance with the principles of proper planning and sustainability.

Monaghan County Development Plan 2007 – 2013

The County Monaghan Development Plan was adopted in 2007 and covers the period until 2013.

Draft Banbridge & Newry & Mourne Development Plan 2015

The draft Banbridge /Newry & Mourne Area Plan sets out a spatial policy framework up to 2015 for the Northern Ireland district council areas of Banbridge and Newry and Mourrne. The plan includes detailed policies and objectives relating to the major urban settlements of Banbridge, Newry and Warrenpoint as well as the rural areas of both districts.

Relevant International Plans and Programmes

Agenda 21

Local Agenda 21 is a process which facilitates sustainable development at community level. It is an approach, based on participation which respects the social, cultural, economic and environmental needs of the present and future citizens of a community in all its diversity and which relates that community and its future to the regional, national and international community of which it is a part.

COMAH (Seveso II) Directive – European Communities (Control of Major Accident Hazards involving Dangerous Substances) Regulations, 2000.

The Seveso II Directive, sometimes referred to as COMAH, stipulates certain requirements for storage of relatively large quantities of substances classified as dangerous.

Directive 2001/42/EC of the European Parliament and Council of 27th June 2001 on the assessment of the effects of certain plans and programmes on the environment.

This Directive requires plan-makers to carry out an assessment of the likely significant environmental effects of implementing a plan or programme before the plan or programme is adopted. There are two statutory instruments which transposed the SEA Directive into Irish Law:

- European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004, S.I. No. 435 of 2004
- Planning and Development (Strategic Environmental Assessment) Regulations 2004, S.I. No. 436 of 2004

EU Sixth Environmental Action Programme (1998)

The Environment Action Programme takes a broad look at the challenges of environmental policy and provides a strategic framework for the Commission's environmental policy up to 2012. It identifies four environmental areas for priority actions:

- Climate Change
- Nature and Biodiversity
- Environment and Health and Quality of Life
- Natural Resources and Waste

European Biodiversity Strategy (1998)

This strategy aims to anticipate, prevent and attack the causes of significant reduction or loss of biodiversity at the source. This will help both to reverse present trends in biodiversity decline and to place species and ecosystems, including agro-ecosystems, at a satisfactory conservation status, both within and beyond the territory of the European Union (EU).

European Spatial Development Perspective (1999)

The European Spatial Development Perspective (ESDP) is, as a legally non-binding document, a policy framework for better co-operation between EU sectoral policies with significant spatial impacts and between Member States, their regions and cities. The ESDP pursues three fundamental goals: economic and social cohesion, sustainable development and the competitiveness of the EU territory. The main policy aims of the European Spatial Development Perspective are directed primarily towards a more balanced and multi-centric system of cities and a new urban-rural relationship, the parity of access to infrastructure and knowledge and the prudent management and development of the natural and cultural heritage. Each of these general aims is accompanied by a limited number of more practical options which take into account the need for a more integrated, multi-sectoral approach at the European level.

E.U. Water Framework Directive

The Directive rationalises and updates existing water legislations and provides for water management on the basis of River Basin Districts (RBD's).

Urban Waste WaterTreatment Directive
The objective of the Directive is to protect the environment from the adverse effects of discharges of urban waste water and of waste water from industrial sectors of agro-food industry.

EU Birds Directive (Council Directive 79/409/EEC), 1979 (transposed 1985).

Council Directive 79/409/EEC on the conservation of wild birds (the so-called "Birds Directive") provides a common framework for the conservation of naturally occurring species of wild birds and their habitats throughout the European Union.

EU Habitats Directive (Council Directive 92/43/EEC), 1992 (transposed 1997).

The main aim of the EC Habitats Directive is to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species at a favourable conservation status, introducing robust protection for those habitats and species of European importance.

The Waste Framework Directive 75/442/EEC (and amending legislation) 15th July 1975

This Directive outlines the overall structure for an effective waste management regime within the EU.

Relevant Local Spatial Plans

- Louth County Council; County Development Plan 2003 – 2009 (Including subsequent variations)
- Dundalk & Environs Development Plan 2003 – 2009 (Including subsequent variations)
- Dundalk South West Local Area Plan 2006
- Drogheda Borough Council Development Plan 2005 – 2011 (Including subsequent variations)
- North Drogheda Environs Local Area Plan 2004
- Planning Strategy for the Greater Drogheda Area 2007
- Local Area Plans for County Louth Towns and Villages beyond Drogheda and Dundalk.
- County Development Board Strategy

Chapter 5

Environmental Protection Objectives

In order to achieve the aim of assessing and improving the environmental performance of the Draft County Development Plan, a number of Environmental Objectives, specific to each environmental topic have been formulated. These Environmental Objectives are a fundamental part of the SEA process. The Objectives are derived through consultation between the planning authority, the report authors (guided by SEA guidelines, incorporating where relevant international, national and regional policies which govern environmental protection/conservation) and are based on the overall strategy of the planning authority to safeguard the environmental integrity of the County Development Plan area and to develop its functional area in a sustainable manner.

Environmental Objectives are distinct from the objectives and policies contained in the plan, though the process of preparing the Draft County Development Plan in conjunction with the SEA allows for the incorporation of environmental themes at an early stage of the process.

The Draft Louth County Development Plan 2009 - 2015 has a large number of policies which translate strategic objectives into more specific policies guiding the working of the Plan. The effect of these strategic objectives and subsequent policies has been cross checked against the environmental protection objectives detailed below. This procedure has been achieved through the use of a matrix.

The process has identified strategic objectives and policies which may result in significant environmental impacts. As such, alternatives may be considered or mitigation measures suggested. In certain cases, the only option open may be the removal of the policy altogether.

Table 2: Environmental Protection Objectives

Environmental Objectives Reference	SEA Topic	Environmental Objective
Air 1	Air	1. Protect and improve local air quality
Air 2		2. Maximise use of renewable energy sources
Wtr 1	Water	1. Reduce water pollution and protect, maintain and enhance water quality and achieve / retain good ecological status as defined in the Water Framework Directive
Wtr 2		2. Maintain and enhance water quality and achieve / retain good ecological status in the general water environment including marine, coastal and river systems, wetlands, loch, estuaries and floodplains.
Wtr 3		3. Protect and enhance the status of aquatic ecosystems and with regard to their water needs, terrestrial ecosystems and wetlands directly dependent on the aquatic ecosystems.
Wtr 4		4. Promote sustainable water use based on a long term protection of available water resources.
Wtr 5		5. Reduce their impact of polluting substances to all waters.
Wtr 6		6. Maintain water abstraction, run-off and recharge within carrying capacity (including future capacity).
Wtr 7		7. Permit only development compliant with the Consultation Draft Guidelines on the Planning System and Flood Risk Management within functional flood plains.
Wtr 8		8. Improve and support water efficient technologies.
Soil 1	Soil	1. Maintain, free from development existing flood plains within County Louth / Dundalk & Environs
Soil 2		2. Improve and safeguard the efficiency and effectiveness of land use and soil quantity and quality
Soil 3		3. Give preference to the re-use of brownfield / greyfield reducing the need to develop Greenfield lands
Soil 4		4. Reduce the consumption of non-renewable sand, gravel and rock deposits
Soil 5		5. Minimise the amount of waste to landfill
Biod 1	Biodiversity	1. Conserve designated habitats and protected species
Biod 2		2. Conserve, protect, maintain and enhance biodiversity.
Biod 3		3. Conserve and enhance the diversity of interdependent habitats in the wider natural and manmade environment beyond designated habitats.
Biod 4		4. Protect areas rich in flora and fauna

Clim 1	Climate	1. Progressively implement the recommendations contained in the Government's Green Paper, 'Towards a Sustainable Energy Future for Ireland'
Clim 2		2. Reduce the causes of adverse climate change (e.g. through actively seeking to reduce reduction in CO2 levels).
Clim 3		3. Reduce localised air pollution through a reduction in the emission of air borne particulates generated by transportation, commercial and domestic activities
Clim 4		4. Increase the use of renewable energy in all area including residential, commercial, public and transportation sectors
Clim 5		5. Reduce vulnerability of County Louth to the effects of climate change e.g. flooding.

Stage 1

The main issues relating to the environmental receptors (e.g. biodiversity, soil, water) are examined in the baseline data section.

Stage 2

Options for environmental protection objectives were chosen. These are based on international, national, regional and local level environmental issues. (Refer to chapter 5)

Stage 3

Realistic options for alternative development scenarios for the future development of County Louth are considered.

Stage 4

The environmental protection objectives devised during Stage 2 are compared to the development policies contained within the Draft County Development Plan in order to assess significant effects upon the environment arising from implementation of those polices. The findings are linked to the alternative development scenarios.

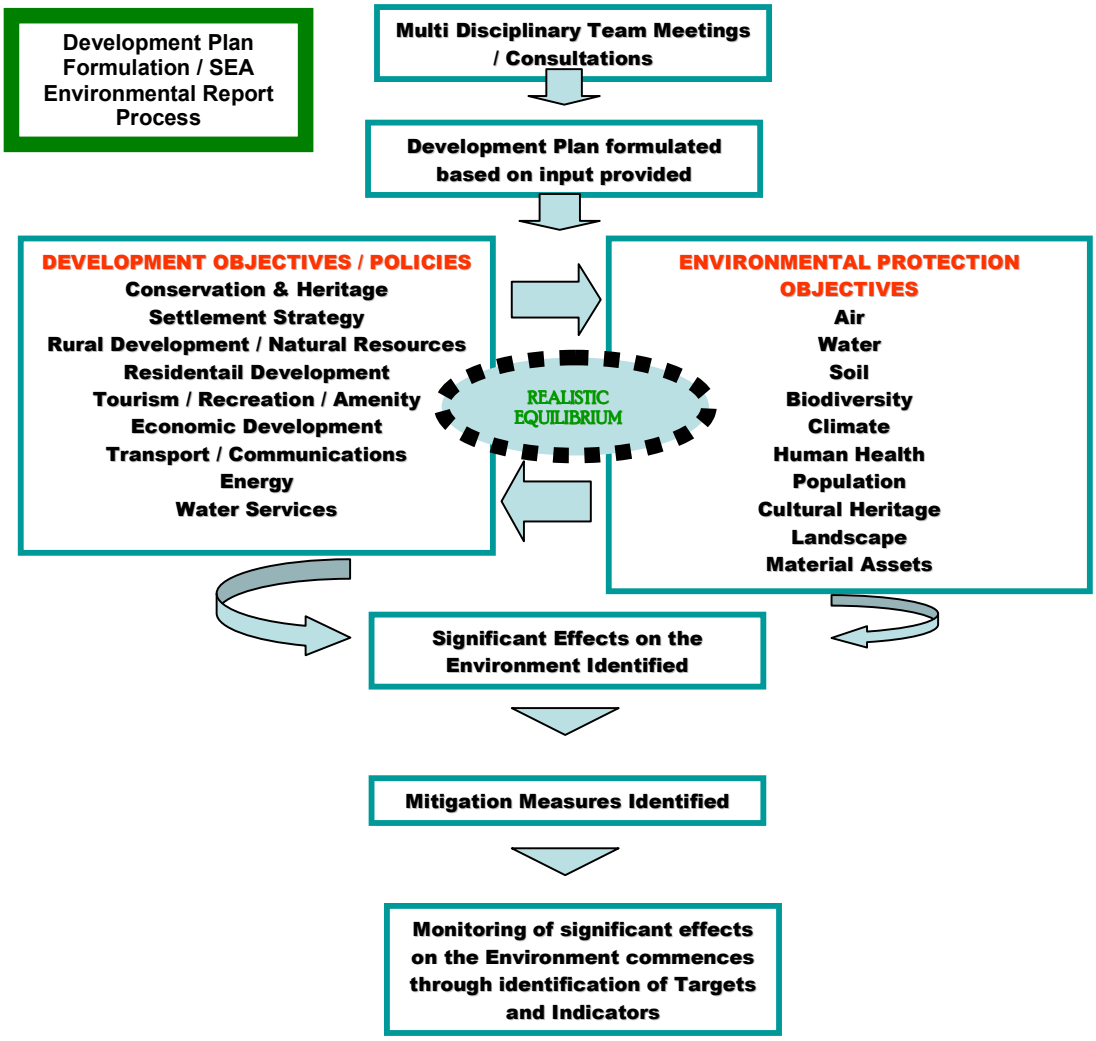
Stage 5

Mitigation measures addressing the proposed County Development Plan polices are proposed. These measures should have the effect of offsetting the likely effects on the environment.

Note: These mitigation measures contain recommendations which may have a direct effect upon the final outcome of the Development Plan.

Stage 6

Monitoring measures are proposed through a range of targets and a number of indicators.
The diagram below indicates how the SEA process ties in with the formulation of the Draft County Development Plan.


Development Plan Formulation / SEA Environmental Report Process
Multi Disciplinary Team Meetings / Consultations
Development Plan formulated based on input provided
DEVELOPMENT OBJECTIVES / POLICIES
Conservation & Heritage
Settlement Strategy
Rural Development / Natural Resources
Residentail Development
Tourism / Recreation / Amenity
Economic Development
Transport / Communications
Energy
Water Services
REALISTIC EQUILIBRIUM
ENVIRONMENTAL PROTECTION OBJECTIVES
Air
Water
Soil
Biodiversity
Climate
Human Health
Population
Cultural Heritage
Landscape
Material Assets
Significant Effects on the Environment Identified
Mitigation Measures Identified
Monitoring of significant effects on the Environment commences through identification of Targets and Indicators

Chapter 6

Baseline Data

Overview

County Louth contains an abundance of natural assets including marine, coastal, wetland, woodland, river and upland habitats that support a variety of plant and animal species. The county also contains a significant built heritage, a rich archaeological resource of monuments including megalithic tombs, souterrains, ringforts, mottes, ecclesiastical sites, an architectural heritage of town centre buildings, tower houses, churches, country houses, demesnes and vernacular buildings. It contains items of industrial heritage interest such as mills, road and rail bridges.

These resources define the county's character. Given such a broad variety of natural and built assets, it is proposed to consider the environmental issues in accordance with the mandatory requirements for SEA under the following headings;

- Biodiversity
- Flora
- Fauna
- Population & Human health
- Soil
- Water
- Air
- Climatic factors
- Material assets
- Cultural heritage (including architectural and archaeological heritage)
- Landscape

BIODIVERSITY

Although there is some controversy regarding the exact definition of biodiversity, it suffices to say that for the purposes of the Scoping Study The term biodiversity describes the variability of life on Earth and includes species, habitats and genes. Its protection is a key requirement for the sustainable development of Louth and yields tangible benefits including the protection of water quality, tourism, and maintenance of the amenity value of the countryside. The continued health of human societies depends upon a natural environment that is productive and contains a wide diversity of plant, animal, and microbe species. There is growing national and global awareness of the need to conserve biodiversity .The need to conserve biodiversity generally is underlined in the National Biodiversity Plan and Convention on Biological Diversity which Ireland has signed and ratified. In Ireland habitat and species diversity constitutes our national biodiversity.

Biodiversity in County Louth

Louth contains some of the most biodiverse places in Ireland. These include a variety of protected habitats, such as estuaries and tidal mud flats, and species such as the red squirrel and the otter. In local terms biodiversity can be understood in terms of the wide variety of plants, animals and micro-organisms throughout County Louth which have been impacted upon by human beings over time. Clearing of vegetation has resulted in the replacement of natural habitats with semi-natural habitats. In particular, the development of many one off Greenfield sites for houses in the county has increased the rate of removal of hedgerows and woodland in recent years as has the intensification of agriculture.

Protected Areas

County Louth contains a number of sites which are afforded protection under both national and EU law, the purpose of which is to conserve habitats and species of European significance.

It should be noted that the majority of Louth's biodiversity lies outside of these protected areas and it is important to recognise the vital role of biodiversity in the countryside that is not rare or endangered. Hedgerows and rivers, for instance, criss-cross the county and are home to a wealth of plants and animals.

The following details the key forms of designation together with their relevance to Louth:

Special Areas of Conservation (SAC)

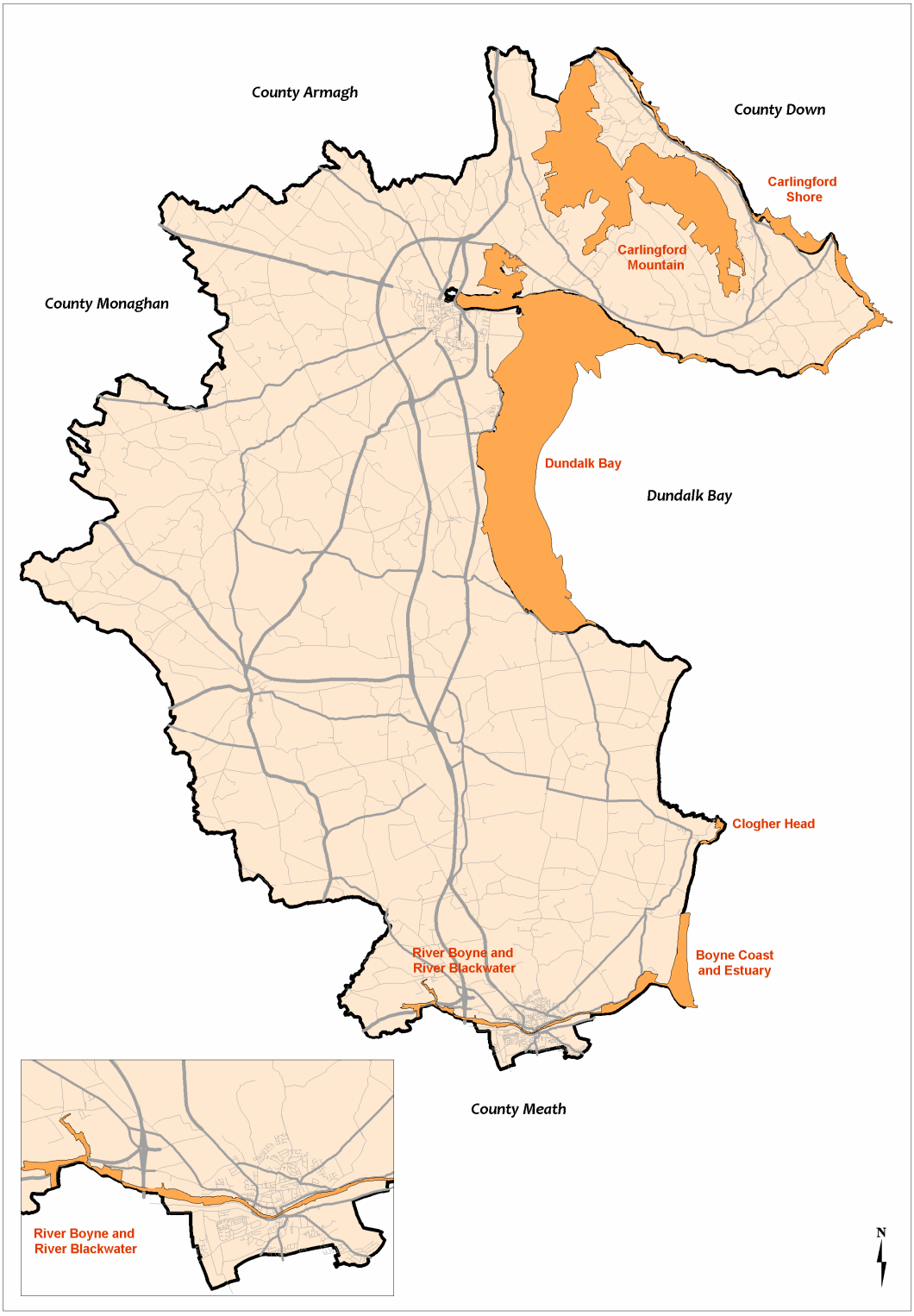
Special Areas of Conservation are the prime wildlife conservation areas in the country, considered to be important on a European as well as Irish level. They were established under the 1992 Habitats Directive of the Council of the EU for the conservation of natural and semi-natural habitats and species of flora and fauna. The Directive was transposed into Irish law in the European Union (Natural Habitats) Regulations 1997. The regulations set out how these SAC's are to be protected and managed by the relevant Planning Authorities. The Directive lists certain habitats and species that must be protected within SACs. Irish habitats include raised bogs, blanket bogs, turloughs, sand dunes, machair (flat sandy plains on the north and west coasts), heaths, lakes, rivers, woodlands, estuaries and sea inlets.

Table 3: Special Areas of Conservation: County Louth

Ref.	Site Name	Site Characterisation
1	Carlingford Lough	Coastal
2	Carlingford Mountain	Mountain
3	Boyne Coast & Estuary	Coastal
4	Dundalk Bay	Coastal
5	Clogherhead	Coastal

Photo: Breffni Martin

Map 5: Special Areas of Conservation



Proposed Natural Heritage Areas (pNHA's)

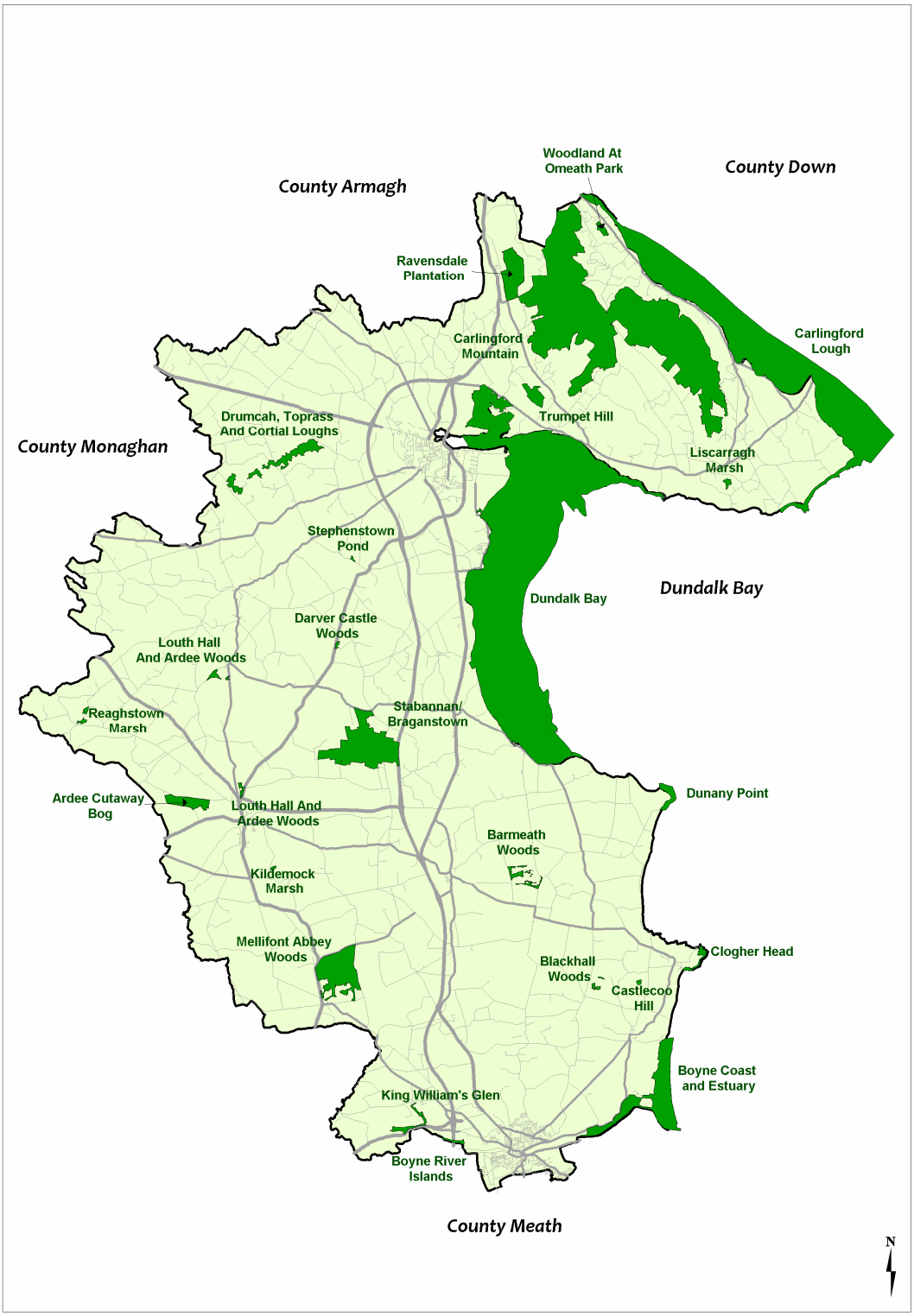
The basic designation for wildlife is the Natural Heritage Area (NHA). This is an area considered important for the habitats present or which holds species of plants and animals whose habitat needs protection. Louth currently has 24 Proposed Natural Heritage Areas. Prior to statutory designation, pNHAs are subject to limited protection through the use of mechanisms such as the Rural Environment Protection Scheme (REPS) plans which require conservation of pNHAs and operate for a period of 5 years, the Forest Service requirement for National Parks and Wildlife Service approval before they will pay afforestation grants on pNHA lands and localized recognition of the ecological value of pNHAs by Planning and Licencing Authorities. Under the Wildlife Amendment Act 2000, pNHAs are legally protected from damage from the date they are formally proposed for designation.

Stephenstown Pond

Table 4: Proposed Natural Heritage Areas (pNHAs)

Site Code	Name
0452	Carlingford Lough pNHA
0456	Stabannan-Braganstown pNHA
1293	Blackhall Woods pNHA
1451	Liscarragh Marsh pNHA
1454	Ardee Bog pNHA
1458	Castlecoo Hill pNHA
1461	Darver Castle pNHA
1462	Drumcah, Toprass & Cortial Loughs pNHA
1464	Mellifont Abbey Woods pNHA
1465	Woodland at Omeath Park pNHA
1468	Trumpet Hill pNHA
1616	Louth Hall and Ardee Woods pNHA
1801	Barmeath Woods pNHA
1803	Stephenstown Pond pNHA
1804	King William's Glen pNHA
1805	Ravensdale Plantation pNHA
1806	Kildemock Marsh pNHA
1828	Reaghstown Marsh pNHA
1856	Dunany Point pNHA

Map 6: Proposed Natural Heritage Areas, County Louth



Special Protection Areas (SPAs)

The statutory basis for Special Protection Areas in Ireland lies with the EU Birds Directive (79 / 409 / EEC). Due to the long distances over which birds fly as part of their migratory patterns, the EU Birds Directive provides for a network of sites in all Member States to protect birds at their breeding, feeding, roosting and wintering areas. It identifies species which are rare, in danger of extinction or vulnerable to changes in habitat and which need protection. In Ireland, species include Bewicks and Whooper Swan, Greenland White-Fronted and Barnacle Geese, Corncrake, Golden Plover, Bar-Tailed Godwit, five species of tern, birds of prey including Hen Harrier, Peregrine, Merlin as well as the Nightjar, Kingfisher and Chough.

The EU Birds Directive requires designation of SPAs for:

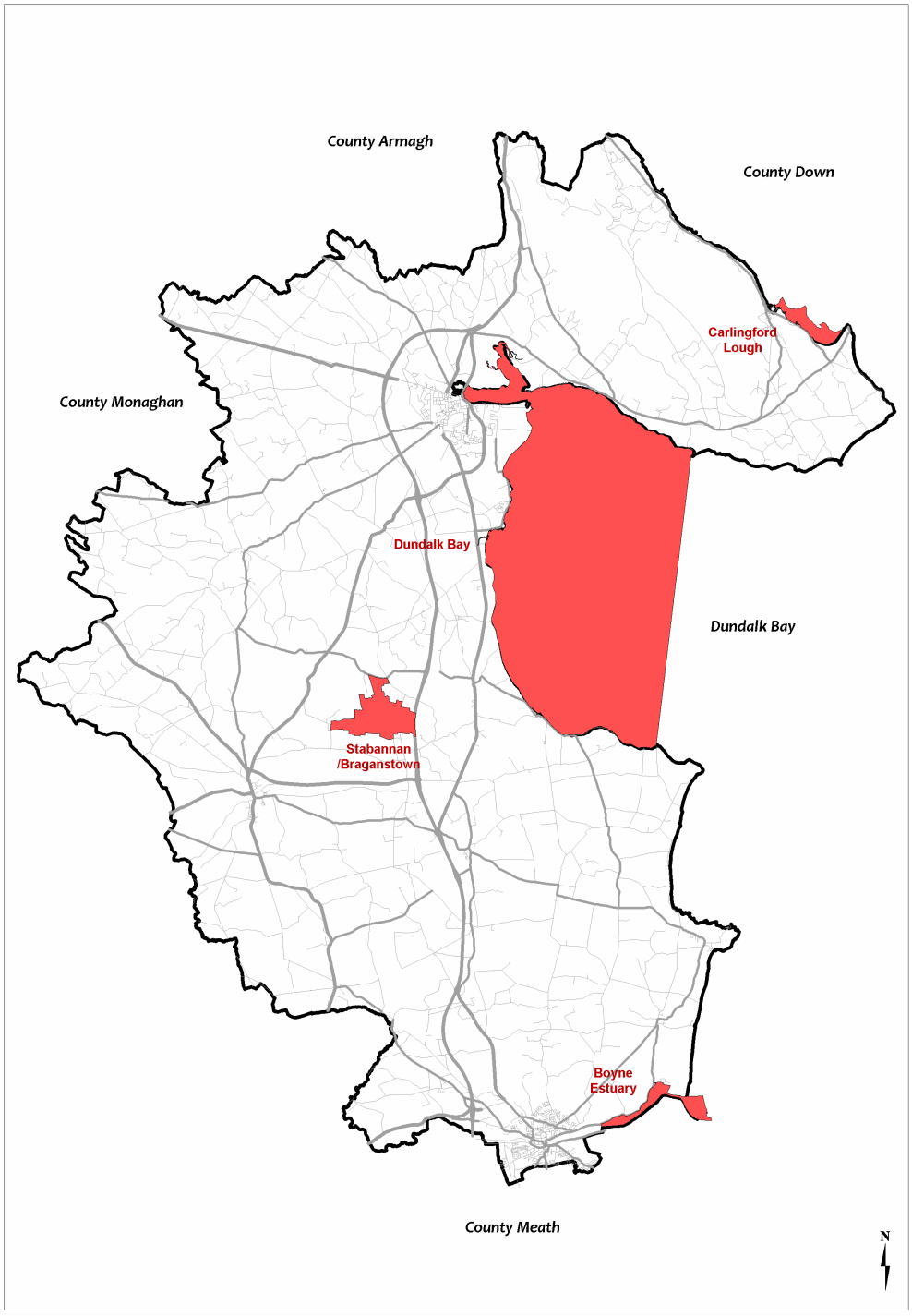
- Listed rare and vulnerable species bird species.
- Regularly occurring migratory species, such as ducks, geese and waders.
- Wetlands, especially those of international importance, which attract large numbers of migratory birds each year. (Internationally important means that 1% of the population of a species uses the site, or more than 20,000 birds regularly use the site.)

Within County Louth four SPAs have been designated. These are named in Table 3 below. Of these four sites it should be noted that Dundalk Bay is one of the most important wintering waterfowl sites in the country and one of the few which regularly supports more than 20,000 waterfowl. It supports three species in numbers of International Importance and a further 15 species in numbers of National Importance.

Table 5: Special Protection Areas: County Louth

Ref.	Site Name
4078	Carlingford Lough
4091	Stabannan / Braganstown
4080	Boyne Estuary
4026	Dundalk Bay

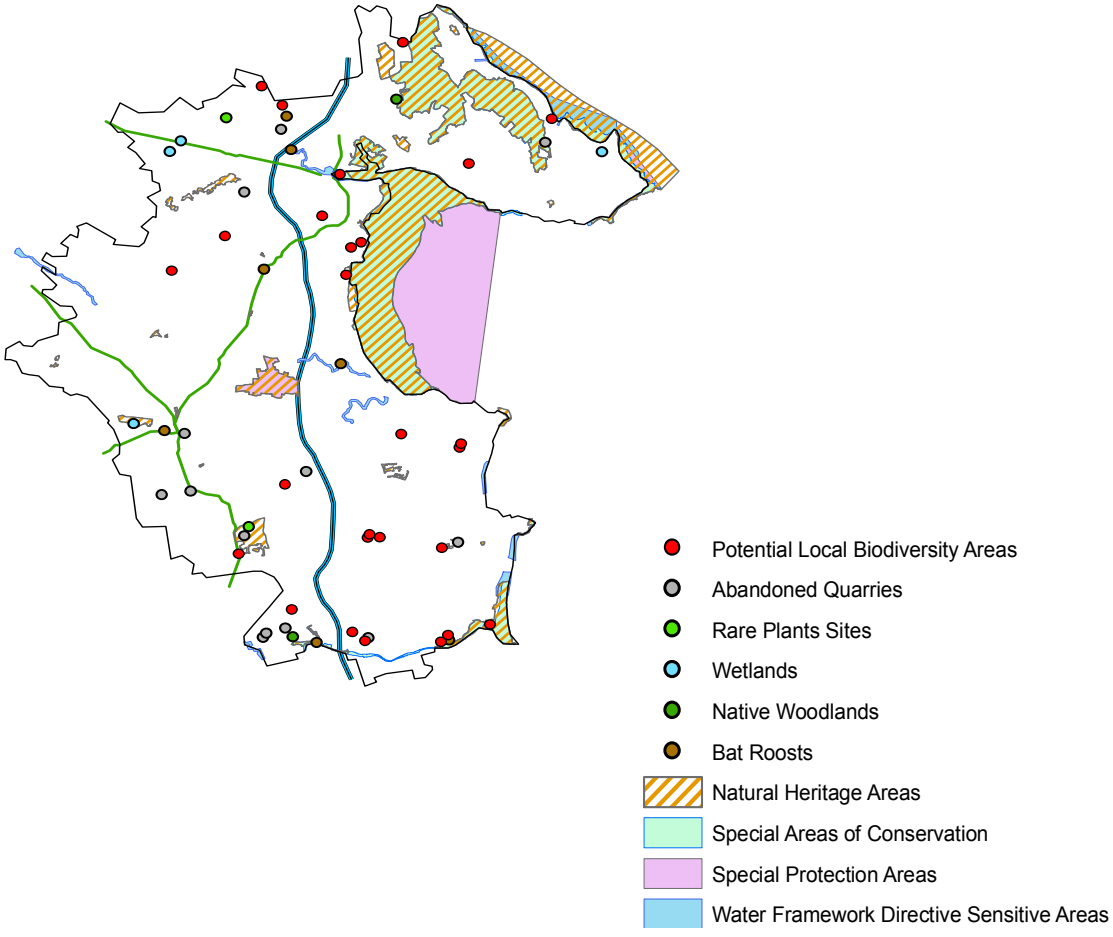
Map 7: Special Protection Areas: County Louth



Local Biodiversity Areas (LBAs)

The majority of Louth's biodiversity lies outside the protected confines of SACs, NHAs and SPAs however it is important to recognise the vital role of biodiversity in the countryside that is not rare or endangered. Hedgerows and rivers, for instance, criss-cross the county and are home to a wealth of plants and animals. They give the landscape character, provide resources for amenity and tourism, clean air and water. The new County development Plan will examine the potential to develop a system for the protection of Local Biodiversity Areas. This will include defining the criteria for potential Local Biodiversity Areas (LBAs) and identification of potential sites in the county.

Map 8: Possible Local Biodiversity Areas in County Louth



FLORA AND FAUNA

Flora of County Louth

Native Woodland

In Louth – today only 0.18% (less than one fiftieth) of the land cover is considered native woodland (i.e., forest that is predominantly composed of species native to Ireland). These tiny pockets were often preserved as part of hunting grounds in estates and demesnes, such as that at Darver Castle Woods pNHA and Louth Hall pNHA. They are home to specialist woodland flora and fauna such as the long-eared owl and the pine marten.

The National Parks and Wildlife Service and the Forest Service have commissioned a National Survey of Native Woodland in Ireland. Over the centuries conversion of woodland to agricultural farmland has resulted in the near total removal of this habitat in Louth. Today only 0.18% of the land cover is considered native woodland. Louth has one of the lowest coverage of native woodlands in Ireland.

The Tree Council of Ireland and the Irish Tree Society initiated the Tree Register of Ireland (TROI) project in 1999 with the aim of compiling a database of trees in Ireland. Eight 'Champion Trees' were measured in the county area as part of this project. It is considered that these trees are of significant environmental value to the County and that such trees should be protected from development pressure where necessary. Table 2.6 details champion trees located in Louth.

Table 6: Champion Trees

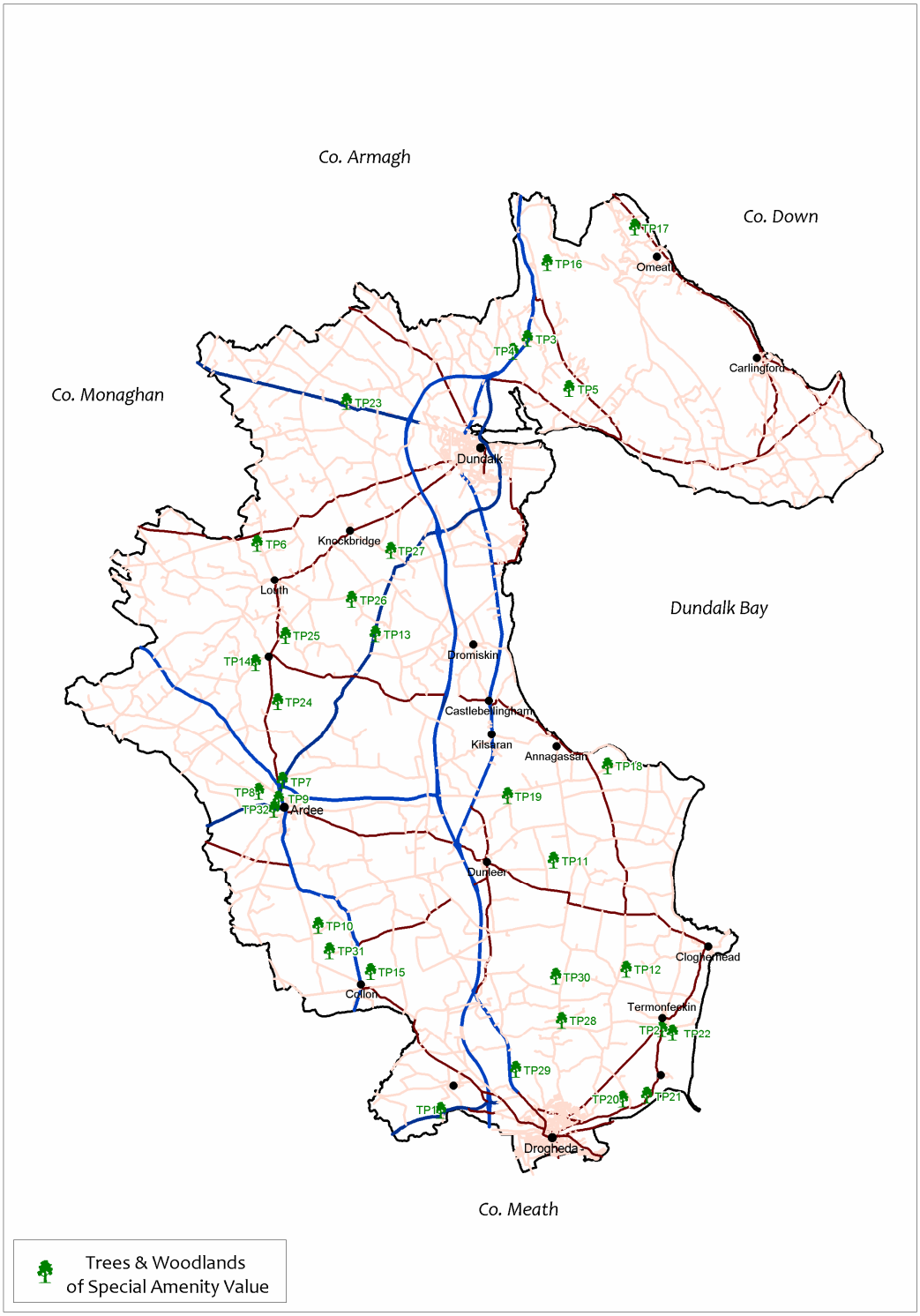
Species	Location	Dimensions
Cedrus libani (Cedar of Lebanon)	Red House, Ardee	7.41 @ 1.5 m × 36 m
Fagus sylvatica Atropurpurea (Copper Beech)	Red House, Ardee	4.91 @ 1.3 m × 29.50 m
Juglans regia (Walnut)	Red House, Ardee	4.50 @ 0.6 m × 22m
Abies procera Glauca Group (Noble Fir)	Red House, Ardee	4.48 @ 1.5 m × 39 m.
Liriodendron tulipifera (Tulip Tree)	Red House, Ardee	4.46 @ 1.5 m × 23m
Cedrus deodara (Deodar Cedar)	Red House, Ardee	3.81 @ 1.5 m × 31.30m
Cryptomeria japonica Elegans Group (Japanese Red Cedar)	Castlebellingham	3.17 @ 0.8 m × 17.70 m.
Ilex aquifolium (Holly)	Red House, Ardee	2.31 @ 1.5 m × 21.30 m.

In addition these individual trees, the draft County Development Plan has identified a number of wooded areas which are considered to be of special amenity value. These are shown in Map 9 and detailed in Table 7.

Table 7: Trees and Woodlands of Special Amenity Value

Ref.	Location
TP1	Townley Hall / King William's Glen
TP2	Termonfeckin Village
TP3	N1 at Aghnaskeagh
TP4	N1 north of Greenore junction
TP5	Trumpet Hill
TP6	Monvallet east of ESB station
TP7	Red House, Ardee
TP8	Fox Covert, Ardee
TP9	St. Joseph, Ardee
TP10	Mullaghesh, Collon
TP11	Barmeath Woods
TP12	Blackhall Woods
TP13	Darver Castle Woods
TP14	Louth Hall
TP15	Mellifont Abbey Woods
TP16	Ravensdale Plantation
TP17	Woodlands at Omeath Park
TP18	Salterstown
TP19	Drumcar
TP20	Beaulieu
TP21	Drogheda – Baltray Road
TP22	Newtown House
TP23	Church at Milltown
TP24	Lisrenny House, Tallanstown
TP25	Rathbrist House, Tallanstown
TP26	Corderry House, Readypenny
TP27	Stephenstown Pond
TP28	Ballymakenny Church
TP29	South of Killineer
TP30	Piperstown House
TP31	North of Mount Oriel
TP32	The Rectory, Ardee

Map 9: Trees and Woodlands of Special Amenity Value



Additional protection is afforded to particular groups of trees which are considered to be worthy of legal protection. The Planning and Development Act 2000 sets out the legal framework and procedures to make a Tree Preservation Order. The County Council has made two Tree Preservation Orders which are listed below.

Table 8: Trees protected by Tree Preservation Orders

Ref.	Location
TPO1	Fox Covert, Ardee
TPO2	Ardee Golf Club
TP03*	Red House Ardee
TP04*	Mell, Drogheda

Hedgerows

Hedgerows provide an invaluable refuge for many woodland species such as badger, fox, and numerous birds that we know today as garden visitors (blackbirds, robins, wood pigeons and finches for instance). The hedgerows are also home to a variety of plants and insects, and at night any of the eight recorded bat species in Louth, all of which are protected under the Wildlife Act, may use them as highways for foraging. In this role hedgerows are crucial 'ecological corridors' – pathways that allow the interaction and dispersal of plants and animals through the countryside. They are also vital components in maintaining landscape integrity and play an important role in moderating the flow of water off land.

Species Rich Grasslands

Some traditionally farmed, or 'unimproved', grasslands may still exist in Louth but the current status of this habitat is unknown. In some cases, disused or abandoned quarries are transformed into orchid-rich grasslands due to their nutrient-poor status – such as the one at Boycetown (a site with no legal designation). The birds and flowers that once depended on low intensity farming are now rare. Current signs of reform of the CAP, the widespread uptake of REPS in Louth and the growing popularity of organic food may signal a welcome reverse of this loss.

Wetlands

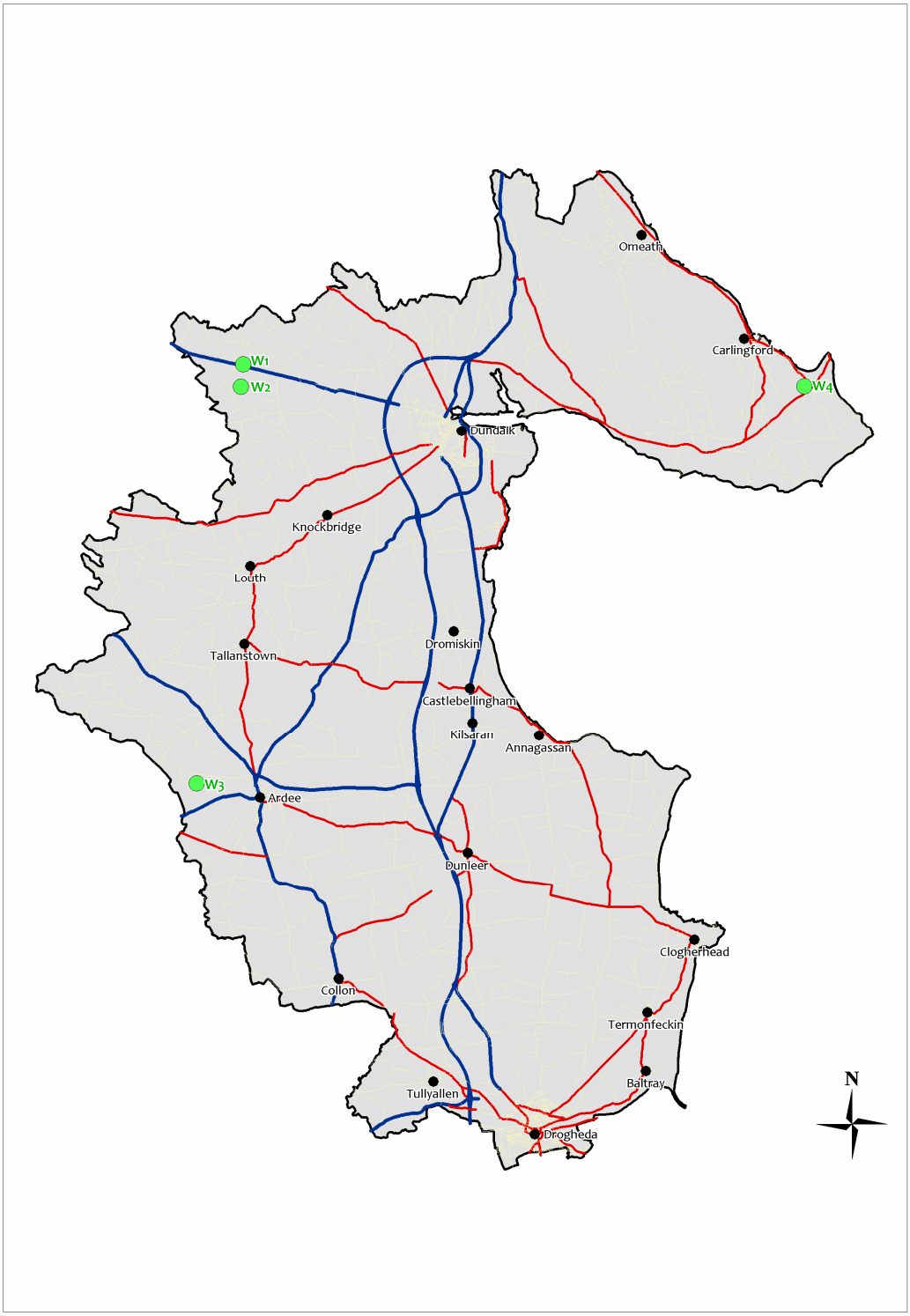
Within County Louth, the Dee, the Fane, the Glyde and the Boyne Rivers drain the lowlands of the County and provide a rich habitat for protected species such as salmon, otter and kingfisher. The Boyne is a designated salmonid river for its important populations of salmon and trout. Wetland habitats occur infrequently in Louth compared to other Irish counties, but where they are found, they are home to a rich array of plants and animals, from frogs and newts to dragonflies and unique wetland flora. They are frequently a mosaic of diverse habitats that grade from swamp to marsh to open water. Examples in the county include Liscarragh Marsh near Greenore, and Stephenstown Pond, 6 km south-west of Dundalk. Many of the county's small ponds and wetlands are not protected by any particular designation however, such as those at Begrath and Ravanny, but this does not diminish their biodiversity value. This underscores the importance of developing a system for protecting these local biodiversity areas. Wetlands are home to specialised plants and animals that are not found in any other habitat. Wetlands are also vital to migrating birds as feeding and resting points. This is especially the case in County Louth. Wetlands also have an important role to play in regulating water supplies by maintaining ground water levels and storing winter floodwater.

Finally, wetlands can have commercial, tourist and recreational roles in supporting commercial fisheries, fish farms, angling, sport, recreation and tourism. Stephenstown Pond in County Louth provides a good example of a multi faceted wetland.

Table 9: Wetlands in County Louth

Name	Location	Type	Ref No.
Annaghvacky,	Hackballscross		W1
Ardee Bog, (pNHA)	Ardee		W3
Clonaleenaghan,	Hackballscross		W2
Millgrange,	Greenore		W4

Map 10: Wetlands in County Louth



Threats to Wetlands

The potential threats to wetlands within County Louth include the loss of peatland due to peat extraction and forestry. In the case of Ardee Bog, there has been extensive peat extraction over many years and as a result, only a small portion of the original bog now remains intact. Threats can also arise from drainage and agricultural improvement. Within the County Louth context there can be potential threats to Coastal wetlands from development for ports, marinas and industry. A more general threat arises from pollution and enrichment of waters. This adversely affects the ecology of wetlands as well as waste tipping. Many wetland areas have been used as rubbish dumps.

Coastline

The coastline of Louth is possibly the county's greatest natural asset. Nearly the entire coast, from Carlingford Lough to the Boyne estuary, is of international importance for its habitats (including estuaries, tidal mudflats and saltmarsh) and species – in particular its population of wintering water birds. These birds occur in internationally significant numbers in Dundalk Bay, the Boyne Estuary, Carlingford Lough, from Dunany point to Clogherhead and on to Baltray. Beyond the coast lies the deeper water of the marine zone. The Irish Whale and Dolphin Group carries out on-going survey work based on sightings of cetaceans off the Louth coast. This has revealed numerous sightings of bottle-nosed dolphins and harbour porpoises, both species listed under Annex II of the Habitats Directive.

The Cooley Peninsula

The Cooley Peninsula is a mosaic of natural and semi-natural habitats. The principal site of biodiversity importance is Carlingford Mountain SAC with its alpine and sub-alpine heath – a habitat listed under Annex I of the Habitats Directive. The mountain is also home to the rare parsley fern (Cryptogramma crispa) and the peregrine falcon, an Annex I species under the Birds Directive and the fastest bird in the world. At higher altitudes the principal habitat is mountain blanket bog. It is a nutrient-poor landscape that is characterised by fluffy heads of cotton-grass (Eriophorum vaginatum) and the black bog-rush (Schoenus nigricans). Unique plant life found here includes the insect-eating butterworts (Pinguicula spp.), which make up for the mineral-poor bog environment by trapping and digesting unsuspecting flies that land on their sticky leaves.

Photo: Breffni Martin

Raised Bog

Ardee bog represents a rare remnant of raised bog in county Louth, a feature that is more usually associated with the midland counties. This unique habitat is formed over thousands of years when dying vegetation fringing a lake slowly builds up until the bog rises like bread in a baking tin – giving this type of bog its name. Specialised Sphagnum mosses release acidity into the peat, famously allowing the peat to preserve everything from butter to human bodies and

the trunks of pine trees that died five thousand years ago. Ardee bog is home to much specialised plants and animals, including the insect-eating sundew flower and the hand-sized emperor moth.

Vascular Plants

A vascular plant is one which possesses tubes for transporting liquid and nutrients. This group includes the trees, flowering plants and grasses. The publication in 2002 of *The New Atlas of the British & Irish Flora*[1] provides a wealth of information on the hundreds of native and alien species found in the country. This project was possible due to the extensive research of county recorders of the Botanical Society of the British Isles (BSBI), including one for county Louth. Many rare and protected species of plant are to be found in Louth, frequently in designated sites (see Appendix 3 for a full list). However, comprehensive, site-specific data is lacking in this regard. A 2006 rare plant survey set out to relocate 17 rare plants recorded from the county but only found two. Surveys for a further eight could not be carried out due to poor location information. While none of these are considered extinct, it does highlight the lack of knowledge that exists regarding these important species[2]. One of the greatest threats to rare plants, particularly those outside of designated areas, is development and lack of knowledge. Better data would help to secure the status of many species.

Bryophytes

Bryophytes differ from vascular plants in that they do not have tubes for transporting water and so absorb moisture directly from rain or vapour around them. This group includes mosses, liverworts and stoneworts. A 2007 national survey looked at the distribution of bryophytes in Ireland with a view to publishing an atlas for this group of species.

Lichens and Fungi

A lichen is a unique organism in that it is an intimate combination of two organisms: a fungus and an algae. Some are extremely common and can be used as accurate indicators of air quality. Fungi are notoriously difficult to identify and survey since what is commonly identified as a mushroom is in fact only the fruiting body, a tiny portion of the organism that is visible above ground. It is believed that the largest organism on Earth may in fact be a mushroom, so vast is the network of root-like *hyphae* in the soil.

Algae

Some algae, such as sea weeds, are quite well known as they are readily visible and easy to recognise. Many others are single-celled organisms that produce slimes or are suspended in water. This means that identification techniques are much more specialised.

Micro-organisms

The number and variety of micro-organisms in existence is currently impossible to estimate but may stretch into millions. Very little research has taken place into what may be the largest group of organisms on the planet.

Fauna of County Louth

Mammals

Recent national research by the National Parks and Wildlife Service has highlighted the presence of many important mammals in Louth. Records indicate the presence of hedgehogs, otters, stoats, squirrels, pygmy shrews and harbour seals. Louth is thought to have the second highest density of badger groups in the country, at one per square kilometre.

This is due in large part to the extent of hedgerow habitat that exists in the lowlands of Louth. A hare survey published in 2007 showed that this species is widespread throughout the county while, also in 2007, a Red Squirrel survey revealed that this species is endangered, with only one record in the county. A survey of otter distribution in 2004/2005 indicated the presence of this species at all of the monitoring locations, showing that Louth remains a stronghold for this charismatic species.

Marine Mammals

Marine mammals are present along Louth's coast, with populations of both grey and common seals. Records of cetaceans are maintained by the Irish Whale and Dolphin Group and indicate the regular presence of both bottle-nosed dolphins and the harbour porpoise along the Louth coast – species listed in Annex II of the Habitats Directive.

Bats

All bats are protected under the Wildlife Act and there are recent records in Louth for eight of the ten species known to occur in Ireland (see box no. 7). Bats historically roosted in the hollows of old trees but they

have adapted to the human presence and now routinely nest in old buildings and bridges. These roosts are under threat however due to demolition works for development and filling in the gaps between stones under bridges (known as're-pointing'). Gathering data on the presence of these roosts is therefore a key action in protecting this group of mammals.

Table 10: Louth Bat Species

Bat Species Recorded in Louth	
Common Pipistrelle	Soprano Pipistrelle
Nathusius' Pipistrelle	Leisler's Bat
Natterer's Bat	Whiskered Bat
Daubenton's Bat	Brown Long-eared Bat


Common Pipistrelle

Table 11: County Louth Bat Roosts

No.	Location
1	St John's Bridge
2	Lurgankeel Bridge
3	Stephenstown
4	Oldbridge
5	Castlebellingham
6	Bridge in Ardee
7	Beaulieu
8	Council 'bat house'

Birds

The most recent atlases of birds dates from 1991 (breeding birds) and 1986 (wintering birds) and these identify Red List and Amber List species, many of which occur in the county. These include the Common Scoter, Barn Owl and Little Tern.


Common Scoter

Reptiles and Amphibians

Three species are known from Louth: the common lizard, the common frog and the smooth newt. The presence of lizards and frogs in Louth is recorded from popular surveys carried out by the Irish Wildlife Trust and the Irish Peatland Protection Council respectively. The status of the newt meanwhile is unknown but it is thought to be widespread in Louth.

Fish

Freshwater fish are generally well recorded in Louth thanks to the Eastern Regional Fisheries Board and the Loughs Agency, including extensive data on salmon and lamprey as well as trout.

Lamprey

The lamprey is a little known fish that is widespread throughout the rivers of Louth and is protected under Annex II of the Habitats Directive. While in appearance is somewhat like an eel, its most striking characteristic is its lack of a jaw. Instead, its mouth consists of a sucker with concentric rings of sharp teeth that it uses to attach itself to prey, usually larger fish, and grind at the flesh beneath. It has no scales, and its bones are made of cartilage, rather like a shark's. In fact, the lamprey is the most primitive of all living vertebrates with known fossils of its remains dating from 450 million years ago. Three species inhabit Louth's rivers, the River, Brook and Sea Lamprey.

Photo; Central Fisheries Board

Invertebrates

Recent monitoring projects for butterflies and dragonflies have added much to the store of knowledge on these charismatic insects.

The onset of global warming coupled with the extensive loss of habitat has seen a marked decline in the numbers of butterflies to be found in Ireland over recent years. However, within County Louth, butterfly species remain highly visible in certain, carefully managed refuges such as that to be found at Stephenstown Pond. Within the confines of such sites, the following species can be found:

- The Ringlet *(Aphantopus hyperantus)* is so named because of the string of false eyes on the underside of the wings.
- The Speckled Wood *(Pararge aegeria)* ideally camouflaged by its speckled wings
- The Small Tortoiseshell *(Aglais urticae)* is one of the most common butterflies in Ireland.
- The Peacock
- Large and Small Cabbage Whites
- Green Veined White, Ireland's most common butterfly

Photo: Ulster Wildlife Trust

Green Veined White

- Orange Tip
- Small Copper
- Wall Brown
- Meadow Brown and Ringlet
- Small Heath
- Real's Wood White
- Silver Washed fritillary

Photo: Ulster Wildlife Trust

- Dark Green Fritillary
- Speckled Wood
- Common Blue

Photo: Ulster Wildlife Trust

Recent years have seen the publication of a Red List for Bees in Ireland and an Atlas of Water Beetles. These are important steps in collating data for all invertebrates in Ireland.

Fauna and Urban Areas

County Louth is the second most urbanised county on the island (excepting Northern Ireland). It is therefore surprising that the large built up urban areas of Drogheda and Dundalk can be home to many more species of wildlife than one may expect or realise. Both towns and the other smaller urban centres around the county can be surprisingly rich in habitats. Gardens provide a rich resource for birds like the robin and blackbird, while small animals such as the hedgehog can forage through them at night. Even animals as large as badgers are known to regularly frequent people's gardens looking for food. Important biodiversity areas that are close to the towns have a very important role to play in raising awareness and education. For instance, the river Boyne SAC runs through the heart of Drogheda while Dundalk Bay SAC and SPA is within a few minutes' walk of Dundalk town centre.

Ecological Corridors

Article 10 of the Habitats Directive recognises the importance of ecological networks as corridors and stepping stones for wildlife, including for migration, dispersal and genetic exchange of species of flora and fauna. The Directive requires that ecological connectivity and areas of ecological value outside the network of designated ecological sites are maintained and it recognises the need for the management of these areas through land use planning and development policies. Ecological networks are important in connecting areas of local biodiversity with each other and with nearby designated sites so as to prevent islands of habitat from being isolated entities. They are composed of linear features, such as treelines, hedgerows and rivers/streams, which provide corridors or stepping stones for wildlife. Man made corridors can also act as ecological corridors. These may include new roads where the road verges act as ecological corridors together with features such as abandoned road, rail and canal routes. County Louth does not contain any canals however it has several abandoned rail and road routes, the latter often the result of the construction of new road corridors in close proximity to the former route. The new roadways have been constructed with ecology specifically in mind and to this end have environmental operating plans in operation which aim to limit the impacts of the roads through physical measures such as anti severance features and the use of native flora.

Artificial Badger Sett Construction NRA Road Scheme

County Louth has a series of abandoned and largely dismantled rail, routes particularly in the north of the County. Dundalk was, until the late 1950's, one of the largest railway engineering sites in Ireland. A relatively short rail routes connected the town with Greenore, Carlingford and Omeath on the Cooley Peninsula whilst much longer distance routes linked Dundalk to Carrickmacross and Clones, County Monaghan and ultimately to Enniskillen, County Fermanagh and Derry City. In the mid and south of the county, Ardee was linked to the main Belfast / Dublin line at Dromin Junction whilst Drogheda had links to Navan and Oldcastle in County Meath, Kingscourt in County Cavan and a freight only link to Drogheda Port.

Today this extensive network has been severely reduced to just the Dublin / Belfast line and the freight only Drogheda / Navan link. All the other lines are now closed with only the Drogheda port link retaining its rail infrastructure. Such abandoned lines offer significant potential as both ecological corridors and recreational resources for the human population particularly if they are sympathetically converted to cycle / pedestrian routes. The former rail route to Ardee has been largely converted to a walking route and its popularity is testimony to the benefits of such schemes.

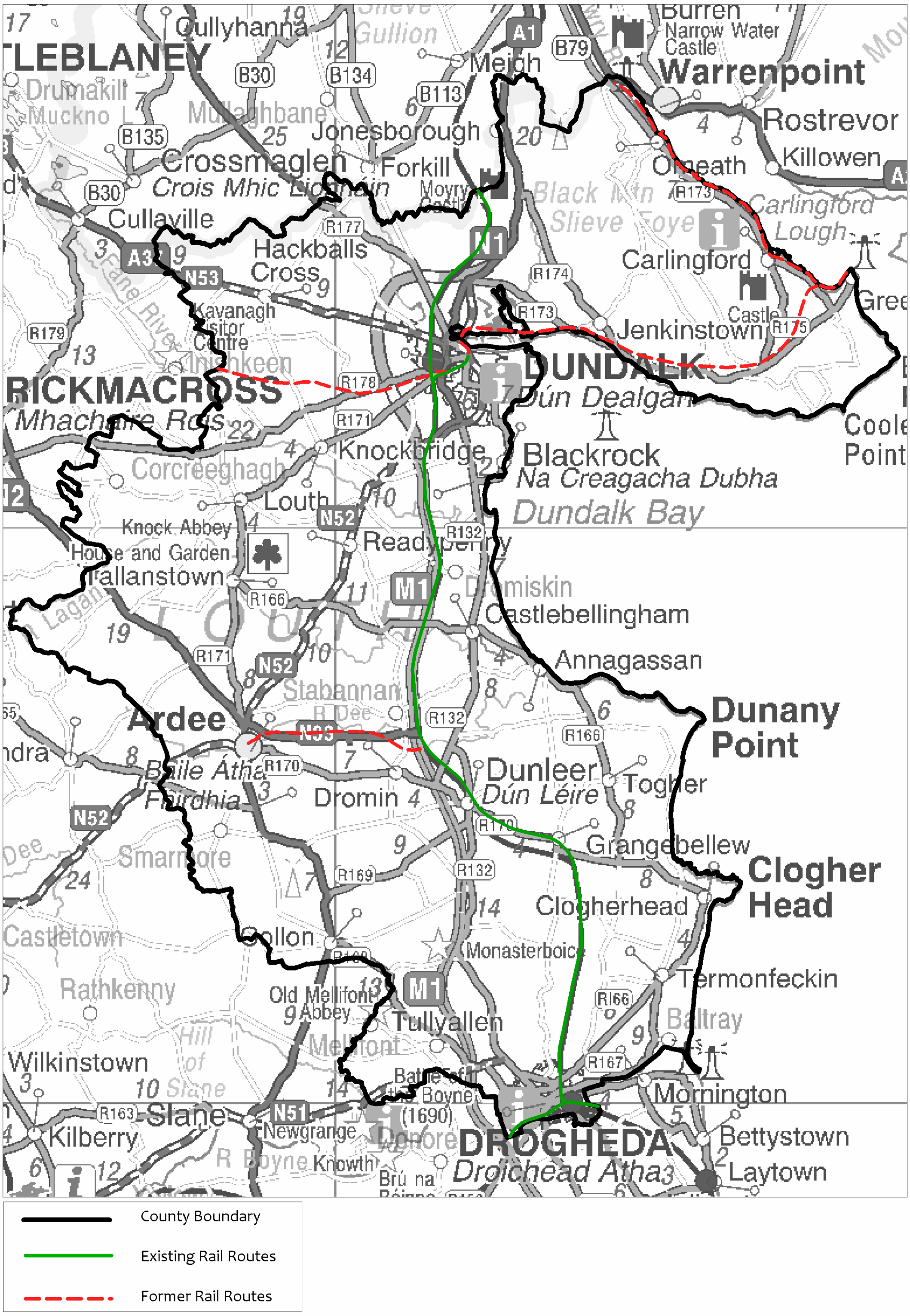
Ardee Railway Walk

Ardee Railway Walk

Threats to Biodiversity, Flora and Fauna

Throughout Ireland, the principle threats to biodiversity are habitat loss; pollution; disease; over-harvesting; and alien invasive species. The uncertainties of climate change may also be included in this list. Of these, habitat loss is probably the greatest threat in Louth, although climate change and alien species may also present problems in the future. Habitats that have been converted to intensive grassland or forestry are generally hostile to wildlife while rising sea levels may inundate existing coastal habitats. Specific activities can damage habitats, such as drainage of bogs, or excessive trampling on sand dunes. Lack of knowledge and awareness can also be identified as a significant threat that will be addressed as part of this plan.

Map 11: County Louth Existing and Former Rail routes



Climate Change

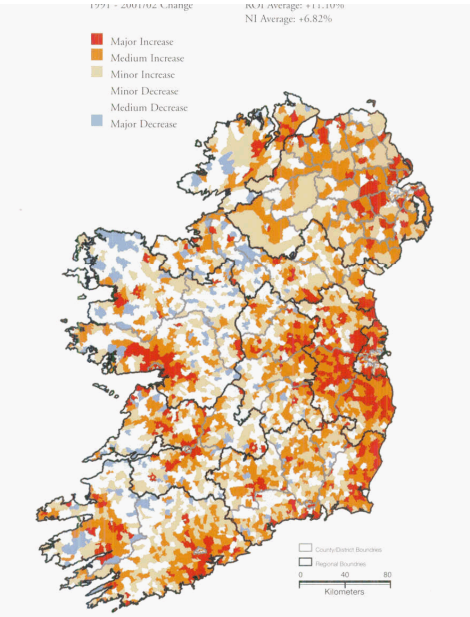
It is now beyond doubt that climate change is happening and human activity is the principle agent of that change. This is witnessed by the public at large through the increasingly erratic nature of weather patterns and the severity of certain weather related events. Attention at national level is turning to reducing emissions of greenhouse gases and trying to predict and adapt to changes that are already occurring.

Increasing efforts are also concentrating upon predicting how a changing climate will impact on some of our most threatened species. The result: possible gain in habitat for the corn bunting, marsh fritillary butterfly, and the red hemp-nettle; but losses for the skylark, common scoter and the song thrush. Research efforts are attempting to build a case for planning and adapting to climate change by conserving and restoring all semi-natural habitats, habitat creation, and increasing the ability of wildlife to move across the landscape by making agriculture and forestry less production intensive

Urbanisation

Since the 1990s there has been a sustained movement of population from rural to urban centres, leading to rapid fringe development across much of County Louth. Growth in the economy has also resulted in significant infrastructural development over the past decade, particularly road construction. This is very much the case in County Louth since the completion of the M1 motorway and it northern extension into Northern Ireland. The motorway has effectively cut the county in two representing a major severance in both physical and environmental terms. Landscapes have been affected by urban sprawl, rural housing development, and the growth of industry. The rapid increase in housing costs in towns and villages during the past decade has reduced the ability of many to afford city living, leading to migration from established areas to new development in the urban fringes, to rural areas or to more distant towns, villages and rural areas, including Northern Ireland. These developments, most of which comprise low-density housing, are contributing to the urban sprawl and increasing both short and long-distance traffic volume on Louth's roads, resulting in higher levels of engine emissions.

All Ireland Population Changes 1991 – 2001 Areas highlighted in bright red indicate greatest changes



Greenfield Development / Hedgerow Loss

In general development in County Louth is not significantly impacting upon designated ecological sites as these are afforded protection through European designations. However, localised adverse impacts on some designated sites may be occurring as a result of individual developments both in the form of multi unirt housing development and one off dwellings. When development occurs on greenfield sites in the County, there is inevitably an impact on existing flora and fauna. With development natural and semi-natural habitats are replaced with artificial surfaces resulting in a loss of flora and fauna.

Developments on greenfield sites often results in a loss of important hedgerows. The significance of this loss of flora and fauna as a result of greenfield developments depends on whether the loss of habitats or species is of importance when taken combatively across County Louth.

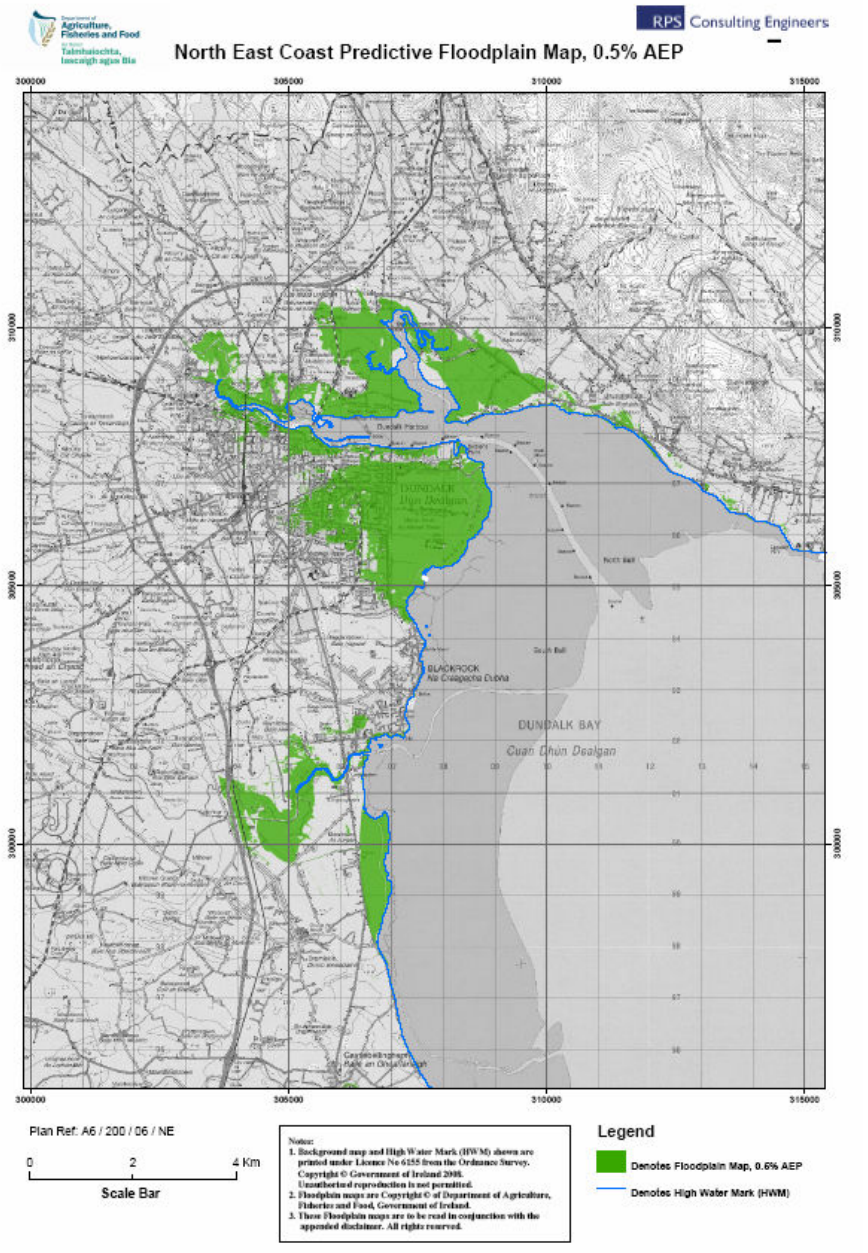
Development in Floodplains / Wetland Areas

Floodplains and wetlands are essential for flood control, pollution control, water supply, and peat lands also serve as vital carbon sinks that could help address climate change. Locating development in an area at risk from flooding (a floodplain) can lead to property damage, human stress, hardship and ill-health, problems obtaining property insurance and consequential demands for the expenditure of local authority or central government resources on flood protection works. The construction of protection works at the time of the development, or at a later date, will incur significant additional costs and will not provide absolute immunity from the risk of flooding. Development located in an area prone to flooding can therefore increase flood risk and/or necessitate heavy expenditure on flood protection works.
In times of flood, a river can flow not only through its normal channel but also along its floodplains. Any constriction of the natural flow path can restrict flow, 'back-up' the river

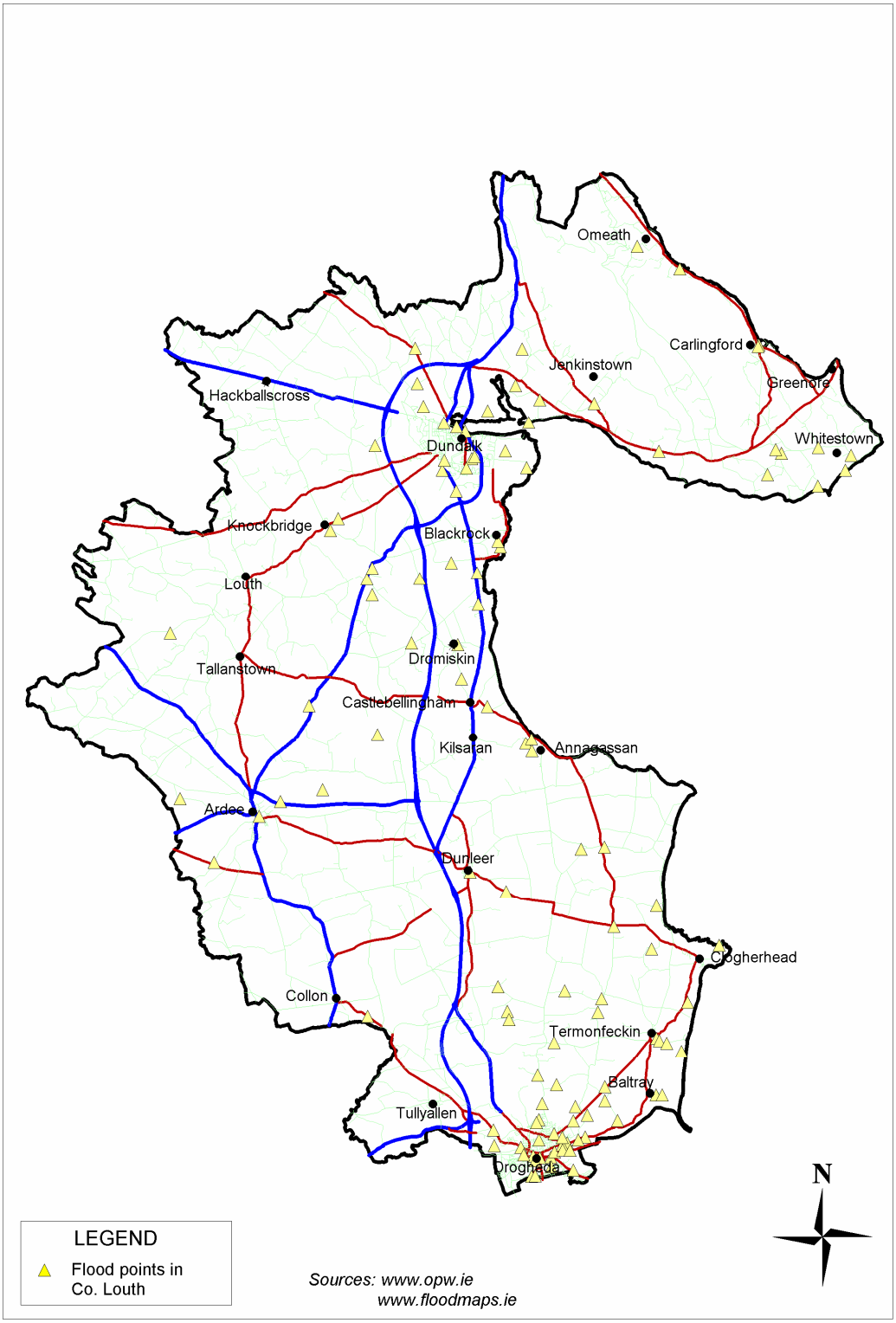
and lead to increased flood levels upstream. The construction of buildings or houses, and particularly embankments for infrastructure or protection, in or across a floodplain can therefore not only put the development itself at risk of flooding as described above, but can also increase the flood risk for land and properties upstream.

Whilst County Louth does not have significant areas of wetland, it does possess significant areas of floodplain particularly in the environs of both Dundalk and Drogheda. The county as a whole is at risk from several sources of flooding including river and estuarine flooding however the most significant threat posed by flooding is by way of coastal flooding particularly during storm surges.

Map 12: East Coast Draft Indicative Flood Plain (Dundalk area only)



Map 13: Flood Points in County Louth



Invasive Species

A number of invasive, non native species of both flora and fauna are present throughout the County. Invasive species are defined as plants or animals which did not originally occur in Ireland, before human colonisation of the country and which are also expanding their numbers and distribution so as to cause a competitive threat to such native fauna and flora. Many species such as the Norway Rat have been here for centuries and are no longer considered non native. Other more recent arrivals to Ireland such as the Zebra Mussel are considered both non native and furthermore, in this case, pose a direct threat to aquatic ecosystems and human activities by blocking water pipes and boat engines and affecting our native fish species.

Invasive species have been introduced to Ireland from other countries or continents by human beings, either intentionally or accidentally. In the absence of their natural predators or parasites, such introduced, invasive species are increasing in number and spreading "out of control" and are colonising and monopolising habitats vital to the survival of native, Irish wildlife. Such species are seen to be a threat to native biodiversity and warrant corrective action to prevent their further spread and the consequent loss of native biodiversity which is seen as having "more of a right to be here" in that Ireland provides its natural habitat. We do not however include economically important, commercial crops (e.g. cereals or conifers) or domesticated animals (man, cattle, sheep, goats, cats etc) unless these have formed wild-breeding, feral populations. The following is a list of the most common invasive species to be found in County Louth.

Trees and shrubs

Sycamore – native in France and mainland Europe, widespread in woodlands
Non-native conifers (e.g. Sitka spruce) take up space that could be native woodlands and are also, to some degree, self-seeding on hillsides.

Rhodendron ponticum – native to Asia, widespread in woodlands

Other non-native broadleaved trees, such as horse or sweet chestnut, lime or beech are generally deliberately planted. Though they can and do set seed and grow from seed in the wild, they do not usually grow in such numbers as to threaten native biodiversity.

Terrestrial plants

Gunnera. Also known as giant hogweed, this plant has known poisonous qualities and is found across the County.

Japanese knotweed. This plant has been found along the Flurry River and in the environs of Dundalk


Japanese knotweed

Himalayan Balsam. This is common in the northern extremities of the Cooley Peninsula

Aquatic Plants

Didemnum is an invasive tunicate that has been recorded in Carlingford Lough.

Marine plants

Spartina anglica. This plant is widespread in saltmarsh areas close to both Drogheda and Dundalk.

Evolution of Biodiversity in the Absence of a County Development Plan

In the absence of a County Development Plan (CDP), development would have no guidance as to where to be directed and planning applications would be assessed on an individual basis with flora and fauna, habitats and ecological connectivity protected under a number of strategic actions relating to biodiversity and flora and fauna protection. In the absence of a CDP there would not be an integration of the ecological protection measures required by the Habitats Directive with the planning or development management of vulnerable areas. Therefore it is likely that there would be less effective protection of ecological resources in the absence of a CDP. The evolution of biodiversity and flora and fauna would be dependent on the rate and extent of developments which would take place. Any future development along the edges of designated ecological sites would be likely to result in a reduction in habitats and could therefore reduce ecological connectivity on the edges of these sites. Weakly controlled development along or adjacent to the banks of rivers could result in a reduction in ecological connectivity within and between these and other habitats. Pollution of water bodies as a result of any poorly planned future development would be likely to adversely impact upon aquatic biodiversity and flora and fauna including salmonid species and other species protected.

POPULATION AND HUMAN HEALTH

Population and Population Growth

A number of structural issues surrounding the economy and associated sectors such as construction have arisen on a national and international scale during the period of plan preparation. Despite this, in general population projections still point to an increasing national population and demand for housing, given greater longevity, smaller household size and a stable birth rate. The county's population stood at 11,267 persons in 2006, a rise of 9.3 % on the 2002 population of 101,821.The County had a relatively high population density in Irish terms of 135.1 persons per square kilometre in 2006 compared with a figure of 123.7 persons per square kilometre in 2002. In 2006 the density of males per square kilometre was 67.2 whilst that of females was 67.9 per square kilometre. Over recent years the county has experienced significant development pressure in all areas but more particularly in the County's two major towns, Dundalk and Drogheda which are the largest provincial towns in the State. In particular, Drogheda has come under major pressure from the Greater Dublin Area due to it's proximity to the capital and the strong transport links which exist between both. Both Drogheda and Dundalk are connected to Dublin by regional commuter and long distance rail services. The county also benefits from having the M1 motorway throughout its length whilst it is connected by shipping services operating primarily from Drogheda but also from smaller ports at Greenore and Dundalk. Under the National Spatial Strategy (NSS 2002) and the subsequent Border Region: Regional Planning Guidelines (2004), Dundalk was designated a regional "Gateway" whilst Drogheda was designated a "Primary Development Centre". The two towns are the largest urban areas within the Border Region territory. The population of Dundalk and its Environs stood at 35,085 in 2006 whilst that of Drogheda in 2006 (which straddles counties Louth and Meath) stood at 30,303 within Louth County. Louth's third largest urban centre is Ardee with a population in 2006 of 4,694 including environs.

Table 11: Louth County Census Returns 1991 – 2006

Year	1991	1996	*Percentage Change % 1991-1996*	2002	*Percentage Change % 1996-2002*	2006	*Percentage Change % 2002-2006*
Persons	90,724	92,166	*1.565 %*	101,821	*9.483 %*	111,267	*8.49 %*

Map 14: Louth County Population changes 1996- 2006

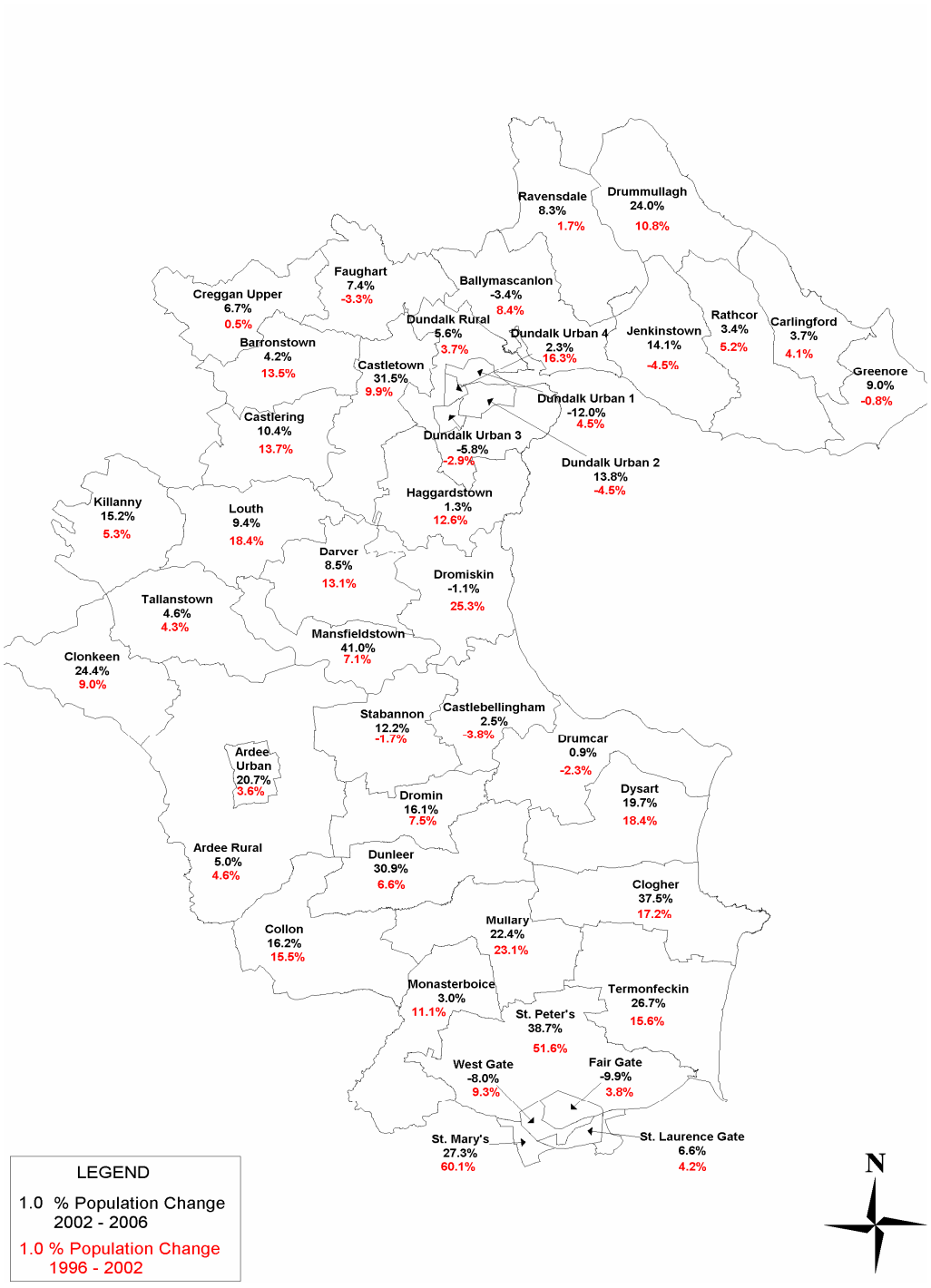


Table 12 : Louth County Population Changes (excluding Drogheda Borough & Dundalk Town)

Area	2002	2006	Percentage Change
Louth County	101,821	111,267	+9.3
Ardee Rural Area	16,055	17,976	+12.0
Ardee Rural	2,500	2,626	+5.0
Ardee Urban	3,564	4,301	+20.7
Castlebellingham	1,338	1,371	+2.5
Clonkeen	438	545	+24.4
Collon	1,188	1,380	+16.2
Dromin	461	535	+16.1
Dromiskin	1,956	1,935	-1.1
Drumcar	1,372	1,385	+0.9
Dunleer	1,787	2,340	+30.9
Stabannan	526	590	+12.2
Tallanstown	925	968	+4.6
Dundalk Rural Area	20,533	22,721	+10.7
Ballymascanlan	2,088	2,016	-3.4
Barronstown	621	647	+4.2
Carlingford	1,334	1,384	+3.7
Castlering	847	935	+10.4
Castletown (Part)	1,409	1,421	+0.9
Creggan Upper	641	684	+6.7
Darver	518	562	+8.5
Drummullagh	903	1,120	+24.0
Dundalk Rural (Part)	509	535	+5.1
Faughart	843	905	+7.4
Greenore	898	979	+9.0
Haggardstown (Part)	4,778	5,769	+20.7
Jenkinstown	831	948	+14.1
Killanny	593	683	+15.2
Louth	1,196	1,308	+9.4
Mansfieldstown	454	640	+41.0
Rathcor	1,163	1,203	+3.4
Ravensdale	907	982	+8.3
Louth Rural Area	9,515	12,560	+32.0
Clogher	1,814	2,494	+37.5
Dysart	649	777	+19.7
Monasterboice	1,130	1,164	+3.0
Mullary	1,248	1,528	+22.4
St.Peter's (Part)	2,641	4,022	+52.3
Termonfeckin	2,033	2,575	+26.7

Settlement Strategy

There has been huge pressure for residential development in County Louth over the period of the previous 2003 – 2009 development plan. The disparity between housing demand and supply together with sharp rises in house prices and the continual expansions of Dublin had a significant effect during this period. The availability of more affordable housing together with the improved accessibility to the County through enhanced transport infrastructure has resulted in Louth increasingly becoming part of the Dublin commuter belt. There has been significant growth in Dundalk, Drogheda and Ardee as well as many of the rural towns and villages especially those surrounding Drogheda. To a lesser extent the north of the county has experienced similar pressures emanating from Northern Ireland due to fluctuations in the sterling / euro rate and the relative proximity to Greater Belfast.

The settlement strategy set out in the Draft Development Plan acknowledges the positions of Dundalk as a NSS Gateway and Drogheda as a NSS Primary Development centre and the policies contained in the Plan support both towns' primacy at the top of the urban hierarchy within the county. The development plan seeks to prioritise sustainable residential development in these towns so that they may achieve their target populations as defined in national and regional policy and enhance their capacity to attract new investment in employment, services and public transport. It also seeks to guide the sympathetic development of rural towns, villages and other settlements in a sustainable fashion.

Table 13: County Louth: Settlement Strategy (as detailed within the Regional Planning Guidelines)

GATEWAY	A Gateway town/city is a nationally significant centre, whose location and scale support the achievement of the type of critical mass necessary to sustain strong levels of job growth in the regions.	Dundalk
PRIMARY DEVELOPMENT CENTRE	A location set out in the NSS which needs to aim at a population level that supports self sustaining growth, but which does not undermine critical mass in other locations. Such centres should energise their own catchments	Drogheda
MEDIUM SIZED TOWNS FOR URBAN STRENGTHENING	Towns with a population of between 1,500 and 5,000 (as per the NSS) which are in need of urban strengthening and which would perform an important role in driving the development of a particular spatial component, either individually or in groups	Ardee
TOWNS WITH SPECIAL FUNCTIONS	A regionally significant coastal tourism role	Baltray Termonfeckin Carlingford Clogherhead Omeath

Settlement Hierarchy

The draft development plan sets out a clearly identifiable five tier settlement hierarchy composed of both of urban and rural settlements.

At level one, Dundalk and Drogheda are substantial towns with populations which are 35,000 and 30,500 respectively. As such, they contain a wide variety of services and employment opportunities, not only for the people of County Louth but also for a wider regional population.

Ardee and Dunleer are at level two within the hierarchy. Ardee provides an extensive range of service and employment opportunities for its inhabitants and for its rural hinterland in the mid-Louth area.

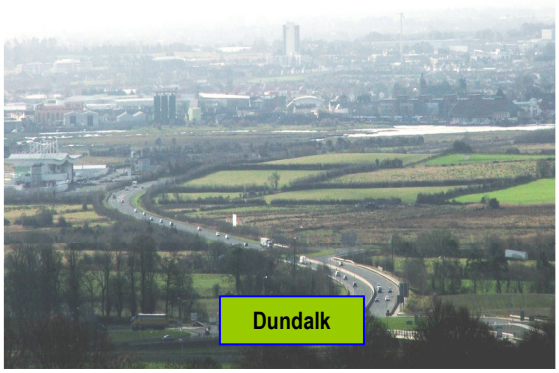
Level three comprises a range of smaller settlements of various sizes where a good range of local services such as schools; churches, convenience shops etc. are available to meet local needs. Level 3 settlements comprise Category I Development Centres as designated in the 1997 County Development Plan. In all a total of 13 such settlements have been identified.

The fourth level within the settlement hierarchy consists of eleven small clustered developments spread widely throughout the county. Many of these are focused around a local community facility such as a church or a school. In these centres it is an objective of the plan to examine the possible use of communal waste water treatment systems in defined core areas. This would facilitate increased densities in these centres, titled Category II (a) Development Settlements.

The fifth level comprises other, smaller settlements, some of which are focused around some community facility. Many consist solely of a group or cluster of 'one-off' type houses on substantial sites and contain no community facilities such as a school, church, shop etc. Given the lack of community facilities and the lack of piped utilities, expansion of the boundaries of these centres is considered to be inappropriate. Hence only infill and consolidation development is considered appropriate. These centres are set at level 5 of the settlement hierarchy and are titled Category II (b) Development Settlements.

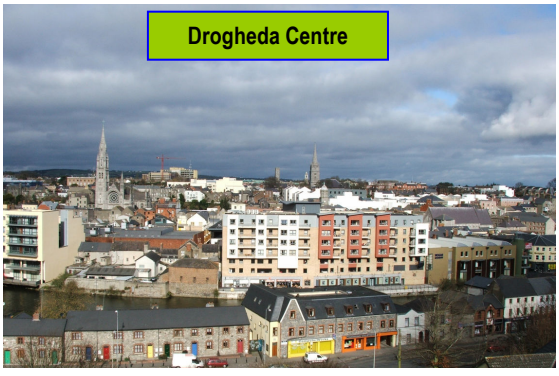
Dundalk Gateway & Environs

Dundalk, including it's' environs had a population of 35,085 in 2006. The town occupies a strategic position equidistant between Belfast and Dublin. It is the administrative capital of County Louth containing all the major regional offices of national organizations including the IDA, Enterprise Ireland and the national headquarters of SEI. The town also contains the third level educational institution, Dundalk Institute of Technology (DKIT). The town has well developed road, rail and bus links with Belfast, Dublin, Drogheda and Newry together with less well developed connections westwards to the Hub towns of Monaghan and Cavan. Louth County Council s' policy regarding Dundalk is to work in close co-operation with Dundalk Town Council to promote the development of the town and its environs as a major regional gateway and seek to achieve city status. The Council also co-operates closely with Newry & Mourne District council to jointly realize a vision of both Newry and Dundalk as a cross border Twin City. This will involve both towns developing a sustainable central corridor strategy on the eastern seaboard of the island acting as an effective counterbalance to the two major urban areas on the island, Belfast and Dublin which are equidistant from both towns. This approach to joint spatial development was mooted in the 2006 report 'Spatial Strategies on the Island of Ireland: Development of a Framework for Collaborative Action'. The recommendations of the report are now the subject of further initiatives designed to energise the framework through collaborative projects on the ground.



Drogheda Primary Development Centre

The population of Drogheda and its' environs was 30,303 (County Louth only). The town has experienced significant growth in recent years primarily resulting from its location close to Greater Dublin with which it has strong road, rail and bus links. In order to control and regulate the continued growth of the town and its' environs, Louth County Council has prepared a local area plan for the northern environs of Drogheda. This plan provides for a range of developments comprising residential, employment, educational, recreational and tourism related uses over a 20-year horizon plan. It is anticipated that up to 20,000 additional population could be catered for within the plan area up to the year 2022. This will allow for an orderly and sustainable expansion of the town over future years. Acknowledging Drogheda's role as a commuter town, the council is anxious that the town should develop as a self-sustaining settlement providing employment opportunities for its inhabitants in line with the Regional Planning Guidelines aims.



Ardee (Medium Sized Town for Urban Strengthening)

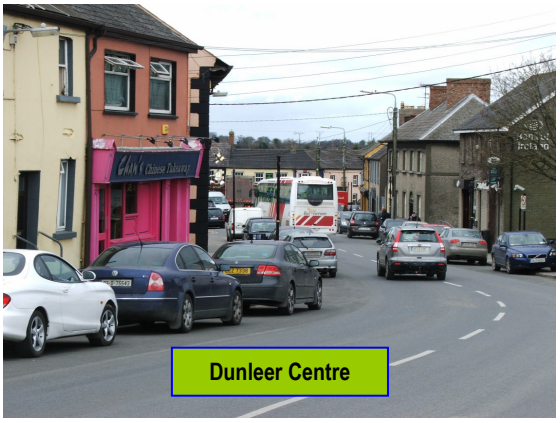
Ardee town with a population of 4,301 in 2006 is substantially smaller than Dundalk and Drogheda. Nonetheless it is an important urban centre located in the mid-Louth area. Traditionally seen as a market town serving the wider rural hinterland, the role of the town has changed over recent years with an influx of new residents many of whom utilize the proximity of the M1 Motorway to commute into Greater Dublin. Louth County Council acknowledges the demand for commuter based residential development but also considers that Ardee's traditional role as an employment and service centre within the mid-Louth area should be protected.

Consequently, the growth of the town will be regulated in a manner that provides for gradual, controlled expansion. The Council has prepared a local area plan for Ardee that seeks to promote consolidation of existing disparate areas and achieve a more balanced growth towards the northern end of the town.

Dunleer (Town / Village for Urban Support)

Dunleer had a population of 2,340 in 2006. The town has experienced an unprecedented demand for commuter based housing, largely due to improved road infrastructure over recent years. The Council has prepared a local area plan for Dunleer that seeks to consolidate and strengthen Dunleer's role as

an important economic, social, cultural, residential and service centre in the mid-Louth area for a population in the region of 3,500-4,000. The increased population of Dunleer will however, contribute to the critical mass of the Dundalk gateway and will lessen the necessity for dispersed one-off rural housing development.



Category I Settlements

Category I settlements refer to the larger rural settlements where there is a good range of services such as schools, churches and shops currently in place. Rural is defined by the CSO as all settlements with a population of less than 1500 and the open countryside.

These have a high degree of self-sufficiency and the ability to cater for a significant amount of demand that exists for rural generated housing. The policy with regard to the role of category I(a) development centres is focused on promoting and maintaining such settlements as local service centres and facilitating population growth.

Category II (a) Development Centres

A number of the settlements identified as Category II in the 2003 to 2009 County Development Plan, have the potential of being provided with public or communal waste water treatment services. This would allow for increased population densities in identified central core areas. This plan proposes 11 centres at this level in the settlement hierarchy.

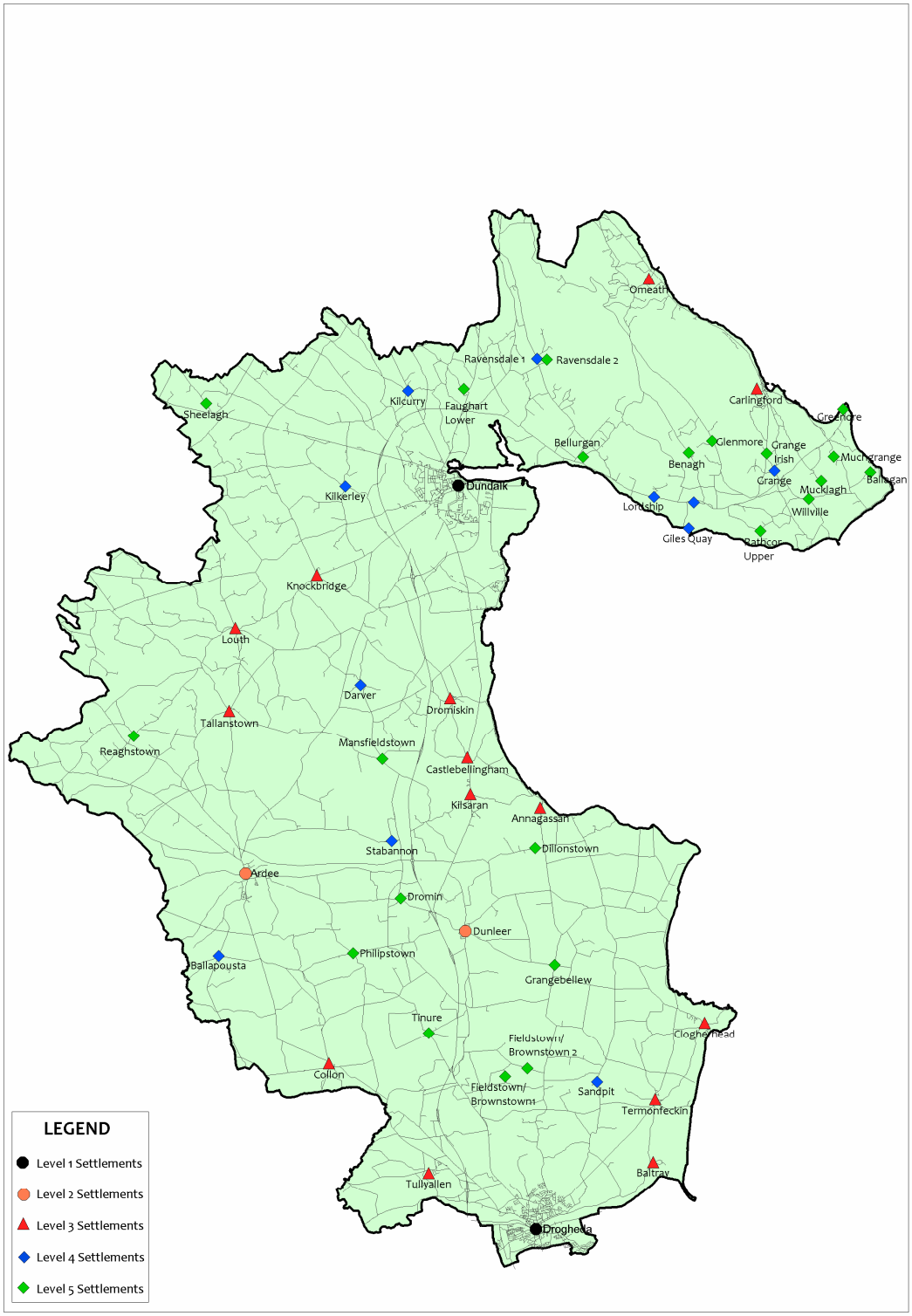
The aim of these Centres is to assist in satisfying rural generated housing needs within a structured settlement as an alternative to the development of one –off housing. By permitting higher densities in core areas together with areas outside of cores which can connect to piped services, consolidation of these centres can be achieved. Thus, growth in these centres will not necessitate the physical extension of defined boundaries. By limiting development to local needs means these centres are more likely to be affordable in a restricted local market. These locations also afford individuals an opportunity to design and build their own home in a rural area as an alternative to 'one-off' houses in the open countryside.

Category II (b) Development Centres

Category II (b) development centres are generally even smaller settlements than category II (a) settlements. In total there are 21 such settlements. Many of these centres has do not have community facilities and none of these Centres have piped services. Given the lack of community facilities and the unlikelihood that these centres could ever be serviced by piped utilities, it has always been and continues to be the view of the council that these centres are not capable of absorbing significant amounts of additional residential development in a manner that would result in proper and sustainable development. It is considered important that these settlements develop incrementally with the emphasis on small scale consolidation development over the medium to longer term.

The rationale behind these Centres is to assist in satisfying rural generated housing needs within a structured but low density settlement as an alternative to the development of one –off housing. Also, by limiting development to local needs these centres are more likely to be affordable in a restricted local market and would also afford individuals an opportunity to design and build their own home in a rural area as an alternative to 'one-off' houses in the open countryside.

Map 15: Louth Settlement Strategy including levels 1 – 5 settlements



Rural Typology and Louth County Council

In a national context, all of County Louth falls within Category One of the rural typology defined within the National Spatial Strategy. As such, the entire county is defined as having rural areas that are strong. This is primarily by reason of the County's proximity to Greater Dublin and its strong urban structure. It's proximity to Northern Ireland with its' existing strong rural and urban structure emanating from Greater Belfast, is also a factor. The challenge therefore facing the Planning Authority in terms of one off rural housing is to ensure that rural generated housing as defined in the NSS and the Sustainable Rural Housing Guidelines is accommodated in rural areas while protecting such areas from the increasing demand for urban generated rural housing. This challenge is exacerbated by the pressures deriving from the county's close proximity to major urban areas and the good quality of both rail and road infrastructure.

The planning authority considers that the level of 'one-off' housing that continues to be permitted within the county has a potentially detrimental effect on the viability of existing settlements. Louth County Council has always recognised and accepted the importance of 'one-off' housing in meeting local housing needs and in sustaining rural services such as primary schools, rural post offices and village shops. The council also accepts what it considers as the legitimate aspirations of people who are born and raised in the countryside wishing to reside within their own community.

Table 14: County Louth: Settlement Strategy

Settlement	Level	Strategic Aims
Dundalk	1	To promote and facilitate the development of Dundalk as a Gateway town to deliver more spatially balanced national growth and to drive development in the Border East sub-region including close co-operation with Newry as part of the Newry-Dundalk Twin City project in achieving strategic development objectives for the region.
Drogheda	1	To promote and facilitate the development of Drogheda as a self sustaining primary development centre that will energise development within its own catchment.
Ardee	2	To promote the development of Ardee as a medium sized town for urban strengthening in order to perform an important role in driving development within the locality and supporting the development of the Dundalk Gateway.
Dunleer	2	To promote the development of Dunleer as a town for urban support that will contribute to the critical mass of the Dundalk gateway and lessen the necessity for dispersed rural one-off housing development. The population shall fall within the range of 3,500 to 4,000
Category I Settlements	3	To promote and facilitate sympathetic development of Category I (a) Development Centres the scale of which should be in proportion to the existing development and which contributes to maintaining compact towns and villages in order to support and provide centres for rural communities and to lessen the necessity for dispersed rural one-off housing development.
Category II (a) Settlements	4	To promote, encourage and facilitate primarily 'one-off' type housing to meet local rural generated housing needs to sustain rural communities and services and the protection of the open countryside by reducing demand for 'one-off' housing in the open countryside and to examine the suitability of each of these locations for communal waste water treatment systems.
Category II (b) Settlements	5	To promote and facilitate primarily 'one-off' type housing to meet local rural generated housing needs, to sustain rural communities and services and ensure protection of the open countryside by reducing demand for 'one-off' housing in the open countryside.

Human Capital

The enterprise sector within the county has completely restructured over the recent years. The County was once well-established for heavy engineering including the Great Northern Railway works in Dundalk, aggregate processing in Drogheda and the manufacturing of alcohol (Harp), tobacco (PJ Carroll's), leather, clothing and textiles.

The changing economic profile of Ireland has been manifested locally in a shift towards information, communications and technology (ICT) based industries, specialised engineering and food processing. Today the County is rapidly becoming one of Ireland's principal industrial centres and has attracted new growth in the engineering and IT sectors principally to the two major towns.

Glen Dimplex Plant Dunleer

The two towns of Dundalk and Drogheda have also developed as attractive centres for commuters working primarily in Greater Dublin. The ease of access which the M1 Motorway and frequent rail and bus services, afford to the capital and else where make virtually all parts of the county highly desirable as a place to live.

Recent studies undertaken by Louth County Council have indicated a latent human resource strength present within the county in the form of highly skilled professionals at managerial level or above who commute on a daily basis to Greater Dublin for employment purposes. Whilst the level of such commuting is not as pronounced as in other counties adjoining the Greater Dublin area, there is nevertheless, a significant skills leakage out of the county on a daily basis. The challenge for future economic development will be to provide such people with the opportunities to work within the County itself – in the employment fields currently provided by the Greater Dublin area.

Unemployment

Louth has consistently had an unemployment rate that is higher than the national average. The unemployment rate (unemployment rate is defined as unemployed persons and first time job-seekers expressed as a proportion of the total labour force) in County Louth in 2006 was 11.1% of the labour force (compared with 8.5% regionally, and 8.5% nationally). The number of persons unemployed in Co. Louth has decreased by 2.1% since the 2002 Census when the unemployment rate was 13.2%. According to the 2006 Census the Electoral Divisions (EDs) in County Louth that experience the highest rates of unemployment are Castletown, Dundalk Rural, Dundalk, Ardee Urban, Tallanstown, Drogheda and Drummullagh respectively. Each of these ED's contain higher unemployment rates than the county average, as well as the regional and national averages, which are lower again than the county average. Out of the ED's mentioned above, Mullary which has the lowest unemployment rate is still 4.5% higher than the national average. The ED that experience the highest unemployment rate out of the ED's mentioned above has a rate of unemployment 4.8% higher than the county average and 7.4% higher rate than the

national average. The ED's that have the lowest rate of unemployment are mainly in the south of the county with pockets around the border areas in the north of the county low educational attainment levels, lack of relevant skills within the larger workforce, technological change and a failure of traditional industry to adapt to such change, the effects of economic downturns and the reduction in agricultural employment.

Table 15: Persons aged 15 years and over at work classified by broad industrial group

	Louth (%)	**Leinster (%)**	**State (%)**
Agriculture, Forestry & Fishing 2006 2002	1,331 **(2.8)** **(3.7)**	29,655 **(2.8)** **(3.5)**	89,277 **(4.6)** **(5.9)**
Mining, Quarrying and Turf Production 2006 2002	186 **(0.4)** **(0.4)**	3,976 **(0.4)** **(0.4)**	7,751 **(0.4)** **(0.4)**
Manufacturing Industries 2006 2002	7,180 **(14.9)** **(19.4)**	116,993 **(10.9)** **(13.1)**	243,182 **(12.6)** **(14.9)**
Electricity, Gas and Water Supply 2006 2002	267 **(0.6)** **(0.6)**	6,017 **(0.6)** **(0.7)**	11,290 **(0.6)** **(0.7)**
Construction 2006 2002	5,350 **(11.1)** **(9.6)**	108,142 **(10.0)** **(8.4)**	215,184 **(11.1)** **(9.1)**
Wholesale and Retail Trade 2006 2002	7,521 **(15.6)** **(15.1)**	145,983 **(13.5)** **(13.7)**	257,309 **(13.3)** **(13.4)**
Hotels & Restaurants 2006 2002	2,260 **(4.7)** **(4.6)**	51,851 **(4.8)** **(4.5)**	100,731 **(5.2)** **(5.0)**
Transport, Storage and Communications 2006 2002	2,998 **(6.2)** **(6.4)**	67,126 **(6.2)** **(6.8)**	105,705 **(5.5)** **(5.9)**
Banking & Financial Services 2006 2002	1,657 **(3.4)** **(3.2)**	63,243 **(5.9)** **(5.7)**	85,413 **(4.4)** **(4.3)**
Real Estate, Renting & Business Activities 2006 2002	3,881 **(8.1)** **(7.4)**	120,397 **(11.2)** **(11.1)**	180,973 **(9.4)** **(9.2)**
Public Administration & Defence 2006 2002	2,341 **(4.9)** **(5.1)**	61,828 **(5.7)** **(6.2)**	101,264 **(5.2)** **(5.8)**

Education 2006 2002	3,118 **(6.5)** **(6.7)**	68,127 **(6.3)** **(6.4)**	127,476 **(6.6)** **(6.7)**
Health & Social Work 2006 2002	5,119 **(10.6)** **(9.3)**	102,609 **(9.5)** **(8.4)**	191,219 **(9.9)** **(8.7)**
Other Community, Social & Personal Service Activities 2006 2002	2,017 **(4.2)** **(3.9)**	48,960 **(4.5)** **(4.4)**	80,358 **(4.2)** **(3.9)**
Industry not Stated 2006 2002	2,903 **(6.0)** **(4.6)**	82,803 **(7.7)** **(6.8)**	132,910 **(6.9)** **(6.2)**
Total	48,129 (100)	1,077,710 (100)	1,930,042 (100)

Source: Central Statistics Office 2006

Threats to Population and Human Health

Urban / Rural Sprawl and Settlement Coalescence

If population growth is not carefully managed and guided into areas where the environment can accommodate such growth, there are likely to be adverse impacts on the environment. The population of County Louth is likely to continue growing significantly during the period of the Draft Development Plan. As this occurs there is a need to ensure that growth is planned for and that there are sufficient and appropriate lands zoned to accommodate such growth. Growth should be directed and guided to the areas of the County that environmentally can accommodate population growth, without negative impacts on the environment or to areas where environmental impacts are kept to a minimum. Similarly, if population growth is not carefully managed in the future, unsustainable patterns of commuting together with increased levels of air pollution will continue. These patterns of, largely car borne, commuting journeys need to be addressed in an effort to reduce air pollution and greenhouse gas emissions. However the emergence of the Guidelines on Sustainable Rural Housing (GoSRH) has, during the period of the previous county development plan, witnessed many more applications and permissions for one off housing in the countryside, with potential implications for the rural environment despite efforts by the plan polices to curtail such development.

Dispersed Rural Housing, Ribbon Development

Louth County Council recognises that uncontrolled and excessive 'one-off' urban generated housing in the countryside is not sustainable in the long-term and accepts that measures need to be put in place to regulate this form of development. A concern arises that if urban generated rural housing is permitted at the level it has taken place, particularly over the last decade, then irreparable damage will be done to the environment and the legitimate aspirations of those brought up in the countryside to continue to live within their own communities will be jeopardised.

Much of the dispersed rural housing which exists within the rural area of County Louth is characterized by extensive residential ribbon development along both local but also regional roads. Such development is problematical in a spatial sense particularly in a small county such as Louth. Any development allowed to grow alongside a rural road will generate traffic and pedestrian movements that can lead to accidents that could have been be prevented. Vehicles turning into or out of premises cause particular problems, especially when the vehicles have to cross an opposing stream of traffic. Pedestrians crossing or walking along the road near such developments are also frequently involved in accidents. Ribbon development also causes problems in terms of servicing in that the utilities such as water, gas and electric have to be extended far beyond the limits of settlements to provide for a relatively small population merely fronting a road. Similarly, public transport is at a disadvantage when serving ribbon development due to the long distances involved and the low potential client base. Finally, many examples of ribbon development are characterized by dwelling designs which have been exported directly from urban areas and which are, as such, highly unsuited to the rural environment.

Settlement Coalescence

Unrestrained ribbon development has the potential to hasten a pattern of development known as coalescence. Essentially this means that two or more distinct settlements, either villages or towns are permitted to grow on their respective fringes to such an extent that the boundaries of each begin to merge together. In time, the settlements lose their distinct characters and take on the appearance of a single unit.

Such patterns are normally associated with large urban conurbations however rural forms do exist and are nor to be encouraged in the interests of proper planning. County Louth contains a number of examples of such forms of development.

Waste Management

The National Waste Report 2006 produced by the EPA, confirmed that Ireland as a whole has made dramatic improvements in recycling in recent years. However this welcome trend has been increasingly offset by larger increases in the quantities of waste being generated because of increasing consumption particularly during the 'Celtic Tiger' years. It has therefore become necessary to have a greater focus on prevention in order to develop a more sustainable lifestyle, reduce reliance on landfill and meet challenging national and EU targets.

The most recent National Waste Report produced by the EPA in 2009 outlines the following key trends in relation to waste nationally;

- The overall generation of municipal waste did not increase appreciably in 2007, in contrast to 2006;
- Recycling rates generally remained steady with good progress reported in relation to packaging;
- The diversion of very large quantities of food waste from landfill is a priority that must be addressed; and
- The level of waste reported in 2007, allied with the need for businesses to reduce costs in 2009, reflects the need for continued support for resource conservation initiatives in relation to waste, water and energy, such as the National Waste Prevention Programme

Key Priorities Identified

The report identified the following priority actions:

- Putting in place the services for the separate collection of organic (particularly food) waste at households and commercial premises;
- Ensuring there is adequate infrastructure to treat the very large amounts of organic (particularly food) waste that must be collected separately and diverted from landfill;
- Developing outlets for the products of such treatment;
- Making regulations/bye-laws that can be used to enforce the segregation and separate collection of food waste at household and commercial premises;
- Delivering the new waste policy on foot of the international review of waste management as quickly as possible to provide certainty and to allow for accelerated investment programmes that are necessary if organic waste is to be treated and landfill avoided.

The Waste Management Plan (WMP) for the North East 1999-2004 introduced for the first time a regional approach to the waste management issue. The document covered the counties: of Cavan, Louth, Meath and Monaghan. The new Plan for the north East region 2005 -2010 reflects progress since the making of the first plan, as well as demographic changes and the new requirements of national and EU policy

The Waste Management Plan for the North East Region sets out proposals for managing the waste of the North East Region over the next 15 years. The Region encompasses Counties Louth, Meath, Cavan and Monaghan. The plan sets out to to reduce the amount of waste produced, recycle as much as possible and cut the amount of waste sent to landfill. The plan was formally enacted in August 2001 and it acts as the blueprint for how waste arising in the region will be dealt with. Policy direction has been made under the following headings:

- Waste minimisation
- Regulation and enforcement
- Waste recycling
- Waste recovery
- Waste transfer
- Waste disposal
- Agricultural waste

Specific targets are set in the plan to be achieved at different times over the lifespan of the plan. In summary the targets set for the year 2015 are that

43% of waste should be recycled

39% of waste should receive thermal treatment

18% of waste should go to landfill

The new waste management plan for the north east builds on the achievements of the previous plan. The highlights of implementation of the previous plan include;

- Household waste recycling has jumped from <4% to c.16%, through a combination of Bring Banks, Recycling Centres and kerbside recycling.

- Commercial waste recycling has jumped from <9% to c. 35%, thanks to source separation of packaging and other wastes for recycling by business.

- Recovery of dry-recyclables and organic waste is being achieved.

- Significant progress has been made towards developing the thermal-treatment facility required by the original Plan.

- The Region has secured substantial additional municipal landfill capacity, which enables the safe disposal of residual waste.

The services provided and the overall waste management system is more advanced than other regions nationally. The positive developments in recycling, energy recovery and landfill capacity secures the future of the North East for steady economic growth and will ensure that adequate infrastructure exists for continued investment and employment growth in the Region

Recycling and Collection

The policy in this area strives to ensure that as far as is practicable all households have access to a waste collection service and that additional facilities are put in place to increase the recycling rates while at the same time providing an integrated and cost effective collection service. Key initiatives include;

- Pursuing a policy of increasing the number of households participating in the collection service

- Provide as a minimum an additional 4 Recycling Centres to compliment door to door collection service. This would bring the regional total from 7 to 11 facilities. Dry recyclables, green, bulky and priority waste can be delivered to these centres.

- Installation of 50 new Bring Banks across the Region to bring the regional total to 141 facilities. Areas with limited collection service will be targeted.

- To implement the brown bin collection for organic waste generated by households.

- To encourage business to segregate waste by targeted information and regulation of waste producers and collectors.

Biological Treatment

It is imperative that biological treatment is introduced in the Region to deal with organic wasteproduced from households and industry. Without biological treatment the recycling targets will not be met nor will the requirements of the EU Directive on Landfill of Waste. Green Waste Composting facilities are required for garden and landscaping waste. Two to three facilities are encouraged with combined capacity up to 10,000 tonnes/annum. The development of biowaste treatment plants (30,000 tonnes capacity) is required to treat source separated organic waste from households, businesses and industry.

Energy Recovery

It is an objective of the Plan to develop a Thermal Treatment Plant with a capacity of 150,000 to 200,000 tonnes per annum by 2007. A licence has already been obtained for the development of a facility at Carranstown in County Meath. Construction of the plant began in 2008. The local authorities will also be receptive to the use of alternative sources of fuel by industry such as meat and bone meal (MBM), poultry litter and spent mushroom compost.

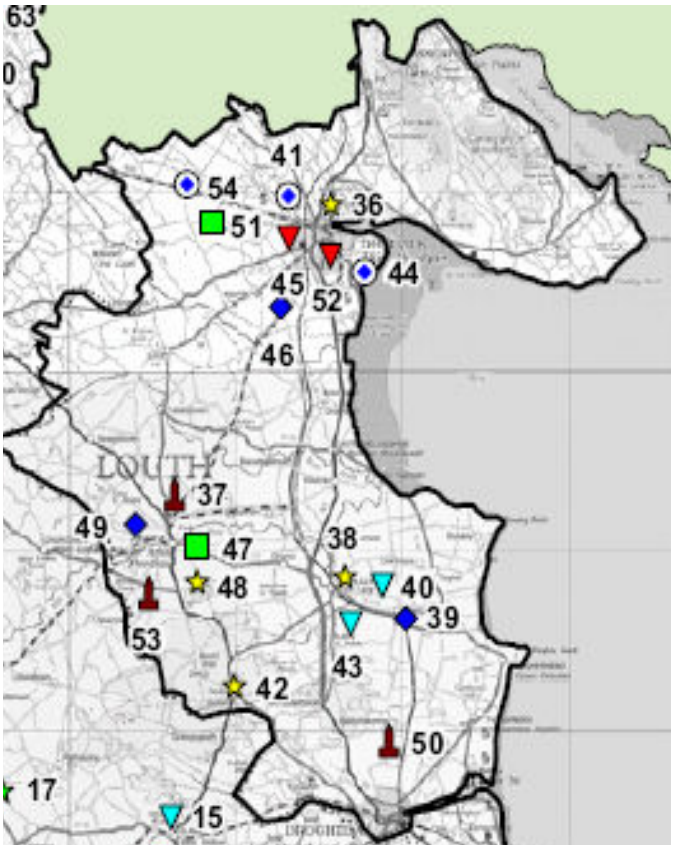
Landfill Policy

Landfill will have a decreasing role in the management of the Region's waste in the future as recycling rates increase and, in particular, biological and thermal treatment facilities are introduced. The long term objective is to reduce landfill disposal to just 18% of the waste stream in the Region. However in the short to medium term until such systems are developed there will still be a need for significant landfill capacity. The Region has developed significant capacity in the past five years and there is currently a landfill operating in each County in the Region.

Waste Management in County Louth

Louth County Council operates and maintains one landfill located at Whiteriver, Collon, Co. Louth. The Council have applied to the Environmental Protection Agency for a waste license to extend the operation of this landfill site to an annual capacity of 100,000 tonnes and a final decision in relation to same is expected in the very near future. The site was previously extended in 2004 including the provision of site environmental works to ensure no polluting matter escapes from the site.

Map 16: North East Waste Management Plan Waste Permitted Facilities



LEGEND

- C & D Recycling Facility
- Composting Facility
- End of Life Vehicles
- Sludge Treatment Facility
- Storage Facility
- Waste Materials Recovery
- Waste Recycling Facility
- Waste Transfer Station
- Wood / Timber

Collection Services

Refuse collection services within County Louth are operated by private companies. A system of segregated domestic waste disposal is in operation.

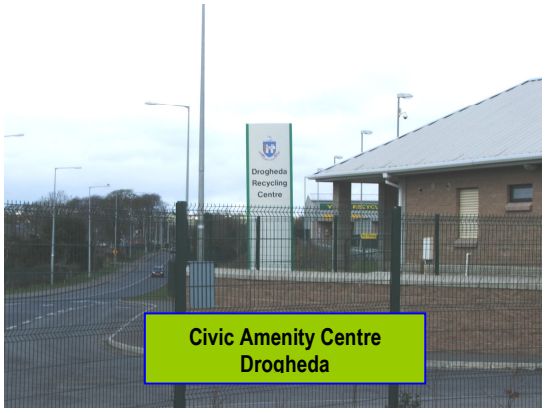
Bring Banks

Significant progress has been made in increasing recycling provision. Within the authority's functional area a total of 36 bring centres have been provided with additional smaller facilities being provided within local schools. The bring bank network provides an accessible and convenient service for the segregation of recyclable household waste. The council will continue to enhance the bring bank network over the course of the plan.

Civic Amenity Centres

Two civic amenity centres located in Dundalk and Drogheda. These serve the needs of the entire county and provide facilities for the recycling of household waste including larger items.

In terms of sludge disposal from waste water treatment plants, sludge is now digested at Dundalk and Drogheda wastewater treatment plants. At these plants it is either lime stabilised or processed into pellets. These pellets can be re-used as fertiliser and soil conditioners in accordance with the code of practice for the use of bio solids in agriculture and Louth Local Authorities Sludge Plan.



Human Health Threats

Human health has the potential to be impacted upon by environmental vectors including water, soil and air. Hazards or nuisances to human health can arise as a result of exposure to these factors.

Human Capital Threats

The economic downturn which gathered momentum during preparation of the Draft Louth County Development Plan 2009 - 2015 / Draft Dundalk & Environs Development Plan 2009 - 2015 poses a serious potential threat to human capital within County Louth. All sectors of commerce and industry are likely to suffer from this global crisis during the early years of the plan.

Evolution of Population in the Absence of a County Development Plan

In the absence of a CDP there would be no framework for the provision of infrastructure to serve existing and future development and this could delay or hinder the provision of infrastructure and result in impacts on environmental vectors to which humans are exposed e.g. a lack of appropriate waste water treatment infrastructure could adversely impact upon drinking water quality and subsequently upon human health.

SOIL

Soil is a biologically active complex mixture of weathered minerals, organic matter, organisms, air and water which provides the foundation for life in terrestrial ecosystems. Soil however, is not merely the sum of minerals, organic matter, water and air but a product of their interactions 1999. It can be considered a non-renewable natural resource because it develops over very long timescales. Soil only develops where there is a dynamic interaction between the air, water, living organisms and geology. It is these dynamic interactions which contribute to the multiple functions which soils perform. Soil is a variable and living medium and performs many vital functions including: food and other biomass production, storage, filtration and transformation of many substances including water, carbon, and nitrogen. Soil has a role as a habitat and gene pool, serves as a platform for human activities, landscape and heritage and acts as a provider of raw materials. Such functions of soil are worthy of protection because of their socio-economic as well as environmental importance. Soils in any area are the result of the interaction of various factors, such as parent material, climate, vegetation and human action.

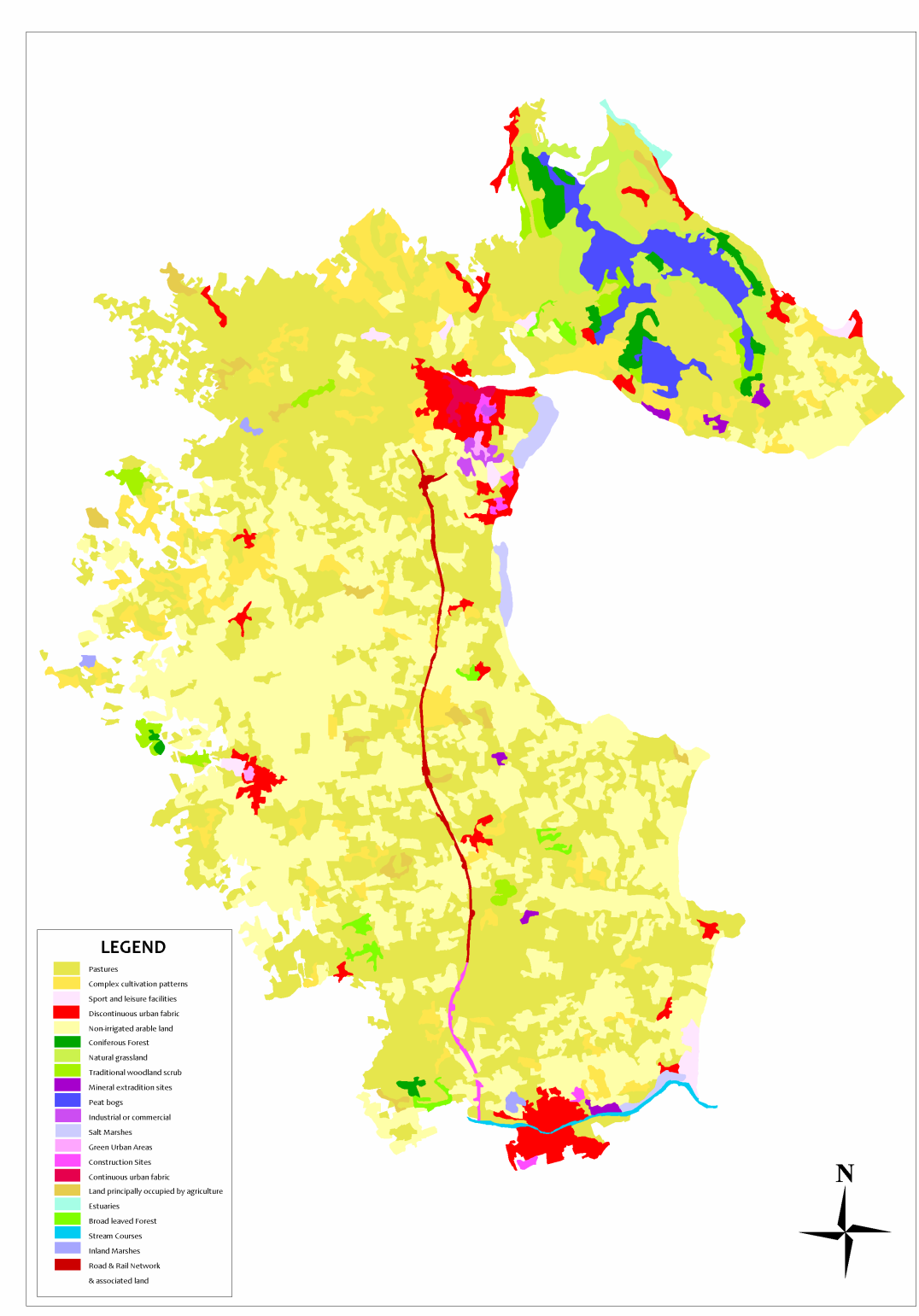
There is no centralised amalgamation of information on soils, soil quality or soil fertility in Ireland. An Foras Talúntais undertook a national soil survey programme which commenced in 1959. To date 15 counties have been surveyed or partially surveyed. The soil survey includes information on soil type, land use potential based on identifying limitations for use and suitability for crop types. Information on trace elements is also given. Louth has not as yet been surveyed.

However, as part of the Landscape Character Assessment carried out for Louth County Council in 2002, an analysis of local soils was carried out on the basis of the nine distinct landscape areas within the county identified by the study. These include the Cooley Lowlands and Coastal Areas where the underlying cover of limestone and glacial deposits have resulted in a rich soil cover of acid brown earths with some gleys and brown podzolics. In the nearby Carlingford Lough and Mountains including West Feede Uplands quite a variety of soils are found. In the higher areas of the peninsula there are Lithosols with blanket peat and peaty podzols. Lower down there are a variety of brown podzolics with gleys and peats. To the west there are acid brown earths with some gleys and podzols. North and West of Dundalk lie the Lower Faughart, Castletown & Flurry River Basins.

Here the soils are acid brown earths with a mix of gleys and brown podzolics. There are a few small areas of lowland peat bog. In the west and east of the area the lands are marginal. In the Sheelagh area rock outcrops are noted, displaying the shallowness of the soil cover. Around the Dundalk Bay area as far south as Dunany Point the soils are gleys with grey brown podzolics which are mainly wet mineral and organic soils. The major division of soils in the area are Acid Brown Earths with a mixture of Gleys and Brown Podzolics which are well drained and have a wide use range for tillage and pasture. There are three pockets of gley soils with a mixture of brown earths and peaty gleys at Dundalk, Dromiskin and Salterstown. The north and western extremities of the county adjacent the County Monaghan border have been characterized as the Louth Drumlin and Lake Area. Here, soils are acid brown earths with inter drumlin peat and peaty gleys. The bulk of the County is characterized as the Muirhevna Plain. This area stretches through the centre of the County southwards from Dundalk encompassing the towns of

Ardee and Dunleer. The soils in the area are essentially of two types viz. Acid brown earths with some gleys and brown podzolics; and gleys with brown earths and peaty gleys. In the Drogheda area, three landscape areas have been defined. Immediately north of Drogheda and encompassing the Boyne Valley is the Boyne and Mattock Valley where soils are gleys and grey brown podzolics. East of Drogheda and encompassing the coastline as foar north as Dunany Point is Dunany, Boyne Estuary Coast. Here the soils in the main are Acid Brown Earths with small percentages of Gleys (15%) and brown podzolics (10%) giving rise to a rich soil in the area. Finally the south west of the county centred on the village of Collon and the historical sites at Monasterboice and Mellifont is defined as the Uplands of Collon and Monasterboice. In the Monasterboice / Fieldstown area the soils are brown podzolics with percentages of gleys and podzols. Elsewhere they are mainly gleys with some grey brown podzolics. As the soils are shallow in the higher areas being they have limited use value and are generally given over to grasslands.

Map 17: Corrine Land Classification for County Louth



Agriculture

Just less than 6% of Louth's population is engaged in agriculture. Average farm size in 2000 (Census of Agriculture 2000) was 35.1 hectares (ha). The area of the County is 81,120 (ha). In secoral and geographic terms, the Cooley Peninsula, is renowned for sheep farming, forestry and tourism while the remainder of the county is engaged largely in intensive livestock, tillage and horticultural production. The most recent census of agriculture (2000) shows that there are 1,764 holdings with one hectare or more and 918 over 20 hectares. Tillage and horticulture takes up 20,624 hectares and according to the 2000 Census the total livestock of cattle is 87,480 with 94,332 sheep.

Table 16: Number of Farms Classified by Farm Size in County Louth

Size (Ha)	Louth	Leinster
< 1	16	410
1 – 5	218	2,756
5 - 10	251	3,451
10 – 20	361	6,654
20 – 30	227	5,523
30 – 50	314	7,979
50 – 100	277	6,850
100 – 200	79	1,678
> 200	21	283
TOTAL	1,764	35,584

A number of major threats face the agriculture sector in County Louth. These include the continued popularity of "one off" rural housing that is individual detached dwellings being built on relatively large rural sites and occupied in the main by people who originate in large urban areas and continue to have strong employment and service requirements in those urban areas. There is also a trend towards rural urbanisation through the growth of small urban centres and a continuing decline in remoter rural areas. Other threats include the fact that the number of farms and agricultural employment is declining; the age structure of farms is unbalanced, many farms are non-viable and direct payments from the EU account for an increasing proportion of farm incomes. Rural areas remain at a disadvantage compared with major urban centres in attracting new investment, particularly in the service sector. Social deprivation, poverty and social exclusion remain significant problems in rural areas. Finally, there is widespread concern that the quality of the environment in rural areas is being degraded by the effects of human activity.

Forestry

Forestry accounts for only 1.7% of the area of county Louth at 1629 hectares as compared with 9% for the entire country. These plantations are mainly located on the Cooley Peninsula and the Boyne Valley. The National Forest Inventory produced by the Forest Service of the Department of Agriculture, Fisheries and Food established the total stocked forest area within Louth to comprise some 2,020 hectares. This figure includes both public and private forests. Within this overall figure, Coillte has a total area of 1,377 hectares under its control (2007). Louth falls within Coillte's Lakelands operational area. The Lakelands District Strategic Plan 2006 – 2010. The plan sets out a number of strategic objectives relating to the timber production area, biodiversity, conservation, recreation, and other areas such as community involvement. In relation to Louth, the Coillte district plan notes in particular that the most sensitive forest landscape in the entire district lies in the North East of the District on the steep slopes of Ravensdale, Feede, Bellurgan and Rockmarshall forest blocks.

They are highly visible from the Dublin Belfast road link. There is also reference to the existence of rare montane (alpine) heath in the Cooley Mountains.

Table 17: Forestry Cover County Louth

Species	Net Area (ha)
Sitka spruce	665
Norway spruce	76
Lodgepole pine	127
Douglas fir	160
Larches	167
Scots pine	44
Other conifers	37
Broadleaf	101
Total	1377

Land Use Type	Gross Area (ha)
Broadleaf High Forest	61
Conifer High Forest	1302
High Mixed Forest	98
Scrub	13
Undeveloped	24
Total Forested Area	1498

Source: Coillte, Forest Facts

Geology

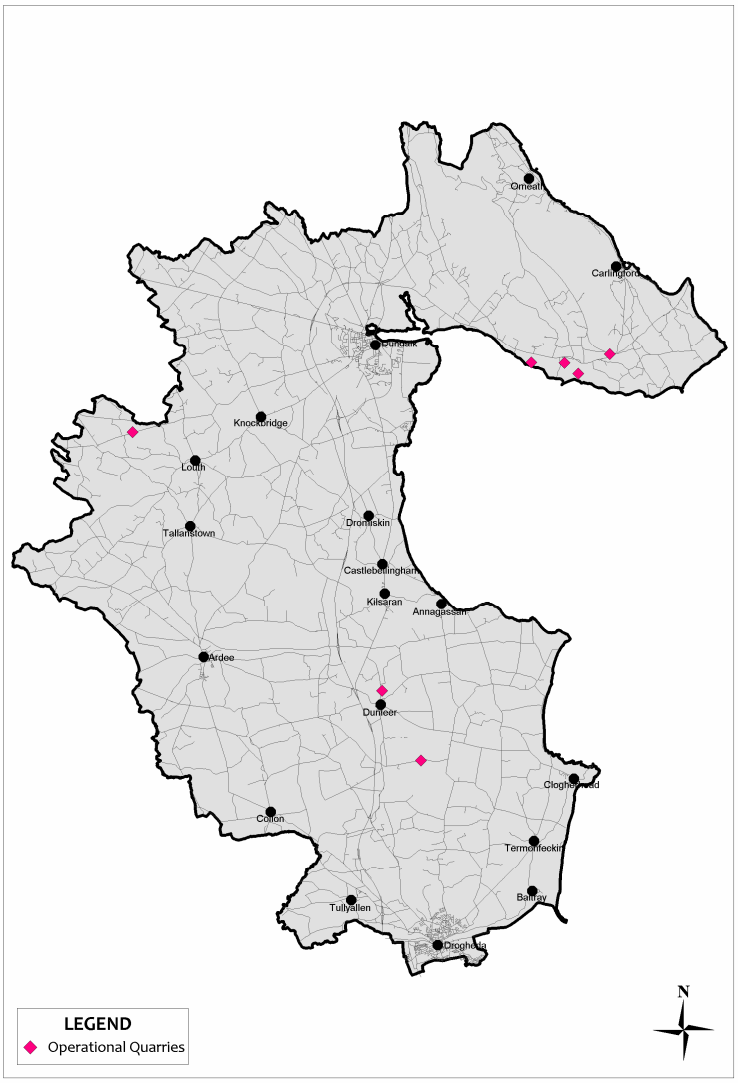
Most of Louth forms part of the low lying Longford - Down massif and is underlain by rocks deposited in the Silurian period. These 400 million year old shales and greywackes were formed from deep water sediments, laid down on the continental slopes and ocean floors of an ancient, now-vanished ocean. Towards the south of the county and along the continental suture, the land rises into low hills, such as Mount Oriel. The Boyne Valley, as with much of the rest of the midlands, is dominated by limestone and other rocks of Lower Carboniferous age, which also occur in a few other places in Louth. The northern end of the county is, however, dominated in a very different, physical sense, by hard, resistant, igneous rocks. The Cooley peninsula has more in common with related igneous areas in South Armagh (Slieve Gullion, to the northwest) and to County Down's Mournes (to the north and north-east) than with the rest of Louth. In this area molten magma anciently forced its way up and into the existing 'country rocks', where it cooled and solidified, some 56 to 58 million years ago. Tens of millions of years of erosion, including several Ice Ages, have worn away the originally-overlying sedimentary rocks, exposing these bones of the landscape at the surface. Between the Cooley Mountains and the southern hills, which separate the Boyne valley from the rest of the county, most of Louth is rolling farmland on a broad, well-watered coastal plain. In the north-west of the county however, the Drumlin Belt of southern Ulster, another result of the Ice Age, makes its appearance.

Aggregates

County Louth is rich in sands and gravel and is well situated to supply aggregate needs for the two major urban centres on the island in addition to the wider national market. The importance of high quality aggregate reserves and the processing of these materials to the economic prosperity of the county is recognised. It is considered important for the County Council for carry out an analysis and map areas rich with aggregate reserves in the county. The main extraction areas are on the Cooley Peninsula and in mid Louth. Stone is quarried at some locations in the south of the county, the products of which are used in making of concrete and road surfacing.

The County has a legacy of old unfinished and abandoned quarries. There are extensive areas of glacial deposits in the county and it is reasonable to assume that this existing demand for sand and gravel will continue. The ground water table normally dictates the depth to which it is feasible to extract material for economic reasons and the possible interference with neighbouring water supplies. The quarrying of sand and gravel is conducive to the ground being returned to its original agricultural use provided the topsoil overburden is retained on site and the site is reasonably contoured for the use of farm machinery. Stone quarrying on the other hand normally involves blasting which leaves the quarry edges quite sheer with shelving. Stone quarries also have a long life span, which may go on for generations. The after use of such quarries is not a simple matter to resolve. They also tend to leave a permanent scar on the landscape. The use of old stone quarries for landfill waste disposal is now being discouraged as a solution to waste management.

Map 18: Major Operational Quarries in County Louth



Radon

Some chemical elements present in the environment since the Earth was formed are naturally radioactive and exposure to these sources of radiation cannot be avoided. There have also been additions to this natural inventory from artificial sources of radiation. Other sources of radiation exposure include cosmic radiation from outer space and the use of radiation in medical diagnosis and treatment. There can be large variability in the dose received by individual members of the population from any given source. Some sources of radiation expose every member of the population. For example, natural radioactivity is found in all soils and therefore everybody receives some radiation dose from this radioactivity. The Radiological Protection Institute of Ireland (RPII) has undertaken a comprehensive review of the relevant data on radiation exposure in Ireland. Where no national data have been identified, the RPII has either undertaken its own research or has referred to the international literature to provide a best estimate of what the exposure in Ireland might be. This has allowed the relative contribution of each source to be quantified. This new evaluation of 2008 is the most up-to-date assessment of radiation exposure and updates the assessment previously reported in 2004.

Natural and Artificial Radioactivity in Soils

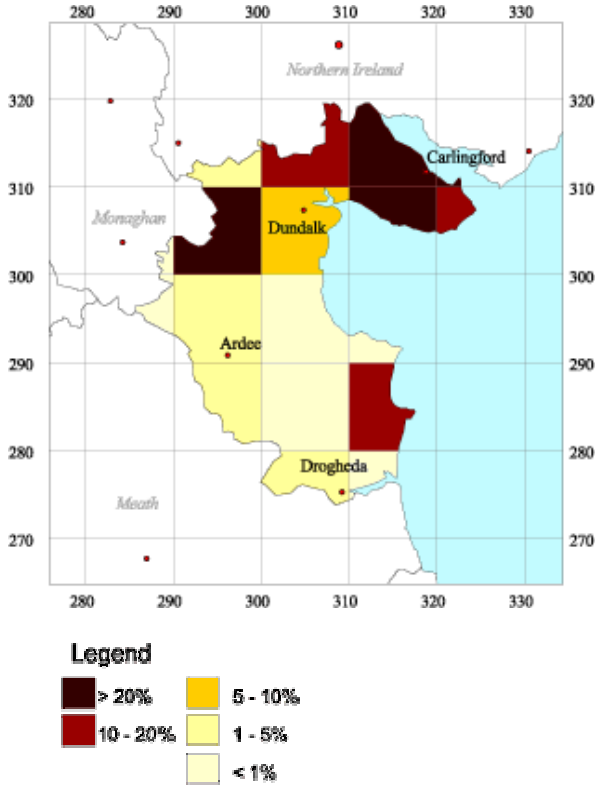
Potassium-40, thorium-232 and uranium-238 have been present in the Earth's crust in various amounts since it was formed. These are naturally radioactive and therefore emit radiation. The radiation released from the radioactivity naturally present in the soil will be partially absorbed as it passes through the walls of a building. However, there will be an additional, larger contribution indoors from the radioactivity present in the construction materials of the building itself. The combination of these two processes results in radiation levels being, typically, 38% higher indoors than outdoors in Ireland. This is based on experimental data from two areas in Ireland and the value is consistent with published international estimates.

Regional and national surveys have previously been undertaken to measure the radiation levels outdoors in Ireland. This data, taken together with the 38% higher dose indoors, give rise to an estimated annual per caput dose from natural terrestrial radiation of 300 µSv. There is also radioactivity of artificial origin present in Irish soils. Most of this radioactivity comes from caesium-137 deposited as a result of nuclear weapons testing in the 1950s and 1960s and following the Chernobyl accident in 1986. Average national values of deposition of caesium-137 have been measured as 3717±1191 Bq/m2 from nuclear weapons testing and 4126±2354 Bq/m2 from the Chernobyl accident. The corresponding annual per caput dose is 10 µSv with approximately equal contributions from both sources. Caesium-137 has been identified in extremely low concentrations of less than 5 Bq/kg in some samples of wood. The national radon survey has defined a "high radon area" as one in which more than 10% of houses within a defined 10 km square are predicted to have radon levels in excess of the 200Bq/m^3 reference level.

The survey indicates that the bulk of the Cooley Peninsula together with an area west of Dundalk incorporating the villages of Knockbridge and Tallanstown to the County Monaghan border exceed the reference level.

Map 19: Radon Levels in County Louth

Illustrates the percentage of dwellings predicted to exceed 200 Bq/m^3 in each 10km grid square.



Source: Radiological Protection Institute of Ireland

Threats to Soil

Whilst the general consensus in Ireland is that soil quality is good overall, there is however, increasing pressure on soil particularly from land use changes, intensification of agriculture, erosion and overgrazing, disposal of organic wastes to soils, afforestation, industry and urbanisation. In addition, untimely or excessive applications of nutrients to soils, in particular phosphorus, has resulted in water quality deterioration, with agriculture reported as the most likely cause of pollution at a significant percentage of slightly and moderately polluted river survey locations in Ireland. This emphasises the important interactions and connectivity between all environmental media and the reason why soil protection should be considered on an equal footing with the protection of air and water in Ireland.

Greenfield development in particular involves the building upon and thereby sealing off of non-renewable subsoil as well as topsoil thus representing a significant environmental problem. Soil can be polluted and contaminated by development which is not serviced by appropriate waste water infrastructure and by agricultural activities. Soil erosion due mainly to surface erosion resulting from construction works and agricultural / forestry operations has major potential to impact on water quality and fishery resources. In addition to water quality and fishery impacts, these can impact on infrastructure and can have health and safety implications.

The development of extractive industry in the form of quarries across County Louth has led to the depletion of both subsoils, the material which has been quarried, and topsoil, which has been removed in order to obtain the subsoil. Although County Louth does no have significant tracts of forest, nevertheless, afforestation has the potential to result in losses to biodiversity and flora and fauna.

Threats to Agriculture

A number of major threats face the agriculture sector in County Louth. These include the continued popularity of “one off” rural housing that is individual detached dwellings being built on relatively large rural sites and occupied in the main by people who originate in large urban areas and continue to have strong employment and service requirements in those urban areas.

There is also a trend towards rural urbanisation through the growth of small urban centres. Other threats include the fact that the number of farms and agricultural employment is declining; the age structure of farms is unbalanced, many farms are non-viable and direct payments from the EU account for an increasing proportion of farm incomes. Rural areas remain at a disadvantage compared with major urban centres in attracting new investment, particularly in the service sector. Social deprivation, poverty and social exclusion remain significant problems in rural areas. Finally, there is widespread concern that the quality of the environment in rural areas is being degraded by the effects of human activity.

Evolution of Soil in the Absence of a County Development Plan

In the absence of a County Development Plan there would be no framework for the direction of growth towards brownfield sites in the County, where such direction is appropriate. As a result greenfield development would be likely to occur on an increased basis and would result in the building upon and thereby sealing off of the non-renewable subsoil and soil resources. It is likely that there would be applications to expand quarrying activities in certain areas which are underlain by valuable deposits. Such development would result in the reduction of the non-renewable subsoil and soil resources and have a significant impact on the landscape. There would be no framework for the provision of infrastructure - such as that relating to waste water treatment - to serve existing and future development and therefore soil would have the potential to be polluted and contaminated as a result of pollution from development which is not serviced by appropriate waste water infrastructure.

WATER

Surface and Ground Water

Surface water includes rivers, streams and lakes, the source of the water coming from either rainfall or groundwater or a combination of both.

Drainage

The drainage details for County Louth contained herein are based upon a detailed study of the County's landscape characteristics compiled as part of a Landscape Assessment carried out for Louth County Council in 2002. As such the drainage characteristics have been divided into distinct landscape areas and are presented as such.

The Cooley Lowlands and Coastal Areas represent the southern tip of the Cooley Peninsula jutting southeast into the sea east of Dundalk. This area is virtually surrounded by the sea and as such, surface water is discharged to the sea by means of small water courses, the largest of which is the Castletown River draining the Glenmore-Castletowncooley Valley. There are four aquifers which provide water supplies to the area. North of these lowlands of Cooley lie the mountainous areas of the Cooley Peninsula itself with Carlingford Lough immediately to the east. Drainage of the area takes place via three small rivers including the Flurry River, Big / Castletown River and the Ryland River. Numerous streams, some with small waterfalls, cascade down the slopes. Carlingford and Omeath have their own catchment areas for their water supplies. The previous main water supply for Dundalk from the Jenkinstown area has now been largely replaced but is still retained as a source for water.

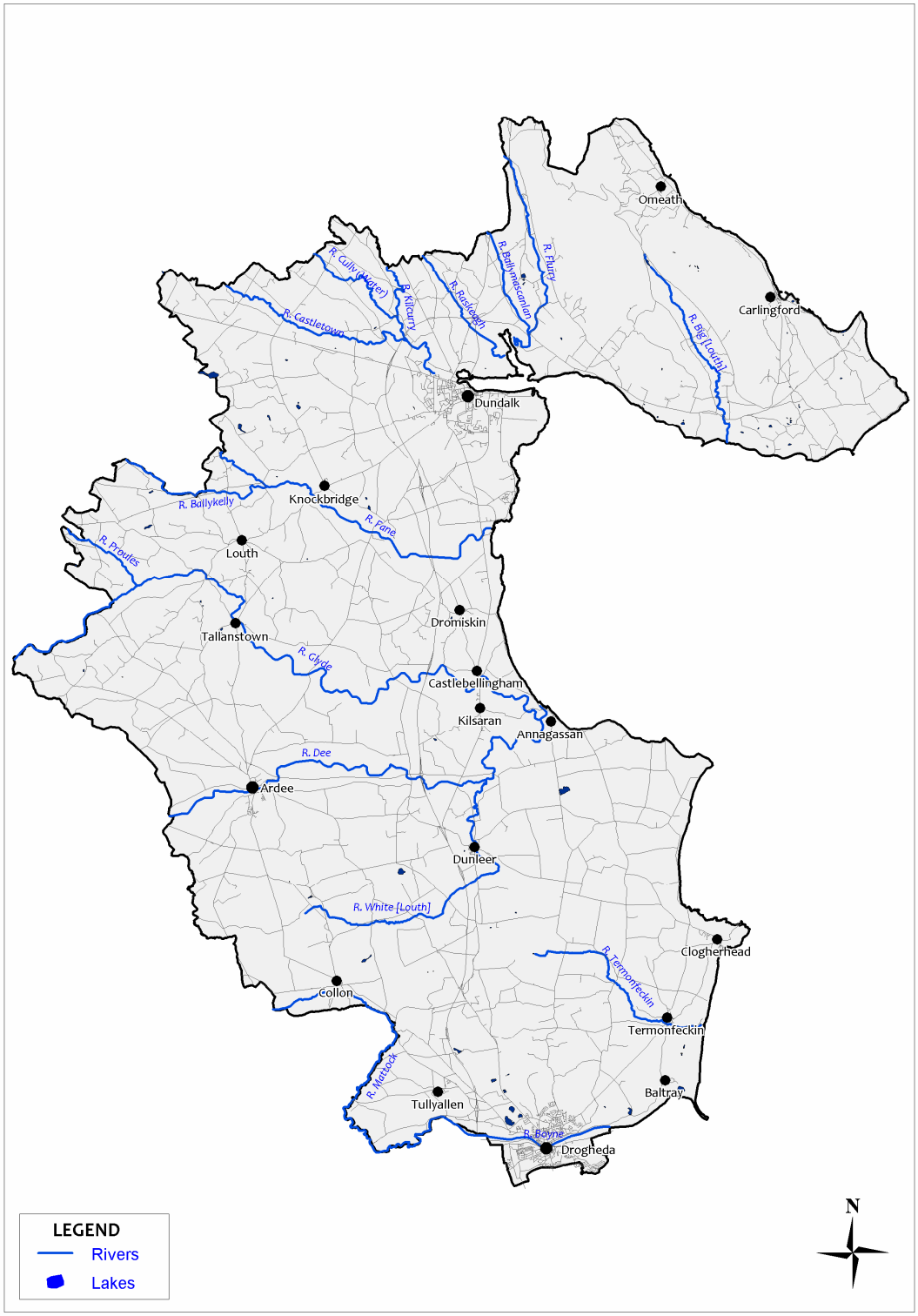
West of the Cooley Peninsula lies another area of high ground centered to a large extent on the "Gap of the North" through which the M1 / N1 /A1 Belfast to Dublin Road runs. This area, along with the Slieve Gullion Complex to the west and part of the Carlingford Mountain areas drain into Lower Faughart by means of the Castletown and Flurry rivers via the southern ground slopes. This area formerly provided the major source of water to the Dundalk area by means of two catchment areas and two aquifers. A new main source is now from Lough Muckno in County Monaghan via the River Fane. In the extreme north west of the County adjacent the border with County Monaghan lies the Louth Drumlin and Lake Area. The area contains the familiar rounded and smooth hills normally associated with the landscape of adjacent counties particularly Counties Monaghan, Cavan and Down. Land improvement has reduced the low-lying marshy areas enclosed by the drumlins There are only three small loughs, which are normally a feature of these landscapes. The loughs are located at Drumcah, Toprass and Cortial.

The bulk of County Louth lies within the Muirhevna Plain stretching from Dundalk south west to Ardee and east towards Dunleer. The Muirhevna plain is characterized by flat undulating features drained by the meandering rivers of the Fane, Glyde, White and Dee rivers. Water to supply the area is abstracted from the rivers Fane, Glyde, Dee and White Rivers. In addition there are 4 aquifers in use.

The eastern extremities of the county defined by the coastline are catagorised by two landscape areas, those of Dundalk Bay as far south as Dunany Point and Dunany / Boyne Estuary Coast stretching south from Dunany Point to the County border with Meath. Two of the rivers that drain the Muirhevna plain pass through the Dundalk Bay area before discharging to the sea. These are the Fane at Blackrock, and the confluence of the Glyde and Dee at Annagassan. In the Dunany Boyne Estuary Coast area land Drainage is affected by a series of small streams, the biggest of which is the river passing through Termonfeckin and which runs dry in drought periods. At present two aquifers are used as a source of public water supplies.

The area immediately north of Drogheda is drained by numerous small streams into the Boyne and coastline and has eight aquifers, six of which supply water to the public. Finally within the Uplands of Collon and Monasterboice north and west of Drogheda drainage is by the rivers, Boyne, Dee, White and Termonfeckin. The Monasterboice area is still retained as a water catchment area for the reservoir at Barnattin which once was the primary water supply to Drogheda. Three aquifers for public water supply are still used in the area.

Map 20: Major Rivers in County Louth



Sanitary Services

Louth County Council currently operates and maintains 14 public water supply schemes that serve approximately 9,070 households (71% of rural population).

Water Supply

Louth County Council operate twenty (20) public supply schemes. A number of Group schemes are also supplied from public mains and these are in effect operated by the Council. A further eight (8) private group schemes operate within the County and are supported through the Rural Water Programme. The balance of the remaining residential properties are serviced by individual wells or other private sources of supply.

Public and private group schemes are licensed and regulated under the Water Services Act, by the Environmental Protection Agency in the case of Public Schemes. Private Group Schemes will be overseen by the council once relevant regulations are enacted. Commercial private supplies using water as part of their activities are also regulated by the Council

Table 18: Louth County Public Water Supply Schemes

Scheme	Source	Volume Supplied / day (m3)	Deployable Output (m3)	Comment
Ardee	River Dee and Wells	3113	3800	Plant to be upgraded to address quality issues-ultimately to be supplied from Mid Louth scheme
Greenmount	River Dee	1992	2000	Integrated into Mid Louth Scheme
Tallanstown	River Glyde	902	1000	Ultimately to be supplied from Mid Louth scheme
Carlingford	Surface Spring	300	300	To be integrated into Cooley Scheme – source to be abandoned
Greenore	Surface Spring	200	200	To be upgraded as part of Cooley scheme
Omeath	Lislea River and wells	325	325	Existing sources to be abandoned. To be integrated into Cooley Scheme
Cooley	Bored Wells	1745	2500	Scheme to be refurbished
Jenkinstown		100		Scheme integrated into Cooley
Carrickcarnan	DOE NI	10		Supplied by DoE NI Water services
Dunbin	River Fane	753	900	Connected to Cavanhill Supply
Sheelagh/ Courtbane	River Fane	115	150	Connected to Cavanhill Supply
Dunleer	River Dee	245	400	Integrated into Greenmount
Clogherhead/ Termonfeckin	River Boyne	1100	1200	Supplied from Drogheda, augmented by well source
Collon	Bored Wells	1407	1200	
Kilineer	Bored Wells	4	5	
Drybridge	Bored Wells	350		
Cavanhill	River Fane			Currently being upgraded
Castletown	Annaskeagh			Decommissioned
Staleen	River Boyne			Currently being upgraded
Rosehall	Barnattan /Mattock Rivers			

Table 19: Louth County Group Water Schemes

Scheme	Source	No of Domestic Connections	Volume Supplied / day (m3)	Comment
Ballymakenny	Bored Wells	601	700	
Drybridge/Waterunder	Bored Wells	56	145	
Tullyallan	Bored Wells	163	145	Limited further capacity
Grangebellew	Bored Wells	23	20	Limited further capacity
Mountain Park	Spring Source	51	20	No further capacity
Tinure	Bored Well	23	15	Taken in charge by Council
Sheepgrange	Bored well	56	30	New well and reservoir developed
Killanny Reaghstown	Moynalty Lough	500	400	Serves Monaghan and Louth Figures reflect services in Louth
Ardaghy	Surface Stream	20	20	Disbanded

The County Louth Rural Water Strategic Plan addresses both the short-term objectives for the upgrading of existing supplies and distribution networks as well as the strategic direction the council aims to pursue. Costs associated with implementation of this strategy will, to a large extent have to be funded by developers.

Significant supply constraints currently exist in Dunleer, Tullyallan, Clogherhead /Termonfeckin and Omeath and these have been prioritised for attention. The existing distribution network is adequate in most areas with upgrading of older pipe assets in Clogherhead and parts of Blackrock and the provision of additional storage capacity in the Smarmore / Blakestown, Clogherhead and Omeath area, also being prioritised.

Table 20: Summary of Water Supply Sources

Type of Water Supply	No. of Supply Zones	Population Served
Public Water Scheme	16	83,805
Public Group Water Scheme	0	3,565
Private Group Water Scheme	9	
Small Private Supply	None Identified	

Water Quality

Public Water Quality

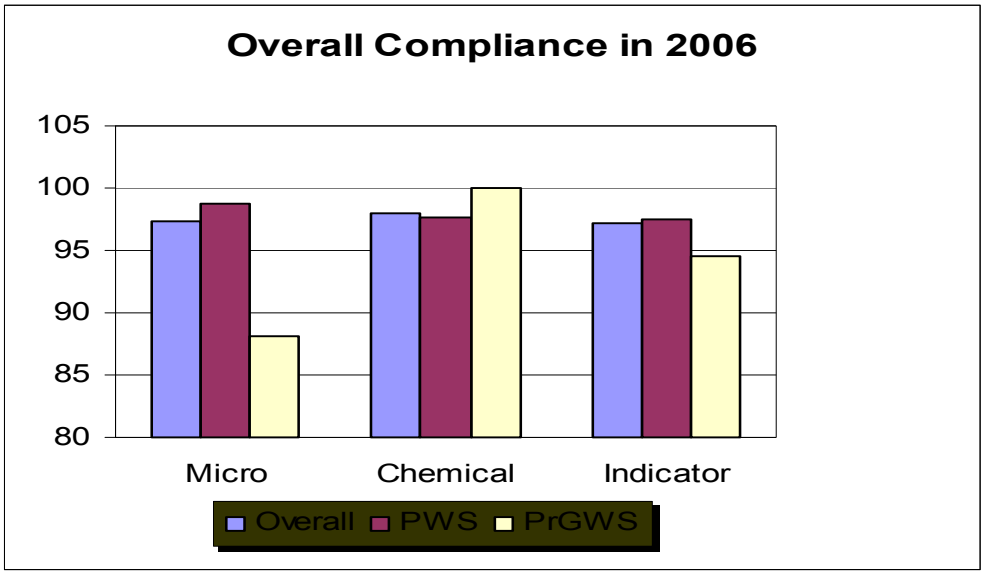
The EPA is the supervisory authority over public water supplies. The EPA has enforcement powers to ensure that local authorities take action where there is a quality deficiency in a public water supply and can serve a legally binding direction on the local authority. Failure to comply with a direction is an offence which can lead to prosecution by the EPA.

Louth County Council carried out analysis on 270 check and 35 audit samples during 2006. While the frequency of monitoring was sufficient in the public water supplies and private group water schemes monitored there was no analysis carried out on any private water supplies that supply water as part of a public or commercial activity.

Overall Compliance in 2006

The overall rate of compliance in County Louth at 97.3% was close to the national average.

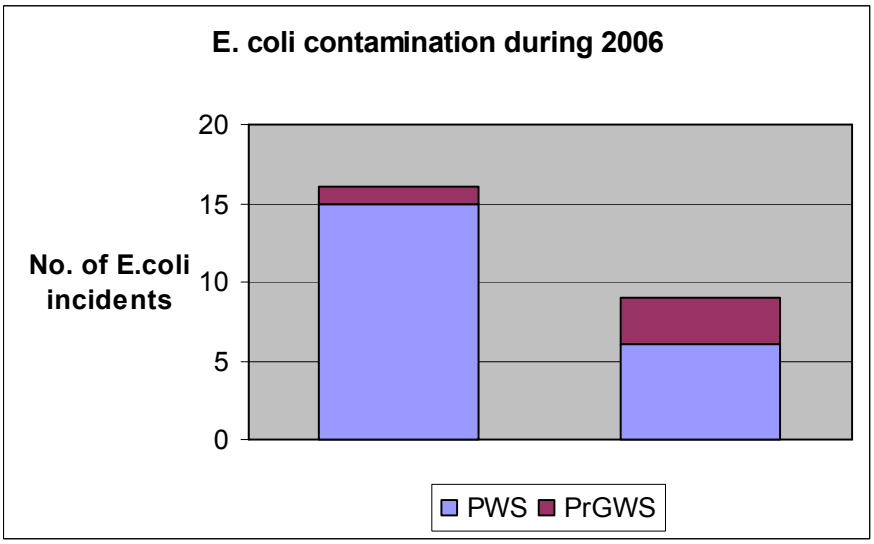
Table 21: County Louth Drinking Water Quality 2006



Compliance with the E. coli Standard

There was one incident of E. coli contamination in the Omeath public water supply in Louth during 2006. Although enterococci exceedances were reported in two public water supplies (Cavan Hill and Staleen). Exceedances of the E. coli parametric value were recorded in 3 of the 9 private group water schemes monitored in 2006.

Table 22: County Louth E-coli compliance 2006



Compliance with the Chemical and Indicator Parametric Values

While all samples analysed in public water supplies and group water schemes were fully compliant for 25 of the 26 chemical parameters, compliance with the fluoride standard was poor at 81% in public water supplies. However, all these exceedances were less than 10% above the standard and all were within the EU standard. Nonetheless, action must be taken by Louth County Council to reduce the incidence of failure to meet the fluoride standard.

Although compliance with the aluminium parametric value was close to the national average, compliance with some indicator parameters was problematic. There were a number of aluminium exceedances in the Ardee supply (6 of 20 samples analysed exceeded) and the Staleen supply (12 of 52 samples analysed). Elevated levels of turbidity was recorded in 2 of the 14 supplies monitored indicating that these supplies are operating under high risk of Cryptosporidium being present in the drinking water if present in the raw water. The local authority should continue to review the operation of these plants to ensure that treatment is appropriate to reduce the risk.

The main issue of concern with regard to compliance with the indicator parametric values in the private group water schemes was coliform bacteria. Although there was a rise in compliance with the coliform bacteria parametric value from 50% in 2005 to 68% in 2006, coliform bacteria exceedances were recorded in 6 of the 9 private group water schemes monitored.

EPA Remedial Action List of Public Water Supplies

The EPA has identified 339 public water supplies nationally representing 36% of public drinking water supplies, which require detailed profiling to ensure that the supply is providing clean and wholesome drinking water.

These supplies are considered to be a priority for improvement or further assessment for one or more reasons including:

- They failed to meet the E. coli standard at some point in the last two years;
- They had inadequate treatment (e.g. no treatment other than chlorination or poor turbidity removal or excessive levels of aluminium in the treated water);
- They had elevated levels of nitrate or are unable to meet the new bromate or trihalomethanes standards coming into force at the end of 2008;
- Monitoring results or compliance checks by the EPA indicate a lack of operational control at the treatment plant; and
- Supplies identified by the Health Service Executive where improvements are required.

The plants involved in County Louth include the following;

Table 23: EPA Remedial Action List of Public Water Supplies – County Louth

Water Supply Name	Population Served	Primary Reason for Inclusion on the Remedial action List
Ardee	6,500	Excessive levels of aluminium in the treated water
Omeath	300	Failed to meet E.coli standard as reported in the Drinking Water Report and needs investigation and improvement if necessary to ensure that the root cause of the problem has been rectified.
Staleen	25,000	Poor turbidity removal

Compliance with the Dangerous Substances Regulations 2001

In 2006 Louth County Council produced a report setting out the measures to be pursued by the local authority to secure compliance with the standards prescribed under the Dangerous Substances Regulations 2001 as detailed as part of the local authorities obligation under Article 10 of the Regulations.

The Dangerous Substances Regulations 2001 give effect to Council Directive 76/464/EEC on pollution caused by certain dangerous substances discharged into the aquatic environment and support implementation of the Water Framework Directive 2000/60/EC.

The regulations prescribe water quality standards for 14 dangerous substances (pesticides, solvents and metals) in surface waters. The substances have been selected primarily on the basis of their likely use or presence in Ireland and their potential impacts on waters by virtue of toxicity, persistence and bioaccumulation.

Pesticides and Solvents:

Atrazine
Dichloramethane
Simazine
Toluene
Tributyltin
Xylenes

Metals and other substances:

Arsenic
Chromium
Copper
Cyanide
Fluoride
Lead
Nickel
Zinc

Louth County Council set the baseline condition of surface waters on the basis of a limited monitoring data. This data was collected/collated from the following activities.

- Discharge licence monitoring at Cooley Distillery, Riverstown, Dundalk which discharges into the Big River and at Bitech Engineering, Dunleer who discharge into the Whiteriver.
- Drinking water monitoring programme for County Louth
- Landfill surface water monitoring
- Water pollution incidents

The monitoring in the above cases did not include all parameters listed in the Regulations. Prior to June 2004, Pesticide analysis was not carried out on surface waters. In addition, the EPA's survey of Dangerous Substances in freshwaters 1999-2000 did not include any sites in County Louth.

Sampling commenced downstream of Sewage Treatment Works (STW's) in the county including Collon, Carlingford, Ardee, Dundalk, Blackrock, Haynestown, Drogheda, Dromiskin, Dunleer, Tullyallen and Drogheda. Sampling also commenced at various ports and estuaries including Greenore, Dundalk, and Drogheda. Sampling was also carried out upstream of major water abstraction points namely Greenmount on the River Dee, Stephenstown on the River Fane and Tallanstown on the River Glyde. Sampling of bathing waters at Shelling Hill, Templetown, Gyles Quay, Port, Seapoint and Clogherhead was also carried out. Sampling at these locations continues.

Waste Water Treatment

Louth County Council directly operate fourteen public sewerage schemes. Secondary treatment is provided at all schemes save Omeath and Greenore where sewage is discharged untreated.

The appended table below outlines loads on schemes as estimated in early 2008, the total load committed including existing planning permissions, the current capacity of plants where applicable, and proposed capacity where plant is likely to be extended within life of the development plan. A comment is appended as to feasibility of further expansion and constraints that have been identified.

Table 24: County Louth WWTS Current Capacity

	Current Population served (PE)	Total Load Committed (PE)	Current capacity (PE)	Proposed Capacity (PE)	Comment
Annagassan	328	412	500	500	Potential exists to expand capacity subject to additional land being acquired Designation of Dundalk Bay may impact as discharges are to Dee/Glyde transition waters.
Carlingford	1724	1990	1500	1500	Capacity overcommitted. However low house occupancy figures, seasonal nature of loadings and load measurements suggest loads are significantly lower.
Castlebellingham/ Kilsaran	1603	1603	1700	Up to 3000	Potentially constrained by existence of water abstraction point downstream and limited dilution
Clogherhead	1805	1838	2000	2200	Significant seasonal loading. Process improvements may increase capacity to 2200.
Collon	1113	1360	500	1200	Plant expansion under construction Completion due in 2009. Commercial load may be overestimated.
Dromiskin	1253	1471	1200	3000	Plant will require upgrade during life of plan
Knockbridge	654	959	500	1000	Plant expansion under construction Completion due in 2009
Louth Village	749	821	700	1000	Plant expansion under construction Completion due in 2009.

Omeath	1063	1231	0		No Treatment at present.
Greenore	200				No Treatment at Present
Tallanstown	862	974	400	1000	Plant expansion under construction Completion due in 2009
Baltray/Termonfeckin	1734	2241			Sewage pumped to Drogheda
Tinure	504	504	500		Plant will require upgrade during life of plan
Tullyallen	1251	1259	1500		

Treatment Plant Effluent Discharges

The Environmental Protection Agency Act, 1992, requires the Environmental Protection Agency to report on a biennial basis on the quality of effluents being discharged from treatment plants, sewers or drainage pipes which are vested in, controlled or used by local authorities. The most recent report available was published in 1997 and provides an analysis of the treatment of waste water for all agglomerations1 (mainly cities, towns and villages) with a population equivalent over 500 during 2004 and 2005, the quality of discharges from waste water treatment plants and commentary on trends for the period 1998 to 2005. The report is based on information supplied by local authorities on an annual basis. The end of the review period (31st December 2005) also coincided with a significant milestone in urban waste water treatment in Ireland, whereby secondary treatment was required for all agglomerations discharging to freshwaters and estuaries with population equivalents of 2,000 or greater and for agglomerations discharging to coastal waters with population equivalents of 10,000 or greater. In the case of County Louth, this was of high relevance given the presence of two large urban areas within it's boundaries. The results are detailed in the tables below.

Table 25: Towns, Discharge Locations and level of treatment in 2005 (EPA)

List of Agglomerations, Discharge Locations and level of Treatment in 2005.

Agglomeration	PE	Discharge to	Sensitive*	Present Treatment
Ardee	5,050	Freshwater(River)	No	Secondary treatment only
Blackrock	4,815	Estuarine	No	Secondary treatment only
Carlingford	840	Coastal Water	No	Secondary treatment only
Castlebellingham	1,000	Freshwater(River)	No	Secondary treatment only
Clogherhead	2,000	Coastal Water	No	Secondary treatment only
Drogheda	67,700	Estuarine	No	Secondary treatment only
Dromiskin	1,300	Freshwater(River)	No	Secondary treatment only
Dundalk	179,535	Estuarine	No	Secondary treatment only
Dunleer	1,315	Freshwater(River)	No	Secondary treatment only
Louth Village	565	Freshwater(River)	No	Secondary treatment only
Tullyallen	550	Freshwater(River)	No	Secondary treatment only

Table 26: Effluent Quality from Secondary WWTS Louth County

2004 – Effluent Quality from Secondary Waste Water Treatment Plants (Louth County Council)

Plant Name and Population Equivalent	BOD			COD			TSS		
	No. Of Samples	No. of samples >25 mg/l	No. of samples >50 mg/l	No. Of Samples	No. of samples >125 mg/l	No. of samples >250 mg/l	No. Of Samples	No. of samples >35 mg/l	No. of samples >87.5 mg/l
From 500 to 1,000 PE									
Tullyallen	4	4	2	6	5	3	6	3	3
Carlingford	6	1	0	6	2	2	5	1	0
Louth Village	4	0	0	5	0	0	5	0	0
From 1,001 to 1,999 PE									
Dunleer	3	0	0	6	0	0	6	0	0
Clogherhead	5	2	0	5	0	0	5	0	0
Castlebellingham	5	1	0	6	0	0	6	0	0
Dromiskin	5	1	1	6	3	1	6	2	1
From 2,000 to 10,000 PE									
Blackrock	6	0	0	6	1	1	6	0	0
Ardee	5	0	0	6	0	0	6	0	0
From 50,001 to 150,000 PE									
Drogheda	49	0	0	49	0	0	49	3	0
> 150,001 PE									
Dundalk	49	0	0	49	0	0	49	1	0

Source: Environmental Protection Agency

A colour code (light green) is used to mark the number of samples failing to meet the effluent quality standards at each individual plant. If column three for each parameter in the county tables presented shows a value (shaded green) greater than zero, the plant has not complied with the requirements of the Regulations.

The purple code indicates that an insufficient number of samples were taken for the particular plant. The rules governing the sampling requirements for each class of plant above 2000 p.e. are set out in the Urban Waste Water Treatment Regulations, 2001 and these have been taken into account on an individual basis when evaluating the compliance with the sampling frequencies at each plant.

In some cases the reported population equivalent of the waste water treatment plant may be different from the agglomeration population equivalent, hence the effluent quality data may be presented in a different band in the effluent quality tables

Catchment Surveys

River Catchment Farm surveys commenced in November 2005 of the River Dee Catchment and to-date approximately 250 farms have been inspected and appropriate measures have been taken including warning letters, further inspections and liaison with Agricultural organisations and Teagasc. Inspections of farms, industrial premises and domestic dwellings along catchment areas are also carried out in response to environmental complaints. Inspections are also carried out in response to incidents such as the disposal of diesel laundering sludge and the operation of diesel laundering plants. The environmental complaints are logged onto a database system and farm surveys are linked into the local authority GIS system.

Ongoing Environmental Monitoring

Development Sites that have environmental implications are referred from Planning to the Environment Section for consideration (domestic dwellings, agricultural developments, industrial, commercial and large scale housing developments) to set environmental conditions. Planning Enforcement Section oversees the enforcement of planning law.

Ongoing monitoring and auditing of sites is carried out and has been reinforced by personnel in the Waste Enforcement Section in Louth County Council.

Ongoing monitoring of discharge licences is being carried out. A number of successful prosecutions have been taken and a number of cases are pending.

Ongoing investigation of Environmental complaints is being carried out and a number of successful prosecutions have been taken under Sections 32, and 39 of the Waste Management Act, 1996 as amended.

Surface Water Monitoring Programme / Tidal Water Monitoring

This programme commenced in 2004, and involves approximately 28 River Stations throughout the County, including river stations downstream of STW, Castletown and Boyne estuaries, Dundalk/Drogheda/Greenore Ports, bathing water sites and water abstraction points.

Bathing Water Quality

The European Union has prescribed mandatory and guide bathing water quality standards for the protection of public health. There are currently 131 designated bathing areas in Ireland, of which 122 are seawater and 9 are freshwater. The quality requirements for bathing water areas in Ireland are set out in the Quality of Bathing Waters Regulations 1992 (S.I. No. 155 of 1992) and subsequent amendments. These Regulations transposed the requirements of the EC Directive concerning the quality of bathing waters (76/160/EEC), the purpose of which is to ensure that bathing water quality is maintained and if necessary improved so that it complies with specified standards designed to protect public health and the environment.

A new Directive on bathing water (Directive 2006/7/EC) came into force on 24 March 2006 and will repeal the existing 1976 Directive with effect from 31 December 2014. The new Directive gives a stronger focus to the protection of public health. It establishes stricter microbiological standards for two new parameters, Intestinal enterococci and Escherichia coli, which will be used to classify bathing waters as 'poor', 'sufficient', 'good' and 'excellent'. The classification of bathing waters will be assessed on the basis of monitoring results for four consecutive bathing seasons.

Bathing Water Regulations, 2008

The new Bathing Water Quality Regulations 2008 (SI No. 79 of 2008) transposed the EU Bathing Water Directive 2006 into Irish Law on 24 March 2008. The Regulations incorporate suggestions made during public consultation including the extension of the bathing season from 31 August to 15 September. The Regulations allow provision for the EPA to issue advice, recommendations and directions to local authorities, where required, for the consistent and effective implementation of the Regulations and facilitate the coordinated monitoring and management of bathing waters.

Bathing Water Monitoring

Bathing areas in County Louth are monitored to check the quality of the bathing water by the Louth County Council on a fortnightly basis during the bathing season which extends from the 1st June until the end of August each year. Monitoring commences two weeks before the start of the season. The minimum number of samples to be taken during the season is seven. The National Regulations detailed above stipulate that each sample obtained must be analysed for eight microbiological and physicochemical parameters. These include; Total coliforms, Faecal coliforms, Colour, Mineral oils, Surface active substances, Phenols, Transparency, Tarry residues and floating materials.

Table 27: Bathing Water Quality 2007

LOUTH COUNTY COUNCIL	BEACH	EU MANDATORY	EU GUIDLINES	NATIONAL LIMIT VALUES
	Clogherhead	√	√	√
	Port, Lurganboy	√	√	√
	Seapoint, Termonfeckin	√	x	√
	Shellinghill / Templetown	√	√	√

Within County Louth Seapoint, Termonfeckin (Seawater) failed EU Directive Guide Limit Values 2007 due to evidence of Faecal Coliforms and Total Coliforms.

Groundwater Protection Scheme

Groundwater Protection Schemes are county-based projects that are undertaken jointly between the Geological Survey of Ireland and the respective Local Authority.

The overall aim of the groundwater protection scheme is to preserve the quality of groundwater, particularly for drinking water purposes, for the benefit of present and future generations. The scheme is not intended to have any statutory authority, but provides a framework for decision-making and guidelines for the Local Authorities in carrying out their functions. Since 2003, the Department of Environment, Heritage and Local Government has recommended that groundwater protection schemes are incorporated into County Development Plans (Circular Letter SP 5/03 – Groundwater Protection and the Planning System). A groundwater protection scheme comprises two components:

1. A land surface zoning map (or maps) called the groundwater protection zone map.

2. Groundwater protection responses for existing and new potentially polluting activities.

Louth County Council does not, at present, have a groundwater protection scheme in place however preparations are at an advanced stage to have the scheme drawn up.

The Water Framework Directive

The European Communities (Water Policy) Regulations (S.I No. 722 of 2003) transposed the European Water Framework Directive into National legislation in December 2003. The purpose of the Directive is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which:

- Prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems;

- Promotes sustainable water use based on a long-term protection of available water resources;

- Aims at enhanced protection and improvement of the aquatic environment, *inter alia*, through specific measures for the progressive reduction of discharges, emissions and losses of priority substances and the cessation or phasing-out of discharges, emissions and losses of the priority hazardous substances;

- Ensures the progressive reduction of pollution of groundwater and prevents its further pollution

- Contributes to mitigating the effects of floods and droughts

River Basin Districts

The main activities for the implementation of the Water Framework Directive will take place in the context of River Basin Management Projects led by local authorities. The Department of the Environment, Heritage and Local Government is promoting the establishment by local authorities of such projects to address all inland and coastal waters. The overall objective of river basin projects is to establish an integrated monitoring and management system for all waters within a RBD, to develop a dynamic programme of management measures and to produce a River Basin Management Plan, which will be continually updated.

Key Elements of River Basin Planning

The Key elements of river basin planning are:

- The protection of all waters including rivers, lakes, coastal waters and groundwaters

- The ambitious aim of ensuring that all waters meet "good status" by 2015.

- The requirement for cross border coordination.

- The need to ensure the active participation of all stakeholders, in water management activities

- The requirement for water pricing policies and ensuring that the polluter pays.

- The need to balance the interests of the environment with those who depend on it.

Surface Water Classification

The Water Framework Directive requires the surface waters of each river basin district to be placed into one of four natural categories;

1. River
2. Lake
3. Transitional (estuaries)
4. Coastal

Alternatively surface waters can be identified as artificial or heavily modified. Artificial Water Body (AWB) is defined as a body of surface water created by human activity. Heavily Modified Water Body (HMWB) is a body of surface water which as a result of physical alterations by human activity is substantially changed in character.

The River Basin Management Plans catagorise the current state of individual surface waters on the basis of the likelihood that each waterbody will meet its WFD status objectives. The risk categorisation is summarised below;

Waterbody Risk Classification

- Waterbodies at significant risk – "At Risk"

  The action in this case will be to to identify waterbodies for which consideration of appropriate measures to improve status can start as soon as practical

- Waterbodies probably at significant risk but for which further information will be needed to confirm that this view is correct – "Probably at Risk"

  The action in this case will be to focus for more detailed risk assessments (including, where necessary, further characterisation) aimed at determining whether or not the waterbodies in this category are at significant risk.

- Waterbodies probably not at significant risk on the basis of available information for which confidence in the available information being comprehensive and reliable is lower

  The action in this case will be to focus for more detailed risk assessments aimed at improving the quality of information and determining whether or not the waterbodies in this category are not at significant risk

Under the Water Framework Directive there is an explicit requirement to ensure full compliance with existing directives (e.g. the Urban Waste Water Treatment Directive, the Nitrates Directive). There is also a clear legal requirement to comply with the environmental objectives of protected areas (e.g. drinking waters and protected habitats and species) by not later than 2015 unless an earlier date is specified in the relevant Community legislation under which the protected area was designated. Priority must be given to preventing deterioration in the existing status of waters, in particular "high status" and "good status" waters must be protected.

Key national and local water management issues affecting the status of waters include;

- Waste water and industrial discharges,
- Landfills, quarries, mines and contaminated lands
- Agriculture
- Waste water from unsewered properties
- Forestry
- Usage and discharge of dangerous substances
- Physical modifications to surface waters
- Abstractions

The Draft River Basin Management Plans include;

- Background information showing the extent of each issue and the way that it can cause water problems
- A summary of existing controls and an assessment of their adequacy
- The proposed actions, the parties responsible for taking those actions and the users who would be affected.

Within the River Basin Management Plans there is an explicit requirement to ensure full compliance with existing directives (e.g. the Urban Waste Water Treatment Directive, the Nitrates Directive). There is also a clear legal requirement to comply with the environmental objectives of protected areas (e.g. drinking waters and protected habitats and species) by not later than 2015 unless an earlier date is specified in the relevant Community legislation under which the protected area was designated. Priority must be given to preventing deterioration in the existing status of waters, in particular "high status" and "good status" waters must be protected.

Role of Local Authorities in River Basin Management

Local authorities have a critical role to play, not just in producing a River Basin Management Plan, but in securing the implementation of measures such as the provision of adequate waste water treatment, enforcing the Code of Good Agricultural Practice Regulations, reviewing and revising discharge licences under the Water Pollution Acts to take account of new environmental quality standards needed to support the environmental goals of the Directive. Local Authorities may also need to improve the integration of planning policy and water policy within the provisions of the Planning and Development Act 2000.

The EPA has had a critical role in the river basin management process. In the first instance the EPA has classified all waters (surface and groundwater) based on results from the national environmental water monitoring programme carried out by the EPA itself, local authorities, the Marine Institute, Fisheries Boards, the National Parks and Wildlife Service and the Office of Public Works. The classification of waters has driven the development of measures within the draft RBD plans to meet the objectives required by the directive.

County Louth River Basin Management Plans

County Louth straddles two River Basin Districts; the Neagh Bann and the Eastern River Basin District. However the bulk of County Louth lies within the Neagh Bann River Basin district and is administered as part of the NS Share River Basin District Project

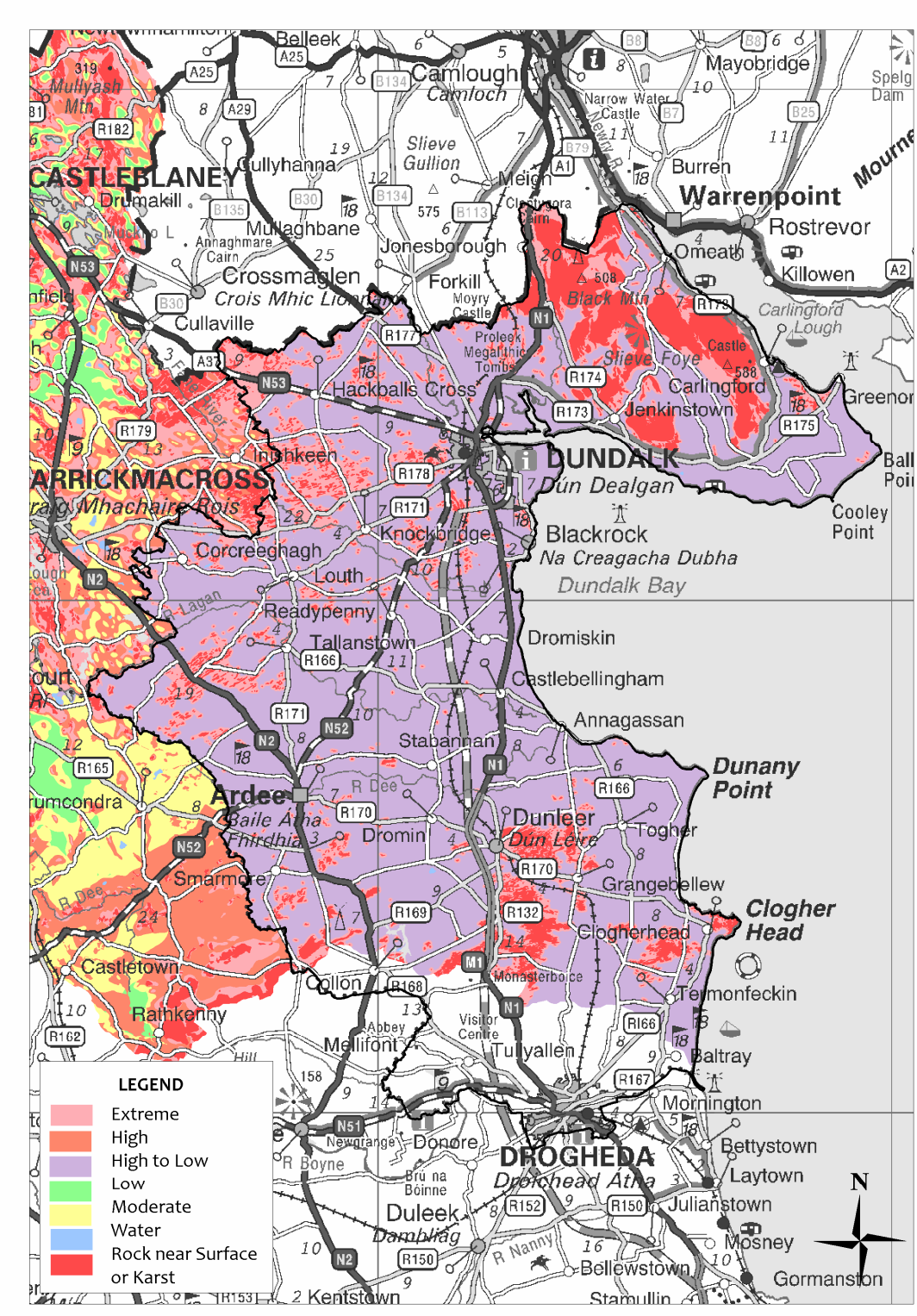
NS Share River Basin District Project

The NS Share River Basin District Project is the vehicle for delivering the objectives of the Water Framework Directive within the North South Share River Basin District and comprises a total of three River Basin Districts including the Neagh Bann RBD which covers most of County Louth.

Neagh Bann River Basin District

The Neagh-Bann International River Basin District includes Lough Neagh, the largest lake in Ireland, and the Bann River, which runs into and out of Lough Neagh. The Neagh Bann RBD has total area of 8,085 km² including marine elements. It drains parts of counties Louth, Meath, Cavan, Monaghan, Armagh, Tyrone, Derry, Antrim and Down.

Map 21: Neagh Bann River Basin District



Within the Louth portion of the Neagh Bann RBD, 64% of river ecological status is 'Moderate', 12% is 'Good', 2% is bad and 14% is poor. None of the surveyed rivers achieved 'High' status. With regard to coastal waters both Outer Dundalk Bay and Carlingford Lough achieve moderate status whilst the Mourne Coast (east of the Cooley Peninsula) achieves Good Status. The remaining Louth Coast south of Dundalk to the boundary with the Eastern RBD has a status yet to be determined. Throughout the County Louth portion of the Neagh Bann

RBD, groundwater status is good. With regard to surface water chemical status, only Outer Dundalk bay has poor status with the Louth Coast, coastal waterbody yet to be determined.

Map 28: County Louth – Neagh Bann River Ecological status
Map 29: County Louth – Neagh Bann Coastal Waters Ecological status
Map 30: County Louth – Neagh Bann Groundwater Ecological status

The County Louth portion of the Neagh Bann RBD draft plan contains a number of basic and supplementary measures which aim to achieve a number of key objectives with regard to rectifying deficiencies in waterbody status. For surface waters, the core objective is to prevent deterioration, and in particular maintain high or good status. For groundwaters, the core objective is to limit pollution inputs and prevent deterioration. In restoring good status the core objectives for surface waters are to improve waters where necessary in order to achieve at least good status. For groundwaters, the core objectives are to improve quantity and chemical quality where necessary to achieve good status. With regard to chemical pollution the core objective is to reverse increasing pollution. In order to achieve these objectives a number of basic and supplementary measures must be taken.

Neagh Bann RBD Objectives, Basic Measures and Supplementary Measures

For surface waters, the core objective is to prevent deterioration, and in particular maintain high or good status. For groundwaters, the core objective is to limit pollution inputs and prevent deterioration. In restoring good status the core objectives for surface waters are to improve waters where necessary in order to achieve at least good status. For groundwaters, the core objectives are to improve quantity and chemical quality where necessary to achieve good status. With regard to chemical pollution the core objective is to reverse increasing pollution trends.

Basic Measures

A total of eleven basic measures are identified by the Neagh Bann draft RBD. The eleven measures are based on eleven EU directives on water protection and are thus required by law. A large number of supplementary measures are also proposed. These include measures which should be considered where the basic measures may not be sufficient to achieve the core objectives. The supplementary measures are targeted at those areas where problems have been identified. The eleven basic measures are outlined below;

1. Cost recovery for water use,
2. Promotion of efficient and sustainable water use,
3. Protection of drinking water sources,
4. Control of abstraction and impoundment,
5. Control of point source discharges,
6. Control of diffuse source discharges,

7. Authorisation of discharges to groundwaters,
8. Control of priority substances,
9. Controls on physical modifications to surface waters,
10. Controls on other activities impacting on water status and prevention or reduction of the impact of accidental pollution incidents
11. Prevention or reduction of the impact of accidental pollution incidents

Supplementary Measures

Urban and industrial discharges supplementary measures (10no)

1. Measures intended to reduce loading to the treatment plant:
    - Limit or cease the direct importation of polluting matter (for example liquid wastes, landfill leachate, sludges).
    - Investigate the extent of use and impact of under-sink food waste disintegrators and take appropriate actions.
    - Investigate fats/oils/grease influent concentrations and take actions to reduce FOG entering the collection system.
2. Impose development controls where there is, or is likely to be in the future, insufficient capacity at treatment plants.
3. Initiate investigations into characteristics of treated wastewater for parameters not presently required to be monitored under the urban wastewater treatment directive.
4. Initiate research to verify risk assessment results and determine the impact of the discharge.
5. Use decision making tools in point source discharge management.
6. Where necessary to achieve water quality objectives install secondary treatment at smaller plants where this level of treatment would not otherwise be required under the urban wastewater treatment regulations.
7. Apply a higher standard of treatment (stricter emission controls) where necessary.
8. The plant to remove specific substances known to impact on water quality status.
9. Install ultra-violet or similar type treatment.
10. Relocate the point of discharge.

Landfills, quarries, mines & contaminated lands (2no)

- Site-specific remediation schemes or closure plans are required to restore status. Pollution containment measures and monitoring.

Agriculture (4no)

1. Reducing agricultural pollutant losses by creating buffer strips, fencing to prevent livestock access to watercourses,
2. Setting aside agricultural lands, reducing agricultural intensity, reducing levels of land reclamation or requiring nutrient management planning.
3. Remediation by targeted farmyard management system upgrades or rural environmental protection schemes/farm plans in priority catchments, requiring stricter storage

or closed periods than the current Good Agricultural Practice Regulations.
4. Relocation by using digestors in areas of nutrient surplus or tankering in areas of nutrient surplus

Wastewater from unsewered properties (7no.)

1. Amend Building Regulations to include

- Code of Practice for single houses.
- Code of Practice for large systems.
- Certification of the construction of on-site wastewater treatment systems
- and percolation areas/polishing filters.

2. Establish:

- Certified national panel of experts for site investigation and certification of installed systems. A second panel of hydrogeologists is required for clusters and large systems.
- National group for formulating polices and coordination of consistent approach.
- A technical advice section or advisory group to coordinate and give advice on emerging and innovative technologies.
- Installation and maintenance training by FAS.

3. For new developments:

- At planning assessment stage, apply the GIS risk mapping / decision support system and codes of practice.
- Notice to planning authority required immediately prior to the installation of on-site effluent treatment systems including percolation areas and polishing filters.

4. Remediate

Inspect existing systems in prioritised locations:

- Use the GIS risk mapping / decision support system to prioritise locations to be targeted in a programme of inspections and maintenance.
- Use a database and action tracking system.

5. Enforce requirements for percolation.

6. Enforce requirements for de-sludging.

7. Consider connection to municipal systems

Forestry (20no)

1. Management Instruments - Ensure regulations and guidance are cross referenced and revised to incorporate proposed measures
2. Acidification - Avoid or limit (to below critical thresholds) afforestation on 1st and 2nd order stream catchments in acid sensitive catchments
3. Acidification - Revise the Acidification Protocol to ensure actual minimum alkalinities are detected (i.e. ensure sampling under high flow conditions) and revise boundary conditions for afforestation in acid sensitive areas.
4. Eutrophication and Sedimentation - Avoid or limit forest cover on peat sites

5. Eutrophication and Sedimentation - Change the tree species mix (e.g. broadleaves) on replanting
6. Eutrophication and Sedimentation - Limiting felling coup size
7. Eutrophication and Sedimentation - Establish new forest structures on older plantation sites (including riparian zones, drainage layouts, species mix, open areas)
8. Hydromorphology - Audit existing drainage networks in forest catchments
9. Pesticide Use - Reduce pesticide usage
10. Pesticide Use - Pre-dip trees in nurseries prior to planting out
11. Pesticide Use - Maintain registers of pesticide use

Remediation

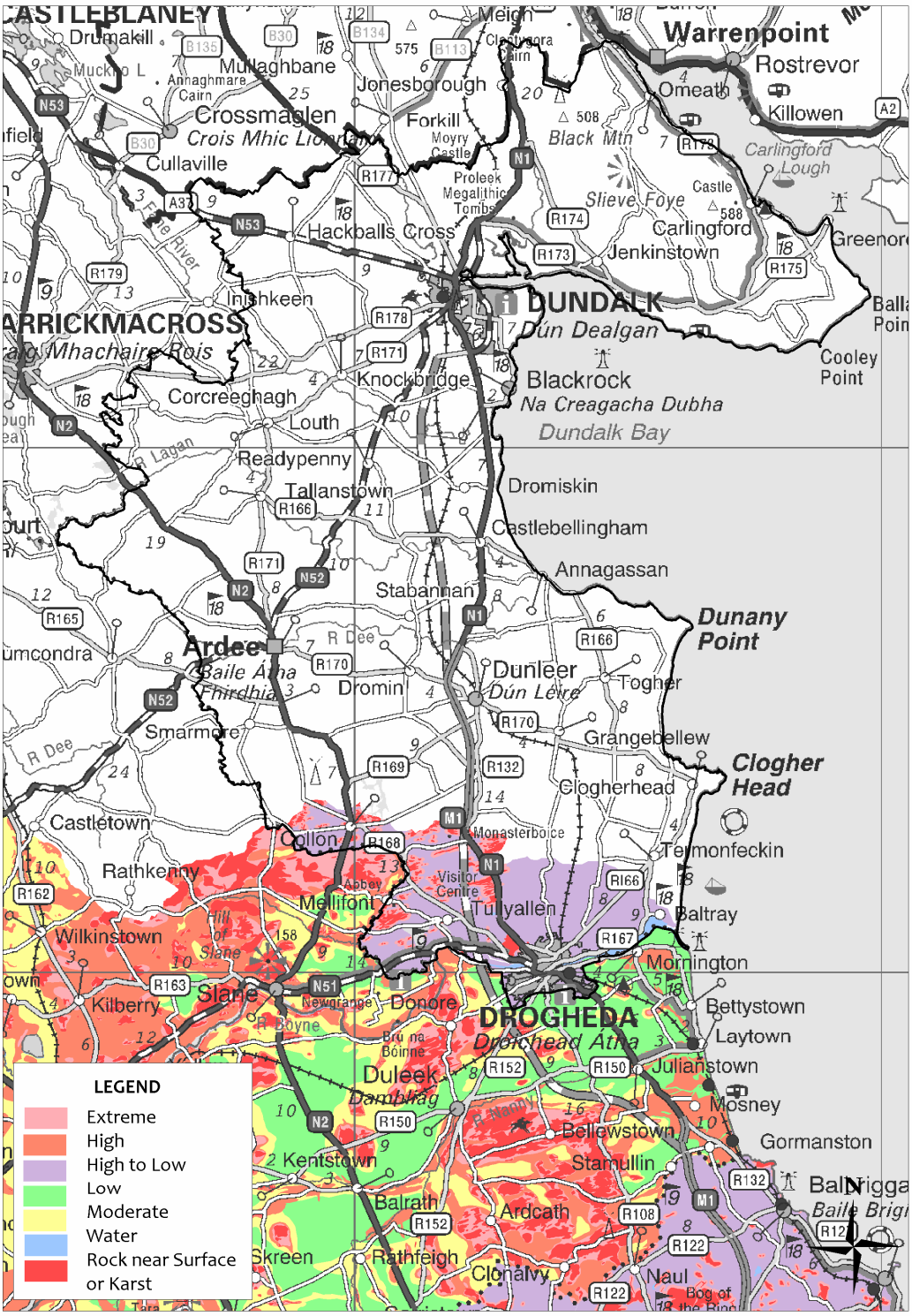
12. Acidification - Restructure existing forests to include open space and structural diversity through age classes and species mix, including broadleaves
13. Acidification - Mitigate acid impacts symptomatically using basic material (e.g. limestone or sand liming)
14. Acidification - Manage catchment drainage to increase residence times and soil wetting, including no drainage installation in some areas 89 0
15. Acidification - Implement measures to increase stream production – for example with native woodland in riparian zones.
16. Eutrophication - Establish riparian zone management prior to clearfelling
17. Eutrophication and Sedimentation - Enhance sediment control
18. Eutrophication - Manage catchment drainage to increase residence times and soil wetting, including no drainage in some locations
19. Sedimentation - Establish riparian zone management prior to clearfelling
20. Sedimentation - Enhance sediment control
21. Sedimentation - Manage catchment drainage to increase residence times and soil wetting, including no drainage in some locations
22. Hydromorphology - Enhance drainage network management – minimise drainage in peat soils
23. Pesticide Use - Develop biological control methods

Eastern River Basin District

Within the Eastern River Basis District, a total of twelve local authorities are participating. The Eastern River Basin District affects some 10% of the land area of County Louth. The areas covered include South County Louth and the jurisdiction of Drogheda Borough Council.

The portion of within the Eastern RBD accounts for just 1% of the County and 10% of the river basin district. He principal river catchments concerned are the Mattock and Baltray. Estuary and transitional Waters include the Boyne Coast & Estuary whilst there is a Coastal Water zone known as the Boyne Estuary Plume Zone.

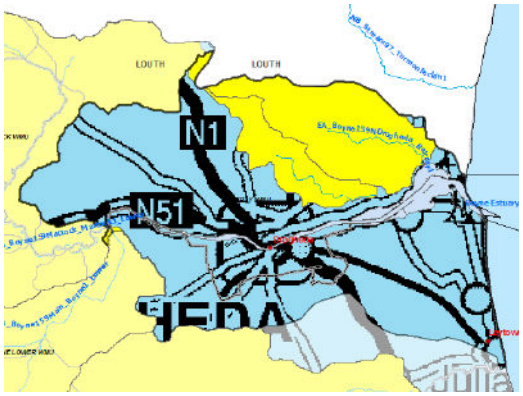
Map 22: Eastern River Basin District



Baltray Catchment

The Baltray Catchment has been assessed as moderate. In Baltray the two streams in this catchment Beaulieu and Baltray, whilst close to Drogheda do not flow through Drogheda and are rural in nature. The principal pressures affecting these rivers are assessed to be Agriculture and Wastewater from Unsewered Properties (Septic Tanks). The problems identified with these pressures include high nutrients (phosphorus) and a low ecology rating.

Map 23: Baltray Catchment, Eastern RBD



The basic measures proposed to address problems with the Baltray include;

- Cost recovery for water use
- Measures to promote efficient and sustainable use
- Protection of drinking water sources
- Control of abstraction and impoundment
- Authorisation of discharges to groundwater
- Control of point source discharges
- Control of diffuse source pollution
- Control of priority substances
- Control of physical modifications of surface waters
- Controls on other activities impacting water status
- Prevention or reduction of the impact of accidental pollution incidents

Supplementary measures include the following;

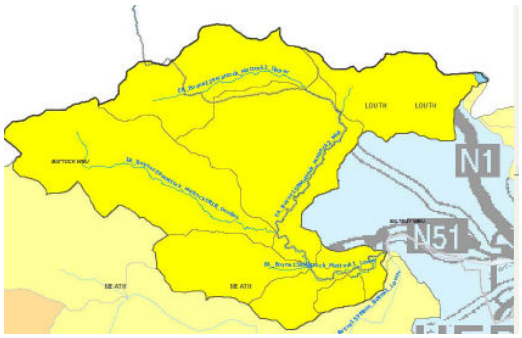
- Modernise Abstraction Legislation, including a system for licensing surface water abstractions
- Conduct awareness campaign for sustainable domestic water use, including rainwater
- harvesting and domestic soakaways for stormwater
- Emphasise linkage between Planning, Water Services, and Environmental Sections within Local Authorities for Planning Purposes
- Implement Community Digestors for Alternative Energy

In the case of Baltray all Rivers are expected to attain Good Status by 2015.

Mattock Catchment

The Mattock has been assessed as moderate. In Mattock the problems are: High Nutrients (Phosphorus), Oxygen Demand, Low Ecological Rating and Possible over abstraction issues. In Mattock the principal pressures are identified as agriculture and Collon wastewater treatment plant. The basic measures proposed to address problems with Mattock are the same as those for Baltray.

Map 24: Mattock Catchment, Eastern RBD



Supplementary measures include the following;

- Inspections and Upgrades
- Conduct awareness campaign for sustainable domestic water use, including rainwater harvesting and domestic soakaways for stormwater
- Record daily abstraction rates
- Collect daily water level
- Department of Agriculture - Code of Good Practice and Guidelines on the use of biosolids in Agriculture, 1999
- Emphasise linkage between Planning, Water Services, and Environmental Sections within Local
- Authorities for Planning Purposes
- Restrict Cattle Access to rivers - Create Cattle Drinking points
- Enforce Regulations on Septic Systems
- Implement Community Digestors for Alternative Energy
- Upgrade WWTW and Collecting Systems <2000 PE

The main pressure preventing achievement of Good Status is thought to be diffuse agricultural and septic tank pollution. Full implementation of the measures is expected to correct this, however recovery time will mean that the larger rivers will not achieve Good Status before 2015.

Estuary and Transitional Waters

Within the Eastern RBD Estuary and Transitional Waters have an overall status classified as moderate. Boyne Coast & Estuary which is a Special Area (SAC) Conservation and Special Protected Area (SPA). The waters have a moderate ecology rating, but failed on the chemical rating. Wastewater and industrial discharges accounted for 70 % of the pressure on the estuary. The Boyne Estuary has been designated as a Heavily Modified Waterbody. The reason for this designation is due to the presence of flood defences, navigation and dredging. The status the estuary is less than good and as such the measures proposed aim to restore / create / enhance aquatic and marginal habitats. They also aim to increase in-channel morphological diversity. The Boyne Estuary is not expected to be at Good Status by 2015.

Coastal Waters

The Boyne Estuary Plume Zone includes Boyne Coast & Estuary a Special Area of Conservation and Special Protected Area. Its ecological status is high. The risk assessment to the estuary Coast around the Boyne indicates threats emanating from the estuary at Drogheda, a combined sewer overflow (wastewater discharge) the Urban Areas at Drogheda and problems downstream of the Boyne. These threats come equally from a range of sources including agriculture, dangerous substances, forestry, landfills, wastewater and industrial discharges and wastewater from unsewered properties. The estuary is expected to reach Good Status by 2015.

Groundwater

Within County Louth, Drogheda has groundwaters at poor status. Drogheda in common with Dublin is considered the highest risk urban area. Groundwater quality has been locally impacted. This can be attributed to groundwater discharges which affect the water quality of streams and rivers in the groundwater area (Quality). Orthophosphate exceeds its water quality threshold in several streams that flow across the Lough Lene, Drogheda, and Bettystown groundwater bodies. Accordingly, these streams have been classified as being at Poor status. Groundwater quality is also affected by orthophosphate, and because groundwater provides significant baseflow to the affected streams, the listed groundwater bodies are also classified as being at Poor status. Restoration of groundwater is expected to be complete by 2015. This will be achieved by pollution prevention, restoration of impacted areas and sustainable development of groundwater resources. Basic measures which will be taken are in line with those proposed for the Baltray and mattock catchments. Supplementary measures proposed include;

- Integrating OSWTS risk matrices into local authority development plans
- Utilising local authority risk maps of OSWTS to inform decision making and target areas for inspections
- Establishing a national database of all site assessments
- Adopting a common RBD approach to site investigation, application of EPA Code of Practice
- for Single Houses for Single Housing
- Adopt a local authority common register of approved Site Assessors and common code of practice for maintaining the register
- Introduce local authority bye-laws regarding maintenance of OSWTS.

Within the area of landuse planning a number of supplementary measures have been identified to deal with Drogheda's problems. These include

- Developing groundwater protection schemes for supplies in Drogheda
- Developing a groundwater management plan for Drogheda
- Registering all abstraction wells in urban footprints, especially those used for human consumption, directly or indirectly
- Support further development of the SuDS evaluation tool
- Promote groundwater awareness and training in the planning process

Landfill Monitoring and Operation

Regular surface water monitoring is carried out at these sites as required by each particular waste licence and does include some of the parameters listed in the Dangerous Substances Regulations. Since the submission of the Measures Report in January 2004, no exceedances have been detected. The only active site is at Whiteriver, Dunleer and under the conditions of its licence, it cannot accept hazardous material. The cells have been designed, engineered, constructed and operated to the highest specification and Louth County Council doesn't anticipate any problems at this location.

Flooding

The Floods Directive

The frequency and intensity of flood events in Ireland and Europe generally has increased in the recent past and it is predicted that this situation will continue into the future. In response to this the EU has developed a directive on the assessment and management of flood risk ("Floods Directive"). The purpose of the Floods Directive is "*to establish a framework for the assessment and management of flood risks, aiming at the reduction of the adverse consequences for human health, the environment, cultural heritage and economic activity associated with floods in the Community*".

Each of these pressures may potentially impact directly or indirectly on the biodiversity of water dependent habitats and species. Wastewater discharges, runoff from agriculture, leachate from landfills and contaminated sites and nutrient input from forestry can all have detrimental effects on water quality resulting in subsequent impacts to biodiversity.

Widespread development on shorelines and floodplains, and the associated infilling of wetlands is a potential environmental problem within this. This can have a direct effect on dependent habitats, such as machair and turloughs. There is the potential for impacts to occur related to the sustainability of water supplies in light of development and growing demand in the County. Surface water abstraction can result in a direct impact on rivers and lakes and their associated flora and fauna. Indirect impacts may occur through abstraction of groundwater and the resultant effect of groundwater dependent habitats, such as alkaline fens and petrifying springs.

Flood Risk and County Louth

Climate change coupled with changes in river catchments will significantly impact upon flooding during the course of the Plan and beyond. Both urbanisation and changes in agricultural activities can significantly modify flows in streams, rivers drains and piped conduits. Climate change will impact significantly on peak river flows and tide levels.

Significant tracts of coastal lands in Louth are considered to be at risk from flooding as are areas adjacent to rivers and streams. In addition some areas located upstream of constrained open channels e.g. where streams have been culverted or outfalls tide locked; are at risk of flooding and developing these areas also may pose a significant risk to downstream areas. Equally the impact of constricting flow as part of a development may pose risk to upstream developments.

Threats to Water

The intensification of agriculture, particularly the spreading of animal slurry and farmyard wastes such as silage effluent and soiled water, and increases in population and septic tank effluent, have all led to an increased risk of pollution to groundwater and surface water systems, lakes, estuarine and coastal waters.

One Off Housing

New individual houses and housing clusters, reliant on septic tanks, threaten water quality. More people and increased household water usage have required bigger water supply schemes and produced larger volumes of wastewater to treat and dispose.

Additional homes mean the effective spread of urban areas and an increase in rural housing, with the associated threat of more water pollution. Pressure from abstractions can reduce flow in springs and lower water levels in lakes, wetlands and wells. This can make the water supply itself unsustainable and have an indirect impact on aquatic plants and animals as well as wetland areas. In extreme cases riverbeds may dry up, lakeshores can become exposed and, in coastal areas, salt water may intrude into groundwater.

Agriculture

Poor agricultural management can causes nutrients to be washed into ground and surface water. This results in contamination of water sources, making them unfit for human consumption and eutrophication where new forms of algae and plant life to grow. Protection of ground waters and surface waters from pollution by nitrates is becoming an issue of increasing significance and the EU Nitrates Directive (91/676/EEC) requires remedial actions in this regard. The presence of high levels of nitrate in soil is a health hazard as sources of drinking water can be contaminated. Nitrates can also contribute to eutrophication and this is particularly harmful to coastal / marine resources. Accordingly, areas of the county have been designated 'nitrate vulnerable' (i.e. groundwater contamination by nitrates outside the limits identified and a 'nitrates vulnerable' designation has been applied).

Water Supply

Water demand has increased significantly over the course of the previous plan. This has primarily driven by growth in the number of households, lifestyle changes and lower (house) unit occupancy. During the course of the new plan, it is likely that that a combination of legislative, administrative and operational constraints will further curtail the capacity to significantly increase abstractions from rivers and groundwater resources, which are in any case limited.

The Draft plan contains policy which will implement a programme of metering all existing and new developments to effectively manage water demand and in the case of non-domestic developments to facilitate charging for services in accordance with Article 9 of the EU Water Framework Directive.

Finally, the Plan has policy designed to protect existing surface and groundwater resources and in particular those that supply drinking water or offer the potential to be harnessed for supply of drinking water and to implement measures identified in Groundwater Source Protection Plan once finalised.

Future implementation measures include:

- Increased enforcement of the Waste Management and Water Pollution Acts and also Planning Law.
- Increased liaison with Town Councils regarding rogue discharges and licensing.
- Increased awareness/education – through existing website, leaflets, presentations, recruitment of an Environmental Awareness Officer.
- Consultation with interested parties – Farming Organisations, Anglers Groups, Public Bodies, Harbour Authorities, Industry.
- Continued farm surveys and in co-operation with the Eastern Regional Fisheries, carry out surveys of the River Glyde in 2006.

- Liaise with the Marine Institute for the testing and analysis of saline water samples

Threats to Waste Water Treatment

Although there has been considerable investment in wastewater treatment facilities during the current plan period (2003 – 2009), many small towns and villages still await facilities. The lack of such facilities will inhibit the implementation of the settlement strategy proposed for the county and the provision of such to cater for local demands must be addressed. In line with the 'polluter pays principle' all cost associated with programmed upgrading and expansion of these plants to cater for proposed developments will be recouped from developers. Investment priority will be determined by requirements to meet specific discharge quality requirements.

Evolution of Water in the Absence of a County Development Plan

In the absence of a county development plan for County Louth there would be no framework to provide the infrastructure which is necessary across the County to serve existing and proposed development such as waste water treatment plants and networks and water supply infrastructure. Failure to provide sufficient infrastructure for development would be likely to result in significant adverse impacts. For example, failure to upgrade and provide new waste water infrastructure would be likely to adversely impact upon water quality and indirectly significantly adversely impact upon biodiversity and flora and fauna, drinking water supplies and human health.

AIR AND CLIMATE

County Louth has a temperate climate with the difference between summer and winter conditions not displaying a huge variance in common with many areas close to the coast. The County does not experience the effects of proximity to the Atlantic Ocean which provides western areas of the State with more extreme weather events. The County is however noticeably colder than other areas of the east coast due to its northerly position. The county does not contain any synoptic weather stations. These stations monitor all aspects of climate on a daily basis. The nearest, relevant synoptic station is located at Dublin Airport. The county does however contain a number of climatological and rainfall stations. This is a denser network of stations which record amore limited selection of data, rainfall and in some cases maximum and minimum temperatures, usually once per day at 0900UTC (equivalent to GMT +1 hr) stations are currently located at Dundalk, Riverstown, Ardee and Mellifont.

Table 28: Monthly and annual mean extreme values Dublin airport 1961 - 1990

Temperature (degrees Celsius)	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**YEAR**
Mean daily max	7.6	7.5	9.5	11.4	14.2	17.2	18.9	18.6	16.6	13.7	9.8	8.4	**12.8**
Mean daily min	2.5	2.5	3.1	4.4	6.8	9.6	11.4	11.1	9.6	7.6	4.2	3.4	**6.4**
mean	5.0	.0	6.3	7.9	10.5	13.4	15.1	14.9	13.1	10.6	7.0	5.9	**9.6**
Absolute max	16.6	15.3	21.3	20.5	23.4	25.1	27.6	28.7	23.9	21.2	18.0	16.2	**28.7**
Absolute min	-9.4	-6.2	-6.7	-3.7	-1.0	1.5	4.8	4.1	1.7	-0.6	-3.4	-10.1	**-10.1**
Mean no of days with air frost	6.4	4.9	3.3	1.4	0.2	0.0	0.0	0.0	0.0	0.1	3.3	4.8	**24.3**
Mean no of days with ground frost	14.0	12.7	12.4	9.2	2.9	0.2	0.0	0.0	.=0.6	2.3	9.7	12.5	**76.4**
RELATIVE HUMIDITY %													
Mean at 0900 UTC	86	84	82	79	76	76	78	81	82	85	86	86	**82**
Mean at 1500 UTC	79	75	70	68	67	68	68	70	70	75	78	81	**72**
Sunshine (hours)													
Mean daily duration	1.8	2.5	3.6	5.2	6.1	6.0	5.4	5.1	4.3	3.1	2.4	1.7	**3.9**
Greatest daily duration	8.0	9.2	11.9	13.8	15.4	15.9	15.4	14.5	12.4	10.4	8.5	6.9	**15.9**
Mean no of days with no sun	11	8	5	3	2	2	1	2	3	6	8	11	**61**
RAINFALL (mm)													
Mean monthly total	69.4	50.4	53.8	50.7	55.1	56.0	49.9	70.5	66.7	69.7	64.7	75.6	**732.7**
Greatest daily total	30.3	31.3	35.7	26.2	30.0	46.6	34.8	60.2	40.9	47.5	55.1	41.7	**60.2**
Mean no of days >=0.2mm	18	14	16	14	16	14	13	15	15	16	16	18	**185**
Mean no of days >=1.0mm	13	10	11	10	11	10	9	11	10	11	11	12	**128**
Mean no of days >=5.0mm	5	3	3	3	4	4	3	4	4	4	4	5	**48**
WIND (knots)													
Mean monthly speed	12.2	11.7	11.6	9.7	8.7	8.0	8.1	8.0	8.9	9.9	10.8	11.8	**9.9**
Max. gust	75	73	61	60	58	55	54	56	64	73	64	71	**75**
Max mean 10 min speed	48	49	42	41	39	36	34	41	35	45	43	47	**49**
Mean no of days with gales	2.1	1.1	1.2	0.3	0.3	0.1	0.0	0.3	0.2	0.5	0.7	1.4	**8.2**
WEATHER													

(mean no of days with…..)													
Snow / sleet	6.0	5.5	4.3	1.7	0.3	0.0	0.0	0.0	0.0	0.1	0.9	2.9	**21.6**
Snow lying at 0900 UTC	2.1	1.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	**4.5**
Hail	0.7	0.9	2.2	2.4	1.4	0.3	.1	0.1	0.0	0.2	0.5	0.8	**9.5**
Thunder	0.1	0.1	0.2	0.3	0.6	0.7	0.7	0.6	0.3	0.3	0.1	0.1	**4.1**
Fog	4.8	4.3	3.9	4.5	3.6	3.1	3.6	5.3	4.9	4.7	4.0	3.9	**50.5**

Air Quality

The European Union introduced a new approach to the monitoring, assessment and management of air quality in 1996 when it introduced a framework directive on air quality (96/62/EC, 2nd September 1996). The basic principle of the framework directive is that each country should be divided into zones and that the monitoring, assessment, management and reporting of air quality will be undertaken in relation to these zones. For the purposes of the directive, Ireland has been divided into four zones:

- Dublin (Zone A),
- Cork Urban Area (Zone B),
- Specified population centres >] 15,000 inhabitants including both Drogheda and Dundalk (Zone C)
- Non-urban areas (Zone D).

Limit values are set for each individual pollutant which needs to be met by a specific attainment date. Upper and lower assessment thresholds are also set for each pollutant, assessment thresholds are levels below the limit value, used solely in the determination of the level of monitoring needed for that pollutant in a particular zone. The extent of monitoring in any zone is determined by population size and air quality status. Measurement is mandatory in agglomerations (population >250,000) and where concentrations are above the lower assessment threshold. The greatest monitoring effort applies if concentrations are above the upper assessment threshold. Less intensive monitoring is required when concentrations are between the two assessment thresholds.

Limit values, assessment thresholds, measurement techniques and other specifics for each pollutant are defined in a series of daughter directives. The first daughter directive was adopted in April 1999 (1999/30/EC) and covered SO2, NOX, particulate matter and lead. The second daughter directive was adopted in November 2000 (2000/69/EC) and covers CO and Benzene. The directives were transposed into Irish law as the Air Quality Standard Regulations 2002 (S.I. No. 271 of 2002).

To comply with the directive the Environmental Protection Agency uses mobile laboratories to carry out assessments in areas with no history of air pollution measurements. These trailers contain a number of specialized instruments utilized in effectively measuring air quality at individual locations and under the parameters set by the directive. The instruments continuously measure and record concentrations of the pollutants including sulphur dioxide, nitrogen oxides, carbon monoxide, benzene, toluene and xylene.

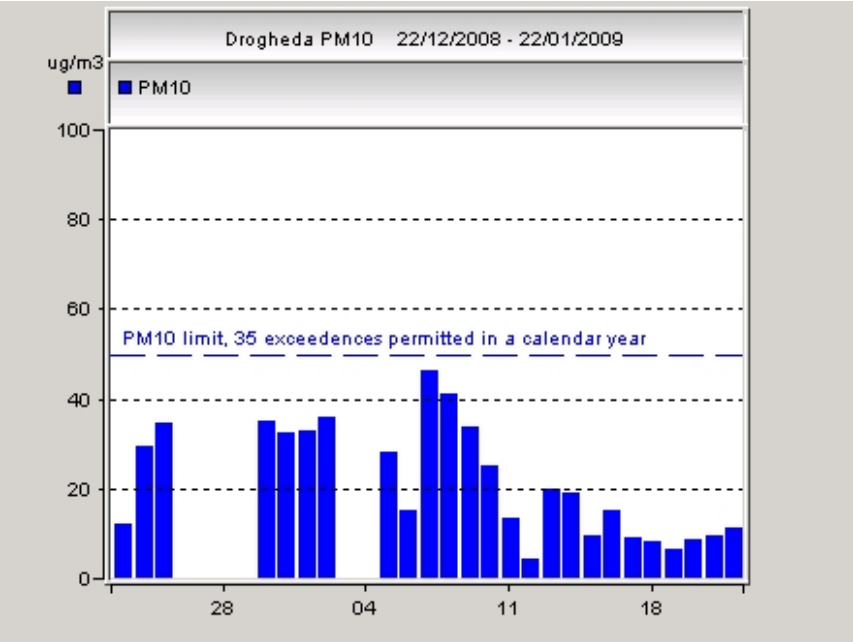
Air Quality Monitoring Stations

The EPA carried out air quality monitoring and assessment at sites in Drogheda, Dundalk and Kiltrough, County Meath over the period 2001 – 2006. The site in Dundalk was to the rear of the town fire station east of the town centre. The site in Drogheda was in the heart of the town to the rear of the Borough Council offices whilst that of Killtrough was in a rural area approximately three miles south of Drogheda. None of the sites remain operational. Ongoing monitoring continues to be carried out at the Drogheda North station. The Drogheda North site is located on the Termonfeckin Road, a rural area 3 miles north of Drogheda town centre. Monitoring is done using a continuous monitor for PM10. The table below illustrates results for the station

Drogheda North Ongoing Monitoring Results

The measurement units are microgrammes per cubic meter. The Graph shows the latest available results. The PM10 limit of 50 ug m-3 is deemed breached if more than 35 exceedances have occurred. There were five (5) exceedances to in 2008.

Table 29: Drogheda North air Quality Monitoring Results: December 2008 – January 2009



Air Quality Drogheda

An assessment of air quality was carried out in Drogheda, Co. Louth from 19th February 2002 until 3rd January 2003. Concentrations of carbon monoxide, nitrogen dioxide, sulphur dioxide, benzene and lead were below their respective lower assessment thresholds. The limit value for PM10 was not exceeded when the allowed margin of tolerance was taken into account. The limit value does not come into force until 2005. The directive allows the limit value for PM10 to be exceeded by a margin of tolerance which is defined as a percentage of the limit value which reduces at twelve monthly intervals to reach 0% on 1 January 2005.

Air Quality Dundalk

An assessment of air quality was carried out in Dundalk, Co. Louth from December 17th, 2001 to July 29th, 2002. No limit values were exceeded during the measurement period. Concentrations of carbon monoxide, sulphur dioxide, nitrogen dioxide, benzene and lead were below their respective lower assessment thresholds. Levels of PM10 exceeded the upper assessment threshold for this parameter.

Coastal Erosion

The coastline along the county is exposed to strong wave action and tidal surges which occur in the Irish Sea. This factor combined with the sandy and gravel coastal soils, leaves the coastline vulnerable to erosion. Due to the nature of the Irish Sea, the largest waves will arrive at the County Louth coastline from an easterly direction. This was the case during a series of severe storms in February 2002 when considerable flood dame was caused in parts of the county. Following this event, Louth Local Authorities commissioned a study of the erosion patterns along the complete 92km of the coastline which highlighted the extent of erosion and protection measures required. A total of thirty one sites were identified for further study. The combined length of these sites was some 40km. The study identified those areas of the coast where the risk of exposure to wave attack was highest. The following table gives details of these sites.

Table 30: Coastal Site Vulnerability to Wave Action

Coastal Location	Exposure Risk
Whitestown	Moderate – High
Templetown Beach – Shelig Hill	High
Giles Quay	High
Salterstown - Coorstown	High
Castlebellingham - Linns	Moderate – High
Annagasson	Moderate – High
Dunany	High
Port	High
Cruisetown – Reyoldstown	High – Very High
Clogherhead	High – Very High
Ganderstown	High – Very High
Seapoint Residential	High – Very High
Seapoint Golf Club	High – Very High
Baltray Dunes	High

The remaining eleven (11) sites assessed during the study presented risks levels ranging from low to sheltered to moderate.

The study produced a brief synopsis of the exposure to coastal erosion, a description of the then, nature of the coast and associated erosion problems followed by an assessment of the priority for additional coastal defence works required.

Flooding

The Office of Public Works in consultation with the Department of the Environment Heritage & Local Government and other relevant stakeholders have produced comprehensive draft guidelines to enable Local Authority Planners, including those in County Louth, to contribute substantially to the management of flooding related issues. The draft guidelines are titled 'The Planning System and Flood Risk Management' and were issued in 2008. They place an onus on local authorities preparing development plans to integrate Flood risk management into spatial planning policies at all levels to enhance certainty and clarity in the overall planning process. The SEA process is to be harnessed as a mechanism with which the process of screening for flood risk and any further flood risk assessment should be aligned. A programme of catchment-based Flood Risk Management Plans (FRMPs) is currently being developed by the OPW. These plans will establish long-term strategies and programmes for managing flood risk within the relevant catchments. These may include identification of areas of floodplain importance for conveyance and natural storage and areas where flood risk management measures may need to be implemented. The preparation of development plans should have regard to FRMPs with respect to land use and future flood risk management measures.

Coastal Flooding

In the case of County Louth, one area of major concern lies with the County's extensive coastal exposure. A combination of high tides, waves, high winds and surges developed from low-pressure systems can lead to extensive flooding. Current predictions of climate change indicate that the risk of flooding from the sea will increase in the future. Any area below current or predicted future peak sea levels, including areas behind existing defences that offer only a certain level of protection, are at risk from flooding in the future. At a more general level current predictions of climate change in Ireland indicate that winters will become wetter and the rainfall distribution 'stormier', and that sea levels will rise. This would mean that areas not currently prone to flooding may be at risk from flooding in the future.

Irish Coastal Protection Strategy Study (ICPSS)

The Department of Agriculture, Fisheries and food is currently engaged in a detailed study of possible coastal flooding scenarios for the entire Irish coast. The study entitled the Irish Coastal Protection Strategy Study (ICPSS) will examine how to best manage the risks associated with Coastal Flooding and Erosion. Among other aims the study will develop a GIS based coastal database, identify extreme flood outline scenarios for individual locations, the identify indicative flood plains, identify erosion risk outlines for the years 2030 and 2050, provide an economic assessment of assets at risk from coastal flooding and erosion, develop a storm surge prediction model, and a coastal flood warning system. The draft ICPSS reports are to be issued for consultation with local authorities during the course of the development plan period.

Climate Change

Human-induced climate change is a global issue and is the primary environmental challenge of the twenty first century. Increased levels of greenhouse gases such as carbon dioxide are contributing to the natural greenhouse effect and accelerating irreversible changes in the climate. What is distinctive about the current period of global warming, compared to previous cycles of climate change, is the extent and rate of change, which exceeds natural variation. The impacts of climate change present very serious global risks and threaten the basic components of life, including health, access to water, food production and the use of land. As the earth gets warmer the damage from climate change will accelerate. In Ireland transport is by far the fastest growing sector, with emissions more than double what they were in 1990. Irish per capita emissions of greenhouse gases remain among the highest in Europe, reflecting both the large contribution from agriculture and the almost total reliance on the private car and road haulage to meet transport needs.

National Greenhouse Gas (GHG) Emissions

Total Greenhouse Gas emissions in 2007 were 69.205 million tonnes carbon dioxide equivalent (Mt CO2eq), which is 0.477 Mt CO2eq (0.68 percent) lower than the level of emissions in 2006.

Transport continues to be the dominant growth sector with emissions at 650,000 tonnes CO2eq higher in 2007 than in 2006. This represents a 4.7 percent increase on 2006 levels and 178 percent increase on the 1990 transport emissions. Road transport accounts for 97 percent of the transport sector emissions. The increase in the GHG emissions from the transport sector reflects sustained increases in fuel consumption with petrol usage up 1.9 percent and diesel consumption up 7.4 percent from the previous year. Other significant sources of emissions include energy where there was a decrease of 616,000 tonnes CO2eq for energy industries, which follows a similar decrease in the previous year. Emissions were down 4.0 percent on 2006 and 27.4 percent higher than in 1990. In the case of energy, displacement of oil by natural gas largely accounts for the decrease in emissions in energy in 2007. The agricultural sector decreased it's emissions by 740,000 tonnes or 3.8 percent in 2007, continuing the downward trend from the 1998 peak. Lower sheep and cattle numbers coupled with reduced use of fertiliser resulted in the lower emissions from the agriculture sector. In the residential sector, emissions in 2007 decreased by 227,400 tonnes CO2 eq or 3.1 percent from the 2006 level.

Under the Kyoto Protocol, Ireland has committed to limiting the increase in greenhouse gas emissions in the period 2008-2012 to 13 per cent above its 1990 levels. This can be achieved through an emissions reduction programme, and acquisition of emissions allowances that can be purchased from countries that have successfully reduced emissions. Current levels of Irish greenhouse gas emissions are approximately 25 per cent above 1990 levels. For the period beyond 2012, the EU Council of Ministers has recently committed to achieving at least a 20 per cent reduction of greenhouse gas emissions by 2020, compared to 1990 levels. The Council also agreed to extend this target to a 30 per cent reduction if other developed countries commit to comparable reductions. Ireland's share of the reduction target has yet to be agreed. The National Climate Change Strategy has set a range of targets to be progressively attained by 2020.

It incorporates the commitments outlined in the Government's White Paper on Delivering a Sustainable Energy Future for Ireland and the National Bioenergy Action Plan. These include a target of 12 per cent renewable energy share in the heating sector; achieving a 10 per cent penetration of biofuels in road transport; achieving 33 per cent of electricity consumption from renewable energy sources; installing 500MW ocean energy capacity and achieving 800MW from combined heat and power.

Threats to Air and Climate

Ireland in general and Louth in particular will not be immune from the effects of climate change. In County Louth's case this could include greater risks of coastal flooding due to sea-level rises and storm surges; water shortages, more intense rainfall events; and impacts on agriculture and biodiversity. These changes are reflected in ecosystem changes, with an increase in the growing season and greater numbers of warmer latitude fauna being evident in Ireland and its surrounding waters. Over the coming decades and through to the end of the century, predicted negative changes include an increase in the pace of sea-level rise, which has increased from 1.8 mm per annum in 1961 to 3 mm per annum in 2005, resulting in a projected sea level rise of between 18 cm and 59 cm this century. The predicted effects will also signal more intense storms and rainfall events, the increased likelihood and magnitude of river and coastal flooding, increased storm surges, water shortages in summer in the east including county Louth, the need for irrigation of crops, negative impacts on water quality, changes in the distribution of species and existing biodiversity, and possible extinction of vulnerable species which normally require cooler conditions

Transport Emissions

As detailed above, the largest increases in CO2 emissions have taken place in the transport sector. CO2 emissions from transport sources, which are largely accounted for by road traffic in Ireland, increased by 170 per cent between 1990 and 2006, due to sustained growth in the numbers of passenger cars and goods vehicles and in the associated consumption of automotive fuels. The dependence on private road transport utilizing internal combustion engines has also contributed to localized air quality deterioration within the State although this is not as yet a significant problem within County Louth.

Power Generation Emissions

As electricity demand increased steadily during the 1990s, emissions in the energy sector increased by 53 per cent from 11.8 Mt in 1990 to 18.2 Mt in 2001, reflecting the continued heavy reliance on carbon-intensive fuels for electricity generation in Ireland. Significant gains were then achieved through energy efficiency, replacement of peat-fired power plants and fuel switching, as some new electricity producers entered the market in 2002 and 2003, with the result that CO2 emissions from energy industries reduced to 15.6 Mt in 2006.

Residential Emissions

Residential fuel combustion is another important source of emissions. Although residential energy consumption increased by about 17 per cent from 1990 to 2006, the CO2 emissions in this subsector show a decrease of 1 per cent due to the decline in the use of carbon-intensive fuels, such as peat and coal, and greater use of oil and natural gas.

Agricultural Emissions

Within agriculture large livestock populations, principally cattle produce significant GHG emissions annually both through the digestive process and through manure management. Overall agriculture emissions have decreased by almost 12 per cent from their peak in 1998.

Waste Emissions

The waste sector remains an important source of emissions, due to the continued dominance of landfill as a means of solid waste disposal in Ireland. The downward shift in the level of emissions after 1995 reflects the effect of landfill gas utilization at a number of sites since then and a further contribution from gas flaring from 2001. The rate of economic growth decreased after 2000; this, together with the closure of some industrial plants and the continued decline in cattle populations and fertiliser use, resulted in stabilization of emissions overall.

Alternative Power Generation

Wind Energy Capabilities

The increased use of renewable energy sources to supply national energy requirements is a priority at both national and European level. Several high level policy documents have made the harnessing of renewable resources a priority. In particular the use of wind energy is viewed as highly appropriate for Ireland given that it is the second windiest country in Europe, after Scotland. The Green Paper on Sustainable Energy (2006) stressed the need to increase the percentage of electricity generated from renewable sources from 6% in 2000 to 12% by 2005. This included the installation of an additional 500 MW of electricity generated from renewable sources by 2005, mainly wind power. The National Climate Change Strategy outlines the strategy to meet Ireland's commitment to limit greenhouse gases emissions to a 13% increase over 1990 levels by 2008-2012. Some of the key points relating to renewable energy in the strategy include: The reduction of annual CO2 emissions by 1 million tonnes by 2010 through increased deployment of renewable energy; A review of the rate and structure of Energy Taxes, and fuel switching from coal to renewable energy including wind power. The National Development Plan 2007 – 2013 targets the re-enforcement and up-grading of electricity grid to accommodate increased use of renewable energy; supporting delivery of additional renewable energy supply (including the AER programme which gives wind energy companies a guaranteed market to sell power.

Wind Energy Potential and County Louth

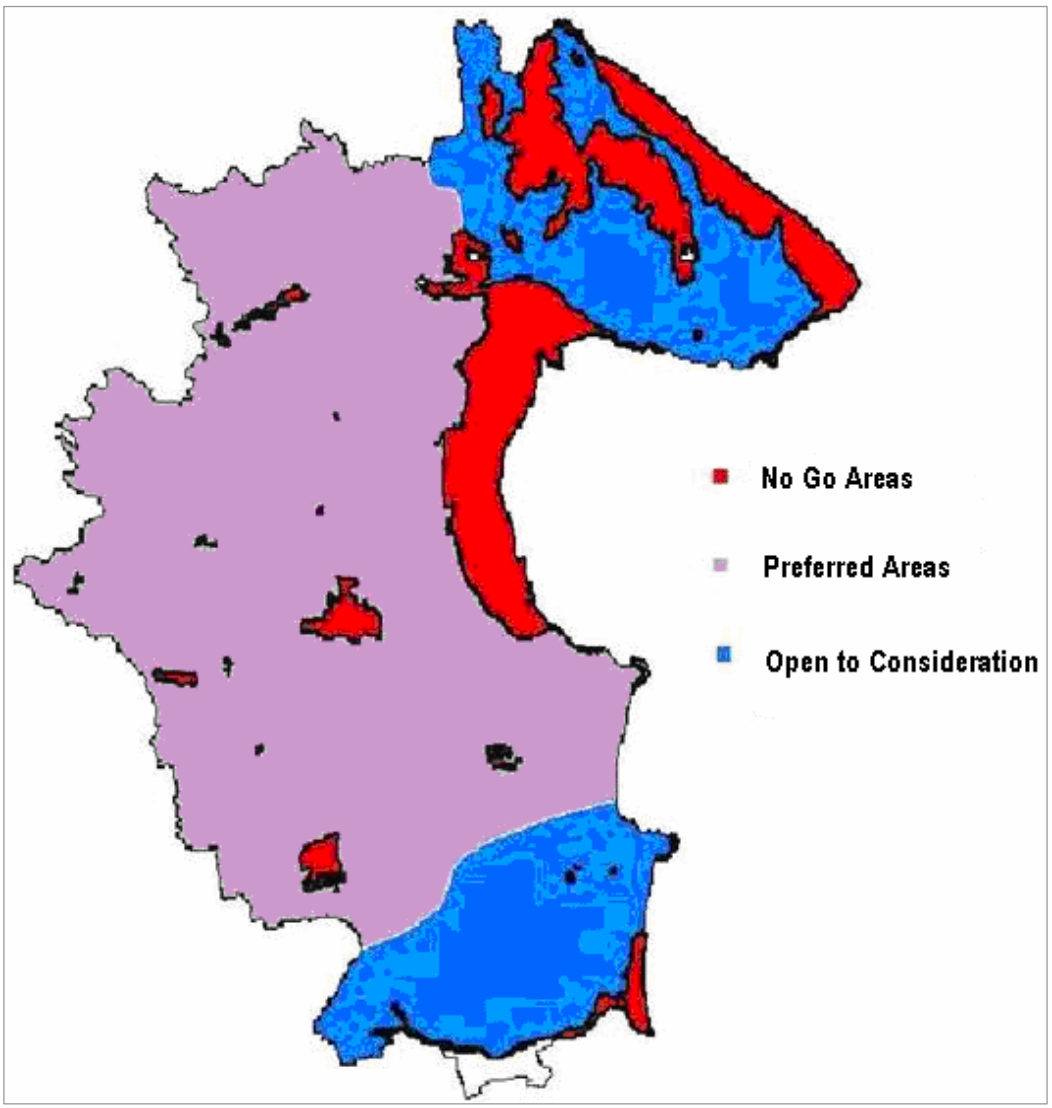
Within County Louth the level of wind turbine development has been low to date. Three sites are operational at Funshog, Ardee, Collon and in Dundalk within the Dundalk Institute of Technology Campus. The potential for further development is however, significant. In particular, the Cooley area presents obvious topographical advantages hampered however by the constraints presented by conservation designations, residential development and potential despoilment of the landscape.

The feasibility of putting wind turbines in the Cooley Lowlands area is a distinct possibility where the theoretical wind resource at 45 m above ground level is between 7.5-8.0 m per sec. This area would be sensitive to any large wind farm development because of the exposed nature of the landscape on the eastern edge of the peninsula where the face of the mountains is convex rather than concave.

Due to the density of rural housing and the number of small settlements in the area it would be difficult to find a site in the area remote enough to meet distance parameters in terms of flicker and noise. Wind farm proposals, if any, should be at the smaller end of the scale.

Practically the entire peninsula west of Carlingford Lough has a theoretical wind speed contour in excess of 7.5 m/sec with some areas above 9 m/sec. This would identify this area as the most viable area in the county using the wind resource criteria. Access to sites and to the E.S.B, grid would prove difficult in the higher areas which are largely designated as an S.A.C. Elsewhere in the south of the county, to the north and west of Drogheda the uplands of Collon and Monasterboice have some recognised potential for wind turbine development. A large part of the Collon area is between the 7.5 and 8 m/s wind speed contours. On the basis of this it might be expected that wind turbine development could be suitable within the area. The top of Fieldstown hill has also the same contour profile. Access to the latter site is difficult and landcover is at a minimum, making the Fieldstown site very sensitive to this type of development. In the Collon area, existing mature hedgerows along with trees would identify this area as being the least sensitive of the two.

Map 25: Wind Energy; Potential sites in County Louth



Ocean Energy Capacity

Ireland's offshore renewable energy resources have significant development potential and are considered as being among the best in the world, with the practicable wave energy resource estimated at more than 6000MW. To achieve this, the Marine Institute and Sustainable Energy Ireland, in partnership with the Department of Communications, Marine and Natural Resources, published the National Strategy for Ocean Energy to 2020. The aims of the strategy are to support the introduction of Ocean Energy to the Renewables 'portfolio' in Ireland and to develop an Irish Ocean Energy industry sector. The White Paper for Energy has targets of 500MW generated from ocean energy sources by 2020.

Ocean Energy and County Louth

In County Louth there is potential for the development of power generation through ocean energy principally in the Carlingford Lough area. A private company based in Greenore on the Carlingford Peninsula is currently progressing option in this area.

Evolution of Air and Climate in the Absence of a County Development Plan

In the absence of a County Development Plan for Louth there would be no framework for the location of new development and as a consequence development would be likely to occur in a piecemeal fashion, spread out across wide areas. This would result in significant increases in travel related emissions to air. In the absence of a wind strategy for the County new windfarm developments would not be directed to the most appropriate locations and would have to be assessed on an application by application basis.

In the absence of a County Development Plan, the specific issues associated with climate change including flooding and coastal flooding would not be highlighted and development in areas at risk from flooding would continue unchecked thereby posing significant risk to human life, biodiversity and property.

MATERIAL ASSETS

Roads

County Louth is serviced by a dense network of roads comprising the M1 Motorway, National Primary, National Secondary, Regional and Local roads. The M1 / EO1 Euro-route was the first of the national Major Inter Urban (MIU) routes to be completed and provides motorway standard road from Dublin Port to the Northern Ireland Border, with County Louth at its centre. It replicates the north south orientation of the county and reinforces the strategic position of Louth at the centre of the Dublin Belfast Corridor.

M1 Motorway, Northbound

National secondary routes comprise the N51 (Drogheda – Navan), the N52 (Dundalk-Kells) and N53 (Dundalk – Castleblayney). They provide important links through the county to major settlements in neighbouring counties.

Table 31: Road Network Lengths

Road Type	Network Length
National Primary Roads (including Motorways)	34.2 km
National Secondary Roads	43 km
Regional Roads	206 km
Local Roads	988 km

Planned Major Road Network Enhancements

N 52 Ardee Bypass: This single carriageway road will provide a bypass of Ardee Town Centre for both the N2 National Primary Route and the N52 National Secondary Route. Both these routes form part of the Transport 21 Programme of upgrades. The N2 upgrades form a section of the Dublin to Monaghan and the Border project whilst the N52 upgrade is one of the National Secondary roads targeted for upgrade works. The N52 connects Dundalk Gateway to the Midlands Gateway and ultimately the Limerick / Shannon Gateway.

Ashborne to Ardee: This scheme will consist of 6km of dual carriageway which will bypass Slane village and incorporate a crossing of the River Boyne

Gateway and Hub Links

To the immediate west of the County, detailed planning in conjunction with Cavan and Monaghan County Councils is ongoing with a view to progressing upgraded links between the Dundalk Gateway and the Hubs of Cavan and Monaghan. The upgrade of these routes will provide links across the Border Region to the Gateways of Sligo and Letterkenny.

The Louth section of the Dundalk to Cavan (via Carrickmacross) route (R 178) will be upgraded during the course of the Plan as will that between Dundalk and Monaghan via the N 53 National Secondary Route

Map 26: Louth County Road Network

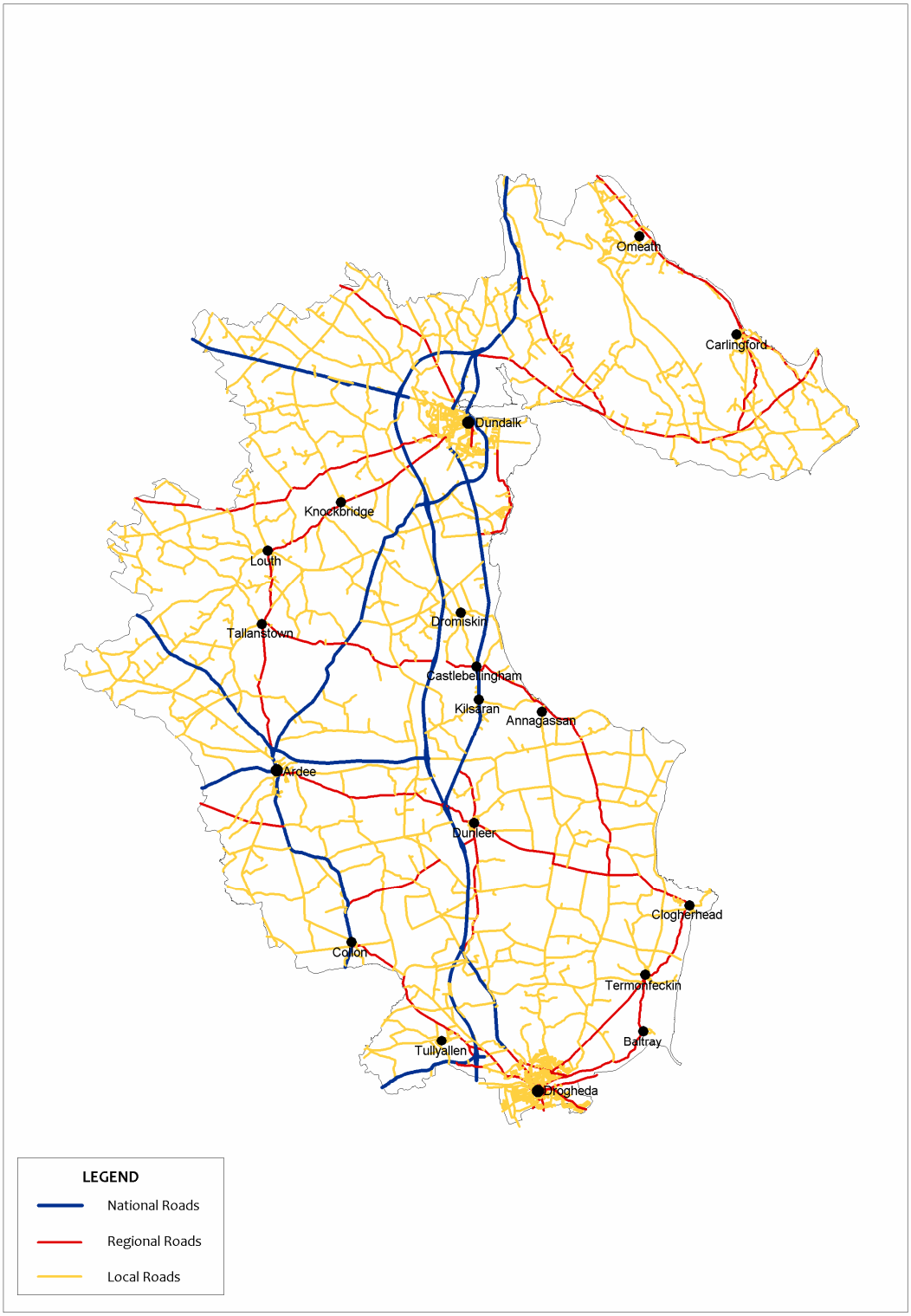


Table 32: Road Improvement Programme 2008 – 2015

Road Number	Location and Proposed Works	Status
N2	Ardee By-Pass	In Planning
N52	Ardee By-Pass	In Planning
N2	Ashbourne to Ardee	Preliminary Design
N51	Drogheda to Slane	In Planning
N53	Dundalk to Castleblaney Upgrade of Gateway to Hub Link	Part 8 Procedure

Table 33: Regional Routes

Road Number	Location and Proposed Works	Status
R178	Dundalk to Carrickmacross Upgrade of Gateway to Hub Link	Construction

Table 34: Strategic New Roads

Road Number	Location and Proposed Works	Current Status
	Port Access Northern Cross Route (Drogheda)	CPO confirmed
	Dundalk Western Infrastructure Relief Route	Design Stage

Table 35: Capital Works Programme

Road Number	*Location and Proposed Works*	Current Status
R173	Bellurgan and Omeath to Border	In Planning
R165	Shanlis to Lowtown	In Planning
R168	Hill of Rath to Collon	In Planning
R171	Ardee to Louth Village to Dundalk	In Planning
R 169	General Improvements	In Planning
R172	General Improvements	In Planning
R177	General Improvements	In Planning

Bus Network

The county is served by the national bus operator, Bus Eireann, the Northern Ireland Operator, Translink / Ulsterbus and three stage carriage private operators namely Halpenny Travel (Dundalk Area), Matthews Coaches (Dundalk – Drogheda – Dublin Express Services) and Air coach (Belfast – Newry – Dundalk – Dublin Airport). Bus Eireann operates a number of rural services originating from either Dundalk or Drogheda together with limited inter-county and long distance services.

Map 27: Bus Route Network (Public & Private)

Rail Network

The county is served by a single passenger rail link connecting Dundalk and Drogheda with Dublin and Belfast. Services to both are jointly operated by Iarnrod Eireann and Translink / Northern Ireland Railways. Iarnrod Eireann also operates frequent commuter services from Drogheda to Greater Dublin together with a less intensive service from Dundalk. A freight only rail link connects Drogheda with Navan, County Meath.

Ports

Louth is also home to a number of ports. Three ports operate commercially. These are at Dundalk, Greenore and the largest, Tom Roes Point outside Drogheda. There is a major fishing port at Port Oriel, Clogherhead with smaller fishing harbours at Carlingford, Annagasson. Smaller harbour and slip facilities also operate at Omeath, Greer's Quay, Gyle's Quay and Salterstown.

Telecommunications Infrastructure

Drogheda, Dundalk and Ardee benefit from the provision of high capacity Metropolitan Area Network broadband loops around their town centres.

BUILT AND CULTURAL HERITAGE

Libraries

Louth County Library provides a varied collection of stock with computerised access to over 250,000 items available through the countywide network of branch libraries in Dundalk, Drogheda, Ardee, Dunleer, Carlingford and the Mobile library service. Within Louth County Libraries there are over 30 Internet connections.

Louth Film Commission

The Louth, Newry & Mourne Film Commission is a Cross-Border support agency designed to encourage, develop and support media production in Louth County and South Armagh/South Down. In summary the film commission is responsible for compiling information on locations, extras, accommodation, crew, and funding available in the region. It has an on-line digital database of locations which is searchable by category. The commission markets itself to producers, location managers, the community, Film agencies and directors through advertising in trade publications, direct marketing, attending trade shows, and speaking at community events. The commission also provides services including finding locations, production offices, local crew, local permissions (road closures, filming in public areas et cetera) together with helping film and TV production from pre-production through to post production. Finally the commission is directly involved in creating innovative new schemes to bring public and industry interest to the region. This includes organising prestigious training events, competitions and bursaries.

Museums

The County Museum, Dundalk is located in a restored late 18th century warehouse in the Dundalk. Funded by Dundalk Town Council the museum opened in 1994 and offers an extensive programme of permanent exhibitions, temporary displays, drama presentations, music recitals, lecture and film. The Millmount Museum in Drogheda provides a significant resource for the south of the county centred on Drogheda itself.


County Museum, Dundalk

Archives

Louth County Archives Service was founded in 2000 as a result of the passing of the Local Government Act, 1994. It is a major repository for the public and private archives of County Louth. It holds, among others, the archives of Louth Local Authorities and their predecessor bodies. The Archives service is also a partner in a major project collating the joint, cross border achieves of Louth County Council and Newry and Mourne Council in Northern Ireland.

Arts

County Louth possesses four major arts venues spread evenly between the two major towns. These include in Drogheda, the Droicead Arts Centre and the Highlanes Gallery and in Dundalk, the Basement Gallery and An Tain Theatre.


Highlanes Gallery, Drogheda

Built Heritage

Built heritage includes physical buildings, structures and objects complete or in part, which have been left on the landscape by previous and indeed current generations. The heritage of County Louth is a unique resource which is fundamental to the cultural identity of the county and the quality of life of its citizens- it is central to how we see ourselves and to our identity as individuals and communities. Historic buildings can define a region's localities and communities and can become a focus of community identity and pride. An historic church or park, for example, can help define a neighbourhood and create a sense of local cohesion. Despite being the smallest county in Ireland, County Louth contains numerous high quality built heritage sites which belie its small geographical size.

The Archaeological Heritage

Recorded Monuments

The National Monuments Acts 1930 – 2004 provide for the protection of the archaeological heritage. The Record of Monuments and Places was established under Section 12 of the National Monuments (amendment) Act 1994 and individual archaeological sites and areas of archaeological potential are shown in this record. A zone of archaeological potential surrounds each monument. In some cases the areas are extensive and cover, for example, the historic core of the towns of Ardee, Carlingford, Collon, Dunleer, and Termonfeckin.

Archaeology is that part of our national heritage which provides tangible evidence of past societies. The archaeological heritage consists of known and as yet unidentified sites, monuments, objects and environmental evidence. The Department of the Environment, Heritage and Local Government National Monuments Section has the lead role in relation to the protection of the archaeological heritage.

Within County Louth there are some 2000 recorded monuments. In addition there are a number Areas of Special Archaeological Potential, which in some cases are extensive and cover, for example, the historic core of the town. These archaeological features are afforded protection under the National Monuments Acts.

Table 36: Areas of Special Archaeological Potential

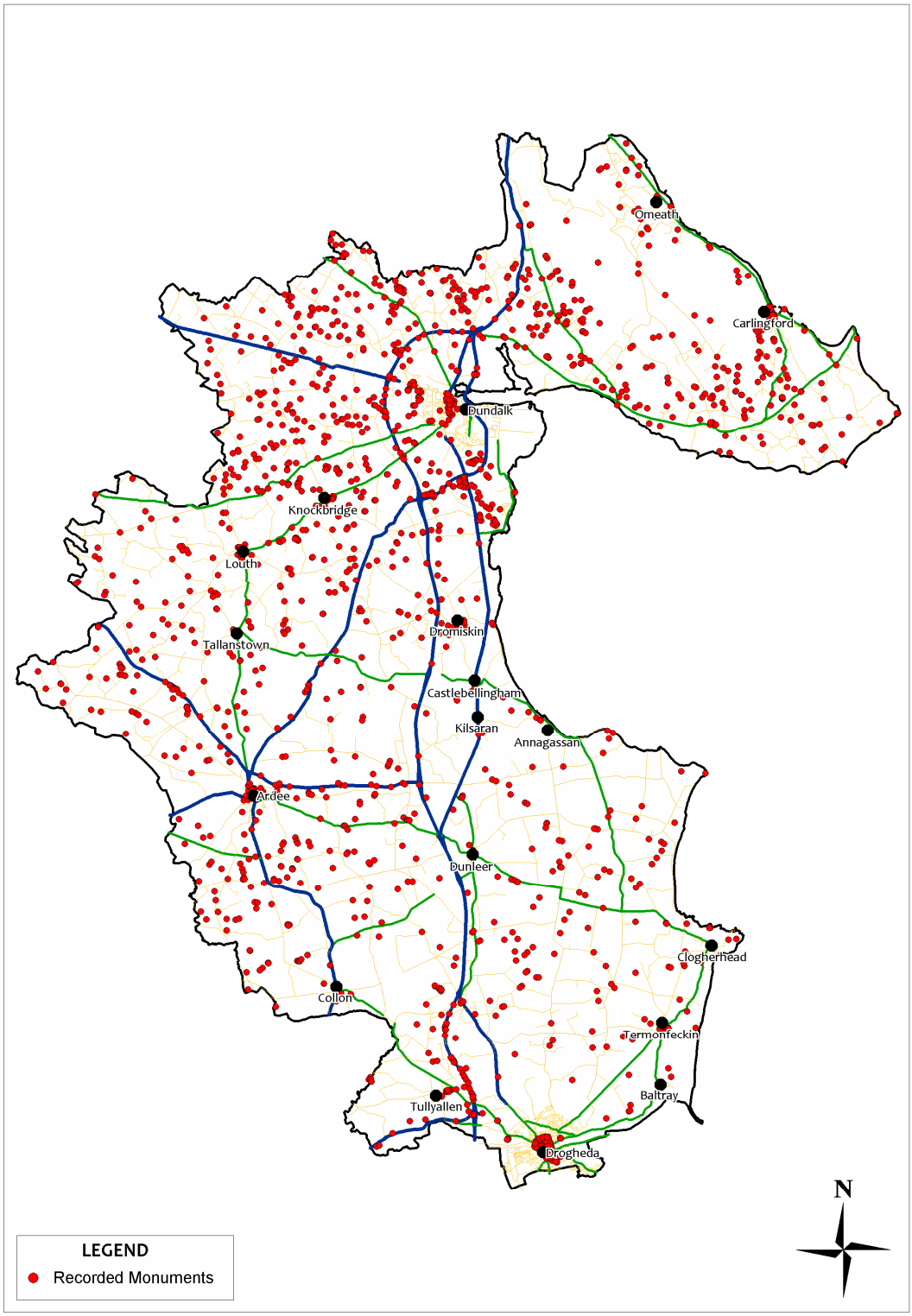
Ref.	Location
AR1	Ardee
AR2	Collon
AR3	Carlingford
AR4	Dunleer
AR5	Louth Village
AR6	Termonfeckin
AR7	Dromiskin
AR8	Grange
AR9	Castlering
AR10	Castleroche

St. Mochtas House, Louth Village

Preservation Orders

Under Section 8 of the National Monument Act 1930 (as amended) the Minister of the Environment, Heritage and Local Government, can place a preservation order on a monument, if in the Ministers' opinion, it is a national monument in danger of being or is actually being destroyed, injured or removed or is falling into decay through neglect. An updated list of all preservation orders in the county should be requested from the DoEHLG and included in the Plan.

Map 27: Recorded Monuments in County Louth



The Louth County Development Plan 2002 - 2009 contains policies and objectives for the protection of the Archaeological Heritage. These will be reviewed to ensure that they are consistent with current National Legislation and International Charters.


Barmeath Castle, Grangebellew

The Architectural Heritage

Protected Structures

The Record of Protected Structures (RPS) is contained in an appendix to the County Development Plan. Section 10(2) of the Planning and Development Act, 2000 makes the protection of architectural heritage mandatory. County Louth is fortunate in having a large number of structures that are considered to be of special interest. A number of these, including Townley Hall, Rokeby Hall, Barmeath Castle and Beaulieu House are of national importance. The County Development Plan 2003 -2009 contained a list of 359 protected structures and on the recommendation of the Minister for the Environment, Heritage and Local Government it is proposed to add 402. It is further proposed to delete 51 items.


Beaulieu House, Queensborough, Baltray

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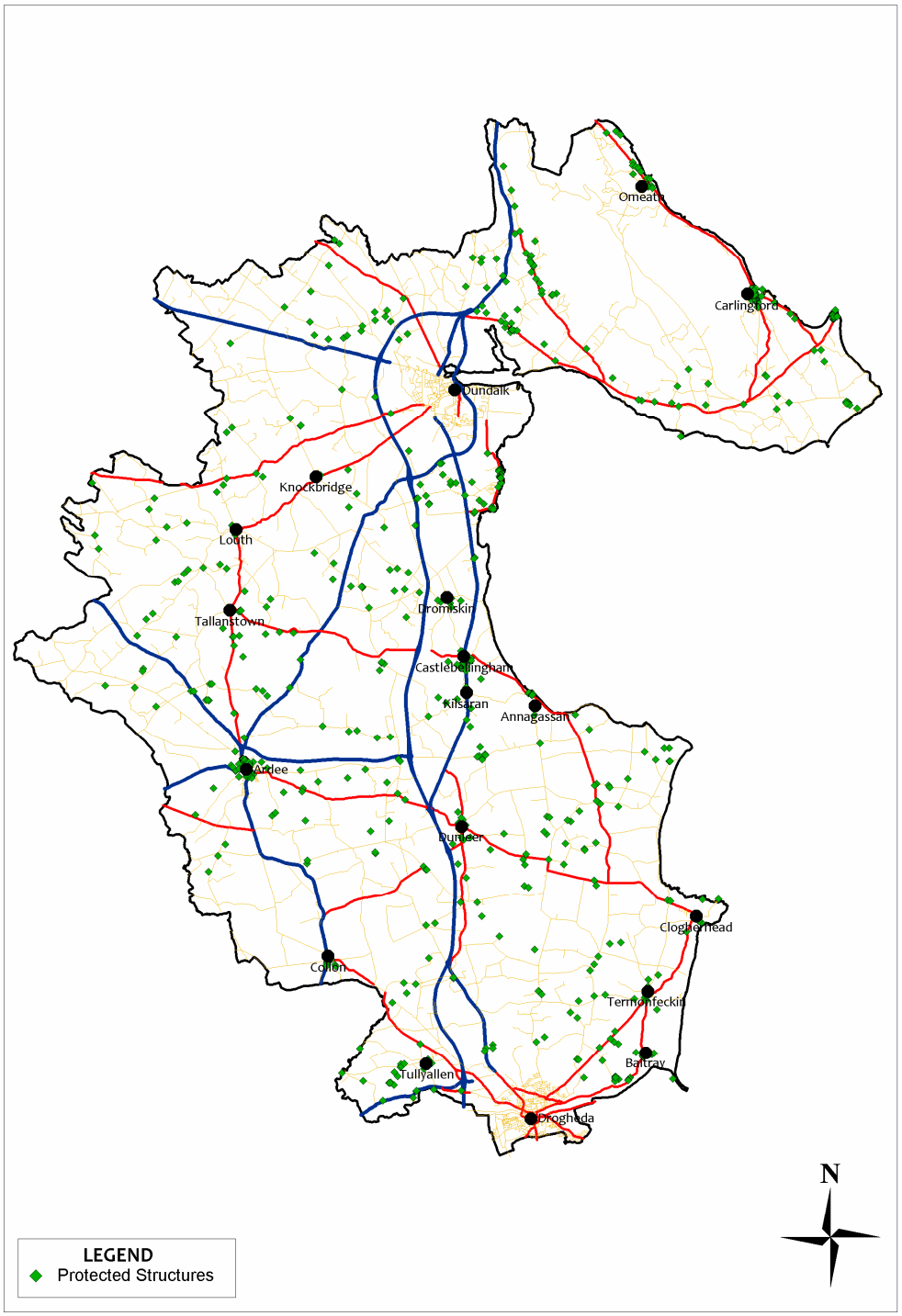
Map 28: County Louth Protected Structures



Architectural Conservation Areas

Section 81 of the Planning & Development Act places a statutory obligation on Planning Authorities that development plans must include objectives to preserve the character of areas that are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or contribute to the appreciation of protected structures.

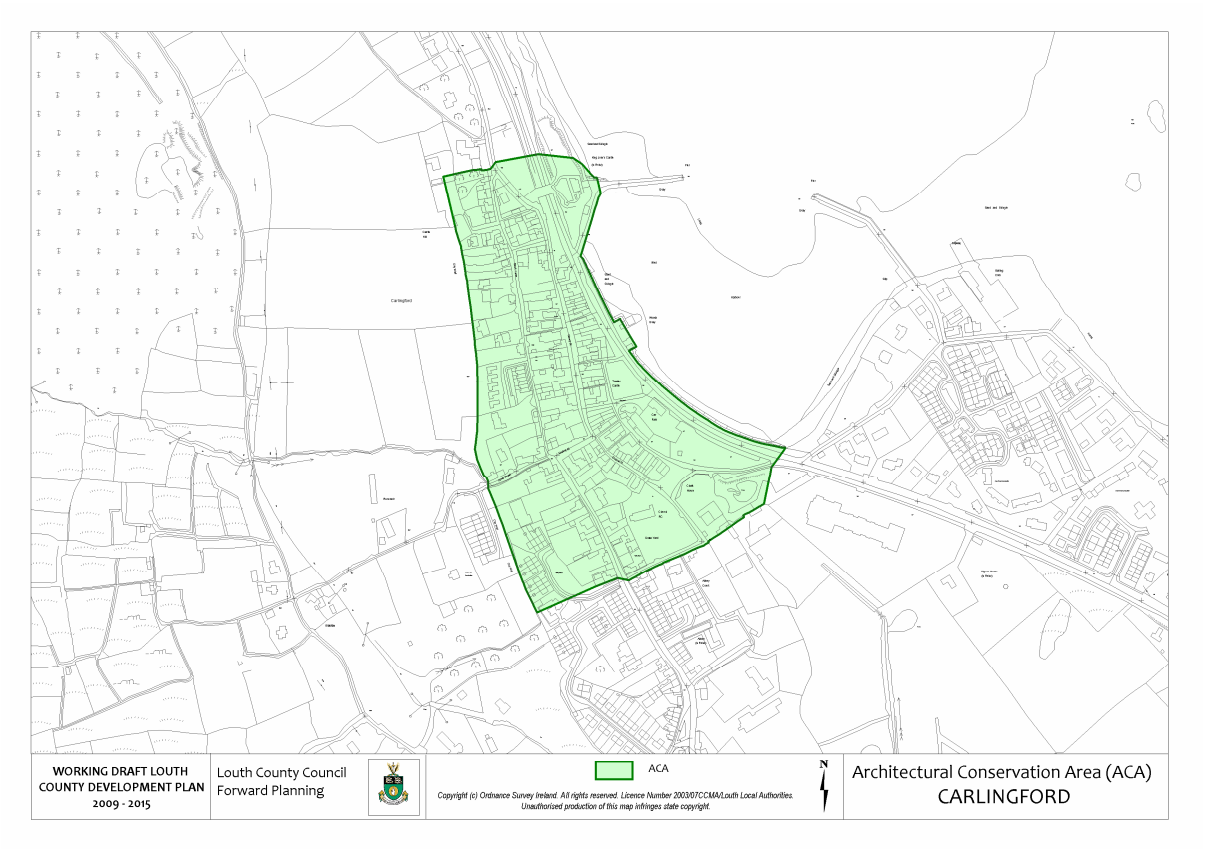
These areas are designated as Architectural Conservation Areas (ACAs). The Architectural Heritage Protection Guidelines for Planning Authorities section 3.6 states that the extent, special interest and a description of the character of an ACA should be identified in the development plan, by way of a map, description of the features of interest and architectural details and patterns of the area, and a statement of the objective to preserve its character.

The Planning and Development Act 2000 empowers the planning authority to designate Architectural Conservation Areas (ACA's) where the it is of the view that this designation is necessary for the preservation of the character of a place, area, group of structures or townscape which is of special interest or contributes to the appreciation of protected structures.

The Draft Plan proposes the following Architectural Conservation Areas:

- Salterstown
- Whitestown
- Newtown Monasterboice
- Collon
- Ardee
- Monasterboice – Monastic site
- Carlingford
- Castlebellingham
- Greenore

Map 29: Example of Architectural Conservation Areas in County Louth: Carlingford



Heritage Parks and Gardens

The National Inventory of Architectural Heritage has recently completed a survey of historic parks and gardens in Louth. It may be appropriate to seek the protection of any such historic designed landscape which is considered of particular importance or contributes to the setting of a Protected Structure, by means of ACA designation.


Smarmore House Gardens


Stickillin House Gardens

Bru na Boinne World Heritage Site

This area is designated as a World Heritage Site by UNESCO. While the majority of the WHS is within County Meath, part is in Louth. A joint Local Area Plan is to be prepared by Louth and Meath for the site. The County Plan should make reference to this LAP and contain objectives for the protection of site.

Historical Sites

Louth is a county steeped in myth, legend and history. It has held a place in many of the key periods, often of conflict, which have marked Ireland's history. The County is especially historically associated with the pre-historical legends of the Tain Bo Cuailnge (The Cattle Raid of Cooley) when Ulstermen fought those of Connacht in the Glenmore area of the Cooley Peninsula. Historical references from this period include Castletown Motte in Dundalk known as Chulainn's Castle. The settlement of Faughart (Fochairt) gets its name from associations with Cu Chulainn. Cu Chulainn, in legend, also fought Fherdia in Ardee at The Battle of the Ford where a statue now marks the event. Cu Chulainn is reputed to have died at Clochafarmore, Rathiddy near Knockbridge.

Anglo-Normans founded all the major towns in Louth. The first incursion of the Vikings onto Irish soil was in present day Annagasson, south of Dundalk. The settlement established there was known as Linn Duachaill and is now a national monument.

William of Orange's army spent winter 1689, prior to the Battle of the Boyne the following year, camped in Dundalk, Thousands of men were lost here as a result of the spread of infection. Their hospital ships were moored in Carlingford Lough.

Major Battle Sites

Viking era battles have been recorded across County Louth. Vikings and Irish fought at Narrow water, Carlingford Lough and at Monasterboice.

Edward Bruce (brother of Robert) came to Louth in the fourteenth to open a second Gaelic front against the Saxons. He burnt the parish church in Ardee, with the congregation inside. He was killed by the English of Ireland at the battle of Faughart in October 1318.

In the area commonly referred to as the "Gap of the North" or Moyry Pass in the Faughart area north of Dundalk, two skirmishes were fought during 1600 between Hugh O'Neill, Earl of Tyrone and the Elizabethan commander Lord Mountjoy. In this instance the Irish were victorious.

Within Drogheda, a major siege took place over the period 1641- 1642 when native Irish, principally from Ulster attempted to take the English (Royalist) held town. The siege occurred during the Irish Rebellion of 1641, when Phelim O'Neill and the insurgents failed to take the town

A second and more famous siege took place in 1649 during the Cromwellian conquest of Ireland, when the New Model Army under Oliver Cromwell took the town by storm and massacred its garrison, and many civilians.

West of Drogheda, one of the most important battles in European history took place in 1690 in and around Obelisk Bridge, Tullyallen. The Battle of the Boyne was fought between King William III and his father-in-law, King James II, was fought on 1 July 1690 (11 July according to our modern calendar). Approximately half of the battle site lies within County Louth

Both kings commanded their armies in person. William had 36,000 men and James had 25,000 - the largest number of troops ever deployed on an Irish battlefield. English, Scottish, Irish, Dutch, Danish and Huguenots (French Protestants) made up William's army (Williamites) while James's men (Jacobites) were mainly Irish Catholics, reinforced by 6,500 French troops sent by King Louis XIV. At stake were the British throne, French dominance in Europe and religious power in Ireland.

William's camp was on the north side of the river. James's was on the south side with the two armies facing each other. William's battle plan was to trap the Jacobite army in a pincer movement. He sent 10,000 men towards Slane which drew the bulk of the Jacobites upstream in response. With 1,300 Jacobites posted in Drogheda, only 6,000 were left at Oldbridge to confront 26,000 Williamites. All the fighting took place on the south side of the river as the vastly outnumbered Jacobite forces defended their position against the advancing Williamites. William himself crossed at Drybridge with 3,500 mounted troops. The pincer movement failed. King James's army retreated across the river Nanny at Duleek and regrouped west of the Shannon to carry on the war. Approximately 1,500 soldiers were killed at the Boyne.


Battle of the Boyne, Contemporary View

The area surrounding the Battle of the Boyne site is of international amenity and heritage importance and contains areas of the highest visual quality in County Louth. This area is very sensitive to all categories of new development, particularly housing, large agricultural structures, extractive industries, coniferous afforestation and masts or other tall structures which impinge from outside the visual envelope along the valley. There are a large number of views and prospects that are sensitive to inappropriate forms of development.

Other Historical Sites

Louth is a county steeped in myth, legend and history. It has held a place in many of the key periods, often of conflict, which have marked Ireland's history. The County is especially historically associated with the pre-historical legends of the Tain Bo Cuailnge (The Cattle Raid of Cooley) when Ulstermen fought those of Connacht in the Glenmore area of the Cooley Peninsula. Historical references from this period include Castletown Motte in Dundalk known as C Chulainn's Castle. The settlement of Faughart (Fochairt) gets its name from associations with Cu Chulainn. Cu Chulainn, in legend, also fought Fherdia in Ardee at The Battle of the Ford where a statue now marks the event. Cu Chulainn is reputed to have died at Clochafarmore, Rathiddy near Knockbridge.

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William of Orange's army spent winter 1689, prior to the Battle of the Boyne the following year, camped in Dundalk, Thousands of men were lost here as a result of the spread of infection. Their hospital ships were moored in Carlingford Lough.

Historical Routes

The Gap of the North / Moyry Pass or Slige Midluachra extended northwards towards Slane on the Boyne, through the Moyry Pass north of Dundalk, and round the base of Slieve Fuaid, near the present Newtown-Hamilton in Armagh, to the palace of Emain, and on to Dunseverick on the north coast of Antrim: portions of the present northern highway run along its site

The route has significant historical connotations and has always been very important to the entire island. The Gap of the North was a strategic route into Ulster and a major centre of power in ancient Ireland.

In early 2007, the Minister for the Environment, Heritage and Local Government announced that his Department was undertaking a major new study on the key battlefields of Irish history.

Vernacular and Streetscape Heritage

While some cottages, farm buildings, small vernacular townhouses, pumps, postboxes, gates, walls and railings of special merit may be on the Record of Protection Structures, many such structures are coming under increasing threat. The Local Authority should encourage the appropriate re-use of such structures in preference to their replacement or dereliction.

Threats to Built Heritage

Although the aforementioned cultural heritage is protected under legislation, impacts can still occur as a result of development. Development on sites adjoining protected monuments, places or structures can adversely impact upon the context of these cultural heritage items in both townscapes and landscapes if unmitigated against.

Previously unknown archaeology can be damaged as a result of development which causes ground disturbance. Development which involves material alteration or additions to protected structures can detract from the special character of the structure and its setting, and have the potential to result in the loss of features of architectural or historic interest and the historic form and structural integrity of the structure are retained. Encouraging and facilitating the accommodation of growth on brownfield sites will contribute to mitigating a number of the adverse impacts associated with greenfield development, however, brownfield development has the potential to significantly adversely impact upon cultural heritage - both archaeological and architectural - if unmitigated against. These impacts are most likely in heritage towns.

Evolution of Built Heritage in the Absence of a County Development Plan

In the absence of a County development Plan development would have no guidance as to where to be directed and planning applications would continue to be assessed on an individual basis with cultural heritage protected under a number of strategic actions relating to archaeological and architectural protection. Cultural heritage would be impacted upon by the nature of permitted applications.

LANDSCAPES

Landscape Character Assessment (LCA) is a process of assessment which focuses on characterisation of the landscape, based on its landcover, landform, historical, cultural, religious and other understandings. The LCA process concentrates on the distinctiveness of different landscapes and an understanding of how different kinds of development can be accommodated within them. The classification of each landscape character area is based on a matrix of the following factors:

1. Landscape quality – the interactions of the landscape and the condition of features and elements.
2. Scenic quality – landscapes which appeal primarily to the visual senses.
3. Rarity – the presence of rare features and elements in the landscape.
4. Conservation Interests – the presence of features and particular wildlife, earth science, archaeological, historical and cultural interest which can add to the value of a landscape as well as having value in their own right.
5. Wildness – the presence of wild character within the landscape which makes a particular contribution to sense of place.
6. *Recreational Opportunity – the degree of open-air recreation within the landscape in proximity to centres of population.*
7. Cultural association – with particular people, artists, writers, historical events, legends etc.
8. Tranquillity – relates to low levels of built environment, traffic, noise and where artificial lighting (public and private) is at a minimum.
9. Stakeholder representative – whether the landscape contains a particular character and/or features and elements which are felt by stakeholders to be worthy of representation (stakeholder describes the entire range of individuals and groups who have an interest in the landscape).

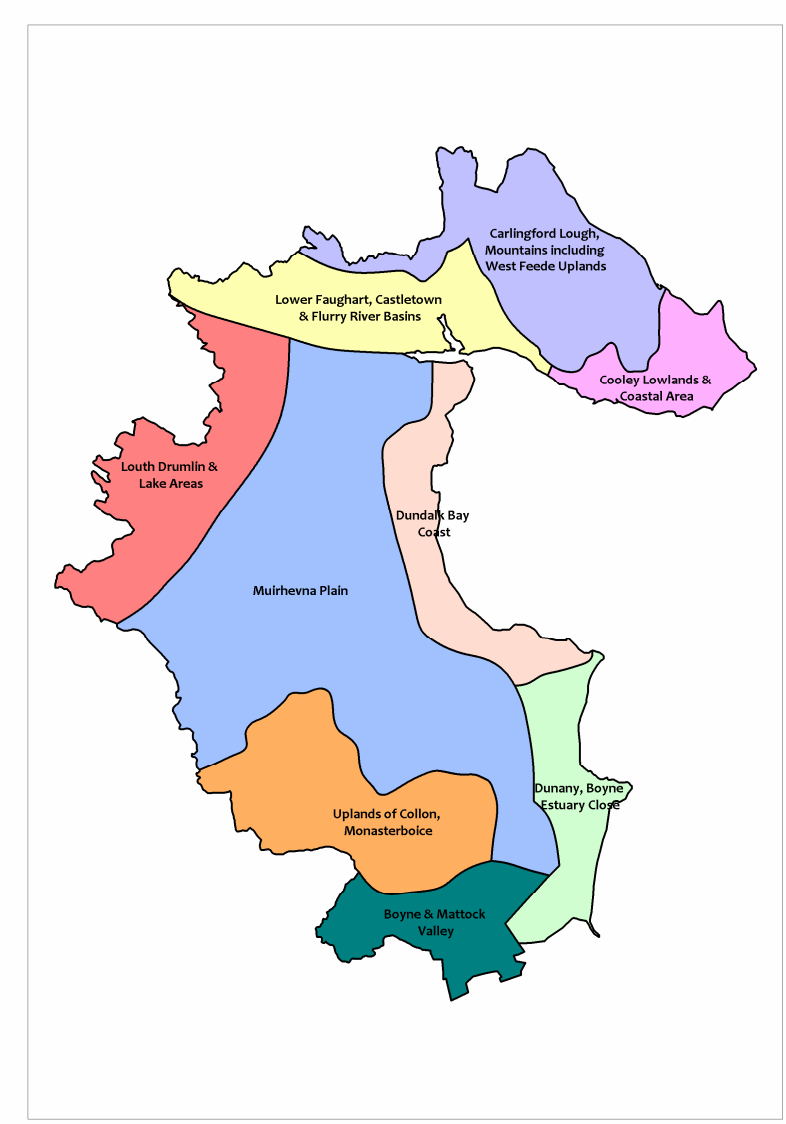
Louth County Council prepared a Landscape Character Assessment in 2002. This catagorised the County into nine (9) distinct landscape areas. The north of County Louth is defined by the mountainous uplands of the Cooley peninsula.

North West of this high ground the Drumlin Belt of southern Ulster, a result of the Ice Age, makes its appearance, creating a barrier between the northern Province and the rest of the country Between the Cooley Mountains and the southern hills, which separate the Boyne valley from the rest of the county, most of Louth is rolling farmland on a broad, well-watered coastal plain. Towards the south of the county, the land rises into low hills, such as Mount Oriel. The east of the county is defined by its extensive coastline stretching from Carlingford Lough to the Boyne estuary.

The distinct character areas are:

- Cooley Lowlands and Coastal Area
- Carlingford Lough and Mountains, including West Feede uplands
- Lower Faughart; Castletown and Flurry river basins
- Louth Drumlin and Lake areas
- Muirhevna Plain
- Dundalk Bay Coast
- Dunany, Boyne Estuary Coast
- Uplands of Collon and Monasterboice
- Boyne and Mattock Valleys

Map 30: County Louth, Landscape Character Areas



Landscape Character is defined as a distinct and recognisable pattern of elements that occur consistently in a particular type of landscape and how these are perceived by people. It creates the particular sense of place of different areas in the landscape. Landscape Character Areas are single unique areas, which are geographical areas of a particular landscape type or types. The Landscape Character Assessment carried for County Louth assessed each of the Character Areas for sensitivity. The sensitivity value of a landscape is the measure of its ability to accommodate intervention without suffering an unacceptable or detrimental loss or alteration of landscape character type.

Table 37: Landscape Area Classification

International	National	Regional	Local
1. Carlingford Lough and Mountains including West Feed Uplands	2. Boyne and Mattock Valley	3. Dundalk Bay Coast, 4. Dunany to Boyne Estuary Coast, 5. Uplands of Collon and Monasterboice	6. Cooley Lowlands and Coastal Area, 7. Lower Faughart. Castletown and Flurry River Basins, 8. Lake Drumlin & Lake Area 9. Muirhevna Plain

Threats to Landscape

While recognising that landscape is a constantly evolving entity, the most significant impact of development on the landscape relates to its visual impact. In areas of the County with high landscape sensitivity, the capacity to accommodate development without adverse impacts on the environment is limited. New developments in the landscape, may of itself not have an adverse visual impact, however, the cumulative impact of many similar developments would have the potential to adversely affect the landscape. The areas of intervention likely to impact upon the landscape include one off housing ,climate change, population growth or decline, agriculture, forestry, rural housing, new road projects, industrial and commercial developments, tourism and recreation developments, overhead power lines, telecommunication masts, and wind turbines

Evolution of Landscape in the absence of County Development Plan

In the absence of a County Development Plan there would be no framework for directing housing to appropriate locations and it is likely that applications for individual new dwellings would increase as would the likelihood that landscapes with high sensitivity would be negatively impacted upon. It is also likely that the character of some landscape types could be altered in the absence of a plan.

Pressure for development along the coastline, particularly where there is pressure for second homes and tourism related developments, is likely to change the character of coastal areas, with negative impacts on the environment.

It is also likely that in the absence of a County Development Plan that windfarm applications would be considered on a case by case basis and not directed primarily to strategically suitable areas.

Chapter 7

Assessment of Alternatives and Selection of Preferred Scenario

Evaluation of Alternative Plan Scenarios against Strategic Environmental Objectives

The objective of this section is to determine the relative merits of a range of alternative scenarios for the development of County Louth under a defined range of types of plan regimes. This determination seeks to understand whether each alternative was likely to improve, conflict or have a neutral interaction with the provisions of the Plan as well as the certainty of that interaction.

Description of Alternative Plan Scenarios Considered

The following alternatives were formulated and assessed as part of the making of the Draft Plan:

1. Laissez Faire / Reactive Approach
2. Settlement Led Planning Approach
3. Environmental Lead Planning Approach

Laissez Faire / Reactive Approach

This approach would involve minimal intervention in terms of strategic planning. It would involve allowing development to follow market forces to a great extent and would take a short term planning approach. It would most likely lead to a highly dispersed settlement pattern and would lead to a weakening of towns and villages. Development would not be directed towards properly serviced, robust receiving environments. Instead, development would be dealt with as it arises on an ad-hoc basis.

Laissez Faire / Reactive Approach – Likely Outcomes

- Negative impact on towns and villages in term of their vitality and the viability of service provision such as waste water treatment, water or public transportation.
- There is likely to be a significant long-term adverse impacts on the quality of life within the county due to the of loss of viability of services in settlements across the County.
- Ad-hoc development patterns will become more pronounced with continued and growing pressure on the edge of Dundalk and Drogheda as well as most of the smaller towns and villages.
- Established car based travel patterns would be accentuated due to the lack of commercial and operational viability for public transport operators
- A notable increase in ribbon development patterns particularly emanating from existing towns and villages.
- Demand for the uneconomic extension of community services and facility.
- The coalescence of certain towns and villages.
- Provision of services and facilities in an unplanned way - as the need arises.
- Lack of clear guidance to developers in terms of the preferred location for development with increased risk of difficulties in terms of securing desirable development and securing planning permission.
- Less public involvement in terms of determining the future development of the county.
- Lack of integration with other development plans and programmes at local, regional, national and international level.

- A significantly increased risk of non-compliance with the Water Framework Directive
- Damage to environmentally sensitive areas and potential further loss of biodiversity
- Negative impacts on cultural heritage.

Settlement Led Planning Approach

A settlement based approach is one aligned to the National Spatial Strategy and the Border Region, Regional Planning Guidelines settlement strategy. In this scenario, the County Development Plan would concentrate critical mass and promote the development of the Gateway (Dundalk) and Primary Development Centre (Drogheda) as priorities for investment and as key employment areas. Both towns would be supported by surrounding smaller towns, villages and rural areas. Ardee and Dunleer would function as medium sized towns for urban strengthening performing important service roles for mid Louth. Elsewhere, the towns / villages of Collon, Castlebellingham, Kilsaran, Dromiskin, Dunleer, Knockbridge, Louth Village, Tallanstown and Tullyallen would act as urban supports for the Gateway and Primary Development Centre. In addition, the special commercial and tourist roles of the various coastal towns / villages in County Louth would be recognised and promoted. These centres include Baltray, Termonfeckin, Carlingford Clogherhead and Omeath. Finally measures would be put in place to address the 'one-off' housing form of development. This policy will recognise the irreparable damage that will be done to the environment by such housing, particularly when it is urban generated rural housing whilst also recognising and facilitating the legitimate aspirations of those brought up in the countryside to continue to live within their own communities in line with government guidance on Sustainable Rural Housing (2005)

This approach would involve the implementation of a long-term strategic planning approach, marked by a strong role for Drogheda and Dundalk and to a lesser extent, Ardee and Dunleer. Development in areas outside serviced centres and within environmentally sensitive areas would be contained. In particular it would have a strong focus on the development of Dundalk and Drogheda as engines for economic growth. This approach would be marked by focusing on the provision of improved and increased infrastructural services and facilities in and between the larger towns and directing development towards these centres.

Settlement Led Planning Approach – Likely Outcomes

- Present opportunities for stronger economic growth in both Drogheda and Dundalk.
- Provide greater growth potential for Ardee, Dunleer and the other designated settlements in both population and economic terms.
- Offer strong protection of environmentally sensitive areas.
- Present less risk of pollution.
- Permit the development of strong corridors on a north south basis between the two largest towns
- Potential to have a negative impact on the vitality and viability of Category II (a) and Category II (b) settlements
- Secure the vitality and viability of the villages and other smaller settlements.
- May perpetuate the trend for car based commuting from outlying towns / villages in the absence of viable alternative forms of transportation

- The concentration on a number of key settlements with defined functions may permit the development of stronger services including public transport by building critical mass and exceed the thresholds whereby such services become viable.

Environmental Lead Planning Approach

This approach would offer strong protection to those areas of the natural environment which are of acknowledged importance, such as visually sensitive areas and areas of ecological interest. Environmentally sensitive areas would be managed in terms of their intrinsic value and would in the main be reserved for amenity purposes. There would be a much broader interpretation as to which areas were designated as environmentally sensitive. Therefore, much of the countryside of county Louth would be deemed as such. The risk of pollution to water quality and avoiding the use of the car or interference with the County's ecology would be of primary importance, placing very heavy constraints on development outside serviced areas and in particular on any further spread of one-off housing in the countryside. It would have the effect of focusing development on the larger centres with the potential for a consequent decline in the social, cultural and economic wellbeing of rural areas. This approach would have similar impacts to those outlined in the Settlement Led Planning Approach however the degree of protection offered to the environment would be greater and the level of economic growth less.

Environmental Lead Planning Approach – Likely Outcomes

- The approach would have a negative impact upon sections of the populace who have a genuine need to live in rural areas particularly those engaged in agriculture or other intrinsically rural based activities.
- The approach would significantly deter urban generated rural housing
- Rural areas of the county could increasingly become essentially leisure destinations for the majority of the (urban based) population
- Biodiversity aims would be substantially advanced under this scenario particularly in environmentally sensitive areas but also in the County as a whole.
- The vitality and viability of Category II (a), Category II (b) development centres and other rural areas would be seriously compromised through the adoption of this approach and rural depopulation might become a problem in certain areas of the County.

Based on an understanding of the existing and emerging environmental conditions in the County a series of Strategic Environmental Objectives have been developed to assess the likely effect of these different strategic alternatives for the Plan. The Strategic Environmental Objectives and the Scenarios are then arrayed against each other to identify which interactions, if any, may cause impacts on specific components of the environment. On the basis of this analysis the **environmental lead planning approach** emerges as the most environmentally sustainable alternative. However, having regard to planning considerations, the **settlement led planning approach** emerges as the alternative that balances environmental protection with economic and social development.

Evaluation of Alternatives using Strategic environmental Objectives (SEOs)

	POSITIVE Impact on SEOs	INDIRECT POSITIVE Impact on SEos	NEGATIVE Impact upon SEOs	INDIRECT NEGATIVE Impact on SEOs	NEUTRAL Impact on SEOs	UNCERTAIN Impact on SEOs
Alternative 1 Laissez Faire / Reactive Approach			**Air 1, Air 2 Wtr 1-8, Soil 1-5, Biod 1-4, Clim 1-5, HH 1-3, Cul H 1-3, Land 1-4, Mat A 1-5**			
Alternative 2 Settlement Led Planning Approach	**Wtr 1-8, Soil 1-5,**	**Air 1, Air Clim 1-5, HH 1-3, Cul H 1-3, Land 1-4, Mat A 1-5**				
Alternative 3 Environmental Lead Planning Approach	**Air 1, Air 2 Wtr 1-8, Soil 1-5, Biod 1-4, Clim 1-5, HH 1-3, Cul H 1-3, Land 1-4, Mat A 1-5**			**Pop 1 & Pop 4**		

Rationale for Selection of Preferred Approach

The County Development Plan follows Alternative 2, the Settlement led Planning Approach. This approach focuses development on a hierarchy of settlements across County Louth. This hierarchy is defined at national level by the NSS, refined at county level by the Border Region RPGs and operationalised at local level by the draft County Development Plan. The approach maximises the utilization of existing and planned services and infrastructure resources at key nodes thus providing greater opportunities for the building of critical mass in a sustainable manner. It allows for protection and enhancement of the natural environment whilst remaining pragmatic and flexible in the siting of commercial and residential development. The approach is the optimal spatial route to adopt for County Louth given the County's high population concentrations, large settlements and dense rural settlement patterns.

Having regard to the overall principles which underpin the concept of Sustainable Development the Settlement Led Planning

Approach was considered to be the preferable option. This approach represents the optimal course to achieve a proper balance between economic, environmental and social considerations. This approach will have the effect of protecting the environment while supporting population growth in the county to a level which is consistent with both sustainable development at local level and the efficient utilisation of the county's resources. It attempts to meet the aspirations of the population for acceptable income levels, living standards, and employment opportunities which are compatible with those elsewhere in the state. It also permits a degree of choice for the population as regard locations for housing aspirations. The approach also represents the 'best fit' at local level with national and regional policies and in particular, the national spatial strategy and the Border Region, Regional Planning Guidelines.

Environmental Indicator Symbols

The symbols portrayed below are used in the assessment

Biodiversity

Population & Human Health

Soil

Water

Air & Climatic Factors

Material Assets

Cultural Heritage

Landscape

Assessment Symbols and Assessment Methodology

The rating system portrayed in symbolic format below was utilized in the assessment. Each symbol was assigned a score. The symbols and their associated scores were then applied to each policy contained with the draft County Development Plan. The potential impact upon each of the environmental indicators was then assessed and scored accordingly. When the scores were compiled, an effective assessment of the environmental performance of each policy could be made.

Table; Rating system used to indicate environmental impacts

Positive Impact	Indirect Positive Impact	Negative Impact	Indirect Negative Impact	Neutral Impact	Uncertain
					

Chapter 8

Mitigation Measures

The Draft Louth County Development Plan 2009 - 2015 contains a large number of ameliorating measures designed to ensure that the orderly development of the County will not have an adverse impact on the environment or indeed that the level of impact is not significant. This chapter of the Environmental Report details the mitigation measures proposed in order to avoid, limit or eliminate identifiable adverse environmental impacts.

The chapter is divided into two sections. Section one (1) details how the draft plan will address environmental concerns linked to the environmental topics. Section two (2) details those policies which have emerged through the SEA process. These comprise a series of enhancement measures for certain aspects of the environment which will have beneficial consequences for the environment as a whole It will be necessary to incorporate these policies into the plan following public consultation of the draft plan.

In general terms however, all proposals for development will be required to have due regard to the environmental considerations outlined in Chapter 10 (Environment) of the County Development Plan. Proposals will also have to adhere to the principals of sustainable development contained throughout the draft plan. These include in particular, policies promoting the use of sustainable transport modes, sustainable energy principals and sustainable urban drainage (SUDS) methods. Due regard must also be had to the potential for flooding risk throughout County Louth.

Amendments to policies in the draft Plan

Where it is considered necessary following public consultation on the draft plan, it may be necessary to amend the wording of development objectives contained in the Draft Plan, to ensure that the impacts of the implementation of the Plan on the environment are prevented, reduced or offset as far as possible. It is envisaged that any amendments to the wording of development objectives, where being taken on board, would be incorporated into the Plan at amendment stage.

Mitigation Measures; Specific Topics

BIODIVERSITY

Biodiversity Promotion (Pol. CON 10)

There are, significant opportunities for protecting and enhancing biodiversity through implementation of the Draft Louth County Development Plan 2009 - 2015. Within the Draft Development Plan, statutory protection is afforded to the range of Special Areas of Conservation, Special Protection Areas and proposed Natural Heritage Areas spread out across the County. In addition to this statutory protection, Draft Development Plan policies have been formulated which afford additional protection and promotion of biodiversity. The Plan contains policy aimed at promoting the objectives of the Biodiversity Action Plan for Louth 2008. This first ever Biodiversity Action Plan for Louth will help make sustainable development a reality.

Riparian Corridors (Pol. WS36)

The Draft Plan introduces a policy aimed at establishing, where feasible, riparian corridors free from development along all significant water courses and to retain an adequate corridor along all open water courses consistent with habitat protection, maintenance/improvement access requirements and flood alleviation requirements.

Ecologically Themed Cross Border Tourism Product (Pol. TOU 5)

The plan includes policy aimed at the future development of ecologically themed cross border tourism product. This will encompass the Cooley Peninsula in North Louth together with the Mourne Mountains and Ring of Gullion areas within Northern Ireland.

Tree Protection (Pol. CON 16-20)

The Draft Louth County Development Plan 2009 - 2015 includes policies aimed at the protection of so called 'Champion Trees' identified by the Tree Register of Ireland. There are eleven such trees in County Louth. In addition to this, the plan affords protection to a further thirty four groups of trees across the county in the form of tree preservation orders or trees and woodland identified as having special amenity value.

Hedgerows and other Trees (Pol. SS 46 & SS 47)

Hedgerows and trees which are not protected specifically within the plan are however afforded significant protection in both biodiversity policies and development control policies, particularly for 'one-off' rural housing.

POPULATION & HUMAN HEALTH

Locational Criteria for One-Off Rural Housing (Pol. SS 9 – 16 & SS 19 - 23)

The draft plan controls "One-off" housing in the countryside by ensuring that it is functionally or socially related to the rural community in which it is located. In order to manage demand for dispersed rural housing, the Draft Louth County Development Plan proposes a system of development control zones (CZ's) throughout the county. These zones are based on the areas considered to be under most pressure from the demand for dispersed rural housing, particularly housing which is "urban Generated " Further opportunities for rural residential opportunities are provided through the designation of Category 1, Category II (a) and Category II (b) rural settlements which permit additional, limited residential development dictated by the availability of services.

Water Resource safeguards for One-Off Rural Housing (Pol. ES 11 – 18)

The draft plan safeguards the county's ground and surface water resources by imposing a set of policy criteria designed to minimize the impact of additional on site wastewater treatment and disposal systems for both domestic and commercial developments. Furthermore, the draft plan proposes that Louth County Council, in conjuction with the Geological Survey of Ireland will produce a guidance document setting out the requirements and information to be submitted with a planning application for all on site waste water treatment systems.

Housing Strategy for County Louth (Pol. RES 1 & RES 2)

An interim review of the Housing Strategy for County Louth carried out in 2006 indicated

that a total of 3,505 new households will be formed in County Louth over the period from 2007 to 2009 and an additional 4,606 up to 2013. The interim review of Housing Strategy has also identified that given the amount of lands already zoned for residential development within the towns and villages of the county, sufficient lands will be available for residential purposes to adequately accommodate this projected household formation. It concluded that adequate lands are serviced to meet the projected housing requirements up to 2009 but that an additional 155 hectares will be required to be serviced by 2013.

It is the objective of the planning authority to ensure that there is sufficient housing development taking place in the county to meet the needs of the community at an affordable price and that the development within the county only takes place at a rate that is commensurate with that need and that such development accords with the settlement policy for the county and the available level of supporting social and physical infrastructure.

Transportation Considerations for Residential Developments (Pol. TC 3)

The draft development plan promotes land use planning measures which aim for co-ordination and integration between land use and transport throughout the County.

Opportunities for Human Capital (EDE 1)

Under the Draft Louth County Development Plan 2009 - 2015 Louth Local Authorities will continue to proactively engage with the private sector and other agencies to create strong economic partnerships. This will be coupled with the development of a holistic approach to economic development which involves educational institutes, cross border

The Draft Louth County Development Plan 2009 - 2015 contains policies designed to encourage greater potential for mobility by means other than the private car throughout the County. These include policies relating to the provision of bus, cycle and pedestrian infrastructure including policies on appropriate built form to support such infrastructure. The plan also contains policies to affect a significant modal shift from use of the private car towards more sustainable modes such as public transport, cycling and walking.

Population and Sustainable Employment Patterns

Through the process of formulating local area plans following on from the preparation of the Draft Louth County Development Plan 2009 - 2015 for the various settlements throughout the County, the planning authority will devise objectives and policies designed to consolidate town / village centres along the identification of employment locations within existing urban forms and in close proximity to existing and planned residential development which will reduce the need to travel for local residents.
engagement and the establishment of concrete targets for job creation and economic development. The new plan includes policies designed to capitalize on the inherent strengths in the County's location

An economic development strategy for County Louth has been prepared covering the time span 2009 – 2015. This complements the strategies already prepared for both Dundalk and Drogheda and their respective environs. The economic strategy for County Louth focuses on the principal economic sectors and activities identified for the future economic development of County Louth including Internationally Traded Services, Manufacturing, Distribution and Logistics, Tourism and Health. It is a policy of the Draft Louth County Development Plan 2009 - 2015 to implement the County Louth Economic Development Strategy 2009 – 2015 in order to realise the economic development potential of the County

Urban / Rural Design

The Draft Louth County Development Plan 2009 - 2015 contains detailed design objectives and policies for residential, commercial and civic development relating to both urban and rural areas. These policies and objectives have been formulated to ensure that the highest possible standards are met in relation to achieving a quality human environment whilst not compromising the natural environment.

SOIL

Waste Management (Pol. ENV 19)

The Draft Louth County Development Plan 2009 - 2015 has due regard to the provisions of The Waste Management Plan (WMP) for the North East 1999-2004.

Aggregates (Pol. RD 26 – 29)

The Draft Louth County Development Plan 2009 - 2015 contains policy on national best practice regarding existing quarry and extractive industry proposals. This advice is contained within the document 'Quarries and Ancillary Activities Guidelines for Planning Authorities' produced by the Department of the Environment, Heritage and Local Government in April 2004.

Quarry restoration can not only replace, but may even add to, the diversity of plants and wildlife. There are many options for restoration that enable land to be returned to an attractive and useful form. Site-specific restoration options should be evaluated as part of a site restoration plan.

Agriculture (Pol. RD 8 – 14)

The Draft Plan's rural development strategy is based on promoting sustainable rural development aimed at maintaining vibrant and viable rural communities, while also seeking to protect the amenity, recreational and heritage value of the rural landscapes and countryside of the county. In relation to rural settlement patterns, the designation of development centres with agreed development boundaries enables the council to promote the strengthening of villages and settlements and provide for the development of rural communities.

The Draft Plan acknowledges that a small proportion of the county's population is employed directly or indirectly in agriculture and related activities. Nevertheless the plan contains an overriding objective aimed at securing vibrant and viable rural communities by promoting sustainable development and settlement patterns in rural areas, environmentally friendly agricultural practices and the protection of the natural resources, environment and landscapes of the countryside.

The Draft Plan acknowledges that the development of rural enterprise and employment opportunities will be vital to sustaining the rural economy during the course of the Plan.

WATER

Water Framework Directive (Pol.ENV 7)

The Water Framework Directive utilises the river basin as the natural unit for water management. County Louth straddles two River Basin Districts; the Neagh Bann and the Eastern River Basin District. The bulk of County Louth lies within the Neagh Bann River Basin district and is administered as part of the NS Share River Basin District Project. Both these river basins have River Basin District Management Plans in place. The Draft Development Plan contains policy facilitating the implementation of both plans within the County.

Flooding Risk (Pol. WS 33)

During the course of this plan, Louth County Council will introduce flood risk assessments aligned with the existing Strategic Environmental Assessment (SEA) process. It will introduce screening for flood risk and scoping any flood risk

Detailed mapping of all flood risk areas will become available during the course of the Plan. In the interim, the Council will take cognisance of historic flood data, OPW data and local knowledge in determining areas that may be at risk and will apply precautionary approach in doing so.

Of particular importance in managing both surface water and flooding is the retention of natural morphological features that attenuate flows. As such the Council will strongly resist the infilling of wetlands/natural hollows etc. that have a detrimental effect on flooding.

The Draft Development Plan contains policies aimed at applying in full the principles and guide-lines set out in "The Planning System and Flood Risk Management" Guidelines as issued by Department of Environment, Heritage and Local Government.

It also contains policies aimed at ensuring that within a period of two years indicative flood risk mapping for the county shall be made available for the purposes of land use planning.

At a local level the plan contains policies designed to designate riparian corridors free from development along all significant water courses and to retain an adequate corridor along all open water courses consistent with habitat protection, maintenance / improvement access requirements and flood alleviation requirements.

Within development centres susceptible to flooding, the plan ensures that the sequential approach will be applied in determining the appropriateness of a development proposal.

The plan contains policies aimed at the retention and protect existing morphological features including wetlands/bogs/natural hollows, drains, streams etc) which contribute to the attenuation of surface water runoff

The Draft Plan incorporates the principals of Sustainable Urban Drainage as a core tenet.

Fluvial, Coastal, Estuarine and Overland (pluvial) Flooding (Pol. RD 21)

The Draft Development Plan contains policies aimed at applying in full the principles and guide-lines set out in "The Planning System and Flood Risk Management" Guidelines as issued by Department of Environment, Heritage and Local Government.

The draft plan contains policy committing the council to work closely with the Department of agriculture, Fisheries and Food in its work to identify and manage the risks associated with coastal flooding

The draft plan will make specific policy reference to the Irish Coastal Protection Strategy Study (ICPSS)

Water Supply (Pol. WS 14)

A major study is underway to identify additional water supply sources together with the safeguarding of existing sources (Louth County Council Assessment of Needs Strategy). The study in conjunction with the Geological Survey of Ireland is scheduled for completion in 2009. The findings of the study, when completed will be incorporated into the Development Plan.

The Draft Plan contains policies designed to improve and expand water supplies for the county which will be consistent with the Louth County Council Assessment of Needs Strategy and Water Services Investment Program.

In addition the plan promotes, through policy, the need to promote the conservation of water through the maintaining an ongoing active water conservation program which utilises best practice in the maintenance and operation distribution networks and developing an appropriate public awareness programme.

Water Quality (Pol. ENV 11-16 & Pol. ENV 8)

The Draft Plan contains a raft of policies aimed at the proper supervision and installation of on site wastewater treatment plants.

The Draft Plan contain a policy designed to give effect to the Groundwater Protection Scheme for the County which will be finalized during the lifetime of the Plan.

The draft plan also makes provision for controlling the location, size, design, materials and siting of rural housing through the designation of a series of control zones and qualifying criteria for applicants.

The Draft plan contains an objective relating to the programme of measures which are recommended by the two Draft River Basin Management Plans pertaining to the County. The Council will seek to put in place measures to mitigate any identified problems.

Louth County Council has also carried out a number of implementation measures in relation to implementation of The Dangerous Substances Regulations 2001. These regulations give effect to Council Directive 76/464/EEC on pollution caused by certain dangerous substances discharged into the aquatic environment and support implementation of the Water Framework Directive 2000/60/EC. The implementation measures carried out include;

- Commencement of farm surveys
- Sampling and analysis of river water stations

- Continuing investigation of water pollution complaints and enforcement
- Sampling and analysis of Tidal Water (bathing waters, estuaries, ports)
- Continued monitoring and enforcement of S4 and S16 discharge licences
- Continued investigation and enforcement of waste issues
- Planning controls for domestic agricultural and commercial premises
- Setting up of an enforcement unit
- Integration of the farm surveys into the local authority GIS system

Wastewater Treatment (Pol. WS 18-24)

The Draft Louth County Development Plan 2009 - 2015 contains policies aimed at ensuring that all Category 1 and 2 development centres designated within the settlement strategy have adequate wastewater facilities with adequate capacity to cater for existing loadings and projected sustainable growth taking due cognisance of environmental, financial and value for money considerations.

The plan also contains policies which provide for an incremental approach to provision of additional treatment capacity. This relates both to the scale of existing developments, and appropriate growth at these locations.

The Draft Plan has clear policy indicating that the availability of services shall not be a precursor to large scale growth in inappropriate locations. Additional treatment capacity will be provided on foot of developments having been granted planning permission in line with objectives and policies contained within the Draft Development Plan, and progressing to construction stage. The additional increment of capacity provided will be determined on the basis of the unit economic increment of capacity that is practicable to add to the plant. The council will consider joint ventures and public private partnership arrangements in respect of providing additional treatment capacity.

The Draft Development Plan also incorporates a programme of capital works schemes which will allow for planned improvements in existing plants.

Water and Nitrate Vunerable Zones (Pol. ENV 9 & 10)

Environmental monitoring and compliance with the provisions of the Nitrate Directive is carried out on an ongoing basis by the environment section of Louth County Council. Water quality of all the major rivers in the County is monitored on an ongoing basis. The chemical monitoring programme was drawn up following consultation between Louth County Council and the EPA and was designed to meet the needs of the local authority. The monitoring programme will continue under the auspices of the Draft Development Plan.

Two areas of County Louth identified in the previous plan as exhibiting high nitrates in groundwater, namely Sheepgrange and Tullyallen have been successfully managed. In areas at risk from water pollution, a primary consideration is the management of manures and fertilisers. At present, the local authority requires a nutrient management plan for the spreading of animal slurry as part of a planning application involving storage of such material

Groundwater Protection (Pol. ENV 15)

The preparation and implementation of a Groundwater Protection Scheme which will identify, quantify and protect groundwater resources in Louth is anticipated by 2009. The aim of such a scheme is to ensure the sustainability of groundwater reserves as well as meeting requirement of the Groundwater Directive / Water Framework Directive. The recommendations of this scheme are to be incorporated into the County Development Plan.

On-Site Wastewater Treatment and Disposal Systems (Pol. ENV 11- 16)

The Draft Louth County Development Plan 2009 - 2015 requires that where development is within an area that is already served by a public wastewater treatment system or where a public system is proposed the development shall be conditioned to connect to that system.

The Draft Development Plan stipulates that in those cases where development is in an area with no public wastewater facility and where none is proposed, it may be possible that the wastewater be treated and discharged to a suitable receiving water subject to a discharge licence where required.

Where existing facilities do not currently have sufficient capacity, it may be possible on an interim basis that the wastewater be treated and discharged to a suitable receiving water subject to a discharge licence where required. In such cases, interim solutions shall comply with the requirements of the planning authority for such works and shall be decommissioned when the existing facilities are upgraded.

AIR & CLIMATIC FACTORS

Sustainable Energy Development (Pol. EN 8- EN 45)

The Draft plan contains policies aimed at supporting the generation of sustainable energy at both micro and macro levels. The Draft Plan devotes an entire chapter to the promotion of renewable energy and energy conservation. The strategic objective guiding this is to ensure that the County has sufficient energy resources available to promote economic development and quality of life and promote the development of the county's significant potential for renewable energy generation in order to reduce dependence on fossil fuels. The draft Plan contains detailed policies relating to the actions required at the local (county) level in attempting to reduce GHG emissions in order to limit the extent of adverse and dangerous impacts of climate change during the course of the plan and beyond. These policies are primarily related to the promotion of sustainable built forms, layouts and modes of transportation. The draft plan also strongly promotes the use of renewable energy in the residential, commercial and civic contexts whilst encouraging passive energy saving design and siting in such developments. The forms of renewable energy which the plan examines in detail include wind, solar, bio, wave tidal and ocean sources. At a site specific level the draft plan provides generic guidelines as to the suitability of different areas of the County for the purposes of wind generated electricity. This guidance will not include marine sites.

Energy Efficiency (Pol. EN 19- EN 25)

The Draft Louth County Development Plan 2009 - 2015 contians policies designed to reduce energy use within residential, commercial and civic built environment developments.

Sustainable Transportation (Pol. TC 1 – TC 4)

The Draft Louth County Development Plan 2009 - 2015 contains policies designed to encourage greater potential for mobility by means other than the private car throughout the County. These include policies relating to the provision of bus, cycle and pedestrian infrastructure including policies on appropriate built form to support such infrastructure. The plan also contains policies to affect a significant modal shift from use of the private car towards more sustainable modes such as public transport, cycling and walking.

CULTURAL HERITAGE

Protection of Built Heritage (Pol. CON 21 – 30)

The Draft Plan contains strategic objectives and policies which are aimed at protecting the built heritage of County Louth. The policies provide protection for the large range of protected structures located throughout the County. The Draft Plan seeks to protect archaeological sites, monuments (including their setting), underwater archaeology and objects within the jurisdiction of Louth County Council, including those that are listed in the Record of Monuments and Places or newly discovered sub-surface archaeological remains. It also includes policies which are designed to protect, conserve and enhance buildings, areas, structures, sites and features of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest, in particular such structures as are identified and included in the Record of Protected Structures. The plan delieates a total of nine (9 Architectural Conservation Areas together with ten (10) Areas of special Archaeological Interest.

Heritage Parks and Gardens (Pol. CON 31)

The Draft Plan identifies those Heritage Parks and Gardens which the Planning Authority recognises as having important landscape and amenity value. These may include historic gardens, demesnes and landscaped parks. Such heritage parks and gardens are often of importance to the setting of a Protected Structure. The Council will therefore seeks to protect the setting of protected structures where necessary

LANDSCAPE

Landscape Protection (Pol. CON 8&9)

The Draft Louth County Development Plan 2009 - 2015 contains policies aimed at landscape protection and protection of sensitive landscapes. Louth County Council has produced a landscape Character Assessment to inform landscape protection in the County.

Specific Landscape Policies Pol. RA 5 & Pol. RA 6 & Pol. RA 10 – 12)

The Draft Plan designates two (2) Areas of Outstanding Natural Beauty around the Carlingford and Feede Mountains and around Clogherhead and Port Oriel.

These two distinct areas that have been designated as Areas of Outstanding Natural Beauty by reason of their unspoiled natural landscapes and spectacular scenic quality.

A further five (5) Areas of High Scenic Quality have been designated around the County. These designations reflect that the areas of high scenic quality, whilst not quite possessing the exceptional natural beauty and landscape quality of A.O.N.Bs, nevertheless add significantly to the stock of natural scenic reserves within the county.

In addition to the landscape designations, a total of thirty two (32) scenic routes have been identified under the draft plan. Finally , twenty five views and prospects together with fourteen (14) viewing points have been listed.

All of the above designations have specific policies attached to them in the interests of their protection.

Chapter 9

Monitoring

Section 15(2) of the Planning and Development Act 2000 (as amended) states that the Manager shall, not lator than two years after the making of a development plan, give a progress report to the members of the authority regarding 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.

The ongoing 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 by the implementationof the Louth County Development Plan 2009 – 2015.

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

"i*n 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.

Considerable environmental data is directly available to the Council particularly through its environmental functions. Other sources of information can be accessed to provide a comprehensive view of the effect of the Plan.

In this regard the Louth County Council will work with other agencies with environmental mandates to gather data for the purposes of monitoring the implementation of the Plan. It should be noted that the adoption and ongoing implementation of the draft River Basin Management Plans (Neagh Bann and Eastern) as they pertain to County Louth will play a crucial role in the monitoring of environmental aspects of the new County Development Plan and the associated SEA.

Key External Monitoring Agencies

- Environmental Protection Agency (EPA)
- The National Parks and Wildlife Service
- The Eastern Regional Fisheries Board

Other bodies may have a role in supplying information. These may include agencies such as the Geological Survey Ireland, Coillite or Met Eireann

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.

Environmental Category	Nature of Potential Impact	Environmental Indicators	Data Sources
Biodiversity Flora / Fauna	Loss of Biodiversity	Known Loss	NPWS Birdwatch Ireland Louth Heritage Forum
	Loss of protected habitat	Known Loss	NPWS
	Water Pollution	Fish / Bird Deaths Ongoing monitoring	ERFB Birdwatch Ireland Louth County Council
Population & Human Health	Air Pollution	Number of recorded incidents exceeding acceptable parameters Number / severity of recorded pollution incidences	EPA Louth County Council
	Water Pollution	Number / severity of recorded pollution incidences	EPA Louth County Council
Soil	Incidents of soil contamination	Number / severity of recorded pollution incidences	EPA Louth County Council RPII
	Excessive landfilling of quality soil	Quanity and quality of soil being landfilled	EPA Louth County Council
	Estimated extent to which settlement policy has helped to conserve land (Brownfield / greyfield development)		DoEHLG
Water	Deterioration of water quality	Reduction in Q rating	Louth County Council EPA
	Deterioration of groundwater quality	Reduction in rating	Louth County Council EPA
	Flood Risk	Recorded flooding incidences	OPW DoEHLG Louth County Council
Air & Climatic Factors	Air Pollution	Traffic volumes / modal split	NRA Bus Eireann Ulsterbus Private bus operators Iarnrod Eireann Louth County Council

Environmental Category	Nature of Potential Impact	Environmental Indicators	Data Sources
Air & Climatic Factors	Air Pollution	Percentage of new development within public transport catchments	NRA Bus Eireann Ulsterbus Private bus operators Iarnrod Eireann Louth County Council
	Energy use increases	Energy demand per capita	ESB Bord Gais SEI
		Number of built developments utilising renewable energy sources	SEI Louth County Council
Material Assets	Severe traffic congestion	Increased car use	NRA
	Increase in numbers of one-off housing planning applications	Number of new developments granted permission which cannot be adequately served by a public waste water treatment plant over the lifetime of the Plan.	Louth County Council DoEHLG
	Water pollution	Adequacy of wastewater treatment facilities	EPA Louth County Council
	Excessive water consumption	Disruption to water supply	Louth County Council
	Increase in landfill	Reuse / recycling rates	Louth County Council EPA
Cultural Heritage	Damage to or complete loss of protected structures or sites	Loss of architectural or archaeological heritage	DoEHLG Louth County Council
Landscape	Large scale and / or visually obtrusive development in sensitive areas	Record of scale of such development	Louth County Council
	Loss of vistas / views	No developments to be conspicuously located within sensitive landscapes or designated scenic landscape.	Louth County Council

Environmental Category	Nature of Potential Impact	Environmental Indicators	Data Sources
Landscape	Loss of TPO trees Loss of amenity woodlands	No unauthorised developments to be conspicuously located within sensitive landscapes or designated scenic landscape.	Louth County Council

List of Abbreviations:

NPWS – National Parks and Wildlife Service
ERFB – Eastern Regional Fisheries Board
RPII - Radiological Protection Institute of Ireland
DoEHLG - Department of the Environment, Heritage and Local Government
OPW – Office of Public Works
NRA – National Roads Authority
ESB – Electricity Supply Board
SEI – Sustainable Energy Ireland

Conclusion

The principles of sustainable development in all its forms now lie at the heart of any forward planning spatial strategy and nowhere is this more applicable than in a county development plan. The draft Louth County Development Plan 2009 – 2015 is no exception to this. The Plan aims to balance the needs of the generations yet to come with the broader environment in which that population will inhabit. The plan therefore has a strong focus towards the concept of sustainability.

The chosen development approach as detailed in Chapter 8 has been assessed in terms of sustainability and its potential environmental impact, with the objectives of the Plan assessed against the environmental objectives of the SEA. This assessment shows that overall the Plan is acceptable. It has been shown in this report that the vast majority of the Plans policies and are in general consistent with this summary and that in general the Plan will have a neutral to positive impact on the environment as a whole. The chosen alternative, that of a Settlement Led Planning model adopts a pragmatic approach to the future development of County Louth which embraces both environmental protection and where possible, enhancement with the economic development needs of the County.

In those cases where there may be the potential for negative impacts, mitigation and monitoring measures have been identified. The implementation of these measures will ensure the proposed County Development Plan is acceptable from an environmental and sustainability perspective.

Environmental Issues

The key environmental challenges facing County Louth include the maintenance of biodiversity which is increasingly threatened by the loss of habitats. This in itself is linked to the pressure associated with ongoing rural housing development particularly of the 'one-off' variety. Housing and other development is also placing a burden on the water supply and wastewater treatment systems in the county although both issues are being actively addressed. Possibly the greatest single treat facing the County relates to the potential for coastal flooding. This threat will come to the fore over the course of this plan period and over subsequent periods and as such Louth County Council will be proactive in ensuring that the threat is minimized. Proposed development which has the potential to flood or which could exacerbate flooding elsewhere will not be permitted under normal conditions. With regard to the many environmentally sensitive sites within the County, any application for development within such areas and within any site or sites in close proximity to such areas to such areas will be referred to the Development Applications Unit of the Department of the Environment, Heritage and Local Government for their comment.

Preserving water quality, both ground and surface resources will be at the forefront of the Plan. Water quality or indeed a deterioration in water quality has a number of implications, not just for human health, but also on the wildlife that requires pollution free water. To this end, Louth County Council will not allow development which may result in a detrimental impact on receiving waters, either ground or surface. Cumulatively the proliferation of septic tanks can potentially

impact on groundwater resources with implications for the future. All proposals for housing which includes the use of septic tanks are already required to conform to EPA standards on design and installation. This will continue to be the case. Any new guidance on septic tank design which comes into form over the lifetime of the plan will be implemented within the county.

In addition to this requirement, Louth County Council will actively investigate the possibility of providing public wastewater treatment schemes within certain Category II (a) rural settlements subject to technical and economic feasibility considerations over the lifetime of the Plan.

This issue of wastewater treatment is closely related to the soil environment and the interaction between the two. Differing soil properties influence the transmission or storage and of potentially polluting elements and protecting soil from pollution will ultimately protect water quality.

Louth County Council recognizes that a planned approach to the orderly development of the county is required. The Council is pragmatic in recognizing that development is essential to achieve economic growth and the purpose of the Strategic Environmental Assessment is to ensure that the guiding principals for development do not impact in an adverse manner on the environmental quality of the County. As such the approach taken in this Strategic Environmental Assessment represents “the best fit” for County Louth in terms of environmental protection and facilitating economic development.

Generally each of the plans policies and objectives have been found to be acceptable in terms of protecting the environmental quality of the County. There are however instances where potentially adverse affects may result from the implementation of certain policies and objectives as put forward in the Plan. Where an adverse impact was identified, mitigation measures will ensure that the level of impact is minimized.

Monitoring of the plan throughout its lifetime should ensure that any potential adverse environmental impacts, unforeseen at this stage will be identified early so as to prevent further deterioration of the environment. This plan, as currently presented, balances economic growth with environmental protection and conservation