

# 2013

Cavan County  
Council

Planning  
Department –  
Forward Planning  
Section



**[STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) – ENVIRONMENTAL REPORT FOR  
THE DRAFT CAVAN COUNTY DEVELOPMENT PLAN 2014 - 2020]**



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## **1.0 NON-TECHNICAL SUMMARY OF THE ENVIRONMENTAL REPORT**

### **Introduction**

Strategic Environmental Assessment is a process which was adopted into Irish Law in 2004 and is a statutory requirement in the case of a County Development Plan. This ‘assessment’ process is a key mechanism in promoting sustainable development; in raising awareness of significant environmental issues in County Cavan and in ensuring that such issues are properly addressed within the capacity of the planning system. It has the potential to bring considerable added value to the implementation of the new County Development Plan over the next six years.

The Environmental Report which follows has guided the preparation of objectives, policies and development scenarios for the County Development Plan with an ultimate goal of achieving sustainable development in the County that can be absorbed into the landscape without causing adverse harm to the environment.

### **Strategic Environmental Assessment Methodology**

In March 2007, the Review of the County Development Plan began. Issues Papers were released to aid public consultation. The documents highlighted the main development issues and environmental issues for the County. Submissions were received from members of the public, organisations and designated environmental authorities (Environmental Protection Agency, Department of the Environment, Heritage and Local Government and Department of Communications, Energy and Natural Resources). These were taken into consideration during the preparation of the County Development Plan and Environmental Report. The Planning Authority established a ‘multi-disciplinary’ team from various sections within the Council in order to create consistent documents and agreements were reached on how to monitor the County Development Plan over its lifetime 2009 – 2015.

### **Main Objectives for the County Cavan Development Plan**

Cavan is an inland County in the Province of Ulster and part of the Border Region covering an area of 189,060 hectares (467,167 acres). The population in 1996 was 52,944 rising to 56,416 in 2002 and was at 64,003 in 2006.

A key aim for the region has been to secure its social and economic development through structural adjustment while protecting and improving the environment.

The County is characterised by a drumlin landscape dotted with many lakes and small hills, though the north-west of the County is mountainous with several highly scenic areas. It is mostly rural and agricultural, with a dispersed population and generally small population centres. The towns and villages of the County are distinctive centres which provide for a variety of employment, service and social needs.

The main objectives of the new County Development Plan include the following:



- To establish a settlement structure which will enhance the hub status and growth of Cavan Town while developing the strategic role of other towns and urban centres. This will make the County an attractive place in a local, regional and national context and accommodate future development growth while protecting and caring for the environment.
- To create a vibrant economy by attracting people to live and work in the County; attracting investment and employment opportunities through provision of infrastructure, housing, services, recreational and educational facilities, supporting sectors well established in the County and providing alternative employment opportunities.
- To ensure a good quality infrastructure focussing on the integration of land use and transport planning based on sustainability of resources and development of additional transport infrastructure, improving safety and access.
- To facilitate a high quality and efficient water and wastewater infrastructure for long-term physical, environmental, social and economic development of the County.
- To promote security and sustainability of energy supply and use; and to reduce consumption of resources.
- To facilitate the development of a quality telecommunications network.
- To protect, enhance and promote environmental protection and awareness through education and enforcement.
- To ensure the housing needs of the existing and future population of the County are met.
- To maintain and improve the quality of life for all the County's inhabitants through tackling social exclusion and enhancing community facilities and accessibility for all in County Cavan.
- To protect, conserve and where possible enhance our natural and built heritage seeking to maintain local landscape character and conserving cultural assets, sustain and, where required, enhance the biodiversity of the County.
- To facilitate the sustainable development of the County through the development management process and promoting good quality sustainable design, materials, accessibility, recreational space, infrastructure, services, community facilities in urban and rural areas.
- To develop and promote the County as a quality tourist destination and maintain and improve recreational facilities for residents and visitors alike.

#### **Relationship of the Plan with other Relevant Plans and Programmes**

The Draft Cavan County Development Plan and accompanying Environmental Report are considered in a hierarchy of strategic legislation, plans and policy documents. A number of higher-level strategic actions pre-determine the limits of a County Development Plan, while the County Development Plan sets the actions and context of lower plans such as Local Area Plans and Small Town and Village Plans.

#### **Summary of Baseline Environment/ Existing Environmental Problems**

The Environmental Report contains a range of baseline information on key environmental headings which are Biodiversity, Flora and Fauna, Population and Human Health, Landscape and Soil, Water, Air and Climate, Material Assets and Cultural Heritage.

**1. Biodiversity:**

Biological diversity or biodiversity is the term given to the variety of life on the Earth. It includes flora and fauna and the habitats or places where they live. The main threats to biodiversity include development on previously undeveloped or greenfield land where habitats become separated from each other or even destroyed; development in floodplains of rivers or wetland areas which can result in poorer water quality and pollution downstream; erosion of soils and pollution; invasive non-native plant and animal species that cause major ecological changes and damage to habitats where they become established; hedgerow removal reducing habitat corridors; and Climate Change which will affect many habitats.

**2. Population and Human Health:**

This section covers the well-being of the population of the County, the settlement strategy and economic development. The main threats include infrastructure constraints based on population growth, air pollution from vehicles, provision of useable amenity space, road safety, waste generation and development on greenfield lands.

**3. Landscape and Soil:**

The main threats to landscape include the visual impact of developments in the countryside and the quantity of development in areas, soil erosion and use of non-renewable natural resources.

**4. Water:**

Eutrophication which is the over-enrichment of waters with nutrients is one of the biggest problems facing the surface waters in County Cavan. Run-off from agriculture, domestic wastewater treatment systems and municipal wastewater treatment systems are all sources of pollution. Groundwater contamination poses problems as pollution can permeate through layers in the ground into water supplies. Issues also arise with the location of forestry in sensitive water catchments and developments which are located in floodplains.

**5. Air and Climate:**

Emissions from vehicles, extractive industries and intensive industries reduce the quality of air. Poor building design can result in energy losses and new development on greenfield sites have an impact on habitats including the removal of trees, hedgerows and natural vegetation (which store carbon), thus contributing to poorer air quality.

**6. Material Assets:**

Roads and infrastructure impact on the natural landscape by segregating habitats and causing visual disruption. Extractive industries draw on non-renewable resources and much of this is required by new developments. The growth in population in recent years has placed pressure on existing infrastructure networks.

## **7. Cultural Heritage:**

This includes the built heritage of the County, both architectural buildings and archaeological monuments. The main threat is damage to the structures or the cultural landscape where they are situated.

### **Environmental Protection Objectives**

Through examination of key environmental issues in the County and taking strategic plans and policy documents into consideration, a number of Environmental Objectives were established.

Once established, they have been assessed against the Draft County Development Plan objectives and policies to identify areas of potential conflict. Once identified, objectives and policies were enhanced, or methods to reduce the impact on the environment were proposed (see 'mitigation measures' below).

### **Assessment of Alternatives and Selection of Preferred Alternatives**

Three future scenarios for County Cavan were considered. The first scenario explored the development of the County without any relevant controls and the overall economic impact of unsustainable development. The second examined a situation where environmentally sensitive areas would restrict all forms of development. This would have major benefits for the environment but the economic and social implications were a disadvantage. The third scenario was chosen for its ability to regulate development in appropriate locations that would not adversely impact on the environment.

### **Incorporation of Mitigation Measures and Assessment Results into the Plan**

#### **1. Biodiversity:**

The Draft County Development Plan contains objectives for protection of biodiversity around our County including policies on hedgerows, invasive species, wetlands, Champion Trees (Tree Council of Ireland), sustainable forestry, designated sites, Water Framework Directive, landscape management, extractive industries and supports the County Heritage Plan 2006-2011 and other documents such as Local Biodiversity Action Plan to be finalised in the lifetime of the Draft County Development Plan. There are also development management policies on open spaces and masterplans which must take biological value into consideration at design stage.

#### **2. Population and Human Health:**

The Draft County Development Plan contains objectives and policies to encourage employment opportunities in areas around the County in order to reduce the need to travel. Sustainable travel modes are supported. The Local Area Plans and Small Town and Village Plans zonings have been examined in order to sustain a growing population and to provide opportunities for employment creation. The 'development management' Chapter 10 of the Draft County Development Plan contains strong public and private open space requirements. The North East Region Waste Management Plan, Waste Water Treatment Bye-Laws and the Ground Water Protection Scheme (when finalised) are

supported by the Plan. The Draft Plan contains objectives on the redevelopment of brownfield sites and the provision of an adequate roads infrastructure. The Draft Plan contains a Social Strategy and Housing Strategy.

### **3. Landscape and Soil:**

The Draft Plan supports the development of a Landscape Management Plan for the County during its lifetime and ‘special landscape policy’ areas have been identified for protection in the Plan. These include heritage sites, high landscape areas, scenic viewpoints, scenic routes, forest parks, major lakes etc. Designated sites and geological features must be protected and have the potential to increase the tourism resource in parts of the County. The Draft Plan contains guidelines on siting, design, scale and form of developments in the landscape. The Local Biodiversity Action Plan will be taken into consideration when finalised. The sustainable development of towns and villages will relieve some of the pressure for one-off rural developments.

### **4. Water:**

The Draft Plan contains objectives relating to the Water Framework Directive and River Basin Management Plans. The Planning Authority will co-ordinate its approach to water management with other Councils and agencies as required by the European Union. Wastewater Treatment Bye-Laws will continue to operate for domestic wastewater treatment systems and the capacity of municipal sewage treatment plants will be considered in light of new planning applications. The Draft Plan will have regard to the Groundwater Protection Scheme and Indicative Forestry Strategy when finalised. Local Area Plans and Small Town and Village Plans contain ‘amenity buffer zones’ along rivers where possible to protect the water resource.

### **5. Air and Climate:**

Sustainable travel modes are promoted in the Draft Plan, and zoning of land in towns and villages takes account of the need to reduce trip generation. Traffic and Transportation studies will be undertaken in order to reduce congestion in towns and development along National Roads will be carefully considered. Renewable energy sources and sustainable building designs are promoted in the Draft Plan. Forestry is encouraged in appropriate locations and the protection of peatlands is considered highly important as both store carbon from the atmosphere. Waste is considered in the context of the current North East Region Waste Management Plan with emphasis on reduction of waste, recycling and reuse of materials.

### **6. Material Assets:**

The Draft Plan supports the development of a Landscape Management Plan for the County during its lifetime and ‘special landscape policy’ areas have been identified for protection in the Plan. The Plan also contains objectives and policies on forestry in accordance with the Indicative Forestry Strategy (when finalised), the Water Services Investment Programme 2009-2015, public transport and telecommunications infrastructure.

## **7. Cultural Heritage:**

*The Draft* Plan contains detailed information on the protection of structures and their legal requirements. Seven Architectural Conservation Areas have been proposed as part of the Draft County Development Plan to protect townscapes. A Town and Village Design Framework is also contained within the Plan to strengthen existing village and town plans and create opportunities for their future development. Buffer zones for the protection of archaeological monuments are indicated on maps for towns and villages and the Protected Structures throughout the County are listed.

## **Monitoring Proposals**

This contains the expected proposals for monitoring the significant effects of the Draft County Development Plan on the environment. A number of indicators of change and targets are identified and existing monitoring arrangements are utilised.

## 2.0 INTRODUCTION

### 2.1 Aim & Purpose of the Environmental Report and Legislative Context

On the 14<sup>th</sup> of July 2004, two sets of regulations transposed the SEA Directive (Directive 2001/42/EC on Assessment of the Effects of certain Plans/Programmes on the Environment) into Irish Law. The SEA Directive applies to the preparation or review of plans and programmes, the first formal preparatory act of which took place on or after 21 July 2004.

SEA is also necessary where plans/programmes are likely to have a significant effect on a site governed by the Habitat's Directive.

The two sets of Regulations are:

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

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 and any development agency responsible for preparing plans/programmes in implementing the requirements of Directive 2001/42/EC of 27<sup>th</sup> June 2001 on the assessment of the effects of certain plan and programmes on the environment.

SEA is mandatory in the case of the preparation or review of the following land use plans:

- Regional Planning Guidelines
- City & County Development Plans
- Town Council Development Plans where the population is 10,000 or more
- Local Area Plans for areas with a population of 10,000 or more
- Strategic Development Zone (SDZ) Planning Schemes

Discretionary screening for SEA is required for plans below these thresholds and variations for Development Plans.

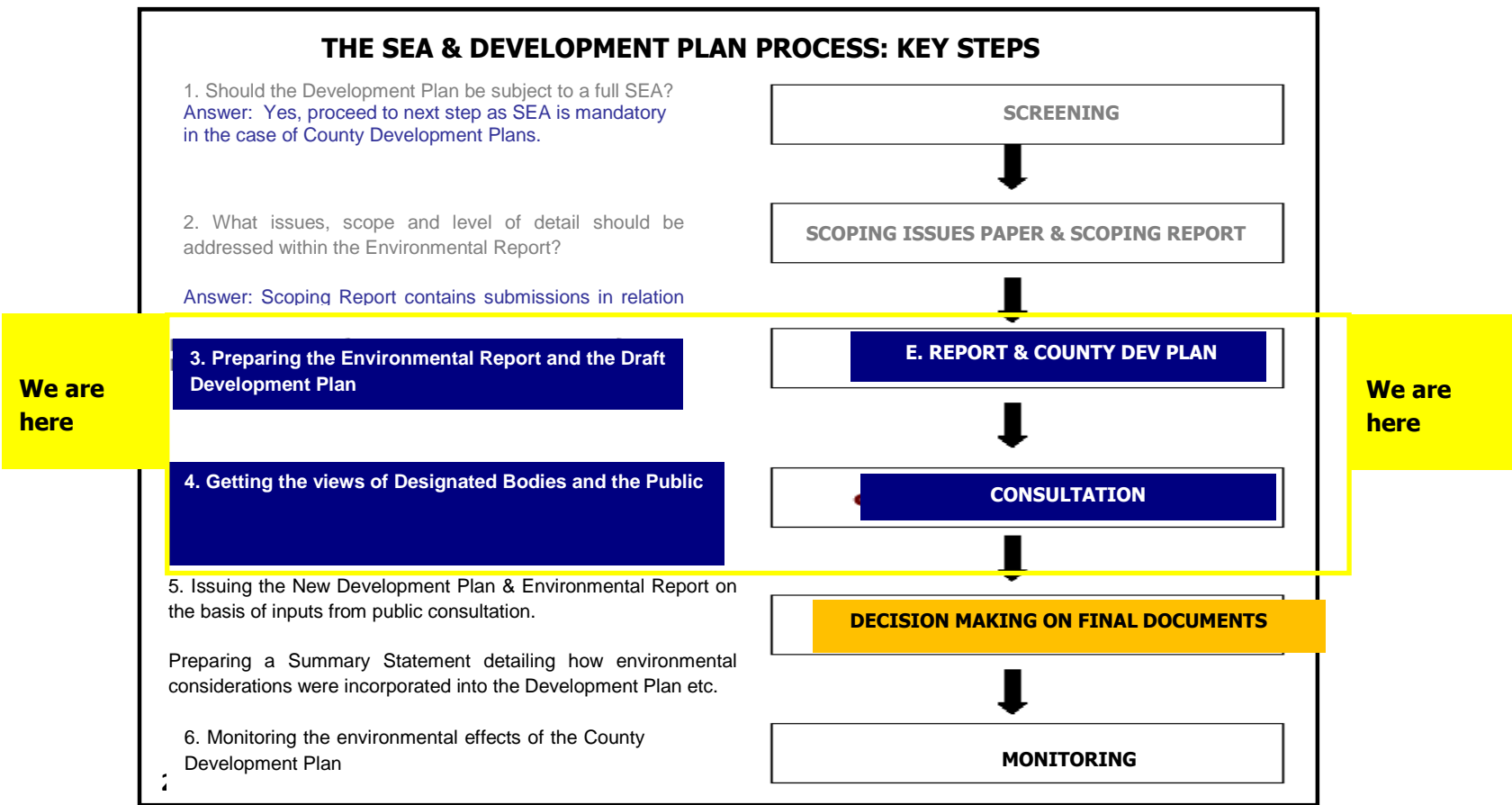
Designated Environmental Authorities:

The Environmental Authorities have been designated for consultation in SEA process are:

- The Environmental Protection Agency (EPA)
- The Minister for the Environment, Community & Local Government
- Minister for Agriculture, Marine and Food, and the Minister for Communications, Energy and Natural Resources, where it appears to the planning Authority that the plan or programme, or modification of the plan or programme, might have significant effects on fisheries or the marine environment.
- Where it appears to the competent authority that the plan or programme, or amendment to a plan or programme, might have significant effects in relation to the architectural heritage or to nature conservation, the Minister for Arts, Heritage and *Gaeltacht* Affairs, and
- Any adjoining planning authority whose area is continuous to the area of a planning authority which prepared a draft plan, proposed variation or a local area plan.

2.2 Consultation for the Development Plan & SEA Process

Figure 1: SEA Process :What Stage are we at?



The first phase of the public consultation took place from Wednesday, the 10<sup>th</sup> October to the 5<sup>th</sup> of December 2012; (8 weeks) as part of the public consultation process. In accordance with the provisions of Section 11 of the Planning and Development Act (2000) as amended, and the SEA Directive, a copy of the Scoping Issues Report was circulated to the following Environmental Authorities: Environmental Protection Agency (EPA); Minister for the Environment; community & Local

Government: Minister for the Arts, Heritage & the Gaeltacht(DA,H&G); Minister for Communications, Marine and natural Resources(DC,M,&NR); SEA co-ordinator, Environmental Heritage Service, Department of the Environment- Northern Ireland (DoENI); Department of Agriculture, Food, Fisheries and Forestry (DAFF&F).

### 2.3. Response from the Environmental Authorities:

- (i) **EPA:** The EPA's initial submission to assist the planning authority in undertaking an environmental assessment as per the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436 of 2004). This submission consists of an SEA Pack, SEA Scoping Guidance and a checklist to allow you to ensure integration of environmental considerations into the Plans is carried out taking account the Agency's submission.

#### Specific Comments to be considered in the Plans:

The following in particular, should be reflected in the Draft Plan(s) and associated SEA's, as relevant and appropriate to the individual plans:

- including a clear commitment for the improvement of water quality (rivers and lakes in particular ranges between 'Moderate' to 'Bad' status under the Water Framework Directive (WFD) classification.
- Protection of areas listed on the WFD Register of Protected Areas (including River Cavan (Nutrient Sensitive River) Lough Oughter (Nutrient Sensitive Lake).
- Protection of designated (National and EU) and undesignated areas of conservation (Natura 2000 and NHA's and areas of local undesignated importance), including the Lough Oughter & Associated loughs including the Lough Oughter & associated loughs (SAC/NHA), Lough Sheelin (SPA/NHA) and Cuilcagh – Anierin Uplands (NHA/SCA).
- The provision of adequate and appropriate critical infrastructure (drinking water and wastewater) and inclusion of commitments to remediate and prioritise the addressing of particular issues for particular service infrastructure deficiencies. In 2010, your attention is brought to the fact that a number of wastewater treatment plants, including Cavan, Ballyconnell and Kingscourt, failed to meet the overall requirements of the Urban Wastewater Treatment Regulations (2001), and a number of drinking water supplies. (Ballyconnell, Belturbet & Kingscourt) are listed on the Agency's remedial action list due to the supplies being '*identified by the HSE where further investigation/improvement may be required*'.
- Areas at risk of flooding, where proposed for development/zoning in the new plans should be appropriate to the risk of flooding identified and avoid vulnerable land uses in areas at significant risk of flooding. A clear commitment to fully integrate, as relevant the requirements of the Flood Risk Management Guidelines (DECLG/OPW, 2009).

Further comment will be provided by the agency upon receipt of the Draft Environmental Reports and Plans and associated documents during the next statutory phase of the SEA process.

- (ii) **Border Regional Authority:** Strategic Environmental Assessment and Habitats Assessment- The Environmental Issues Paper is welcomed and highlights some of the key strategic environmental issues facing County Cavan. The generic list of environmental issues outlines in the Issues Paper must be appropriately



considered within the Environmental Report and Habitat Assessment report. The land use policy issues emerging from both environmental assessments must be appropriately incorporated into the new CDP.

Key consideration must be given to the environmental and water quality issues emerging from all relevant River Basin Management Plans within, and adjoining the County. Appropriate Land Use policies must be included within the new draft plan to ensure that all new development is directed towards those areas which have the capacity to absorb it. In addition to this, the development of CFRAMs is very much relevant to land use planning and, by 2015, the outputs from this process will provide mapping of the main areas of flood risk within and remaining County Cavan. The key strategic issues emerging from this process should be appropriately incorporated into the new development plan.

Cavan County Council should also investigate the potential requirement for transboundary consultation, to ensure compliance with the SEA Directive. Relevant procedures should be followed in carrying out this process.

- (iii) **Leitrim County Council:** This Authority welcome the opportunity to make a submission and look forward to continued co-operation with and between both Authorities in the development of the Region; with particular reference to social, cultural and economic development and the protection of the environment. It is considered important that there should be a good level of consistence between County Plans in adjoining counties. In this regard it is considered important that cognisance should be taken of the policies and objective of the Leitrim CDP2009-2015 as amended, (including Variation no. 1 – Core Strategy) with particular reference to: Housing Policy Tourism, Retailing, Economic Development, Pollution Control, Protection of Visually Sensitive Areas, Development of Renewable Energy, Provision of Infrastructure and Development Control Standards.

Considering the level of vacant, under-construction and unfinished housing developments in both counties, and in the interests of developing a common approach to resolving the issues arising, this Local Authority consider that a similar approach to that taken in the recently adopted Variation No. 1 to the Leitrim County Development Plan, should be adopted. In this regard reference should be made to the ‘Justification Test’ and ‘Sequential Test’ in relation to proposals for new housing developments in both counties, and in the interest of developing a common approach to resolving the issues arising, this Local Authority consider that a similar approach to that taken in the recently adopted Leitrim County Development Plan, should be adopted. In this regard, reference should be made to the ‘Justification Test and Sequential Test in relation to proposals for new housing developments in urban areas where there is a surplus of housing. Likewise, consideration should be given to the inclusion of a specific policy statement in relation to ‘Unfinished Estates’.

In general terms, the following are considered to be amongst the issues of particular importance in the preparation of the plans, (the list is not exhaustive):

- Placing people in particular communities at the centre of Plans;
- Supporting the development of the Border Region with particular regard to securing consistence with the Plans of adjoining counties, RPG’s and National Plans and Policies
- Securing Key Infrastructure
- Promoting and facilitating economic development with particular emphasis on the development of Tourism and indigenous industry
- Ensuring the efficient and effective use of Resources

- Facilitating Renewable Energies
- Protection of the Environment with particular emphasis on securing the aims and objectives of the River Basin Management Plans.
- Ensuring that planning decisions and actions are evidence based
- Ensuring that the Plans are concise, precise and relevant and in general terms more readily accessible.
- Ensuring that the Plans deal appropriately

**(IIIV) Department of Arts, Heritage & the Gaeltacht – National Parks and Wildlife Service (NPWS)**

Recommends possible areas of ecological interest, importance and concern that may be considered for inclusion/recognition/protection under the new County Development Plan:

**Lands and Habitats adjoining or adjacent to the designated site:**

**Slieve Rushen**

Over the past several years, since this NHA site was designated, it has come to notice that there are many other lands of heath, heath-grassland, heather, upland bog, species rich grasslands, and mosaics of the above (some on which the legally protected butterfly Marsh Fritillary occur and depend) are present adjoining the designated site. These habitats were overlooked, or omitted from the designated NHA and are EU annex habitats and are worthy of conservation and protection in their own right as areas of ecological importance and biodiversity. Some of the lands and habitats are near or are on the Townlands of Mullinacre Upper, Corneen and Carrowmore, possibly on the adjoining Townlands and on to the Swanlinbar end.

**Fartrim Bog, Ballyconnell:**

The site is considered to be equal to and better than many pNHA's in the County and is relatively intact, and active as raised bog. It is an EU annex habitat worthy of protection and conservation. At present, it is undesignated or legally protected. The site is in close proximity to more heath and raised bog on the opposite side of the road, towards Fartin crossroads, also of EU habitat quality. These sites form a network of interconnecting wetland habitats and would have formed part of the 'Bealaheady Mountain', a much more extensive area of heath and bog and until relatively recent times hosted Red Grouse and all the other important species associated with that habitat.

**Small White Orchid habitats and lands in west Cavan:**

This area roughly defined as around Glangevlin to Dowra to Lough MacNea/Corratrim. The importance of this region was brought to attention in 2003. The orchids (which are legally protected under the Flora Protection Order 1999, Section 21 of the Wildlife Acts ) are generally located in heath grasslands which occur in the region. In spite of Flora Protection Order, the orchids have suffered a 70% decline throughout the country in recent times and the importance of this area of west Cavan is of National Significance. The lands on which these orchids and habitats occur are/have been found in many of the Townlands in this region. At least three more Townlands were found to be hosting the orchids during a partial survey in 2012. This follows

on from a previous survey in 2011 where substantial numbers of Small White Orchids were located in four or five Townlands in the area. In spite of the 'legal protection' several sites and habitats have been lost or damaged in very recent times, (2008, 2009 and 2010) all through Government grant aided afforestation schemes, including REPS/FEPS.

These lands have been increasingly under pressure for afforestation in the last ten years or more and may also be lost or damaged due to farm improvements such as new farm buildings and siting of new houses with planning approval. It is recommended that all planning applications in this region are vetted for the Orchid and the habitat on which it depends.

These lands also qualify as EU Annex habitat. They are possibly rarer than the upland blanket bog SAC habitat and sites in the North West and as such should be considered for acknowledgement within the new County Development Plan. Townlands where the orchid habitat occur (but not a definitive list) are: Barran, Gowlat, Curraavagh, Cornahaw, Corraquigley, Corratirrim, Garraghvagh, Coracashel, Tullynafarave, Derrynaseer, Corleckagh Upper, Corleckagh Lower, Corratober Upper, Corratober Lower and other areas NWest of Dowra. Not yet surveyed.

**Limestone /Carcareous Grassland and Heath Juniper scrub:**

In the same area/region described above for Small White Orchid, occurs more important EU Annex Habitats which are quite unique in County Cavan, these habitat support many rare and declining species. They occur near the Corratrim/Moneygashel/Skeagh Townlands.

These are ecologically significant and unfortunately are under pressure for Government grant aided afforestation. One significant site lost to the same afforestation in this year (2012), in spite of robust objections. It is recommended that these are also considered for acknowledgement and inclusion within the new County Plan.

**Marsh Fritillary Habitats and populations:**

Of note is that in the same habitats listed above for Small White Orchid and Limestone/Calcareous grasslands, heath there occurs significant populations of the legally protected Marsh Fritillary butterfly. Once again these butterflies and the habitats on which it depends were brought to attention from 2003 on and in recent surveys, (2011 and 2012) confirmed the importance of this region. These are vulnerable and under increasing pressure and threat including from the Dept. of Agriculture's Harvest 2020 which intends increasing output from the land, with methods such as doubling of stock rates.

**Tirlahode Lough and associated wetlands and natural habitats:**

Noted this year while travelling in the region, and as discussed – located at Grid Ref. N, 543-997 on the R165 road from Cavan to Grousehall. This small intact lough and adjoining wetlands appears to be quite exceptional site worthy of site survey, recognition and conservation. The site is of considerable size, 10ha approx. It may have been recorded in the Cavan Wetlands survey of 2005/2006. Recommended for further investigation.

Wetland along the R188 road from Cavan to Cootehill, being south of Drung.

A wetland area of ecological significance, first noted in the last year or so. It is a habitat of reed and tall sedge swamp and also reedbed and scrub, supporting mature white willow trees which as a species are known to support considerable quantities of invertebrates, including scarce species of moths. The site is approximately 6.25ha in size. It straddles three townlands, Carrigateane, Killygarry and Corcloghan and forms part of the Annalee Catchment.

These latter two sites are good locations as 'stepping stones and sanctuaries for species and also as seeding grounds for species expansion to other lands when conditions are favourable or farming with wildlife is better acknowledged. They are also important within the Water Framework Directive and essential as part of flood control. This site may also have been recorded or identified in the Cavan wetlands survey of 2005 or 2006. It is recommended that these be included within the new County Development Plan.

#### **2.4. Response from the Prescribed Bodies (as designated in Planning & Development Act 2000, as amended)**

The following prescribed bodies responded to the notification, by acknowledging receipt of the letter of notification:

**Inland Fisheries Ireland** : The Inland Fisheries Ireland (IFI) is a Statutory Body established on the 1<sup>st</sup> of July 2010. Under Section 7(1) of the Inland Fisheries Act 2010 (No. 10 of 2010), the principal function of IFI is the protection, management and conservation of the inland fisheries resource.

Under section 7(3) of the IFI Act, it is stated that without prejudice to subsection (1) the IFI shall in the performance of its functions have regard to:

- (g) the requirements of the European Communities (Natural Habitats) Regulations 1997 (S.I.No. 94 of 1997) and the need for the sustainable development of the inland fisheries resource (including the conservation of fish and other species of fauna and flora habitats and the biodiversity of inland water ecosystems),
- (h) as far as possible, ensure that its activities are carried out so as to protect the national heritage (within the meaning of the Heritage Act 1995).

Having examined the Strategic Issues Paper and the SEA Strategic Issues Paper, we have the following observations to make regarding issues that we believe the Development Plan should address.

County Cavan contains a wide range of fishery habitats with four main river catchments located in the county, namely, Erne, Shannon, Inny, Boyne, Dee and Glyde. These catchments contain a wide variety of fish from Salmonids (Salmon and Brown Trout) to Coarse fish and Pike. Many main river channels and their tributaries are exceptional in the area in supporting Atlantic salmon (*Salmo salar*, listed under Annex II and V of the EU Habitats Directive) and Sea trout (*Salmo trutta*) populations. Recent data also indicates the presence of spawning populations of Sea, River and Brook Lamprey (*Lampetra* species – Annex II of the EU's Habitats Directive) in the County. This highlights the sensitivity of watercourses in the County. Only, clean, uncontaminated surface waters should drain to the river network at all times.

**Population, Settlement Strategy and Housing:** Development should only take place where the necessary infrastructure is in place to accommodate that development, thus comply with the Water Framework Directive and other legislation to the protection of the aquatic environment.

**Community, Recreational and Public Open Spaces:** Angling is a popular recreational pastime in the county. With the vast amount of angling waters available we believe the plan should indicate the importance of the development facilities to encourage anglers of all abilities to access this valuable natural resource.

**Economic Development and Employment:** The Plan should acknowledge the major contribution which angling generally makes to tourism in the county and should provide for close co-operation with IFI in relation to development, promotion and marketing of the angling product in the county.

**Physical Infrastructure:** The potential impact of roads and watercourse crossings on fish and fish habitats include barriers to fish passage, water pollution, removal of bed material and disturbance of riparian vegetation. The impacts of poorly designed river/stream crossing structures can be serious in terms of habitats loss. Prevention of the free upstream migration of fish species concerned and contravenes the legal obligation under the WDF to protect the ecological status of river catchments and channels. Indeed, it is an offence under the Fisheries Acts to prevent the free passage of fish.

IFI recommends that the new Plan should include a clear policy on the use of clear span structures, where possible, on fisheries waters and that IFI should be consulted on any such proposed developments. Consultation with fisheries bodies should commence early in the planning project and the guidelines “Requirements for the protection of fishery habitat during the construction and development works at river sites” should be referred to in addition to the NRA guidelines.

**Water and Wastewater:** The Development Plan is an opportunity to promote policies and awareness of water conservation which may ultimately result in a reduction in water use. Water conservation and water use efficiency are central elements of any strategy to enhance water supply reliability, restore ecosystems, and respond to climate change and changing demographics. Significant increases in water conservation and water use efficiency will be required to ensure reliable water supplies in the future. Best practice should be promoted in respect of water conservation in all developments through such methods as rain water harvesting. Another problem which is particular to summer months (when river/stream flows are often low) is wide scale unregulated water abstraction for crop irrigation. This practice may have significant ecological implications/impacts if large volumes of water are abstracted over a short period of time from nursery or spawning streams, such abstractions during dry weather or drought periods could have severe repercussions for aquatic habitats, fish stocks and accordingly the ecological status of watercourses in terms of the WFD.

**Wastewater:** Sufficient treatment capacity must be available both within the receiving sewerage systems locally and downstream of waste water treatment plants over the full duration of the plan in order that the ecological integrity of the ultimate receiving waters are protected. IFI would highlight the importance of compiling a comprehensive and robust assessment of both local infrastructural needs and Local Authority capacity to meet those needs into the plan. Should particular WWTP's fail to provide expected capacities during the life of the plan, IFI would highlight the risk of associated significant environmental impacts which may result from local development.

There are a number of plants in the county, which are at or nearing capacity. Upgrading these plants which discharge into fishery waters should be prioritised. The plants, which are aware of require upgrading include: Kingscourt, Virginia and Bailieborough. The treatment plant at Ballyjamesduff is also approaching capacity.

**Renewable Energy:** Windfarms: The potential impacts of the proposed development on fisheries relate largely to the construction of the turbines and access roads and the laying of cables, etc. When this work is carried out, in close proximity to a watercourse there is a potential for negative impacts on the aquatic habitat, e.g.

water pollution, interference/disturbance with the instream and riparian habitat. Renewable energy projects such as windfarms should be carried out in accordance with any fisheries guidelines issued. Consultation with fisheries bodies should commence early in the planning project.

**Rural Areas:** Development should comply with the WFD and other legislation to the protection of the aquatic environment. In relation to agriculture, we would urge the inclusion of a policy to ensure stringent implementation of the Nitrates Regulations/cross-compliance.

**Urban Areas:** Watercourses are natural corridors for fish and wildlife movement. They may be of significant amenity value or have such potential. They may also be of significance in terms of a towns' traditional and social history. It is essential that watercourses be maintained in an environmentally and aesthetically sensitive manner for future generations to cherish and protect. IFI requests that the Development Plan provide for the maintenance and preservation of all watercourses and associated riparian habitats.

**Natural Heritage:** Environment:- The EU Water Framework Directive (2000/60/EC) entered into force in December 2000 requires the protection of the ecological status of river catchments – this encompasses water quality and requires the conservation of habitats for ecological communities. One of the primary objectives of the Directive is to establish a framework which prevents further deterioration and protects and enhances the status of aquatic ecosystems. Protection of aquatic ecosystems requires that river systems be protected on a catchment basis.

The Development Plan should include policies to ensure that developments do not lead to the spread of invasive species. Invasive species may drive local native species to extinction via competitive exclusion, niche displacement or hybridisation with related native species.

## 1. Geological Survey Ireland

### Strategic Environmental Issue Papers – October 2012 – Environmental Scoping Document

#### Compilation of the Strategic Environmental Assessment (SEA) of the Development Plan, “Soils and Water” chapter:

The “Soils and Water” chapter of the SEA should contain information on soils, geology, geological heritage, surface water and groundwater.

Relevant data are available on GSI website at [www.gsi.ie/mapping](http://www.gsi.ie/mapping) (either in the form of mapviewers or datasets to download for soils, bedrock, karst, groundwater vulnerability, landslides...)

Geological heritage data are not available as the audit of County Geological Sites has yet to be carried out for Co. Cavan. Please find attached provisional inventory of 20 sites or so for Co. Cavan, which will be confirmed during the audit. Should you have any query in relation to the geological heritage of the County, please contact Sarah Gatley at [sarah.gatley@gsi.ie](mailto:sarah.gatley@gsi.ie), 01-678 2837.

#### What key issues will be addressed in the new development plan?

##### *“Protection of our environment and our natural heritage”*

The Heritage Act (1995) defines natural heritage as including flora, fauna, wildlife habitats, landscapes, seascapes, wrecks, geology, inland waterways, heritage gardens and parks.

Geological heritage is part of Cavan's natural heritage and should feature in the “Soils and Geology” chapter of the SEA.

Rigorous evaluation of the County's geological heritage through an audit of County Geological Sites (CGS) will ensure adequate protection against inappropriate development as per objective of the current County Development Plan (CDP), as described in item 1 of this letter regarding the review of Cavan CDP.

Once documented, the sites should be integrated in the Local Authority's planning system (in the CDP and in the planning department Geographical Information System). Where applications for development appear to possibly impact on CGS, consultation with GSI should take place to inform on possible mitigation measures, if applicable.

Should you have any query on geological heritage or the above mentioned, please contact Sarah Gatley, Head of the Irish Geological Heritage and Planning Programme at [sarah.gatley@gsi.ie](mailto:sarah.gatley@gsi.ie), 01-678 2837.

GSI also produced guidelines with the Irish Concrete Federation on how to address geological heritage features when identified in pits and quarries. I've enclosed a copy for you information. The guidelines can also be downloaded from GSI website at: <http://www.gsi.ie/Programmes/Heritage+and+Planning/Planning/Quarrying+Guidelines.htm>

#### **What are the main environmental issues facing Cavan between now and 2020?**

- **Soils and Water: impact on landscape, geology, soils and water;**

Consultation with the Geological Survey of Ireland should take place in relation to planning applications for quarries (either for new applications or applications for retention).

- **Air/Noise/Climate: renewable energy;**

Consultation with the Geological Survey of Ireland should take place in relation to wind farms applications as per DoEHLG Wind Energy Development Guidelines (chapter 5.3.)

- **Material Assets:** In order to document the material assets of the county, please note that GSI Minerals Programme has been compiling an "Aggregate Potential Mapping" (APM) project (for crushed rocks and sand and gravel pits) with an online viewer recently launched and accessible either from GSI website: [www.gsi.ie/mapping](http://www.gsi.ie/mapping) or direct link:

<http://spatial.dcenr.gov.ie/APM/index.html>

Cavan data are not uploaded yet on the viewer but have been compiled. Should you require the dataset, please contact Gerry Stanley, Head of the Minerals Programme at [gerry.stanley@gsi.ie](mailto:gerry.stanley@gsi.ie), 01-678 2863.

Reference to the GSI/ICF guidelines mentioned above "Geological heritage and the extractive industry" should also be referred to.

I hope that these comments are of assistance for the preparation of Cavan new CDP and SEA, and if the GSI can be of any further help, please contact me.

(A hard copy of this correspondence along with a copy of the GSI/ICF guidelines have also been posted to you).

#### **2.5. Response from the public**

There was no specific written response from the public consultations, to the issues raised in the Strategic Issues Papers.

#### **2.6. The Environmental Report**

The Environmental Report follows the requirements of Schedule 2B (S.I. 436 of 2004) see Appendix 9. Chapter 4 details relevant plans and programmes which have been taken into consideration during the preparation of the Draft Cavan County Development Plan. As a starting point to the SEA process, the Baseline Environmental data is taken from the existing Environmental Report which was prepared for the Cavan County Development Plan (2008 – 2014). Environmental data was sourced and updated from the most recent reports for Ireland and County Cavan.,

Existing Environmental Issues in County Cavan were identified and Environmental Objectives (based on the environmental receptors – biodiversity, water, air etc.) were drafted from national environmental policy while taking existing environmental problems in County Cavan into account.

Objectives and policies in the new *Draft* County Development Plan were sourced from the existing development plan and, where relevant new sets of policies and objectives were drawn up and compared to the Environmental Protection Objectives through the SEA methodology established under the current Environmental Report prepared for the for the County /Development Plan (2008-2014). Subsequently, the likely significant effects of implementation of the County Development Plan were identified through the identification of conflicts between the two sets of objectives and policies. This was assessed in a matrix format (see Appendix ...).

Where conflicts arose, opportunities to prevent, reduce or offset any significant adverse effects of implementing the Development Plan were examined and if necessary, some policies were improved with measures to mitigate the effects on the environment.

Alternative development scenarios for the County were formulated, based on the environmental receptors (i.e. landscape, biodiversity, human health, etc.) and areas with existing environmental problems. The preferred development scenario was reached for the Draft County Development Plan.

Mitigation measures and methods of offsetting potential impacts have been proposed during the course of the preparation of the two documents. This has resulted in objectives and policies which are more robust and environmentally sustainable. Similarly, methods of monitoring and indicators of change in the environment have been proposed with set targets to be reviewed over the duration of the County Development Plan.

**Table.....: Summary of SEA Methodology**

Action	Comments
<b>1. Screening</b>	An Environmental Report is mandatory for a County Development Plan. No Screening was undertaken.
<b>2. Scoping Issues Paper</b>	Scoping Issues Paper prepared for the first statutory public consultation.
<b>3. Consultation with the Environmental Authorities</b>	Submissions received, analysed and incorporated into the draft Development Plan and Environmental Report preparation
<b>4. Preparation of the draft Environmental Report and Draft County Development Plan</b>	Joint meetings were held with the Planning officers responsible for drafting the Development Plan and the author of the SEA reports and key Sections of the Council. Information was sought from key sources (websites containing relevant current environmental information for the County).
<ul style="list-style-type: none"> <li>▪ <b>Environmental Objectives</b></li> </ul>	



<p><b>established and Development Objectives established</b></p> <ul style="list-style-type: none"> <li>▪ <b>Assessment of Alternative Scenarios</b></li> <li>▪ <b>Mitigation measures detailed</b></li> <li>▪ <b>Monitoring measures detailed</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ Objectives and Policies were prepared for the Draft Development Plan and assessed in the Environmental Report. Development Scenarios for the County were examined.</li> <li>▪ Feedback from on-going Plan preparation process and Environmental Report preparation</li> <li>▪ Favoured scenario chosen.</li> <li>▪ Mitigation measures discussed and chosen.</li> </ul> <p>Monitoring incorporated into existing methods.</p>
<p><b>6. Monitoring the County Development Plan</b></p>	<p>Monitoring significant environmental effects over the lifetime of the County Development Plan</p>

**2.6.1 Draft Publications**

The Environmental Report and Draft County Development Plan have will be made available for public viewing and for comment which includes the Environmental Authorities, the Prescribed Bodies<sup>1</sup> and other relevant stakeholders. Submissions will be requested within the 10 week consultation period i.e. by .....October 2013????

Following on from public consultation, the submissions will be compiled in a Manager’s Report which will make recommendations to the Council as to the Development Plan and Environmental Report. However, it is important to note that certain strategic planning issues have already been determined at national or regional level and more detailed issues are more appropriately left for consideration at Local Area Plan level (information on this can be found in section 4 of this document).

<sup>1</sup> Planning and Development Regulations, 2001 as amended.

### 2.6.2 Final Publications

When the new County Development Plan has been adopted, an **Environmental ‘Summary Statement’** will be prepared identifying how environmental considerations have been integrated into the Development Plan, making reference to submissions received or details of consultations, the reasons for choosing the Plan in light of other reasonable alternatives and giving details of proposed monitoring procedures of the significant environmental effects of implementing the County Development Plan.

### 2.6.3 Layout of the Environmental Report

The layout of the Report is consistent with Schedule 2B of the SEA Directive and is as follows:

- **Non-Technical Summary**

This is a brief summary of the Environmental Report, it’s main points and conclusions.

- **Introduction & SEA Methodology**

This is a brief description of the type of plan involved and purpose of the report, SEA requirements, its benefits and how the Draft Development Plan and Environmental Reports have progressed. This includes the steps taken in the SEA process, authors, methods used, technical difficulties encountered and a list of environmental authorities consulted, etc.)

- **Summary Of Key Objectives Of The Plan**

The key objectives of the new Draft Plan are included in this section. There is also a brief description of County Cavan.

- **Relationship Of The Plan With Other Relevant Plans And Programmes**

Relevant plans and programmes are described in this section. These documents must be considered in the preparation of the new Draft County Development Plan.

- **Summary Of Baseline Environment/ Existing Environmental Problems**

This is a summary of the baseline information gathered together at the Scoping Stage. The main environmental problems are outlined here.

- **Environmental Protection Objectives**

Environmental Objectives are gathered together from international and national level and are applied to Development Objectives and policies of the new Draft County Development Plan.

- **Assessment Of Alternatives And Selection Of Preferred Alternatives**

An assessment of proposed development alternatives in the County are considered at this stage. Scenarios are tested and the most appropriate one is chosen.

- **Incorporation Of Mitigation Measures And Assessment Results Into The Plan**

Objectives and policies which are chosen are examined in terms of their effects on the environment, should these be significant, measures to prevent, reduce or offset these effects are proposed and integrated into the County Development Plan.

- **Monitoring Proposals**

This contains the expected proposals for monitoring the significant effects of the County Development on the environment. A number of indicators of change and targets are identified and existing monitoring arrangements are utilised.

#### 2.6.4 Technical difficulties encountered during the preparation of the Environmental Report

During the preparation of the *draft* Environmental Report, no new research was undertaken and information was gathered from existing sources of data. It should be noted that there are a number of areas where data was not readily available or at a level that was applied to County Cavan. Some of these include:

- Lack of habitats surveys for non-designated sites and insufficient baseline data on habitats and species to allow for on-going monitoring
- Information is largely paper based with exceptions of designated areas in digitised format (GIS)
- Deficiency of information on buildings at risk
- Geological heritage data, for example, is not available as the audit of County Geological Sites has yet to be carried out for Co. Cavan.
- No designated Architectural Conservations Areas (ACAs)
- Undiscovered sites of cultural heritage
- Many of the environmental reports which were prepared for Ireland, do not have a County-specific focus. E.g. data on Air Quality of County Cavan.
- Much of the information

During the course of the Scoping process, the Environmental Protection Agency, in its submission to the Council have made recommendations as to possible tasks to be undertaken for the County over the duration of the Development Plan and beyond. These can be found [in Appendix 3:.....??](#)

#### 2.7. Way forward: What happens next?

The comments from the Environmental Authorities and Statutory consultees, in response to the Scoping Issues Paper, will be noted in the finalisation of the Scoping Report. This final scoping report will incorporate comments which propose the nature and extent of environmental issues for County Cavan that will be contained in the Environmental Report, which in turn will influence the drafting of the new Development Plan. This will ensure that all environmental considerations are taken into account when formulating policies for the plan.

The final scoping report will establish the environmental baseline data which has been collected and will contribute to the identification of sensitive environmental issues. Alternative development scenarios will be developed to ensure that the County Development Plan will have objectives and policies which minimise the potential for significant environmental effects from the implantation of the plan.

### 3.0. KEY OBJECTIVES OF THE NEW DRAFT CAVAN COUNTY DEVELOPMENT PLAN

#### 3.1. Nature and Lifespan of the new draft Cavan County Development Plan(2014-2020)

The Draft County Development Plan if adopted, span a further 6 year period from 2014 to 2020. It will be reviewed after four years. The Draft Development Plan contains Local Area Plans and Small Town and Village Plans. It is also to be read in conjunction with the Draft Cavan Town and Environs Development Plan. The Strategic Environmental Assessment will monitor the effects of the Development Plan while it is in force.

#### 3.2. Cavan County – the context

County Cavan is located in the north of the Republic of Ireland, within the province of Ulster and is bounded by the Counties’ of Monaghan to the north, Leitrim to the south-west, Longford to the south, Meath to the east and Fermanagh (Northern Ireland) to the north.

##### 3.2.1. National and Regional Context

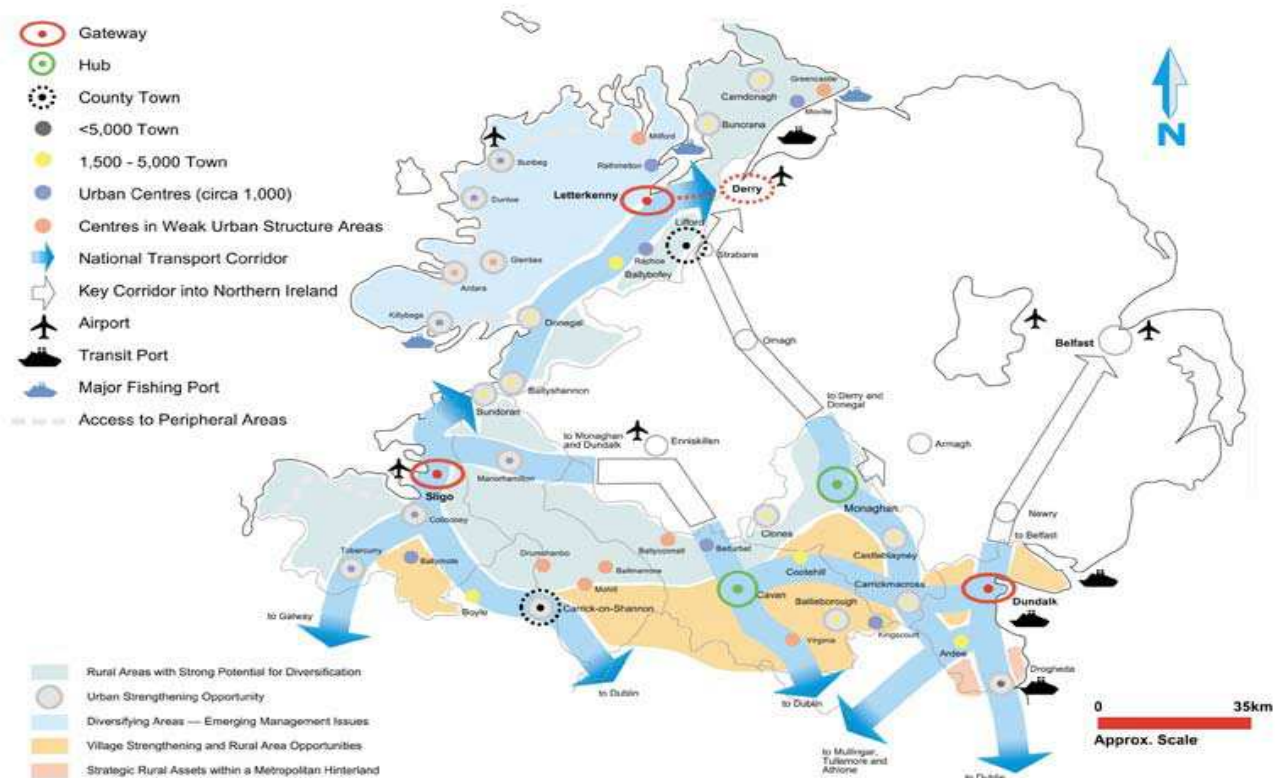
The National Spatial Strategy (NSS) identifies the county as being located within the ‘Border Region’ . The NSS divides the border region in two three broad areas:

- The north western part of the border region, mainly Donegal
- The western part, mainly Sligo and Leitrim
- The central and eastern parts: Cavan, Monaghan and Louth

These areas are identified as having distinct characteristics which essentially results in county Cavan being divided into two broad area types. The east and the majority of the county is located in an area identified as having ‘Village Strengthening and Rural Area Opportunities’ and the West is located in an area identified as being ‘Rural Areas with Strong Potential for Diversification.’

The County is in a key location, both nationally and within the Border Region, as three national routes within the County link many of the main towns within Cavan and provide linkages to towns within the region. These national routes open the county up to the rest of Ireland and act as a route way into and out of Northern Ireland.

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### 3.3. Population & Settlement Framework

The population census captured the population of County Cavan as 73,183 persons in 2011. A significant increase from 2006 as illustrated in the table below:

Table 1: County, Border Region and State Population Change 2002-2011

County, Region or State	2002	2006	% Change	2011	% Change
<b>Cavan</b>	56,546	64,003	13.2	73,183	14.3
<b>Border Region</b>	432,534	468,375	8.3	514,891	9.9
<b>State</b>	3,917,203	4,239,848	8.2	4,588,252	8.2

Source: Census of Population, Volume 1: Population Classified by Area 2002 and 2011.

The settlement strategy is provided in conjunction with the National Development Plan (NDP), the National Spatial Strategy (NSS) and the Border Regional Planning Guidelines (BRG). Under the NSS, County Cavan was identified as being located within the Border Region, along with Donegal, Louth, Sligo, Monaghan and Leitrim. Cavan Town is identified as a Hub Town in the NSS.

The Border Regional Authority - Regional Planning Guidelines (2010 – 2022), describe the settlement strategy for the region as: ‘.....act to structure future growth in the longer term, to maximise and optimise the development potential to optimise the development potential of the Region taking account of the strengthening linkages between the economies of Northern Ireland and the Republic, and the increasing recognition of the prospects for both economies on the island of Ireland’.

The region is characterised as being predominantly rural with a weak urban structure and no dominant urban centre. Seven urban centres with important regional roles have been identified, these include the Hub towns of Monaghan and Cavan.

The BRG’s have identified the Balanced Development Model as being the most appropriate model for development. This option focuses development on the seven key towns, including Cavan Town.

#### **Balanced Development Model:**

This model is considered to be the most desirable for the following reasons:

- It will provide balanced regional development throughout the Region;
- It offers the potential to develop the model further in the County Development Plans through the development of the urban hierarchy outlined in table 3.1.
- It will direct an appropriate portion of development and investment to existing urban centres where services exist;
- It reinforces the priority required for the strategic road network between key settlements;
- The key settlements will act as key drivers for the region whilst providing key services and functions for the smaller settlements and rural hinterland;
- It creates a sustainable relationship between urban and rural areas and will support the vitality and viability of rural communities;
- It protects the key environmental sensitive and vulnerable area within the region.

#### **Key Aims of the Border Region’s Settlement Strategy:**

- Strengthen the critical mass of the Region’s key urban settlements by prioritising regional population growth and housing requirements;
- Outline a policy framework for the development of the remaining share of population in the Region; and
- Sustain and revitalise lower tier settlements and rural areas within the above development framework.

#### **Key components of the Border Region Settlement strategy:**

Development of critical mass in the 7 key urban centres which will be the focal points for growth;

- The linking of the key of the key urban centres through the development of Strategic Radial Corridors and Strategic Links;
- Promote and facilitate the emerging north/south corridors on the western (Atlantic Arc) and eastern (Eastern Corridor) seaboard, which will be linked through the Strategic Rail Corridors and Strategic Links;
- Development of the Northern Cross within the Region and into Northern Ireland.

- Improved and enhanced connectivity through the Central Border Region.  
Given Cavan’s proximity to Northern Ireland, and the importance of linkages between the border region, as well as, between Cavan County and the border Region, the following issues should be addressed.

#### Core Strategy of the new Cavan County Development Plan 2014 – 2020

The requirement for the introduction of a Core Strategy into Development Plans was introduced in the Planning and Development (Amendment Act), 2010. This Act stated that Development Plans must include, as part of their written statements, a Core Strategy which “shows that the development objectives in the development plan are consistent, as far as practicable, with national and regional planning guidelines.” The legislation also requires the inclusion of information in relation to population and settlement, retail development and rural areas.

This core strategy aims to set a vision and overall strategy for the spatial development of the county and sets a framework for the development of the policies and objectives in the subsequent sections of the plan. The policies and objectives will be consistent with the conservation and protection of the environment as demonstrated in the Strategic Environmental Assessment which accompanies this plan. The core strategy will establish a settlement hierarchy for the county based on an analysis of population, retail and service provision in all settlements.

### 3.4 Main objectives of the draft County Development Plan

The main aims of the new plan are purported to be based on the principles of sustainable development, which will inform all the objectives, policies, decisions and actions of the Council for the period of the Plan. Sustainable Development is defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

It is recognised that sustainable development has an economic, social and cultural dimension as well as an environmental one, and that only the integration of these policies can guarantee the quality of life of this and future generations. The need to strike a balance between development and conservation is at the heart of sustainability.

#### The aims of the Plan are:-

1. To facilitate the sustainable economic and social development of the county, through the promotion of a positive climate for development initiative within the plan area.
2. To consider provision of a transportational and landuse structure that will provide the orderly planning and development of the county and accommodate sustainable urban growth.
3. To upgrade and expand the county’s physical infrastructure in order to accommodate existing and projected needs.
4. To integrate housing and retail strategies (Retail Strategy will be reviewed in lifetime of plan), residential densities and childcare facilities as required under Part V of 2000 Act into the plan as is appropriate.

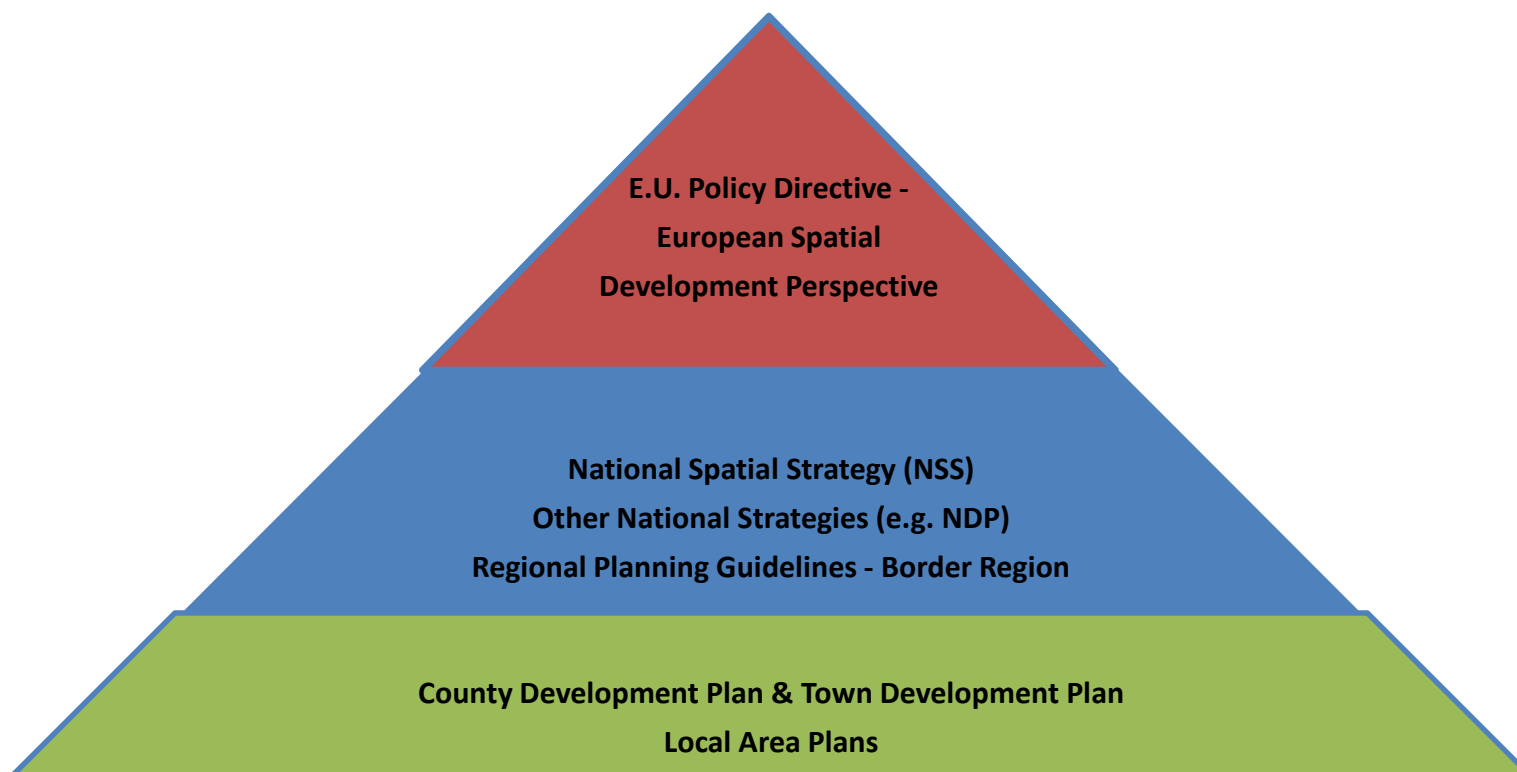
5. To conserve the natural and built environment of the county where it is recognised as having special value.
6. To strengthen the urban structure in the County through the planned orderly development of the County.
7. To have reference to appropriate Departmental Directives in respect of location of retail development and its impact outside of the central area.
10. To have regard to the Regional Planning Guidelines for the Border Area- Regional Planning Guidelines 2010-2022)

#### **4.0 RELATIONSHIP WITH RELEVANT PLANS & PROGRAMMES:**

Article 5 of the SEA Directive requires that the planning authority considers ‘reasonable alternatives taking into account the objectives and the geographical scope of the land and the significant environmental effect of the alternatives selected. As this is a County Cavan, though it must adhere to policy and strategic options which are pre-determined by higher level plans an guidelines (see figure 2.)

**Figure 2: Hierarchy of Plans and Programmes**





The County Development Plan will be affected by, and will affect a wide range of other relevant plans and programmes, and environmental objectives. It is therefore important to identify relevant plans and programmes which will affect the new County Development Plan and must be examined in the context of the Strategic Environmental Assessment. International, National and Regional Level Plans and Programmes include:

**Table ....? Relevant Plans and Programmes** as follows:

International, National and Regional Level Plans and Programmes include:

<b>International Plans and Programmes</b>	
<b>Document Name</b>	<b>Main Policy direction for the Plan</b>
<b>Agenda 21</b>	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.
<b>COMAH (Seveso II) Directive – European Communities (Control of Major Accident Hazards involving Dangerous Substances) Regulations (2000)</b>	The Seveso II Directive, sometimes referred to as COMAH, stipulates certain requirements for storage of relatively large quantities of substances classified as dangerous.
<b>Directive 2001/42/EC of the European Parliament and Council of 27<sup>th</sup> June 2001 on the assessment of the effects of certain plans and programmes on the environment.</b>	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: <ul style="list-style-type: none"> <li>▪ European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004, S.I. No. 435 of 2004</li> <li>▪ Planning and Development (Strategic Environmental Assessment) Regulations 2004, S.I. No. 436 of 2004</li> </ul>
<b>EU 6<sup>th</sup> Environmental Action Programme (1998)</b>	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: <ul style="list-style-type: none"> <li>▪ Climate Change</li> <li>▪ Nature and Biodiversity</li> <li>▪ Environment and Health and Quality of Life</li> <li>▪ Natural Resources and Waste</li> </ul>
<b>European Biodiversity Strategy (1998)</b>	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).
<b>European Spatial Development Perspective (1999)</b>	The main aim of the ESDP is to maintain the individual characteristics of the various countries within the EU while simultaneously increasing integration between the member states, socially and economically with the protection of the environment as a core element. The ESDP has three underlying objectives: <ol style="list-style-type: none"> <li>1. Economic and Social Cohesion across the Community.</li> <li>2. Conservation of natural resources and cultural heritage</li> <li>3. Balanced competitiveness across the EU</li> </ol>
<b>E.U. Water Framework Directive</b>	The Directive rationalises and updates existing water legislations and provides for water management on the basis of River Basin Districts (RBD's).
<b>Urban Waste Water Treatment Directive</b>	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.
<b>Other International Directives/ Conventions and Papers include:</b>	
▪ EU Freshwater	

<ul style="list-style-type: none"> <li>▪ Fish Directive</li> <li>▪ EU Urban Waste Water Treatment Directive</li> <li>▪ EU Major Accidents Directive</li> <li>▪ Energy Performance in Buildings Directive, 2005</li> <li>▪ Nitrates Directive</li> <li>▪ Groundwater Directive</li> <li>▪ Surface Water Directive</li> <li>▪ Dangerous Substances Directive</li> <li>▪ Environmental Impact Assessment Directive</li> <li>▪ Bathing Water Directive</li> <li>▪ Habitats Directive</li> <li>▪ Birds Directive</li> <li>▪ EU White Paper on Renewable Energy (1997)</li> <li>▪ Integrated Pollution Prevention Control Licensing</li> <li>▪ UN Convention of Biological Diversity</li> <li>▪ European Landscape Convention 2000</li> <li>▪ Convention on Wetlands of International Importance (Ramsar Convention 1971)</li> <li>▪ European Convention on the Protection of the Archaeological</li> </ul>	
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Heritage (Valletta Convention) • Granada Convention for the Protection of the Architectural Heritage of Europe 1985	
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### National and Regional Level

	Main Policy direction for the Plan
<b>National Spatial Strategy (2002)</b>	The National Spatial Strategy published in November 2002 is a twenty year planning framework designed to achieve a better balance of social, economic, physical development and population growth between regions. Its focus is on people, on places and on building communities. Cavan Town has been identified as a 'hub'. (The NSS is based upon the European Spatial Development Perspective).
<b>National Development Plan 2007-2013</b>	The National Development Plan (NDP) involves an investment of public, EU and private funds over the period 2000 - 2006. The funding is to provide for economic and social infrastructure, employment and human resources, productive sector as well as the Peace Programme. The Plan will involve significant investment in health services, social housing, education, roads, public transport, rural development, industry, and water and waste services.
<b>Sustainable Development – A Strategy for Ireland (1997)</b>	"Sustainable Development - A Strategy for Ireland" was published in 1997 by the Department of the Environment. The Strategy recognises the need for good spatial planning and the inclusion of sustainability concerns in urban and built environment policies. The Strategy recognises that the pattern and density of urban development has a major influence on travel patterns. The Strategy encourages high movement activities 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.
<b>National Anti-Poverty Strategy (NAPS)</b>	The National Anti-Poverty Strategy (NAPS) is the government strategic initiative to place the needs of the poor and the socially excluded at the top of the national policy agenda. The NAPS recognises the unacceptable scale of poverty and its impact on those directly affected and on the wider society and it 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.
<b>Transport 21</b>	<i>Transport 21</i> is a strategy which will see €34.4 billion invested over the next 10 years in Irish transport. Connecting communities and promoting prosperity is the core aim of this strategy. The programme seeks to meet the transport needs of the country's citizens and also underpin our competitiveness into the future. A comprehensive and efficient transport network is essential if we are to continue to improve our living standards while remaining competitive in the global market place. Transport 21 recognises that quality, integrated transport is critical for competitiveness, return on investment and regional development.
<b>The Border Regional Authority – Regional Planning Guidelines (2010-2022) September 2010</b>	The 2004 Guidelines set out a vision for the Region and nine key strategic goals that are required to achieve that vision. It is considered that the core elements of that vision remain valid, but it has been updated to reflect the changed circumstances of the Region since 2004. The key strategic goals have also been updated to reflect the new circumstances that this Region faces over the period of the Guidelines of 2010 – 2022. <b><i>'By 2022, the Border Region will be a competitive area recognised as, and prospering from, its unique interface between two economies, where economic success will benefit all, through the implementation of the balanced development model, which will provide an outstanding natural environment, innovative people, which in themselves, will be our most valuable asset'</i></b>
<b>National Biodiversity Plan (2002)</b>	This Plan was published in 2002. It aims 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.
<b>National Climate Change Strategy (2007-2012)</b>	This National Climate Change Strategy 2007-2012 builds on the commitment to sustainable development set out in <i>Towards 2016</i> and the National Development Plan 2007-2013 and is one of a number of interrelated Government initiatives that will address energy and climate change issues. These include the White Paper on Energy, the Bio-Energy Action Plan and the forthcoming Sustainable Transport Action Plan. Taken together, these measures will support environmental sustainability, underpin our competitive position and enable us to meet our global responsibilities. This National Climate Change Strategy 2007 - 2012 sets out a range of measures, building on those already in place under the first Strategy. It shows clearly that the necessary emission reductions will be delivered,

	<p>primarily through action within our jurisdiction. The Strategy involves a cross-cutting approach and includes targets in the transport, residential, industrial, waste and agricultural sectors. Acknowledging that responsibility must be shared by a wide range of actors, including the public sector, which must lead by example.</p>
<p><b>Making Ireland's Development Sustainable (2002)</b></p>	<p>This document identifies focuses mainly on the link between economic activity and 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, <i>Agenda 21</i>. The Irish Government published <i>Sustainable Development: A Strategy for Ireland</i> in 1997 which applies <i>Agenda 21</i> in Irish circumstances. <i>Making Ireland's Development Sustainable</i> reviews progress with sustainable development in Ireland since Rio, assesses the challenge we now face and sets out policies and actions to meet that challenge.</p>
<p><b>Other Relevant Guidance</b></p>	
<p><b>Retail Planning Guidelines (2012)</b></p>	<p>These guidelines update and replace the Retail Planning Guidelines for Planning Authorities (January, 2005) taking account of recommendations of the Review of the Economic Impact of the Retail Cap – Forfas (April 2011). Consequently, these revised Guidelines contain, in particular, revised policies regarding floorspace caps. A number of policies have influenced these Guidelines: National Spatial Strategy; The National Climate Change Strategy; Smarter Travel: A Sustainable Transport Future; Government Policy on Architecture, the Regional Planning Guidelines(2010-2022; the Planning Guidelines on Development Plans;(2007); Development Management (2007) Sustainable Residential Development in Urban Areas (Cities and Towns and Villages), and on Spatial Planning and National Roads (2012). The Guidelines identify Cavan Town as aligned with its Hub town status (NSS) as performing an important regional retailing function.</p>
<p><b>Sustainable Rural Housing Guidelines (2005)</b></p>	<p>In supporting housing development patterns in rural areas that are sustainable, policies and practices of planning authorities should seek to:</p> <ol style="list-style-type: none"> <li>(1) Ensure that the needs of rural communities are identified in the development plan process and that policies are put in place to ensure that the type and scale of residential and other development in rural areas, at appropriate locations, necessary to sustain rural communities is accommodated,</li> <li>(2) Manage pressure for overspill development from urban areas in the rural areas closest to the main cities and towns such as the gateways, hubs, and other large towns.</li> </ol> <p>A strong theme in the Sustainable Rural Housing Guidelines is the need to strengthen villages and towns. Planning authorities need to ensure that cities, towns and villages offer attractive and affordable housing options to meet the housing needs of urban communities and persons wishing to live in urban areas.</p>
<p><b>Architectural Heritage Protection Guidelines (2005)</b></p>	<p>The guidelines include the criteria to be applied when selecting proposed protected structures for inclusion in the Record of Protected Structures (RPS), guidance to Planning Authorities on declarations and determining planning applications in relation to a protected structure, a proposed protected structure or the exterior of a building within an Architectural Conservation Area (ACA). It also contains supplementary detailed guidance to support Planning Authorities in their role to protect the architectural heritage when a protected structure, a proposed protected structure or the exterior of a building within an ACA is the subject of development proposals and when a declaration is sought in relation to a protected structure.</p>
<p><b>The Planning System and Floodrisk Management - Guidelines for Planning Authorities (2009)</b></p>	<p>The OPW and the Department of the Environment, Heritage and Local Government, provide guidance on Planning Policy in relation to flooding. Development plans should be pro-active in addressing flooding by including: for example: policies to protect, improve or restore floodplains or the coastal margins. The SERA process addresses any likely significant effects on the environment, and their amelioration, from the implementation of development plans through all stages of the plan-making process. A flood risk identification (Stage1) is to assess whether full flood risk assessment is required, should ideally be carried out in a manner that is integrated with the SEA process, rather than constituting an additional or separate process. A Strategic Flood Risk Assessment (SFRA) should be prepared and mapped flood zones identified as part of the development review process.</p>

<b>Quarries and Ancillary Activities Guidelines (2004)</b>	Aggregates are a significant natural resource. The extractive industries make an important contribution to economic development in Ireland. However, the operation of quarries can give rise to land use and environmental issues which require to be mitigated and controlled through the planning system. These Guidelines seek to identify those issues and to suggest best practice in dealing with them. It is important that Planning Authorities recognise that quarries (including sand-and-gravel pits) vary greatly in size, with varying environmental impacts, and that the planning response to proposed developments should be tailored accordingly.
<b>Landscape and Landscape Assessment Guidelines (2000)</b>	These Guidelines recommend the assessment method known as <u>Landscape Character Assessment</u> which favours a method of characterisation i.e. the discernment of the character of the landscape based initially on landcover – trees, vegetation, settlements, water etc. and landform which results from geological and geomorphological history. Added to this first level of assessment is a second layer described in the Guidelines as values, takes historical, cultural, religious and other understandings of the landscape into account. This method of assessment allows for a proactive approach to landscape so that it is viewed for its ability to accommodate developments, gives indicators as to which developments might be most suited, under what conditions and using what design criteria.
<b>Sustainable Rural Housing (2005)</b>	These guidelines set out in detail how the Government's policies on rural housing are to be implemented by Planning Authorities in making their development plans and in the operation of the development control system to ensure a vibrant future for all rural areas.
<b>Wind Energy Development Guidelines (2006)</b>	These Guidelines offer advice to Planning Authorities on planning for wind energy through the development plan process and in determining applications for planning permission. The guidelines are also intended to ensure a consistency of approach throughout the country in the identification of suitable locations for wind energy development and the treatment of planning applications for wind energy developments. They should also be of assistance to developers and the wider public in considering wind energy development.
<b>Irish National Forest Standard 2000</b>	In 1996, the Irish Government published <i>Growing for the Future: A Strategic Plan for the Development of the Forestry Sector in Ireland</i> . The aim of this strategy is to develop forestry to a scale and in a manner which maximises its contribution to national economic and social well-being on a sustainable basis and which is compatible with the protection of the environment. In <i>Growing for the Future</i> , a commitment was made to promote quality in all aspects of Irish forestry and to provide the instruments to achieve this. The IRISH NATIONAL FOREST STANDARD is the result of a consultative process initiated in 1999. Working parties were set up to consider environmental, economic, social and legal aspects of forestry and sustainable forest management. The groups were charged with developing indicators relating to the six criteria for sustainable forest management announced at Lisbon.
<b>National Inventory of Architectural Heritage (NIAH)</b>	The National Inventory of Architectural Heritage (NIAH) is a state initiative under the administration of the Department of the Environment, Heritage and Local Government. The purpose of the NIAH is to identify, record, and evaluate the post-1700 architectural heritage of Ireland, uniformly and consistently as an aid in the protection and conservation of the built heritage. NIAH surveys provide the basis for the recommendations of the Minister for the Environment, Heritage and Local Government to the planning authorities for the inclusion of particular structures in their Record of Protected Structures (RPS).
<b>Delivering A Sustainable Energy Future For Ireland - The Energy Policy Framework 2007 – 2020 (White Paper)</b>	This White Paper sets out the Government's Energy Policy Framework 2007-2020 to deliver a sustainable energy future for Ireland. It is set firmly in the global and European context which has put energy security and climate change among the most urgent international challenges. The White Paper sets out the actions to be taken in response to the energy challenges facing Ireland. The objective is to deliver a sustainable energy future, starting now, with a time horizon of 2020 but also looking beyond that.
<b>National Parks and Wildlife Service (NPWS)</b>	<p>The role of National Parks and Wildlife Service (NPWS) is:</p> <ul style="list-style-type: none"> <li>▪ To secure the conservation of a representative range of ecosystems and maintain and enhance populations of flora and fauna in Ireland,</li> <li>▪ To implement the <u>Wildlife Act, 1976</u>, the <u>Wildlife (Amendment) Act, 2000</u> and the <u>EU Habitats and Birds Directives</u>,</li> <li>▪ To designate and advise on the protection of <u>Special Areas of Conservation (SACs)</u>, <u>Special Protection Areas (SPAs)</u> and <u>Natural Heritage Areas (NHAs)</u> having particular regard to the need to consult with interested parties,</li> <li>▪ To make the necessary arrangements for the implementation of National and EU legislation and policies and for the ratification and implementation of the range of international Conventions and Agreements relating to the natural heritage,</li> <li>▪ To manage, maintain and develop <u>State-owned National Parks</u> and <u>Nature Reserves</u>.</li> </ul>
<b>Code of Practice:</b>	The purpose of this document is to provide guidance on the provision of wastewater treatment and disposal systems for single houses with a PE less

<p><b>Wastewater Treatment and Disposal Systems Serving Single Houses (P.E. &lt;10) (October, 2009)</b></p>	<p>than 10. Guidance is provided on site suitability assessment, selection of appropriate wastewater treatment system, design criteria for conventional septic tank systems and secondary treatment systems, and installation, operation and maintenance of the selected system. This document modifies some of the information in the earlier treatment manual for on-site systems for single houses. The key messages of the code of practice are:</p> <ul style="list-style-type: none"> <li>▪ The importance of proper site assessment taking account of not only local conditions specific to the proposed site but wider experience in the area, patterns of development, provisions of the development plan and other policies etc.</li> <li>▪ The need for design of on-site wastewater disposal systems specific to the local conditions</li> <li>▪ The need for follows through by the developer/ occupier – i.e. installation/ commissioning/ maintenance as per design and attendant recommendation/ conditions – otherwise breaches of various legislative codes is occurring.</li> </ul>
<p><b>Local Level</b></p>	
<p><b>A Strategy for the Economic, Social and Cultural Development of County Cavan (2002-2012)</b></p>	<p>This is a Strategy with a 'Shared Vision', for the Economic, Social and Cultural Development of the County. The strategy document involved rigorous consultation with all sectors to develop achievable objectives and actions which would be implemented over a 10 year period. The agreed vision for County Cavan is "to retain Cavan's People in the County through the maintenance, enhancement and promotion of the quality of life therein". The overall aims for the development of the County's are:</p> <ul style="list-style-type: none"> <li>▪ to stimulate and sustain the growth of Cavan's economy through increased innovation and research</li> <li>▪ to ensure that the infrastructure of County Cavan does not impede its economic and social development</li> <li>▪ to broaden the appeal of County Cavan as a quality tourist destination</li> <li>▪ to ensure that Cavan is a county that provides "quality of life" for all its people by focusing on social inclusion and tackling poverty and disadvantage</li> <li>▪ to retain the maximum number of people in agriculture through the sustainable production of quality agriculture produce whilst providing viable opportunities for those seeking off farm employment thereby maintaining rural communities</li> <li>▪ to protect and sustain and enhance the clean, green environment of County Cavan</li> <li>▪ to develop, promote and protect the cultural environment of the County whilst celebrating its cultural diversity and artistic strengths.</li> </ul>
<p><b>Waste Management Plan for the North East Region 2005 - 2010</b></p>	<p>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.</p>
<p><b>Cavan Heritage Plan (2006-2011)</b></p>	<p>The Cavan Heritage Plan (2002) was published in 2006. It is a local heritage plan that can be traced to the National Heritage Plan (2002), which acknowledges that the protection of heritage must begin at the local level as "the preparation and adoption of Local Heritage Plans involving local heritage fora, bringing together communities, local authorities and the government". The Cavan Heritage Plan contains aims, objectives and actions to be undertaken over the Plan period.</p>
<p><b>Changes</b></p>	<p><b>Comments</b></p>
<p>05/01/12</p>	<p>Added Green /Infrastructure links to Section 2.4</p>
<p>07/03/12</p>	<p>Updated link to EPA Envision GIS Website</p>
<p>12/03/12</p>	<p>Added Air Quality in Ireland 2010, (EPA, 2011)</p>
<p>12/03/12</p>	<p>Added National Waste Report 2010 (EPA, 2012)</p>
<p><b>Summary of Latest Updates in 2012</b></p>	
<p>12/03/12</p>	<p>Added the Quality of Bathing Water in Ireland – A report for the year 2010 (EPA,2011)</p>

12/03/12	Added The Quality of Bathing Water in Ireland – Report for the Year 2010, (EPA, 2011)
20/04/12	Added Reference to new National Biodiversity Action Plan 2011-16
29/05/12	Added Reference to Article 4.7 of WFD added to Section 1.1
29/05/12	Added Reference to EU and Comhar Green Infrastructure Links Section
17/08/12	Added Reference to Integrated Water Quality Report 2011 SE Ireland (2012)
17/08/12	Included update to Focus on Urban Wastewater Discharges Report (2012)
17/08/12	Updated reference to the latest The Quality of Bathing Water in Ireland Report for 2011 (EPA,2012)
17/08/12	Replaced Ireland’s Environment Report References with 2012 edition (EPA, 2012)

## 5.0 ENVIRONMENTAL PROTECTION OBJECTIVES

Environmental Protection Objectives must be established based on International, European Union or National level strategies and documents, which are relevant to the County Development Plan. The Planning Authority has also drawn on public consultation for relevant Objectives.

The County Development Plan has a large number of Development Objectives (see Appendix .....??). The effect of these Development Objectives and policies on the environment has been measured and cross-checked against the Environmental Protection Objectives (EPO). This has been accomplished through the use of a matrix. It has identified policies that may result in significant environmental impact on the environment so alternatives may be considered or mitigation measures suggested and in some case, may have involved the removal of the policy entirely.

The following are the **Environmental Protection Objectives** for the Draft County Development Plan:

### Biodiversity, Flora and Fauna:

- B1** Conserve designated habitats and protected species
- B2** Conserve and enhance the diversity of interdependent habitats and species in the wider environment
- B3** Protect terrestrial and aquatic habitats from invasive species

### Population and Human Health:

- P1** Improve people's quality of life based on high-quality residential, working and recreational environments and on sustainable travel patterns
- P2** Minimise the amount of waste to landfill
- H1** Minimise noise, vibration and emissions from traffic, industrial processes and extractive industry

### Landscape and Soil including minerals:



- L1** Conserve and enhance natural and historic landscapes and features within them
- L2** Conserve and enhance townscape quality
- S1** Give preference to the re-use of brownfield lands, reducing the need to develop Greenfield lands
- S2** Reduce consumption of non-renewable sand, gravel and rock deposits

**Water:**

- W1** Protect and enhance the quality of surface, ground and drinking water
- W2** Promote water conservation and sustainable water use, based on long-term projections of available water resources
- W3** Mitigate the effects of floods

**Air and Climate:**

- A1** Reduce air pollution and greenhouse gas emission
- A2** Promote energy efficiency and maximise use of renewable energy sources

**Material Assets:**

- M1** Maximise use of the existing built environment
- M2** Maintain infrastructure in the County and mitigate the effects of further infrastructure provision

**Cultural Heritage:**

- C1** Promote the protection and conservation of cultural heritage including architecture and archaeology

## 6.0 METHODOLOGY FOR THE ASSESSMENT AND DETERMINATION OF SIGNIFICANT EFFECTS

### Step 1:

The main Issues relating to the environmental topics or receptors (i.e. Biodiversity, Population and Human Health, Landscape etc.) are examined in the 'Baseline Data' section (see section 7.0).

### Step 2:

The Environmental Protection Objectives were chosen based on international, national, regional and local level environmental issues (see Chapter 5.0).

### Step 3:

Options for Scenarios for the Development of County Cavan were considered (see section 8.0).

### Step 4:

The Environmental Protection Objectives were compared to the Development Objectives (see Appendix 1) in order to assess significant effects of the environment, considering the context of the County Development Plan and the findings were linked to the 'scenario options'.

### Step 5:

Mitigation measures for development objectives are proposed which are ways of offsetting the effects on the environment (see Section 9.0). Section 9.0 also contains recommendations which have been included in the Draft Development Plan.

### Step 6:

Monitoring measures are proposed through the use of the 'Environmental Protection Objectives', a range of targets and a number of indicators for progress.

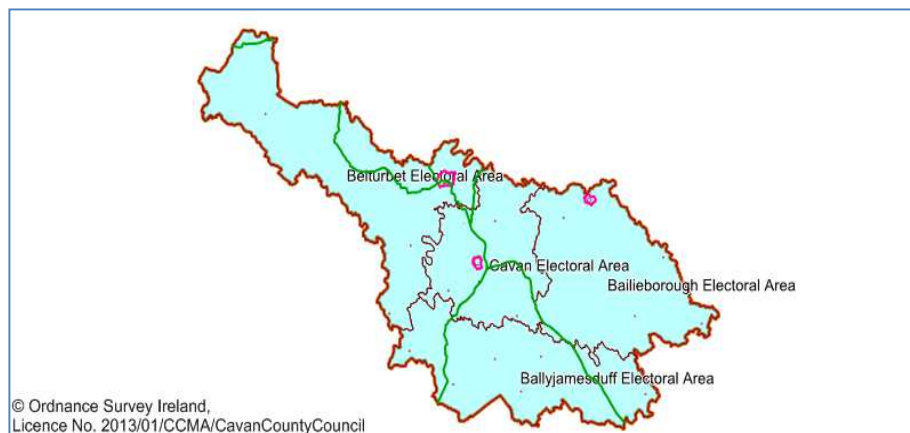
## 7.0 STATE OF THE ENVIRONMENT - KEY ENVIRONMENTAL ISSUES RELATING TO THE PLAN

The existing Cavan County Development Plan (2008 – 2014) is being reviewed and as part of the process, this Environmental Report will form the basis on which the Environmental Report of the Development Plan will be prepared. This includes the identification of key environmental issues and environmental receptors which affect the County and are likely to affect the County in the implementation of the new Development Plan.

### 7.1 SEA Study Area

The SEA study area covers the County of Cavan, as indicated in the map (See Figure 3)-

This map indicates the administrative boundary of county Cavan which is divided into the main Engineering areas which correspond to the Electoral Areas of: Belturbet; Bailieborough; Ballyjamesduff and Cavan. There are three town councils for Cootehill; Belturbet and Cavan Town, though these have limited functions, with the majority of the decision-making functions of the Council remaining in Cavan County Council.



This report forms part of the Scoping stage of the process (see Figure1). This sets the ‘scope’ and level of detail to be contained in the Environment Report.

This amended Scoping Report has been undertaken in accordance with the implementation of the SEA Directive (2001/42/EC): Assessment of the Effect of Certain Plans and Programmes on the Environment – Guidelines for Regional Authorities and Planning Authorities (Irish Government, November 2004). The format/process of the preparation follows the suggestion from the EPA documents: SEA Process Guidance; SEA Scoping Checklist; SEA Process Checklist and Wetlands Conservation and Protection (October,2012).

The guidelines ensure that the current state of the environment will be described, **using the most recent, and up-to-date environmental data, information and reports.** (This includes any new reports/information to be made available during the SEA process).

In addition, the current state of drinking water quality and treatment, along with the waste water effluent quality and treatment infrastructure should be described using the most recent and **up-to-date data information and reports.**

SEA and Appropriate Assessment: Article 6 of Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, the Habitats Directive. Appropriate Assessment, in accordance with the Directive is required for:

An Environment Assessment of a Development Plan must examine the significant effects of the proposed Plan on the environment including short, medium and long-term effects; permanent and temporary effects; positive and negative effects; and secondary, cumulative and synergistic effects on issues including:

- Biodiversity
- Population
- Human Health

- Flora
- Fauna
- Soil
- Water
- Air
- Climate
- Material Assets
- Cultural Heritage (architectural and archaeological)
- Landscape and the interrelationship between these issues

The baseline data establishes the current existing state of the environment (up to the making of the plan) and forms the basis from which to assess and predict potential impact. The headings used (i.e. Biodiversity, Water etc) will correlate with the environmental objectives as stated in the Environmental Report.

## 7.2 Biodiversity, Flora, Fauna

### 7.2.1 Biodiversity

Biological Diversity or ‘Biodiversity’ is the term given to the variety of life on Earth. It includes flora and fauna and the habitats or places where they live. The biodiversity that we see today is the result of billions of years of evolution, shaped by natural processes and increasingly, by the influence of human beings. We are dependent on biodiversity for our well-being as it provides us with food, fresh water, clean air, medicine, nutrient recycling, etc. In Cavan, most of our habitats have been impacted by human beings over time, the clearing of vegetation has resulted in the replacement of natural habitats with semi-natural habitats.

### 7.2.2 Current Situation

Much of the County lies in a low-land Drumlin Belt, which is a distinctive geographical feature consisting of small hills of boulder clay and inter-drumlin lakes. There are a range of field sizes bordered by low hedgerows. The intensification of agriculture increased the removal of hedgerows and woodland. ‘Landsat Classification’ (see figure 3) identifies the landuses in the County as being dominated by good permanent pastures, however north-west Cavan which is dominated by the Cuilcagh-Anierin Mountains is characterised by poor permanent pastures, upland bogs with grass and heather coverage and lowland bogs.

The National Parks and Wildlife Service (Department of the Environment, Heritage and Local Government) have responsibilities in designating areas of special environmental interest in the context of habitats identified as supporting fauna and flora of particular value. These are Special Areas of Conservation (SACs)<sup>2</sup>, Special Protection Areas (SPAs)<sup>3</sup>, Natural Heritage Areas (NHAs)<sup>4</sup> and Statutory Nature Reserves<sup>5</sup>. Areas of the County are specially protected under EU and National Law.

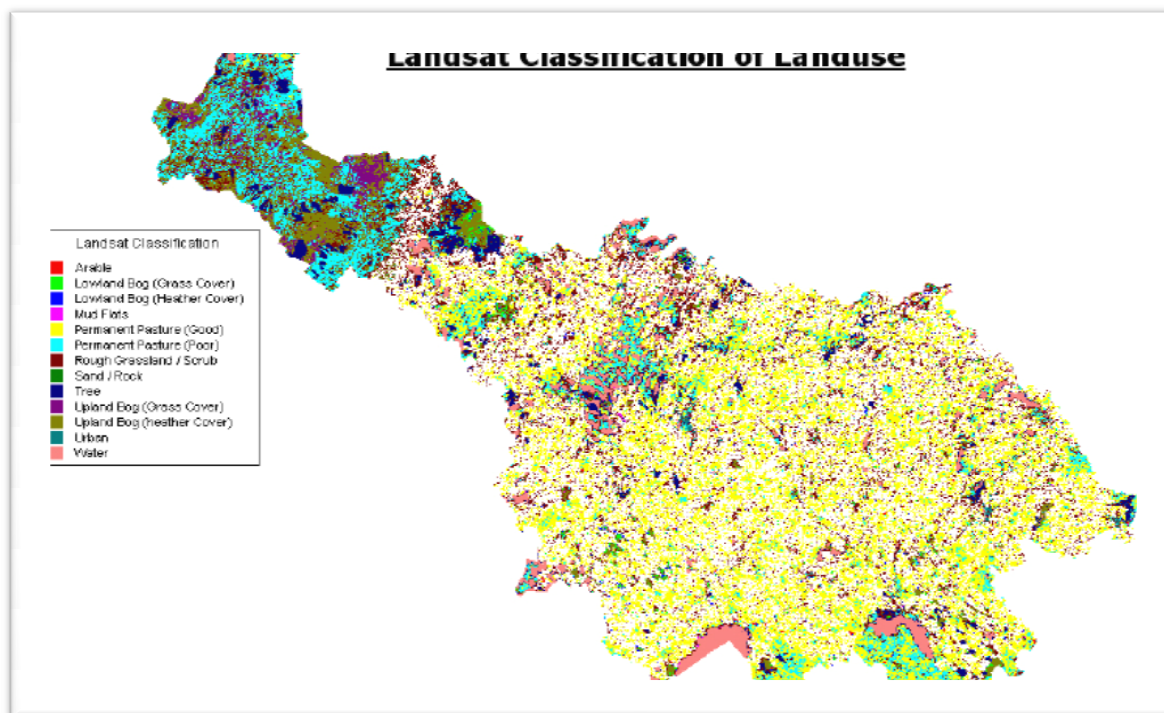
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<sup>2</sup> Special Areas of Conservation (SACs). These were established under the 1992 Habitats Directive of the Council of the EU for the conservation of natural and semi-natural habitats and species of flora and fauna.

<sup>3</sup> Special Protection Areas (SPAs) for the protection of birds, established under the Birds Directive of the EU in 1979.

These include 6 Special Areas of Conservation (Habitats Directive), 3 Special Protection Areas (Birds Directive) and 19 Natural Heritage Areas. Lough Oughter (covering an area of 1,464 hectares) has been designated as a suitable wetland for inclusion in the ‘List of Wetlands of International Importance’ (as part of Ramsar Convention, 1971). However, much of our biodiversity is found in the wider countryside. The main habitats in County Cavan include scrub, bog, heathland, woodland, hedgerow, rivers, freshwater lakes, turloughs, wetlands, marshes and upland areas. Terrestrial habitats include lowland calcareous grassland, limestone pavement and woodlands. Much of our trees are located in hedgerows and Demense Parklands. Ecological networks are composed of linear features, such as treelines, hedgerows, rivers/ streams and canals which enable species to move within their normal range and connect areas of local biodiversity with each other. The lands which are zoned as ‘amenity or recreation’ in towns play a very important role for biodiversity and enhance the quality of life for people

Figure 4: Corine Landstat Classification of Land Use



<sup>4</sup> Natural Heritage Areas (NHAs) established under Irish law, similar in general principle to the SACs but covering a somewhat larger geographic area.

<sup>5</sup> Statutory Nature Reserves: These are relatively small land areas, very often forest or previously afforested areas which are maintained as protected nature reserves.

### 7.2.3 Flora of County Cavan

Most native trees in County Cavan are deciduous, broadleaf trees that shed their leaves in winter, though there are native conifers – Yew (*Taxus Baccata*) and juniper (*Juniperus communis*) with the re-introduction of Scots Pine (*Pinus sylvestris*). Other trees that were introduced, such as Beech (*fagus sylvatica*), Sycamore (*Acer pseudoplanatus*) and Horse chestnut (*Aesculus hippocastanum*) are now common.

However, there may be some occurrences of Whitebeam (*Sorbus hibernica*), rock Whitebeam (*Sorbus rupicola*) and bird Cherry (*Prunus padus*) which is a species listed in the Irish Red Data Book. There are a wide variety of shrubs, such as Ling heather (*Calluna vulgaris*) and bilberry (*Vaccinium myrtillus*), which are common to bogs. Dwarf willow (*Salix herbacea*) is a rare shrub of high mountain ridges and summits and it has been recorded on Cuilcagh Mountain.

There is a wide range of colourful plants including bluebells, lilies, wild garlic, sedges, grasses and reeds. There are a number of rare mosses and liverworts which live chiefly on exposed rocky summits or on wetland habitats. A number of rare ferns have historically been recorded in this region such as Parsely Fern (*Cryptogramma crispa*), Beech Fern (*Phegopteris connectilis*), Green Spelwort (*Asplenium viride*) and Holly Fern (*Polystichum lonchitis*).

Clubmoss such as Fir Clubmoss (*Huperzia selago*) is a species found in upland bogs and heath. The summits of Cuilcagh-Slieve Anieran support populations of the rare Alpine Clubmoss (*Diphasiastrum alpinum*) and Stagshorn Clubmoss (*Lycopodium clavatum*). We have species of horsetails (also known as scouring rushes) include Water Horsetail (*Equisetum fluviatile*), a species of lake edges and wet areas, and Field Horsetail (*Equisetum arvense*), a species of woodland and damp grassland. Quillworts such as *Isoetes lacustris* are submerged, aquatic plants, found in the shallows of nutrient poor lakes.

Lichens which are commonly found growing on rocks and on tree bark are good indicators of air-pollution, with many species sensitive to pollution and quickly disappearing from polluted areas. They are found on rocks, trees and in upland blanket bogs.

### 7.2.4 Fauna of County Cavan

Cavan is a land-locked county so there are six orders of wild mammals found in the County: - Insectivora (shrew and hedgehog), Chiroptera (bats), Lagomorpha (rabbits and hares), Rodentia (rodents: rats, mice, squirrels, voles), Carnivora (weasel family, foxes), Artiodactyla (deer and goats). Protected Invertebrates include: Mothibee Butterflies; Amphibia – common frog; smooth newt ; Reptilia (common lizard).

The Irish Hare can be found on mountain bogs and throughout the lowland pastures. Woodlands are home to badgers, foxes, squirrels, deer and the elusive Pine Marten. Otters can be found in our waterways and a number of bat species have been recorded roosting under bridges and in other suitable habitats.

The Common Lizard (*Lacerta vivipara*) is Ireland's only native reptile and can be found in grassland, disused quarries and hedgerows. Although it is typically an animal of dry habitats, it can be frequently found in bogs and heaths. It is protected under the Wildlife Act 1976 (Amendment 2000).

There are five main catchments (see *Environmental Receptor section on Water*) in County Cavan which support a wide variety of fish species in our rivers and lakes. Many lakes and rivers support salmonids such as Brown Trout (*Salmo trutta*) and Atlantic Salmon (*Salmo salar*). A number of lakes are game fish lakes which species such as pike (*Esox lucius*), with either natural or stocked populations. Although there are no recorded Arctic Char (*Salvelinus alpinus*) in the County, Pollan (*Coregonus autumnalis*) which occurs in Ireland (and is the only European population of the species) is found in Lower Lough Erne and there maybe some found in other parts of

the Erne catchment. Pollan are listed for protection under Annex V of the EU Habitats Directive and the Irish Red Data Book lists Pollan as Endangered. White Clawed Crayfish and Lamprey which are protected under the EU Habitats Directive are found in the Erne River System. Eutrophication (over-enrichment) of lakes can have detrimental effects on fish stocks and a number of Cavan's lakes have recorded fish kills in the past.

The Cladagh (Swanlinbar) River rises on Cuilcagh Mountain and flows through County Cavan in the Republic of Ireland before crossing the border into County Fermanagh in Northern Ireland, and eventually entering Upper Lough Erne. It is a moderately large river, being ultra-oligotrophic in its upland reaches within the Republic of Ireland, before gradually becoming oligotrophic and oligo-mesotrophic through its middle and lower reaches within Northern Ireland. The **freshwater pearl mussel *Margaritifera margaritifera*** population, which is estimated to have a minimum number of 10,000 individuals, is confined to 6 km of undisturbed river channel in the middle section of the river. It is one of the largest known populations surviving in Northern Ireland.

There are many species of birds found throughout the county. For example, the Cuilcagh Mountains is home to the Peregrine Falcon (*Falco Peregrinus*). Other species which find an ideal habitat in Cavan include the blackbird (*Corvus frugilegus*), merlin (*Falco columbarius*), red grouse (*Lagopus lagopus scoticus*), golden plover (*Pluvialis apricaria*), stonechat (*Saxicola torquata*), whinchat (*Saxicola rubetra*), wheatear (*Oenanthe deserti*), skylark (*Alaunda Arvensis*), swan (*Cygnus olor*) and dipper (*Cinclus cinclus hibernicus*). Undisturbed marshland, which covers much of the lake shores of Cavan attracts birds such as snipe (*Gallinago gallinago*), curlew (*Numenius arquata*), lapwing (*Vanellus vanellus*), redshank (*Tringa tetanus*) and water rail (*Rallus aquaticus*). A colourful hunter along the reed beds is the hen harrier (*Circus Cyaneus*).

### 7.2.5 Conservation Designations

Certain plant, animal and bird species are protected by law. This includes plant species listed in the Flora Protection Order, 1999 (or other such Orders) and animals and birds listed in the Wildlife Act, 1976 and subsequent statutory instruments, those listed in Annex IV of the Habitats Directive, and those listed in Annex 1 of This includes sites, habitats species and networks of importance at the international, national or local level, and which may occur within or outside the Plan areas. The Plan should include clear objectives to conserve and protect all designated sites within and adjacent to the Plan areas (including the habitats and/or species for which they have been selected, or which they support), and should also promote the protection of undesignated sites and local biodiversity features. The main elements of biodiversity are: European (*Natura 2000*) sites (SACs and SPAs, and candidate SACs and SPAs) NHAs, National Parks, Nature Reserves, Wildfowl Sanctuaries, Refuges for Fauna or Flora or sites proposed for designation, Undesignated sites such as proposed NHAs,(pNHAs), local biodiversity areas sites and habitats that can be considered to be corridors or steppingstones for the purpose of Article 10 of the Habitats Directive ,Natural habitats and protected species for the purposes of the Environmental Liability Directive, including habitats and species listed under the Habitats Directive (Annex I Habitats, Annex II and Annex IV species and their Habitats) and Birds Directives (Annex 1 species and their Habitats, and regularly migratory birds) wherever they occur, Legally protected species including protected flora under the European Communities (Birds and Natural Habitats ) Regulations 2011 and Wildlife Acts 1976-2000, Sites identified under the Bern, Ramsar and Bonn Conventions Biodiversity in general including habitats important for birds, red listed and BoCCI listed species, natural and semi-natural habitat areas including wetlands, woodlands, waterbodies, etc.

The National Parks and Wildlife Service (npws) have responsibilities in designating areas of special environmental interest in the context of habitats identified as supporting fauna and flora of a particular value. These are Special Areas of Conservation (SACs), Special Protection Areas (SPAs) Natural Heritage Areas (NHAs) and

Statutory Nature Reserves. The European Communities (Natural Habitats Regulations, 1997), the Wildlife Act 1996 and the Wildlife Amendment Act 2000 are the main legislative instruments governing the protection of our natural environment. They provide for the protection of wild flora and fauna and for the conservation of areas of special importance to wildlife. The main habitat types include: scrub, bog, heathland, wood land, hedgerow, river, freshwater lake, turlough, wetland, marsh and upland areas. Terrestrial habitats include: lowland calcareous grassland, limestone pavement and woodland. Woodland is scarce, with much of our trees located in hedgerows and demesne parklands. Hedgerows play an important part in the County's ecological networks, connecting areas of local biodiversity with each other. Ecological networks are composed of linear features, such as tree lines, hedgerows and rivers/streams, which provide corridors for wildlife species – enabling movement within their normal range.

#### **7.2.6 Special Areas of Conservation (SACs) in County Cavan include:**

These are prime wildlife conservation areas in the country, considered to be important on a European as well as Irish level. They are chosen from the proposed Natural Heritage Areas (pNHAs), although a number of known high quality sites which are not yet NHAs have also been included. The legal basis on which SACs are selected and designated is the EU Habitats Directive (92/43/EEC), transposed into Irish law in the European Union (Natural Habitats) Regulations, 1997. 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. Special Areas of Conservation (SACs) in County Cavan include:

- Kilconny Bog SAC
- Cuilcagh-Anierin Uplands SAC (00584)
- Lough Oughter and Associated Loughs SAC (000007)
- Corratrim SAC (000979)
- Boleybrack Mountain SAC (002032)
- River Boyne & river Blackwater SAC (002299)<sup>6</sup>
- 

#### **7.2.7 Special Protection Areas (SPAs) in County Cavan**

These sites are areas of importance for birds and often area important for other types of wildlife. The EU Birds Directive 79/09/EEC) requires designations of SPAs for :-

- Listed, rare and vulnerable species such as Whooper Swan, Greenland White-fronted Goose, Peregrine Falcon, Corncrake and Terns.
- 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. Special Areas of Conservation and Special Protection Areas collectively form part of 'Natura 2000', a network of protected areas throughout the European Union. Special Protection Areas (SPAs) in County Cavan include:

<sup>6</sup> Source: [http://www.npws.ie/Conservationsites/Special Areas of ConservationSACs/SiteSynopsis/Cavan/](http://www.npws.ie/Conservationsites/Special%20Areas%20of%20ConservationSACs/SiteSynopsis/Cavan/)



- Lough Oughter SPA (004049)
- Lough Kinale & Derragh Lough SPA (004061)
- Lough Sheelin SPA (004065)

### 7.2.8 Natural Heritage Areas & Proposed NHAs (pNHAs) in County Cavan

The basic designation for wildlife is the Natural Heritage Area. In 1995, proposals for the over 1,100 NHAs were published, but it was not until December 2000 that powers were introduced for the statutory process of their designation and protection. Many of these NHAs have overlapping designations of SAC and/or SPA. There are currently 802 proposed NHAs which are not (SAC/SPAs). They cover an area of about 113,000 hectares. These will be Prior to statutory designation, pNHAs are subject to limited protection, in the form of:

Agri-environmental farm planning schemes such as Rural Environment Protection Scheme (REPS 3 and 4) and [Agri Environmental Options Scheme \(AEOS\)](#) continue to support the objective of maintaining and enhancing the conservation status of pNHAs. The farm plans operate for a period of 5 years. REPS 4 plans will continue to operate until 2014. Forest Service requirement for NPWS approval before they will pay afforestation grants on pNHA lands and Recognition of the ecological value of pNHAs by Planning and Licensing Authorities.

Under the Wildlife Amendment Act (2000), NHAs are legally protected from damage from the date they are formally proposed for designation.

Proposed Natural Heritage Areas in County Cavan:

Lough Macnean Upper pNHA

Corratirrim pNHA

Blackrock's Cross pNHA

Mullanacre Upper pNHA

Annagh Lough (Ballyconnell) pNHA

Lough Oughter & Associated Loughs pNHA

Drumkeenan House Woodland pNHA

Drumcor Lough pNHA

Lough Garrow and Lough Gubdoo pNHA

Clonty Lough pNHA

Glasshouse Lake pNHA

Dromore Lakes pNHA

Cootehill Church pNHA

Bruse Hill pNHA

Cordonaghy Bog pNHA  
Lough Gowna pNHA  
Lough Sheelin pNHA  
Lough Kinale and Derragh Lough pNHA  
Lough Ramor pNHA  
Maudabawn Marsh pNHA  
Kilconny Bog (Cloghbally) pNHA  
Shannon Pot pNHA

### 7.2.9 Appropriate Assessment and the SEA process

In accordance with the requirements of Article 6 of the Council Directive 92/43/EEC on the conservation of natural Habitats and of wild fauna and flora, the Habitats Directive, the Council is required to prepare an Appropriate Assessment, as follows:

*“Any plan or project not directly connected with or necessary to the management of the site (Natura 2000 sites) but likely to have significant effect thereon, either individually or in combination with other plans or projects, shall be subject to Appropriate Assessment of its implications for the site in view of the sites conservation Objectives...”*

The legislation and guidelines governing the SEA process, state that the processes of preparing a Development Plan, SEA and Appropriate Assessment (AA) should be integrated and prepared in an iterative manner. The Environment Report should outline how the SEA process will be carried out in tandem with the preparation of the preparation of the Cavan County Development Plan 2014 – 2019 and its accompanying AA. The SEA process, which should also include Strategic Review Meetings and SEA/AA/Development Plans workshops, ensured that the Plan is informed by environmental considerations from the outset. An SEA Team should be fully involved in the analysis of development options throughout the process of the Plan preparation to ensure that environmental considerations and environmental effects are considered in the formulation of strategic goals and development objectives.

And shall include: Designated sites, located within 15km of the Plan Area including Counties’: Monaghan; Louth; Leitrim; Sligo; Meath & Fermanagh  
(**INSERT: MAP** showing distance to designated sites in adjacent counties.....)

### 7.2.10 Threats to Biodiversity , Flora & Fauna

- **Greenfield Development:** All development which takes place on greenfield sites causes an impact. The replacement of natural and semi-natural habitats with artificial surfaces results in loss of species from that location. However, it must be noted that an accumulation of species loss due to development of greenfield sites can result in the loss of a habitat and the species associated with that habitat. Rural housing, land reclamation and intensive farming on an area can result in segregation of habitats and a significant loss of hedgerows. Road developments can also result in significant habitat fragmentation. The segregation and fragmentation of habitats in Ireland has been identified at European level.

- **Development in floodplains/ wetland areas:**The drainage of wetlands, building on floodplains or land used by migratory birds, runoff from developments into watercourses, removal of hedgerows, culverting of streams, increased recreational use of natural assets due to increased population are all impacting on our biodiversity. Development along riverbanks or lakes can cause a reduction in ecological connectivity between habitats and development in floodplains can disrupt the hydrological regime & cause problems for groundwater, lakes and subsequently drinking water.
- **Erosion and Pollution:**Aquatic flora and fauna are vulnerable to soil erosion, run-off from agriculture, domestic, industrial and municipal effluents. Eutrophication (over-enrichment) of our lakes which can result in fish kills has been a problem for the County. Salmonid species such as trout and salmon which are sensitive to pollution can be significantly affected. However, the introduction of bye-laws by the County Council in relation to Agriculture, Waste-Water Treatment Systems and Draft Bye-Law on Motorised Boats has improved and will continue to contribute to the improvement of the aquatic environment. Under the Water Framework Directive, water quality must achieve a 'good status' by 2015. Cavan's inland fisheries are very important from an ecological point of view but also as a source of tourism revenue.
- **Invasive Species:**Another major threat to our native species of flora and fauna are invasive non-native species such as Japanese Knotweed (*Fallopia japonica*), Zebra Mussel (*Dreissena polymorpha*), Rhododendron (*Rhododendron ponticum*), Giant Hogweed (*Heracleum mantegazzianum*), Grey Squirrel (*Sciurus carolinensis*), and others. They require special treatment in order to control their spread as they are causing major ecological changes and damage to the habitats, where they become established.
- **Hedgerow Removal:**As there has been a substantial increase in hedgerow removal in recent years, a Hedgerow Survey of Cavan County was undertaken in 2006. The focus was on the extent, composition, structure, condition, and management of hedgerows in the County. Despite the extent of the removal of hedgerows in recent years, the remaining hedgerows are species rich when a comparison was made with surrounding counties.
- Past biodiversity losses have been largely attributed to the spread and increased environmental impact of people, however, it seems likely that future losses will increasingly result from human-induced global climate change. Climate change will result in habitat degradation and possible destruction.
- **Climate Change:**Climate change considerations must therefore be seen as central to the protection of biodiversity. In planning for the effects of future global climate change on biodiversity, it is essential to have information on the likely magnitude and rates of change. The changes envisaged for Irish climate change are likely to have considerable implications for biodiversity in some habitats such as peatlands and some upland areas, thereby affecting County Cavan.
- **Habitat Destruction:**The destruction of one habitat has a knock-on effect. For example, the destruction of wetlands can lead to increases in water contamination. Habitat destruction by invasive species can have major financial implications over a long period of time.

#### 7.2.11 Opportunities & the Draft Development Plan:

- The legislation setting out the requirements for the protection of Habitats are as follows: European Communities (Birds and Natural Habitats) Regulations 2011, (S.I. No. 477 of 2011) should be taken into account when implementing the Plans

- **European Communities (Birds and Natural Habitats) Regulations.** These Regulations consolidate the European communities (Natural Habitats) Regulations 1997 to 2005 and European communities (Birds and /Natural Habitats) Regulations (Control of Recreational Activities), as well as addressing transposition failures identified in the CJEU judgements. Full details of the regulations can be found at <http://www.npws.ie/legislationandconventions/irishlaw/euregulations/> EU protected Habitats and Species in Ireland:

**Habitats Directive - EU Protected Habitats and Species in Ireland:**

- The Plans should include, where relevant, a specific commitment to deliver the requirement of the Habitats Directive for the maintenance or restoration of annexed habitats and species within SACs at a “favourable conservation status.” In particular, the Plans Policy/Objective for promoting the maintenance and, as appropriate, achievement of favourable conservation status of habitats and species, in association with the National Parks and Wildlife Service, and other stakeholders. (See Section on Annex I, II and IV below)In addition, provisions should be made in the plans to deliver the requirements of Article 3, Paragraph 3, to” *improve the ecological coherence of Natura 2000 by maintaining and where appropriate developing features of the landscape which are of major importance for wild fauna and flora.*”
- *The plans should include a Policy/Objective to reflect the provisions of Article 10 of the Habitats Directive: “Member states shall endeavour, where they consider it necessary, in their land-use planning and development policies and in particular, with a view to improving the ecological coherence of the Natura 2000 Network, to encourage the management of features of the landscape which are of major importance for wild fauna and flora. Such features are those which , by virtue of their linear and continuous structure (such as rivers with their banks or the traditional systems for marking field boundaries) or their function as stepping stones (such as ponds or small woods), are essential for the migration ,dispersal and genetic exchange of species”.*
- **Habitats’ Directive:** The Plans should also commit to the protection of SAC’s =, Annex I habitats and Annex II and Annex IV species and their key habitats which occur within and adjoining each Plan area as per the Habitats Directive and Environmental Liability Directive.
- **Birds Directive:** The plans should include a commitment to protect SPAs, Annex I birds species and regularly occurring migratory birds species and their habitats, and to avoid pollution or deterioration of important bird habitats outside SPAs (as per Article 4(4) of the Birds Directive). The Plans should also promote the protection of wetlands and, in particular, wetlands of international importance as required by Article 4, paragraph 2 of the Birds Directive.
- **Biodiversity in the Wider Countryside:**While there are nationally and internationally designated sites identified and protected, it is also important that local habitats of value/ importance (e.g. woodlands, wetland features) are all protected. These include hedgerows and trees or groups of trees. The Draft County Development Plan has included objectives and policies for biodiversity in the wider countryside focussing on greenfield development, specifically the cumulative impact of greenfield developments on biodiversity and supporting the development of local nature reserves.
- **Rural Environmental Protection Scheme**
- The Rural Environmental Protection Scheme aims to protect wildlife habitats and endangered species of flora and fauna by establishing farming practices that are consistent with conservation. There has been an increase in the number of farms that are operating the REPS Scheme. In 2005, Department of Agriculture and Food sources noted that there were 1,788 farmers in County Cavan participating in the scheme. The Draft County Development Plan has included objectives and policies for facilitating the development of agriculture.
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- **Hedgerows**
- The Draft Development Plan contains objectives and policies aimed at reducing the impact of hedgerow removal throughout the County.
- **Invasive Species**
- The Draft Development Plan contains objectives and policies aimed at helping to control invasive species and promoting the use of native species in planting.
- **Wetlands**
- The Draft Development Plan contains objectives and policies aimed at protecting wetlands, surface and groundwater systems in County Cavan.
- **Champion Trees**
- The Tree Council of Ireland has identified thirty-seven measured 'Champion Trees' in County Cavan. They include Common Oak, Beech, Sycamore, Coastal Redwood, Copper Beech, Tulip Tree, Silver Fir, Fern Leaf Beech, Scots Pine, King Boris's Fir, Morinda Spruce, Red Oak, Cucumber Tree, Hornbeam, Goat Willow which are located around the County at the Farnham Estate, Killeshandra, Kilmore Cathedral, Redhills Demesne, Mountnugent and Cootehill. The Champion Trees have been included in the Draft Development Plan with policies to discourage the felling of mature trees and resisting development which would result in the loss of trees which make a valuable contribution to the character of the landscape. It is also the objective of the Draft Plan to carry out a Tree Survey of the County. Cavan County Council will continue to ensure that trees should be retained as groups and any tree removed should be in the context of overall good environmental management rather than motivated by commercial redevelopment or other similar reasons.
- **Forestry:** It is necessary to create a balance between forestry and biodiversity, promoting the Native Woodland type schemes and forestry policies and measures which ensure that native broadleaves become much more common as exotic conifer planting has dominated in the past. The Draft Development Plan contains policies to encourage sustainable forestry development and will adhere to the Draft Indicative Forestry Strategy prepared by the Forest Service (Department of Agriculture and Food).
- **Local Biodiversity Action Plan & Cavan County Heritage Plan 2006-2011:** The Local Biodiversity Action Plan has been prepared for the County, and an audit of biological datasets has been undertaken as part of this process.
- **A wetland survey and other habitat surveys were undertaken as part of the Cavan County Heritage Plan 2006 -2011.** The Draft County Development Plan will support the implementation of the Biodiversity Action Plan and further actions within the lifespan of the new plan
- **Designated Sites:** The Draft Development Plan has objectives and policies for the protection of designated sites. The Planning Authority will have regard to any Conservation Management Plans prepared by the National Parks and Wildlife Service for designated site when they become available from the NPWS.
- **Water Framework Directive:** The Water Framework Directive provides for water management on the basis of River Basin Districts (RBDs). Cavan lies within four RBDs and Management Plans are unique in terms of dealing comprehensively with water management and environmental issues. The Plans address: inland surface waters, estuarine and coastal waters and groundwater. The Monitoring of the River Basin District (RBD's) also provides information on biodiversity and will form part of the monitoring of the Draft Development Plan. The Draft Plan contains objectives and policies to facilitate the implementation of the WFD.

- **Landscape Character Assessment / Landscape Management Plan:**The Planning and Development Act (2000) introduced requirements for the preservation of the character of the landscape and made statutory provisions for areas of special amenity and landscape conservation. Cavan has experienced unprecedented landscape fragmentation due to extensive building and infrastructure projects. A Landscape Character Assessment or Management Plan has the potential to address these issues and is expected to be undertaken during the lifetime of the Development Plan. A Landscape Analysis/ Categorisation has been undertaken as part of the Draft Development Plan in order to assist in identification of Character Areas and Types in County Cavan (Please refer to Natural Heritage Chapter 8 in Draft County Development Plan).

**Extractive Industries:**The Draft Development Plan includes objectives and policies for the examination of ecology in an area proposed for extractive industry. This includes adherence to Guidelines and mitigation and remediation measures.

- The Plan should identify measures to ensure that development is directed to appropriate areas, which will avoid any designated or sensitive areas of natural heritage in order to minimise potential impacts;
- Issues which impact on the Biodiversity of the County include: the drainage of Wetlands, building on floodplains or land used by migratory birds; run-off from developments into watercourses, the removal of hedgerows, culverting of streams; increased recreational use of natural assets – due to increased population pressure;
- All development on greenfields sites causes and impact as the replacement of natural and semi-natural habitats with artificial surfaces results in loss of species from that location.
- Accumulation of species loss from greenfields developments can result in a loss of habitat and the species associated with that habitat;
- Rural housing, land reclamation & redevelopment and intensive farming on an area can result in segregation of habitats and a significant loss of hedgerows through isolation from fragmentation.
- Aquatic Flora and fauna is vulnerable to soil erosion, run-off from agriculture, industrial and municipal effluents.
- Eutrophication of our lakes, rivers and watercourses, which can result in fish kills has been a problem in the County –under the Water Framework Directive (WFD) water quality must achieve a ‘good status’ by 2015.
- Invasive species such as Japanese Knotweed, Zebra Mussell (e.g. Lough Sheelin) and Rhododendrom which are causing major ecological changes and damage to the habitats, where they become established.

## 7.3 Population & Human Health

**7.3.1 Current Situation** – County Cavan has a long history of habitation which is reflected in its built and natural heritage. The natural environment has supported its residents with agricultural land, rivers, quarries, mines and bogs. Through the utilization of these resources, the natural environment has supported its residents with agricultural land, rivers, quarries, mines and bogs. Through the utilization of these resources, the natural environment has been gradually modified. Cavan County Council must manage the potential impacts on air, water and soil in order to limit the potential for adverse impacts on human health. It is also worth noting that it is important to create urban areas that are conducive to encouraging healthy activities through the provision of services or green spaces, cycle paths and activities for children etc. We must ensure that what we have inherited, can be passed on to future generations.

**7.3.2 Settlement Strategy:** The hierarchy of settlements in County Cavan is framed by regional and national policies. It is considered that the settlement hierarchy and strategy provided in the current County Development Plan, broadly adheres to the Guidelines for the Border Region (BRGs) and the National Spatial Strategy (NSS). There are eight larger urban centres around Cavan, though they are dominated by Cavan Town. A well distributed pattern of smaller villages throughout the county support a relatively low levels of population. The settlement pattern outside of these urban settlements comprise mainly of individual rural housing.

### **7.3.3 Interrelationships between population and human health**

There are inter-relationships between human health and the population and a number of the environmental components such as drinking water quality (sourced from both ground and surface waters) and bathing water quality. Air quality, transport infrastructure, traffic and settlement patterns encompassing commuter settlements are all linked with human health and population. In order to sustain a population of the county, there needs to be a health economy.

**7.3.4 Census of Population:** The population of the County has risen from 64,003 persons in the (CSO, 2006) to 73,183 persons in the (CSO, 2011) indicating a 14.3% rise overall. Though the population within Cavan town and the towns in the East of the County has risen, the west of the county has seen a decline in population (as is consistent with the findings of the 2006 Census). In the National Spatial Strategy (NSS), the county town of Cavan was identified as a Hub Town and the Regional Planning Guidelines for the Border Region (BRG's – 2010 -2022) set a target of (12,800) for the year 2020. Cavan Town & Environs has already reached its target population of 10,205 by 2011.

**7.3.5 Housing & future land requirements:** The Department of Environment, Community & Local Government (DoE,C&LG) – Housing Section, undertake a Housing Land Availability Study (HLA) Returns on an annual basis. This information for 2012 will be coalated for inclusion in the Environmental Report. By developing what developments are under construction, what have not been developed and what are proposed to be developed (i.e. where planning has been granted, and an Extension of time to Planning Permission has been granted which will be included in the Core Strategy of the draft Development Plan. The Core Strategy and the Settlement Strategy of the Development Plan will determine the amount of land required to meet the population growth in the County. The (DoE,C&LG) – Housing Section have published statistics on house-building for Ireland. The following includes house completions for both Private and Social housing in the County of Cavan:

**Table ....?: House Completions by Number – 2004 - 2012**

Year	Private	Social	TOTAL
2004	-	-	1707
2005	-	-	2129
2006	-	-	2686
2007	-	-	2108
2008	955	107	1062
2009	510	68	578
2010	292	3	295
2011	259	13	272
2012	129	3	232

Source: Department of the Environment, Community & Local Government website: [www.environ.ie](http://www.environ.ie)

County Cavan has seen at least 11 000 housing units (both private and public) being constructed over a nine year period – large number of houses are constructed in the countryside (i.e. rural urban generated one-off houses). This is a significant factor, especially considering the journey to work and reliance on private motor vehicles which impacts on the environment and is of increasing concern with regards to quality of life issues.

**7.3.6 Workforce:** The economic development of the county is an important consideration in terms of location of zoned land. The following considerations will be taken into account from the CSO, 2011:

At the time of the 2011 Census, the population of Cavan (classified as over 15 yrs and who participate in the Labour force – as opposed to having another status such as student, retired or homemaker – is known as the labour force participation rate. It is measured as the number in the labour force – at work or unemployed, expressed as a percentage of the total aged 15 or over:

**Table ....?: Principle Economic Status**

Principle Economic Status	2006	2011	Change	% change
Not in Labour Force	18,911	21,311	2,400	12.6%
Pop. Aged 15 or Over (A+B)	49,751	55,951	6,200	12.4%

Source: Census 2011: Social Inclusion Unit Cavan County Council: report Census 2011 – Highlights for Cavan



Within County Cavan, the male labour force participation rate for 2011 is 35.4% while the female rate is 26.5%. The number of people outside the labour force:- students; those looking after the home or family, returned persons and those unable to work due to disability increased by 12.6% or 2,400 persons between 2006-2011. The largest contributor to this increase was the number of retired persons which increased by 20.5% (1,232 persons) from 2006 – 2011.

**7.3.7 Employment & Unemployment** within the County has trebled (that is: lost; given-up a previous job or looking for their first regular job) based on their declared principal economic status in April 2011 for Cavan was 7,331 or 21.2% of the total labour force, an increase of 4,810 compared to 2006. There has been a greater increase in the number of unemployment amongst males in co. Cavan – 1,475 in 2006 to 4,765 in 2011 (a 65% increase).

There are 1,010 less people at work within the county of Cavan by – Broad Industrial Group during the inter-census period. The Construction industry has gone way down from 4,082 in 2006 to 1,765 in 2011 while Education has gone up from 1,472 in 2006 to 2,172 in 2011. There was an increase in Agric, Forestry and Fishing Sector – which traditionally has seen a decrease over the preceding years. In terms of the categories defined under Broad Industrial Group for Employment, the highest sector for employment in the was in the wholesale and Retail trade, followed by Manufacturing Industries and Agriculture, Forestry & Fishing; Health & Social Work.

**7.3.8 Education:** County Cavan has shown an increase in the number of students from 4,325 in 2006 to 5,477 in 2011 (a change of 26.6%), which may be attributed to the lack of economic opportunities available in the County and State, due to the economic downturn. Social sciences, business and law is the most common area of study for the people within the County to go on to complete their 3<sup>rd</sup> level qualification followed by ‘Health & Welfare’ and thirdly- Engineering, Manufacturing & Construction. Cavan as a County has a high dependence on agriculture which militates against, to some extent, its industrial performance. With a few exceptions the County is dominated by small firms. Industrial units in Cavan are generally small in national terms but they are still considerably bigger than the rest of the Border Region (Cavan, Donegal, Sligo, Leitrim, Monaghan & Louth).

In terms of total industrial output per person, it is below the national average. Whilst the wages and salaries in Cavan remain low relative to the national average, they are high relative to output.

The continued development of small businesses has to play an important role in promoting local employment opportunities. In the early stages of business start-up, it is sometimes necessary or appropriate for enterprises to be run from home. Additionally, the pressures to reduce car usage for environmental and social reasons highlights the benefits of home-working.

These changes are supported by the continued rapid development of information communications technology which is encouraging and allowing practices such as teleworking and satellite offices to develop in many professions. Sattelite offices can provide access to employment for those without access to a car, to facilities with small children, the disabled and the elderly. It is anticipated that home-working will continue to increase significantly in the future mainly due to advances in IT that equip people to work from home.

The majority of households would have at least one car (40.6%). Only 14% would have no car and 36% of households in Cavan have 2 cars, thus a total of 86.2% of households in Cavan are likely to have a car, which is significantly higher than the national average of 82.4%. Thus indicating a high dependence on private transport.

**7.3.9 Internet and Broadband** - Table 5 below, indicates that 17,270 households in co. Cavan have a personal computer. This represents a significant jump from 2006 when only 10,796 of the population owned one. There has also been a huge improvement in the availability of access to broadband across the county with 55.4% of households having access to broadband in 2011 compared to only 9% of households having access in 2009. The proportion of homes using slower types of internet connection decreased accordingly from 29.9% in 2006 to 9.5% in 2011, with those having no internet connection fell from 48.1% to 32.7%.

**Table.....?: Internet and Broadband ownership/connections**

County Number	Total	PC Ownership			Access to Internet		
		Y	N	N/S	Y	N	N/S
	25720	17,270	7,905	545	14,250	8,426	599
%		67.1%	30.7%	2.1%	55.4%	9.5%	2.3%

Source: Census 2011: Social Inclusion Unit Cavan County Council: report Census 2011 – Highlights for Cavan

Nationally Broadband usage has increased from 21.11% in 2006 to 65.3% in 2011. In Cavan, this would still fall significantly into the lower ranking counties in terms of Broadband coverage.

**7.3.10 Threats to Population and Human Health**

- **Population Growth & Infrastructure Constraints** :An increase in population could impact on biodiversity, water, landscape and cultural heritage, which would in turn impact on human health. It would also lead to poor water and waste infrastructure that is not able to cater for demand, leading to water shortages and poor quality water serving urban areas.
- Waste discharges from municipal sewers entering groundwater/drinking water could cause contamination of drinking water/ Group Water Supply Schemes.
- Water quality is not only important for ecological reasons; all development depends on quality water supplies whether the abstraction is from rivers, lake or boreholes. With an increasing population, there will be a greater demand on these sources. Water based recreation is an important aspect of tourism for both residents and visitors to County Cavan.

- Urban runoff is increasingly being highlighted as a source of pollution in water courses.
- **Air Pollution:** ‘Quality of life’ will be reduced, if unsustainable transport patterns continue, contributing carbon emissions which affect Climate Change.
- **Amenity Space:** Open space within urban areas would come increasing under development pressure, particularly for residential development.
- **Road Safety:** Accidents could become more frequent if roads infrastructure is not maintained.
- **Waste Generation:** The generation of waste to landfill would increase if appropriate measures for reducing, reusing and recycling are not implemented. Waste impacts on human health and biodiversity. Various animals can be drawn to waste food etc. and it is likely that this can disrupt the animals normal feeding pattern in their natural habitat (an example is the urban fox).
- **Greenfield Sites:** The continued use of greenfield sites for development has the potential to have a major impact on biodiversity and the landscape, thereby affecting the quality of our natural environment, fragmenting habitats or destroying them entirely which can affect human health in the long term.

#### 7.3.11 Opportunities and the Draft Development Plan:

- **Sustainable Travel & Local Employment Opportunities:** In order to accommodate the population growth in the County, sufficient water and waste infrastructure must be provided alongside new developments. The Planning Authority will employ a series of demand management techniques through the Draft County Development Plan in order to encourage more sustainable forms of development in smaller towns and villages and seek to allow persons who can reside in local areas to also work locally. The aim is to reduce all emissions including greenhouse gas emissions through the reduction of the need to travel which will in turn improve the quality of life. The national rate of car ownership this year (2010) was per cent. This higher rate of car ownership in the County is explained by Cavan being a predominantly rural County, where owning a car is a necessity. The Draft Development Plan contains policies relating to rural enterprises and rural housing which may allow more people to live and work locally. The Plan supports sustainable travel modes throughout the County.
- **Local Area Plans & Small Town and Village Towns:** The Local Area Plans of County Cavan have been examined as part of the Review of the County Development Plan. Each Local Area Plan has undergone formal SEA Screening in order to establish the main environmental issues in the relevant areas. Any issues that were identified were incorporated into the Plan. In many cases the Development Boundaries have been widened in order to accommodate future population growth and existing development permissions. The goal in many of these towns is to encourage the creation of employment opportunities and sustainable development which does not impact on the local environment.
- The Local Area Plans and Villages Plans contain zoning objectives and policies for roads, water, sewerage, community infrastructure for a 2020 population. They also require good design of buildings and living spaces to enhance the well-being of the population of the areas.
- **Open Space:** Amenity and recreational spaces in towns and villages are important for the population who live and visit the town, as well as for the overall aesthetic quality of the town or village. Open green areas also have an important role in the absorption of water as the more hard surfaces there are in urban areas, the greater the amount of run-off into watercourses. The Draft Development Plan contains specific consideration for public and private open space in order to make practical, useable spaces (see Development Management Chapter).

- **Hazardous Substances:**Waste Material is a considerable issue in terms of the health of the population of County Cavan. Although there are no SEVESO sites within the County which fall within the Major Accidents Directive (Control of Major Accidents Hazards involving Dangerous Substance) Regulations, 2000 (SI. 476), there are a number of industrial sites and intensive land-use sites. The Draft Development Plan has clear policies in relation to SEVESO sites in accordance with guidance from the Health and Safety Authority.
- **Waste:**The only operational landfill site in the County is at Corranure, two miles from Cavan Town on the Cootehill Road. It is currently licensed by the Environmental Protection Agency to accept 90,000 tonnes per annum. Corranure is County Cavan’s first Integrated Waste Management Facility for waste disposal and recovery incorporating a lined landfill facility and Civic Amenity Site.
- In accordance with the Waste Management Acts, 1996 – 2003, Local Authorities in the North East Region are required to prepare a register of closed landfill sites within the Region for the purposes of identifying what, if any remedial measures are required to be carried out at the sites. Cavan County Council has three other licensed landfills – Bailieborough, Ballyjamesduff and Belturbet. Although no longer operational, all three sites require extensive restoration and monitoring to ensure compliance with Environmental Protection Agency licensing. Remedial works were completed on two of these landfills – Bailieborough and Ballyjamesduff in 2006. Cavan County Council will continue to pursue a policy of rationalisation of landfill in the long term and will ensure Corranure is operated to the highest international standard in accordance with waste licenses issued by the EPA.
- The new Draft Development Plan will have regard to the waste policies identified in the North East Waste Management Plan for construction and demolition waste, hazardous waste, Waste Electrical and Electronic Equipment (WEEE), end of life vehicles, tyres and sludge wastes.
  
- **Waste Water Discharges:**It is important that facilities which require IPPC licences (a majority of which discharge to municipal sewers, water bodies and air), Section 4/16 licences (Local Government (Water Pollution) Act, 1977 and quarry application for the Registration of Quarries (Section 261 of Planning and Development Act, 2000) continue to be monitored to ensure that any short-term or long-term environmental effects are examined and mitigated. There are thirty-two quarry sites submitted for registration around the County and these must occur on those quarries that are registered.
- Cavan also has a large number of watercourses to which effluent is discharged by Cavan County Council from its municipal waste water treatment plants and privately under licence issued by the Environment Section of Cavan County Council. The assimilative capacity of these water courses represents a significant asset to facilitate development within the County. The capacity of the existing infrastructure, the impact on water courses, plans for and details of upgrades, and the assimilative capacity of watercourses, is being assessed by the County Council. The Draft Development Plan also refers to the Water Pollution (Waste Water Treatment Systems for Single Houses) Bye-Law, 2004 for the treatment of domestic wastewater.
- The mapping of the County for the Ground Water Protection Scheme has been undertaken by the Geological Survey of Ireland (GSI) The Draft Development Plan includes an objective to protect the groundwater resources having regard to the GWPS when finalised. The Scheme will analyse the permeability of both surface soils and subsoil, provide detail on aquifer potential, vulnerability and source protection.

- **Redevelopment of Brownfield Sites:** The redevelopment of brownfield sites can reduce the need for greenfield sites. This is encouraged in towns and villages, however, potentially contaminated soils must also be dealt with appropriately in order to remove the risk to human health.
- **Roads Infrastructure**The Draft Development Plan contains objectives to improve road safety for all road users and reduce fatalities/ accidents on Cavan’s roads. It also proposes to prepare traffic and transportation studies, enable people, goods and services to reach their destination safely, economically and quickly around the County, improve the capacity of the network, have a well maintained network, improve accessibility and provide safer routes to educational establishments within the County to encourage walking and cycling.
- The Development Management section of the Draft County Development Plan contains guidelines on the design of developments (especially housing estates) where the emphasis is placed on people and the pedestrian environment rather than allowing roads and vehicles to dominate.
- **Economic Development, Social Strategy and Community Facilities and Housing Strategy:** The Draft County Development Plan contains objectives and policies for the sustainable economic growth of the County through the retention and creation of new viable employment opportunities. It also has a clear Social Strategy to create strong, inclusive communities where the emphasis is on quality of life and sustainable development by creating places that are pleasant to live with the provision of essential community infrastructure. The Draft Housing Strategy makes recommendations for Social and Affordable Housing in the County over the lifetime of the Development Plan.

## 7.4 Soils (including minerals) and Landscape

### 7.4.1 Current Situation

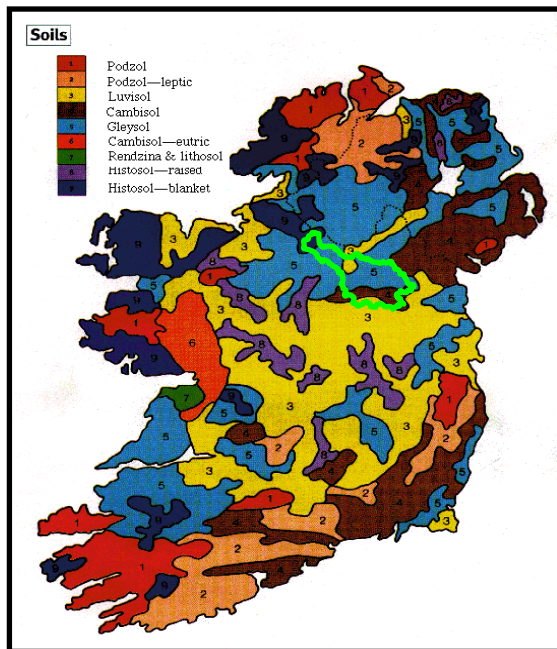
In addition to its rich cultural heritage, Cavan is well served with a broad range of natural resources including significant rivers, [canals](#), agricultural land, gravel and stone deposits, bogs and a broad biodiversity resource. The County of Cavan is mostly rural and agricultural with only 16.8% of the population living in the three towns of 1,500 or over (Census 2002). The rivers and lakes of the county including Lough Oughter are of particular scenic and amenity value. They offer a significant resource in terms of angling for both overseas and domestic visitors.

The county supports a diversity of habitats because of the diversity in topography, rock, soil types and land management. The county lies within the drumlin belt. The north-west of Cavan is more sparsely populated and mountainous with upland to the east of the county. The county has several areas of highly scenic landscape. The Corine Landcover dataset indicates the majority of land in the area is agricultural (79%), wetlands (9%) forest and semi-natural (9%) water bodies (2%) and artificial (1%). [The Draft Development Plan and certain viewsapes \(views and prospects\) and other unique landscape features – e.g. stone walls, woodlands, scenic areas, routes, gardens and the historical landscape.](#) During the lifetime of the Plan, the Planning Authority will undertake a study of the Cavan Landscape in line with best practice.

#### 7.4.2 Soils of County Cavan

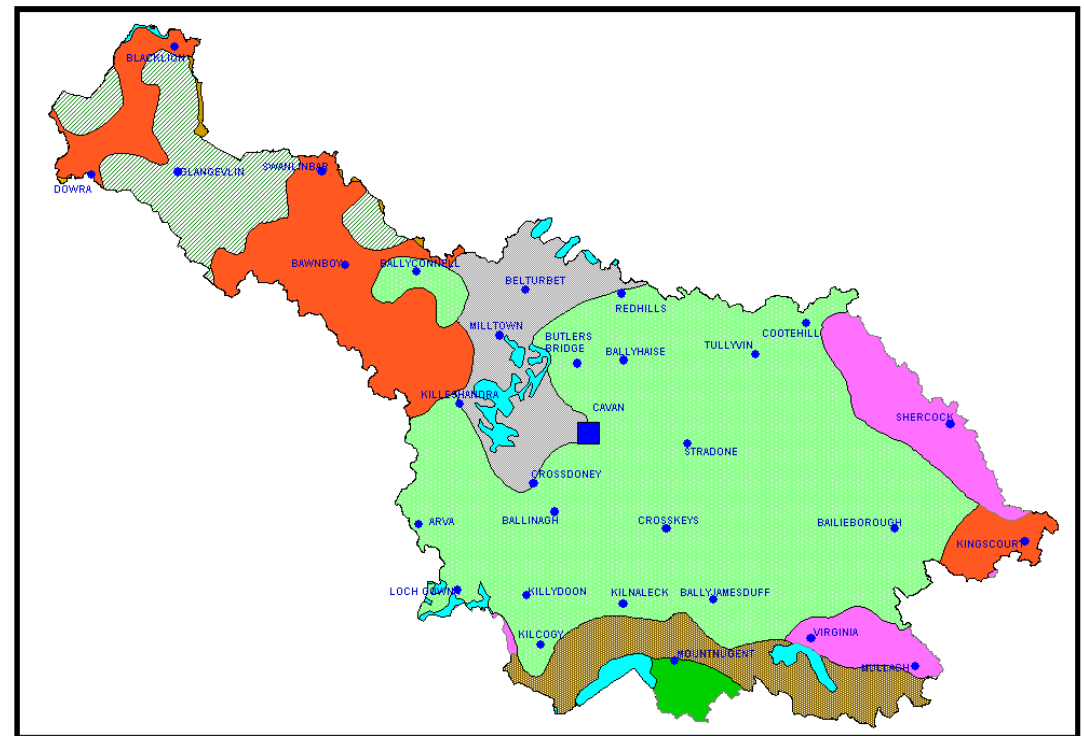
Soil is the biologically active top layer of the earth's surface, consisting of rock and mineral particles mixed with organic matter, organisms, air and water. It is formed in the pedosphere which is the top layer of the earth's crust. Soil only develops where there is dynamic interaction between the air, water, living organisms and geology which enable soils to support plant life and other organisms within the soil. Soil is a complex, variable and living medium with properties which allow the biogeochemical cycling of elements, energy cycles, water storage and exchange (EPA – Developing a Soil Protection Strategy for Ireland). Soils in themselves provide a habitat to many organisms both within and above the soils. Soil can be used as a material and can be considered as a non-renewable natural resource as it can take thousands of years in the right conditions to form even a shallow layer of soil. Soils are distinguished by their

**Figure 5: Soils of Ireland** weathered parent material, the biological activity which takes place within the soil and other factors such as climate, vegetation ; and human activities. Soils of Ireland' identifies the four main soil types in County Cavan as 'Histosol – blanket' in the north-west of the county though the majority of soils are 'Gleysols' stretching from west to east Cavan. This band is broken up by 'Luvisols'. On the southern half of the county there are bands of 'Cambisols' and 'Luvisols'.



**Figure 6: Soils of County Cavan**

Figure 6 (obelow) , further classifies the soils of the county. It identifies 'clays (50%)' and 'clays (85%)' as the predominant soil type. County Cavan is synonymous with a landscape shaped by the glaciers, around 13,000 years ago. The landscape is dominated by hills and inter-drumlin lakes. The landscape is made up of moraines/ tills which are thought to have been deposited when the glaciers began to ablate at the end of the last ice-age.



Lough Ramor, south of Virginia (for example) is believed to record a former ice marginal position. Ice flowed south-eastwards from the north of Cavan across the county and coalesced with ice flowing from Westmeath and the Central Midlands of Ireland (Meehan, 1998 in Meehan, R.T, 1999)<sup>7</sup>. Most Brown Earths are found on lime-deficient parent material and are acid in nature. They possess medium textures (sandy loam, loam, sandy clay loam) and are among the most extensively cultivated soils (Coulter, B.S. *et al.*, 1998). Boulder clay is common to drumlin areas and it can have poor drainage qualities. Grey-Brown Podzolic soils derive from calcareous glacial drift deposits and are considered to be among the most fertile soils.

### 7.4.3 Agriculture and Forestry

Corine Landsat Classification (see figure 7) identifies the County Cavan with ‘good permanent pasture’ and ‘lowland bog (grass cover)’. The north-west of the county is predominantly ‘poor permanent pasture’. Types of agricultural activity in the county include dairy and dry-stock farming and intensive forms of agriculture such as pig, mushroom and poultry production. County Cavan has a large number of small farm units. The Farm Census (CSO, 2002) (2000 and 2010) and this indicates that the number of farms in county Cavan has dropped from 5,491 in 2000 to 5,282 in 2010, the average farm size has raised from 25.2ha in 2000 to 26.4ha in 2010 and that the numbers employed in agriculture has risen from 9,457 in 2000 to 9,899 in 2010. County Cavan is strong in terms of dairying, pigs and poultry.

### Figure 7: Contours of County Cavan

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<sup>7</sup> Meehan, Robert T (1999) *Directions of ice flow during the last glaciation in counties Meath, Westmeath and Cavan*. Irish Geography, Volume 32(1), 1999, 36.

<http://www.ucd.ie/gsi/pdf/32-1/iceflow.pdf>

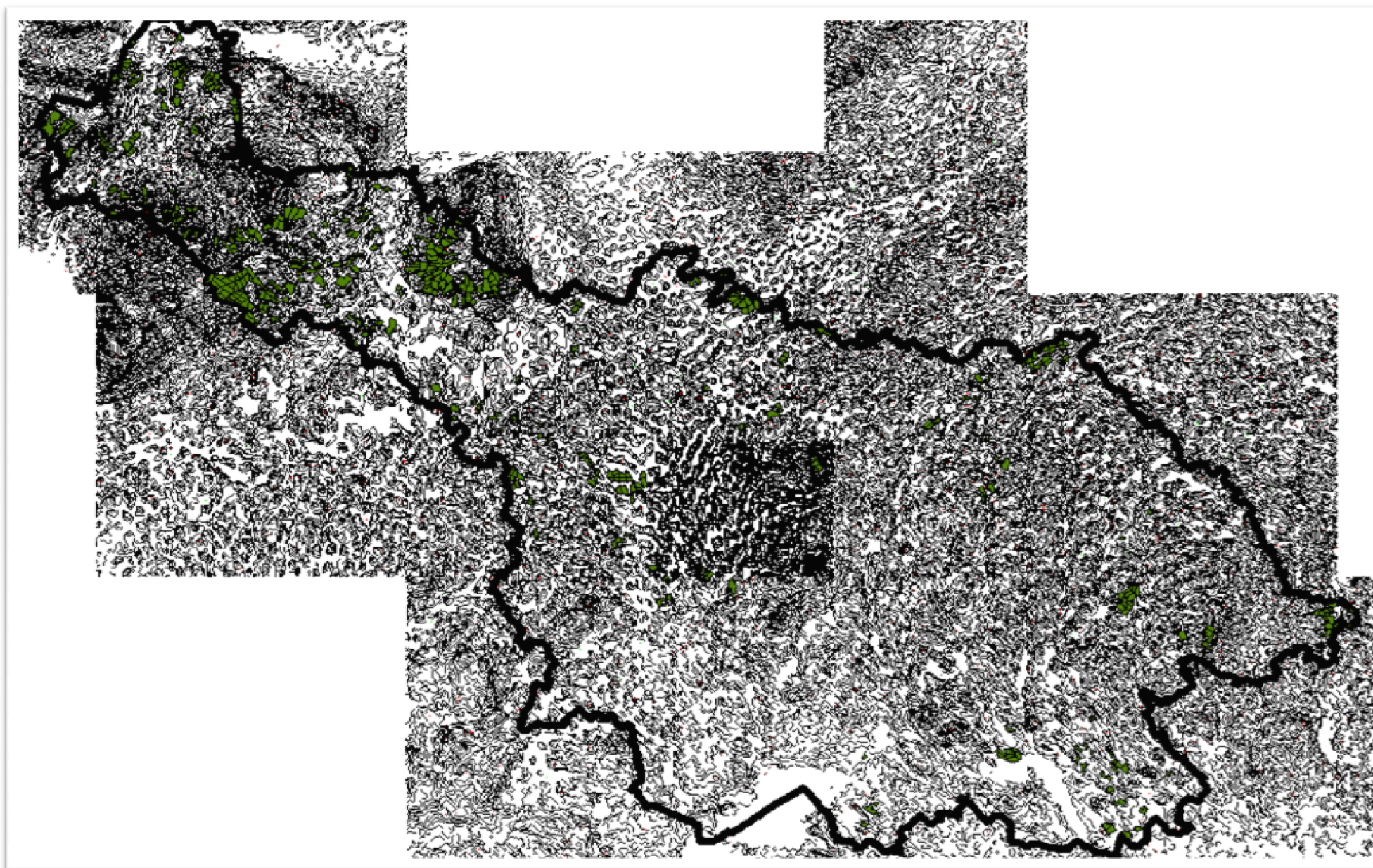
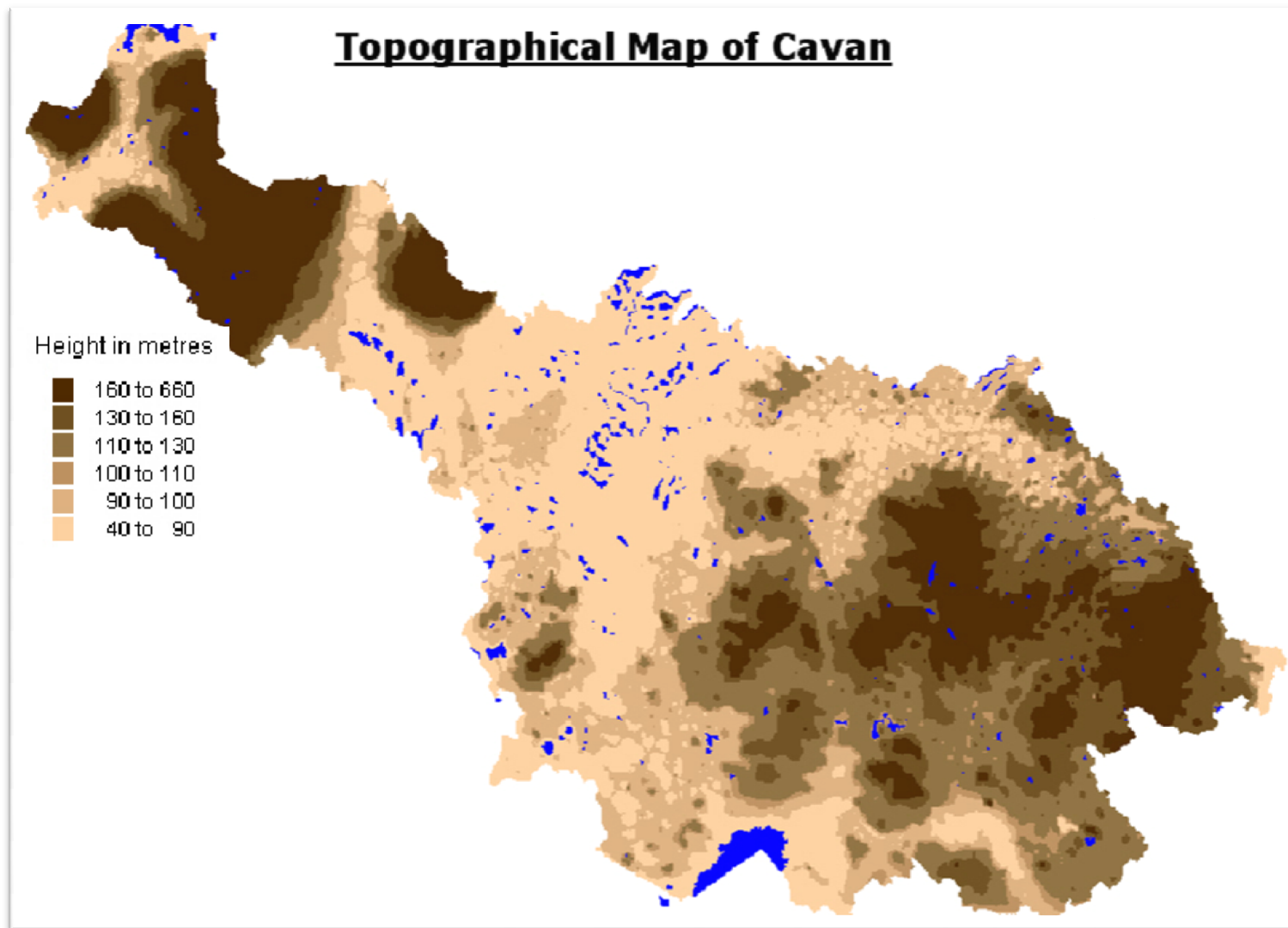




Figure 8: Topography



Source: GSI Cavan County Council (2012)

Figure 8: Geology of Ireland

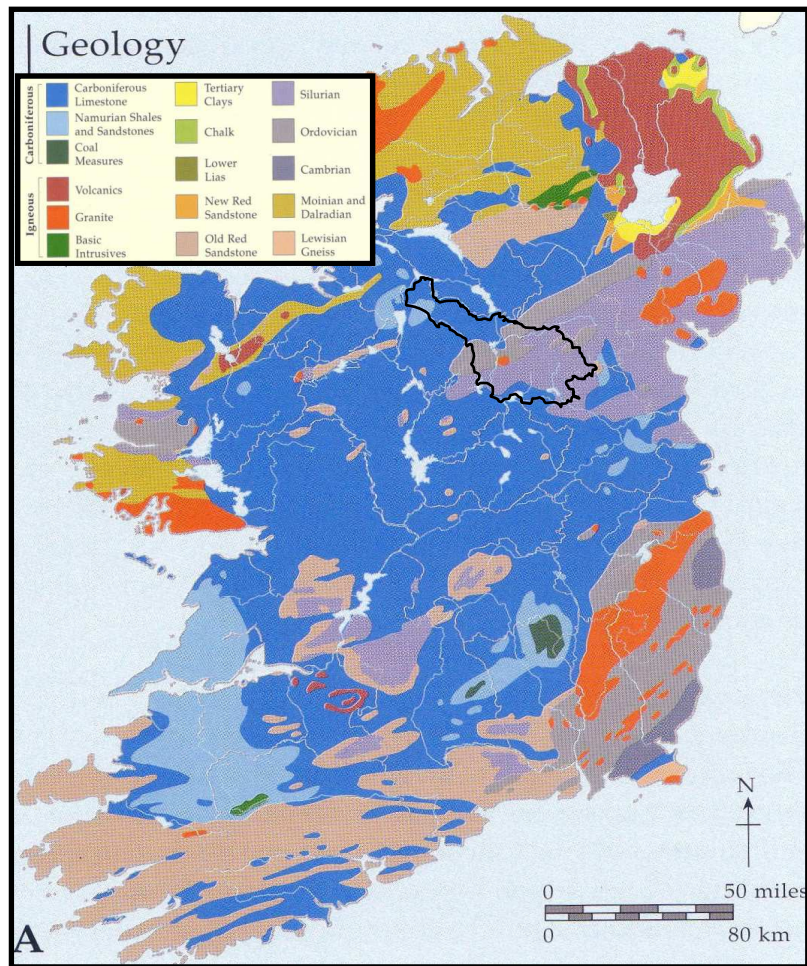
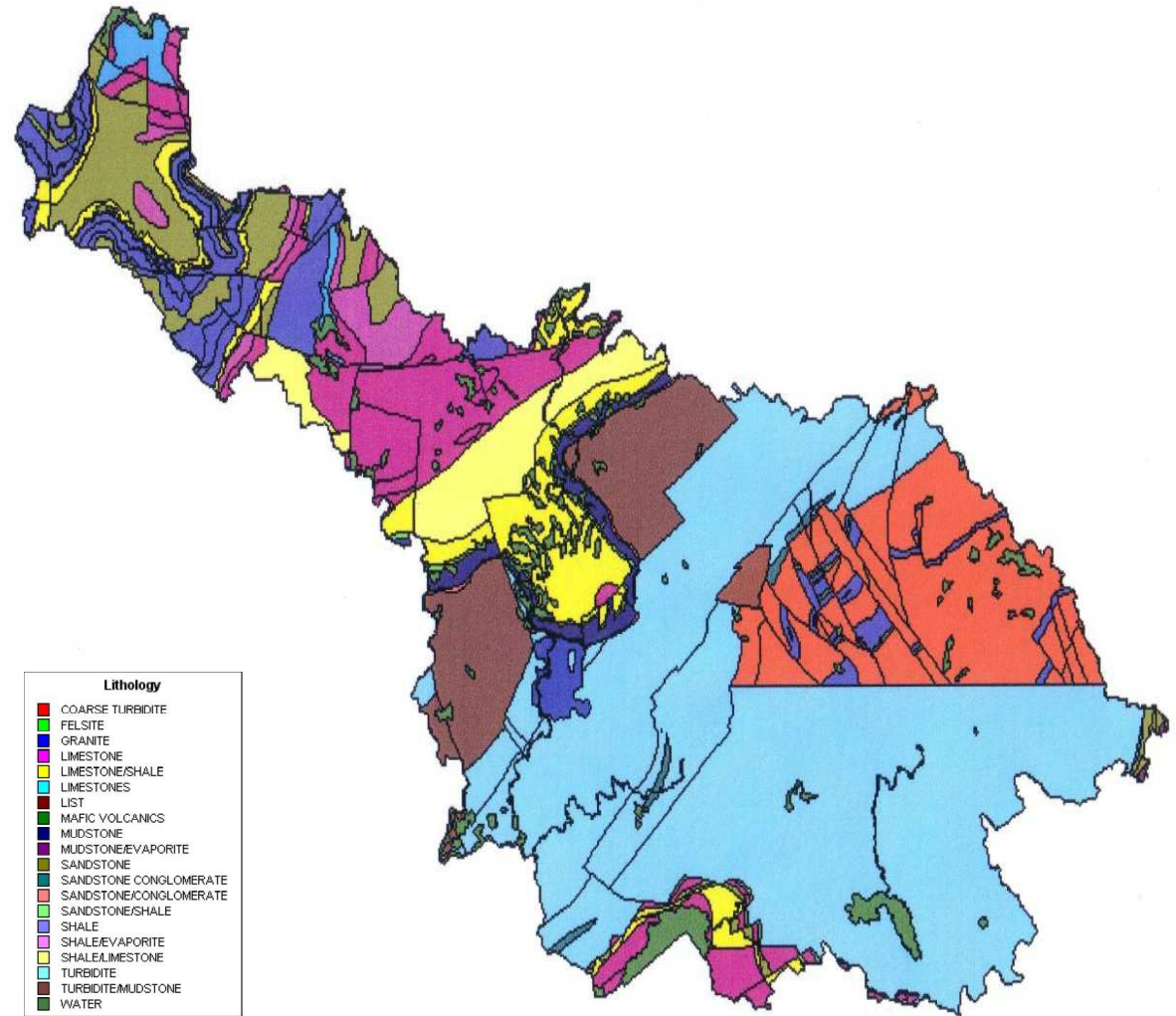


Figure 9: Corine Landuse Classification



Source: Cavan County Council (2007)

#### 7.4.4 Threats to Landscape and Soil (including minerals)

- **Development Impact:** A variety of development types have the potential to impact on the landscape, its soils and geology, these include developments such as extractive industries, wind energy developments, forestry practices, agricultural buildings, rural dwellings, industrial and commercial development and road projects.
- **Soil Erosion:** Soil erosion can take place when vegetation is removed from a site due to agricultural or forestry practices and during construction works. If the soil is washed away it can enter water systems, causing siltation which has a major potential to impact on water quality and fishery resources. Soils have the ability to absorb nutrients from agricultural and domestic waste water. However, when its absorption capacity is reached, the excess of nutrients are easily washed away into water courses, causing eutrophication (over-enrichment) in lakes and pollution in our drinking water supplies.
- Greenfield development will require the movement or removal of soils. Various developments at certain locations have led to the depletion of subsoils, topsoils and the mineral/ rock being extracted. For example, new retail outlets are best located within the existing town centre by new build, infill development and renovation of existing structures. Large industrial processes can also result in land contamination and intensive landuses such as landfill must be monitored and any significant effects mitigated.
- **Visual Impact on the Landscape:** A variety of development types have potential to impact on the landscape. They include developments such as windfarms, extractive industries, forestry, agriculture, industrial and commercial development, rural dwellings and road projects. Existing Rural Housing Policy will continue to facilitate housing requirements of local need, subject to site suitability and technical considerations. However the cumulative impact of one-off rural developments on the landscape must be considered.

#### 7.4.5 Opportunities for the Draft Development Plan

- **Landscape Management Plan:** As part of the Draft Development Plan a 'Landscape Categorisation' has been undertaken in order to guide the Planning Authority before a Landscape Character Assessment or Management Plan is undertaken. The five main Character areas of the County are described as the 'Cuilcagh-Anierin Uplands of West Cavan', the 'Lakelands' comprising mainly of the Lough Oughter system, 'Lake Catchments of South Cavan', 'Drumlin Belt and Uplands of East Cavan' and 'Highlands of East Cavan'. The Character Areas are then discussed in terms of 'Character Types' based on Designated Sites, Scenic Routes, Scenic Viewpoints and Walking Routes; Wind Energy Development Potential; Forestry Potential; Aquifer Types; Water Framework Catchment Regions; Geology, Soil and Topography; Vegetation and Habitat; Urban Areas and Road Access; Built Heritage Items.

- : In general, the Draft Development Plan restricts development in Areas of High Landscape Value or Special Landscape Interest, County Heritage Sites, Scenic Views, Viewing Points, Scenic Routes, Forest Parks and Other Parks, Major Lakes and Lake Environs, Lakeside and Riverside Amenity Areas and Walking Routes in order to protect visual amenity (see Chapter 8 Natural Heritage & Development Management Chapter 10). The Planning Authority intends to support the implementation of a Regional Character Assessment Strategy, as prepared under the Border Regional Guidelines (2010 – 2022).
- The Landscape Categorisation prepared for the draft plan, allows for a proactive approach to landscape and allows the landscape to be viewed for its ability to accommodate developments providing an indicator as to where developments might be most suited.
- The may incorporate strategies with regard to wind energy developments, forestry, groundwater and biodiversity etc. which would strengthen policy for landscape protection.
- **Natural Features of the Landscape:** The Planning Authority will continue to encourage sustainable forestry practices through the ‘Draft Indicative Forest Strategy, 2007’ (Forest Service, Department of Agriculture and Food) when completed?????. A Tree Survey will be undertaken during the life of the Development Plan and Tree Protection Orders will be considered where necessary. The Draft Development Plan contains policies to encourage sustainable forestry development and management in the County.
- The Draft County Development Plan also contains policies on hedgerows, stone walls, designated sites, biodiversity in the wider countryside and protection of water quality (see Chapter 8 Natural Heritage & the Environment).
  
- **Designated Sites and Geological Heritage:** There are also fifty-two karst sites identified by the GSI in the north/ north-west Cavan area. The Geological Survey of Ireland (GSI) has compiled a list of geological sites in the country. Some listed are or will be designated as Natural Heritage Areas. These will be designated over a period of time, with the most “at risk” sites receiving protection first.
- Geological heritage data are not available as the audit of County Geological Sites has yet to be carried out for Co. Cavan. There is a provisional inventory of 20 sites or so for Co. Cavan, which will be confirmed during the audit. This may be incorporated into the plan, once completed.
- The Marble Arch Caves & Cuilcagh Mountain Park forms part of the European Geopark with features such as the Caves, one of Ireland’s most extensive areas of blanket bog, the spectacular Lough Navar scenic drive and the Correl Glen Nature Reserve where many native plant and butterfly species can be found. In the framework of a Geopark, geological heritage and geological knowledge is shared with the broad public and linked with broader aspects of the natural and cultural environment, which are often closely related or determined to geology and landscape (UNESCO, 2007)<sup>8</sup>. An application for a proposed extension of the Geopark

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<sup>8</sup> <http://www.unesco.org/science/earth/geoparks.shtml>

The Global Network of National Geoparks assisted by UNESCO provides a platform of active cooperation between experts and practitioners in geological heritage.

into west Cavan has been made by Cavan County Council. The possible extension would include the Burren, Lough Oughter and other major sites of importance. An extension of the Marble Arch Geopark could have major benefits in terms of eco-tourism and geo tourism for the County. The Draft Development Plan contains objectives and policies for Sites of Geological Importance and the possible extension of the Marble Arch Caves Geopark.

- **Visual Impacts:** The Draft County Development Plan contains ‘Planning Guidance’ for rural housing based on house location, siting, design, scale and form. There are details on landscaping and designated landscapes, special landscape policy areas and sensitive locations. The Planning Authority encourages sustainable building designs which enhance the surrounding landscape.
- **Local Biodiversity Action Plan :**The Plan has been prepared and will contribute to considerations for the siting of developments in the countryside in order to protect and enhance biodiversity including landscape in the County.
- **Local Area Plans & Small Town and Village Plans:** Draft Local Area Plans have been prepared as part of the Draft Cavan County Development Plan and aim to protect and enhance the townscape of the eight towns around the County. In order to reduce the impact of one-off developments in the countryside, the towns must be made attractive and large enough to cater for the growing population. Developments in urban areas are best suited to existing town centre by new build, infill development and renovation of existing structures.
- **Rural Settlement Strategy:** The Draft Development Plan contains Sections on Siting and Design; Appropriate Assessment; Sensitive Landscapes and Vernacular Rural Buildings and Replacement Dwellings
- **Town and Village Design Framework** which has been drawn up in the form of a matrix to enable the rapid evaluation of towns and villages to identify, examine and assess the elements that make up their unique character. The aim is to strengthen existing village and town plans and to create an opportunity for involvement, at a local level in the re-examination of policies with an emphasis on the unique landscape, special character and built heritage of villages and towns in County Cavan.

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The work on the potential extension of the Geopark is based around the collaborative partnership of Cavan County Council, Fermanagh District Council, Coillte and the Forest Service (among other stakeholders).

## 7.5. Water:

### 7.5.1 Legislative Context

In response to the increasing threat of pollution and the increasing demand from the public for cleaner rivers, lakes and beaches, the EU has developed the Water Framework Directive. The Water Framework Directive (WFD), Directive 2000/60/EC, was adopted in 2000 as a single piece of legislation covering rivers, lakes, groundwater and transitional (estuarine) and coastal waters. Its objectives include the attainment of good status in water bodies that are of lesser status at present and retaining good status or better where such status exists at present. There are provisions also for artificial water bodies such as canals. The Directive requires integrated management and planning based on River Basin Districts (RBDs), which consist of river catchments or groups of catchments. Article 8 (1) of the Directive states “Member States shall ensure the establishment of programmes for the monitoring of water status in order to establish a coherent and comprehensive overview of water status within each river basin district”.

### 7.5.2 Water Quality in Ireland

The EPA have published a 4-yearly ‘State of the Environment Report’ – *Ireland’s Environment- An Assessment (2012)*, which provides a current state of the environment assessment of Ireland. This subsection provides a summary of the key issues regarding **national water quality**, and provides the context in which the water quality issues for County Cavan. The report notes that: In comparison with other EU member states, Ireland has a better than average water quality. However, it is noted that the major cause of water pollution in Ireland is: nutrient enrichment resulting in the eutrophication of rivers, lakes and tidal waters from agricultural run-off and discharges from municipal wastewater treatment plants. Although there was an overall improvement in water quality, Ireland still faces major challenges to achieve water quality targets in terms of the Water Framework Directive(WFD) as set for 2015, 2021 and 2027.

The WFD objectives are specified in the Water Management Plans (WMP’s) and the selection of programmes of measures to meet the objectives of the WFD. The report acknowledges that the current governance and administration arrangements for these plans are problematic and that a review of the system is underway in order to deliver more effective integration of roles between policies and key government departments, the EPA and the lead local authorities.

There are 3 main challenges for water quality management:

1. Eliminate serious pollution associated with point sources;
2. Tackle diffuse pollution;
3. Use the full range of legislative measures in an integrated way to achieve better water quality.

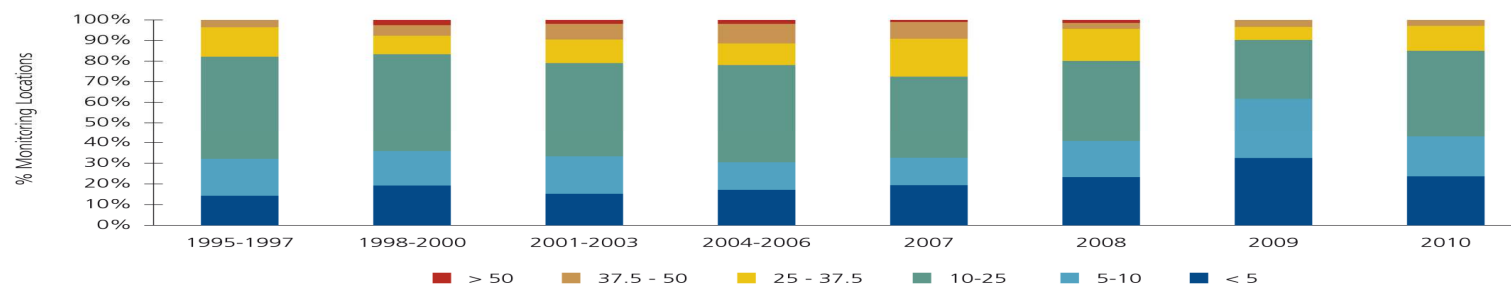
In addressing these challenges, improvements are also required in governance and administrative systems for water management in Ireland to ensure that they are optimised to support the delivery of Ireland’s obligations under the WFD and other water legislation.

**7.5.3 Groundwater – Nationally** is an important source of drinking water in Ireland, providing approximately 25% of the drinking water nationally. It also has significance in driving the ecology of many rivers, lakes and estuaries, especially during low-flow periods when groundwater forms a significant part of surface water flows. The majority of Irish groundwater bodies (85%) achieved good status as required under the WFD.

**7.5.4 Nitrate and Phosphate in Groundwater – Nationally** : The report states that: ‘In the period 2008-2009, there was a general reduction in nitrate concentrations compared to the previous period which has been attributed to increased rainfall, reductions in inorganic fertilizer storage and the implementation of land-spreading restrictions. In comparison with 2009, the slight increases in nitrate concentrations that are observed in 2010, are attributed to reduced rainfall leading to dilution of the nutrients in the water body (McGarrigle et al, 2010<sup>9</sup>). See Table 4.1 Trends in Nitrate Concentrations at Groundwater Monitoring Locations (1995 – 2010) source: EPA

**Table 6: Nitrate concentrations in groundwater**

**Figure 4.1** Trends in Nitrate Concentrations at Groundwater Monitoring Locations 1995–2010 (Source: EPA)



Elevated nitrate concentration in groundwater remains an issue, particularly in the south-east and south of the country. It may contribute to eutrophication of surface waters and impact on the quality of water abstracted for drinking water. Elevated phosphates concentrations of rivers and lakes where the source of phosphate is not attributed to point source discharges, especially at times of low flow. Previous EPA water quality reports (1994-2010) have reported diffuse agricultural pollution as a significant source of the elevated nitrate and phosphate concentrations in Irish groundwaters.

<sup>9</sup> source: Ireland’s Environment – An Assessment, epa Environment Protection Agency 2012

**7.5.5. River Water Quality- Nationally:**

In Ireland, 13,000km of river channel is assessed by the EPA on an ongoing basis at over 2,500 sample points. The most recent assessments show that approx. 71% of river channel is classed as unpolluted in Ireland – thus achieving at least good ecological status. However, approximately 29% of monitored river channel length is polluted to some degree. (see Table7 ). Long term trends in river quality from 1987 to 2011 show that there has been an overall:

**Table .....**: **River Water Quality in Ireland – WFD** Decrease in the length of river channel that is classed as – ‘unpolluted’, although there have been improvements in recent years; A decline the in the length of seriously polluted channel; An increase in the channel length affected by slight to moderate pollution – mainly due to eutrophication (over-enrichment of nutrients) Monitoring for WFD purposes commenced in 2007. The following table indicates the ecological status of Ireland’s Rivers:

**Table 4.2** River Water Quality in Ireland – Ecological Status 2007–2009 (Source: EPA)

Ecological Status	Number of Water Bodies	% of Water Bodies
High	204	13
Good	612	39
Moderate	435	28
Poor	295	19
Bad	18	1
Total	1,564	

The overall ecological status seems lower than that based on individual sites and quality elements. This is because the final ecological status of a water body is determined by the lowest status of the available quality elements at each site and also by the lowest status of the monitored sites within the waterbody there may be more than one monitoring station within each water body. The main success story over past 8 years has been the virtual elimination of seriously polluted (bad ecological status) river sites. The focus is now ont he moderate and poor status sites and on the point of diffuse sources that cause pollution.

The high status waters such as rivers with healthy populations of freshwater pearl mussel require very high standards of protection. However, the number of such high-status waters has declined significantly in recent decades. The decline is worrying and site-specific, targeted

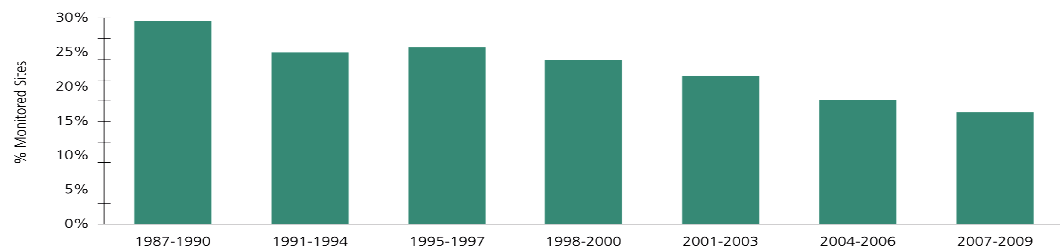
interventions are needed in the catchments with high-status to prevent further loss.

Irish river quality can be compared directly with that of the European Environment Agency’s Waterbase database, which has a nutrient monitoring stations across Europe. Ireland’s ranking for biochemical oxygen demand (BOD) ammonia; phosphate and nitrate. This is based on a comparison of the reported concentrations in rivers across Europe (2007-2009).Ireland’s water quality compares favourable with that of other EU countries, typically ranking in the top 1/3 of those assessed. However, Ireland faces significant challenges in meeting the requirements of the WFD within the specified time-frames. These are the same as in most other EU countries. Pollution from nutrients and organic matter arising from sewage, agriculture and industrial sources is still the most common form of pollution across Europe. The WFD programmes of measures to address these sources.



**Figure 9: Rivers with High Ecological Status in Ireland**

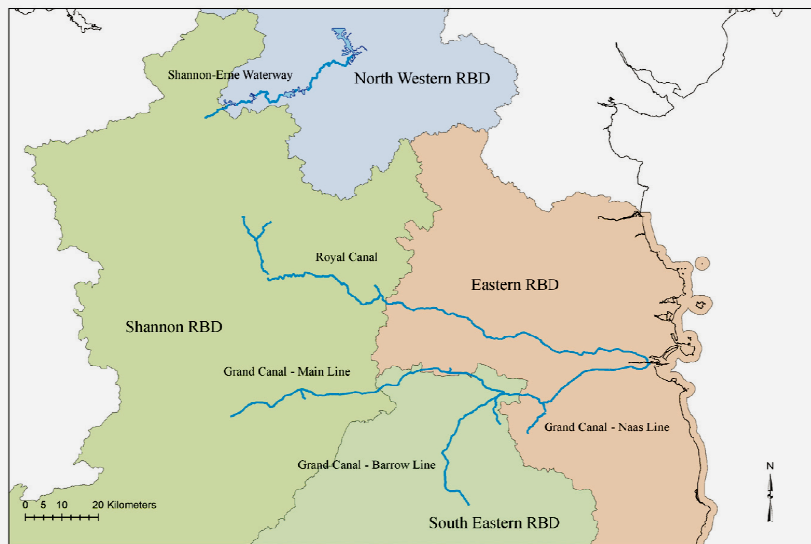
**Figure 4.3** Trends in the Number of River Sites at High Ecological Status 1987–2009 Shown as Percentage of the Total Number of Sites Monitored (Source: EPA)



**7.5.6 Canal Water Quality:** The main canal systems (the Royal and Grand Canals) and sections of the Shannon-Erne Waterway have been identified as Artificial Water Bodies (AWB) under the WFD. See **Figure 10: Canal Systems**

They are required to achieve good ecological potential rather than moderate ecological status. Ecological potential means that the water body is managed to achieve the biology that can be attained given its artificial nature. For classification purposes, the ecological potential can be maximum, good, moderate, poor or bad. The interim classification of ecological potential for Irish canals, based on chemical, biological, and hydromorphological criteria, showed that 87% of the 332km surveyed was at good ecological potential.

**Figure 4.5** Map showing Main Canal Systems Identified as Artificial Water Bodies (AWBs) under the Water Framework Directive (WFD). (Source: Waterways Ireland)



**7.5.7 Lake Water Quality:** In the period 2008-2010, ecological status was assigned to 208 lakes by the EPA, representing 981km<sup>2</sup> of lake surface area covering 65% of the total lake surface in Ireland. See Table ....below:

**Table:.....Lake Quality in Ireland- Ecological Status 2008-2010 (source: EPA)**

Ecological Status	Number of Lakes	%of Lakes	Surface Area (Km <sup>2</sup> )	%Area
High	16	7.7	22.1	2.3
Good	81	38.9	412.0	42.0
Moderate	69	33.2	282.3	28.8
Poor	37	17.8	257.2	26.2
Bad	5	2.4	7.4	0.8

This shows that 97 (46.6% lakes ) were of high or good status with the majority, 39% in the latter category. Ireland ranks very favourably in a comparison of nutrients and chlorophyll nitrate and ammonia in lakes over the period (2007-2009), which were the latest dates available at the time of writing the EPA state of the Environment Report. Ireland has the 3<sup>rd</sup> lowest concentration of total phosphorous and the 4<sup>th</sup> lowest concentrations of chlorophyll and ammonia; and the 7<sup>th</sup> lowest concentrations of nitrate or oxidised nitrogen in its representative networks of lakes.

Only 46.6% of the monitored lakes achieved the targets of the WFD. A reduction in the total amount of nutrients delivered to the lakes via their tributary rivers is a key focus of the WFD programme of measures. The EPA is working towards a set of phosphorous loading limits for individual lakes, based on an extensive new set of bathymetric measures made over recent years that will allow volume and residence time of water in these lakes to be calculated and thus, phosphorous loadings in terms of annual targets.

Programmes of measures to achieve these new limits will need to be more focussed than current measures and to bring about further improvements in lake water quality. As with rivers feeding into the lakes, these measures will focus on nutrient sources both point source and diffuse. Suspected causes of Pollution at 953 Polluted River Sites Surveyed in 2007 – 2009 (from a total of 250 monitoring sites) source: EPA

- Agriculture 47%
- Municipal 37.5%
- Forestry 4%
- Industry 4%
- Miscellaneous 4.5%
- Peat Harvesting 1%

Engineering Works 1%

Aquaculture 1%

Approximately half of the 935 sites assessed are polluted due to what may be termed ‘large point sources’ – such as Municipal Wastewater plants.

The other half are polluted as a result of diffuse sources, particularly agricultural activities, as well as a range of measures described in the RBMP’s which are effectively the application of generic measures such as:

1. Controlling the inputs of phosphorous & nitrogen into waters;
2. Controlling inputs of oxygen-using matter (e.g. silage, milk waste, sewage).
3. Controlling pathogens in water
4. Complete elimination of dangerous substances (priority substances) and control of specific pollutants to protect aquatic communities and human health;
5. Ensuring that there is a sufficient volume of water in all our water bodies;
6. Controlling of hydro-morphological conditions (physical characteristics of the shape and boundaries) both in-stream and along riparian zones.

Reaching the goals set out in the WFD is the major task facing Irish Water managers. The plans themselves maybe seen as somewhat generic, but with prioritisation and breakdown to local level, together with on-the-ground actions, progress can be made. There has been a concern that water policy and guidelines/plans are not being implemented properly, in particular, there is a weakness in the implementation of the current EU water legislation across Europe generally and that, in addition, there are conflicts between the EU’s water policy and other sectoral policies/objectives. In particular, the EU have identified the need for improved coherence with common Agricultural Policy to ensure EU funds are better targeted at a measure that delivers improvements to water and compliances with water legislation.

In addition, improved coherence is also required with renewable energy and transportation policy to ensure that measures adopted for climate mitigation do not cause unintended negative impacts on water.

#### **7.5.8 Agriculture and Forestry – water pollution issues**

Tackling Diffuse Pollution: agricultural activities associated with water pollution include:

- Land spreading of artificial fertilizers and animal manures in unsuitable climatic and ground conditions;
- Silage effluent discharges
- Farmyard run-offs
- Watering animals and poorly managed ring feeders

Actions associated with control of water pollution include:- the implementation of the Nitrates Directive which is the most important measure to address diffuse agricultural pollution of fresh waters – this includes the implementation of the Code of Good Agricultural Practice (GAP).

Surface water–ground water interactions must be taken into account and likewise, river-lake and river-estuary interactions, to ensure that an holistic approach is taken into water management in Ireland. Finding sources of diffuse pollution can be difficult, small stream risk score allows sources of diffuse pollution to be recorded.

Afforestation of peat soils has the potential to cause significant nutrient and silt losses, especially at the establishment and harvesting phases. Large conifers planted on upland peat soils are due to be harvested in coming years. Residual phosphorous left behind can leach out into surface waters due to the low capacity of peat to bind phosphorous. Silt loss from harvesting operations can also damage salmonid spawning beds or freshwater pearl mussels. Control of silt and nutrient losses is required to minimise the impact of forestry on water quality.

**Tackling Point Source Pollution:** Easier to tackle than diffuse sources, large point sources of pollution will require investment in infrastructure upgrades – EPA reports on Urban Wastewater treatment(2012) report indicated that:

- 57 no. waste water works around the country were causing pollution to rivers and bathing areas.
- There were 93% of wastewater discharges in Ireland receiving secondary treatment or higher;
- There were 11no. large urban areas which did not meet the Urban Waste Water Treatment Directive (UWWTD)
- There were 8 no. urban areas which do not meet the (UWWTD) requirement to provide nutrient reduction in addition to secondary treatment for discharges to sensitive water areas by specified dates
- 46% of WWTP's do not meet all the "Waste Water" quality standards or EPA guidelines.
- 

Since the first State of the Environment Report in 2008, the EPA has introduced a formal licensing system for Municipal Waste Water treatment plants. To date, the EPA has processed: 190 licences for Municipal WWTPs and 512 certificates of compliance with these licences and certificates will continue to drive improvements in waste water treatment and water quality in Ireland.

The EPA also regulates the discharges from many larger enterprises in Ireland through the IPPC licensing regime. This has been partly responsible for the decreased in the number of seriously polluted water bodies since 1993.

Groundwater status is heavily dependent on surface water status and a good understanding of the linkages between surface water and groundwater is required in order to ensure success in improving groundwater.

### **7.5.9 Water Quality in County Cavan**

Population growth and the associated development pressures, as well as an intensification of activities such as: Waste water disposal, surface water disposal, landfills, quarries, illegal dumping, agricultural activities, water recreational activities and afforestation can have significant impacts on water quality. Some of the most significant risks to water quality in County Cavan include excessive inputs of nutrients, namely phosphorous and nitrogen.

County Cavan has a wealth of aquatic habitats with the existence of approximately 319 lakes; rivers and streams; bogs and wetlands – (which are act as an important buffer against flood waters and natural purification by entrapment of nutrients. The quality of Cavan’s surface waters is not only important from an ecological viewpoint, but it also provides a source of drinking water and is equally important in terms of tourism for both the residents and visitors to the county. Legislation which is currently being used is aimed at using the law to control and monitor the following areas:

- Drinking Water
- Water Quality
- Water Pollution
- Dangerous Substances
- Salmonid Waters and Fisheries
- Nitrates and Phosphorus
- Urban Waste Water Treatment

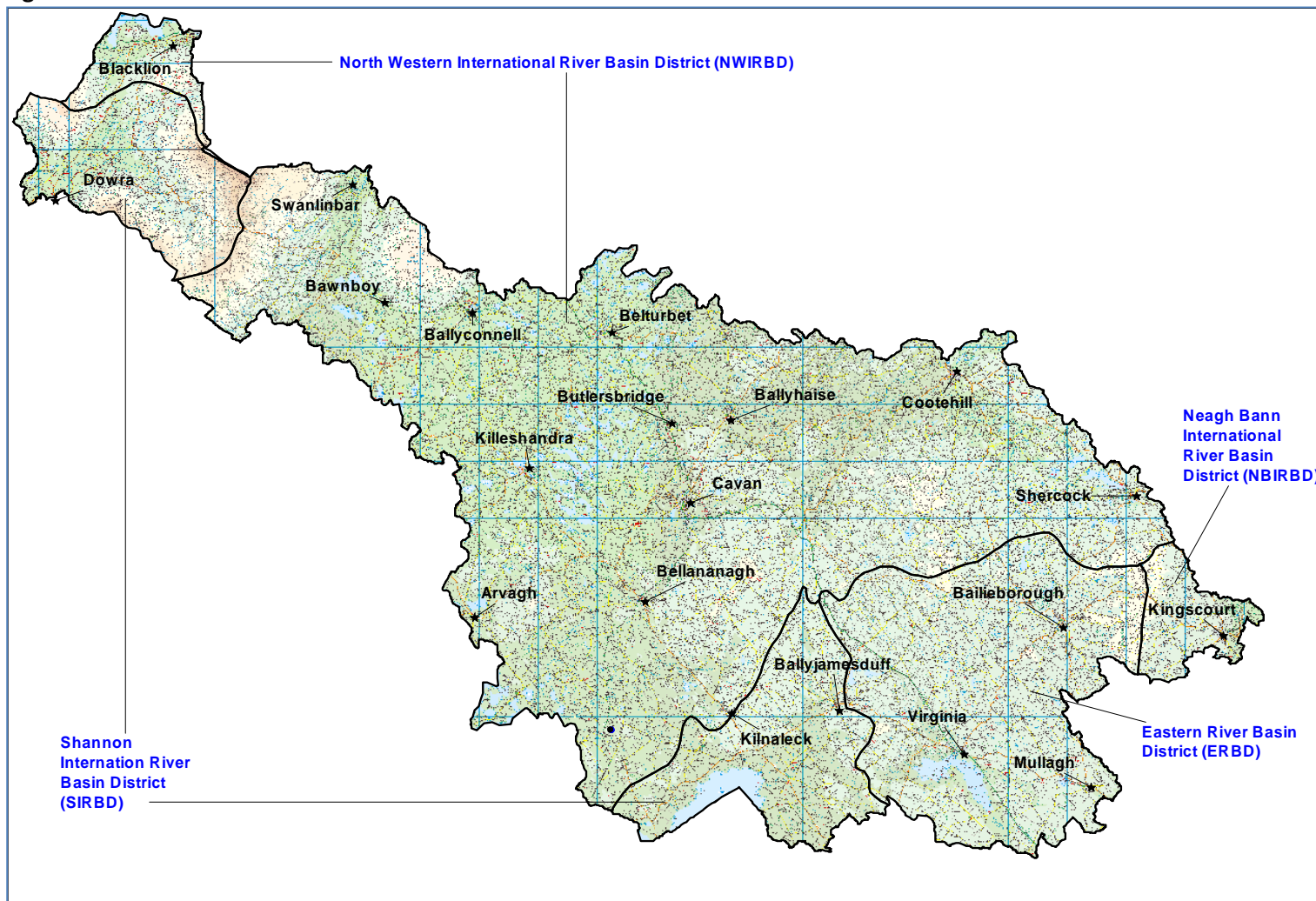
### **7.5.10 Water Framework Directive – implications for County Cavan:**

Cavan County Council has a statutory responsibility to ensure that the quality of river and lake water within its functional area is maintained or improved. The implementation of the Water Framework Directive (WFD) required a major review of water status and the preparation of the River Basin Management Plans. In 2010, Cavan County Council adopted the River Basin Management Plans (2009-2015). These plans identify the status of waters, the pressures on water and the measures required to protect and restore waters. In order to achieve the objectives and ambitious targets set out in the RBMPs, incorporation of the plans into the spatial planning process is essential to ensure sustainable development. This Directive is unique in that, for the first time, it establishes a framework for the protection of all waters including rivers, lakes, estuaries, coastal waters and groundwater, and their dependent wildlife/habitats under one piece of environmental legislation. Specifically the Water Framework Directive aims to:

- Protect and enhance all surface, ground and coastal waters.
- Achieve "good status" for all waters.
- Manage water bodies based on river basins (or catchments).
- Involve the public.
- Streamline legislation.

The Directive states that water quality management is centred on river basins, which are natural geographical areas that occur in the landscape. Management of these basins will be achieved through management plans which are created for each River Basin District (RBD). There are 4 no. RBDs in Cavan, as illustrated below:

Figure 12: River Basin Districts



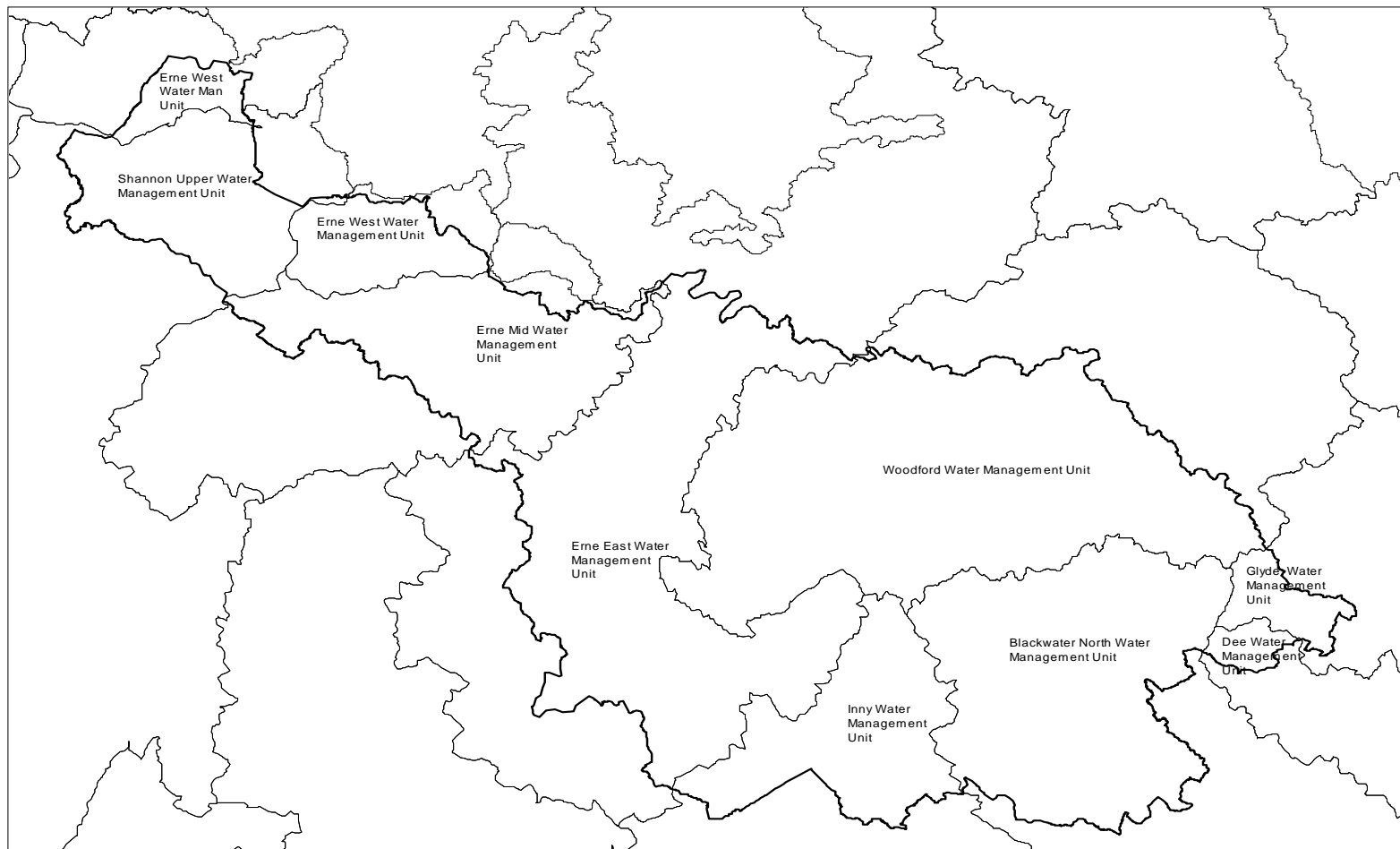
Source: Cavan County Council – Environment Section

Within the RBDs, there are Water Management Units – of which there are 9 no. in County Cavan:

**The WMU's are described as follows:**

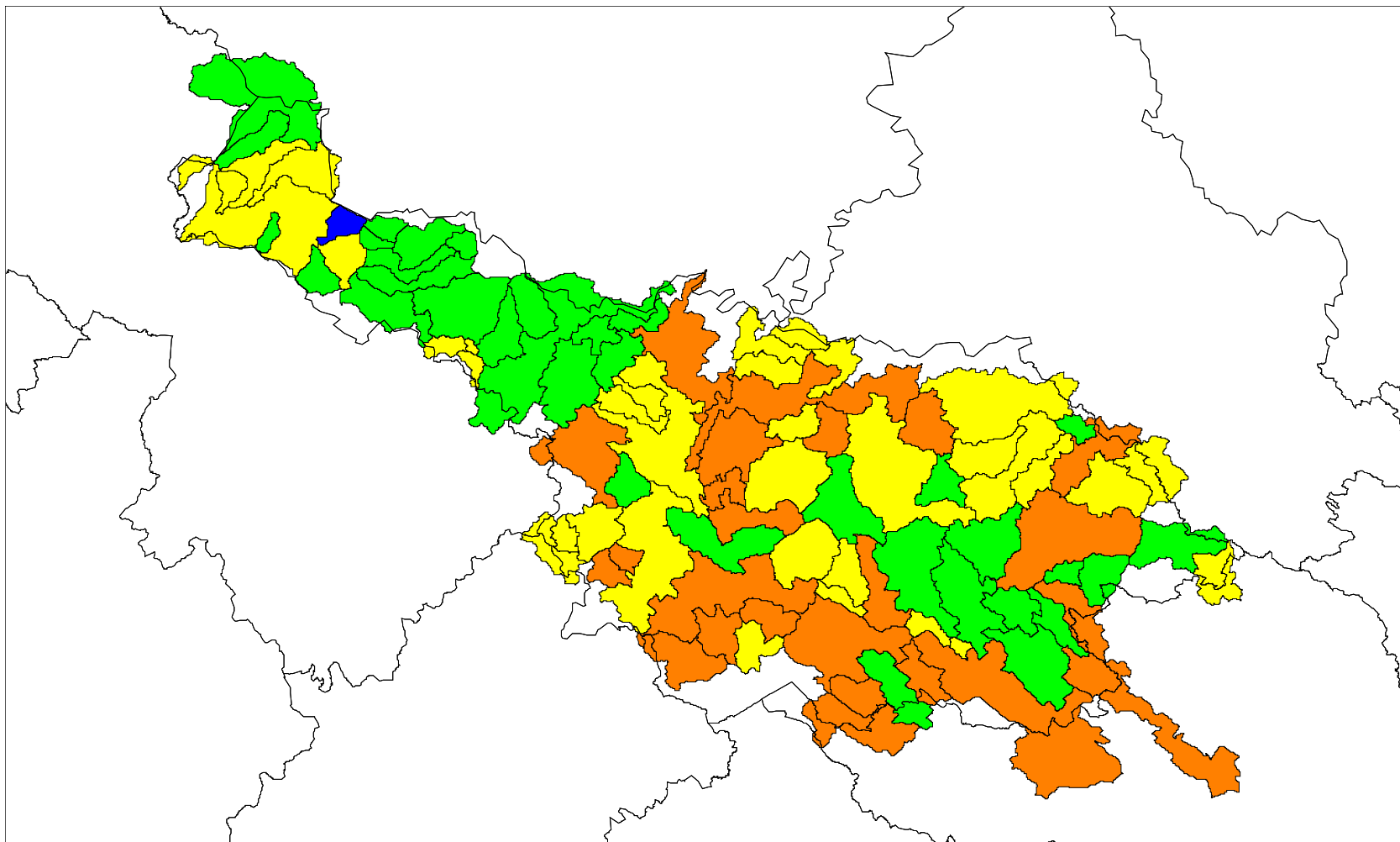
1. Upper Shannon (SIRBD); 2. Woodford; Inny (SIRBD); East Erne (NWRBD); Mid Erne (NWIRBD); Erne West (NWIRBD); Blackwater North (ERBD); Glyde (NBIRBD) and the Dee (NBIRBD)

**Figure 13: Water Management Units (WMU's)**



The total number of **Water Bodies** in County Cavan is some **126 no.** (some of these are partially located in co. Cavan) The total number of lakes is **89no.** The status of each water body has been described as (**Good, High, Moderate or Poor**) and is identified as follows:

**Figure 14: Water Bodies**



Source: Cavan County Council: 2012

**Legend:**



<b>Blue – High Ecological status</b>
<b>Green – Good Ecological Status</b>
<b>Yellow – Moderate Ecological Status</b>
<b>Orange – Poor Ecological Status</b>
<b>Red – Bad Ecological Status</b>

The status of the water bodies and lakes within each Water Management Unit is indicated in colour-code and comprises the following:

- (1.) **Upper Shannon (SIRBD)** - 13 no. water bodies
  - 1 Water body of **Good** Status which must be maintained
  - water bodies of **High** and **Good** status which must be maintained
  - 9 water bodies of **Moderate** status which must be improved by 2021.
  - 1 Lake of **High** status which must be maintained.
- (2.) **Inny (SIRBD)**
  - 10 Water bodies
  - 1 Water Body of **good Status**, which must be maintained
  - 6 Water Bodies of **Moderate Status** which must be improved by 2021.
  - 3 Water Bodies of **Poor status** which must be improved by 2021
  - 2 Lakes of **Moderate status**, which must achieve at least **Good status by 2015** and must achieve at least **Good status by 2021**.
- (3.) **Woodford (NWIRBD)**
  - 28 Water bodies in County Cavan
  - 6 Water bodies of **Good Status** which must be maintained
  - 11 Water bodies of **Moderate status** which must be improved by 2021
  - 2 Water bodies of **Moderate Status** which must be improved by 2015
  - 9 Water bodies of **Poor Status** which must be improved by 2021
  - 16 Lakes in County Cavan
  - 3 Lakes of **high** and **Good status** which must be maintained
  - 9 Lakes bodies of **Poor status** which must be improved by 2021
  - 4 Lakes of **Moderate Status** which must be improved by 2015
- (4.) **Erne East (NWIRBD)**
  - 29 Water bodies in Co. Cavan
  - 3 Water bodies of **Good** Status which must be maintained
  - 9 Water bodies of **Moderate** Status which must be improved by **2021**
  - 6 Water bodies of **Moderate** Status which must be improved by **2015**

- 11 Water Bodies of **Poor** Status which must be improved by **2021**
- 50 Lakes in Co. Cavan
- 6 Lakes of **High** and **Good** Status which must be maintained
- 35 Lakes of **Moderate** Status which must be improved by **2021**
- 7 Lakes of **Moderate** Status which must be improved by **2015**
- 2 Lakes of **Poor** and **Bad** Status and must be improved by **2021**

**(5.) Mid Erne (NWIRBD)**

- 15 Water Bodies in Co. Cavan
- 9 Water bodies of **Good** Status which must be maintained
- 4 Water bodies of **Moderate** Status which must be improved by **2021**
- 2 Water bodies of **Poor** Status which must be improved by **2021**
- 13 Lakes in Co. Cavan
- 1 Lakes of **Good** Status which must be maintained
- 1 Lake of **Moderate** Status which must be improved by **2021**
- 11 Lakes of **Moderate** Status which must be improved by **2015**

**(6.) Erne West (NWIRBD)**

- 8 Water bodies in Co. Cavan
- 7 Water bodies of **High** and **Good** Status which must be maintained
- 1 Water body of **Moderate** Status which must be improved by **2015**
- 1 Lake of **Moderate** Status which must be improved by **2015**

**(7.) Blackwater North (ERBD)**

- 18 Water bodies in Co. Cavan
- 11 Water bodies of **High** and **Good** Status which must be maintained
- 2 Water body of **Moderate** Status which must be improved by **2021**
- 2 Water body of **Moderate** Status which must be improved by **2015**
- 1 Water body of **Poor** Status which must be improved by **2027**
- 1 Water bodies of **Poor** Status which must be improved by **2021**
- 1 Water body of **Poor** Status which must be improved by **2015**
- 5 Lakes in Co. Cavan
- 1 Lake of **Good** Status which must be maintained
- 1 Lake of **Moderate** Status which must be improved by **2015**

- 2 Lakes of **Poor** Status which must be improved by **2015**
- 1 Lake of **Bad** Status which must be improved by **2027**

**(8.) Glyde (NBIRBD)**

- 3 Water bodies in Co. Cavan
- 3 Water bodies of **Good** Status which must be maintained

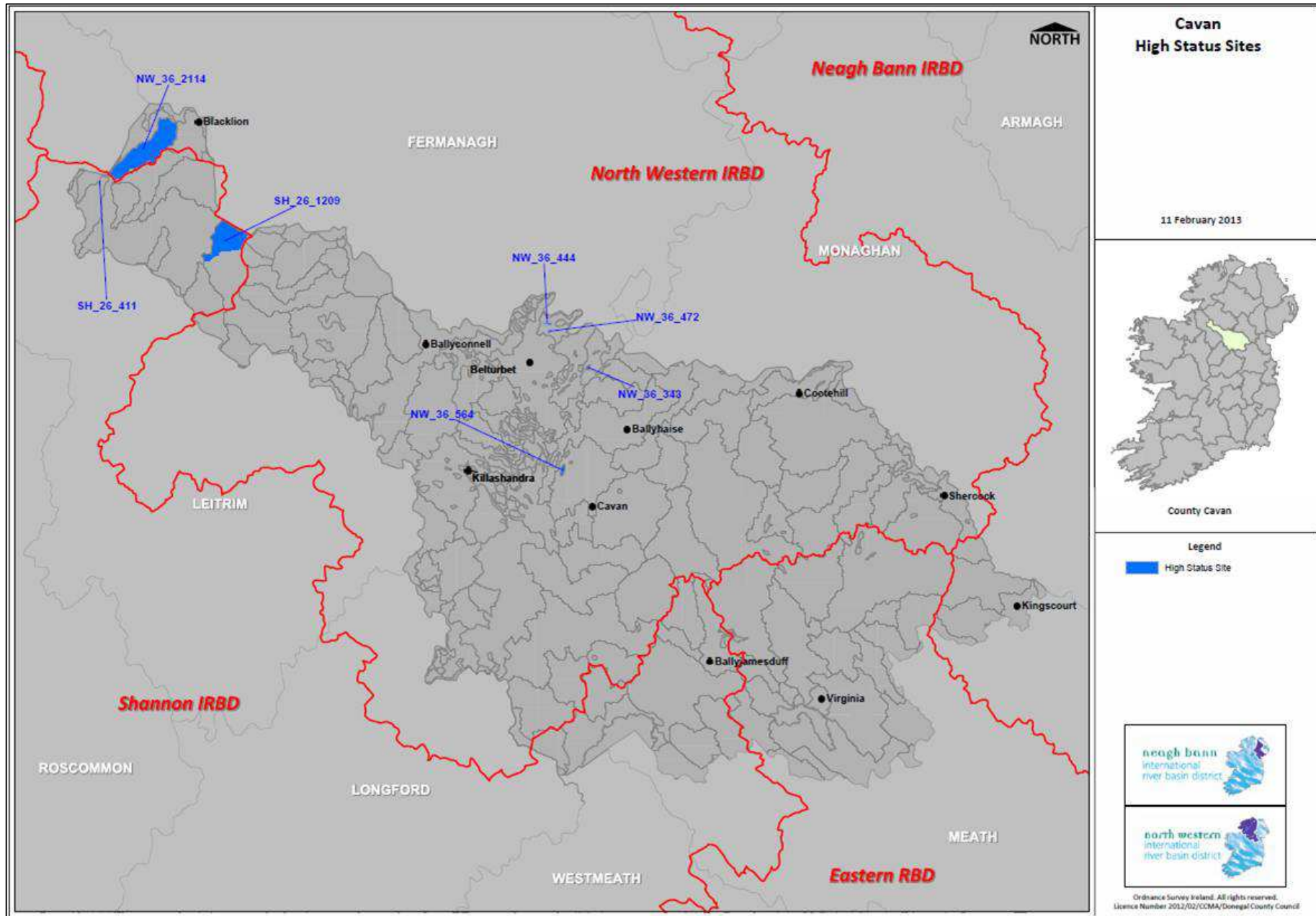
**(9.) Dee (NBIRBD)**

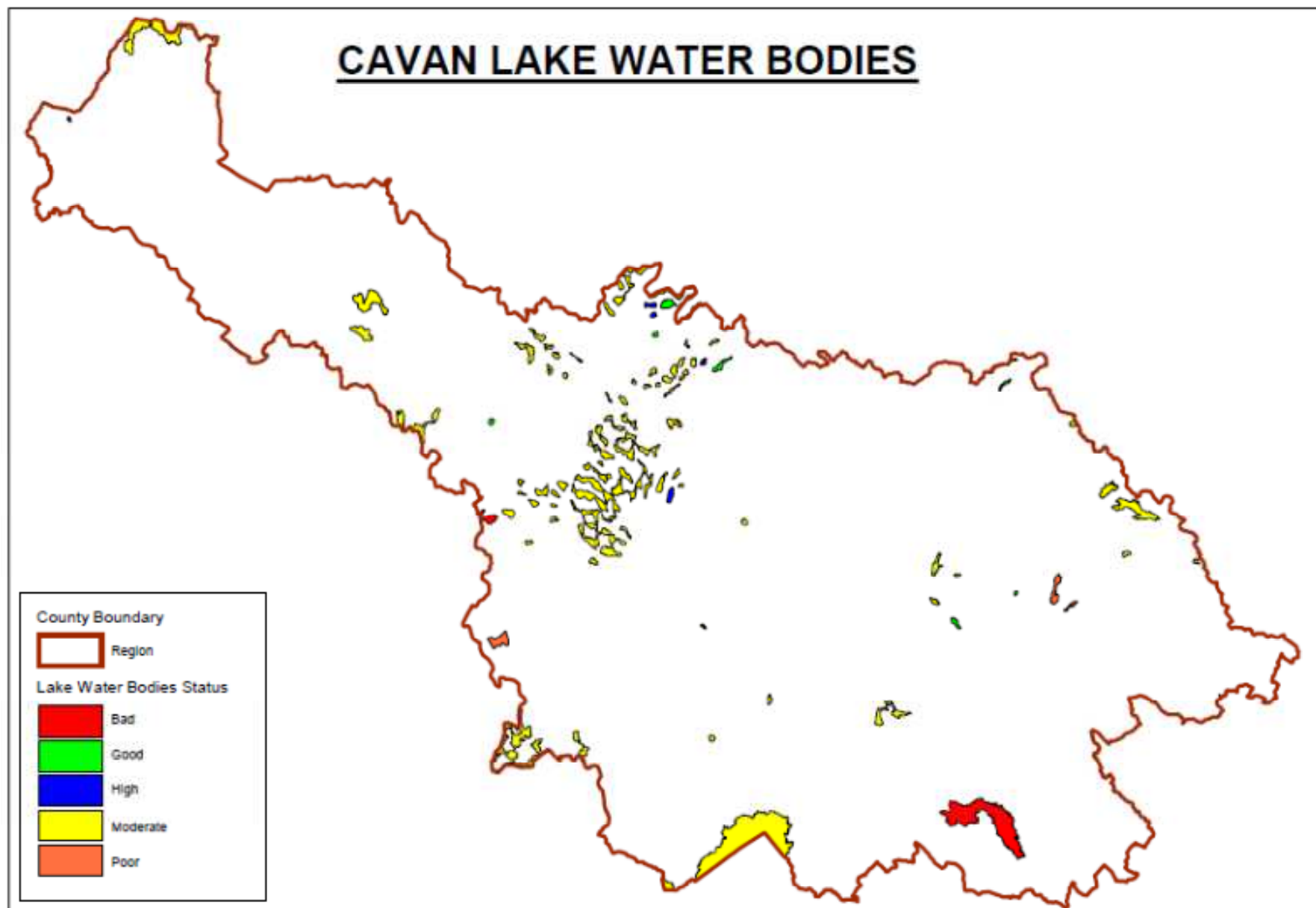
- 2 Water bodies in Co. Cavan
- 1 Water body of **Good** Status which must be maintained
- 1 Water body of **Moderate** Status which must be improved by **2021**
- 1 Lake of **Moderate** Status which must be improved by **2021**

A summary of the current status, and target dates for achieving at least “Good” status for the lakes and water bodies of county Cavan is provided in Table ..... below:

**Table.....: Lakes and water bodies in Co. Cavan - Current status & target dates for achieving at least Good Status.**

	Total	High & Good Status	Moderate Status 2021	Moderate Status 2015	Poor Status 2027	Poor Status 2021	Poor Status 2015	Bad Status 2027	Bad Status 2021
<b>Water Bodies</b>	126	45	42	11	1	26	1	0	0
<b>Lakes</b>	89	12	47	25	0	1	2	1	1





### 7.5.11 Surface Water Monitoring

It is the responsibility of Environmental Management Section of Cavan County Council in conjunction with the Environment Protection Agency (EPA) to carry out extensive environmental monitoring of the rivers and lakes throughout County Cavan.

The most recent results of monitoring of surface waters in the County, are provided in the River & Lake annual report prepared by Cavan County Council for 2011 is included in **Appendix.....**of this report. All chemical monitoring was undertaken by the Council's Environment Section. Monitoring complies with the requirements of the monitoring programme prescribed by the EPA in compliance with the requirements of the Water Framework Directive (WFD). Approximately 99 river stations and 21 lakes are monitored. The monitoring programme allows comparison, on an annual basis of the chemical quality of rivers and lakes.

The Biological monitoring referred to in the report on river stations was undertaken by the EPA as part of its National Programme of Biological Assessment of River Water Quality. The lake monitoring . The lake monitoring programme involves the monitoring of 21 lakes designated by the EPA. This involves a minimum of four samples taken once in April and three times between July and October.

River water quality ranges between “moderately polluted” to “unpolluted” under the EPA Q rating classification, however under the WFD classification; river waterquality contains large areas of poor to moderate status. Lake water quality is a particular issue, with a significant number of lakes being classified as being “highly eutrophic”, including Bunerky Lough, Ardan Lough, Drumore Lough, Skeagh Lough Upper, Sillan Lough and Ramor Lough. Lough Oughter is classified as being moderately eutrophic also.

In addition to monitoring the rivers and lakes, there are also monitoring programmes in place for the following: Discharges from sewage treatment works; Discharges from licensed facilities which includes: Discharges to the sewer network and Discharges to waters; Drinking water quality of public supplies; The quality of raw water sources used for drinking water and Group Water Schemes; Dangerous substances and Nitrates in groundwater's.

**Canals:** The Inland Waterways canal System, which is a navigable waterway and which transverse the north-western area of the county is part of the Shannon-Erne Water-Way. The quality monitoring over the period 2007-2009 indicated generally good conditions in the canalised section of the Shannon Erne WaterWay (central Fisheries Board, 2008 and 2009) In 2010 and 2011 quality remained generally in good condition. (Source: SEA report for Ireland

### 7.5.12 Groundwater

Groundwater, as a resource, is important for a drinking supply as well the supply to surface waters across the County. Areas in north-west Cavan are identified as ‘productive karstified aquifer’ in limestone areas and also ‘productive fissured bedrock aquifer’. Groundwater is contained in aquifers are exposed in our surface lakes and rivers. Much of County Cavan is characterised by a ‘poorly productive bedrock aquifer’. In 2005, the Geological Survey of Ireland (GSI) completed a Groundwater Protection Scheme Plan (\*GWPS) for County Cavan. This is an important planning tool, as much of County Cavan is characterised as ‘poorly productive

bedrock aquifer’. (Refer to Map: Figure.....) The GSI information can give site specific details with regard to groundwater and classify the associated vulnerability of the groundwater. The Department of Environment, Community & Local Government; the EPA and the GSI prepared the Groundwater Protection Schemes, these provide for specific Groundwater Protection Responses for various actions and developments including for: On-site Wastewater Treatment Systems for Single Houses; Landfills and for Landspreading.

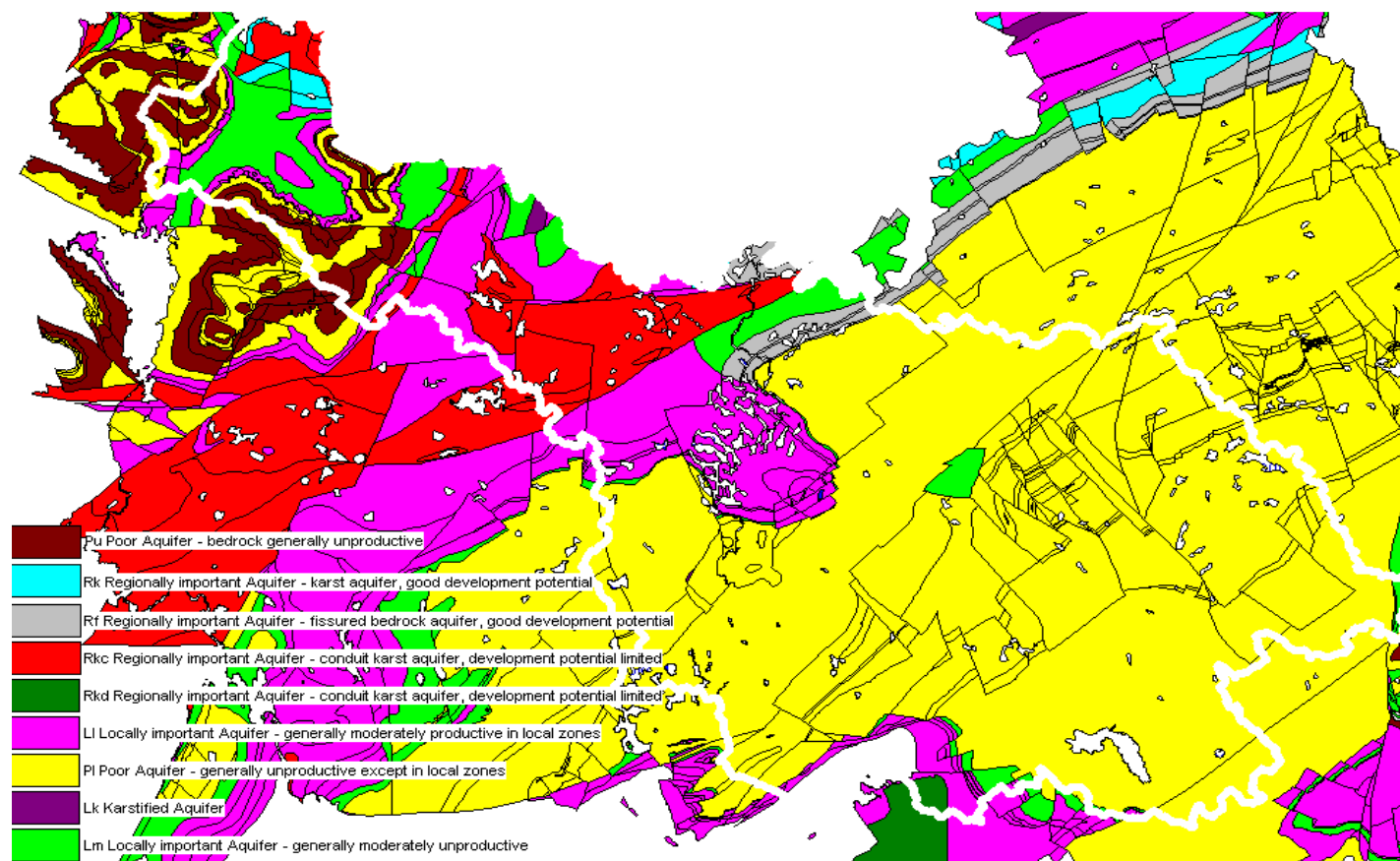


Figure.....Aquifer System County Cavan Source: GSI (2010)

### 7.5.12 Drinking Water

Water is a precious resource and it is the goal of the Cavan County Council to deliver quality drinking water and to effectively treat wastewater consistent, with sustainable development. The achievement of this goal necessitates a multi-faceted response encompassing the combined efforts of the governing legal, policy and economic framework, the supervisor and monitoring regime and an investment programme strategy. Drinking Water standards must comply with the European Communities (Drinking Water) Regulations 2007 (S.I. No. 278 of 2007). The following is a list of Public Water Supply Schemes in County Cavan:

**Table.....: Public Water Supplies in County Cavan – 2011/2013**



**STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) – ENVIRONMENTAL REPORT FOR THE DRAFT CAVAN COUNTY DEVELOPMENT PLAN 2014 - 2020**

Water Scheme	Plant Location	Treatment Type	Source Type	Design Capacity	Existing Demand	Planned Upgrade of Plants	
				(m <sup>3</sup> /day)	2012 (m <sup>3</sup> /day)	Capital Programme	Small Scheme
Cavan Regional Water Supply	Knockataggart, Stradone, Co. Cavan	Sed, RGF, Coag, Chlor, Fluor, pHC	SW	4500	4211		47%
Ballyjamesduff Regional Water Supply (Incl. Ballinagh & Kilnaleck)	lismeen, Ballyjamesduff, Co. Cavan	RGF, Coag, DAF, Chlor, Fluor, pHC	SW	5160	2670		27%
Bailieborough Regional Water Supply (Incl. Virginia & Mullagh)	Kilnacross, Bailieborough, Co. Cavan	RGF, Coag, DAF, Chlor, Fluor, pHC	SW	2500	2593		31%
Kingscourt Public Water Supply	Lisansky, Kells Rd., Kingscourt, Co. Cavan	Sed, RGF, Coag, Chlor, Fluor	SW/GW	872	615		29%
Cootehill Public Water Supply	Kilawaun, Cootehill, Co. Cavan	Sed, RGF, Coag, Chlor, Fluor, pHC	SW	810	547		20%
Ballyconnell Public Water Supply	Cuillaghan, Ballyconnell, Co. Cavan	PrF, Chlor	SSp	550	729		43%
Swanlinbar Public Water Supply	Cloghoge, Swanlinbar, Co. Cavan	RGF, Coag, Chlor, pHC	SW	330	147	Funding Application (2013) for upgrade of chlorine dosing system.	20%
Belturbet Public Water Supply	Belturbet, Co. Cavan	RGF, Coag, DAF, Chlor, Fluor, pHC	SW	1000	497	Plant Upgrade 2013 - Automation of Coagulant Dosing	7%
Bawnboy Public Water Supply	Kilsob, Bawnboy, Co. Cavan	PrF, Chlor	GW	300	235	Network Repairs resulting in improved pressure and reduced UFW	32%
Arvagh Public Water Supply	Supplied by Erne Valley Group Water Scheme	RGF, DAF, PrF, Chlor, pHC	SW	200	93	Funding Application (2013) for Provision of Chlorine Monitors & Chlorine Booster Stations at Inetrconnection Point between GWS & PWS.	5%

**STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) – ENVIRONMENTAL REPORT FOR THE DRAFT CAVAN COUNTY DEVELOPMENT PLAN 2014 - 2020**

<b>Gowna Public Water Supply</b>	Supplied by Erne Valley Group Water Scheme	RGF, DAF, PrF, Chlor, pHC	SW	300	156	Funding Application (2013) for Provision of Chlorine Monitors & Chlorine Booster Stations at Interconnection Point between GWS & PWS.	21%
<b>Killeshandra Public Water Supply</b>	Supplied by Erne Valley Group Water Scheme	RGF, DAF, PrF, Chlor, pHC	SW	350	291	Funding Application (2013) for Provision of Chlorine Monitors & Chlorine Booster Stations at Interconnection Point between GWS & PWS.	53%
<b>Ballyhaise Public Water Supply</b>	Supplied by Annagh Valley Group Water Scheme	RGF, OZ, PrF, Chlor, pHC	SW	250	100	Funding Application (2013) for Provision of Chlorine Monitors & Chlorine Booster Stations at Interconnection Point between GWS & PWS.	7%
<b>Dowra Public Water Supply</b>	Supplied by Doobally Valley Group Water Scheme	PrF, Chlor, pHC	SW	55	64		57%
<b>Blacklion Public Water Supply</b>	Supplied by Gowlan Valley Group Water Scheme	DAF, PrF, Chlor, pHC	SW	115	83		12%
<b>Shercock Public Water Supply</b>	Supplied by Dhuish Valley Group Water Scheme	RGF, Coag, DAF, Chlor, pHC	SW	320	165	Funding Application (2013) for Provision of Chlorine Monitors & Chlorine Booster Stations at Interconnection Points between GWS & PWS.	13%

Cavan County Council: Water Services (2013)

**SSF: Slow sand filtration**

**RGF: Rapid Gravity filtration**

**PrF : Pressure Filtration**

**Coag: Coagulation/Flocculation**

**DAF: Dissolved Air Flotation**

**Chlor: Chlorination**

**Fluor: Fluoridation**

**pHC: pH Correction**

**OZ: Ozonation**

The Environmental Protection Agency’s report (2011) ‘The Provision and Quality of Drinking Water in Ireland – A Report for the Year 2011’ provides a Summary of Public Water Supply Quality in 2011: Cavan County Council is responsible for the operation of 17 Public Water Supplies (PWS) serving a population of 25,015.

Microbiological compliance in Cavan PWSs increased from 96.6% in 2010 to 100% in 2011. Chemical compliance levels have decreased from 99.0% in 2010 to 97.9% in 2011.

No non-compliances of the microbiological parametric values during occurred in 2011. A summary of the PWS with non-compliances of the chemical parametric values during 2011 is as follows

**Table.... Chemical Parametric Values**

<b>Parameter</b>	<b>2011</b>
	Name of PWS
<b>Trihalomethanes</b>	Cavan RWSS (1) Killeshandra (1)
<b>Flouride</b>	Bailieborough RWSS (1) Baliejamesduff RWSS (3) Belturbet (1) Cavan RWSS (1) Kingscourt (1)
<b>Bromate</b>	Ballyhaise

The trihalomethanes non-compliances were primarily due to the chlorination of the water with elevated levels of organic matter present. The bromated exceedance was determined to be a disinfection byproduct linked to the type of treatment used at that plant. The fluoride non-compliances were due to elevated levels of fluoride above Irish standard. However, all samples were below the EU fluoride standard of 1.5mg/l.

One new boil water notice was issued during 2011 and one remained in place from the previous year. At the end of 2011, no boil notices or water restrictions remained in place on Cavan County Council’s PWS.

A summary of boiled water notices (BWN) and water restrictions (WR) notices issued to consumers by Cavan County Council or active during 2011 is as follows:

**Table:.....Boil Water Notices & Water Restrictions**

The RAL is a list of PWSs where remedial action is required to ensure compliance with the requirements of the Drinking Water Regulations. In 2011, two public water supplies (Arvagh and Bailieborough Mountain Line) in Cavan were removed from the RAL as remedial works had been completed to the satisfaction of the EPA and none were added.

**Table: Remedial Action List (RAL):**

No. of PWS on the RAL at the end of 2011:	5
No. of PWS added to the RAL in 2011:	0
No. of PWS removed from the RAL in 2011:	2

**Audits of Drinking Water Treatment Plants:-** The following drinking water treatment plans were audited by the EPA during 2011: Bawnboy PWS

#### 7.5.14 Water Services

#### 7.5.15 Urban Wastewater Treatment

The treatment of wastewater from urban areas is an important factor in the quality of surface waters. It is essential that Cavan County Council keeps pace with growing population and the provision of adequate waste-water treatment.

Cavan County Council is required to have regard to the recommendations of the ‘Urban Waste Water Discharges in Ireland , for Population Equivalents Greater than 500 persons The following is the Water Services Investment Programme – Assessment of Need 2009 – 2015.

It was noted by the EPA that in 2010, that a large number of wastewater treatment plants were identified as failing to meet the overall requirements of the Urban Wastewater Treatment Regulations (2001), including treatment plants servicing Ballyconnell, Cavan, Kingscourt, Killeshandra and Kilnaleck.

**Table .....: Cavan County Council - Waste Water Treatment Plants Performance during 2011**

Urban area	Reg. No.	Pass or Fail	Reason for failure	Persistent failures	Urban area (p.e)	WWTP (p.e.)	Level of treatment provided	Receiving water	Sensitive Areas	River Basin District
Arvagh	D0497-01	Fail	Quality	■	905	1,200	Secondary & nutrient	River		N. Western
Bailieborough	D0085-01	Pass		2,577	2,500	Secondary & nutrient	River			Eastern
Ballinagh	D0501-01	Pass		1,483	1,800	Secondary & nutrient	River			N. Western
Ballyconnell	D0253-01	Pass		1,608	3,000	Secondary &	River			N. Western

Ballyhaise	D0496-01	Pass		780	905	nutrient Secondary & nutrient	River			N. Western
Ballyjamesduff	D0256-01	Pass		1,930	2,200	Secondary & nutrient	River			Shannon
Belturbet	D0084-01	Pass		2,266	4,000	Secondary & nutrient	River			N. Western
Blacklion	D0498-01	Fail	Quality		768	1,025	Secondary & nutrient	Lake		N. Western
Cavan	D0020-01	Fail	Quality		21,786	20,565	Secondary & nutrient	River	✓	N. Western
Cootehill	D0082-01	Pass		2,072	2,756	Secondary & nutrient	River			N. Western
Killeshandra	D0499-01	Pass		922	1,000	Secondary & nutrient	Lake			N. Western
Kilnaleck	D0500-01	Fail	Quality	✓	831	650	Secondary & nutrient	River		N. Western
Kingscourt	D0083-01	Fail	Quality		2,335	2,400	Secondary & nutrient	River		Neagh Bann
Mullagh	D0252-01	Pass		1,080	3,000	Secondary & nutrient	River			Eastern
Shercock	D0495-01	Pass		812	1,000	Secondary & nutrient	Lake			N. Western
Virginia	D0255-01	Pass		2,363	2,000	Secondary & nutrient	Lake			Eastern

The EPA recommends that the new Development Plans for Cavan should highlight the requirement under *The Waste Water Discharge (Authorisation) Regulations* for all wastewater discharges, including storm water discharges which come within the scope of these Regulations to be licensed (for agglomerations over 500pe) or certified (for agglomeration below 500p.e). In this regard, the Plans should highlight the specific requirements of Regulations 43 & 44 of the *Waste Water Discharge (Authorisation) Regulations, 2007*, S.I. No. 684 of 2007, regarding the consideration of proposals and consultation on such proposals by Planning Authorities and An Bord Pleanála, where applications for proposed development are being considered and decided upon.

The Plans should include as appropriate measures to improve water quality impacted by waste water discharges as identified in the EPA Waste Water Report and the Water Quality in Ireland reports.

The Plans should implement the Urban Waste Water Treatment Regulations 2001 and 2004 and promote, as appropriate, specific provisions for the implementation of the relevant recommendations set out in the recent *Focus on Urban Waste Water Discharges in Ireland report* (EPA, 2012), available at <http://www.epa.ie/downloads/pubs/water/wastewater/>. An *Update on 'Focus on urban Waste Water discharges in Ireland' Report* (EPA, 2012) was published and is available at: <http://www.epa.ie/downloads/advice/water/wastewater/>

A summary of the content to be taken into account, as relevant, is provided below:

- Seriously polluted river locations where the source of pollution is attributed to urban waste water discharges are listed in Appendix D.
- Moderately or slightly polluted river locations where there is a high probability that the principle cause of pollution can be attributed to urban waste water discharges are listed in Appendix E.
- Smaller agglomerations in the size range 500 p.e. up to the Directive thresholds, with no treatment or preliminary treatment only in 2009 are listed in Appendix I.
- Agglomerations where secondary treatment or nutrient treatment is not yet installed as per the Urban Waste Water Treatment Directive are listed in Table 2-2 and Table

#### 7.5.16 Waste Water Treatment & Single Dwellings

The [Water Services \(Amendment\) Act 2012](#) requires water services authorities to maintain a register of domestic waste water treatment systems in their functional areas. The Local Government Management Agency (LGMA) has developed a central on-line registration system and will manage the system on a shared-service basis for the water services authorities. Under the Act, owners of domestic waste water treatment systems are required to ensure that their systems are on the register. Your registration will contribute to the protection of Ireland's ground and surface waters. All septic tanks and other types of treatment and disposal systems for domestic waste water should be registered not later than 1st February 2013.

The treatment of wastewater from urban areas is an important factor in the quality of surface waters. It is essential that Cavan County Council keeps pace with growing population and the provision of adequate waste-water treatment. The following is the Water Services Investment Programme (WSIP) – Assessment of Need 2009 – 2015

The 2011 Census recorded the following information on Wastewater Treatment Systems for County Cavan:

2011 Census Published: 28/03/2012	All types of sewerage	Public Scheme	Individual Septic Tank	Individual Treatment/not septic tank	Other type of sewerage	Total DWWTS	DWWTS as % of Total Households	No sewerage facility	Not stated
County Cavan	25,720	10,232	12,078	2,240	159	14,477	50%	98	913

Source: CSO 2011: Private Households in Permanent Housing Units (Number) by period in which Built, Aggregate Town or Rural Area, Type of Sewerage Facility. Province County or City and Census Year

#### 7.5.17. Fisheries

The Inland Fisheries Ireland (IFI) is a Statutory Body established on the 1<sup>st</sup> of July 2010. Under Section 7(1) of the Inland Fisheries Act 2010 (No. 10 of 2010), the principal function of IFI is the protection, management and conservation of the inland fisheries resource.

Under section 7(3) of the IFI Act, it is stated that without prejudice to subsection (1) the IFI shall in the performance of its functions have regard to:

- (g) the requirements of the European Communities (Natural Habitats) Regulations 1997 (S.I.No. 94 of 1997) and the need for the sustainable development of the inland fisheries resource (including the conservation of fish and other species of fauna and flora habitats and the biodiversity of inland water ecosystems),
- (h) as far as possible, ensure that its activities are carried out so as to protect the national heritage (within the meaning of the Heritage Act 1995).

The IFI has suggested that the Development Plans contain the following information:

County Cavan contains a wide range of fishery habitats with four main river catchments located in the county, namely, Erne, Shannon, Inny, Boyne, Dee and Glyde. These catchments contain a wide variety of fish form Salmonids (Salmon and Brown Trout) to Coarse fish and Pike. Many main river channels and their tributaries are exceptional in the area in supporting Atlantic salmon (*Salmo salar*, listed under Annex II and V of the EU Habitats Directive ) and Sea trout (*Salmo trutta*) populations. Recent data also indicates the presence of spawning populations of Sea, River and Brook Lamprey (*Lampetra* species – Annex II of the EU’s Habitats Directive) in the County. This Highlights the sensitivity of watercourses in the County. Only, clean, uncontaminated surface waters should drain to the river network at all times.

#### **7.5.18 Flooding**

Flooding is an important issue when considering location of development in relation to the flood plain of a watercourse. The Council has regard to the indicative flooding areas on Ordnance Survey Maps and the advice of the Fisheries Boards, Area Engineers and Environment section of Cavan County Council. The *draft* County Development Plan identifies the flooding points in County Cavan identified by the OPW Flood Hazard Mapping available at [www.floodmap.ie](http://www.floodmap.ie) It should be noted that the identified flooding areas are multiple or recurring flood points.

#### **7.5.19 Threats to Water**

One of the most common environmental water problems is pollution which means that there is too much of a harmful substance in the water. Pollution can come from one source or from a range of activities. There are a variety of activities which have the potential to impact upon water quality. They include agriculture, sewage treatment works, domestic waste water treatment systems, forestry, construction of road/ buildings, industry and extractive industries, landfills, motorised boats and spillage incidences. Impacts on water quality due to waste management activities especially landfills may be at a site-specific level but may also impact on groundwater and result in the dispersion of pollutants in the water environment:

#### **Eutrophication**

Eutrophication is the term used to describe an increase in the concentration of plant nutrients, particularly phosphorus, in waters. Human activities can add extra nutrients to waters and many lakes in the country have shown signs of increasing enrichment.

Lakes differ in their individual capacity to absorb increased nutrient inputs, but shallow lakes as exist in Cavan are particularly sensitive such as Lough Sheelin.

Eutrophication itself is not intrinsically bad, but it can cause changes to the ecological balance of a water body which may interfere with human activities and reduce biodiversity. It is because of these consequential effects that eutrophication is often undesirable and needs to be controlled or reversed.

Lake eutrophication is a recognised problem in County Cavan. This is due to a number of factors. The economy of the County has been largely agriculturally based, and this, coupled with sensitive waterways and very difficult soil conditions, has resulted in a more rapid upsurge in cultural eutrophication in Cavan than has been experienced in other parts of the country.

The EPA (2007) identify Lough Ramor, Lough Sheelin and Lough Oughter as being 'at risk of not achieving good status' by 2009 as required by the Water Framework Directive.

### **Agricultural Industry and Agricultural Wastes**

Agriculture is the dominant land use in the County and Cavan has a number of forest and wooded areas. Cavan County Council will continue to support the growth of suitable plantations in suitable areas in order to contribute to raising the national percentage of forestry. Agricultural and forestry activities can have impacts on water quality, human health, landscape, biodiversity, flora and fauna.

With the development of intensive farming enterprises, excess nutrients are produced which are greater than what can be assimilated by the soil and local area. As a consequence, these nutrients build up in the soil. When the saturation level is reached, the excess eventually ends up in rivers and lakes. Traditionally, small scale agricultural activities had a small number of livestock and their impact could be absorbed by the farm area and in this case, animal manures were considered a resource. However, when agriculture becomes more intensive, where there are more animals whose manure can not be adequately dealt with on the land holding, the excess nutrients could be considered a waste product if is not adequately managed. Through good farm management, potential pollutants arising from traditional farming units can be adequately dealt with.

Agriculture, however, will always remain the dominant factor in deciding water quality and ultimately, no significant progress will be made unless a meaningful reduction in agricultural losses can be attained.

### **Municipal Waste Water Treatment and Domestic Waste Water Treatment**

County Cavan has witnessed unprecedented growth in recent years and as a consequence municipal waste water treatment systems have come under pressure and this can lead to water quality problems.

Cavan has a dispersed, rural population which results in the majority of domestic sewage being treated by wastewater treatment systems for single houses. In recognition of this and the problems associated with inadequate systems, Cavan County Council adopted Bye-Laws in 2004 to ensure the proper assessment, operation and maintenance of all single house wastewater treatment systems in the County. They require assessment of all systems (subject to the Bye-Laws) and provision of approved systems, if not already in place, by 31<sup>st</sup> December 2005. A panel of competent assessors were appointed to undertake these assessments. Implementation of the Bye-laws is ongoing and improvement works have already been carried out to a large number of systems. This will ultimately lead to improvements in water quality.

### **Groundwater Contamination**

Most groundwater originates from the surface but it permeates through the strata, to supply (or 'recharge') wells or boreholes. Groundwater is exposed to higher concentrations of pollutants that are retained in the layers of rock and soil (Todd, 1980). The exposure also lasts much longer as groundwater moves at a slower pace through the aquifer (water table) (GSI, 1979; Daly, 2000). Groundwater needs to be examined in terms of drinking water, aquifer characterisation, aquifer vulnerability and source protection. The Drinking Water Regulations (S.I. no. 439 of 2000) state that the presence of a single faecal coliform in a water supply is unacceptable. The quality of Cavan's fisheries is intrinsically linked with groundwater quality.



### **Forestry**

Sustainable forestry development can have many benefits on the environment, most importantly for the ability to store carbon, they are aesthetically pleasing, provide shelter, fuel source etc. However, the establishment of forestry in sensitive upland areas, marginal lands or areas of wildlife interest can have an impact on fisheries (especially salmonid rivers). Erosion and sedimentation are risks to water quality and species such as the native Freshwater Pearl Mussel which are listed under the International Union for the Conservation of Nature category ‘endangered’<sup>10</sup>.

### **Flooding**

Flooding becomes an issue if development is constructed in the floodplains of rivers or lakes. If development takes place in close proximity to water courses, it has the potential to contaminate the supply, causing siltation or results in a change in the water channel. Drainage patterns are an important consideration in many parts of the County. The drainage of wetlands, channel management or boat movements, water abstraction and water shortages, can all impact on water quality. In urban areas, it is important to have an adequate wastewater collection system infrastructure in place to cope with the unprecedented development in recent years. When zoning lands it is also necessary to provide a good balance between hard surfaces (such as road and parking areas) and green spaces, not only for the social reasons but in order to absorb rain water. Storm water storage and the percentage of water loss through leaking infrastructure should be continually monitored. Climate Change may result in a greater frequency of flood occurrences or result in summer droughts.

### **Invasive species**

Non-native invasive species are those which cause major ecological changes and damage to the habitats where they become established. Species such as Zebra Mussel (*Dreissena polymorpha*), Nuttall’s pondweed (*Elodea nuttallii*) and Curly Leaved Water Weed (*Lagarosiphon major*) require special treatment in order to control their spread. There are also economic implications associated with some invasive species.

### **7.5.20 Opportunities and the Draft Development Plan – Water**

Monitoring of water in recent years has identified areas of pollution which have been improved through investment and better working practices. It is the intention of the Draft Development Plan and Cavan County Council to improve water quality in accordance with current European and National legislation.

### **Water Framework Directive**

The *Draft* Development Plan has objectives and policies to participate in the implementation and promote compliance with the requirements of the Water Framework Directive (WFD) through the River Basin Management Plans (when finalised) for the Shannon, North-Western, Eastern and Neagh-Bann River Basin Districts. The Planning Authority will continue to monitor drinking, surface and groundwater throughout the County in association with the WFD and any other associated legislation and continue to improve water quality under the Local Government (Water Pollution) Act, 1977 as amended and by implementing the Local Government (Water Pollution) Act, 1977 as amended and Water Quality Standards for Phosphorus Regulations, 1998, and Nitrates Directive.

### **Municipal Waste Water Treatment**

Many of the Cavan County Council's waste water treatment plants have received and will receive investment for upgrades to cater for growing populations and to increase the level of treatment facilities. New EPA Wastewater Licences will be required for the operation of Waste Water Treatment Plants. An application will need to be made to the EPA and it is expected that the first treatment plants to require licenses will be those with a population equivalent of over 10,000. The Planning Authority will continue to refuse permission for development with discharges if adequate waste water treatment is not in place. Discharges from all major industrial developments/ activities need to be addressed through consultation with the Environmental Protection Agency, where appropriate, or through the Council's discharge licensing system.

The performance of wastewater treatment plants and the extent of the sewerage network is being continually monitored and maintained by Cavan County Council. The Draft County Development Plan contains objectives to ensure that all towns, villages and settlement are provided with an adequate wastewater treatment plant within the limits of cost effectiveness and the availability of finance. The siting of these facilities will also have regard to the County Groundwater Protection Scheme (when finalised), which is currently being prepared by the Geological Survey of Ireland (GSI).

### **Waste Water Treatment System (WWTS) Bye-Laws, Water Pollution (Agricultural) Bye-Laws and Draft Control of Motorised Boat Bye-Laws and the Groundwater Protection Scheme**

The Draft Development Plan adheres to the continued implementation of WWTS Bye-Laws, Agricultural Bye-Laws and proposed Draft Motorised Boat Bye-Laws in order to protect the water quality of the County. The Draft County Development Plan includes objectives and policies to ensure that individual wastewater treatment systems comply with the relevant EPA Manuals, and ensuring that a Site Characterisation Report is submitted with applications having regard to the Groundwater Protection Scheme (when finalised).

### **Forestry and the Draft Indicative Forest Strategy (Forest Service)**

When finalised, this Strategy will indicate the areas most suited to forestry, thereby limiting the impact on water quality. The Planning Authority has an objective to support the Strategy to enable the development of sustainable forestry in County Cavan. The Draft Development Plan also requires the consideration of Forestry Guidelines (Forest Service, Department of Agriculture and Food) in forestry developments. The Council will apply the precautionary principle, that is, unless it is reasonably certain that negative impacts on vulnerable aquatic systems can be avoided, then the area should not be planted and the Council will limit the establishment of forestry in sensitive upland areas, marginal land of wildlife interest and in the upper reaches of salmonid river which would effect biodiversity.

### **Water Supply**

Cavan County Council recognises that the provision of a high quality and efficient water supply and drainage infrastructure will ensure the long-term physical, environmental, social and economic development of the County. Consequently the Draft Development Plan contains objectives and policies to improve the provision of services in those areas of the County where deficiencies exist at present, promote the proper management of Group Water Schemes in accordance with the Water Strategy for County Cavan, promote conservation, protect groundwater and review water quality standards to ensure continuing compliance. There is also a policy to promote water conservation measures within the County by requiring the installation of water metres in all new residential units and in units where planning permission is required for an extension.

### **Flood Alleviation**

The OPW Flood Hazard Mapping<sup>11</sup> identifies flood points and multiple or recurring flood points in County Cavan. There are many areas indicated throughout the County, though the largest concentration of points is in the Belturbet – Cavan - Kilcogy region which corresponds with the ‘Lakelands’ areas of the County. The Draft Development Plan contains objectives to ensure that all new developments shall have regard to areas that may be at risk of flooding. Flood Impact Assessment may be required at planning application stage to identify potential loss of flood plain storage and how it is to be offset in order to minimise the impact on the river flood regime at application stage. Development that is sensitive to the effects of flooding will not be permitted in flood prone areas and Flood Impact Assessments may be required for the storage or attenuation of run-off discharges (including foul drains) to ensure the development does not increase the flood risk in the relevant catchment. These measures will become increasingly important in future years based on the possible effects of Climate Change.

### **Local Area Plans & Small Town and Village Plans**

The Draft Local Area Plans and Small Town and Village Plans contain 10-20 metres ‘amenity’ buffer zones along each side of rivers, depending on the size of the river in towns and villages in County Cavan. These areas are mapped and are protected for biodiversity and act as a buffer to the watercourses. The restriction of development in these areas is necessary to protect water quality. These streams and rivers are promoted as part of the aesthetic amenity of the towns and villages. Development of zoned lands will not be permitted without adequate wastewater treatment facilities in place as this would cause increased phosphorus and other nutrient loadings to water courses.

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<sup>11</sup> [www.flooding.ie](http://www.flooding.ie)

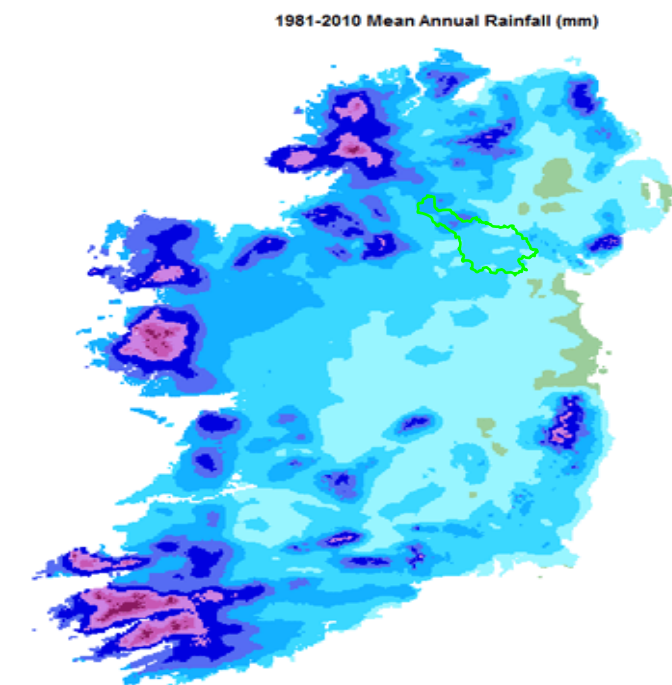
## 7.6 Air; Noise and Climatic Factors

### 7.6.1 Current Situation – Climate of County Cavan

County Cavan is an inland County and its climate is uniform across the region and relative to the rest of the country. Ireland has an abundance of rainfall with low evapo-transpiration, high humidity, mild winters (4.5°C) and cool summers (15.5°C) (IFA, 2004). The following figure from Met Éireann indicates that the east of the County on average receives 800-1000 mm of rainfall, with the more mountainous areas of north-west Cavan receiving 1600-2000mm per annum.

### 7.6.2 Climate Change

European Environment Agency (EEA) describes Climate change as: *‘..... happening now: temperatures are rising, rainfall patterns are shifting, glaciers and snow are melting, and the global mean sea level is rising. We expect that these changes will continue, and that extreme weather events resulting in hazards such as*



*floods and droughts will become more frequent and intense. Impacts and vulnerabilities for nature, the economy and our health differ across regions, territories and economic sectors in Europe. It is very likely that most of the warming since the mid -20th century is due to the observed increase in greenhouse gas (GHG) concentrations as a result of emissions from human activities. The global temperature has risen by about 0.8 °C over the past 150 years, and is projected to increase further. Exceeding an increase of 2 °C above pre-industrial temperatures raises the risk of dangerous changes for global human and natural systems.’*

Climate change is recognised as a potential threat to the future sustenance of the planet, with the potential negative impacts on landforms and people arising from a warming of the climate and resultant changes in weather patterns, rise in sea levels, loss of habitats, species and ecosystems and other natural occurrences. Such is the concern over climate change that under the Planning and Development Act, 2010 – Section 10(2)(n) it is a mandatory requirement to include objectives within a Development Plan regarding

the promotion of sustainable settlement and transportation strategies in urban and rural areas including the promotion of measures to: *‘(i) reduce energy demand in response to the likelihood of increases in*

energy

Source: Met Eireann 2010

*and other costs due to long term decline in non-renewable resources (i) reduce anthropogenic greenhouse gas emissions and (iii) address the necessity of adaptation to climate change.'*

In Ireland, the Department of the Environment, Heritage and Local Government prepared the following publication: **The National Climate Change Strategy (2007 – 2012)\*** which sets out the measures in which the reduction in Greenhouse Gas Emissions (GHG) for Ireland must be achieved. The targets have been agreed under the Kyoto Protocol and Ireland has committed to limit the growth in its emission to 13% above the 1990 levels over the 2008-2012 period. Measures already in place and additional measures outlined in the strategy will effectively reduce our overall emissions from almost 80 million tonnes of CO<sub>2</sub> equivalent per year to our Kyoto target of 63 million tonnes.

Achieving these emissions will require a sustained effort from all sectors including: Government, public authorities; business and industry; farmers; families and individuals. The main greenhouse gas we emit is carbon dioxide which is released when we burn fossil fuels like coal, oil, gas or peat to heat our homes, run our cars, generate electricity and provide power for our industries. In addition, agriculture is also a significant source of methane and nitrous oxide.

Working together to achieve these national targets, without compromising competitiveness, economic performance and quality of life is seen as the only way forward. In turn, we will benefit from harnessing more renewable energy, using energy more efficiently and embracing low carbon technologies.

The National Climate Change Strategy 2007-2012 builds on Ireland's first Climate Change Strategy published in 2000 and its purpose is to:

- Show clearly the measures by which Ireland will meet its 2008 – 2012 Kyoto Protocol commitment; and
- To show how these measures position us for the post 2012 period and to identify the areas in which further measures are being researched and developed;
- To take a long term view, having regard to likely future commitments and the economic imperative for action; and
- The promotion of sustainable development including the integration of climate change considerations into all policy areas.

The Strategy presents measures to be undertaken for each of the 8 no. sectors identified including: energy supply; transport; residential; industry; commercial & services; agriculture, land-use & forestry; waste management & public sector. (See Appendix....Key Measures /targets of this strategy).

The EPA report entitled "Ireland's National Greenhouse Gas Emission Projections 2010 – 2020 (April, 2010) projects the following sectoral share of total greenhouse gas emissions over the period 2008 – 2012 for the 'With Measures and Additional Measures scenarios:

- Agriculture – 28%
- Energy – 23%
- Transport – 21%
- Industry and Commercial – 15%
- Residential – 11%
- Waste – 2%

As noted in the EPA's State of the Environment Report (2011), there has been substantial reductions in Ireland's GHG emissions due, in part, to the impact of the economic downturn, Ireland is on-track to meet its Kyoto Protocol commitment for the 2008 – 2012 period. The next step is to meet the emissions reductions required under the EU 2008 Climate and Energy Package. The European Commission Roadmap for moving to a competitive low-carbon economy by 2050 points to EU-wide GHG emission reductions requirements of up to 80% by 2050. Ireland has an unusual emissions profile with emissions from Agriculture being proportionally higher than other member states and projected to increase by 2020. Projections by the EPA indicated that even in the best case scenario, Ireland will breach its annual obligations for the GHG emissions under the EU 2020, in 2017. The impacts of climate change are already occurring in Ireland and are projected to intensify over the coming decades – this must be factored into future planning and investment choices.

#### 7.6.4 Air Quality in Ireland: Current situation:

The EPA Report: Air Quality in Ireland (2011) – Key Indicators of Ambient Air Quality, provides an overview of air quality in Ireland for 2011, based on data obtained from the 29 monitoring stations that form the national ambient air quality network. This includes the following pollutants: nitrogen oxides; sulphur dioxide; carbon monoxide; ozone; particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub> and black smoke); benzene and volatile organic compounds; heavy metals; and polycyclic aromatic hydrocarbons.

The network is coordinated and managed by the EPA, as the National Reference Laboratory for Air Quality. Monitoring stations are located across the country, with new stations added in 2011 in Shannon Town, Co. Clare and Claremorris, Co. Mayo. The EU legislation on air quality requires that member states divide their territory into zones for the assessment and management of air quality. The zones were amended in the 2009 Regulations (DEHLG) to take account of population changes and updated assessment of air quality. County Cavan is located in zone D, which is categorised as 'Remainder of Stations' or areas outside of major urban centres or countryside. The results of monitoring indicate that these areas generally have 'good' air quality. (INSERT Table – Air Quality by Station, 2011)

The results of the monitoring are compared to limit values set out in EU and Irish legislation on ambient air quality. As recommended in the 2011 *Review of the Environmental Protection Agency*, map-based assessments are presented. (INSERT MAP.....?)

Overall, air quality in Ireland continues to be good and is among the best in Europe. This is due largely to the prevailing clean westerly air-flow from the Atlantic and the relative absence of large cities and heavy industry. However, Ireland faces a number of challenges in the near future when trying to meet our obligations under EU legislation.

Levels of NO<sub>x</sub> in traffic-impacted city centre areas will continue to be a problem due to the difficulty in achieving large-scale reductions in road traffic numbers. Emissions from residential solid fuel use contribute to high levels of particulate matter and polycyclic aromatic hydrocarbons in villages, towns and cities.

Based on particulate matter concentrations for 2009-2011, Ireland is required to reduce exposure to fine particulate matter (PM<sub>2.5</sub>) by 10% between 2012 and 2020. This challenging reduction will require an integrated approach across a number of sectors including industrial, transport and residential emissions.

To maintain our good standard of air quality and ensure that in the future our air will be healthy and clean, Ireland must continue to implement and enforce the ban on bituminous coal. Households and businesses should use more efficient methods to burn fuel and shift from solid fuel to cleaner alternatives, while also striving to reduce

the demand for energy consumption. We must also reduce traffic emissions through implementing policies to reduce travel demand, increase the use of alternatives to the private car such as cycling, walking and public transport and improve the efficiencies of motorised transport.

(Note: Real-time air quality information is available on the EPA website at <http://www.epa.ie/whatwedo/monitoring/air/data/> . The website provides members of the public with direct access to current levels of pollutants from relevant fixed stations across Ireland).

#### 7.6.4 Main issues in relation to Air Quality in County Cavan

The EPA does not have air monitoring sites in County Cavan. The nearest site is zone D, Kilkitt station which is situated in County Monaghan, close to Cootehill in the north-eastern are of Cavan. This is a rural setting with little traffic or other influences in air quality. Continuous monitoring of nitrogen oxides, sulphur oxides and ozone identifies the air quality as ‘good’(EPA National Air Monitoring Programme). It is likely that towns such as Cavan however, would have a lower air quality.

The emission of pollutants from vehicles is one of the main threats to air quality in Ireland and in the county which contributes significantly to increases in green house gases. In the absence of significant reduction of nitrogen oxides from the road transport sector, which have grown rapidly over the past decade, Ireland is unlikely to meet its commitments under the National Emissions Ceilings (NEC) Directive by 2010.

Notwithstanding the increase in use of catalytic converters and cleaner fuels etc. which has generally contributed to the reduction in pollution omitted from motor vehicles - this is probably being offset by the increase in the number of cars circulating on the county’s roads. The increase in the number of cars, coupled with the increases in the volume and incidences of traffic congestion may lead to an increase in air (and noise) pollution.

If one looks at the Department of Transport Irish Bulletin of Vehicle and Driver Statistics for (2011) , the number of vehicles within the state area as follows:

The total number of licensed vehicles In Ireland, at 31<sup>st</sup> December 2011 was 2,425,157. It exceeds the December 2010 level by 8,769 (0.36%) vehicles. The main components of the vehicle. The main components of the vehicle fleet include 1,887,810 private cars, 320,966 goods vehicles and 64, 423 agricultural tractors and 36,582 motor cycles. The following Table shows the increase in categories of Mechanically propelled vehicles within the state from 1985 – 2011:

**Table 11: No. of Mechanically Propelled Vehicles by Taxation Class (at 31st December, 2011).**

Year	Private cars	Goods Vehicles	Agricultural Tractors etc.	Motor Cycles	Others	Total
1985	709,546	93,369	68,552	26,025	17,266	<b>914,758</b>
1990	796,408	143,166	72,814	22,744	19,127	<b>1,054,259</b>
1995	990,384	141,785	77,925	23,452	28,957	<b>1,262,503</b>
2000	1,319,250	205,575	73,806	30,638	52,952	<b>1,682,221</b>

2005	1,662,157	286,548	76,307	34,300	79,368	<b>2,138,680</b>
2011	1,887,810	320,966	64,423	36,582	115,375	<b>2,425,156</b>

The above table clearly indicates the increase in the number of vehicles on the County’s roads over the period 1985 – 2011, this factor together with major improvements in the road network have resulted in more frequent traffic movements throughout the county and greater distances between home and workplace. Car ownership is essential to almost everyone living in the rural areas of the county. However, one of the effects of car-dependent lifestyle is the significant increase in traffic movements and the Census 2011 reveals that % of residents in County Cavan travel over .....miles a day to work. The County’s Roads Section has recorded at annual intervals from 2004, 2006, 2007, 2009, 2011, 2012,2013 traffic counts at various locations throughout the county. The results reflect highest number of traffic movements which are consistent with the concentration of population levels around Cavan Town and Environs and along the National Road (N3) to the south-east of the county. (See Map.....)

It should be noted that all developments contribute to air and Greenhouse Gas emissions (GHG). In addition to the emissions from motorised vehicles, the second most important issue with regard to air emissions in the County, is the burning of solid fuels such as coal, wood and peat etc. IT is also noted that in terms of the EU Energy Performance of Buildings Directive contains a range of provisions aimed at improving energy performance in residential and non-residential buildings,both new-build and existing. Since January 2007, any new planning applications for buildings for sale or rent must have a Building Energy Rating (BER). Since 2007, .....BER certificates have been issued in County Cavan.

### 7.6.5 Radon

Over recent years, radon gas has been identified as being a hazard to human health. Radon active gas which is naturally produced in the ground from the uranium present in small quantities in rocks and soils . The radiological protection Institute of Ireland (RPI) has undertaken a survey of radon in dwellings throughout the country. Approximately 11,500 houses were surveyed nationally and the results indicate that approximately 7% of dwellings have radon concentrations in excess of the maximum acceptable limit. The majority land area in County Cavan has a >1% homes above the reference level, however, an area of 10m grid between Belturbet and Ballyconnell, has a >20% above the reference level which is the highest in the County. Further details are available on the RPII website: [www.rpii.ie](http://www.rpii.ie) which includes a map indicating the areas of the County which have which have Radon exposure.

### 7.6.6 Threats & Opportunities for the Development Plan

Air quality and climate conditions are issues which must be addressed at local, regional and national level.

- **Emissions from various activities:**The settlement pattern of County Cavan must be assessed in the light of climate changes and the continuing emphasis on unsustainable means of travel and unsustainable travel patterns. Commuter traffic not only creates green house gas emission but is increasingly impacting on



quality of life and human health. Extractive industries and intensive industries contribute to air pollution and noise. Waste generation in the County and the disposal of waste to landfill results in the generation of emissions such as methane and hydrogen sulphide.

- **Poor Design of Developments:** Poor design in developments can increase energy requirements thereby increasing emissions to air.
- **Destruction of Habitats:** The destruction of habitats caused by development on greenfield sites has a cumulative impact on biodiversity and air quality. Many of Cavan's habitats such as peatlands store carbon.

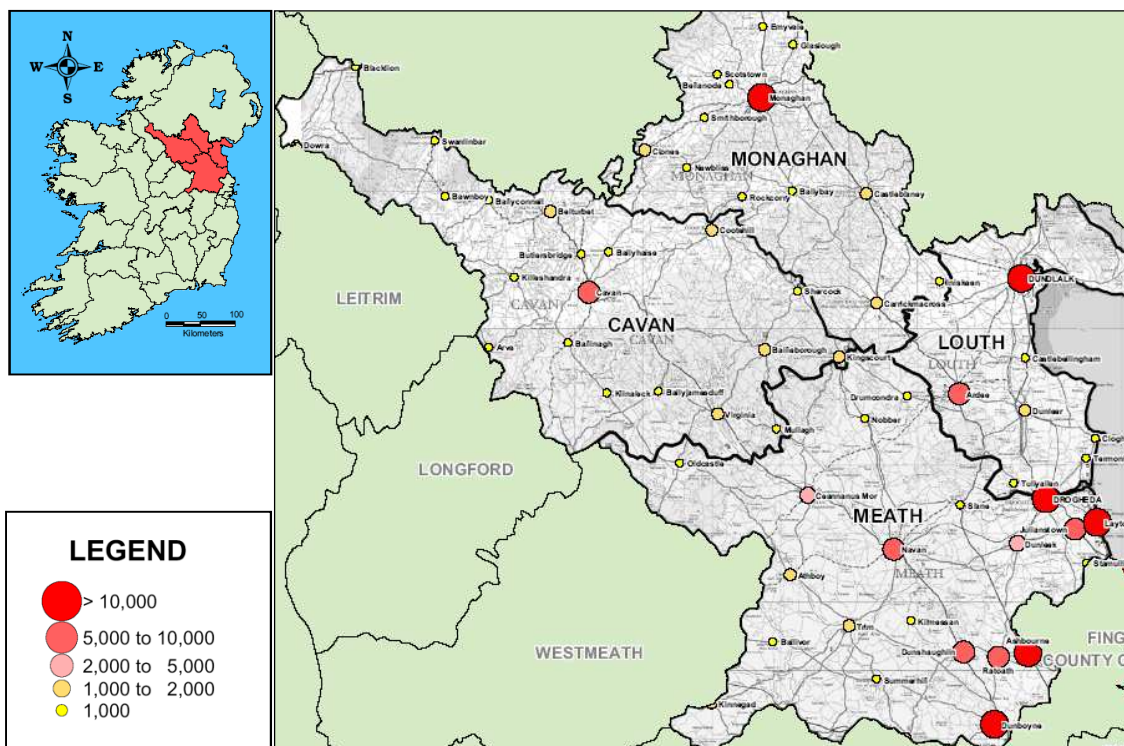
#### Opportunities and the Draft Development Plan

- **Sustainable Travel Patterns:** The Draft Local Area Plans and Small Town and Village Plans contain zoning of land for residential purposes, service provision and employment opportunities in order to reduce trip generation, making services accessible for more sustainable means of travel. Extra lands around urban areas have been zoned as part of the Draft County Development Plan to facilitate future population growth in these areas and create employment opportunities for people to live and work locally.
- **Air emissions:** A growth in population means that there is likely to be a growth in the production of emissions. It is necessary to build a sustainable approach to the future planning of Cavan's towns and villages, through the integration of landuse and transportation planning, the provision of green areas and high quality design both aesthetically and in terms of energy efficiency. The Draft Development Plan contains an objective to prepare Traffic and Transportation Studies in order to limit trip generation, promote sustainable means of travel where possible, and reduce greenhouse gas emissions. The Draft Development Plan also contains objectives and policies to reduce congestion, especially on National Roads for example - access is to be restricted within the 100km per hour speed limit.
- **Renewable Energy and Sustainable Buildings:** Sustainable forms of development and sustainable sources of energy in developments will be encouraged through the Draft County Development Plan. Renewable sources of energy production such as solar, hydro, geothermal and biomass are also encouraged through the Draft Plan. The Draft Plan also contains policies to encourage the use of environmentally friendly dwelling building practices and materials and encourage the siting of dwellings to gain the maximum benefit from the environment in which they are situated. Existing vegetation and future landscaping are important considerations for site selection. The minimisation of waste production during the construction process and provision for recycling of construction and demolition waste is another key factor in the design of sustainable buildings.
- **Forestry:** further plantation of trees in suitable areas of the County. The planting of trees is an important way of sequestering carbon. Trees are also a renewable energy source.
- **Peatlands:** An objective of the Draft County Development Plan is to undertake a Wetland Survey of the County and to implement protection measures based on its findings, and to identify peatlands of local ecological importance and protect them from inappropriate development. It is important to conserve peatlands from an ecological point of view but also for carbon storage.

- **Waste Generation:** The North East Region Waste Management Plan 2005 – 2015 identifies the way forward in terms of waste management in the region and for the County. It sets out specific policies on waste prevention and minimisation, waste collection and recycling, biological treatment, energy recovery and landfill policy.
- **Emissions Regulations:** The Planning Authority has included the requirements of S.I. No. 140 of 2006 Environmental Noise Regulations in the Draft Development Plan in relation to National Roads. This will require potential developers to identify and implement noise mitigation measures within the zone of influence of existing national roads or of planned new national roads.

### 7.7. Waste:

Figure 2: North East Waste Management Plan - North East Region – Population



Source: Cavan County Council et al. (2006) 'North East Region Waste Management Plan' (2005-2010)

**Table 1: Municipal Waste Generation as reported by Local Authorities, 2003**

	Household Waste (tonnes)	Commercial Waste (tonnes)	Street Cleaning Waste (tonnes)	Total (tonnes)
Cavan	26,078	11,780	365	38,223
Louth	44,297	20,246	3,162	67,885
Meath	69,389	65,290	1,295	135,974
Monaghan	20,131	8,880	415	29,426
Mid-West Region	172,245	170,040	6,030	348,315

Source: Department of Environment, Heritage and Local Government (2003) 'National Waste Database Interim Report' p. 10

The Environmental Protection Agency estimates that 1,006,287 tonnes of packaging waste was generated in Ireland in 2003. Of this, 58.3% was landfilled and 41.7% was recovered/ recycled.<sup>12</sup> An estimated 104,034 tonnes per annum of packaging waste arise in the North East Region.<sup>13</sup>

In 2006 there was a total of 29 Bring Sites in County Cavan, providing one site per 637 households. 3 more are required under the North East Region Waste Management Plan by 2010. There are 3 Recycling Centres in the County (Corranure, Bailieborough and Ballyconnell (currently under construction)).

The Draft Development Plan will have regard to the North East Waste Management Plan 2005 – 2010, Waste Management Act 1996 (as amended), EU Landfill Directive, EPA Landfill Manuals, EU Packaging and Packaging Waste Directive and DoEHLG Policy Statements including ‘Changing Our Ways’ and ‘Preventing and Recycling Waste-Delivering Change’. The Draft Plan also has an objective of waste prevention, minimisation, reuse, recycling and recovery, encouraging recycling facilities and community based environmental management initiatives that will lead to local sustainable waste management practices. There are currently twenty-nine bottle banks and three recycling centres located around the County. There is also one Litter Management Officer and two Litter Wardens who respond to littering or dumping incidents and are involved in awareness campaigns.

## 7.8 Material Assets : Current Situation

County Cavan has a variety of material assets include the following:

- Built environment (protected structures/ archaeological monuments)
- Infrastructure (roads, telecommunications, wastewater, drinking water)
- Natural assets (quarries and mines, agriculture and forestry, conservation areas - NHAs, SACs and SPAs) (Please refer to ‘Biodiversity’ and ‘Landscape’ for main issues relating to Natural Assets).

The utilisation of the County’s Material Assets leads directly and indirectly to potential environmental impacts. How we manage these resources is affected by the implementation of national and regional plans and programmes. It is important to examine the long term impacts on the landscape.

In terms of wastewater, the capacity of existing and proposed infrastructure must be adequate to cater for the existing and estimated future population of areas of the County. This is examined as part of the Water Services Investment Programme (Assessment of Need 2009 – 2015).

The sources of drinking water/ ground water supplies have been identified through the Ground Water Protection Scheme (GSI).

Cavan’s material assets also include the ability to use renewable forms of energy such as wind energy, geothermal energy, solar energy and hydro energy.

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<sup>12</sup> Environmental Protection Agency, *National Waste Database Interim Report 2003*, p. 16.

<sup>13</sup> North East Region, Proposed Replacement Waste Management Plan, 2005-2010, p. 75.

### 7.8.1 Electricity; Natural Gas & Broadband communications

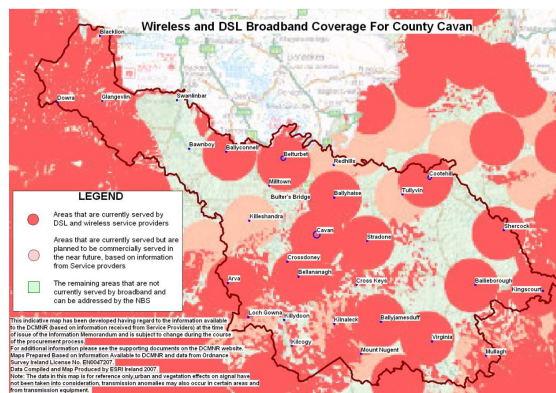
*Bord Gais* supplies natural gas to certain towns in County Cavan. Kingscourt, Bailieborough and Virginia are currently connected to the national gas grid. Natural gas is seen as a critical piece of infrastructure for the Border region. Cavan Town is being considered as an extension of the distribution network, however no further progress has been made on this project since the writing of the current development plan. In terms of electricity supply the area is served by a 10kV ESB line with a planned 20kV conversion line. There is also a 38kV network line, a 38kV Station at Drumalee Cross and Derrycramph and a 110kV Station located at Shankill to the east of Cavan Environs area (ESB Networks, 2007).

Eirgrid and Northern Ireland Electricity (NIE) are jointly planning a major cross-border electricity scheme. This scheme is a 400kV overhead line linking the existing 400kV substation in Woodland, County Meath with a planned substation in Turleenan, County Tyrone and will provide a second high capacity electricity transmission line between Ireland and Northern Ireland. The scheme consist of two separate but related and complementary projects. Eirgrid will in due course apply for planning approval for that part f the scheme located in Ireland called the North-South 400kV Interconnection Development

The line transverses the county to the East at Kingscourt for a distance of approximately ..... INSERT Map.....Eirgrid

The Planning Authority will continue to support the infrastructural development of transmission networks in order to extend current capacity and improve their condition. However, the visual impact of the infrastructure (both energy and telecommunications) will be an important consideration by the Planning Authority. Most towns in the County are now covered by DSL Broadband Coverage, with others areas planned for service provision.

Figure 12: Broadband coverage in County Cavan



### 7.8.2 Wind Energy

Telecommunications infrastructure and wind energy developments tend to involve large scale planning and can have short and long-term impacts on the landscape. Through analysis of the landscape and population, areas and locations which may be suitable for developments of this nature may be identified. However, Special Areas of Conservation (SACs), proposed Natural Heritage Areas (pNHAs) and Special Protection Areas (SPAs) may be unsuitable and due consideration must be given to the effects of wind farms on issues such as noise.

Airtricity, the largest renewable energy company in Ireland, currently operates wind farms in Co. Cavan. Corneen wind farm was opened in August 2001 and is located on the Slieve Rushen Mountain, near Ballyconnell. Gartaneane Wind Farm, which consists of 10 no. GE 1.5 MW turbines giving an output capacity of 3MW, is located near Bailieborough. Construction was completed in November 2004. It produces enough power to service 9,000 homes per year, saving the release of approximately 40,000 tonnes of carbon dioxide per annum (Cavan County Council (2006) ‘Baseline Report for County Cavan’).

### 7.8.3 Roads

The National Road Network is a remit of the National Roads Authority (NRA) and the provision of many National Roads will in general be subject to Environmental Impact Assessments and consent from the Planning Authority. In the past 10 years, there have been substantial developments in the road infrastructure in the County including the recently opened N3-N55 By-pass. The following is the current Work Programme:

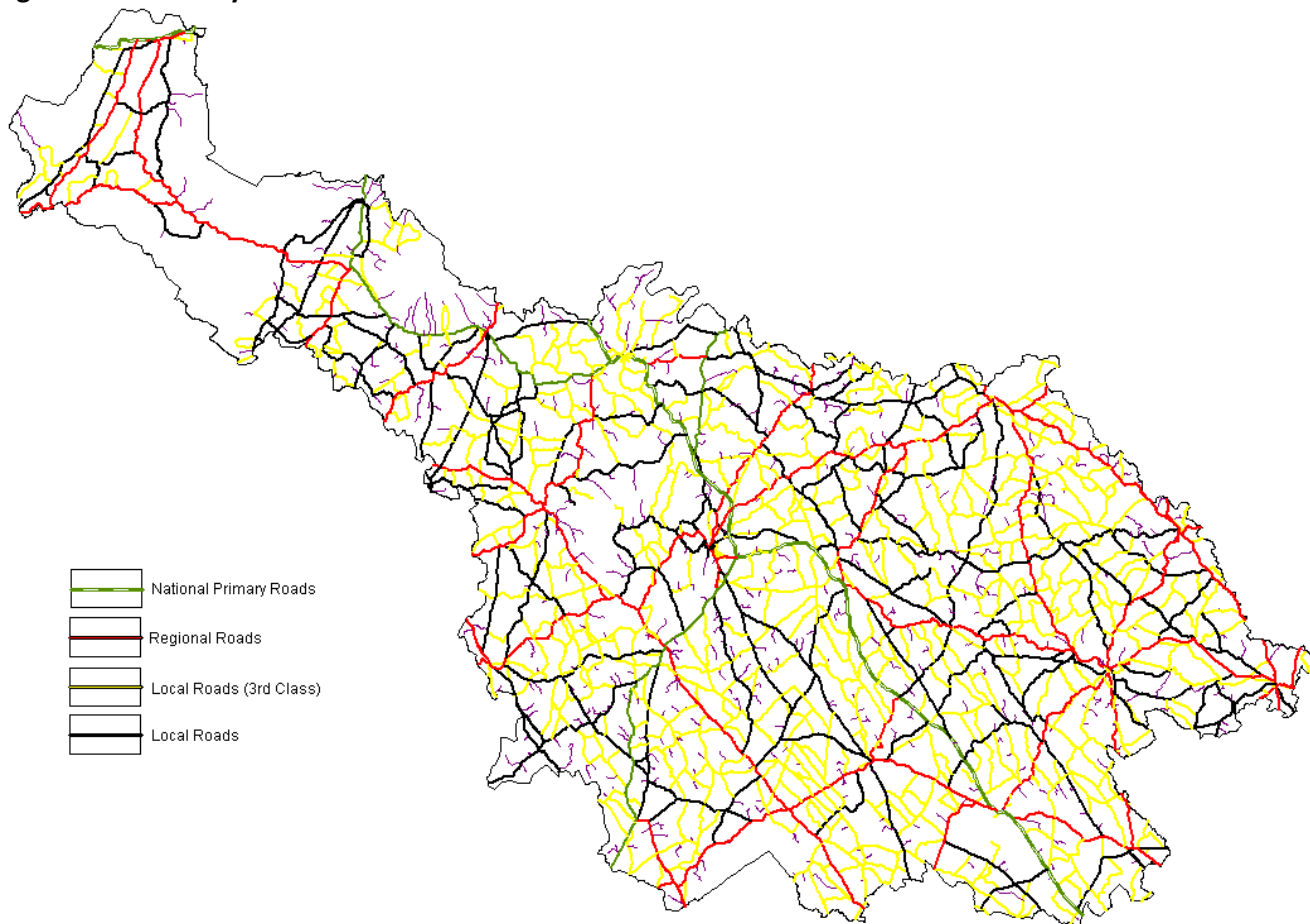
**Table :.....NRA Schemes in County Cavan**

Scheme	Status	Start County	End County	Local Authority
<a href="#">N3 Virginia Bypass</a>	Preliminary Design	Cavan	Cavan	Cavan County Council
<a href="#">N3 Virginia to Cavan</a>	Feasibility Study	Cavan	Cavan	Cavan County Council
<a href="#">N3 Belturbet Bypass</a>	Under construction	Cavan	Cavan	Cavan County Council
<a href="#">N16 Glenfarne to Blacklion</a>	Feasibility Study	Cavan	Cavan	Cavan County Council
<a href="#">N16 Manorhamilton to Glenfarne</a>	Route Selection	Leitrim	Cavan	Leitrim County Council
<a href="#">N55 Cavan Bypass Link Road</a>	Completed	Cavan	Cavan	Cavan County Council

<a href="#">N87 Ballyconnell Inner Relief Road</a>	Completed	Cavan	Cavan	Cavan County Council
<a href="#">N87 Belturbet to Ballyconnell</a>	Route Selection	Cavan	Cavan	Cavan County Council

National Roads Authority (2010)

Figure .....: County Cavan Road Network



Source: Cavan County Council GIS (2012)

#### 7.8.4 Railwayline

The County Development Board Strategy (2002-2012) identified an action to conduct a feasibility study on the re-opening of the Kingscourt railway line as a sustainable form of transport, which is no longer in operation – this has not progressed. However, a more recent project concerning the existing railwayline, is the proposed Greenway project – this project is at preliminary stage and proposes the re-development of the this extends from county Meath into County Cavan

The new County Development Plan will support any proposal for the re-use of the existing Railwayline for walkways and cycle paths throughout the County. In the provision of any new roads or upgrading, realignment construction works, it is important to examine the impact on local biodiversity first and ensure that habitats are not segregated.

#### 7.8.5 Quarries

Quarrying of gravel is one of the most common type of extractive industry in the County and mining of minerals such as gypsum. There can be a variety of impacts on environmental receptors such as human health, flora and fauna, water quality, landscape and also on the County’s infrastructure. Section 261 of the Planning and Development Act 2000 commenced with effect from 28<sup>th</sup> April 2004. All quarries were required to register with the Planning Authority except for those for which planning permission was granted in the previous 5 years. Quarries were required to give specific information within 1 year in relation to the quarry – area, material extracted, hours of operation, noise dust etc. Consultation with the public was provided for in this process. In County Cavan 32 quarries registered prior to 28<sup>th</sup> April 2005. Each of these was duly inspected and a choice of control following registration was placed on each of the 32 quarries. The choice was to impose conditions (on quarries that commenced operation prior to October 1964)

1. Restate, modify or add conditions in the case of quarries that had permission –therefore post 1964 quarries.
2. Require an application for planning permission with EIS from quarries that has commenced operation before 1<sup>st</sup> October 196 which were greater than 5ha or on European Site/NHA and likely to have significant effects on the environment.

Issues arose in relation to enforcement of section 261 and Section 261A was enacted into legislation in November 2011. Each Planning Authority advertised its intention in relation to this legislation and seek to assess all quarries in its jurisdiction to ascertain whether they require an Environmental Impact Assessment, an assessment to ascertain whether an EIA was required or an Appropriate Assessment. The Planning Authority were now required to be satisfied that all works carried out on site were legal in terms of previous planning history, boundaries quarried and conditions complied with. In the event that an EIA or AA is required the owner of the quarry must apply to An Bord Pleanala for substitute consent. The Planning Authority had to complete this process within 9 months of the commencement of the Act.

The table below outlines as summary of the conclusions of the Section 261 and Section 261A process with the 32 quarries that registered in Cavan.

Table ...: Quarries

Qy. No.	Section 261	Section 261A
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STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) – ENVIRONMENTAL REPORT FOR THE DRAFT CAVAN COUNTY DEVELOPMENT PLAN 2014 - 2020

1	Abandoned	Abandoned
2	Abandoned	Abandoned
3	Required planning application and EIS	No further action
4	Abandoned	Abandoned
5	Required planning application and EIS	No further action
6	Impose conditions	No further action
7	Impose conditions	No further action
8	Restate conditions	No further action
9	Restate, modify, add conditions	Apply to An Bord Pleanala with remedial EIS and remedial NIS
10	Impose conditions	No further action
11	Unauthorised but no longer in operation	Unauthorised but no longer in operation
12	Impose conditions	No further action
13	Unauthorised	No further action
14	Restore, modify, add conditions	Apply to An Bord Pleanala with remedial EIS and remedial NIS
15	Impose conditions	No further action
16	Impose conditions	No further action
17	Impose conditions	No further action
18	Restate, modify, add conditions	Apply to An Bord Pleanala with remedial EIS and remedial NIS
19	Submit planning application and EIS (not done)	Planning permission required to resume quarrying
20	Not necessary	No further action as quarry unauthorised
21	Not relevant, planning permission granted within 5 years preceding introduction of 261 Legislation	Not relevant
22	Submit planning application and EIS	No further action
23	Withdrawn from 261 as planning permission granted by An Bord Pleanala	No further action
24	Unauthorised	No further action
25	Abandoned	Abandoned
26	Impose conditions	No further action
27	Did not require registration	No further action
28	Unauthorised	Site remediated and therefore no further action
29	Impose conditions	No further action

30	Impose conditions	No further action
31	Impose conditions	No further action
32	Impose conditions	No further action

**7.8.6 Threats to Material Assets Roads Infrastructure and Landscape:** Road Infrastructure which connects all parts of the County has major implications for landscape, biodiversity and air quality as it facilitates the use of private vehicles, disrupts the landscape and causes habitat fragmentation. County Cavan is served by Bus Eireann and the Rural Transport Initiative but not by rail. The deficiency in sustainable travel access contributes to the use of unsustainable travel modes in a predominately rural County and contributes to air emissions.

- **Greenfield Development:** The development of greenfield sites in County Cavan leads to habitat fragmentation and segregation. Extractive Industries draw on non-renewable resources. Wind Energy developments have major benefits for the economy the air and climate, but the development of such projects can put pressure on the existing roads infrastructure. Major infrastructure developments or projects can also impact on the landscape.

**Insufficient Water Supplies and Wastewater Treatment:** The growth in population in recent years has put pressure on existing networks throughout the County.

### 7.8.7 Opportunities and the Draft Development Plan

- **Landscape Management:** It is the intention of the Planning Authority to undertake a Landscape Character Assessment or Landscape Management Plan during the lifetime of the Draft County Development Plan. The preparation of such a document will allow for a proactive approach to landscape management, aiding the development management process. This will also give indicators of suitable development types for suitable locations using certain design criteria and through technical consideration resulting in the character of the landscape remaining intact.

Chapter 4 of the Draft Development Plan contains objectives to improve road safety for all road users, prepare traffic and transportation studies, enable people, goods and services to reach their destination safely, economically and quickly and to improve access to services in rural parts of the County, to improve the capacity of the road infrastructure within County Cavan in accordance with national and regional policy, to have a well maintained road network basis, to improve accessibility for all and encourage walking and cycling.

- **Indicative Forestry Strategy** ∴ There are also a range of policies aimed at facilitating forestry which does not impact on the landscape.
- **Water Services Investment Programme (Assessment of Need – 2009-2015):**The Draft County Development Plan supports the objectives of the Programme maintaining, upgrading and improving the water supply and waste water network throughout the County. It is also an objective of the Draft Plan to ensure that all towns, villages and settlements are provided with adequate flood alleviation measures within the limits of cost effectiveness and availability of finance and in particular where solutions are known for identified problems.
- **Public Transport** The Draft Development Plan recognises that public transport is an important sustainable mode of transport and it an objective of the Draft Plan to co-operate with the relevant transport bodies and authorities to secure improvements and further developments of the public transport system. Sustainable travel modes are also supported through the Draft Plan and the National Roads networks which play an important economic development role in the County.

The Draft Local Area Plan for Kingscourt also contains a specific objective to ensure that developments near the recently closed rail line must not prejudice the proper redevelopment of the rail link in a physical context. The Planning Authority will also have regard to the findings of the Feasibility Study for the re-opening of this former rail link.

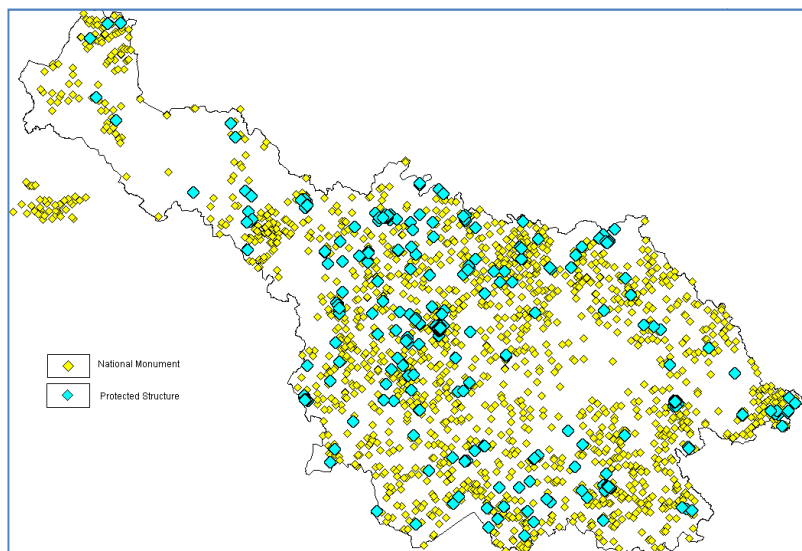
- **Telecommunications Infrastructure:** The Draft County Development Plan recognises that telecommunications investment is essential to furthering the social and economic development of the County and the Region. A high quality and competitive telecommunications service is considered essential in order to promote industrial and commercial development and to enhance social inclusion and mobility. The development of additional communications ICT infrastructure is necessary and must be done in the most environmentally sustainable manner.

### 7.9. Cultural Heritage: Current Situation

The Heritage Act (1995) defines heritage as including monuments, archaeological objects, heritage objects, architectural heritage, flora, fauna, wildlife habitats, landscapes, seascapes, wrecks, geology, heritage gardens, parks and inland waterways. Our heritage is what has been passed down to us from previous generations and it is important to consider what we will be able to pass on to future generations. Cultural heritage in this sense relates to the built environment including architecture and archaeology.

The heritage of County Cavan is a unique resource providing us with a cultural identity and defining the society which we live in. According to a Department of the Environment, Heritage and Local Government’s Monuments Database the total number of monuments in Ireland is 10,731, distributed across all counties. The majority of the monument types are classed as earthworks (4,909 No.), enclosures (1,896 No.) and buildings (1,232 No.). **Figure .....** identifies the richness of architectural and archaeological assets in County Cavan. Tourism is also a vital part of the economy of the County. Cavan’s cultural heritage describes the range of issues which are important to our sense of identity, our knowledge and understanding of our local people. Local history can be experienced through the County Library and Genealogy Centre in Cavan Town and County Museum in Ballyjamesduff. Cavan County Heritage Forum established in June 2005, is comprised of members from statutory organisations, local government, local developers, landowner representatives, community and voluntary sectors. It is divided into three expert working groups for the built, natural and cultural heritage of County Cavan.

**Figure .....**: Protected Structures/Monuments in County Cavan (source: County CavanGIS/DAH&GT)



#### 7.9.1 Archaeology

The National Monuments Acts 1930 – 2004 provide for the protection of the archaeological heritage. There are a number of categories of monuments under the National Monuments Acts:

- National Monuments in the ownership or guardianship of the Minister, of a Planning Authority or National Monuments which are subject to a preservation order;
- Historic monuments or archaeological areas recorded in the Register of Historic Monuments; and Monuments recorded in the Record of Monuments and Places.

The Record of Monuments and Places (RMP) was established under Section 12 of the National Monuments (Amendment) Act 1994 and structures, features, objects or sites listed in this Record are

known as Recorded Monuments. Monuments protected under the Act include prehistoric monuments and any monuments and places associated with commercial, cultural, economic, industrial, military, religious or social history.

In Cavan there are a number of Archaeological Zones designated such as Belturbet and Cavan Town and over 2,000 National Monuments within the County.

### **7.9.2 Architecture**

Section 10(2)f of the Planning and Development Act, 2000 as amended makes the protection of architectural heritage mandatory. The existing Record of Protected Structures (RPS) has been amended with a number of deletions and inclusions. This is based on the work of Architectural Consultants and can be found in the Built Heritage and Archaeology Chapter 7 in the Draft Cavan Town and Environs Development Plans.

### **7.9.3 Threats to Cultural Heritage & Opportunities for the Development Plan**

- **Damage to Archaeology**

New developments on Greenfield sites have the potential to disturb undiscovered archaeology. Development which takes place on sites in close proximity to protected archaeology can also impact on the setting of the monument.

#### **Development in Urban Areas**

Many of Cavan's towns and villages contain archaeological monuments. Developments have the potential to impact on these elements of cultural heritage. Archaeology and architectural buildings (once identified for protection) are protected under legislation. However impacts can still occur as a result of development, whether (for example) work is being carried out on the interior/ exterior of the protected structure or an adjoining property. The character of the structure can be entirely changed. Work which occurs in close proximity to archaeological monuments including (1) National Monuments in the ownership or guardianship of the Minister or a Planning Authority or National Monument which are subject to Preservation Orders, (2) Historic monuments or archaeological areas recorded in the 'Register of Historic Monuments' and (3) Monuments recorded in the 'Record of Monuments and Places' can result in disturbance or destruction of the monument.

#### **Opportunities**

##### **Protection of Architecture and Archaeology and Design**

The Draft County Development Plan contains objectives and policies to protect the cultural heritage of County Cavan through the Guidelines and Standards advocated by the Department of the Environment, Heritage and Local Government. The Planning Authority will also continue to develop the Council's advisory and educational role with regard to Heritage matters and to promote awareness and understanding of architectural heritage. A list of Protected Structures has been included in the Draft Development Plan as part of the Record of Protected Structures which includes gatelodges, ecclesiastical buildings, churches, schools and halls, country houses, industrial buildings, banks, castles, bawns and fortifications, public buildings, thatched dwellings, religious sites and monuments, domestic street architecture, vernacular architecture and shopfronts. The Planning Authority also recognises the benefit of older buildings which are not protected but are of local architectural, historical, archaeological, artistic, cultural, scientific, social or technical value. The retention and reuse of older buildings has environmental benefits as it reduces the need for greenfield development and reduces waste production. The planning authority will continue to promote brownfield development in urban areas which will lessen the impact on our culture heritage.

A number of Architectural Conservation Areas (ACAs) are proposed as part of the Draft Development Plan, to protect a place, area, group of structures or townscape, taking account of building lines and heights etc. The Draft Development Plan also contains development management guidelines for Protected Structures. The Draft Development Plan also contains a 'Town and Village Design Framework' which is a matrix to enable the rapid evaluation of towns and villages to identify, examine and assess the elements that make up their unique character.

The aim is to strengthen existing village and town plans and to create an opportunity for evolution, at a local level, in the re-examination of policies with an emphasis on the unique landscape, special character and built heritage of villages and towns in County Cavan.

County Cavan is abounding with evidence of early human settlements. Archaeology as a study enables us to understand how humans interacted with their environment, how societies functioned and their development to the present day. The Draft Development Plan contains objectives and policies to protect and enhance archaeological monuments, their setting and zones of archaeological potential, preserving in situ archaeological monuments and sites as a preferred option.

It is important to preserve heritage features of historical importance that provide a sense of place, individual sites and complexes, historical features and landscapes (such as stone walls). The Draft Development also contains a policy to retain stone walls as far as possible in rural areas. In the interests of road safety front boundary stonewalls may be required to be set back over part or full frontage of the site in order to ensure adequate sight distance. The length involved will be minimised and the provision of a similar type of boundary will be required.

The Draft County Development Plan, Local Area Plans, Small Town and Villages Plans contain a development management section which details design considerations for future development.

#### **Local Area Plans, Small Town and Village Plans**

The Draft Local Area Plan and Small Town and Village Plans contain zoning which has been examined in relation to archaeological monuments. Buffer zones have been identified on maps to facilitate developers and pre-planning will also aid proposed designs, siting and scale which will minimise the impact on archaeological monuments.

## **8.0 ASSESMENT OF ALTERNATIVES AND SELECTION OF THE PREFERRED SCENARIO**

The SEA Directive requires the selection and assessment of alternatives. Article 5 requires the Environmental Report to consider “reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme” and the significant environmental effects of the alternatives selected. Section 4 of this document details the level of a County’s Development in an overall strategic sense. The documents listed have directed the creation of the objectives and policies of the Draft Development Plan and as a consequence the Planning Authority is bound by the policy and strategic options that have been pre-determined by higher level programmes, plans and guidelines. However, the Draft County Development Plan will have an affect on the development of the County over a six year period and as a consequence must consider alternative scenarios for development over that period. The Draft County Development Plan has also guided the Draft Local Area Plan, Draft Small Town and Village Plan, the Draft Cavan Town Development Plan and the Draft Cavan Town and Environs Development Plan and it is worth noting that change occurs at local level.

### **8.1 Consideration of Alternative Scenarios for the Development of County Cavan**

The Planning and Development Act 2000 (as amended) requires the review of a Development Plan, no later than four years after its adoption so as a consequence Cavan County Council does not have an option of ‘doing nothing’ and has a legal responsibility to prepare a Development Plan for the sustainable development of the County. The SEA Regulations 2004 require a Strategic Environmental Assessment of the Draft County Development Plan. Consequently, Cavan County Council must adopt a new County Development Plan where identified significant effects can be mitigated through specified actions and adequately monitored.

The new Draft County Development Plan 2009 – 2015 will contribute to an environmental improvement for settlement in the Plan area, which will aid sustained economic growth in areas where identified significant environmental effects can be adequately mitigated, thus ensuring a more planned and sustainable approach to the growth of the County.

This approach will result in development on lands that have the capacity for it, thus contributing to a more sustainable environment.

A number of Scenarios for the Development of the County were developed based on strategic objectives and policies set out at a higher level (see Chapter 4), the legal requirements of the Planning and Development Act 2000 (as amended), SEA Regulations 2004, the strategic context of County Cavan, objectives of the Draft County Development Plan, existing environmental issues, projected population and infrastructure requirements. A total of four alternative scenarios were developed through consideration of the statutory and operational requirements of the County Development Plan.

### **8.2 Alternative Scenarios for County Cavan**

### **Scenario 1: Growth with Relaxed Planning Policies**

This would permit development growth in all areas of the County. Rural housing would be spread throughout the County without a goal of sustaining local communities, but instead causing huge financial implications for social, community and physical infrastructure making areas isolated without essential services. Ribbon development would become common along with large scale housing developments that do not fit into the landscape or townscape. Towns and villages would sprawl out into the surrounding countryside and there would not be any demarcation between urban and rural areas. Cultural heritage items of architectural and archaeological importance could be impacted on by development and even destroyed entirely. Tourism would suffer due to the declining value of the countryside. Unsustainable transport patterns would escalate. The National Routes would be compromised becoming increasingly congested. The cumulative impact of development would severely impact on the natural environment. Biodiversity would suffer due to major habitat fragmentation or habitat destruction caused by greenfield developments. Water quality of lakes, rivers, groundwater and air quality would decline rapidly, causing damage to habitats, contamination to drinking water supplies and human health problems. This may be caused by inadequate waste water treatment due to uncontrolled population increases and the proliferation of domestic waste water treatment systems that are unmonitored.

Contamination of catchments would cause problems for surrounding counties.

Towns in the east of the County would experience huge growth in population due to the proximity to the Greater Dublin Area. The west of the County would experience little investment and development being viewed as a peripheral area. Critical mass and the objectives of the National Spatial Strategy to promote sustainable balanced development would not be achieved.

The larger towns with existing industry may grow but other smaller towns and villages spread throughout the County would suffer and see little infrastructural provision. Layouts of towns would be dominated by market forces, meaning that provision for many essential community services would not be available to the local population, housing densities would be inappropriate in certain locations and there would be little emphasis on brownfield development.

The impact of Scenario 1 would cause significant impacts on all environmental receptors (biodiversity, population and human health, landscape and soil, water, air and climate, material assets and cultural heritage) causing widespread environmental problems, poor water quality, poor biodiversity, poor quality built environment and ultimately resulting in poor human health.

### **Scenario 2: Growth with Restrictive Planning Policies**

This Scenario is essentially eco-centrally based where emphasis is placed completely on the natural environment.

This Scenario would be very restrictive of rural housing in most areas of the County. Sensitive landscape areas would see very little development occurring. There would involve strict adherence to E.U. principles for protection of water quality, air emissions, cultural assets, biodiversity and all natural assets.

Growth would be directed towards all towns and villages without a clear settlement strategy for the County, growth centres would directly compete with each other. There would be a strict demarcation between urban and rural areas. Design of developments would be very prescriptive. Densities in towns and villages would increase with major emphasis on infill development and brownfield development.



▪ **Opportunities**

Encouraging growth in population centres would lead to critical mass being achieved in terms of the provision of sustainable transport infrastructure. Travel patterns would become more sustainable, with much of the population living in close proximity to services and employment opportunities, reducing the need to travel and reducing trip lengths.

Development of this nature could impact positively on the waste collection, encouraging the principles of waste minimisation through ‘reduce, reuse and recycle’. This could positively impact on the reduction of waste going to landfill.

The cost of maintaining physical infrastructure could be reduced as the area would be greatly reduced.

▪ **Threats**

This Scenario would have major implications for economic growth. It may cause stagnations in many areas of the County. Local communities based around traditional agricultural activities would decline. Peripheral rural areas would also decline. The ability to encourage alternative agriculture practices would not be an option.

Infrastructure in towns would come under enormous pressure with the sudden influx of growth in urban centres. Tourism development would not be permitted in rural areas, thereby incomes from the revenue source would decline.

**Scenario 3: Planned Growth with Regulatory Planning Policies**

The final Scenario is based around the planned growth of the County and a sustainable settlement structure which creates balanced and sustainable development throughout the County.

In this Scenario, the Planning Authority would facilitate development throughout the County based on the principals of good design, good siting and technical considerations where local need exists and where the applicant would contribute to the rural community and rural economy.

The Settlement Strategy would reflect National policy and the potential to balance growth across the County and Region and supporting the Hub Status of Cavan Town in its location in the Country.

Town Development Plans, Local Area Plans and Town and Village Plans create a mix of lands uses which have viable economic activities allowing people to work and live locally, while enhancing the features of the urban environment and consolidation of development to ensure that there is a clear demarcation between urban and the natural surrounding environment.

Housing needs are considered and a Social Strategy is developed for the County to ensure social inclusion and a good quality of life. A Retail Strategy is prepared to ensure the viability and vitality of existing towns and villages.

Masterplanning allows for the provision of services with developments in order to reduce carbon footprints and create healthy living spaces.

A Landscape Character Assessment or Management Strategy and Local Biodiversity Action Plans are undertaken in order to reduce impacts on the environment and promote more sustainable development forms and energy sources. Water quality is improved through Groundwater Protection Schemes and River Basin Management Plans incorporating a co-ordinated catchment management approach.

An Indicative Forestry Strategy promotes the growth of sustainable forests throughout the County to improve air quality and the aesthetic quality of the natural environment. Traditional agricultural activities are encouraged and diversification is promoted to facilitate the changing nature of the sector. Eco-tourism and geo-tourism are promoted as sustainable forms of tourism.

Existing infrastructure is maintained and is balanced with the need to create more.

The environmental effects and cumulative impacts of development are considered with development needs in the overall development of the County. Significant environmental effects are mitigated and monitored on a continuous basis.

### **8.3 Preferred Scenario**

Scenario 3 is the preferred Scenario for the future development of County Cavan as it considers both the economic, social, cultural and environmental development of the County.

### **9.0 Mitigation Measures and Incorporation of Mitigation Measures & Assessment Results in the Plan**

Mitigation measures have been identified below to prevent, reduce and as fully as possible, offset any significant adverse impacts on the environment of implementing the new Draft Cavan County Development Plan.

#### **9.1 Environmental Protection Objectives and Development Objectives and Policies of the Draft County Development Plan**

The Environmental Protection Objectives (see Section 5) provide a standard against which the Objectives and Policies of the Draft Development Plan were proofed or tested for compatibility so that the potential significant adverse environmental impacts and significant positive impacts could be highlighted. This assessment can be found in Appendix 1.

The Environmental Protection Objectives are derived from various policies, local issues and the initial Scoping process. The Development Objectives and Policies were refined by way of an iterative process utilising issues raised during the research on the environmental baseline for the Environmental Report.

In certain places the Development Objectives match the Environmental Protection Objectives indicating the link between those issues of importance within the EU, National, Regional and Local policies, and those which are specific to the County.

Alternative strategic scenarios were considered in Chapter 8 and mitigation measures have been proposed to counteract any adverse environmental effects highlighted, thereby maximising the environmental sustainability of the Draft Development Plan.

The matrix (see Appendix.....1, indicates positive, negative, no impact, uncertain impacts, cumulative, long and short term impacts. The assessment or predictions of impacts can be qualitative or quantitative and are to a large extent based on previous experience and consultation carried out internally in the Planning Authority.

#### **9.2 Significant Impacts and Mitigation**

The following are a summary of the impacts identified in **Appendix 2** where the Objectives and Policies of the Draft County Development Plan were compared against the Environmental Objectives.

## **Chapter 2: Settlement Framework**

### **Chapter 3: Economic Development**

The most significant impact of rural enterprises is the effect on air quality. All development whether in rural areas or not, increases the amount of emissions into the air. As a consequence we need to mitigate the effects of the policies and objectives for rural enterprise. A strong landscaping policy, forestry policy and energy efficiency policy will attempt to offset the emissions which are generated.

The cumulative impact of all development on the surface and ground water quality is an important consideration. Development management must adhere to the Ground Water Protection Scheme (when finalised) and the use of Waste Water Treatment Characterisation Assessments as per EPA Guidance.

Waste to landfill may be increased as part of all new developments. However, with strong waste policy on prevention, minimisation, reuse, recycling and recovery, and provision of waste infrastructure and adherence to the North East Waste Management Plan 2005 – 2010 and future Waste Management Plans.

There are a variety of positives and negatives related to rural enterprise in County Cavan. Through strong development management, impacts on the environment can be mitigated.

#### **Mitigation**

The Planning Authority will encourage suitable siting of rural enterprises, including adequate screening or landscaping.

#### **Rural Agriculture**

The main issues relating to rural agriculture are those affecting biodiversity in protected habitats and protected species, biodiversity in the wider environment, the cumulative impact of all wastes to landfill and the production of emissions as a result of farming. The majority of agricultural activities will not require lengthy transport movements, however the changing nature of agricultural activities may see a change in market locations and types of markets (e.g. bio-fuel markets) etc.

Although good farm management should see little impact on water quality and long term sources of water, there is a cumulative impact of agriculture on water, whether it is accidental run-off or run-off due to wet weather conditions etc. The Lough Sheelin Catchment is under the control of Agricultural (Water Pollution) Bye-Laws in order to reduce the impact of pollution to the lake. A marked improvement has been seen, though other conditions (such as long lake retention time etc.) do prevail. As with all development, sand, gravel and rocks are a requirement.

Good agricultural management and the Rural Environmental Protection Scheme can have a positive impact on retaining populations in rural areas, supporting rural communities, provided natural waters, wildlife habitats and areas of ecological importance are preserved and maintained. Agricultural developments may conserve the natural landscape and some of the cultural heritage within it.

#### **Mitigation**

Cavan County Council will be involved in the implementation of 4 River Basin Management Plans under the Water Framework Directive and Draft Plans will be available in 2008 to ensure that all sources of pollution in surface and groundwater catchment areas are monitored.

### **Energy**

In general the policies and objectives for energy have positive impacts on the environmental receptors. It is worth noting that there are possible implications of large scale energy developments such as wind farms on designated habitats and protected species and biodiversity in the wider countryside. There are also potential to impact on the character of the natural landscape. Such developments have an impact on the population on an area as there are issues such as flicker and noise. The scale of energy developments can impact on our cultural heritage, many of which are not traditional in materials or in scale. Hydro-energy developments which may depend on the damming of waters could have an impact on flood control.

The main positives for these policies are related to the quality of population and human health and are aimed at improving air quality and climatic conditions.

### **Mitigation**

The Planning Authority aims to achieve a reasonable balance between responding to government policy on renewable energy and enabling the wind energy resources of the County to be harnessed in an environmentally sustainable manner.

The energy policies have also been strengthened - To promote and encourage sustainable energy supplies 'in appropriate locations subject to normal technical and environmental considerations'.

### **Extractive Industries**

Extractive Industries can impact on air quality. However, through adherence to Guidelines and Environmental Impact Assessment requirements, the effects can be mitigated. This includes water quality issues.

Extractive Industries by their very nature extract non-renewable sand, gravel and rock deposits. They have long term impacts on the landscape. As a consequence, they are in opposition to the environmental protection objective S2: Reduce consumption of non-renewable sand, gravel and rock deposits.

### **Mitigation**

The Planning Authority has proposed a number of policies above which are aimed at allowing the extraction of the non-renewable resources where they do not adversely impact on other environmental receptors. To progress development or to maintain existing infrastructure in any County, these non-renewable materials are a necessity. The Planning Authority will ensure that the cultural heritage of the County is protected and advice is sought from the relevant statutory bodies, and detailed assessments are carried out.

The Planning Authority aims to maintain the existing infrastructure of the County as much as possible, minimising the creation of new areas of infrastructure.

### **Forestry**

The main issue for forestry is the affect on the landscape, though objectives and policies give adequate provision for the assessment of its effect.

The cumulative impact of forestry on water quality needs to be monitored and the possible impacts on cultural heritage especially the effect on archaeology needs to be carefully assessed.

The enhancement of biodiversity depends on the type of species planted and habitats that are created. Short rotation crops for bio-fuels, will provide habitats for short periods. Forestry has a very positive impact for air quality, retaining carbon dioxide from the atmosphere.

### **Mitigation**

The Planning Authority will continue to monitor water quality and cumulative impact of forestry on the landscape.

### **Retail**

Retail developments significantly contribute to waste generation in the County. They also attract vehicles and generate trips. Out-of-centre retail or commercial developments can impact on the town centres.

### **Comment for Major Accidents Directive (Seveso II Sites)**

Long-term impact of these sites - It is vitally important that sites of this nature are considered for their effects on all the environmental receptors. Problems with the operations of such sites would affect the County and Country as a whole.

Significant impacts of dangerous substances – human health, biodiversity, water, air and climate, could have major negative impacts on all these receptors.

### **Mitigation**

It is essential to have continuous risk management on any such sites.

## **Chapter 4 – Physical Infrastructure**

The provision of roads has negative impacts on biodiversity and landscape, human health, water and air quality for the County. Maintaining the road system and extending the road network uses up non-renewable sand, gravel and rock deposits. However, our economic development depends on a safe and efficient road network. Public transport initiatives are to be encouraged for the County in the aim of reducing the number of trips in unsustainable travel modes.

Run-off from hard surfaced roads mixed with oils will have an effect on water quality in nearby streams or ditches. The cumulative effect of run-off from roads in the countryside and especially roads in towns (where it is combined with many other hard surfaces) is problematic to local rivers and lakes.

In many cases pre-planning presents an opportunity to request suitable foul sewerage information (and this is already on-going) so that towns have adequate wastewater treatment.

Air quality standards will continue to be reduced by continuing to invest in roads, however provision of safe cycle paths and walkways to educational establishments or public transport initiatives will help reduce the number of trips generated and are positive in reducing air pollution and encouraging energy efficiency.

Pre-planning discussions also have a positive role in encouraging the provision of walkways, linkages to towns and safe paths for more sustainable modes of travel.

Cycling and walking paths have little impact on the environment, though they also use non-renewable sand, gravel and rock deposits but indirectly have a significant impact on reducing air emissions from the use of vehicles.

National Roads and Other Roads - Policies are aimed at reducing congestion, though it increases accessibility for vehicles causing air emissions, using non-renewable resources to maintain or provide new infrastructure. Noise and vibrations are other important impacts which are harmful to human health.

### **Mitigation**

The Planning Authority will continue to place an emphasis on maintaining existing infrastructure rather than creating more roads. The Planning Authority has included policies and objectives in the Draft Development Plans to explore options to increase provision of public transport services and an objective has been included to ensure that the Council considers the recommendations of the Local Biodiversity Action Plan for the County (when finalised) in the construction of any new roads.

The Planning Authority has included policies and objectives to support development of rural bus initiatives and any other sustainable transport initiatives. It also includes objectives to prepare Transportation Studies.

### **Water and Wastewater Services**

The provision of infrastructure is a requirement to facilitate a growing population and to reduce the potential impact on water quality and ultimately human health.

### **Waste Management**

Waste can have long term cumulative impacts on air and water quality. An adequate waste collection service is necessary to prevent animals using this waste as a food source, disrupting their normal feeding patterns and this can affect human health in the long term.

### **Mitigation**

The Planning Authority will continue to operate within the North East Region Waste Management Plan 2005-2010 and other relevant waste legislation, policy and licensing.

### **Gas**

The main issues surrounding Gas infrastructure is the use of a non-renewable resource and the emissions to air from the use of this fossil fuel. Health and safety of infrastructure is also an important provision.

### **Renewable Energy and Wind Energy**

Renewable energy projects (specifically wind energy) have a major impact on the landscape, which can be long term. They are not traditional structures and do not match any previous structure heights or designs. Bird habitats can also be impacted upon.

### **Mitigation**

The Planning Authority will continue to examine the cumulative effects of the provision of renewable energy or wind energy developments. It is expected that the 'Special Landscape Policy Areas (see Chapter 8 of the Draft County Development Plan) will be reviewed during the lifetime of the Plan. It is also the intention of the Planning Authority to undertake a Landscape Character Assessment or Landscape Management Plan for the County. A Local Biodiversity Action Plan is also being prepared and both documents will be taken into consideration when considering wind energy developments.

### **Mobile Phone Masts**

Mobile Phone Masts have a short term impact on the landscape and this can include cultural heritage. They can have a cumulative impact on scenic areas and tourism resources but are also important for economic development.

### **Mitigation**

The Planning Authority will continue to examine the cumulative effects of masts in the landscape.

### **Chapter 5 – Housing**

The Housing Chapter is based on recommendations from the Draft County Housing Strategy in order to ensure the provision of accommodation for all those who require it and who are unable to obtain it through their own means. All housing developments have an impact as they use non-renewable resources in their construction and contribute to waste and air emissions. However the policies and objectives are positive for the population of County Cavan.

### **Chapter 6 – Social Strategy and Community Facilities**

Much of this chapter pertains to the provision of infrastructure which benefits all sectors of the community promoting social inclusion, making provision for the elderly, persons with disabilities and special needs, the Travelling Community and ethnic minorities. Community facilities can positively impact on the townscapes of County Cavan. Open space and recreational areas enhance living environments.

Education and lifelong learning are an essential part of a growing economy and the availability and accessibility to such resources are encouraged and will be facilitated where possible. Access to Libraries, Museums, Art and Culture, Burial Grounds and Places of Public Worship, Fire Services, Childcare and Health Care Facilities all positively impact on the population, health and well-being of the citizens of County Cavan.

### **Chapter 7 – Built Heritage & Archaeology**

The objectives and policies for the protection of the Built Heritage are generally positive in terms of population, townscape quality, conservation and protection of the existing built environment and maintaining the built environment. It provides for the retention of Protected Structures, other buildings, non-structural elements, vernacular architecture, shop fronts and industrial heritage. It also provides for potential Architectural Conservation Areas within towns and the necessary protection for archaeological heritage. It encourages a move to positive sensitive design which enhances living environments.

### **Mitigation**

The new Draft County Development Plan proposes Draft Architectural Conservation Areas for towns around County Cavan. A new Record of Protected Structures has also being prepared as part of the Draft Development Plan.

### **Chapter 8 – Natural Heritage & Environment**

The Natural Heritage Chapter contains objectives and policies for the conservation, protection and management of the County's natural heritage which are generally positive for the protection of designated areas, biodiversity in the wider countryside, for specific handling of non-native invasive species, population and human health, landscape, townscape, water quality, flooding and air quality. Although development will continue to be permitted in the County subject to site assessment and technical considerations; the cumulative impact on natural heritage must be assessed and considered. The Chapter includes biodiversity, invasive species, designated sites, biodiversity in the wider countryside, heritage gardens, demesnes and parks, hedgerows and stone walls, woodlands and trees, wetlands, landscape and geological sites of importance. The economic potential for geo-tourism is recognised and through strong development management it will be possible to create a sustainable tourism sector based around these natural assets. **WATER.....**

### **Chapter 9 – Recreation and Tourism**

Tourism is an important economic asset to the County. All development has the potential to contribute to air emissions, impact on the landscape, water quality, waste generation and consumption of non-renewable resources. However the cumulative impact of the tourism sector can have a detrimental impact on the natural resources which people wished to visit in the first place.



### **Mitigation**

The Planning Authority will continue to examine the impact of tourism-related developments in the County.

### **Chapter 10 – Rural Housing Policy**

Rural Housing has a cumulative, long term impact on the landscape. The location of many dwellings throughout the countryside does not reduce the number of trips generated by vehicles which impacts on air quality. The consumption of non-renewable resources is required during construction. Wastewater treatment systems if improperly maintained lead to water quality problems. The economic cost of infrastructure provision is high and there is a cumulative impact on biodiversity causing habitat fragmentation or even destruction. However the Rural Housing Policy aims to regenerate rural areas helping local people to live and work locally keeping communities alive. With sensitive siting and design which is fitting with the landscape, the impact can be lessened. The use of native species in landscaping and the use of renewable materials in building design can maximise the benefits offered by the natural environment.

### **Mitigation**

A policy has been included to prepare an annual report of numbers and trends in Rural Housing in the County. Rural housing developments must be sensitive to and enhance the landscape in which they are located.

The Natural Heritage Chapter contains a policy to retain or translocate hedgerow where possible or to replace with native species and to use species of local provenance in landscaping schemes.

Cavan County Council will continue to implement the Waste Water Treatment System Bye-Laws (2004). The Planning Authority will also have regard to the Groundwater Protection Scheme for County Cavan (when finalised).

### **Chapter 11: Development Management**

#### **Local Area Plans and Small Town and Village Plans**

The development of any town results in trip generation, noise and emissions to air, growth in waste generated and the use of non-renewable sand, gravel and rock deposits in the construction process.

Public open spaces especially green spaces are important for the absorption of water as well as aesthetic benefits, health benefits and as habitats for flora and fauna. Good urban design can enhance the townscape.

Retail service provision in towns must be balanced with retail provision out-of-centre in terms of impact on the vitality of the town economy and the generation of emissions to air. Retailing services continually generate trips and emission of green house gases. Retail services generate much of the waste which goes to landfill.

The provision of retail units out-of-town may relieve a congested town but in themselves generate trips which are unsustainable.

The cumulative effect of run-off from hard surfaces in an urban environment, impacts on water quality.

Residential development in towns will generate waste and much of this may go to landfill, however through implementation of the North East Region Waste Management Plan and encouragement of reduce, reuse and recycle, there is an opportunity to minimise this significant effect on the environment.

The main impacts of enterprise, employment and industry are the amount of waste to landfill, noise, vibration from traffic and industrial processes, consumption of non-renewable resources in construction, the cumulative impact on water quality and on air quality.

Built and natural heritage objectives and policies are generally positive on the townscape and surrounding natural environment.

Open space, community and social facilities, education, childcare facilities and infrastructure, sewerage, water, surface water drainage and transportation are positive.

The population of County Cavan is mainly rural based, and urban populations are not as yet high enough for the provision of a viable public transport system. The provision of adequate parking, cycleways and pedestrian routeways is essential in reducing the dependence on unsustainable travel modes.

Masterplans have been proposed in some larger towns in order to create sustainable urban environments where there is phasing, infrastructure provision, community facilities, density and layout consideration, open spaces, landscaping and an overall development design.

### **Mitigation**

The Masterplans which have been identified in the Cavan Town and Environs area have been strengthened through the addition of a biodiversity element where open spaces both public and private, shall consider networking of green areas to create greater space and consider the potential biological benefits and subsequent public health amenity - 'Issues pertinent to the sustainable management and conservation of Biodiversity shall be considered in all Masterplans'. A 10-20m buffer has been added along rivers as an 'amenity' area in Local Area Plans and in Village Plans in order to protect the river corridor (based on recommendations of Fisheries Board).

Local Area Plans will continue to provide for adequate provision of amenity, community facilities and employment opportunities in order to reduce unsustainable travel patterns.

Townscape improvement may be achieved through the use of Masterplans and Village Design Framework Matrix (see Chapter 7 Draft County Development Plan).

## **9.0 Monitoring**

### **Purpose of Monitoring**

The primary purpose of monitoring is to cross-check significant environmental effects which arise during the implementation stage against those predicted during the plan preparation stage. Existing monitoring arrangements may be used if appropriate, to avoid duplication of monitoring.

### **Monitoring Arrangements and Methods**

The DoEHLG SEA Guidelines (2004) recommend that the arrangements and methods chosen should be those which are best fitted in each case to checking whether the assumptions made in the Environmental Report correspond with the environmental effects arising from implementation of the plan, and to identifying at an early stage unforeseen adverse effects.

New research activity is not required, existing sources of information can be used. The monitoring of the Development Plan should cover the monitoring of Local Area Plans and Variations etc. Where gaps in environmental information are identified during the preparation of the environmental report, monitoring measures over the period of the plan can be geared towards addressing such gaps, where practicable.

Monitoring will be based around the 'Environmental Objectives'. A number of Objectives, Indicators and Targets are set below. They will allow measures of trends and progress over time. Many targets will be incorporated with existing targets under European and National legislation (e.g. Phosphorus Regulations). Monitoring proposals must concentrate on likely significant environmental effects, which have been identified in the Environmental Report and the measures identified as necessary to prevent, reduce, or offset any significant adverse effects.

Monitoring at an early stage may identify unforeseen adverse effects and the undertaking of appropriate remedial action.

The Statutory Manager's Report on Progress in achieving objectives of Development Plan takes place 2-years after the adoption of the County Plan and 'shall include information in relation to the progress on, and the results of monitoring the significant environmental effects of implementation of the development plan'.

If an objective or policy is having a significant adverse impact, a variation may be considered during the lifetime of the Development Plan.

### **Monitoring Programme for the Draft Cavan County Development Plans (including Local Area Plans)**

#### **Responsibilities**

Cavan County Council will be responsible for monitoring the Draft County Development Plan and Local Area Plans.

#### **Frequency of Reporting**

Two years after the Development Plan is adopted, the Manager must prepare a report on 'Progress in achieving objectives in the Development Plan'. This will include the results of monitoring and a further report will be made available every two years thereafter. It is expected that these reports will be issued to the designated Environmental Authorities and made available on the County Council website.

### Gaps in Environmental Information

The preparation of the Environmental Report identified a number of gaps in relation to the follow environmental data.

- Lack of habitats surveys for non-designated sites and insufficient baseline data on habitats and species to allow for on-going monitoring (It should be noted however, that the preparation of a Local Biodiversity Action Plan has begun)
- No wetland inventory (however, it is planned that a Wetland Survey will be undertaken during the lifetime of the Development Plan County Cavan Local Biodiversity Action Plan)
- Information is largely paper based with exceptions of designated areas in digitised format (GIS)
- Deficiency of information on buildings at risk
- No designated Architectural Conservations Areas (ACAs) (The Planning Authority will prepare Draft ACAs during the lifetime of the new County Development Plan)
- Undiscovered sites of cultural heritage

The Environmental Protection Agency also advised that a number of studies or projects may be undertaken over the lifetime of the Plan such as a Grassland Study, a Register of active and closed mines/ quarries, remediation of closed mines/ quarries and investigation of opportunities for the protection of best quality soils through land use zoning. Many of the EPA proposals have been incorporated into the Draft Development Plan and/or are on-going County Council practices (see Appendix 3 of Environmental Report).