

## 6.1

## INTRODUCTION

The landscape, ecological and historical resources of Clare are in a process of continuous and ongoing change in response to the direct and indirect consequences of human activity and of natural processes. Throughout the county's history, changes in agriculture, industry, society and the environment have had a profound influence over the landscape. In many instances change was rapid, brought on by changes in political or administrative regimes, patterns of land ownership or fluctuations in population. The impact of the Congested Districts Board and Land Commission is evident throughout the rural landscapes of Clare. More recently, rural electrification and road improvements have brought further changes through the expansion of rural settlement, whilst government and EU assisted investment has altered both the scale and organisation of agricultural activity.

As part of the ongoing process of change, patterns of employment, agricultural land use, forestry and infrastructure all continue to transform the landscape. However, the implications and significance of change are always difficult to assess. Assessment and appreciation of landscape is often subjective and changes to landscape that are regarded as negative by some, may be perceived as positive by others. Perceptions also change with time and new features may become established as valued elements of the landscape. However, it is vital that change is managed to retain or enhance the qualities that make the Clare landscape special and conserve the great variety of historical, cultural and ecological resources found within the county.

At a strategic level, County Clare is part of the Southern and Eastern Region of Ireland, which has been awarded Objective One Status, thereby qualifying for higher levels of grant assistance from the European Union (EU) up to the end of 2005. Investment is available for local infrastructure, local enterprise development, agriculture, rural development and social inclusion. The aims of the Operational Programme highlight some of the broad trends and issues facing the environment and heritage of the region. These include arresting the deterioration of river and lake water quality, the protection of the countryside, urban areas, environmentally sensitive areas and the strategic management of land use.<sup>1</sup>

This section of the report examines in more detail the most influential driving forces behind landscape change in County Clare, setting change in a long term context and analysing trends for the future. It is based upon a desk review of

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<sup>1</sup> Operational Programme for the Southern and Eastern Region 2000-2006. Southern and Eastern Regional Assembly 2000

relevant planning and policy documents, general literature and upon consultation with local authorities, agencies and interest groups. This section includes broad guidance for each of the principal forces for change, suggesting how change can be managed to ensure it has a positive, sustainable influence on landscape character.

## 6.2 *AGRICULTURAL CHANGE*

A key issue that emerged during the public consultation programme was that of agricultural change, and particularly those changes that are associated with the decline in importance of the agricultural sector in the social and economic life of the county.

Whilst the profound influence that agricultural regimes have had on the landscape of the county is widely acknowledged, debate is currently lacking at national or indeed regional level on the likely consequences of agricultural decline.

At present, Clare remains a heavily agricultural county with the relative value of agriculture, forestry and fishing to the county almost double that of the Midwest region and Ireland as a whole (Gross Value Added figure). Figures for 2001 estimate agriculture as being worth approximately €127m to the Clare economy in 2002.

County Clare has a total area of 318,784 hectares with 203,450 of this suitable for agriculture (Clare County Development Plan, 1999). The number of farms in County Clare in 1995 was 7,572. Half the farms in Clare are less than 20 hectares in size, while only 17 per cent are over 40 hectares (Integrated Strategy for the Social, Economic and Cultural Development of County Clare, 2002). There are 3,750 full time and 3,750 part time farmers within the county; of these the majority own cattle, followed by farmers with sheep, horses, tillage, organic and other horticultural areas (Clare County Development Board (CDB, 2002).

There is a long tradition of horse breeding within the County as evidenced in the numerous horse shows. Tillage was traditional in parts of the County, however over the past thirty years, this practice has declined due to increasing machinery costs and has been replaced by cattle rearing and dairy farming. There has been a move towards part time farming in recent years, where half the farmers in Clare are operating farms between 20 and 50 hectares with cattle enterprises predominating (Clare CDB 2002).

Fragmentation of holdings is considered a problem and the EU lists the entire county as disadvantaged, with over 90 per cent classified as severely handicapped. Sport horse production is traditional on Clare farms, with nearly 1,000 farms rearing horses (Clare CDB 2002). Farm forestry is a growing industry in County Clare, with over 1,172 hectares of forestry run by part time or full time farmers in 2000.

While two thirds of the land is usable for agricultural purposes, the National Soil Survey classifies only 29 per cent as being 'good' for grassland (Teagasc, 2000); 7 per cent are moderate and 35 per cent are poor to very poor. Meanwhile 24 per cent of the soils are good to very good for tillage, 8 per cent are moderate and 38 per cent are poor to very poor. Of the remainder, 20 per cent are peats and 9 per cent are variable in their suitability for tillage or for grassland (The Agricultural Institute 1971).

In Ireland, one of the most significant factors influencing the nature of the Irish countryside is the Common Agricultural Policy (CAP). The CAP was introduced to Ireland in 1973 with its focus on increased agricultural production, the result was production surpluses in certain sectors. In 1992, a significant reform to the CAP occurred in an attempt to reduce these surpluses. These measures included lowering guaranteed prices for key products and offsetting the impact of these cuts on producer incomes by means of direct payments. From a heritage perspective, these reforms were significant in that agri-environmental practices became an integral element, as a compulsory measure, of CAP for the first time under Regulation 2078/02. This resulted in the introduction of REPS in Ireland in 1994.

To date, in County Clare there have been 2,279 participants in the Rural Environment Protection Scheme (REPS) involving 82,354 hectares of land. The objectives of REPS are (Finn and Culleton, 2002):

- to establish farming practices and production methods which reflect the increasing concern for conservation, landscape protection and wider environmental problems;
- to protect wildlife habitats and endangered species of flora and fauna; and
- to produce quality food in an extensive and environmentally friendly manner.

In short, the scheme is designed to reward farmers for carrying out their farming activities in an environmentally friendly and traditional manner, in order to preserve the cultural and semi-natural landscape of County Clare. Other EU initiatives operating in the county include a scheme whereby landholders are compensated for leaving their land fallow for a period of time.

Additional, and in some cases stricter, conditions apply to certain areas of the Burren NHAs than the requirements of the basic REPS; for example separate management requirements apply to the high and low Burren areas.

In the Burren an average of 75 per cent of family income comes from farming. REPS supplies 33 per cent of the average family income. Farm size has increased by 9 per cent since 1991, while the number of farm holdings has fallen by 10.6 per cent since 1991 (Dunford, 2002). Between 1981 and 1991 3.65 per cent (1370 ha) of the entire Burren was reclaimed with some 70 per cent of

reclamation being intensive. Between May 1994 and early 1996, a further fifty-one sites (256 ha) were reclaimed. Of these sites, thirty-one were located within the Proposed Natural Heritage Area (NHA). Almost 3km of hedgerow and stone wall were also removed during this period. The direct effects of intensive land reclamation involve an irreversible change in soil structure and biodiversity.

The overuse of fertiliser has also had detrimental effects on wildlife and habitats due to the pollution of water sources and eutrophication (Lough Inchiquin). Silage effluent and septic tank overflow bacterial contamination were identified as the most widespread form of pollution in the Burren region, with up to 80 per cent of the water sources being bacterially contaminated. Research indicates that the number of silage clamps on the Burren increased ten-fold between 1980 and 1990 (Drew 1990). The EPA calculated that up to 50 per cent of the pollution of Irish waters can be attributed to agricultural sources (Lucey et al, 1999).

Significant landscape features such as stonewalls, hedgerows and field margins have been removed in order to facilitate bigger fields. Traditional agricultural practices need to be maintained throughout the county in order to preserve biodiversity. By maintaining the processes that created such species-rich habitats like the Burren, Irish farmers from the past to the present have largely determined, and will continue to preserve the biodiversity of the landscape.

In summary, given that much of the county is underlain by limestone, groundwater problems and nitrate pollution (as illustrated in relation to the Burren in the previous paragraphs) are likely to arise throughout the county. However, whilst intensification is a problem in parts of the county, declining farming activity is likely to have an equally problematic effect on the county's landscapes. With the increase in part-time farmers, there is an accompanying decline in farm families and limited labour to maintain and upkeep farm boundaries and buildings such as hedgerows, gates and stone sheds. All of these are an integral part of the rural fabric of the county. Moreover, with this decline, rush infestation and scrub encroachment is increasingly apparent in more marginal and wetter parts of the rural landscape.

Declining farming activity and viable modes of production to replace this activity are being addressed in certain programmes, such as the farm diversification schemes outlined in the Rural Development Programme. Guidelines have also been set out by the Forest Service to enhance forestry's role in agriculture (i.e. Forestry Biodiversity Guidelines). Coillte has implemented a five year landscape design strategy developed to meet the mandatory guidelines set out by the Forest Service (2000) and in order to meet the requirements of the FSC certification process.

Nonetheless, there is likely to be extensive landscape change over the next few decades due to the move away from agricultural production within the

county. Moreover, with the forthcoming decoupling regime of production and subsidies, further landscape change is increasingly likely and merits further investigation.

A summary of the key issues affecting agriculture is provided in *Table 6.2a*, whilst broad landscape guidance is provided in *Table 6.2b*.

*Table 6.2a Summary of Key Agriculture Issues*

- **Declining agricultural activity and its likely landscape impacts in terms of maintenance of agricultural features.**
- **The need to respect/maintain traditional features of the rural landscape which are the product, archaeologically, of human activities through history-hedgerows and woodlands being examples.**
- **The influence of European (CAP) and national (REPS) policies on promoting good farming practice and stewardship of the wider landscape and the changing structure of agricultural subsidies.**
- **The amalgamation of dairy farms and a general increase in farm size.**
- **The forthcoming decoupling regime.**
- **Neglect or removal of traditional farm buildings, stone walls and field boundaries.**
- **Ongoing loss of local wildlife habitats.**
- **Undergrazing leading to rush or scrub encroachment.**
- **Increasing farm mechanisation which has led to the removal of field boundaries and gate posts and can lead to a reduction of labour requirements.**
- **Overuse of fertiliser leading to an increase in the nutrient content of loughs, streams and wetlands in Clare leading to an increased risk of eutrophication.**
- **Modern large scale dairying operations and associated large sheds, which can be visually intrusive, especially when viewed from upland areas.**

Table 6.2b *Broad Landscape Guidance for Agriculture*

<p><i>Agriculture</i></p> <ul style="list-style-type: none"><li>• Consider the historical dimension to the rural landscape and how patterns of woodland and hedgerows contribute significantly to this distinctive landscape.</li><li>• All farms entering the REPS scheme should have a full heritage inventory carried out on their land.</li><li>• Contrasting land management systems help maintain a diverse landscape character. Recognition and encouragement of traditional practices will help maintain the distinction between upland and lowland areas.</li><li>• Site large farm sheds and outbuildings with regard to local visual amenity and consider views from surrounding uplands. Sheltered positions, choice of materials and native planting screens will help avoid unnecessary visual intrusion</li><li>• Retention of unimproved pastures and management of herb rich meadows and wetlands will add diversity to the lowland agricultural landscape.</li><li>• Maintain farm and field boundaries and wildlife habitats, and establish riparian zones to protect water bodies thus helping reduce environmental implications from intensively managed farms.</li><li>• Correct stocking levels will avoid the problems associated with over and undergrazing and help maintain a diverse and well managed landscape.</li><li>• Farm tracks can be visually intrusive on hillsides. Routing along screened alignments or along natural contours will help ameliorate impacts.</li><li>• Management to maintain or re-establish, where appropriate, a strong field pattern of traditional stone walls or hedgerows will enhance the overall structure of the landscape and reduce its vulnerability to change and revive traditional rural skills and industries.</li><li>• Enclosure of pockets within farmland encourages woodland growth and adds to diversity in the farmed landscape.</li></ul>
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- **The provision of buffer strips adjacent to watercourses and lakes may help to intercept diffuse pollution and enhance their ecological and landscape value. However, their width or effectiveness will depend on local soil types and rates of infiltration.**
- **Incentive payments should be provided to farmers who undertake positive measures on their farm, which will enhance the landscape type in which the farm is located.**
- **The clutter associated with smallholdings can detract from local landscape quality. Good house-keeping such as maintenance of outbuildings and removal of scrap and debris and repair of fences, will help maintain and enhance the landscape.**
- **Agri-environmental schemes that are based on sound policy and economic principles should be the driving force to entice and pay farmers to deliver a combination of environmental goods (Finn and Culleton, 2002).**

### 6.3

#### *BUILT DEVELOPMENT*

The most recent census data (2002) reveal an overall increase in the population of the county from 94,006 (1996) to 103,333, an overall increase of 9.9 per cent, above the Munster average of 6.5 per cent. Moreover, there was a significant increase in net migration to the County of 10.4 per cent between 1996-2002, a figure all the more significant when compared with the longer term pattern of population emigration of -6.3 per cent only ten years previously (1986-1991). However, whilst the overall population figures are positive, there are considerable spatial differentiations in the rate of population, with some areas suffering significant population decline.

Ironically, the areas of greatest population growth and development pressure often coincide closely with areas of high amenity value and high quality agricultural land. Thus, particular attention should be placed on balancing the conflicting demands within the areas of greatest development pressure. These growth areas include the Ennis/Shannon area, the western coastal area, the Lough Derg area and the south east of the county, in particular those areas bordering Limerick City.

According to the land registry, specific towns and villages experiencing high development pressures include Kilkee, Doolin, Lahinch, Ennis, Clarecastle, Sixmilebridge, Newmarket -on- Fergus, Shannon, Parteen, Cloonlara and O'Briensbridge. These correspond closely to areas of greatest population growth. On average, 880 houses were built annually in County Clare since 1990, an increase from 580 in previous years. In 1988, planning permission

was granted for over 633 developments, and this increased to 1368 in 1998 (789 dwellings, 238 commercial and industrial, 60 agricultural, 281 extensions).

The number of planning applications has however decreased in the last three years. In 2000 there were 2,729 planning applications, in 2001 there were up to 2,408 applications and November 2002 there were 2,081 planning applications for that year (McNamara pers. com. Clare County Council 2002).

A number of tax incentives are also currently operating within the county. The Urban Renewal Scheme is aimed at regenerating areas by providing tax incentives for residential developments. The aim is to combat the problems of decay and dereliction in inner core areas of towns and promote development that is balanced and sustainable. Towns to receive tax incentives under the Urban Renewal Scheme include Scarriff, Sixmilebridge, Kilrush, Ennistymon and Miltown Malbay. The scheme will also apply to commercial and industrial development once approved by the EU Commission.

Coastal Tax Incentives have led to increased developments in tourism resorts, for example Kilkee where tax schemes have resulted in over three holiday homes to every local home in the area. During the consultation process, it was argued by many that this scheme has backfired, largely because there is an over concentration of development in certain settlements which are unoccupied during the winter months. Further this increased development has resulted in environmental degradation of some of the most renowned beauty spots in Ireland.

The Clár Programme, a targeted investment programme in rural areas, was introduced in October 2001. The function of the programme is to provide funding to areas which have suffered from population decline between 1926 and 1996. Each area would have to have a minimum population of 4,000 people and a maximum population of less than 30,000 people. West Clare and parts of Northeast Clare are two of the sixteen regions to be targeted by the Clár Programme.

### **6.3.1**      *Expansion of Existing Settlements*

These changes have effects on the county's landscapes. County Clare displays distinct patterns of rural settlement with numerous individual houses and buildings dispersed throughout the countryside. Small towns and villages, often with ancient origins, are also numerous and provide a focus for rural populations, services, recreation and community facilities. In recent years, built development has occurred on the fringes of towns and villages and in a scattered pattern along rural roads throughout Clare. In the future, it seems likely that development will continue to target these areas, meaning that particular care and attention to issues of siting, layout and design will be critical.

Unfortunately, new structures tend to be built to a standard design and tend to be unrelated to local patterns of built form. For example, new housing of

the same modern design, layout, materials and detailing may be observed in a number of towns, often sited along busy roads. Where new development is sited on the edge of towns and villages, or as ribbon development along principal approach roads, it has the effect of isolating the core of the settlement from its landscape context, restricting views to the open countryside and creating a nondescript first impression.

Expansion of existing settlements usually involves the development of greenfield sites and therefore the loss of a proportion of the region's landscape resource. Such development represents a significant and potentially detrimental force for change in landscapes which are sensitive in visual terms or which are important for their inherent historic or ecological interest. A more sustainable approach to meeting demand for housing and commercial enterprises would be to use redundant buildings or brownfield sites within the existing urban fabric.

### 6.3.2 *Isolated Buildings in the Countryside*

Derelict buildings are particularly prevalent in areas of marginal farmland, on the fringes of the upland moors, where they lend a sense of abandonment. In these locations, derelict farms and cottages, although crumbling and overgrown, represent an important and tangible link to the past and are evocative features in the landscape.

In lowland areas, many older properties are being abandoned. The principal reason is that older housing stock is difficult to renovate and convert to provide modern facilities. The constant demand for new housing is driven by the prestige of owning a new home and the need for new houses to enable younger generations to remain close to their parental homes. There is a strong sense of pride in the new, and perhaps a tendency to undervalue the traditional vernacular buildings. Scenic, coastal and some loughside areas are also under a great deal of pressure, both for residential development and second homes.

The development of new isolated houses and large modern farm buildings has had a cumulative negative impact on the quality and character of the countryside. Recent development has tended to introduce a profusion of incongruous materials and different styles. Indeed the use of modern materials has enabled more exposed and prominent locations to be built on whereas in the past sites were carefully chosen to exploit the shelter provided by landform or vegetation. Many new houses front directly onto rural roads and may have prominent entrance gates and ornamental gardens that do not integrate with the local landscape. These factors mean that new rural housing is often strongly at odds with older forms of rural settlement, which are often built of local stone, simply whitewashed and usually associated with groups of mature trees in a sheltered location which appears in harmony with the local topography.

Hence the issue of one-off housing in the countryside is highly contentious in County Clare. While many welcome strict controls, others point out that strict controls can be detrimental to the landscape. This is because they may lead to further rural depopulation and abandonment of farm holdings, as well as adverse impacts from uncharacteristic 'cluster' housing in the county's smaller town and villages.

Although new developments may have a detrimental landscape impact, they can also offer a positive opportunity to enhance the appearance of the area by the adoption of careful and considered design and choice of materials, which reflect the positive characteristics of the locality. '*County Clare House Design Guide, Houses in the Countryside*' produced by the county council considers traditional siting and design of houses with the objective of providing appropriate future development.

The development of foreign style bungalows in rural areas, whose materials, disproportionate windows and low pitched roofs are alien to the landscape, is also raising new concerns within the County. It is advised that new developments be based on the single storey traditional farm buildings.

### 6.3.3 *Commercial/Industrial*

Baseline information suggests that some 30-35,000 sq metres of industrial and commercial floor space will be required each year in County Clare (Integrated Strategy for Social, Economic and Cultural Development, 2002-2012).

Industrial development is concentrated around the Shannon. As of December 2000, 78 per cent of Shannon Development supported employment was in the Shannon area. Currently there are over 130 companies employing over 8,000 people on 600ha of developed land including the Free Zone, East Park and Smithstown Service Centre. There is provision on existing land banks to accommodate a further 100,000sq.m of office/ data centre type space, which is currently in the planning process. The greater Shannon area will also continue to be developed as a world-class centre for foreign direct investment (FDI).

Plans are currently underway for a new technology park in Ennis that will have the capacity to employ over 2,500 people. In addition there are also plans for a new industrial reserve north of Shannon and a strategic centre for enterprise development east of Shannon. .

A summary of the key issues associated with built development is provided in *Table 6.3a*, whilst broad guidance is provided in *Table 6.3b*.

*Table 6.3 a Summary of Key Issues for Built Development*

- **Standardised development on the fringes of existing settlements which compromises their distinctive landscape character and setting.**
- **The proliferation of scattered new housing in the open countryside, resulting in loss of quality and character of rural landscapes including loss of hedgerows.**
- **Dereliction and decline in the stock of traditional rural buildings.**
- **The introduction of a profuse variety of building materials and styles and the lack of reference to traditional rural buildings as models for siting and design, i.e. bungalow style houses.**
- **The expansion of industrial development on the fringes of settlements and along major communication routes.**

*Table 6.3b Broad Landscape Guidance for Built Development*

*Materials and Colour*

- **Limit the range of materials and colours used on any one building and use natural materials, such as timber, stone and slate to link with existing buildings.**
- **Select cladding materials and colours for modern industrial and farming buildings to minimise their impact in the countryside. Avoid the use of light colours, which can reflect the light, and intense greens or blues, which often clash with the surrounding natural tones of fields and woods. The treatment of roofs is particularly important when considering the visual impact these have on views to lowland areas from surrounding hills.**
- **Ensure that the materials and colours used are in harmony with one another and with existing buildings nearby.**

### *Design*

- Use the scale, spacing, orientation and siting of traditional settlement form/ layout as a model for considering how new development can be fitted into the landscape without disrupting traditional patterns.
- Respect existing field boundary patterns and ensure that fencing, hedgerows, walls and lighting along property boundaries are suitably delineated, particularly in rural locations, where they should merge naturally with adjoining fields and woodland.
- Minimise disturbance to the local landform and design earthworks to integrate buildings with local landform: Avoid the use of substantial retaining walls or under-building on sloping sites.
- Consider the location and scale of outbuildings, driveways and areas of hardstanding, ensuring they are not dominant in views from the road and use traditional layouts as a model for new development.
- Retain as many existing trees as possible and plant native trees to screen and accommodate new development.
- Ensure that the conservation value and scenic quality of watercourses is not reduced, particularly in minor streams. New developments should be designed to benefit the visual focus and amenity value which water provides.
- Use buildings, styles, forms and architectural details that are characteristic of the local landscape. Most contribute to simple and distinctive local styles.
- Promote and encourage the use of publications such as 'County Clare House Design Guide, Houses in the Countryside' to guide the design process within the county.

## 6.4 *INFRASTRUCTURE*

### 6.4.1 *Transportation*

Roads are the most widely used form of transport in County Clare and patterns of built development display a strong relationship with communication routes throughout the county. Despite the increased emphasis on reducing dependence on the car, future economic growth is likely to generate increasing levels of car ownership. This has already been a factor in the proliferation of new housing in relatively isolated rural areas.

The existing railway line crossing Clare, connecting Limerick and Galway only operates services on the Ennis –Limerick section of the line.

The local road network in particular displays strong patterns in its routing and design, which should be maintained and reflected in the design of new routes and maintenance schemes. Unfortunately, road development can and has often had a significant impact on landscape character. It may fragment the countryside, destroy valued landscape and habitat features and generate further development. Much large-scale development is out of character in small-scale rural landscapes.

While the road network is the most dominant form of transport in the county, Clare has only 1.3 per cent of its road network defined as national primary route. It is the county council's policy to improve all roads in the county through general maintenance or even upgrading where traffic flows increase. The council also intends to extend and improve road access to areas of high visual and recreational amenity, and to provide car parks and scenic viewing areas.

Great care is needed if this is not to adversely affect habitat features and landscape character. The cumulative impact of minor road improvements may gradually erode the distinctive local identity of rural landscapes. For example, the straightening of sections of road and the introduction of kerbs, road signage and lighting tends to 'urbanise' the rural landscape. Care is therefore needed in the design of road improvements, which should also pay particular attention to the conservation of attractive local roadside features such as hedgerows and stone walls, which may be vulnerable to insensitive improvements. The numerous stone bridges in the county are also considered to be under significant pressure from increased traffic, and due care should be taken to maintain and conserve these distinctive features.

The Shannon estuary serves as one of Ireland's premier ports. Its deep water and sheltered location and flat land make the Shannon estuary a potential international centre for maritime industrial development. The main port facilities are Kilrush Harbour, the marine terminals of Money Point and Tarbert Power stations, Foynes Island Oil Terminal, Foynes Harbour, Aughinish Marine Terminal, Shannon Airport Oil Jetty and Limerick Docks where vessels up to 200,000 dwt can be accommodated. To date the estuary and the River Shannon have not reached their full potential in relation to environmentally sensitive tourism and development. An Integrated Coastal Zone Management Strategy is currently planned for the area and will need to be taken into account in future policies and proposals for the development of Shannon and its environs.

More recently, The National Spatial Strategy (NSS), a twenty year planning framework designed to deliver more balanced social, economic and physical development and population growth between regions, has identified Limerick/Shannon as a Gateway<sup>1</sup>. The NSS has also identified Ennis as

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<sup>1</sup> Gateways are urban centres with a strategic location relative to their surrounding areas, providing national scale social and economic infrastructure and support services.

strategically located, medium sized 'Development Hubs'. Hubs will support and be supported by the Gateways and will link out to wider rural areas.

The NSS has called for a number of key transport infrastructural changes that will influence County Clare, these include:

- Providing improved road and rail access between Dublin and Limerick (including consideration of a possible rail link to Shannon Airport), and improved access to the Shannon Estuary Ports.
- South and Eastern International Access - providing international access by sea and air for Gateways and Hubs and other areas along the western arc. This will involve increased utilisation of Shannon Airport, Cork Airport and the Shannon estuary through improved road and rail links between Limerick, Cork, Waterford and Rosslare.

#### **6.4.2** *Overhead Transmission Lines, Telecommunication Masts and Pylons*

Overhead transmission lines are particularly prominent in open upland landscapes and along the stretches of the coastline and estuaries. There is a linear run of large transmission lines from north of Ennis towards Moneypoint and these interrupt the rural landscape considerably. On a smaller scale they may also be visually intrusive where they appear on the skyline as they cross ridges and drumlins.

Single, high communication masts or towers are a prominent feature of the upland summit of Maghera and detract from landscapes that can be considered remote and wild. Several masts are also evident on Woodcock Hill in the Broadford hills and this again detracts from the remote upland character, through provision of access roads and associated buildings. They are also highly visible from the lower slopes.

Bord Gais is currently constructing a new gas pipeline to the west of Ireland from Ballymore, County Dublin to Goatisland, County Limerick taking in Counties Galway, Clare, Meath, Westmeath, Offaly and Roscommon. This new pipeline will open up additional areas for the supply of gas and provide a vital supply line throughout the west of Ireland.

#### **6.4.3** *Renewable Energy*

In the 1970s, there was a revived interest in wind-generated energy due to the increase in oil prices. As a whole, Ireland was ranked fourth out of the then nine EC member states in terms of its wind energy potential. In 1994 the Alternative Energy Requirement (AER) was set up by the government to encourage development of alternative energy sources in an attempt to limit greenhouse gas emissions. Attention has therefore returned to the development of wind farms and there is mounting pressure for such development in Clare.

Future planning for wind farms needs to consider not only the environmental impacts of each development, but also the cumulative impacts on the landscape. There is particular concern over the potential impact on upland (Sliabh Aughty and Sliabh Callan) and scenic areas, which are favourable locations for wind farm development. These areas are targeted because the average wind speeds are higher compared to lowland situations. Wind farm developments are generally accompanied by a considerable road infrastructure, needed to service the turbines, which has an impact on the remote character of the uplands, making it a more accessible area.

Of further concern is the damage to peat lands: wind farms have been shown to facilitate erosion due to hydrological and physical disturbance of the peat and a general disturbance of associated habitats. Although the noise generated by wind farms is also considered to be an environmental impact, this is only a problem at close range. Other environmental factors to consider include the overall scale and character of the local landscape, its relative remoteness, the character of local skylines, the degree of enclosure provided by topography or vegetation and site specific factors such as distinctive landscape features. Nature conservation designations should also be considered, as they can be a constraint against wind farm development and will be subject to close scrutiny. Developments should also conform with the EU Birds Directive (No 409/79/EEC) to avoid significant disturbance to birds. Also of particular importance to Clare is that proposed developments should have regard to air traffic safety requirements.

A summary of the key issues associated with infrastructure development is provided in *Table 6.4a*, whilst broad guidance is provided in *Table 6.4b*.

*Table 6.4a Summary of Key Infrastructure Issues*

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| <ul style="list-style-type: none"> <li>• <b>Ongoing, piecemeal road improvements, such as widening and straightening, development of new access and bypass links and the use of excessive lighting, signage and white lines, which together have a cumulative impact on visual amenity and landscape character.</b></li> <li>• <b>Increased traffic levels, heavy lorries and farm machinery on narrow rural roads, leading to the erosion of verges and characteristic roadside features.</b></li> <li>• <b>Loss of hedgerows and trees due to junction improvements.</b></li> <li>• <b>Standardising influence of road landscapes on local landscape character.</b></li> <li>• <b>Additional electricity pylons, overhead lines and communication masts.</b></li> <li>• <b>Pressures for wind farm developments in upland parts of the County.</b></li> <li>• <b>Marine and environmental implications of the gas pipeline.</b></li> </ul> |
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Table 6.4b *Broad Landscape Guidance for Infrastructure Developments*

*Linear Development*

- **Avoid developing infrastructure in remote areas with a wild character.**
- **Align routes to follow contours and respect local patterns of communication. As far as possible, keep routes to lower elevations and follow natural breaks of slope, avoid straight lines and angles that conflict with the grain of the land.**
- **Consider undergrounding transmission lines for short distances to avoid breaking the skyline in sensitive locations.**
- **Design infrastructure developments to minimise the risk of water pollution from run-off.**
- **Develop opportunities to enhance the landscape and wildlife quality of disused railway lines, roads and canals. Design new planting as an integral part of all infrastructure development, aiming to reinforce local landscape character and create a seamless fit with the surrounding landscape.**
- **Avoid creating a linear corridor of planting which would draw attention to infrastructure developments.**
- **Give special consideration to the design of local landscape associated with roads at the entrance to settlements, using traditional hedgerows and tree planting to enhance the 'gateway' effect.**
- **Use materials characteristic of the area, i.e. local stone for walls and native species for new planting.**

### *Wind Farm Developments*

- Remote landscapes and those which have been little affected by human intervention will have a limited capacity to accommodate wind farms and will be sensitive to cumulative impacts, while more accessible landscapes where human influence is already prominent will be less sensitive.
- Open skylines, on which the wind farm might appear in silhouette, will be particularly vulnerable, while undulating, wooded skylines could accommodate wind farm development more easily.
- Wind farm development may represent a bold statement in a large scale landscape. However, in small scale landscapes it may either detract from or be absorbed within existing landscape patterns depending on specific local circumstances.
- The degree of enclosure (by topography or vegetation) will be an important factor. Open landscapes will have wide visibility, whereas the visibility of relatively enclosed landscapes will be restricted.
- Site-specific factors such as the presence of distinctive landscape features, monuments, buildings and semi-natural habitats will be important considerations.
- The scale of the wind farm development is important. Large scale landscapes are more able to visually accommodate large numbers of turbines.
- Consideration should be given to the design, size, colour, siting and layout of turbines and the effect transmission lines and infrastructure improvements would have on the landscape. It is good practice to ensure that masts and turbines are constructed from matt, non-reflective materials.
- The cumulative impacts of wind farm developments should be considered. Once a wind farm is constructed, the capacity of the landscape to accommodate further wind farm development is significantly reduced.

### *Communication Masts*

- **Much of the guidance put forward for wind farms will also be of relevance to communication masts. The use of existing structures to support aerials and the amalgamation of several transmitters onto one mast minimises the need for visually intrusive structures.**
- **The full application of current guidelines in relation to communication mast siting is recommended.**

## 6.5 FORESTRY AND WOODLAND

### 6.5.1 Forestry

To sustain a competitive timber processing industry, the Republic of Ireland plans to double the current area of trees from the 8 per cent coverage recorded in 1999 to 17 per cent coverage by the year 2030. The increase in forestry will doubtless bring changes to the character of the landscape. This section examines the changing pattern of woodland cover in County Clare, from the localised pockets of semi-natural woodland to estate and farm woodlands and commercial forestry.

Total forest cover in County Clare at the end of 2001 was 45,262.93 hectares representing just over 14 per cent of the total land area in the county, which is well above the national average of 9.7 per cent. Forest cover in County Clare is almost evenly divided between private and public ownership, where 21,955.16 hectares of the forested land is owned by private growers and 23,307.76 hectares of forested land is owned by public foresters.

Forest cover in the county has almost doubled since 1992, two thirds of which was carried out by private growers.

Broadleaf afforestation in County Clare in 2001 was 126.57 ha (8.4 per cent) while conifer planting amounted to 1377.02 ha (91.6 per cent). Currently 20 per cent of planting in the county is broadleaved with a target set to rise to 30 per cent by 2006. Clare is the sixth most afforested county in Ireland (The Forest Service 2002).

#### *Afforestation in County Clare (The Forest Service, 2002)*

Plantation type	1998	1999	2000	2001
Broadleaf	144 ha	85 ha	111 ha	127 ha
Conifer	736 ha	847 ha	1,356 ha	1,377 ha
Total afforestation	880 ha	932 ha	1,467 ha	1,504 ha

### 6.5.2 *Semi-Natural and Estate Woodlands*

The original natural woodland, which colonised Ireland after the last ice age, has now largely disappeared. Over the last 6,000 years farmers have gradually removed it to provide land for settlement, cultivation and grazing. Scattered woodlands remain in relatively inaccessible places such as on the steep slopes of glens and areas of lowland moss.

The estates of the eighteenth century period contain some of the most significant areas of broadleaved woodland. They make an important contribution to landscape character, especially when viewed across loughs.

### 6.5.3 *Private Woodland*

Privately owned forest estates account for 21,995 hectares, while the public forests account for 23,308 hectares, most of which is owned by Coillte (The Irish Forestry Board). Private planters, most of whom are full time or part time farmers, carried out almost all planting in 2001. This was a direct result of ongoing government and EU funding through generous afforestation grants and annual forest premiums, which are payable up to twenty years after planting.

Private planting is common in the east Clare area and is relatively new, where significant tracts of land have only been planted in the last twenty years by Coillte and private owners. This part of the county is considered of significance in relation to the percentage of private forestry and continues to have good prospects for forestry expansion (Coillte 2000). A sizeable portion of the county is deemed suitable for forestry. National targets have been set to double the level of planting.

### 6.5.4 *Public*

The greatest concentration of Ireland's estate forests are in Tipperary (32 per cent) and Clare (25 per cent). Coillte, the semi-state forestry company has managed just over 22,000 hectares of land, but now plant on average, 150 hectares, all of which is through its Farm Partnership Scheme. Some 65 per cent of currently planted areas by Coillte is Sitka spruce, 30 per cent conifer diverse/lodgepole pine, with broad leaves (oak, beech, ash and sycamore) representing 5 per cent (Clare CDB, 2002).

Traditionally, large-scale commercial forestry has been sited on the uplands above limits of cultivation and on blanket bog. The visual dominance of geometric planting blocks on hillsides, and clear felling of land can have a significant negative impact on landscape character. However, there are strict regulations governing all felling. Felling licences are required under The Forestry Act 1946, governing inter alia, the felling of trees.

In the future, new afforestation may focus on marginal agricultural land on low lying poor drained soils such as those in the drumlins of Clare.

Potentially, vast areas of undulating landform could be covered with woodland, changing habitats and camouflaging ancient field boundaries and cultural landscapes. However, the implementation of strict biodiversity guidelines by the Forestry Service has aided in reducing such impacts. In recent times, the availability of better land (brown earths) at lower elevations has permitted foresters to broaden the range of species used by increasing the amount of diverse conifers through the introduction of native broadleaf species.

The Forestry Service is currently preparing an Indicative Forestry Strategy (IFS) for the County which primarily focuses on planting the right trees in the right places and will help guide the location and character of future afforestation. The IFS will set out the likely areas where further forests will be planted, those areas where particular care and close consultation with interested parties will be required and the special areas (i.e NHAs, SACs, SPAs) where it is unlikely that planting will ever take place. The IFS provides a framework for sustainable forestry management.

A summary of the key issues associated with forestry developments is provided in *Table 6.5b*, whilst broad guidance is provided in *Table 6.5c*.

*Table 6.5b Summary of Key Issues for Forestry*

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| <ul style="list-style-type: none"><li>• <b>The restructuring and forest design planning of existing commercial forestry plantations.</b></li><li>• <b>The development of (grant-aided) farm and amenity woodlands by farmers and other landowners for recreation as well as commercial benefit.</b></li><li>• <b>The increase of coniferous woodlands in accordance with government policy.</b></li><li>• <b>The promotion of state forests as a commercial and recreational resource.</b></li></ul> |
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Table 6.5c *Broad Landscape Guidance for Forestry and Woodlands*

*Forestry and Woodland*

- Conservation, restoration and management of semi-natural woodlands will maintain the diversity of landscape features and nature conservation interest; estate woodlands, including exotic species, can make an important contribution to local landscape character.
- A diverse mix of species (appropriate to the site) including broadleaved species, adds to visual interest and reflects more natural woodland patterns. However, in a very simple landscape type a woodland with a more limited range of species may be accommodated more readily.
- Irregularly shaped felling appears more natural in the landscape.
- All plantation shapes should reflect natural landform.
- Recognising and responding to the relationship between woodlands and open space is fundamental to landscape character. The overall proportion of woodland to open ground should not be too even and should, ideally, be about one third to two thirds, or vice versa, depending on the landscape character (The Design of Forest Landscape, Oliver W.R Lucas, Forestry Commission, 1991).
- In more open landscapes the contrast of smaller woods tends to compete visually with natural features and woodland should, therefore, be blended strongly with the surroundings (The Design of Forest Landscapes, Oliver W.R Lucas, Forestry Commission, 1991).
- Future forestry should be sympathetically planned and designed, in accordance with good practice and sustainable management (i.e. The Forestry Service's Forestry and Landscape Guidelines and Forestry Biodiversity Guidelines). It should also be appropriate in scale and not obscure the variations in landscape pattern that contribute to local landscape character.
- Planting should be on good forestry land except where existing older plantations would benefit from the afforestation in terms of improving aesthetics in a forest design plan.
- Consideration should be given to the implementation of urban forest initiatives such as the neighbour wood scheme throughout the county (Mc Aree, 2002).

Historically, tourism has been a major industry in County Clare and is currently one of the key sectors experiencing growth in the county. In 2000, approximately €81 million of revenue was generated in County Clare from overseas visitors, with North American tourists contributing over 37 per cent.

A breakdown of overseas visitors to County Clare is provided in Table 6.6a below.

**Table 6.6a Breakdown of Overseas Visitors (2000)**

Overseas visitors to County Clare					
County Clare	Total ('000s)	Britain	Europe	North America	Other
	615	131	197	251	36

Tourism promotion is largely led by Shannon Development. Northwest Clare's tourism industry is well developed with a long tradition of tourism in locations such as Lisdoonvarna, the Cliffs of Moher and the Burren.

Visitors to Clare are generally classified as:

- Casual tourists passing through the area, including Irish based coach tours on day visits, many of which will also visit the Cliffs of Moher and Bunratty Castle.
- Informed tourists pursuing an active interest in exploring aspects of the area; these may include continental based coach tours and visits usually last two to three days.
- Specialist and academic tourist (i.e. botanists and archaeologists); these visits may last up to a week where the tourist explores the more remote areas of the Burren or takes part in specific activities or excursions.

North Clare attracts the greatest proportion of tourists, where between 1990 and 1994 tourist numbers rose by 24 per cent to over 1.8 million. Within the area there are a number of attractions and facilities for visitors, including the landscape, unique ecology and archaeology. The main tourist attractions in north Clare include the Burren and the Cliffs of Moher.

The Burren area of north west Clare is renowned for its outstanding landscape and is the finest example of karistic terrain in Ireland. The Burren is also famous internationally, not only for its beautiful limestone landscape but also because of its remarkable flora and fauna and rich archaeological heritage.

The Cliffs of Moher are recognised as a major environmental and amenity area in north Clare. They attract over 500,000-600,000 visitors annually. They offer

magnificent panoramic views from the cliff walk and from the surrounding roads. The cliffs are also a Special Area of Conservation (SAC).

Tourism is considered one of the key economic drivers in south Clare, where Bunratty Castle and Folk Park, located on the main Ennis Limerick road, is the second highest paying attraction in the country, with 460,000 paying visitors per annum. Tourism in south Clare is strengthened by its proximity to the N18 and Shannon International Airport.

While west Clare is well endowed in terms of tourism resources, tourism remains relatively underdeveloped due to the remoteness and peripherality and to the strong competition from alternative tourism destinations particularly north Clare and Kerry.

The development of Doonbeg Golf Course is regarded as an opportunity for the local community to develop and promote their tourism product in order to encourage those visitors using the golf course to explore the surrounding landscape.

However, golf courses too can often be intrusive features in the landscape where their design introduces uncharacteristic features such as formal ornamental planting, mown amenity grassland or bunkers into an otherwise rural scene. The design and siting of golf courses, including associated facilities such as club houses, should be sympathetic to the character of the area.

There are a number of other areas of interest within the County such as parks and recreational sites that attract visitors on a regular basis. These include (but are not limited to) the following:

Spa town of Lisdoonvarna	Lough Bunny
Coole Park	Dysert O' Dea
Lough Derg	Craggaunowen
Mount Callan	Clare Abbey
Dromoland Castle	Scattery Island
Lahinch	Spanish Point
Kilkee	Aran Islands
Quin Abbey	Sliabh Bernagh
River Shannon	Fergus estuary
Rosshay	Loop Head Lighthouse
Ailiwee Caves	Doonbeg
Lough Graney	Coast Road: West Road
Broadford Gap	Sliabh Elva
Mountshannon	Fanore
Inis Cealtra	Black Head
Whitegate	Cragan's Wood
Bunratty Castle & Folk Park	

Tourism is dependent on the maintenance of the landscape resource as well as the nature conservation value and historic interest of the area. Amongst the county's attractions are the variety of landscapes and seascapes it offers; the wealth of outdoor activities including walking, cycling and horse-riding; and the range of rivers and loughs for angling and cruising. The obvious danger exists: if tourism development is permitted to erode the county's landscape character and diversity, the industry itself is likely to suffer as a result.

Hence, tourism should embrace concepts of sustainability and local identity. The distinctive unspoilt landscapes, countryside and villages are key assets to be conserved and enhanced. Low key sustainable approaches for the provision of tourism infrastructure should be adopted; and quality developments by the private sector encouraged, possibly through the use of design competitions.

The development of tourism should involve the co-operation of state organisations such as Shannon Development, the Department of Community, Rural and Gaeltacht Affairs, the Department of the Environment and Local Government, Clare County Council and local communities in an integrated way through the County Development Board.

There are a number of government funding initiatives in place throughout Clare to promote sustainable tourism; these include:

- The Clar Initiative attached to the National Development Plan 2000-2006.
- Investment in the marine leisure sector infrastructure as part of the National Development Plan 2000-2006 (e.g. Killadysert, Carrigaholt, Kilkee and Seafield).

A summary of the key issues associated with tourism and recreation development and promotion is provided in *Table 6.6b*, whilst broad guidance is provided in *Table 6.6c*.

**Table 6.6b** *Summary of Key Issues for Tourism and Recreation*

<ul style="list-style-type: none"><li>• <b>Pressures from water-based recreation and shoreline development along lough shores (e.g. Lough Derg) and waterways.</b></li><li>• <b>Poorly sited and designed second homes and holiday cottages along the short stretch of coastline.</b></li><li>• <b>Potential erosion of footpaths by increasing numbers of walkers and mountain bikers, particularly in hilly areas.</b></li><li>• <b>The proliferation of golf courses especially on dune systems.</b></li></ul>
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- **Honeypots i.e. the Burren where visitor management needs to be addressed.**

*Table 6.6c Broad Landscape Guidance for Tourism and Recreation Developments*

<p><i>Tourism and Recreation</i></p> <ul style="list-style-type: none"> <li>• <b>Actively promote east Clare as a tourist destination to spread tourist pressure away from 'honey pots', to spread the benefits and disbenefits of increased tourist numbers across the county.</b></li> <li>• <b>Frequent viewing points and small car parks along roads will provide more opportunities for visitors to experience the landscape, reduce congestion and encourage people to leave their cars.</b></li> <li>• <b>Development and management of footpaths for short distance (2-3 mile) walks will open up local areas of the landscape to a large number of people.</b></li> <li>• <b>The use of local materials for tourist developments will help to ensure that they are well integrated with their surroundings and reflect a strong sense of local identity.</b></li> <li>• <b>The design and siting of golf courses, including associated facilities such as clubhouses, should be sympathetic in scale and design to the character of the area.</b></li> <li>• <b>The provision of short stretches of raised walkway over heathy/bogland areas may be necessary to prevent both soil erosion and loss of flora along upland footpaths.</b></li> <li>• <b>Habitat disturbance, disturbance to flora and fauna and increased litter levels should be monitored to ensure there are no detrimental effects to the character of the landscape and local habitats.</b></li> </ul>
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**6.7** *MINERAL RESOURCES*

County Clare has diverse mineral resources. Local building materials are evident in vernacular buildings and stone walls and this suggests that quarrying for rock was once important to the local economy. Extraction is on a relatively small scale and old workings such as those throughout the Burren have become an integral part of the landscape, contributing to historical and industrial character. This is also reflected in the well known flagstones of County Clare, with their meandering trail of animals that once moved across the carboniferous sea floor. These are still being used today in walls and floor tiles.

More recently, however, some quarries have been subject to greater levels of extraction, which in turn is already beginning to have a significant impact on the character and quality of the local landscape. For example, as you approach Corrofin from Ennis, extraction from a quarry on the road margin is beginning to degrade the landscape, local roads and hedgerows. In the vicinity of Broadford there a series of disused slate quarries within the Broadford Formation, which are visually obtrusive.

Extraction of metallic deposits has ceased throughout the county. During the nineteenth century, however, the principal metals produced from metallic deposits in County Clare were silver, lead and copper. Silver and lead were produced at Ballyvergin (6km northwest of Tulla) between 1859 and 1860, lead was produced at Carahan (7km west of Tulla) up until the late 1800s and at Ballyhickey (3km north of Quin) between 1838 and 1846. Crowhill and Kilbreckan were mined for galena and sphalerite. Disused copper mines exist at Ballyvergin, Maghera and Shannaknock. The first recorded zinc producing site was recorded at Milltown 2.5km from Tulla. Gold deposits can be found in the Broadford vicinity near Kilbane and Oatfield. The numerous slate quarries that used to operate around Broadford have also ceased production.

Today there are four quarries still extracting limestone throughout the county, in the townlands of Fortrane More outside Tulla, Balyneillan and Ballybrody near Ennis and Bunratty West near Shannon. Namurian sandstone is currently being extracted southwest of Ennis, at Lismulbreeda for road surfacing material.

A summary of the key issues associated with mineral extraction is provided in *Table 6.7a*, whilst broad guidance is provided in *Table 6.7b*.

*Table 6.7a* **Summary of Key Extraction Issues**

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| <ul style="list-style-type: none"><li>• <b>The visual impact of quarries in upland locations and associated infrastructure requirements.</b></li></ul> |
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Table 6.7b *Broad Landscape Guidance for Mineral Extraction*

<p><i>Mineral Extraction</i></p> <ul style="list-style-type: none"><li>• <b>The diverse landscapes of Clare provide opportunities for screening quarries, particularly if they are small scale and in sheltered locations.</b></li><li>• <b>Heritage, nature conservation and earth science interest should be conserved by sensitive design and extraction.</b></li><li>• <b>Large-scale quarries should be sited where they are screened from principal viewpoints, public roads and local communities.</b></li><li>• <b>Phased restoration of active workings and expired workings will lessen or obviate long term impacts and may result in visual improvements.</b></li></ul>
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6.7.1 *Conclusion*

Throughout this study numerous forces for change have emerged, particularly from public consultation, fieldwork and the historical review of the landscape. Of the pressures identified, agricultural decline emerged as an issue of primary concern, combined with a number of other driving forces including forestry, siting of houses and inconsistent planning. These key pressures facing the landscape and inhabitants of Clare have been traced from investigating the change in the landscape from historic times to current uses. The study should therefore provide a baseline against which change can be gauged and monitored.

