

2 THE EVOLUTION OF THE MONAGHAN LANDSCAPE

2.1 Introduction

In order to understand the landscapes within Monaghan, it is necessary to outline the physical and historical influences that have shaped the various types of landscape that we see today.

The present day landscape form and pattern has developed over time and is a function of a range of physical characteristics and physical processes. These include solid geology, glacial processes, soil formation, hydrology, ecology and finally human activity. Human activity and settlement patterns are evident on the landscape and are distributed geographically based on a range of natural resources available for use by man (soil, water) and on feasibility of access as determined by topography.

Human habitation has been the most recent force effecting change to the landscape and in many ways it has been the most profound. Patterns of land ownership, settlement development, agricultural and ritual activities have all been modified in response to local variations of biotic and abiotic elements and constraints. A description of the physical landscape of Monaghan is presented below and is followed by an overview and analysis of human activities occurring within from prehistoric to contemporary times.

2.2 Physical Influences - Geology

The geology of Monaghan is part evident in the physical characteristics that we see in the County today. These principal physical characteristics include the drumlin hills and the lakes. The drumlins were formed in the last ice age (the Midlandian Cold Stage 75 – 10,000 years ago). Drumlin hills formed on high ground comprise deposits of till which were moulded by glaciation to give rise to the characteristic 'basket of eggs' topography. Drumlin hills formed on low ground are rich in clay and were deposited under heavy ice pressures. As a result the till is very dense and water cannot percolate through very easily. Hence the land is wet and difficult to drain. The combined effect of ice pressure and poor drainage has given rise to the numerous lakes in the County, particularly in the central and southern parts of the County.

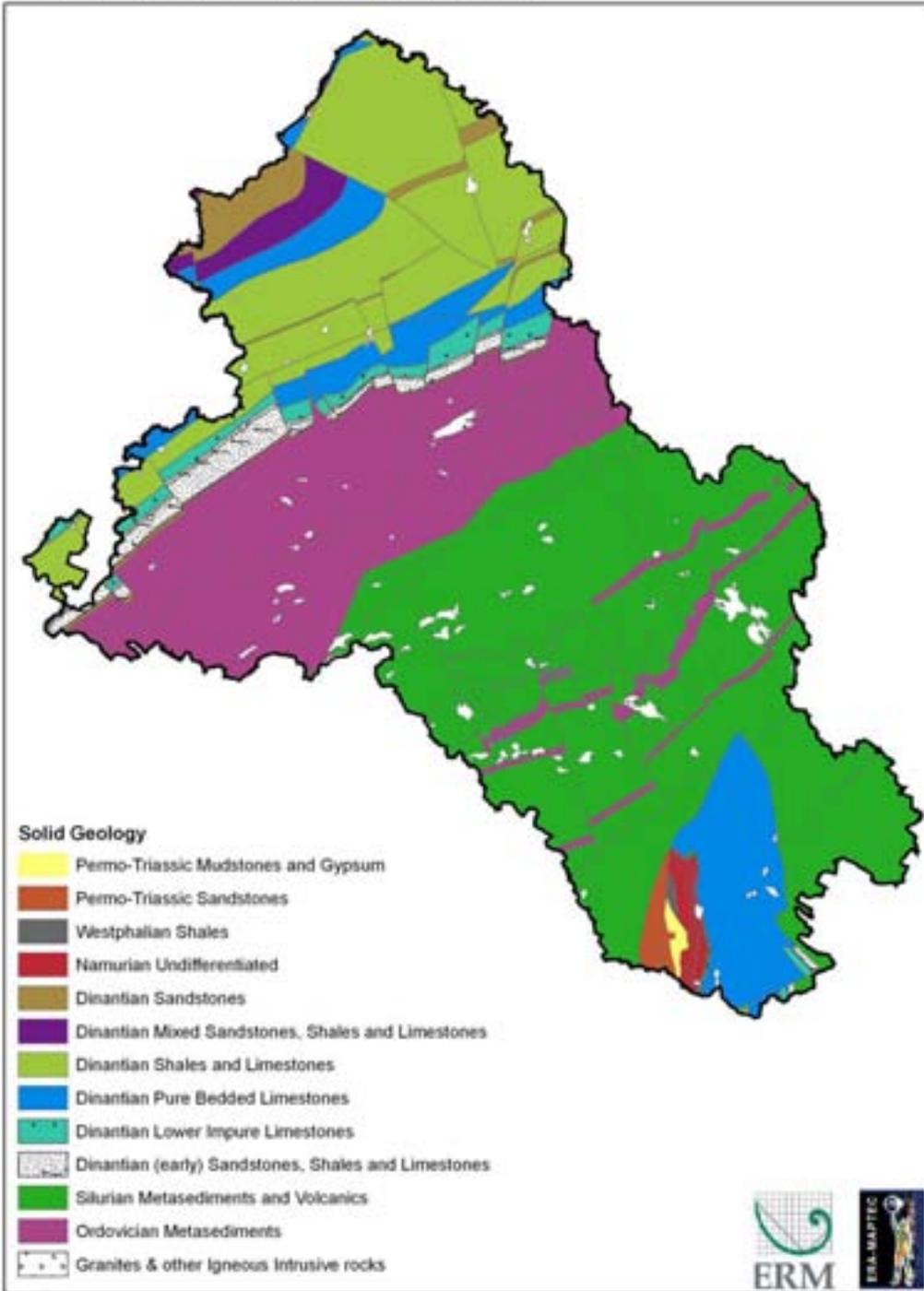
2.2.1 Bedrock Geology

The bedrock geology of the County varies greatly. The diverse range of rock types were formed prior to the glacial period outlined above. These are largely masked from view by the glacial features already described which are, the defining features geologically that influence landscape character.

The principal rock types of County Monaghan are illustrated in *Figure 2a :Solid Geology*.

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FIGURE 2a: Solid Geology (Geological Survey Ireland)



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These rock types are aligned, as illustrated in the figure, in diagonally arranged bands which run in a south west to north east orientation. A significant diagonal line of the same orientation can be identified across the County and intersects Clones in the South West and Monaghan town in the North East. This line separates the two principal rock groups, namely the Lower Carboniferous (290 – 355 million years old) which are located in the Northern half of the County (north of this line) and the Lower Palaeozoic (430-570 million years old) which are located south of this line. The principal rock types and processes which influenced the shaping of Monaghan are thus outlined chronologically from youngest rock types to oldest rock types. This chronology is summarised in the table below.

Era	Period	Summary of events
Cenozoic	Quaternary 1.6 million years ago	Spread of vegetation. Arrival of man. Series of Ice ages.
	Tertiary 65 million years ago	Erosion. Final stages of opening of North Atlantic Ocean. Volcanoes in NE Ireland, intrusion of central complexes.
Mesozoic	Cretaceous 135 million years ago	Erosion. Possible incursion of 'chalk' sea.
	Jurassic 205 million years ago	North Atlantic Ocean starts to open. Uplift and erosion. Irish Sea and Celtic Sea basins develop east and south of Ireland.
	Triassic 250 million years ago	Active faulting. Erosion and deposition under desert conditions. Hypersaline conditions in NE Ireland
Upper Palaeozoic	Permian 290 million years ago	Active faulting. Erosion and deposition under desert conditions. Hypersaline conditions in NE Ireland
	Carboniferous 355 million years ago	Land progressively submerged. Coastal plain, nearshore deposition of sand and mud is followed by limestone deposition in shallow tropical seas. Land builds out, deltaic sands and muds deposited under often swampy conditions. Mountain building.
	Devonian 410 million years ago	Continued mountain building, rapid erosion and deposition under semi desert conditions. Intrusion of Newry and Crossdoney granites.
Lower Palaeozoic	Silurian 438 million years ago	Ocean floor pelagite and turbidite deposition. Closure of lapetus Ocean, continental collision and initiation of mountain building.
	Ordovician 510 million years ago	Ocean floor/margin pelagite and turbidite deposition, localised volcanism and possible volcanic arc magmatism.
	Cambrian 570 million years ago	Greywacke and quartzite deposition in basin following continental rifting. Generation of oceanic crust in newly formed lapetus Ocean.

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The complex geological mapping is interpreted in broad terms in *Figure 2b: Geological Landscape Types*.



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The northern half of the county features limestones and an area of sandstone which specifically underlies the bog areas associated with Sliabh Beagh. Much of the rock types which underlie the southern part of the county are classified as metasediments. Essentially these represent a range of rock types which were laid down as sediment particles in a time when Ireland was submerged in ocean waters. These sediments deposited out of the water forming layers of material which later became subjected to heat and pressure defined geologically as a 'metamorphic process' associated with mountain building, or specifically the uplifting of the upland ridgelines associated with County Monaghan. During this metamorphic process, the sedimentary rocks underwent chemical changes culminating in the varying types of metasediments.

The more detailed history of the county's geology is presented below

Lower Palaeozoic Rocks

The Lower Palaeozoic rocks form part of a stretch of rocks that extend well beyond the boundaries of Monaghan. These extend from the County Down coast to County Longford and have become known geologically as the '*Longford Down Inlier*'. These rocks are a series of sandstones, siltstones and shales with small amounts of volcanic tuffs and lavas. These collectively form part of a similar belt of rocks that are associated with the Southern Uplands of Scotland and indeed share the same alignment being oriented diagonally from the South West to the North East. The formation of the Longford Down Inlier is associated with the joining up of two continental landmasses, each of which held separate northern and southern halves of the Country of Ireland. The merging of these landmasses involved the closure of the Iapetus Ocean and the unification of Ireland. The suture arising from the joining of these landmasses is believed to extend from County Louth in the North East to the Shannon estuary in the South West. This collision of landmasses not only destroyed an ocean but also caused the formation of mountains and ridgelines including the upland areas of Monaghan County associated with the Longford Down Inlier. The rocks of the Longford-Down inlier are deformed into tight isoclinal folds with associated strong cleavage, thrust faults and shear zones.

Upper Palaeozoic -Devonian

The closure of the Iapetus ocean gave rise to the formation of a new continent called Pangaea. Ireland and specifically County Monaghan was located in the equatorial latitude and climatically was a hot arid landscape subject to frequent flash flooding that swept debris down from the mountains onto the adjoining plains. This period of sediment deposition is represented by the Old Red Sandstones. Devonian rocks are not found within the county, but do occur just north of the county boundary.

Upper Palaeozoic – Carboniferous

During the Upper Palaeozoic, County Monaghan, together with the rest of Ireland was submerged by tropical seas and supported much tree growth. The Dinantian rocks were

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formed in the beginning of the Carboniferous period and arose or were laid down as sediments which deposited out of these tropical seas. Repeated regression and transgression of the sea gave rise rhythmic or cyclic sequences of repeated beds of limestone, sandstones and shales. These underlie a large area of low lying ground except in the north west corner of the County where the higher ground associated with the foothills of Sliabh Beagh is underlain by sandstones and conglomerates from the Upper Carboniferous period. These foothills descend rapidly to low lying ground reflecting some of the major faults in the County.

Later, conditions changed such that the entire Island was no longer completely submerged in water. During this time, The Namurian rock types were formed. These date back to the late Carboniferous period and took the form of deltas located between marine and land based environments. Fluctuating sea levels resulted in swamping of the abundant vegetation. The decay gave rise to organic rich layers which became buried and developed as coal seams. Some of these related rock types are located in a small area around Carrickmacross.

Upper Palaeozoic – Permian

The Permian rock types are associated with the Kingscourt Outlier and are located in the southern part of the County. Specifically these rocks comprise a narrow band of sandstones and shales which are located South of Carrickmacross. The whole of Northern Ireland at this time was a harsh arid desert environment. The Permian sediments, laid down at this time comprised angular conglomerate rock types.

Mesozoic – Triassic

The more recent Triassic rocks are aligned similarly to the Permian Rock Types and are a part of this same Kingscourt Outlier, albeit younger in age. These comprise mudstones and shales. During this time, Ireland was an arid environment which was later to become inundated by water again in the later Cretaceous period. High evaporation during the later part of the Triassic period gave rise to the deposition of gypsum which is now mined near Kingscourt.

Mesozoic – Jurassic

Formation of the Irish Sea took place during this period and ocean waters gradually encroached into County Monaghan generally. Further deposition of sandstone and limestone rocks occurred at this time. None of these rocks are now present, having been removed by subsequent erosion.

Mesozoic – Cretaceous

This period is associated with the formation of large chalk deposits throughout the Island of Ireland although those associated with County Monaghan are been completely eroded away.

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Cenozoic – Tertiary

This period is marked by the formation of the Atlantic Ocean and widespread igneous activity in Britain and Ireland generally. Continental rifting gave rise to widespread igneous activity which is mainly manifest in the flood basalts of Antrim and the Giant's Causeway. The only Tertiary rocks in County Monaghan are dolerite dykes within the Longford Down inlier. These may have been feeders of now eroded flood basalts in this area.

Cenozoic – Quaternary

This is the most recent period in geological history and is characterised by a series of alternating glacial and interglacial periods during which ice sheets grew and decayed due to varying climates. Later during this period, a relatively warm post glacial climate developed that is similar to that of today. During the glacial periods, Ireland was almost fully covered in ice. The Northern Ice Dome covered Monaghan and Northern Ireland. This ice sheet was not stagnant. Ice flowed out from the centre of the dome under the influence of gravity. As this ice moved, remnants of rock were ripped out and incorporated into the moving ice flow. These scoured and shaped the County's landscape. Other material eroded and transported by the ice was subsequently deposited elsewhere. These subglacial deposits feature in the Monaghan landscape as drumlins. Typically the inter drumlin zones contain glacial till and are poorly drained hence the formation of the lakes.

The later milder period saw the formation of blanket bogs in the upland area of Sliabh Beagh. Poor drainage facilitated the build up of oxygen starved biomass in a partly decomposed state. The formation of the bogs is believed to have commenced 4000 years ago.

2.2.2 Effects of Glaciation – Drift Geology and Surface Geology

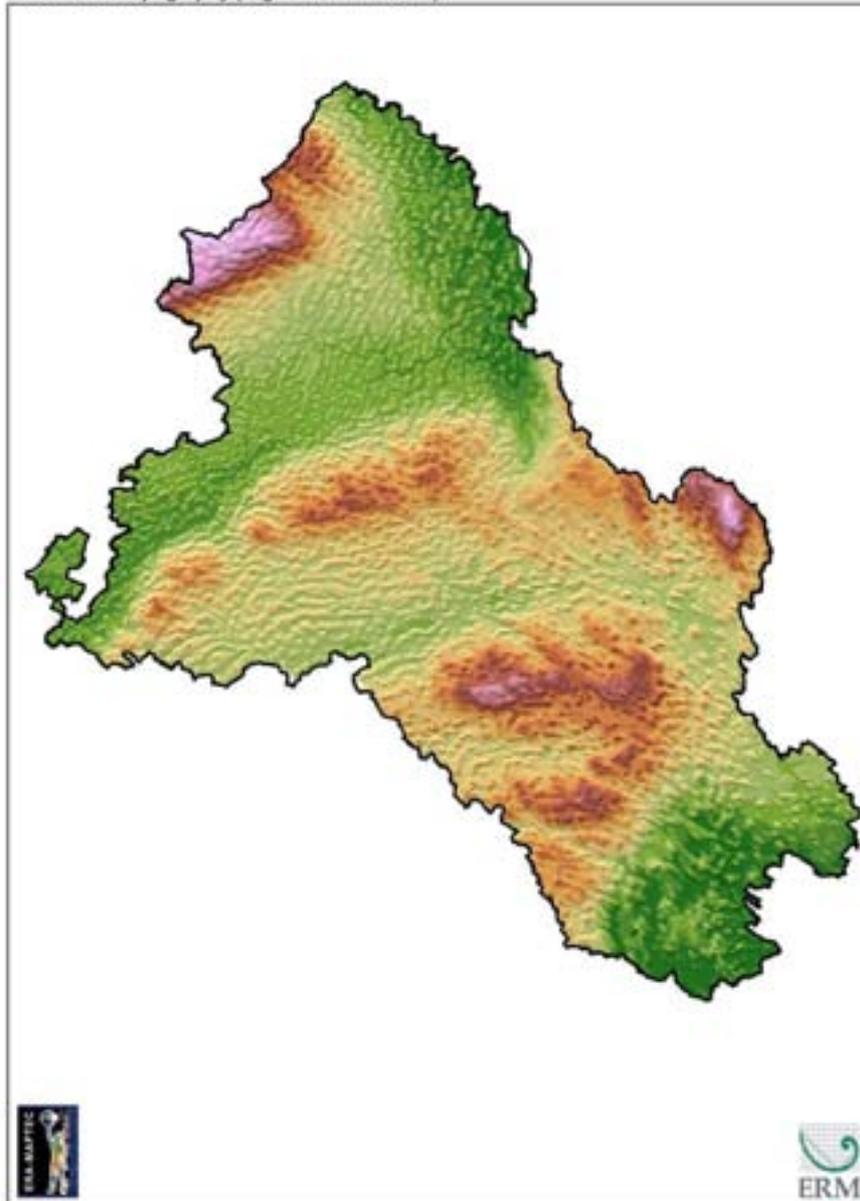
The Quaternary period is estimated to have commenced approximately 1.6million years ago and is characterised climatically by a series of ice ages followed by a temperate period. Other principal events include the spread of vegetation and the arrival of man. The Quaternary period is subdivided into the glacial Pleistocene Period (1.8 million to 10,000 years ago) and the Holocene Period (covers the last 10,000 years).

Ireland has experienced repeated glaciations during the Pleistocene Period for which vast amounts of material were deposited on the landscape generally from the glacial meltwaters. During the Holocene, marine, fluvial, aeolian and mass movement processes combined with human activities, climate and sea level changes have modified the appearance of the landscape. The clearest imprint on the Monaghan landscape derived from this period is the extensive drumlin swarms that developed over thick till in a time known as the 'Drumlin Readvance'. In the context of landscape character, these glacial landforms are essentially fossil. Once damaged or destroyed, they cannot be replaced since the processes or process combinations that created them no longer exist. In the context of the County as a whole, these landforms represent a notable determinant of Landscape Character.

Chapter 2: The Evolution of the Monaghan Landscape**2.2.3 Topography and Drainage**

Upland areas and hills within the County provide interest and contrast with the largely lowland areas. *Figure 3a: Topography* illustrates the landform of the County as evidenced from satellite photography.

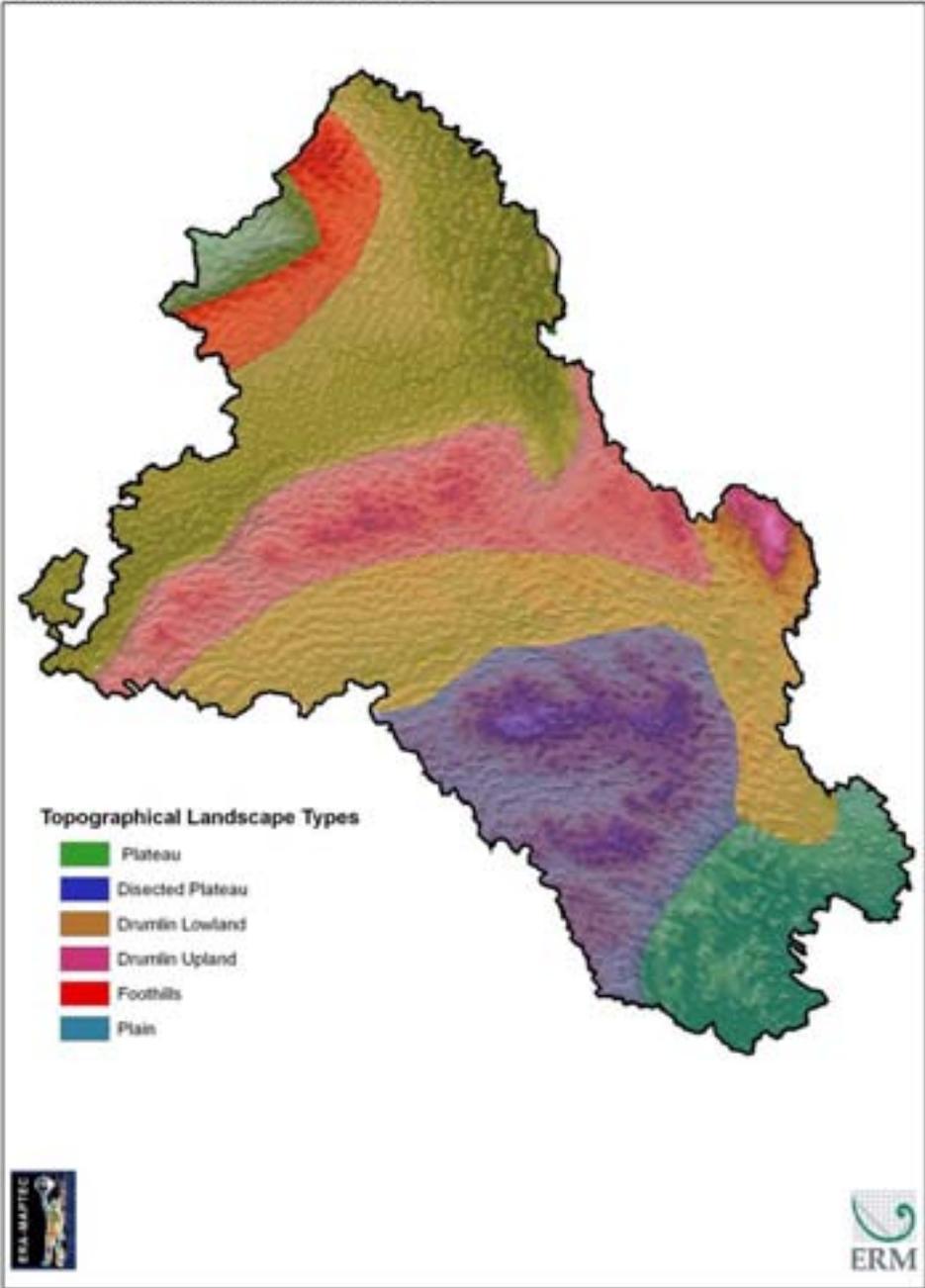
FIGURE 3a: Topography (Digital Terrain Model)



This is interpreted in terms of topographical landscape types as identified in *Figure 3b: Topographical Landscape Types*.

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FIGURE 3b: Topographical Landscape Types



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The upland areas of the County are concentrated in the north western and north eastern parts of the County and include the foothills to Sliabh Beagh, featuring the highest point at Eshbrack at approximately 365m OD. The sources of a number of rivers are located in this area and specifically that entitled Mountain Water flows eastward into the low lying farmland around Emyvale and Glaslough. Towards the eastern County boundary, Mullyash Mountain reaches a height of between 310 to 320 m OD and many streams are sourced from this area and flow southward towards the low lying lakelands of Castleblayney. Two large upland areas straddle the County. The first of these comprises an upland ridgeline located south of Monaghan Town. In the southern part of the County an upland dissected plateau is located. These upland areas are separated by a drumlin lowland which extends across the width of the County and comprises an extensive chain of loughs of varying sizes in the areas of Ballybay and Castleblayney. The southern part of the County comprises one of the most low lying farmland plains to occur in the study area.

Principal river systems include the Blackwater, on the north eastern County boundary and the River Fane, located in the low lying farmland to the South East.

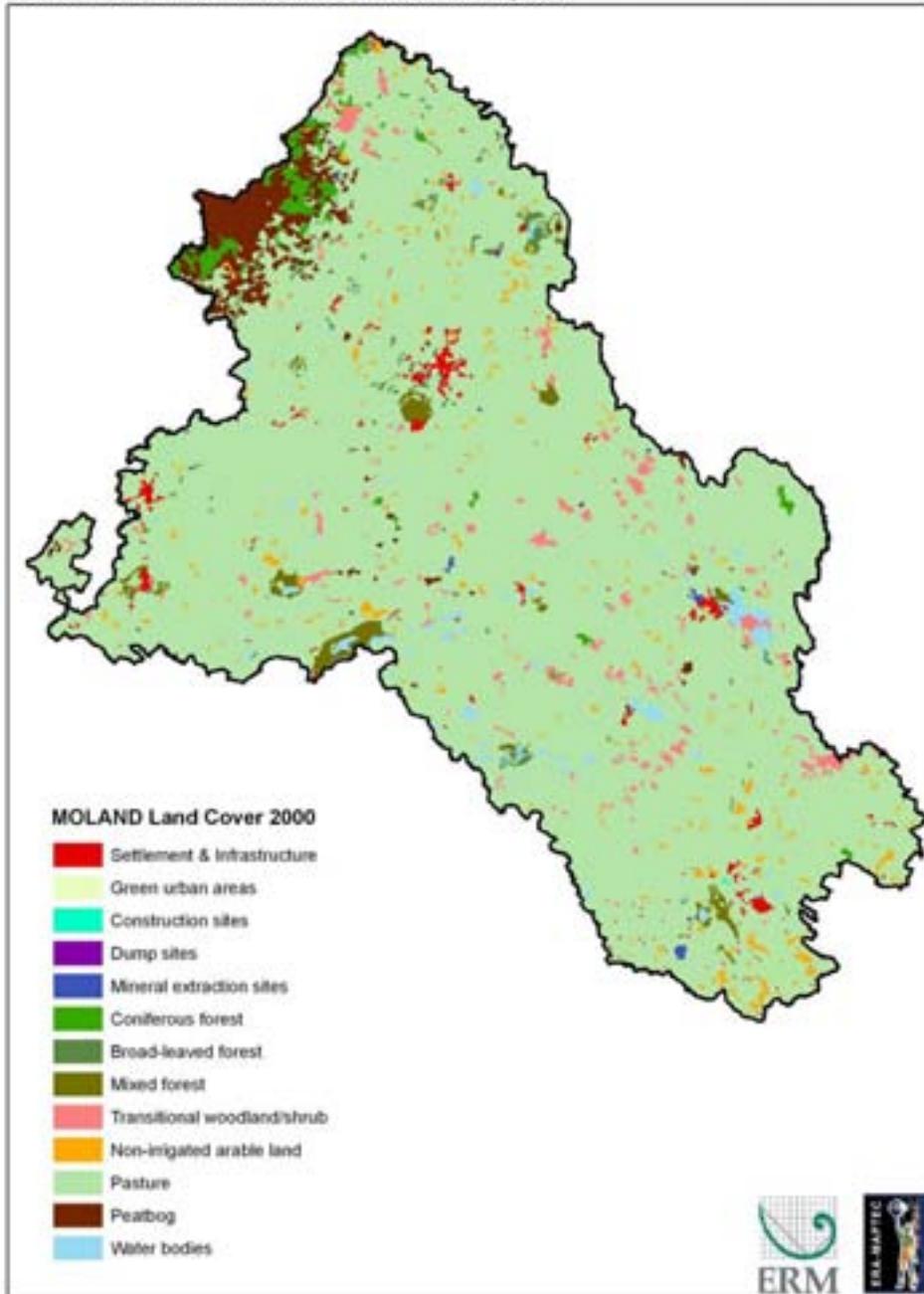
Lakes are abundant within the County, reflecting the poor drainage conditions in the inter drumlin hollows.

2.2.4 Landcover and Ecological Resources

Monaghan comprises a mosaic of vegetation and habitat types that have evolved in response to the underlying surface geology, topography, soil and human activities. *Figure 4a: Landuse – MOLAND Land Cover Survey 2000* illustrates the principal landcover types occurring within the County. According to this data, the predominant land cover within the County is grassland utilised for agricultural pasture.

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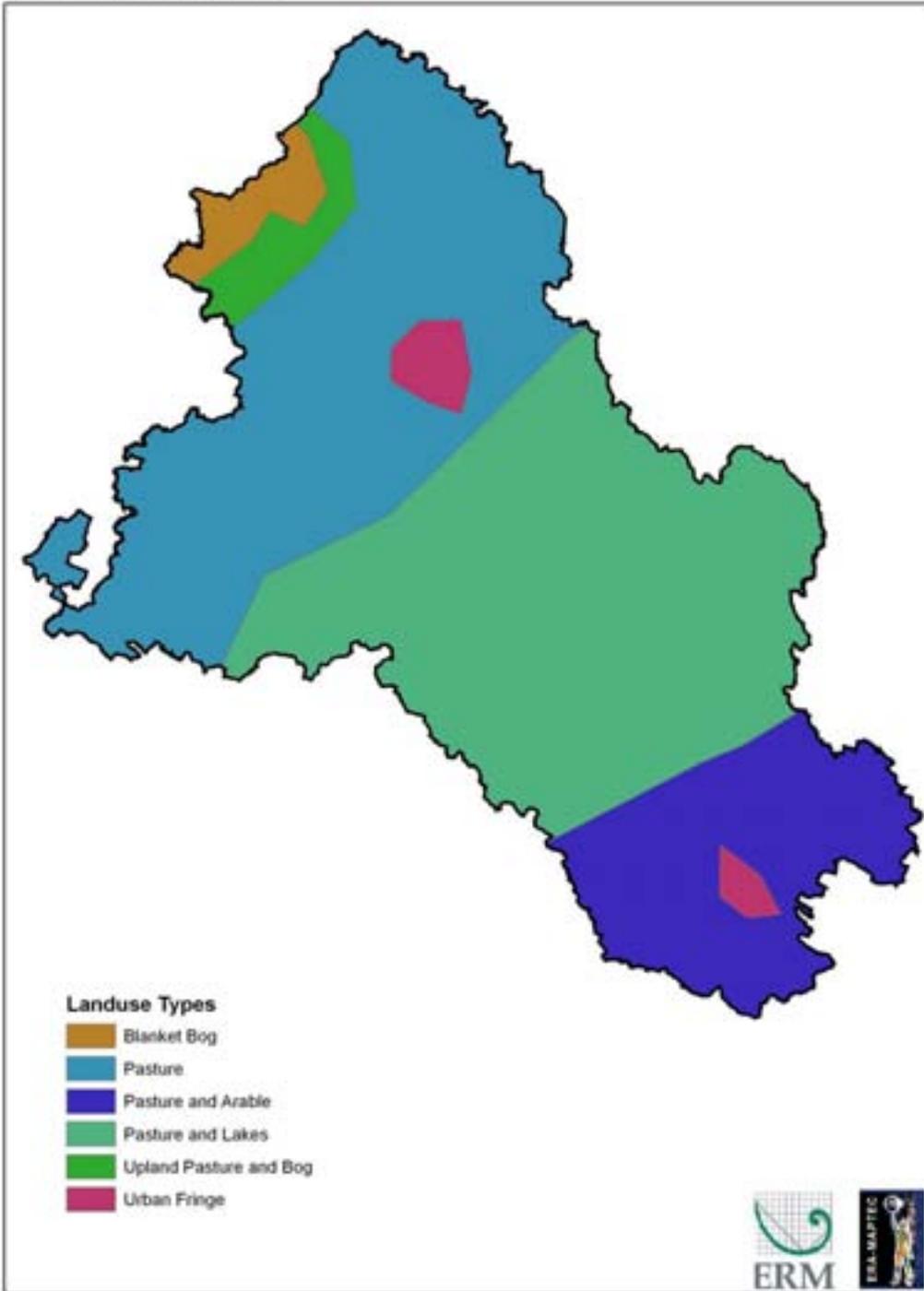
FIGURE 4a: Landuse - MOLAND Land Cover Survey 2000



An interpretation of this landuse mapping is provided in *Figure 4b: Landuse Types*. This figure illustrates, in broad terms, the landuse or Landcover types. Pastoral landuses feature throughout the county although this landuse is combined with some tillage in the southern part of the County and with a proliferation of lakes across the middle of the County. The northern part of the County is dominated by pasture with the exception of the large area of blanket bog associated with Sliabh Beagh.

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FIGURE 4b: Landuse Types



In terms of ecological resources, the principal pastoral landuse presents generally as a mosaic of improved grassland subdivided into fields of variable size and pattern by hedgerows comprising largely native species. Low lying agricultural or pastoral lands feature

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a range of wetland grass species. The many lakes comprise species rich habitats and these are frequent throughout the County. A number of these are now classified as proposed Natural Heritage Areas (pNHA) in recognition of the ecology that they support. The natural heritage designations are illustrated in *Figure 5a: Ecological Designations* presented overleaf. Areas of Primary and Secondary Amenity and scenic routes are illustrated in *Figure 5b: Landscape Designations* presented overleaf.

FIGURE 5a: Ecological Designations

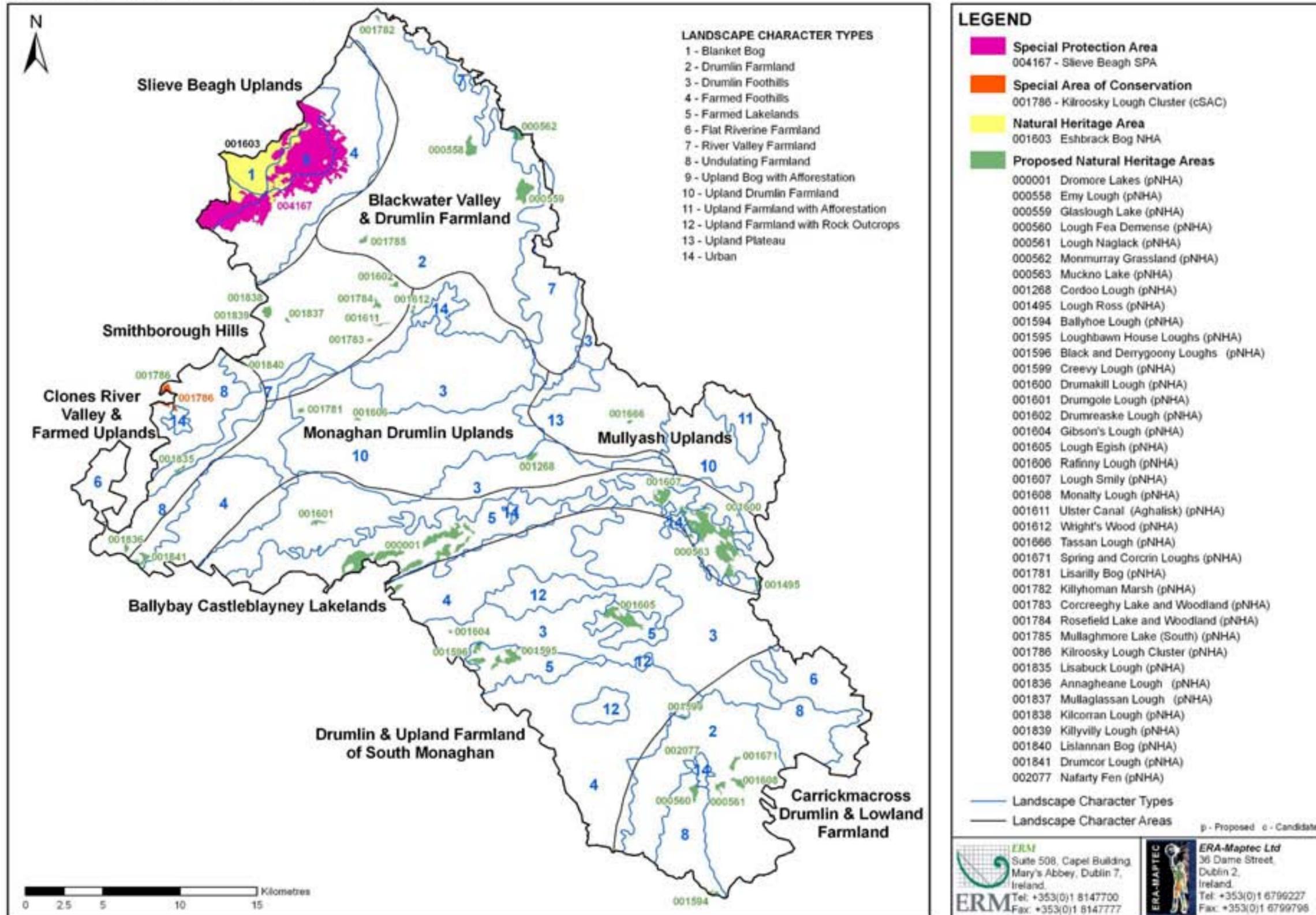
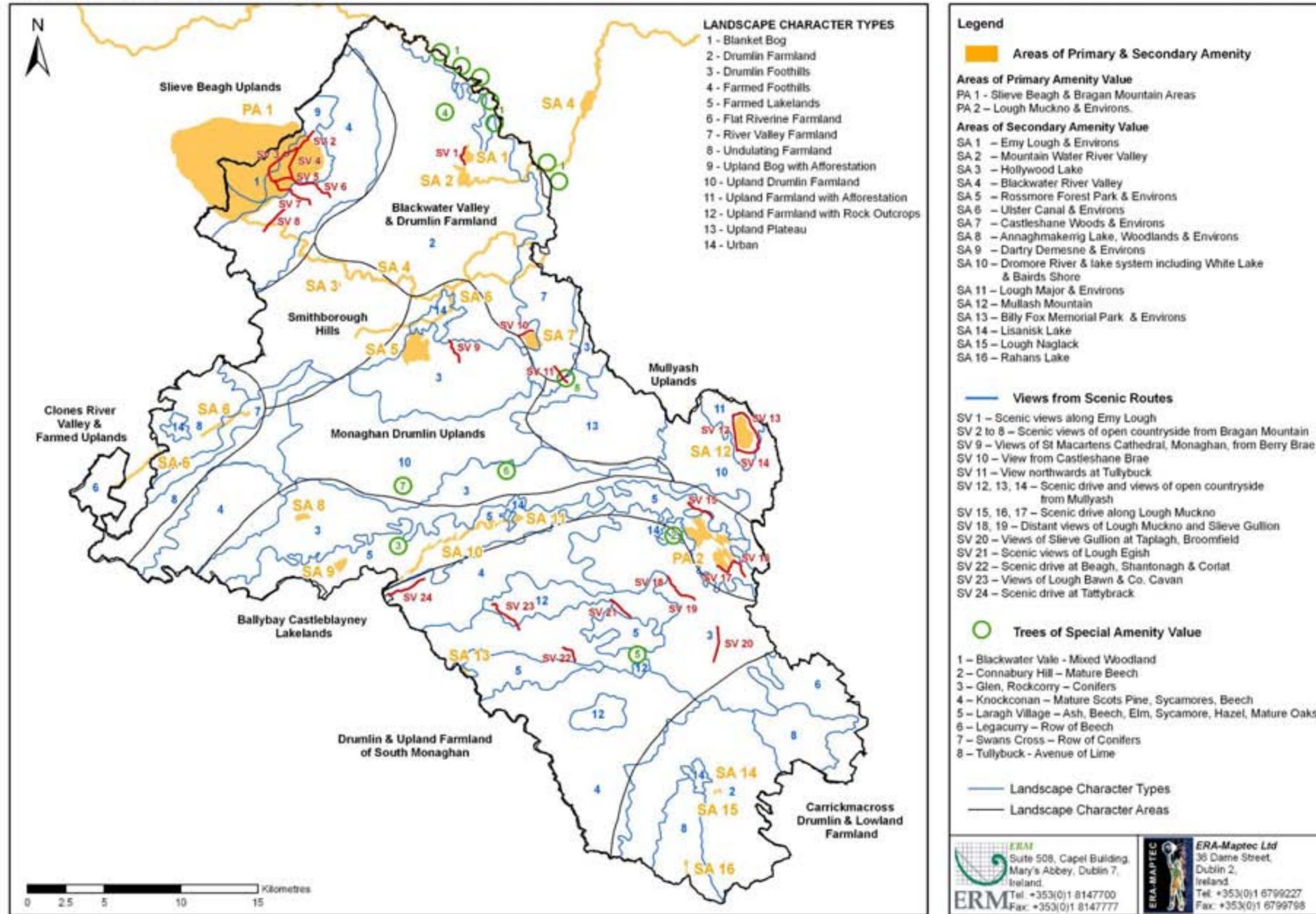


FIGURE 5b: Landscape Designations



2.3 Human Influences

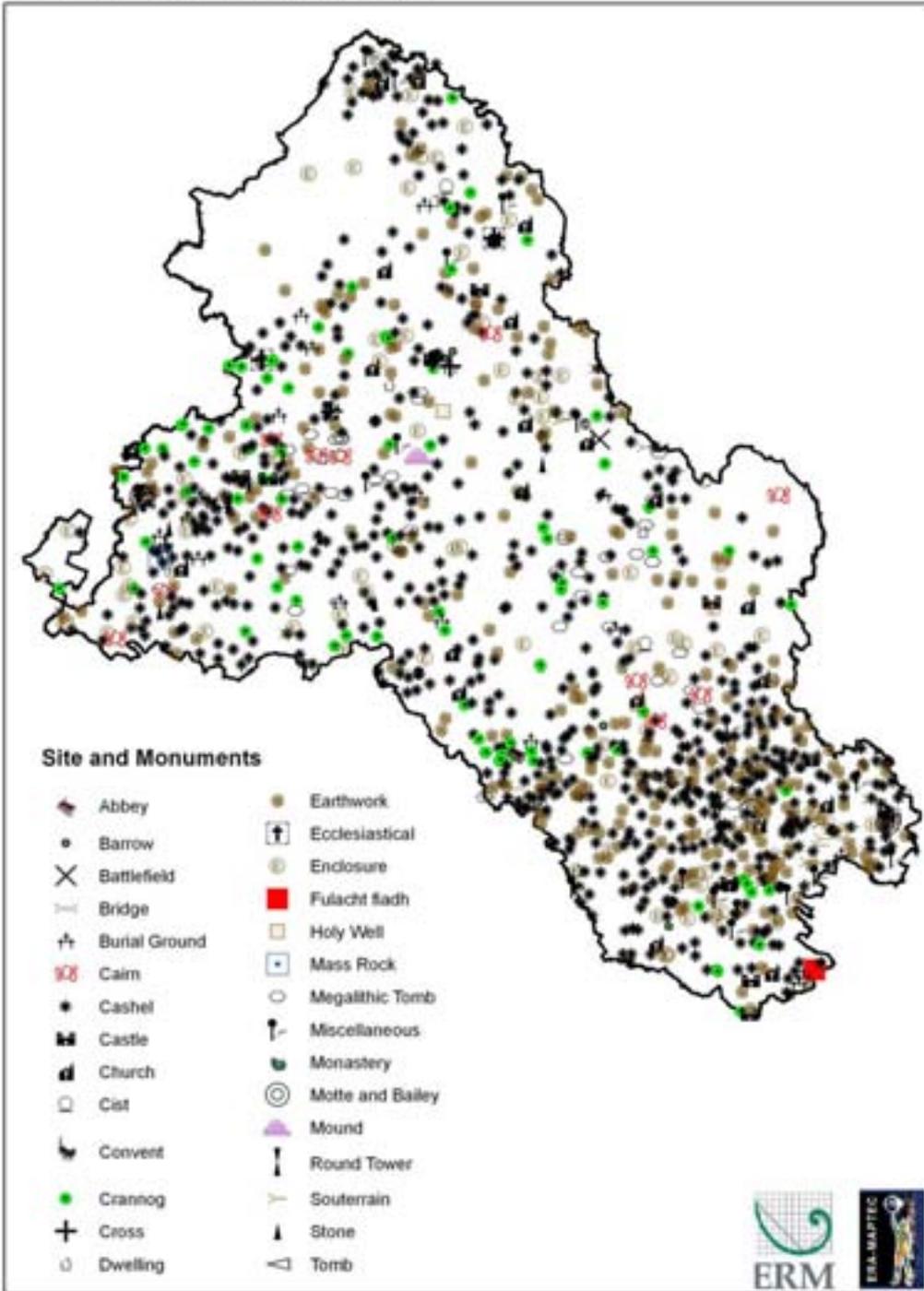
2.3.1 Overview

Since the Neolithic period each successive generation has left an imprint on the landscape in the form of settlements, enclosures, farms, fortifications, ritual sites or communication routes. Figure 6 illustrates the locations of these features interpreted from the sites and monuments records for the County. However, some events and settlers left a stronger, more durable imprint than others. For example, Neolithic settlers, who farmed the pastures and cleared forests have left no evidence of their dwellings but their ritual activities have left enduring landscape features in the form of megalithic tombs scattered around the County.

In this section, an overview is provided of past human activity in Monaghan, the influence of past practices on the landscape and the extent to which archaeological and historic elements survive in, or influence, the modern landscape. The extent and location of the diverse range of man made features is illustrated in *Figure 6: Recorded sites and monuments*.

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FIGURE 6: Recorded Sites and Monuments



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2.3.2 Prehistoric Monaghan

With the improvements in climatic conditions around 8,500 BC, glacial sheets retreated, and early vegetation began to pioneer across the glaciated landscape. Pine forests grew upon the higher ground and elm and hazel developed in the lowlands. The drumlin belt that runs in a south easterly direction, following the ice sheets provided a barrier to easy travelling; the opportunities offered by this landform was taken advantage of further by the later construction in the Iron Age of the Black Pigs Dyke, part of which runs through County Monaghan.

Evidence of Mesolithic settlement is not apparent yet in the County, however, by 3000BC, in the Neolithic period, outcrops of porcellanite were exploited in Cushendall, County Antrim and axes composed of this have been found throughout north east Ireland, including Monaghan. The most enduring features of prehistoric times are the ritual sites constructed to honour the dead, frequently called Giant's Graves or Finn Mac Cool's graves in Monaghan.

Neolithic (6,000 to 2,000BC)

Neolithic farmers usually used mud and timber for their everyday dwellings, hence little evidence remains of these structures. Generally, settlement was concentrated close to freshwater or coastal sites. However, Neolithic communities expended considerable energy and manpower on their ritual sites; these sites, in the form of megalithic tombs remain a powerful landscape feature, frequently located at elevated sites commanding wide views over the surrounding countryside. In all, 34 megalithic tombs have been identified in the County, though several of these have been partially destroyed or damaged over the subsequent five thousand years (OPW, 1986).

These tombs take a variety of forms including court tombs, passage tombs, cairns and wedge tombs. As a general rule, court tombs are the earliest type, and are usually covered with a cairn that tapers from front to rear. Cluster of court tombs are distributed within the County. Of these, the Three Mile House-Corcaghan-Newbliss area was the most populated area, with six tombs found within a few kilometres of each other (Livingstone, 1980).

Passage tombs generally date from 2,500 BC and are frequently located on hilltops. Commonly they contain burial chambers of cruciform shape deep inside a mound or cairn and accessed by a passage way. Portal tombs became more common in the late Neolithic period, with an impressive entrance and single chamber, they are usually set into the end of an earthen barrow.

Mullyash Cairn, located on the summit of Mullyash Mountain represents evidence of human settlement in this area dating back to around 4,000BC. Whilst this area is now planted with extensive coniferous forest, previously the site commanded extensive views over Monaghan, Armagh and Tyrone. This remarkably well preserved site with a clearly defined perimeter constructed in a manner called revette (similar to dry stone walling) is approximately 16m wide and 1.85 m high. A depression in the cairn has led to suggestions that a passageway and tomb may be enclosed within (Cunningham and McGinn, 2001).

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Wedge tombs are late Neolithic early Bronze Age and their main distribution is on high pasture land, commonly on limestone or sandstones. In contrast to the northerly predominance of court tombs, wedge tombs are strongly associated with the south of the country. Doubtless, the wedge tomb people travelled north but there are few wedge tombs in the County, with the exception of a site at the southern tip of the County, at Lisnadarragh.

Bronze Age (2,000 to 500BC)

By 2,500BC the first metals were introduced to Ireland and what is now called the Bronze Age era commenced. The use of metal over stone provided considerable technological advantages and assisted the farmers in improving control over their environment, by facilitating more extensive farming practices and forestry clearances. The nature of ritual activity also altered during this period, with burial sites composed of simplified structures compared to the Neolithic period. Frequently, these consisted of a cist or box-like grave, covered with a slab. On the basis of extant sites, the Lough Egish area was most heavily settled by Bronze Age people.

Monaghan contains a significant site of bronze age rock art, in the townland of Deerpark at Drumirril where approximately seventy examples can be found on around five rock outcrops. Whilst their distribution shares a similar pattern to that of passage tombs (ie: an eastern pattern found on elevated sites), the function of this art is more enigmatic. The most common motif is the cup and ring and surfaces with this motif (often exploiting a natural solution pit in the rock) frequently occur where copper or gold was mined. Gold has been rediscovered at nearby Clontibret and it is possible that gold mining occurred at Clontibret 3,000 to 2,5000 years ago. Another example of rock art, a cup marked stone found at Miskish More in the north east of the County now resides at the National Museum.

Standing stones are another feature of the Bronze Age, though their excavations have found a variety of functions – some uncovering burials, whilst others may have functioned as route markers or the remains of a megalith. Nine standing stone sites have been identified in the County though not all are visible (ibid).

The late Bronze Age is characterised by increased deposition of hoards and this may represent a general response to climatic deterioration in the latter half of the second millennium. During this period, climate change and the impacts of farming are believed to have been partially responsible for the development and spread of blanket bog; tree regeneration was hampered by farming practices and soils became wetter, less well drained and more conducive to peat creation.

Iron Age (500 BC to 500AD)

Iron is more prone to rust than bronze, therefore fewer artefacts have been found from this period. However within the County, the Black Pigs Dyke remains a significant landscape feature. Remains of the Dyke from the Iron Age can be seen in Leitrim, Monaghan and South Donegal. Interestingly, the section known as the Dorsey in South Armagh may have

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been an approved crossing place as the name derives from the gaelic 'doirse' (doors) (O'Broin 1995). It is thought that the Dorsey was built when the Ulster kingdom was at its strongest around 100BC and Dorsey functioned as a frontier post to the kingdom, of which Emain Macha (Navan Fort in Co Armagh) was its capital. Later when the kingdom was threatened from Connaught, the Dorsey was incorporated into a more extensive defence called the Black Pigs Dyke. However, there remains uncertainty as to whether Black Pigs Dyke was one continuous defensive line or a series of local defences. Nonetheless, the dyke remains a significant feature within the County, around the Finn River, Corrinshigo, Lough Egish and Shantonagh areas, whilst Lough Muckno has been interpreted as part of the general fortification (Livingstone, 1980).

Hillforts are most commonly associated with the Iron Age, however these are more prevalent in southern parts of Ireland. The archaeological inventory only cites one confirmed hillfort, at Raferagh.

Ptomelys Geography of Ireland is the earliest source on the island, written by an Alexandrian geographer in AD 100. Emain Macha remains the settling of much of the activity from the early Irish sagas. Numerous explanations and names have been given to the inhabitants of Ireland around this period, the best know being the Fir Bolg, and the Tuatha de Dannan. The Ebdani may have been the tribe located around Monaghan in this period, and their artefacts suggest a heavy Le Tene (Celtic) influence. However, little else is known about these people (Duffy, 2000).

2.3.3 Early Historic (c. 500–1170s)

The introduction of Christianity by St. Patrick in the fifth century brought significant change and one of the major developments was the introduction of the written word. The earliest writing in Ireland probably began around 300 AD with the Ogham alphabet, after Ogmios the Celtic god of writing. Of the three hundred Ogham stones in Ireland, there is little evidence of any such structures in Monaghan.

The introduction of Christianity also facilitated closer contacts with the Roman world, easing the transfer and spread of technologies including new ploughs and the horizontal mill. These technologies improved agricultural productivity and encouraged population increases. Pollen analysis has demonstrated a large upsurge in grasses and weeds associated with pasture and arable production (Aalen et al, 1997). Population expansion led to the on-going construction of ringforts and raths. Crannogs were broadly contemporary with ringforts and raths, occupying semi-artificial islands of timber, sods and stones.

Crannogs are numerous throughout the County, due to the prevalence of wet bogs, and small lakes captured between the drumlins. In total, 74 are confirmed in the archaeological inventory of the County, with four alone in Drumreaske Lough. Commonly, animal bones, charcoal and piles are identified in these sites. One of the crannogs in Lough Oony, is referenced in the Annals of Ulster in 719AD and seems to have been the headquarters of the Fir Fernmaiges for centuries. Other significant crannogs (inhabited by important powerful people) include the original site of the MacMahon dynasty at Loughleck, near Corcaghan.

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Raths or ringforts are the most common field monuments in Ireland and Monaghan is no exception. They were built primarily to house a farming family and some livestock. Virtually every townland contains a rath and indeed the origins of many townlands may derive from these sites. In Monaghan, there are over 600 ringforts confirmed in the archaeological inventory. Whilst the building of a ringfort on an elevated site, frequently confers strategic significance elsewhere in Ireland, in Monaghan this was common simply due to the density of drumlins and small hills. There are a number of names for raths including lios, dun, rath, caiseal and cathair. 87 townlands in the County contain the word lios, the highest number in Ireland.

Some raths are particularly impressive, including An Dun Dubh at Tiravera, a local landmark, and Tullybryan, near Ballinode, a stronghold of the MacMahons.

Characteristic settlement patterns can also be identified from this period. Ringforts enclosed single farmsteads involved in pastoral production. Some crop growth took place and irregular field boundaries can sometimes be identified around ringforts and cashels.

A number of small religious enclosures built of earth or stone were established throughout the fifth and sixth centuries. A proportion of these developed into full scale monasteries, and as the foci of social organisation, became the sites of later towns and villages. A number of ecclesiastical enclosures and early Christian establishments are known in Monaghan, commonly sited in low lying areas, with access to strategic rivers or water bodies. Inis Caoin Dega (Iniskeen) on the Fane river, was established by Daig mac Carell who died in AD 578. It was burnt in AD 789, later plundered in AD 948 and subsequently attacked by the Danes on numerous occasions. An extant round tower (the only one in the County) built of limestone is about now 12.6 m high, having been reduced by a metre in the nineteenth century when it was reused as a belfry. This site was a parish church in medieval times and the nineteenth century Church of Ireland church may occupy the site of earlier churches suggesting a continuity of religious use in this site for several centuries. Local folklore attached to the tower tells the story of a women with three aprons full of stones who built the tower in one night and her footprint is alleged to be on the bed of the Fane river.

Of course, Monaghan also fell within the realm of influence of St Patrick so it is no surprise that a number of early Christian sites have patrician associations. Like other sites at this time, Armagh is close to the revered site of Emain Macha and suggest a deliberate policy of locating new Christian churches beside earlier pre Christian power bases.

Other sites within the County have associations with St Patrick. For example, the foundations of the church at Templetate (St Cillians, site only, no ruins remain) was founded by St Patrick or one of his followers; the church and cemetery at Donagh again had Patrician foundations and at Donaghmoynne (again site only, no ruins) the church was founded by Victor who was made its bishop by St Patrick. Other early Christian churches include that at Magheross, whose monastery was recorded as being burnt in AD685. A well known early Christian feature is Clones High Cross in Clones town. This cross came from an extensive area of early Christian activity, a sixth century monastery associated with St Tigernach.

2.3.4 Medieval Monaghan (c. 1200–1540)

The twelfth century saw the introduction of monastic orders from continental Europe. These orders were to have a significant impact on the organisation and management of the landscape within the County. The Cistercians were the first to arrive in Ireland and had established thirty-three monasteries by 1230. Cistercians played a significant role in agricultural development and divided monastic lands into farms or granges. They also modified the landscape considerably, clearing woodlands and reclaiming wetlands. Their preference for richer, freely draining soils better suited for cultivation remained throughout the Norman period.

Of all the pre-Norman monasteries in the County, only Clones monastery continued to function as a monastery in post-Norman times. The others, namely Muckno, Iniskeen and Drumsnat became the centres of new parishes. Clones was taken over by the Canons of St Augustine. The earliest recording of Monaghan town is in 1462, when the annals record that a Franciscan friary was erected here in the time of Felim Mac Mahon, lord of Oriel. It was destroyed in 1540 by the Lord Deputy (O'Duafaigh, 1999).

No discussion about Monaghan during this period is complete without reference to the Mac Mahons who were ascendant in the area from about 1250 until after 1600. They expanded after the Norman invasions and became the new lords of Airgialla or Oriel, supplanting the O'Carrolls. During this period, the Mac Mahons seem to have been almost constantly fighting with their neighbours - both Irish and Anglo-Norman, and indeed amongst various branches of the family themselves. Essentially, the Mac Mahons seized the opportunity presented by the Norman decimation of the O'Carrolls to seize the power vacuum left in their wake and the following centuries see a flux of consolidation and loss of lands by the Mac Mahons in Monaghan. They made agreements with the Normans as well as fighting with them. The King of England even wrote to them in 1244 seeking their assistance in dealing with Scotland.

The mottes and baileys constructed by the Normans are not a common feature within the Monaghan landscape, with only three recorded in the archaeological inventory (OPW, 1986). These are located at Candlefort (Iniskeen Motte), Crossmoyle (built 1212, burnt shortly thereafter) and Donaghmoynne (built by the Norman Pipard family around 1200, referred to as Mannan Castle in the Annals of Ulster in 1244).

2.3.5 Post-Medieval period (1540-1700)

Although the process of dividing Ireland into counties commenced after 1200AD, it was not completed until four hundred years later. In 1591, the Mac Mahons country was divided into five baronies of Monaghan, Trough, Dartree, Cremourne, Monaghan and Farney. Hugh O'Neill remained in power in the north of the country during the sixteenth century and Monaghan town and the garrison was taken by O'Neill and the English on a number of occasions. Two key episodes effectively terminated the Gaelic system of social organisation and rule - the Battle of Kinsale in 1601, where the Gaelic families were definitively defeated,

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and the Rebellion of 1641. In 1603, Brian Mac Hugh Og, the last MacMahon chieftain, surrendered to the determined Lord Deputy Mountjoy, concluding the Nine Years War.

The preceding years had interrupted the agricultural systems, and prevented administration of the County. The development of routes commenced properly post 1600 with the main road from Dublin to Monaghan through Ardee in County Louth, crossing the Glyde river at Aclint and reaching Carrickmacross. There were routes from Monaghan to Armagh, Dungannon and Clones. There were no towns per se in Monaghan in 1600, with the former centre of Monaghan town being described by a contemporary as not deserving the name of a good village (Livingstone, 1980). Clones, previously a thriving centre orientated around the monastery, was a deserted ruin. Carrickmacross had a few huts and the home of Ever MacMahon, whilst Castleblayney was at planning stage. It was developed a few years later as a village adjacent to Lough Muckno by Edward Blayney, the Governor of the County.

After all the turbulence, the question of land ownership in the County was settled in some detail in 1606, a year before the Flight of the Earls which had given the government the excuse to plant other neighbouring counties. However, the government hoped to achieve similar results in the settlement of Monaghan as they were to with the Ulster Plantation three years later. The principal was to grant large estates to a number of nobles, in Monaghan's case, mostly Mac Mahons. These would hold their estates in demesne and lease the remainder to freeholders. They would also built bawns and castles and supply a number of soldiers to the Government when required.

Effectively, many of the Mac Mahons retained ownership of much of their land in the period between 1606 to 1641 and remained principal landowners. The other key owners were the Earl of Essex (an absentee landlord) and Blayney who may be considered a planter in the tradition of the Ulster Planters – he was anxious to improve his land and repay his debts to the government and quickly built a large Bawn and planned the town of Castleblayney. The Mac Mahons were much less eager to fulfil their commitments and were unfamiliar with the English means of administration. What this meant was that speculators from the Pale increasingly bought lands in the County, being familiar with the English administration. By 1640, less than half of the County was in Irish ownership.

From the archaeological inventory, two castles are attributed to Edward Blayney - at Onomy and Rooskey. None of these structures exist, with the site only being identified. In all, eleven castles, bawns and one star shaped fort are confirmed for the County from this period, demonstrating the lack of active castle building by the Mac Mahons during this time.

As mentioned above, the second episode that finished Gaelic ownership in the County was the 1641 Rebellion. This objectives of the Rising was the dismantling of the Ulster Plantation, security in estates and the freedom for Catholic religion in Ireland. Monaghan played a central role in this rising, with two of its principal leaders Heber MacMahon and Colla MacBrian MacMahon from the County. Following the rising, famine and disease struck the country and with Cromwell arriving in Ireland in 1649, the end of the conflict saw virtually all of the remaining Gaelic nobles dead or fleeing the country, having lost all their lands. Following this period all the remaining land belonging to the Irish was confiscated. These

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lands were either given to existing settlers or to Cromwellian soldiers. Significant changes happened within each barony of the County.

However, Monaghan was never able to attract sufficient English settlers to fundamentally colonise the County, as had happened in adjacent counties, although in certain parts, such as the estate of Burnet of Ballyleck, large numbers were brought over, who reclaimed and cultivated soils and paid rents. The Monaghan landlords unlike the Ulster Plantation were not bound to introduce English tenants. However, after 1692, some of landlords made serious efforts to introduce English tenants. The success of this was uneven however, and with poor agricultural conditions and low cattle prices, the County was unattractive to many. By 1733, a census confirmed that only three eighths of the population were settlers. Hence in Monaghan, there is less evidence of 'Big Houses' and large scale improvements and demesne creation, as was noted in other parts of Ireland, particularly around the good limestone lands of the Golden Vale.

2.3.6 Eighteenth Century to Famine (1700 to 1840s)

As trade conditions improved in Ireland throughout the eighteenth century, driven in a large part by the increasing urban populations centred around the linen industry to the north and the expanding city of Dublin, land became more valuable as there was an increased demand for food to service these centres. As dairy markets improved, the cattle and sheep trade also improved, whilst arable production also increased significantly. Land that was formerly wasteground, or bog, was cleared and drained. By the 1740s, there was increased production of oats, barely, rye and wheat. The barony of Farney in particular benefited due to its limestone soils. Farney land was concentrated on crops and dairy, whilst the rest of the County started to increase flax and linen production to serve the booming linen markets in England. There were a number of improving landlords and agricultural improvements through improved drainage, application of lime and the provision of quicks for hedging were in evidence.

A number of skilled tradesmen were introduced to the County by enterprising landlords. Edward Lucas of Castleshane brought a colony of professional linen weavers to his estate in 1702 who taught locals the skills necessary. The physical environment of the County suited flax production with appropriate soils and plenty of water for scotching mills. The increased cash element in this economy meant that people working in this industry could pay their rents in cash, and contributed to a growth in several towns, and the establishment of new towns, such as Ballybay.

In addition to the agricultural improvements, and the emergence of a linen industry, all of which brought significant alterations to the landscape, this period saw an improvement in communications. Gradually a system of roads was constructed which linked towns, and allowed increased access to more remote areas. In turn this made areas possible to be converted from rough grazing to improved tillage and facilitated the development of a market economy with goods travelling between towns within the County and of course to the large urban centres both to the north and south. In conjunction with the agricultural improvements and the emerging linen industry, a number of estates saw landscape improvements

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fashionable with that era. Whilst the ancient woodlands of Monaghan were long gone by the early nineteenth century, demesne planting was carried out, some for agricultural purposes, others for the landscape benefits. The most significant woodlands were at Dawson Grove, Anketell Grove, Glaslough and Castleblayney.

With the economic prosperity, more farmers could negotiate their own leases with landlords, cutting out the middlemen. In turn, this era saw a swell in the ranks of cottiers and landless labourers who couldn't afford to rent land and worked for the farmers who had negotiated their own leases.

Within this period, in other parts of Ireland, estate towns and planned towns were developed. Some examples exist in Monaghan, including Newbliss, originally developed as a village for estate workers that is first mentioned as a town in 1789 (Livingstone, 1980).

2.3.7 Famine, Agricultural Reform

Population expansion combined with the proliferation of potato cropping up to 1815, was followed by a relatively abrupt depression, resulting from a variety of factors including the decline of agricultural prices and the collapse of the linen industry. This resulted in an explosion of shanty cabins on edges of towns with communities trying to eke out a living as they were increasingly pushed onto marginal land. All of these factors led to an over reliance on the lumper potato, combined with no contingency resources either socially or economically to address the series of wet summers and subsequent infection by blight and failure of the potato harvests. In 1841, the County's population was 200,407; a decade later this had dropped to 141,758, a decline of almost a third. Although the County suffered significantly and substantially, there were variations within the County. The west and south west suffered in particular and those whose crop was on the upland bogs actually suffered less than those on lower lying areas (Livingstone, 1980).

Villages that had previously prospered under the Linen industry were also badly affected, as by the time of the famine, they contained a large number of unemployed and landless people. Bellatrain, a formerly thriving village disappeared completely after the famine.

The policy approach to the famine was informed by an initial desire to rid the Irish agricultural system of its perceived backwardness and obstacles to agricultural modernisation. Hence, in particular, small farmers were targeted and through the ratings clauses, massive numbers of smallholders were evicted. This massive clearing of the land, combined with the introduction of ladder fields as a means to rationalise land ownership, removed many of the earlier field systems within the County. Accompanying developments that had a great landscape impact were the overwhelming increase in pasture at the expense of tillage and the consolidation of large scale farmers who tended to rent the better land, whilst the remaining farmers most frequently had to contend with producing on marginal land.

The thousands of famine victims were buried in the small famine graveyards that were established throughout the County and remain in the landscape as a poignant reminder of the suffering endured.

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Post famine

From 1848 onwards, emigration from the County continued toward Derry and then abroad. Between 10 and 11% of the population emigrated over the fifty year period from 1851 to 1911, with a total emigration figure of approximately 100,000 for this period in Monaghan (Duffy, 1997). In the aftermath of the famine, strong farmers and landlords increased their holdings at the expense of weaker neighbours, and the pastoral sector increased substantially, helped by the development of the railways and expanding English markets.

The Congested Districts Board (CDB) was established, in 1890, to relieve congestion and ameliorate poverty in the west of Ireland. However, the County was never identified as a congested district. What had a significant impact was the series of Land Acts introduced by the government to address the increasing nationalism and agitation for land rights.

Monaghan had a particularly high rate of land transfer under these acts, with over 70% of the total land acreage being bought by tenants under these acts in the period 1881-1909. When one considers that the ten biggest landlords in 1876 owned 47% of the land, with Evelyn Shirley and the Marquis of Bath being the largest, the change in landownership in such a short period is seismic. A combination of declining numbers of landlords, in large part due to the increasing assertion of agrarian rights and a less sympathetic governmental regime, resulted in many landlords transferring their land to former tenants with a consequent decline in the extent of many estate holdings.

2.3.8 Twentieth Century

The early years of the twentieth century again saw massive changes for the County. By 1923, Monaghan had become a border County once more, not with the English Pale but with the state of Northern Ireland. The twenties and thirties, with the economic war and declining agricultural prices contributed to ongoing emigration. There were some improvements - the introduction of electrification to rural areas and group water schemes had both social and landscape impacts in Monaghan, with significant improvements on the quality of life for rural householders, albeit generating impacts on the landscape as a result of the introduction of water treatment facilities, reservoirs and electricity poles and pylons.

Whilst the County retains a rural landscape, the pace of change over the past thirty years, in landscape and social terms, has been considerable. Although parts of the County are under development pressure in the form of housing requirements, other parts are suffering continuous population decline and associated loss of rural services. Human activities will continue to play the most influential role in landscape retention and change, whether through the continuation of agricultural decline, or the exploitation of natural resources such as quarrying or large infrastructure projects.