RPS

Survey and Mapping of Habitats in Mid Clare Survey Findings Report

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Survey & Mapping of Habitats In Mid Clare

Survey Findings Report

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Clare County Council in association with the Heritage Council, Clare Biodiversity and Clare Heritage Forum commissioned RPS to survey and map habitats within a designated study area of approximately 76.12km² in Mid Clare. The study excluded lands designated for nature conservation.

County Clare is rich in its diversity of wildlife and habitats; however little is known about the habitats outside these lands designated for nature conservation. The main aim of the survey in Mid Clare is to provide an inventory and classification of the habitats present within the study area and to identify areas of biodiversity importance.

Through this process, we hope to create a more consistent sense of the value and importance of local sites of ecological value, by securing a broader awareness and support for their protection.

Information on the habitats found, was gathered through field by field surveys and interpretation of aerial photography. The habitat boundaries were mapped and classified in accordance with the national habitats classification produced by the Heritage Council, A Guide to Habitats in Ireland (Fossitt, 2000).

The field study was conducted between the months of June, July and August 2010. All information gleaned from the field studies was then digitised and stored in a Geographical Information System (GIS), which provides a statistical and visual representation of the habitat information.

There are 117 habitat types classified in Ireland (Fossitt, 2000), 89 of these habitat types are terrestrial and 28 of these are marine habitats. Of the 89 terrestrial habitat types, 49 different types of habitats occur within the study area, 8 are classified as under cultivated and built land. The remaining 41 habitats are described in detail in this report.

The habitats found within the study area are evaluated based on their naturalness, value and vulnerability. Habitats that are considered good examples of Annex I priority habitats are considered to be of international or national importance. Semi-natural habitats with high biodiversity in a local context and that are vulnerable, are considered to be of High Ecological value in a local context. Habitats that are considered semi-natural habitat or locally important

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for wildlife are considered to be of Moderate Ecological value in a local context, and robust habitats that have been highly modified are considered to be of Low Ecological value in a local context.

Good examples of habitats that are considered to be of International, National, High and Moderate ecological value are target noted. These target notes provide detailed information on the habitat including, Survey details, Grid Coordinate, Townland Name, Area in Hectares, Ecological Value, Habitat Code and Habitat Description. The target note also provides a habitat map of the site indicating the extent of the area and a photographic record.

The habitat inventory and supporting biodiversity evaluation of the lands in Mid Clare has important implications for spatial planning in the area. This information also establishes a forum for education and further research into the biodiversity value of the study area.

2 INTRODUCTION

2.1 BACKGROUND

In June 2010, Clare County Council commissioned the survey and mapping of habitats within a designated study area of approximately 76.12km² in Mid Clare (refer to **Figure 1.1**). This project is to fulfil the actions for habitat mapping under the County Clare Heritage Plan.

The main aim of the survey was to provide an inventory of the habitats present within the study area between Feakle in the North West to Tulla in the South West and to Scarriff in the east (see **Figure 2.1**). The detailed mapping and inventory of the habitats, landscape features and ecological features within the study area will form the basis for a review of the variety and extent of habitats present, the identification of areas of high ecological and biodiversity value and important links between these areas. Recommendations will be made for best practice in relation to the conservation, protection and enhancement of areas of natural heritage and biodiversity importance.

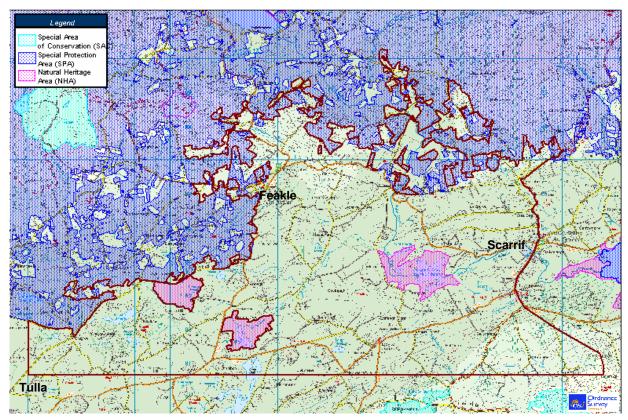


Figure 2.1: Study Area

- To provide baseline data on the status of habitats of biodiversity value in Mid Clare,
- To continue development of the methodology and make recommendations for future refinements for use of the methodology in Clare,
- To raise awareness of the importance of biodiversity and habitats among landowners and residents in those areas surveyed,
- To inform future conservation policies in relation to habitats in County Clare,
- To utilise the data gathered on landscape features of ecological value in order to engage local communities in strengthening an eco-network at county level, and
- To utilise the data gathered on landscape features to inform the inclusion and mapping of ecological networks in upcoming Local Area Plans, aid Policy Decisions and the review of the County Development Plan.

2.2 BACKGROUND OF THE PROJECT TEAM

The Project Team represents a combination of expertise, experience and resources providing a range of professional services that are directly relevant to the described tasks.

Ecological assessment requires a high level of skill and practical ability. Ecologists and environmental staff in RPS Galway are supported further by ecological staff distributed between offices in Ireland and the United Kingdom. RPS staff are drawn from scientists and conservation practitioners with broad ecological experience that includes, site survey and evaluation, phase I habitat survey; botanical survey; bird survey; terrestrial mammal, bat and invertebrate surveys.

The field surveys were carried out by RPS ecologists. Paula Kearney was the project manager and is a Senior Project Ecologist within the environmental section of RPS Consulting Engineers in Galway. Paula has ten years of professional ecological and environmental experience. Richard Mundy, who is also a Senior Project Ecologist with RPS in Cork, assisted with training and advice in relation to the project. Paula assisted in the field surveys along with Jean Hamilton, Jennifer Fisher, John Curtin and Shane O'Neill. Jean joined RPS in 2006. Since then she has developed her skills in field survey techniques and methodology, and in ecological impact assessment. Jennifer Fisher, John Curtin and Shane O'Neill are independent botanists working on behalf of RPS. They all have extensive experience in terrestrial ecology and botany. Dr. Ruth Staunton is a geologist with over nine years experience and has worked with RPS for over two years. She provided an interpretation of soil, geology and hydrogeology of the study area, using published information available from the GSI.

2.3 SCOPE

The scope of the project as per the brief provided by Clare County Council is as follows;

- 1) to map and provide supplementary information relating to all habitats within the survey area, to level III of the Fossit (2000) classification system,
- to survey, map and provide supplementary information relating to all habitats listed on Annex I of the European Habitats Directive that occur within the survey area,
- to survey, map and provide supplementary information relating to sites of local biodiversity value, flooding potential, ecological corridors and buffer zones within the survey area, and
- provide an interpretation layer for non-specialists e.g. planners and non-expert users, to indicate habitats and areas of particular ecological value, sensitivity and potential wildlife corridors.

2.4 METHODOLOGY

The habitats within the study area were assessed by means of a desk study of literature pertinent to the area and surrounding area and field surveys. In addition all spatial data was digitised onto a Geographical Information System (GIS) MapInfo Professional version 8.5.

2.4.1 DESKTOP STUDY

The desktop study involved a comprehensive review of the existing information. The principal sources of information referred to during the desktop review are outlined below.

- Clare County Development Plan 2005-2011,
- South Clare Economic Corridor Local Area Development Plan (2003),
- Landscape Character Assessment in Ireland. The Heritage Council (2006),
- National and Local, Heritage and Biodiversity Plans,
- A review of the National Parks and Wildlife Service database for conservation sites,

- A review of any existing published and unpublished information from the National Parks and Wildlife Service, the Clare County Council and the Heritage Council, and
- Habitat/Land Use Maps available such as CORINE data.

Reference will be made to the methodologies and experience gained from the:

- Best Practice Guidance for Habitat Survey and Mapping (Prepublication Version Heritage Council, 2010),
- A Guide to Habitats in Ireland.' Fossit, J.A 2000. The Heritage Council, Co. Kilkenny.
- Hedgerow Survey Handbook,
- Local Biodiversity Action Plan, and
- Habitat Action Plans.

2.4.2 GIS, MAPPING & RECORDING

All available digital mapping and aerial photography was divided up into 3km² tiles for ease of processing and field work.

The aerial photography was carefully examined to interpret the type of habitats present within the study area. Using this method some habitats and their spatial extent can be easily identified such as field boundaries, areas of plantation forestry and agricultural grassland. Other habitats are however more difficult to identify such as types of woodland, peatland and swamp. All habitats are classified to Level III of the Fossitt Classification. This classification system is explained in **Section 2.4.4**.

All spatial data was digitised onto a GIS system (MapInfo Professional version 8.5). The advantages of digital mapping are many and include:

- GIS provides a much more effective and efficient means of storing and accessing mapped data,
- Improved data manipulation capabilities,
- Habitat areas can be calculated with much greater accuracy,
- Precise locations of features of interest can be mapped more accurately using GPS (Geographical Positioning System) data, and
- Alterations to site boundaries / habitat areas can be made much more easily.

Prior to the commencement of field surveys local representatives of the Irish Farmers' Association (IFA) were contacted by telephone. A number of actions resulted from these conversations, including advertising the commencement of the survey on local radio and in parish newsletters. Surveyors had information leaflets to issue to farmers during the site survey.

Where possible, prior to entering land, the landowners were located and asked for permission. Not all fields were entered if a habitat could be assessed from the road such as Improved Agricultural Grassland GA1. Overall, landowners encountered for the duration of the project were cooperative and enthusiastic to impart local knowledge on wildlife, land use and farming practices in the area.

2.4.4 FIELD SURVEY

The field survey was based on a combination of field survey and interpretation of aerial photographs, with the use of supporting information, where available.

A habitat is an area in which a specific plant or animal naturally lives, grows and reproduces; an area that provides a plant or animal with adequate food, water, shelter and living space. Through the mapping of habitats, information can be gathered about the plants and animals, which are associated with an area.

Habitats can vary in naturalness, depending on the extent to which they have been modified by development. Throughout Ireland, there is probably no habitat that can be considered completely natural and therefore an assessment is made related to degrees of naturalness.

Habitats can be in terrestrial, freshwater or marine environments, or a combination of these. Many techniques and methodologies have been developed to map habitats and classify habitats around the world; however the Heritage Council has produced a methodology and classification system specific to habitats found in Ireland. These include the following:

- Fossitt, J. (2000) A Guide to Habitats in Ireland. The Heritage Council, Kilkenny, and
- The Heritage Council (2002) *Draft Habitat Survey Guidelines: A standard methodology for habitat survey and mapping in Ireland.* The Heritage Council, Kilkenny.

The habitats on site were classified in accordance with the Fossitt Classification system. The classification is a standard scheme for identifying, describing and classifying wildlife habitats in Ireland. The classification is hierarchical and operates at three levels, outlining the correlation between its habitat categories and the phytosociological units (plant communities) of botanical classifications. The scheme identifies 11 broad habitat groups at level 1, 30 habitat subgroups at level 2, and 117 separate habitats at level 3. The codes assigned at each level reflect the names of habitat groups or subgroups. Correspondence with habitats listed in Annex I of the Habitats Directive (92/43/EEC) is also described.

The surveys were conducted during the months of July, August and September. The survey was prolonged due to adverse weather conditions in August which impeded progress.

2.4.5 MAP PRODUCTION

All habitats were mapped individually on MapInfo so that the exact location and true extent of the habitats will be available to Clare County Council and to aid future research.

Photographs were taken for each habitat types and accompany the habitat descriptions on the digital version of the accompanying Habitat Map. A number of photos are also included in **Section 4.2** which provides a description for each habitat type.

All maps and scientific data sets are collated, logged and referenced in a database that will be easy to manage and use as a tool for further research or applications by the Council.

3 STUDY AREA CONTEXT

3.1 STUDY AREA

The study area is located in Mid Clare, covering approximately 76.12km² of lands between Feakle in the North West to Tulla in the South West and to Scarriff in the east (see **Figure 1.1**). The study comprised the survey and mapping of habitats within this designated study area.

The main aim of the survey was to provide an inventory of the habitats present within the study area, excluding the sites already designated for nature conservation. The following section describes the existing environmental conditions within the study area, describing elements such as geology, soils, ecology and land use.

3.2 LANDFORM AND GEOLOGY

3.2.1 Landform

The land within the study site is generally low-lying with higher elevations at the foothills of the Slieve Aughty Mountains in the north of the study area. The minimum and maximum elevations reached within the site are 30m OD and 210m OD respectively. Poorly drained bog and wet marshland areas, or glacially formed depressions occur within the study site. The higher ground generally comprises well drained, gently undulating pastureland, with occurrences of uneven, hummocky till ridges. These ridges are either formed of limestone epikarst or are glacial features such as drumlins (small elongated hills, typically 500-800m long, 200-300m wide and 20-35m high). Figure 3.1 illustrates the setting of the study area within the landform of County Clare.

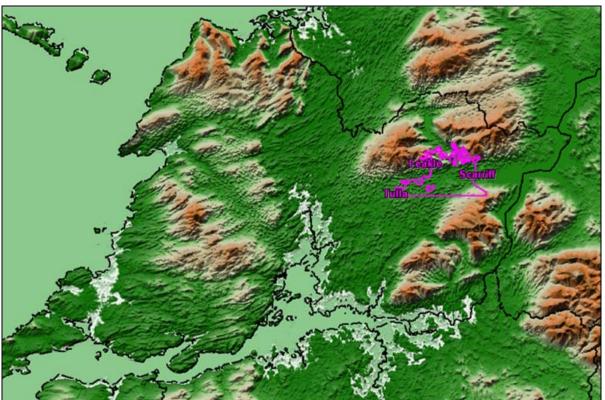


Figure 3.1: Landform of County Clare. The pink line delineates the Study Area.

3.2.2 Geology, Soils and Subsoils

The geology and soils of Mid Clare are the predominant factors influencing the habitats which it supports. The underlying geology generates a variety of soil-forming parent materials, which are an important element in governing the distribution of vegetation.

A general representation of the solid geology for the study area is presented in **Figure 3.2** and was constructed from available GSI (1:100,000) Bedrock Geology maps and reports. The two dominant rock types of the region are Lower Carboniferous Limestone, which underlies most of the southern half of the study area, and Silurian Quartzite, which covers the northern section at the foothills of the Slieve Aughties. Belts of Lower Avonian Shales and Sandstones run in a northeast-southwest direction across the middle and lower sections of the study area, and there is a section of Old Red Sandstone in the southeastern corner. A belt of Ordovician bedrock runs in to the western section of the site, around the Feakle area.

The Lower Carboniferous Limestone bedrock which underlies the southern section of the study site is known as the Ballysteen Formation, described as fossiliferous dark-grey muddy limestone. The Silurian Quartzite rock type in the northern section is known as the Kilanena Formation, which is composed of greywacke, siltstone and shale.

Based on information gleaned from the Teagasc Subsoils and Soils map, the study area is predominantly underlain by Lower Palaeozoic Sandstone and Shale Till (TLPSsS), Till Derived from Devonian Sandstones and Shales (TDSs) and organic peat derived from areas of cutover bog.

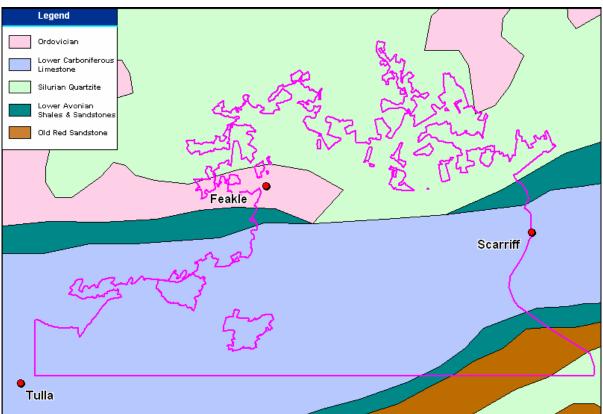


Figure 3.2: Geology of Study Area. The pink line delineates the Study Area

The Silurian Quartzite bedrock in the northern section of the study area has produced a well drained sandstone and shale which is highly productive for agriculture, and as a result Improved Agricultural Grassland (GA1) is the dominant habitat in this area.

Soils are generally quite shallow in the very northern section of the study area, at the foothills of the Slieve Aughties, producing generally acidic conditions, and the habitats which occur here include Acid Grassland (GS3) and Scrub (WS1).

Much of the central section, which is underlain by Lower Carboniferous Limestone, was once covered in peat bog. This has been cut away over time and improved for agriculture, however a peaty subsoil has persisted. This subsoil type is poorly drained, and as a result the main habitat types in this section are Wet Grassland (GS4) and Marsh (GM1). There are also large areas of Conifer Plantation (WD4) in this section. A large section of Cutover Bog (PB4) is present in this area, as well as some small pockets of intact Raised Bog (PB1) and

limited areas of associated peatland habitats such as Bog Woodland (WN7) and Poor Fen and Flush (PF2).

The shales and till subsoils of the southern area are, like the northern section, quite well drained and are extensively used for pasture and so the dominant habitat here is again Improved Agricultural Grassland (GA1).

3.2.3 Geological Heritage

It has been recognised nationally that sites of geological interest are not comprehensively addressed by existing nature conservation designations. Consequently, the Department of the Environment Heritage and Local Government (DoEHLG) and the Geological Survey of Ireland (GSI) are currently compiling a list of sites of national geological and geomorphological interest that will be proposed as Geological Natural Heritage Areas (NHA`s). This forms part of The Irish Geological Heritage (IGH) programme.

The GSI has indicated that there are two Designated Areas of Geological Heritage within and in the vicinity of the study site as follows:

- The Tomeen Cave System is located in the townlands of Milltown and Kiltanon (Site Code IGH1-57). The Tomeens is an excellent example of a shallow developed river cave with unroofed, partially roofed and fully roofed sections, the unroofed sections resulting from roof collapse. It has a number of stream oxbows and dry oxbows. The process is still in progress, and will ultimately result in a stream canyon.
- Maghera TV road quarry, located in the townlands of Feakle and Maghera (Site Code IGH4-46) comprises Olivine-pyroxene tuffs that are exposed in a small quarry along a private road. They are within the Caradoc rocks of the Caher Hill Formation which include a suite of volcanic rocks such as spilite, pyroxene-olivine basalt, basic tuffs and volcanic breccias, amygdaloidal trachytes, graptolitic black shales and cherts.

The IGH sites found within or adjacent to the study area boundary are provided in Table 3.1.

Site No.	Site Name	NHA	Townland(s)/ district	Grid Ref.	Principal characteristics - Summary description	
IGH15	Ballyhickey [Pb, Ag, calcite]	-		R 425 765	Water filled open pit, and not much dump material. Originally was used for walling stone. This site has no commercial potential.	
IGH8	Tomeens	-	Milltown, Kiltanon	R 467 813	Waulsortian limestone mudmound with contact with Ballysteen Limestone Formation	
IGH1- 57	Tomeens	NHA	Milltown, Kiltanon	R 47 82	47 82 The Tomeens is an excellent example of a shallow developed river cave wit unroofed, partially roofed and fully roofed sections, the unroofed section resulting from roof collapse. It has a number of stream oxbows and dry oxbows The process is still in progress, and will ultimately result in a stream canyon. It is within the massive Waulsortian Limestone Formation.	
IGH8	Turrett Hill	NHA	Deerpark South, Cullaun	R 472 738	Tulla volcanics and only Brigantian exposed in the south of Clare	
IGH4- 46	Maghera TV road quarry	NHA	Feakle, Maghera, off private road to TV mast	R 520 901	Olivine-pyroxene tuffs are exposed in a small quarry along a private road. They are within the Caradoc rocks of the Caher Hill Formation which include a suite of volcanic rocks such as spilite, pyroxene-olivine basalt, basic tuffs and volcanic breccias, amygdaloidal trachytes, graptolitic black shales and cherts.	
IGH8	Ballycroum Hill	-	Ballycroum Td., Feakle	R 541 886	An excellent unconformity with flat lying conglomerate beds overlying truncated ends of nearly vertical Sliurian slates.	
IGH10	Caher Hill	-	Caher	R 5475 9065	Caher Hill is the type locality for the Caher Hill Formation. Yellow, cream and pink-coloured amygdaloidal trachytes occur here. The yellow trachytes host enclaves up to 10cm in diameter of basic composition. The pink trachytes contain abundant orthoclase phenocrysts. The trachytes overlie a succession of black shales and cherts, basic lapilli tuffs and a sequence of basic tuffs, lavas and breccias. These rocks provide a record of sedimentation and volcanic eruptions within the contracting lapetus Ocean. Graptolites found within the black shales have yielded a late Ordovician, Caradoc age for the rocks. The Caher Hill Formation is also exposed south and west of Lough Graney and near Lough Ea. Spillitic lavas occur at the latter locality.	
IGH4-3	Ballymalone Quarry	-		R 648 813	The Ordovician rocks of the Ballymalone Formation have been dated by graptolite fossils to be of Caradoc age. The site provides the only representative section of these rocks in the northeastern part of the Slieve Bernagh inlier, and complements the Ballyvorgal South site. The fossils were collected from the streambed, adjacent to the quarry (Rickards and Archer 1969), in difficult collecting circumstances so the availability of fresh, good exposures in the quarry offers great potential for more detailed research on the graptolite fauna.	

Table 3.1: Geological Heritage Sites in Mid Clare

3.3 LAND USE

The well-drained shales and till subsoils which cover most of the study area are ideal for agriculture, and much of the area is used for pasture. The central section of peaty subsoils provides a variety of land uses including peat extraction, forestry, pasture and silage. The villages and towns including Feakle, Scarriff and Tuamgraney support residential and commercial business.

Peat extraction is a prominent activity within the Raised Bog at Coolreagh in the central region of the study area.

There are also a number of local amenities within the study area which can be enjoyed by tourists and residents of the towns include the following: Game and coarse fishing, Horse riding, and Walking. A large golf course (approximately 62ha) has been built to the south east of the bog in Coolreagh. The "The East Clare Way", which is a regional walking route, weaves through the edge of the study area. This walk is important from a tourism perspective.

3.4 ECOLOGICAL IMPORTANCE

County Clare has a rich and varied landscape and supports a diversity of wildlife and habitats that are both rare in Ireland and Europe. Areas that represent good examples of nationally and internationally important habitats are designated for nature conservation.

Sites of high conservation importance occur within and adjacent to the study area. These sites have been designated as they support a diversity of species that are protected on a National and International scale. The study excludes sites designated for nature conservation; however a review of these sites provides a valuable insight into the landscape and its capability to support such biodiversity.

A number of sites are currently designated for nature conservation under both European and National legislation. These designated sites include; Natural Heritage Areas (NHA), Special Areas of Conservation (SAC) and Special Protection Areas (SPA). Details of applicable legislation are provided in **Table 3.3** and details of designated sites are detailed in **Table 3.3**, and illustrated in **Figure 3.3**.

Legislation		Explanatory Note
Legislation		This legislation is structured around the 'Natura 2000'
		network of protected sites and a strict system of species
	Habitats Directive	protection. Ireland has a legal obligation to protect the
	92/43/EU	habitats and species which are listed in the Annexes to
	(transposed into Irish	
	Law under the	the legislation, as Special Areas of Conservation
		(SACs). The main objective of the Directive is to
	European	maintain or restore natural habitats, and species of
	Communities (Natural	plants and animals, which are of conservation
F ILL existention	Habitats) Regulations	importance as defined in the Directives, at a favourable
EU Legislation	1997 SI/97/094 as	conservation status. Ireland supports 60 Annex I
	amended)	habitats that require special conservation measures
		and, of these, 16 are priority types that are considered
		to be in danger of disappearance (see Table 4.2).
		This Directive identifies 194 species and sub-species of
	Birds Directive	birds afforded protection. Annex 1 lists the bird species
	79/409/EE	for which conservation requires the designation of
		Special Protection Areas (SPAs); this also applies to
		important concentrations of migratory birds. SPAs also
		form part of the Natura 2000 network of sites.
		This legislation aims to protect sites of scientific interest
		because of their habitats, plants and animals, or
		landforms and geological or geomorphological features
	Wildlife (as amended) Act 1976	from damaging developments and / or land uses. At a
		national level it provides a mechanism through which
		statutory protection is afforded as Natural Heritage
		Areas (NHAs). It also strengthens the protective status
		of SACs and SPAs by ensuring that protection will in all
		cases apply from the time of notification of proposed
NATIONAL		SAC and SPA sites. The Act further encompasses the
LEGISLATION		statutory protection for important geological and
		geomorphological sites, including fossil sites by
		designation as NHAs.
		This order sets out a list of plant species which are
		protected by Section 21 of the Wildlife Act, 1976 (as
	-	amended). If a plant species appears in this list it is
	The Flora	illegal to cut, uproot or damage the listed species in any
	(Protection) Order	way, or to offer them for sale. This prohibition extends to
	1999	the taking or sale of seed. It is also illegal to alter
		damage or interfere in any way with their habitats. This
		protection applies wherever the plants are found and is
		not confined to designated sites.

 Table 3.2: National and European Legislation for Nature Conservation

Table 3.3: Brief Description of Designated Sites Located within or Adjacent to the Study Area

	Brief Description				
SPA 004168	Slieve Aughty Mountains is a very large site that extends southwards from just south of Lough Rea, County Galway to Scariff in County Clare. The peaks are not notably high or indeed pronounced; the site rises to a maximum of 378 m near Cappaghabaun Mountain. This site includes many small- and medium-sized lakes, notably Lough Graney and Lough Atorick; several important rivers rise in the site, including the Owendalulleegh and Graney. Lough Derg occurs immediately to the south-east. The Slieve Aughty hills are predominantly comprised of Old Red Sandstone, but outliers of Lower Palaeozoic rocks provide occasional outcrops capping the hills. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for Hen Harrier and Merlin. The main threat to the long-term survival of Hen Harriers within the site is further afforestation, which would reduce and fragment the area of foraging				

	Brief Description
	habitat, resulting in possible reductions in breeding density and productivity. The Slieve Aughty Mountains have a number of large wind farm developments but it is not yet known if these have any adverse impacts on the Hen Harriers. Overall, the site provides excellent nesting and foraging habitat for breeding Hen Harrier and is one of the top two sites in the country for the species.
NHA 000993	Ayle Lower Bog , located north east of Tulla, is a small area of intact raised bog which is bordered by a large area of cut-away to the north. The bog has been subject to burning in recent years, but is showing signs of regeneration. Heather (<i>Calluna vulgaris</i>) is dominant throughout much of the site. The central dome of the bog holds deep spongy Sphagnum lawns with such species as <i>Sphagnum</i> <i>magellanicum</i> and <i>S. imbricatum</i> growing in hummocks. Old hummocks of <i>Leucobryum glaucum</i> occur occasionally. The western section and the margins of the bog are much drier and are generally dominated by Deer-grass (<i>Trichophorum</i> <i>cespitosum</i>) and Carnation Sedge (<i>Carex panicea</i>), with little <i>Sphagnum</i> and widespread patches of bare peat. Stands of Birch (<i>Betula</i> spp.) and Willows (<i>Salix</i> spp.) occur on the northern boundary of the site. Though the bog has been damaged by peat cutting and burning, it retains a reasonably intact central dome and is considered to be of at least local scientific importance.
NHA 001020	Loughanilloon Bog , located approximately 7km north-east of Tulla, comprises a small raised bog and an adjacent small lake. The bog is quite dried out and is devoid of standing water. A deep drain is present along the southern margin. The bog has been subject to burning in recent years and is grazed by cattle during the summer. The River Graney flows along its north-west border and by the cut-away areas along the south-west, south-east and western borders. The dominant species throughout much of the site are Ling (<i>Calluna vulgaris</i>), Deergrass (<i>Trichophorum cespitosum</i>) and Hare's-tail Cottongrass (<i>Eriophorum vaginatum</i>). There are occasional hummocks of bog mosses (<i>Sphagnum papillosum, S. magellanicum</i> and <i>S. capillifolium</i>) but generally higher plants have taken over from mosses. The ground is generally dry and firm and there are patches of bare peat, though Sphagnum is regenerating well locally. The cut-away areas at the margins of the bog are colonised by Willows (<i>Salix</i> spp.), Birch (<i>Betula</i> spp.) and Gorse (<i>Ulex europaeus</i>). Wetland vegetation surrounds the lake, with Rushes (<i>Juncus</i> spp.), Sedges (<i>Carex</i> spp.) and Reeds (<i>Phragmites australis</i>) widespread. Wet grassland vegetation also occurs. Fields to the north of the lake which are liable to flooding provide habitat for Whooper Swans, Lapwing, Curlew, Snipe and other waterfowl. Badger, Fox, Pine Marten and Otter are also known to occur within the site. The ecological interest of this site lies in the diversity of habitat types from open water to marsh and raised bog.
pNHA 001019	Lough O'Grady pNHA comprises two lakes – Lough O'Grady, a medium sized lake situated approximately 3km south-west of Scarriff, and Keel Lough, a small lake north-west of O' Grady. The River Graney flows in to Lough O'Grady at the west end, while the Scarriff River flows out at the eastern side. The fringing vegetation is sparse but diverse. Wet woodland, composed mainly of Willow (<i>Salix</i> spp.) and Birch (<i>Betula</i> spp.) occurs at the western end of the site. A variety of wet grassland and freshwater marsh occurs around the lake. The lake is an important site for wildfowl, with regionally significant populations of Teal, Mallard, Wigeon and Lapwing. Greenland White-fronted Geese visit the site regularly and use Island O' Grady, near the southern shore of the lake, as a roost. The main ecological interest of this site is in regard to wildfowl, especially due to the presence of Greenland White-fronted Geese. There is also a good diversity of habitats present, ranging from open water to marsh/wet grassland and scrub and wet woodland. The site is relatively undamaged.

	Brief Description
NHA 002442	Maghera Mountain Bogs , lying approximately 16km south of Gort, consists of three upland blanket bogs bounded by either conifer plantation or enclosed agricultural land with rushy pasture. Altitude ranges between 200m and 360m. The bedrock underlying the site is Old Red Sandstone. The site supports a wide variety of habitats including upland blanket bog, flush, heath and scrub. Blanket bog vegetation is dominated by Common Cottongrass (<i>Eriophorum vaginatum</i>), Deergrass (<i>Trichophorum cespitosum</i>) and Ling Heather (<i>Calluna vulgaris</i>) on deep peat, with occasional tussocks of Purple Moor-grass (<i>Molinia caerulea</i>). There are abundant hummocks of the moss <i>Racomitrium lanuginosum</i> , growing with the lichen <i>Cladonia portentosa</i> , Tormentil (<i>Potentilla erecta</i>), Ling Heather, Heath Milkwort (<i>Polygala serpyllifolia</i>) and Hare's-tail Cottongrass (<i>Eriophorum vaginatum</i>). Other hummocks, dominated by <i>Racomitrium lanuginosum</i> and the Bog Moss <i>Sphagnum capillifolium</i> , are common. Some areas are deep and quaking. Three Red Data book species, Irish Hare, Otter and Red Grouse, have been recorded on the site. This site is of major ecological significance due to the presence of a variety of habitats, in particular upland blanket bog, a globally scarce resource.
SAC/pNHA 1912	Glendree Bog is located in the Slieve Aughty mountain range, approximately 13km west-north-west of Scarriff. The site comprises upland blanket bog with a series of small valleys and plateaux, rimmed with sandstone outcrops. Lough Ea is situated on its eastern boundary. The blanket bog vegetation is dominated by Purple Moor-grass (<i>Molinia caerulea</i>), with frequent Common Cottongrass (<i>Eriophorum angustifolium</i>), Deergrass (<i>Trichophorum cespitosum</i>), Tormentil (<i>Potentilla erecta</i>), Carnation Sedge (<i>Carex panicea</i>) and bog mosses (<i>Sphagnum capillifolium</i> , <i>S. papillosum</i> and <i>S. subnitens</i>). In the low-lying areas adjacent to Lough Nacally more flushed, species-rich areas occur. These support Black Bog-rush (<i>Schoenus nigricans</i>), Common Reed (<i>Phragmites australis</i>), Sharp-flowered Rush (<i>Juncus acutiflorus</i>) and sedges. Three oligotrophic lakes occur on the site, with such characteristic species as Water Lobelia (<i>Lobelia dortmanna</i>), Shoreweed (<i>Littorella uniflora</i>) and the regionally rare Quillwort (<i>Isoetes lacustris</i>). The site's fauna is typical of peatland, with Snipe, Red Grouse, Irish Hare Common Lizard and Common Frog present. Small numbers of Greenland White-fronted Geese use the site for roosting. According to the National Parks and Wildlife Conservation Plan for the site for 2005-2010, a Hen Harrier (<i>Circus cyaneus</i>) was recorded over the site in 2000. They have been recorded as breeding in the nearby Maghera Mountains in the past and a survey in 2000 revealed these mountains to be a possible, though unconfirmed breeding site (Oliver 2000). They use the general area as part of their feeding range. The main threat to the site is peat-cutting, significant areas have been subject to turbary cutting. Glendree contains a wide variety of habitats and is very species-rich. It is of major ecological importance due to the scarcity of blanket bog and because of the presence of the regionally rare species, Quillwort.

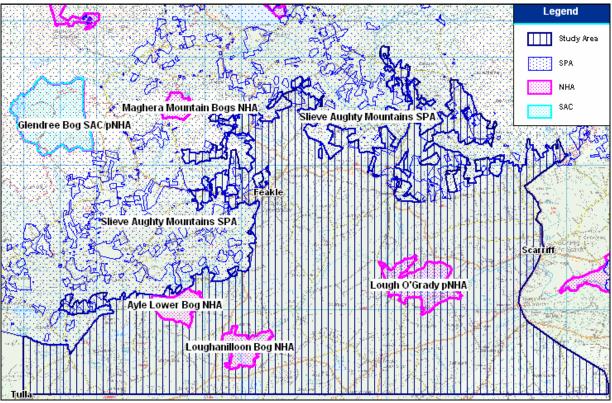


Figure 3.3 Designated Sites within and adjacent to the Study Area.

3.4.1 RARE AND PROTECTED SPECIES WITHIN THE STUDY AREA

The NPWS Rare and Protected Species database was consulted for records on species of conservation importance in the area. This database has records for animals and plants plants of conservation importance in individual 10 x 10 km squares. The study area falls within 4 10 x 10 km squares – R58, R59, R68 and R69. The Rare and protected species recorded within these squares are shown in **Table 3.4**.

Common Name	Scientific Name	Grid Square(s)
Whiskered Bat	Myotis mystacinus	R58
Irish Stoat	Mustela erminea subsp. hibernica	R68
Small Wood-Reed	Calamagrostis epigejos	R69
Cladonia ciliata var. tenuis	Cladonia ciliata var. tenuis	R58
Cladonia portentosa	Cladonia portentosa	R58
Badger	Meles meles	R58, R59, R68, R69
Fallow Deer	Dama dama	R58, R59, R68, R69
Irish Hare	Lepus timidus subsp. hibernicus	R59, R68, R69
Otter	Lutra lutra	R58, R68, R69
Pine Marten	Martes martes	R58, R68, R69
Common Frog	Rana temporaria	R59, R69

Table 3.4: NPWS Rare and Protected Species Records

4 HABITATS

4.1 HABITAT EVALUATION

The ecological interest of a site is assessed based on whether it is of *international, national, regional or local importance* as this has a direct bearing on its magnitude and significance. All impacts related to species or habitats protected by statute or Biodiversity Action Plans, priority species or habitats that are considered at national level. Seasonal factors that affect distribution patterns and habitats of species were taken into account when conducting the surveys and the potential of the site to support certain populations.

Consideration was given to the guidelines produced by the National Road Authority '*Guidelines for Assessment of Ecological Impacts of National Road Schemes, NRA Revision 1, 2006*'. **Table 4.1** provides a suggested ranking based on the Site Evaluation Scheme as detailed in the NRA Guidelines. The wording in the table has been adjusted slightly and references to fisheries waters have been removed for the purposes of this report.

	Ratings for Ecological Sites					
Α	International Importance:					
	 'European Site' including Special Area of Conservation (SAC), Site of Community Importance (SCI), Special Protection Area (SPA) or proposed Special Area of Conservation. 					
	- Proposed Special Protection Area (pSPA).					
	- Site that fulfills the criteria for designation as a 'European Site' (see Annex III of the Habitats Directive, as amended).					
	 Features essential to maintaining the coherence of the Natura 2000 Network. Site containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive. 					
	- Resident or regularly occurring populations (assessed to be important at the national level) of the following:					
	 Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or 					
	 Species of animal and plants listed in Annex II and/or IV of the Habitats Directive. 					
	 Ramsar Site (Convention on Wetlands of International Importance Especially Waterfowl Habitat 1971). 					
	- World Heritage Site (Convention for the Protection of World Cultural & Natural Heritage, 1972).					
	- Biosphere Reserve (UNESCO Man & The Biosphere Programme).					
	- Site hosting significant species populations under the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals, 1979).					
	- Site hosting significant populations under the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats, 1979).					
	- Biogenetic Reserve under the Council of Europe.					
	- European Diploma Site under the Council of Europe.					
	- Salmonid water designated pursuant to the European Communities (Quality of Salmonid Waters) Regulations, 1988, (S.I. No. 293 of 1988).					

 Table 4.1: Ecological Site Evaluation Scheme

	Ratings for Ecological Sites						
В	National Importance:						
	- Site designated or proposed as a Natural Heritage Area (NHA).						
	- Statutory Nature Reserve.						
	- Refuge for Fauna and Flora protected under the Wildlife Acts.						
	- National Park.						
	- Undesignated site fulfilling the criteria for designation as a Natural Heritage Area						
	(NHA); Statutory Nature Reserve; Refuge for Fauna and Flora protected under the						
	Wildlife Act; and/or a National Park.Resident or regularly occurring populations (assessed to be important at the national						
	level) of						
	- the following:						
	 Species protected under the Wildlife Acts; and/or 						
	 Species listed on the relevant Red Data list. 						
	- Site containing 'viable areas' of the habitat types listed in Annex I of the Habitats						
	Directive.						
С	County Importance:						
	- Area of Special Amenity.						
	- Area subject to a Tree Preservation Order.						
	- Area of High Amenity, or equivalent, designated under the County Development Plan.						
	- Resident or regularly occurring populations (assessed to be important at the County level) of the following:						
	 Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; 						
	 Species of animal and plants listed in Annex II and/or IV of the Habitats 						
	Directive;						
	 Species protected under the Wildlife Acts; and/or 						
	• Species listed on the relevant Red Data list.						
	- Site containing area or areas of the habitat types listed in Annex I of the Habitats Directive that do not fulfil the criteria for valuation as of International or National						
	importance.						
	- County important populations of species, or viable areas of semi-natural habitats or						
	natural heritage features identified in the National or Local BAP, if this has been prepared.						
	- Sites containing semi-natural habitat types with high biodiversity in a county context						
	and a high degree of naturalness, or populations of species that are uncommon within						
	the county.						
	- Sites containing habitats and species that are rare or are undergoing a decline in						
	quality or extent at a national level.						
D	Local Importance (higher value):						
	- Locally important populations of priority species or habitats or natural heritage features						
	identified in the Local BAP, if this has been prepared;						
	- Resident or regularly occurring populations (assessed to be important at the Local level) of the following:						
	 Species of bird, listed in Annex I and/or referred to in Article 4(2) of the 						
	Birds Directive;						
	 Species of animal and plants listed in Annex II and/or IV of the Habitats 						
	 Directive; Species protected under the Wildlife Acts; and/or 						
	 Species protected under the Wildlife Acis, and/or Species listed on the relevant Red Data list. 						
	- Sites containing semi-natural habitat types with high biodiversity in a local context and						
	a high degree of naturalness, or populations of species that are uncommon in the locality;						
	- Sites or features containing common or lower value habitats, including naturalised						
	species that are nevertheless essential in maintaining links and ecological corridors						
	between features of higher ecological value.						

	Ratings for Ecological Sites						
E	E Local Importance (lower value):						
	- Sites containing small areas of semi-natural habitat that are of some local importance for wildlife;						
	 Sites or features containing non-native species that are of some importance in maintaining habitat links. 						

The habitats recorded within the study area, percentage cover and overall ranking in accordance with the guidelines in **Table 4.1** are detailed in **Table 4.2**.

Habitat Group	Habitat Sub- Group	Habitat	Links to Annex I Habitats	Within the Stud	% Cover	Ranking
	FL Lakes and Ponds	FL2 Acid oligotrophic lakes	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto- Nanojuncetea (3130)	Lough O'Grady, Keel Lough.	0.76	B – High International/National
		FL3 Limestone Marl Lakes	Limestone & Marl Lakes corresponds to the annexed habitat, 'hard oligo- mesotrophic waters with benthic vegetation of <i>Chara</i> spp. (3140)'.	Rosslara Lough, Maryfort Lough and Castle Lough.	0.28	B – High International/National
F Freshwater		FL4 Mesotrophic lakes	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto- Nanojuncetea (3130)	Craggaunkeel Lough, Lough Bridget, Lough Meelagh, Dromore Lough.	0.36	C- High
		FW1 Eroding/upland rivers	Watercourses of plain to montane levels with the Ranunculion fluitantis and Callitricho- Batrachion vegetation (3260)	Throughout the study area.	↑	C- High
	FW Watercourses	FW2 Depositing/lowland rivers	**Rivers with muddy banks with Chenopodion rubri p.p. and Bidention p.p. vegetation (3270)	Throughout the study area.	7.2 ↓	C- High
		FW4 Drainage ditches				D- Moderate
	FS Swamps	FS1 Reed and large sedge swamps		Occurs in drains, rivers and fringing lakes throughout study site	0.12	C- High

Table 4.2: Conservation Value of Habitats Recorded Within the Study Are	ea
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Habitat Group	Habitat Sub- Group	Habitat	Links to Annex I Habitats	Townland	% Cover	Ranking
G Grassland & Marsh		GA1 Improved agricultural grassland		Occurs throughout the study area	62.61	E-Low
		GA2 Amenity grassland		Throughout the study site. Largest area comprises a golf course in the townland of Coolreagh Beg	1.47	E-Low
		GS1 Dry calcareous and neutral grassland	**Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco- Brometea) (important orchid sites) (6210) **Juniperus communis formations on heaths or calcareous grasslands (5130) **Calaminarian grasslands of the Violetalia calaminariae (6130)	Occurs throughout Study Site, particularly in the south west and north.	2.49	C - High
	GS Semi-natural grassland	GS2 Dry meadows and grassy verges	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) (6510)	Scattered throughout the study area, particularly in the north western section in the townlands of Feakle and Lecarrow Lower.	0.75	C - High
		GS3 Dry-humid acid grassland	*Species-rich Nardus grasslands on siliceous substrates in mountain areas (and submountain areas in continental Europe) (6230)	Clashmore, Lecarrow Lower, Core.	0.22	C - High
		GS4 Wet grassland	Molinia meadows on calcareous, peaty or clayey- silt-laden soils (Molinion caeruleae) (6410)	Found throughout the study area	14.28	D/C- Moderate to High

Habitat Group	Habitat Sub- Group	Habitat	Links to Annex I Habitats	Townland	% Cover	Ranking
	GM Freshwater marsh	GM1 Marsh	**Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels (6430)	Scattered throughout the study area	0.54	D/C- Moderate to High
H Heath & Dense	HH Heath	HH3 Wet heath	Northern Atlantic wet heaths with Erica tetralix (4010)	Feakle, Kilbarron, Rossanure	0.33	C- High
Bracken	HD Dense bracken	HD1 Dense bracken		Small patches scattered throughout the study area.	0.09	E - Low
		PB1 Raised bogs	*Active raised bogs (7110)	Coolreagh, Coolreagh Beg, Derrynaheila, Ballynahinch.	0.47 A/B- Internation	A/B- International/National
Ρ	PB Bogs	PB4 Cutover bog	Depressions on peat substrates of the Rhynchosporion (7150)	Coolreagh, Coolreagh Beg, Derrynaheila, Ballynahinch, Rosslara, Cloondoorney, Drummaghamartin, Lecarrow North, Callahy.	2.5	C- High
Peatlands	PF Fens and Flushes	PF1 Rich Fen and Flush	Aalkaline fens (7230) and *Calcareous fens with <i>Cladium</i> <i>mariscus</i> and species of the Caricion davallianae (7210)	Drumminnanav, Callahy	0.01	A/B- International/National
		PF3 Transition Mire and Quaking Bog	Transition mires and quaking bogs (7140)	Kilbarron	0.00	A/B- International/National
W Woodland and scrub	WN Semi-natural woodland	WN1 Oak-birch- holly woodland	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles (91A0)'	Found mainly in the north-east of the study area; in the townlands of Coolreagh Beg and Fossa More.	0.23 C- High	

Habitat Sub-

Group

Habitat

Group

Habitat	Links to Annex I Habitats	Townland	% Cover	Ranking
WN2 Oak-ash- hazel woodland		Throughout west and south west of study site, in the townlands of Rossanure, Coolreagh, Boherurd and Craggaunkeel	0.98	C- High
WN4 Wet pedunculate oak ash woodland		Gortaderry, Ross	0.02	
WN6 Wet willow alder ash woodland		In the middle and south-western section of the study area, in the townlands of Feakle, Rossanure, Core, Coolreagh Beg, Core and Lecarrow North	0.25	
WN7 Bog woodland	*Bog woodland (91D0)	Coolreagh Beg, Fossa More, Core, Rossanure, Clonmoher, Annaghneal, Craggaunkeel, Lecarrow North	0.70	C- High
WD1 (Mixed) broadleaved woodland		Found throughout the study area.	0.74	D- Moderate
WD2 Mixed broadleaved/conifer woodland		Throughout study site. The largest area occurs in the south east, in Ballingurin	1.01	E/D- Low to Moderate

Ballincurrin townland.

		WD3 (Mixed) Conifer plantation		Ayle Lower, Lecarrow North, Craggaunkeel, Rosslara, Cloondoorne, Drummaghmartin, Coolready.
		WD4 Conifer		Large area in the south eastern
				corner, in the
MGE023	32RP0001		25	

WD Highly modified/non-Native Woodland

E/D- Low to

Moderate

E-Low

1.36

4.42

Habitat Group	Habitat Sub- Group	Habitat	Links to Annex I Habitats	Townland	% Cover	Ranking
				townlands of Ballymalone and Ballyvannan, and scattered throughout the study area.		
		WD5 Scattered trees and parkland		Maryfort (Lismeehan)	0.22	D- Moderate
	WS Scrub/transitional	WS1 Scrub	**Juniperus communis formations on heaths or calcareous grasslands (5130)	Throughout study site.	1.44	D- Moderate
	woodland	WS2 Immature woodland		Lecarrow Lower, Feakle, Dromore, Lecarrow North, Lisbarreen, Ballincurrig, Ballymalone.	0.89	E/D- Low to Moderate
	WL Linear	WL1 Hedgerows		Throughout study area.		D- Moderate
	woodland/scrub	WL2 Treelines		Throughout study area.		D/C- Moderate to High
E Exposed rock and disturbed ground	ER Exposed rock	ER2 Exposed calcareous rock	**Calcareous rocky slopes with chasmophytic vegetation (8210) & *limestone pavements (8240)'	One very small patch in the townland of Annagh	0.00	B- High International/National
	ED Disturbed	ED2 Spoil and bare ground		Rossanure, Feakle, Coolready.	0.06	E-Low
	ED Disturbed Ground	ED3 Recolonising bare ground		Poulagower, Ballynahinch, Knockagower.	0.07	E/D-Low to Moderate
B	BC Cultivated land	BC2 Horticultural land		Ballyvannan	0.01	E/D-Low to Moderate
Cultivated and built		BC3 Tilled Land		Lecarrow Lower	0.01	
land	BL Built Land	BL3 Buildings & Artificial Surfaces		Found throughout the study area		E-Low

* Annex I Habitats also listed as Priority Habitats under the EU Habitats Directive (Directive 92/43/EEC, amended by Directive 97/62/EC). Priority Habitats are habitats at risk from disappearance. ** Annex Habitats not found within study area

4.2 HABITATS RECORDED WITHIN STUDY AREA

The following section comprises summary descriptions and assessments of the principal habitats of found within the study area. Habitats of high conservation and biodiversity interest are complemented by species lists and target notes which are contained in Appendix A.

• Acid Oligotrophic Lakes FL2

Acid Oligotrophic Lakes FL2 are mainly confined to the mid-east of the Study Area, with one isolated example in area of Cutover Bog in the townland of Rosslara in the south west of the Study Area. They range in size from 0.03ha to 45.9ha.

Lough O'Grady, located 3km south west of Scarriff, is classified as an Acid Oligotrophic Lake and is a proposed Natural Heritage Area. The River Graney flows in to Lough O'Grady at the west end, while the Scarriff River flows out at the eastern side. The fringing vegetation is sparse but diverse. Wet woodland, composed mainly of Willow (*Salix* spp.) and Birch (*Betula* spp.) occurs at the western end of the site. A variety of wet grassland and freshwater marsh occurs around the lake. There is a good diversity of plants, with sedges (*Carex* spp.) and rushes (*Juncus effusus*) dominant in places, along with such species as Meadowsweet (*Filipendula ulmaria*), Cuckoo plant (*Cardamine pratensis*), and Devil's Bit Scabious (*Succisa pratensis*). The drier areas of grass are less species rich and are dominated by grasses and rushes. Island O'Grady near the southern shore is mainly improved pasture and is well grazed.

The lake is an important site for wildfowl, with regionally significant populations of Teal, Mallard, Wigeon and Lapwing. Greenland White-fronted Geese visit the site regularly and use Island O' Grady, near the southern shore of the lake, as a roost.

On the day of the site visit, Zebra Mussels (*Dreissena polymorpha*) were found in the lake. Lough O Grady is connected to Lough Derg by the Scariff River which may be acting as a corridor for the mussels. This poses a threat to the ecology of Lough O'Grady, as the Zebra Mussel is an invasive species that can have devastating effects on the ecology of water bodies.

Ecological Interest	Links to Annex I Habitats	Locations	6
High ecological	Acid oligotrophic lakes correspond to two annexed	Lough	O'Grady,
importance in an	habitats, 'oligotrophic waters containing very few	Keel Loug	h.
International	minerals of sandy plains (<i>Littorelletalia uniflorae</i>)		
context.	(3110)' and 'oligotrophic to mesotrophic standing		
	waters with vegetation of the Littorelletea uniflorae		
	and/or of the Isoëto-Nanojuncetea (3130)'.		



Image 4.1: Zebra Mussels on the shore of Lough O'Grady

• Limestone Marl Lakes FL3

A cluster of this lake type occurs in the south east section of the study area, with underlying bedrock of Lower Carboniferous Limestone. Limestone Marl Lakes FL3 are categorised by the white clay precipitate of calcium carbonate that can be seen on the lake shore and floor, which is called Marl. This Marl is formed by Stoneworts (*Chara* spp.) which can form dense carpets in unpolluted waters. Various-leaved Pondweed (*Potamogeton gramineus*) is also characteristic. Rich Fen and Flush PF1 habitat can be found in the margins.

Rosslara Lough which is located 4.5km north east of Tulla is classified as a Limestone Marl Lake FL3. The lake has an extensive area of fringing Reed and Large Sedge Swamp FS1, and Wet Willow Alder Ash Woodland WN6. The reed beds are dominated by Common Reed (*Phragmites australis*) and Common Club-rush (*Schoenoplectus lacustris*). This is a valuable habitat for wildlife and its ecological value is further enhanced by the extensive areas of woodland to the south of the lake. The lake is of a high amenity and scenic value and is used by anglers.

Ecological Interest	Links to Annex I Habitats	Locations
	Limestone & Marl Lakes corresponds	
an International context.	to the annexed habitat, 'hard oligo- mesotrophic waters with benthic vegetation of <i>Chara</i> spp. (3140)'.	



Image 4.2: Rosslara Lough

• Mesotrophic Lakes FL4

Lakes of this type are scattered throughout the southern section of the Study Area. Craggaunkeel Lough is a small Mesotrophic Lake located approximately 3.5km north east of Tulla. Floating vegetation on the lake included Water Lilies (*Nuphar* spp.) and Pondweeds (*Potamogeton sp.*). Fringing vegetation is lush, comprising a mosaic of Reed and Large Sedge Swamp FS1 and Rich Fen and Flush PF1 with such species as Great Fen Sedge (*Cladium mariscus*), Reedmace (*Typha latifolia*), Common Club-rush (*Schoenoplectus lacustris*), Reed Canary-Grass (*Phalaris arundinacea*), Yellow Iris (*Iris Pseudacorus*) and horsetails (*Equisetum* spp.). Beyond the wetland habitats the lake is entirely surrounded by Broadleaf Woodland WD1, Conifer Plantation WD4 and Scrub WS1.

Ecological Interest				Links to Annex I Habitats	Locations		
High	ecological		ogical	Mesotrophic Lakes do not correspond to	Craggaunkeel Lough, Lough		
importance	in	а	local	Annex I Habitats under the EU Habitats	Bridget,	Lough	Meelagh,
context.				Directive.	Dromore	Lough.	



Image 4.3: Fringing habitats at Craggaunkeel Lough, a Mesotrophic Lake

• Eroding Upland Rivers FW1

A number of eroding upland rivers drain the eastern region of the study site. These rivers and streams are tributaries of the River Graney and the Scarriff River and include the Cloghaun River, Anamullaghaun River, Ayle River and Owenwillin River.

Eroding upland rivers and streams have relatively fast, turbulent flow with little or no deposition of fine sediment and the beds of the rivers are characterised by exposed bedrock and loose cobbles. Due to the rapid movement of water and unstable eroding channels, which are key features of such rivers, little vegetation is present. However, some aquatic mosses and liverworts were noted. The main channels have a range of features such as riffles, pools and runs, which are characteristic of eroding / upland rivers.

Ecological Interest	Links to Annex I Habitats	Locations	
High ecological	Eroding and upland rivers do not	Cloghaun River,	
importance in a local	correspond to any Annex I or Priority	Anamullaghaun River,	
context.	Habitats under the EU Habitats Directive.	Ayle River and	
		Owenwillin River	

• Depositing Lowland Rivers FW2

The River Graney and the Scarriff River are the two largest Rivers that drain the study area. The River Graney drains into Lough O'Grady and emerges as the Scarriff River, which flows into Lough Derg. The riparian vegetation on the banks of these rivers varies considerably throughout the study area, varying between peatlands, wetland habitats to improved grassland and woodland. These rivers are fringed by emergent vegetation which generally corresponds to Reed and Large Sedge Swamp FS1, Tall Herb Swamp FS2 and Marsh GM1, with species such as Bulrush (*Typha latifolia*), Common Club Rush (*Schoenoplectus lacustris*), Common Reed (*Phragmites australis*) and Fools Watercress (*Apium nodiflorum*).

Ecological Interest	Links to Annex I Habitats	Locations
High ecological importance in	Depositing Lowland Rivers FW2 does not	River Graney and
a local context.	correspond to any Annex I or Priority Habitats	the Scarriff River

• Drainage Ditches FW4

Drainage ditches occur throughout the study site. The drains flow into larger tributaries of the larger rivers within the study area. The water in drains is slow-moving and stagnant in places. Fools Watercress (*Apium nodiflorum*) and Common duckweed (*Lemna minor*) are frequent species in this habitat with Water Mint (*Mentha aquatica*) occurring in the verges. Tall emergent vegetation is evident in drains throughout the study area. This vegetation corresponds with Reed and Large sedge swamp (FS1), and occurs in the deep drains.

Ecological Interest	Links to Annex I Habitats	Locations
Moderate ecological	Drains are important for invertebrate diversity, and also	Occur throughout
importance in a local	Common Frog (Rana temporaria) and Smooth Newts	study site.
context.	(<i>Triturus vulgaris</i>). Drains flow into designated	
	watercourses and are therefore considered sensitive.	



Image 4.4: Recently-dug drain in very peaty soil.

RPS

• Reed and Large Sedge Swamps FS1

Areas of Reed and large Sedge Swamps occupy drains and the margins of Depositing Lowland Rivers FW2 and lakes throughout the study area. This habitat often forms intimate mosaics with Tall Herb Swamps FS2, Marsh GM1 and Wet Grassland GS4 and were therefore often too small to map. Common Reed (*Phragmites australis*), Great Fen-sedge (*Cladium mariscus*) and Common Club-rush (*Schoenoplectus lacustris*) are the dominant species, with commonly occurring species such as Common Reedmace (*Typha latifolia*), Water Mint (*Mentha aquatica*), Purple Loosestrife (*Lythrum salicaria*) and Water Plantain (*Alisma plantago-aquatica*).

Ecological Interest	Links to Annex I Habitats	Locations
Moderate ecological	Reed and Large Sedge Swamps FS1	Occurs in drains, rivers
importance in a local	habitat does not correspond to EU Annex	and fringing lakes
context.	I habitats.	throughout study site



Image 4.5: Reed and Large Sedge Swamp FS1

Improved Agricultural Grassland GA1

Improved agricultural Grassland GA1 occurs throughout the site, especially on the freedraining lands underlain by shales and till in the northern and southern sections. This habitat type comprises primarily a grassy sward of typical agricultural grassland cultivars, typically a Perennial Rye-grass (*Lolium perenne*) and White Clover (*Trifolium repens*) mix. Cock's-foot (*Dactylis glomerata*), Fescues (*Festuca* spp.), Yorkshire Fog (*Holcus lanatus*) and Meadow species (*Poa* spp.) also occurring, particularly in the field margins.

Herb species such as Ribwort Plantain (*Plantago lanceolata*) and Daisy (*Bellis perennis*) occur abundantly. Depending on management practices species such as Thistles (*Cirsium* sp.), Dandelion (*Taraxacum* sp.), Creeping Cinquefoil (*Potentilla reptans*), Silverweed (*Potentilla anserina*), Chickweed (*Cerastium glomeratum*), Common Mouse-ear (*Cerastium fontanum*) and Common Nettle (*Urtica dioica*), can be common. The margins and field boundaries of Improved Agricultural Grassland GA1 provide some ecological value. Uncultivated vegetation occurs along hedgerows, stonewalls and fences, which can support a diversity of grassland species and the tall sward provides food, shelter and commuting routes for small animals and insects.

Ecological Interest	Links to Annex I Habitats	Locations within Study Site
Low ecological importance in a local context.	This habitat type does not correspond to EU Annex I Habitats	Throughout Study Site



Image 4.6: Improved Agricultural Grassland which has just been cut for hay/silage.

• Amenity Grassland (improved) GA2

The amenity grassland occurs in gardens, parks, golf courses and football pitches, and comprises a short sward which is maintained through regular mowing. The species composition includes; ryegrass species (*Lolium* spp.), bents (*Agrostis spp*) and fescues (*Festuca* spp.). Daisy (*Bellis perennis*) and Buttercup also occur. This habitat type is found

throughout the study area, the largest example of its kind occurs in Coolreagh Beg – a golf course.

Ecological Interest	Links to Annex I Habitats	Locations within Study Site
Low ecological	This habitat type does not correspond	Throughout the study site.
importance in a local	to EU Annex I Habitats	Largest area comprises a golf
context.		course in the townland of
		Coolreagh Beg

• Dry Calcareous and Neutral Grassland GS1

Dry Calcareous and Neutral Grassland GS1 occurs throughout the study site, on free draining base rich soils in areas of low intensity agriculture. The habitats of this type tended towards the neutral – none of the habitats recorded contained indicators of calcareous grassland such as Carline Thistle (*Carlina vulgaris*) and Field Scabious (*Knautia arvensis*).

This grassland classification can be very species diverse containing grass species such as bents (*Agrostis* spp.), meadow-grasses (*Poa* spp.), Meadow Foxtail (*Alopecurus pratensis*), Timothy (*Phleum pratense*), fescues (*Festuca* spp.), Sweet Vernal-grass (*Anthoxanthum odoratum*), Crested Dog's-tail (*Cynosurus cristatus*), Cock's-foot (*Dactylis glomerata*) and Yorkshire-fog (*Holcus lanatus*) occur. Common broadleaved herbs include clovers (*Trifolium spp.*), Yarrow (*Achillea millefolium*), Common Knapweed (*Centaurea nigra*), Selfheal (*Prunella vulgaris*), Bird's-foot Trefoil (*Lotus corniculatus*).

Ecological Interest	Links to Annex I Habitats	Locations
Moderate ecological importance in a National/*International context.	*Calcareous grasslands with either high numbers or diversity of orchids correspond to the priority habitat, 'semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometea</i>) (*important orchid sites) (6210)'. This habitat type was not found within the	Occurs throughout Study Site, particularly in the south west
	study area, however.	



Image 4.7: Close up of Dry Calcareous/Neutral Grassland with abundant Bird's-foot Trefoil (Lotus corniculatus) and Eyebrights (Euphrasia spp.)

• Dry Meadows and Grassy Verges GS2

Few agricultural fields are now managed as traditional hay meadow and this habitat is largely confined to field and road margins. As these grasslands are rarely fertilised, a good diversity of grassland species persists. Species include; False Oat-grass (*Arrhenatherum elatius*), Cock's Foot (*Dactylus glomerata*), Meadow Foxtail (*Alopecurus pratensis*) and Yorkshire Fog (*Holcus lanatus*). There is also a good diversity of herbaceous species, including Spear Thistle (*Cirsium vulgare*), Cowslip (*Primula veris*), Ragwort (*Senecio jacobaea*), Meadowsweet (*Filipendula ulmaria*), Red and White Clover (*Trifolium pratense* and *T. repens*), Willowherb (*Epilobium* sp.) and Selfheal (*Prunella vulgaris*). Also present are species such as Meadow Vetchling (*Lathyrus pratensis*) which climb the stems of other plants. Lesser Trefoil (*Trifolium dubium*), Daisy and Shepherd's Purse (*Capsella bursapastoris*) can occur in the disturbed areas. This habitat type is declining in the Irish landscape due to changes in farming practises. As these grasslands are not fertilised or intensively grazed, these grasslands are species diverse and provide good habitat for many species of invertebrates.

Ecological Interest	Links to Annex I Habitats	Locations
High ecological	This grassland habitat may correspond to the	
importance in a in a	annexed habitat, 'Lowland hay meadows	
National/*International		
context.	officinalis)'. No examples of this habitat type	western section in the
	were found within the Study Area however.	townlands of Feakle and
		Lecarrow Lower.



Image 4.8: Dry Meadow habitat

• Dry-Humid Acid Grassland GS3

This habitat type has very limited distribution within the study area, confined to a few small fields in a hilly area in the northern section of the site, and some patches around the edges of Cutover Bog. It exhibits a good species diversity of vascular plants, herbs and mosses. Species include Purple moor grass (*Molinia caerulea*), Mat Grass (*Nardus stricta*), Bent grass (*Agrostis spp*), Wavy Hair Grass (*Deschampsia flexuosa*), Fescue Grasses (*Festuca spp.*), Tormentil (*Potentilla erecta*), Self Heal (*Prunella vulgaris*), Sheep's Sorrel (*Rumex acetosella*) and Devil's-bit Scabious (*Succisa pratensis*). Hard Fern (*Blechnum spicant*) and Bracken (*Pteridium aquilinum*) and mosses such as, *Brachythecium rutabulum, Pleurozium schreberi* and *Polytrichum commune* also occur.

Ecological Interest	Links to Annex I Habitats	Locations
High ecological	EU Habitats Directive Annex I Habitat: Dry-humid	Clashmore,
importance in a local	Acid Grassland includes the priority habitat	Lecarrow Lower,
context.	'species-rich Nardus grasslands on siliceous	Core.
	substrates in mountain areas (6320)'. This habitat	
	type does not occur within the study area.	

• Wet Grassland GS4

This habitat occurs throughout the site where drainage is impeded. On acidic soils this habitat is characterised by rushes (*Juncus articulatus/acutiflorus/effuses/inflexus*), sedges (*Carex spp*), Purple Moor-grass (*Molinia caerulea*), Tormentil (*Potentilla erecta*), Devil's-bit scabious (*Succisa pratensis*), Bog Asphodel (*Narthecium ossifragum*) and Heath Milkwort (*Polygala serpyllifolia*). Bog mosses (*Sphagnum spp*.) can often be found in the damp hollows throughout. This habitat often forms mosaics with Wet Heath HH3 and Cutover Bog PB4. Wet Grassland often grades in to Marsh and forms mosaics with it in places.

Small areas of *Molinia* dominated Wet Grassland GS4 also occur throughout the site, particularly in the grasslands bordering peatlands in the middle section of the Study Area. These *Molinia* rich grasslands correspond to EU Habitats Directive Annex I Habitat, '*Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)' (6410).

The species diversity of this grassland type varies considerably throughout the study area and is largely determined by management practices. Species rich and diverse examples of Wet Grassland GS4 are target noted.

Ecological Interest	Links to Annex I Habitats	Locations
Moderate to *High ecological importance in a local context.	Few Wet Grassland GS4 habitats within the study site correspond to the EU Habitats Directive Annex I Habitat: ' <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>)' (6410). Devil's-bit Scabious, which is the food plant of the Marsh Fritillary, prevails in a number of sites. Wet grasslands are susceptible to agricultural management practices; therefore species rich examples are under constant threat. Although this habitat type is widespread, it is considered to be of moderate ecological value.	Throughout study site.



Image 4.9: Molinia-dominated Wet Grassland located on the southern banks of the Cloghaun River

• Marsh GM1

Marsh GM1 habitats are common throughout the study area, occurring predominantly in the margins of rivers in association with other habitats such as Reed and Large Sedge Swamps, Tall Herb Swamps FS2, and wet hollows in Wet Grassland GS4 habitats. Marsh GM1 habitat comprises a diversity of species similar to Wet Grassland GS4; however there is a predominance of herbs including Ragged Robin (*Lynchnis flos-cuculi*) and Marsh Woundwort (*Stachys palustris*), with horsetails (*Equisetum* spp), Yellow Iris (*Iris pseudacorus*), and Reedmace (*Typha latifolia*) occurring.

Ecological Interest	Links to Annex I Habitats	Locations
High ecological	Marsh may sometimes contain pockets of the Annex I	Throughout
importance in a local context.	habitat, 'hydrophilous tall herb fringe communities of plains and of the montane to alpine levels (6430)'. No examples of this particular habitat were found during the survey however.	Study Area



Image 4.10: Ragged Robin (Lychnis flos-cuculi), a typical Marsh species

• Wet Heath HH3

Small areas of this habitat type occur in the north-eastern section of the Study Area. It is a common habitat in Cutover Bogs (PB4), but also occurs on shallow peat, generally under 0.5 metres in depth.

The wet heath species include Ling Heather (*Calluna vulgaris*) and Crossed-leaved Heath (*Erica tetralix*), Bilberry (*Vaccinium myrtillus*), Purple Moor-grass (*Molinia caerulea*), Common Rush (*Juncus effusus*), Heath Rush (*Juncus squarrosus*), Heath Milkwort (*Polygala serpyllifolia*), Devil's bit Scabious (*Succisa pratensis*) and Cotton grass (*Eriophorum vaginatum*). Mosses such as *Rhytidiadelphus loreus*, *Hylocomium splendens* and *Polytrichum commune* are common, with *Sphagnum* species and Star Sedge (*Carex echinata*) occurring in the flushed areas. This vegetation type occurs throughout the site and is considered to be of high conservation value

Ecological Interest	Links to Annex I Habitats	Locations
High ecological importance in a	Wet heath corresponds to the Annex 1	Feakle,
local context in an International	habitat 'northern Atlantic wet heaths with	Kilbarron,
context.	Erica tetralix (4010)'.	Rossanure



Image 4.11: Wet Heath habitat on Cutover Bog in the townland of Lecarrow North

• Dense Bracken HD1

Small areas of Dense Bracken HD1 occur in a variety of habitats within the study area, such as in the areas of scrub and woodland. This habitat also occurs in the upland grasslands in areas of low intensity grazing.

Ecological Interest	Links to Annex I Habitats	Locations
Low ecological	This habitat does not correspond to EU	Small areas
importance in a local	Habitats Directive Annex 1 Habitats. This	throughout study
context.	vegetation type can be invasive and is	area
	considered to be of low conservation value.	



Image 4.12: Dense Bracken on an area of Cutover Bog

• Raised Bogs PB1

Uncut raised bogs are a rarity in Ireland and those found within the study area are no exception. Raised bogs are found mostly in the midlands of Ireland; however they also occur in a limited number of areas in County Clare. They form in lowland areas in river valleys, hollows and lake basins. Their domed shape gives rise to the name 'raised bog' and can be as deep as 13m.

Within the study area, there were formerly significant areas of Raised Bog (PB1) in the Coolreagh, Coolreagh Beg, Derrynaheila, Ballynahinch. The dome shape can still be seen at some of these sites, however, the tall peat banks and ramparts show evidence of a long history of peat extraction, and so only small pockets can be classified as intact Raised Bog. The areas of Cutover Bog (PB4), are often colonised by Wet Heath (HH3) vegetation, or if it has been significantly drained and reclaimed, Dry Humid Acid Grassland (GS3) can establish. Some of the bogs have been planted with conifers and or Bog Woodland (WN7) has established on the dryer edges.

The typical floral assemblage of Raised Bog includes; Deergrass (*Trichophorum caespitosum*), Common Cottongrass (*Eriophorum angustifolium*.), Bog Rosemary

(*Andromeda polifolia*), Bog Asphodel (*Narthecium ossifragum*), White Beak Sedge (*Rhynospora alba*), Purple Moor-grass (*Molinia caerulea*) and Sundew (*Drosera rotundifolia*) with Sedge (*Carex spp.*) and Rush species (*Juncus spp.*). Ling Heather (*Calluna vulgaris*), Cross-leaved Heath (*Erica tetralix*) and occasional dwarf shrubs also occur such as Bilberry (*Vaccinium myrtillus*) and Bog Myrtle (*Myrica gale*). Wetter areas and pools containing large patches of Sphagnum are interspersed across the bog with Reindeer Mosses (*Cladonia spp.*) on the drier hummocks.

In Raised Bogs (PB1), the annexed habitat, 'depressions on peat substrates of the Rhynchosporion (7150)' can occur in the cutover areas.

Ecological Interest	Links to Annex I Habitats	Locations
Ecological Interest High ecological importance in an International context.	Links to Annex I Habitats Raised bogs correspond to the priority habitat, '*active raised bogs (7110)' if they are still capable of peat formation, or if peat formation has temporarily ceased. 'Degraded raised bogs still capable of natural regeneration (7120)' are also listed as an annexed habitat. These are damaged bogs where it is judged that the peat forming capability can be restored within 30 years. The annexed habitat, 'depressions on peat substrates of	Locations Coolreagh, Coolreagh Beg, Derrynaheila, Ballynahinch.
	the Rhynchosporion (7150)' occurs in pockets as a sub-habitat of raised bog.	



Image 4.13: Coolreagh Bog: Intact Raised Bog in the background with bare peat banks showing extent of cutting.



Image 4.14: Close-up of Intact Raised Bog vegetation at Coolreagh with Sphagnum spp, Drosera rotundifolia, Erica tetralix and Calluna vulgaris

Cutover Bog PB4

Turf banks occur throughout the Raised Bog PB1 areas within the study site. These ramparts are relics of a long history of peat extraction in the area. Bare banks are still evident where turbary harvesting of peat is ongoing. The areas of modified Raised Bog PB1, that have been cut have re-vegetated with varying assemblages of species, depending on hydrology, depth of peat remaining, nature of the peat and underlying substratum. The peat banks as a result of natural succession have been colonised with heath vegetation. However, the wetter hollows are usually dominated by Deer Grass (*Trichophorum cespitosum*), Bog Cotton Grasses (*Eriophorum angustifolium*) and Bog Asphodel (*Narthecium ossifragum*). The Sphagnum species occur throughout.

Ecological Interest	Links to Annex I Habitats	Locations
High ecological	EU Habitats Directive Annex 1 Species: The	Coolreagh, Coolreagh
importance in am	annexed habitat 'depressions on peat substrates	Beg, Derrynaheila,
International	of the Rhyncosporion (7150)' can occur in	Ballynahinch, Rosslara,
context.	pockets on cutover bog. This annexed habitat	Cloondoorney,
	occurs in wet depression it the areas of cut	Drummaghamartin,
	Raised Bog.	Lecarrow North, Callahy.



Image 4.15: Cutover Bog in Coolreagh

• Rich Fen and Flush PF1

Fens develop from damp or water logged hollows in the landscape and small areas can be found throughout the study area. They are generally associated with lake edges, flood plains and river valleys. Fens often form mosaics with a variety of woodland, wetland and open water habitats.

A large, diverse Rich Fen and Flush PF1 with good connectivity with surrounding wet habitats can be found in the Townland of Kilbarron (see Target Note 4154-c TN7). Adjacent to the western edge of the site is an area that has recently been converted to forestry. To the north, land has been improved. Threats to the site include; nutrient enrichment due to close proximity of forestry and improved farm land. Drainage is also a risk, with lands to the south being well drained at present. These lands, although containing a high proportion of rushes, have a low species diversity in comparison to nearby sites. An area to the east of the fen contains floristically diverse wet grasslands and transition mire (See Target Note 4154-c TN3, TN5, TN6 and TN8). The fen habitat supports species such as Bogbean (*Menyanthes trifoliata*), Purple Moor-grass (*Molinia caerulea*), Grass-of-Parnassus (*Parnassia palustris*), Common Cottongrass (*Eriophorum angustifolium*), Velvet Bent (*Agrostis canina*), Yorkshirefog (*Holcus lanatus*), Marsh Pennywort (*Hydrocotyle vulgaris*), Water Mint (*Mentha aquatica*), Common Butterwort (*Pinguicula vulgaris*) and Devil's-bit scabious (*Succisa pratensis*).

Another good example of this habitat type is found in Callahy (see Target Note 4213-b_TN2). With frequent Great Fen Sedge (Cladium mariscus), this habiat corresponds to the Annex I Priority habitat '*Calcareous fens with *Cladium mariscus* and species of the Caricion davallianae (7210)'.

Ecological Interest	Links to Annex I Habitats	Locations
	The annexed habitats 'Alkaline Fens (7230)'	
an International context.	and '*Calcareous fens with Cladium mariscus	Callahy.
	and species of the Caricion davallianae	
	(7210)'.	



Image 4.16: Extensive Species Rich Fen and Flush PF1

• Transition Mire and Quaking Bog PF3

Transition Mire and Quaking Bog are very wet peat-forming systems and are characterised by having features which are trasitional between poor and rich fens. This habitat was found in only one location in the study area – in the townland of Kilbarron. This area is wetter than most raised bogs in the area and does not display the typical dome shape that is characteristic. It does however contain many typical raised bog species; Round-leaved Sundew (*Drosera rotundifolia*), White Beak-sedge (*Rhynchospora alba*) and Bog asphodel (*Narthecium ossifragum*), alongside more fen affiliated species such as Marsh Cinquefoil (*Potentilla palustris*).

Ecological Interest	Links to Annex I Habitats	Locations
High ecological	Transition Mire and Quaking Bog PF3 corresponds	Kilbarron
importance in an	to the Annex I habitat 'transition mires and quaking	
International context.	bogs (7140)'.	

RPS

• Oak-Birch-Holly Woodland WN1

This habitat type is very limited in the study area, but several examples were found in the vicinity of Lough O'Grady. This type of woodland occurs on acid or base-poor soils that may be either dry or humid, but not waterlogged. Stands are usually dominated by Sessile Oak (*Quercus petraea*) or mixed stands of Sessile and Pedunculate Oak (*Q. petraea* and *Q. robur*) or their hybrids. Downy Birch (*Betula pubescens*) can be the dominant tree in some situations, as is the case with the examples found in the study area. Other common trees are Holly (*Ilex aquifolium*) and Rowan (*Sorbus aucuparia*).

The woodlands of this type found within the study area were quite humid and had a rich field layer with many wetland species. Species recorded were Hard Fern (*Blechnum spicant*), Bracken (*Pteridium aquuilinum*), Meadowsweet (*Filipendula ulmaria*), Remote Sedge (*Carex remota*), Common Dog-violet (*Viola riviniana*), Herb Robert (*Geranium robertianum*) and Germander Speedwell (*Veronica chamaedris*).

Ecological Interest	Links to Annex I Habitats	Locations
High ecological	This habitat does not correspond to Annex I	Found mainly in the
importance in a local context.	habitats, however the habitat is considered to be of moderate to high conservation value in a local context as semi-natural woodlands are a rarity in the landscape.	



Image 4.17: Birch-dominated Woodland in the townland of Coolreagh

Oak-Ash-Hazel Woodland WN2

This habitat type occurs on base-rich or calcareous soils that are generally dry or well drained. It is widespread on limestone substrate in the west and south-west of the study area. This type of woodland occurs on soils that are well drained and comprises Oak (*Quercus robur*), Ash (*Fraxinus excelsior*), and Hazel (*Corylus avellana*), with Holly (*Ilex aquilinum*) occurring intermittently. The ground flora comprises Ivy (*Hedera helix*), Lords and Ladies (*Arum maculatum*), grasses and ferns.

Ecological Interest	Links to Annex I Habitats	Locations
High ecological	This habitat does not correspond to Annex I	Throughout west and
importance in a local context.	habitats, however the habitat is considered to be of moderate to high conservation value in a local context as semi-natural woodlands are a rarity in the landscape.	Rossanure, Coolreagh, Boherurd and
		Craggaunkeel



Image 4.18: Road through Oak-Ash-Hazel Woodland in the townland of Craggaunkeel

Wet Willow-Alder-Ash Woodland WN6

This classification includes woodlands of permanently waterlogged sites that are dominated by willows (*Salix* spp.), Alder (*Alnus glutinosa*) or Ash (*Fraxinus excelsior*). The field layer generally comprises; Creeping Bent (*Agrostis stolonifera*), Meadowsweet (*Filipendula ulmaria* and Purple-loosestrife (*Lythrum salicaria*) and Skullcap (*Scutellaria galericulata*).

Ecological Interest	Links to Annex I Habitats	Locations
High ecological	This habitat does not correspond to Annex I	In the middle and south-
importance in a local context.	habitats, however the habitat is limited within the study area and is therefore considered to be of high conservation value in a local context.	area, in the townlands of

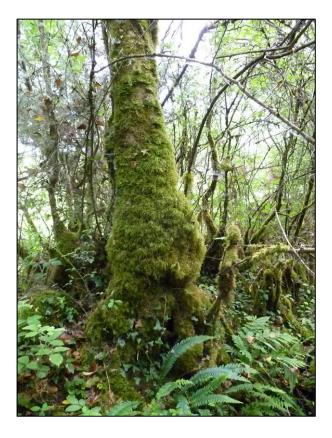


Image 4.19: Wet Willow Alder Ash Woodland with abundant mosses and ferns in the townland of Rossanure



Image 4.20: Spotted-Orchid (*Dactylorhiza* sp.) growing in Wet Willow Alder Ash Woodland in Rossanure

Bog Woodland WN7

This woodland occurs on areas of Cutover Bog (PB4) in the middle and south western sections of the study site. Bog woodland typically occurs on peat bogs of significant depth, where the upper layers are well drained. The dominant tree species is Downy Birch (*Betula pubescens*), with occasional Silver Birch (*Betula pendula*), Scots Pine (*Pinus sylvestris*) and willow (*Salix spp.*). Royal Fern (*Osmunda regalis*), Ivy (*Hedera helix*), Ling Heather (*Calluna vulgaris*), Bilberry (*Vaccinium myrtillus*), Bog Myrtle (*Myrica gale*), cross-leaved heath (*Erica tetralix*) and bog rosemary (*Andromeda polifolia*) occur in the under-storey. Sedges, rushes and bracken also occur.

Ecological Interest	Links to Annex I Habitats	Locations
High ecological	This habitat corresponds to the Annex I	Coolreagh Beg, Fossa
importance in a	habitat 'Bog Woodland (91DO)', this	More, Core, Rossanure,
National/International	classification refers to woodland of intact	Clonmoher, Annaghneal,
context.	raised bog. The woodland occurs on the	Craggaunkeel, Lecarrow
	fringes of cutover raised bog and is	North
	considered to be of moderate to high	
	conservation value in a local context.	



Image 4.21: Bog Woodland WN7 beginning to form on an area of Cutover Bog in the townland of Coolreagh Beg. Conifer Plantation in background.

• (Mixed) Broadleaved Woodland WD1

This woodland type occurs throughout the study area. This classification is the most common broadleaved woodland found within the study area. The woodlands range in species diversity including; Oak (*Quercus* spp), Beech (*Fagus sylvatica*), Sycamore (*Acer pseudoplatanus*), Ash (*Fraxinus excelsior*), Horsechestnut (*Aesculus hippocastanum*) and the occasional Sitka Spruce (*Picea sitchensis*), and Pine species (*Pinus* spp). The scrub layer and ground flora varies dramatically between the sites, depending on species mix of trees, drainage and management practices.

Ecological Interest	Links to Annex I Habitats	Locations
Moderate ecological	This habitat does not correspond to Annex I	Throughout Study
importance in a local	habitats and is quite common throughout the	Site
context.	study area. However, compartments of	
	deciduous woodland can be valuable to wildlife,	
	providing refuge and foraging for a variety of	
	animals. It is therefore considered to be of	
	moderate conservation value in a local context.	



Image 4.22: Mixed broadleaved woodland

• Mixed Broadleaved/Conifer Woodland WD2

This habitat comprises mixed stands of broadleaved trees and conifer trees. The largest example of this woodland type can be found in the south-eastern corner of the study area, in the townland of Ballincurrin.

Ecological Interest	Links to Annex I Habitats	Locations
Moderate ecological	This habitat does not correspond to Annex I	Throughout study site,
importance in a local	habitats, but does however offer some	especially in the south east, in
context.	refuge to wildlife.	Ballincurrin townland.

• (Mixed) Conifer plantation WD3

Small compartments of this habitat type occur throughout the study area. Most have been planted for commercial plantation forestry.

Ecological Interest	Links to Annex I Habitats	Locations
Low to moderate	This habitat does not correspond to Annex	Ayle Lower, Lecarrow North,
ecological importance	I habitats.	Craggaunkeel, Rosslara,
in a local context.		Cloondoorne,
		Drummaghmartin, Coolready.

• Conifer Plantation WD4

There is an extensive area of commercial forestry in the south-eastern corner of the study area, in the townlands of Ballyvannan and Ballymalone. Another large section has been planted on Cutover Bog in the townland of Core. Other small pockets are scattered throughout the study area. The plantations are harvested for commercial forestry. The closed canopies of these woodlands deprive the ground layers of light and are therefore a diverse woodland flora is absent. Deciduous trees are often planted on the edge of conifer plantations to increase species diversity. In some cases, habitats of conservation value such as Wet Heath have been planted with conifers.

Ecological Interest	Links to Annex I Habitats Locations	
Low to moderate	This habitat does not	Large area in the south eastern
ecological importance in	correspond to Annex I	corner and scattered throughout
a local context.	habitats.	the study area.



Image 4.23: Wet Heath habitat which has been planted with conifers, Ayle Lower

• Scattered Trees and Parkland WD5

One area of Scattered trees and parkland habitat occurs in the very south of the study area, in the townland of Maryfort (Lismeehan). Large mature native and non-native trees are a prominent feature in the landscape. Horse chestnut, Beech and Oak are a regular feature. They occur in improved agricultural grasslands and semi improved pastures. These large mature trees can provide refuge for a number of bird species, including Long-eared Owl (*Asio otus*), and a variety of insects.

Ecological Interest	Links to Annex I Habitats	Locations
Moderate ecological importance in a local context.	This habitat does not correspond to Annex I habitats, however some exquisite examples of mature trees have persisted in these landholdings.	Maryfort (Lismeehan)

Scrub vegetation occurs on thin soils where agriculture has been abandoned and scrub has encroached. To be considered scrub, the habitat must comprise 50% of shrubs, low trees and /or brambles with a canopy height of less than 5m. Species such as Hazel (*Corylus avellana*), Gorse (*Ulex europea*) are a common component, with Bramble (*Rubus fruticosus agg.*), Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*) and Guelder Rose (*Viburnum opulus*) are common.

Areas of scrub occur throughout the study area. Most Scrub in the study area is dominated by Gorse, Blackthorn, Hawthorn and Bramble, but there are some areas in the south-east with shallow, base-rich soils and these are dominated by Hazel (*Corylus avellana*).

Ecological Interest	Links to Annex I Habitats	Locations
Moderate ecological	This habitat does not correspond to Annex	Throughout study site.
importance in a local	I habitats, however it can be important for	
context.	wildlife, particularly insects and birds.	



Image 4.24: Area of Hazel Scrub (WS1) in the townland of Fontane More.

• Immature Woodland WS2

Plots of immature woodland occur scattered throughout the study site. The plantations are principally on marginal agricultural land such as Wet grassland GS4 and Cutover Bog PB4, and the ground flora reflects these habitats. Immature Woodlands WS2 are a favoured foraging habitat for Hen Harrier.

RPS

Hedgerows WL1

Hedgerows occur throughout the study area. They are often found in association with stonewalls and earth banks. These linear features are prominent throughout the study site. Good examples of well-managed and diverse examples were recorded, with the greatest species diversity occurring in the hedgerows bordering roads. These species included native and ornamental/non-native species; native species included Honeysuckle (*Lonicera periclymenum*), Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Gorse (*Ulex europaeus*), Holly (*Ilex aquifolium*), Elder (*Sambucus nigra*) and Willow (*Salix* spp). Taller mature trees were also recorded within the hedgerows, such as Ash (*Fraxinus excelsior*), Oak (*Quercus* spp.), Sycamore (*Acer pseudoplatanus*) and Scots Pine (*Pinus sylvestris*) but to be considered hedgerows these must not dominate the feature. Non-native species recorded include Fuchsia (*Fuchsia magellanica*) and Snowberry (*Symphoricarpus rivularis*), both of which can be very invasive species. The ground flora of hedgerows within the study area was equally diverse supporting a variety of species corresponding to Dry Meadows and Grassy Verges Habitat GS2.

Ecological Interest	Links to Annex I Habitats	Locations
Moderate ecological importance in a local context.	This habitat does not correspond to Annex I habitats.	Throughout study site



Image 4.25: Hedgerows criss-crossing landscape throughout study area

RPS

Exceptional examples of mature tree-lines can be found enclosing farmlands, particularly in the south and east of the study site. Mature Oak (*Quercus* spp) is a prominent feature with Scots Pine (*Pinus sylvestris*), Ash (*Fraxinus excelsior*), Beech (*Fagus sylvatica*) and Sycamore (*Acer pseudoplatanus*), Horsechestnut (*Aesculus hippocastanum*) and Poplars (*Populus Spp.*) occur occasionally. Hedgerows dominated by Leyland Cyprus (*Cupressocyparis leylandii*) and Laurel (*Prunus laurocerasus*), were also recorded, usually bordering houses. A good diversity of herbaceous species was found in the understorey, including Herb Robert (*Geranium robertianum*), Creeping Buttercup (*Ranunculus repens*), Bramble (*Rubus fruticosa*), Couch Grass (*Elytrigia repens*), Ivy (*Hedera helix*), Willowherb (*Epilobium* spp.), Broad-leaved Dock (*Rumex obtusifolius*) and Cleavers (*Galium aparine*). The ground beneath the herbaceous layer has a dense covering of moss. Invasive exotic species were also recorded such as Japanese Knotweed (*Fallopia japonica*) Japanese knotweed is one of the most invasive species in Europe.

Ecological Interest	Links to Annex I Habitats	Locations
Moderate ecological importance in a local context.	This habitat does not correspond to Annex I habitats.	Throughout study site



Image 4.26: Tree-lined hedgerow in Rossanure

4.3 SIGNIFICANCE OF HABITATS

Over the centuries this landscape within the study area has been heavily influenced by anthropogenic activities such as reclamation of wetlands for agriculture, peat harvesting, plantation forestry, quarrying of sands and gravels, and residential and industrial development. As a result, Improved Agricultural Grassland GA1 now provides the overall character of the surrounding landscape; comprising the majority of the total area surveyed, with some semi-natural habitats persisting in the less intensively managed areas. The middle section of the site provides the greatest diversity of peatland habitats; although this has been subject to extensive turbary peat cutting. This central section also has the highest concentration of Wet Grassland and Marsh. Large areas of plantation forestry occur in south eastern and south western sections.

Freshwater resources, including rivers, lakes and associated wetland habitats are under increasing pressure from pollution and reclamation. Reed and Large Sedge Swamps FS1 can be found in drains and the margins of Depositing/Lowland Rivers FW2 throughout the study area. Reed and Large Sedge Swamps FS1 is found throughout and forms an intimate mosaic with a number of habitats in this area including Wet Grassland GS4, Marsh GM1, Tall Herb Swamps FS2 and Riparian Woodland WN5. Fen habitats are limited within the study area. Poor Fen and Flush PF2 habitat occurs in small pockets in some peatland areas. Other lakes and ponds within the study area are under threat from pollution, eutrophication and water abstraction.

Peatlands that are still capable of peat formation are listed as a priority habitat in Annex I of the EU Habitats Directive and therefore extremely valuable for nature conservation. The Raised Bog PB1 formations add to the biodiversity of the study area as a whole. These areas have been extensively cut over the last centuries, however peat harvesting has largely ceased at these sites. In the depressions of the cutover bog, the annexed habitat, 'depressions on peat substrates of the Rhynchosporion (7150)' has occurred as a sub-habitat of Raised Bog PB1. This area is extensive and worthy of protection either nationally or locally.

Semi-natural woods have originated mainly through natural regeneration. These may be broadleaved, or mixed in composition, and are composed predominantly of native species. They tend to have a more 'natural' appearance than plantations, with greater variation in tree age and greater structural diversity. The ecological value of semi-natural woodland, in terms

of the diversity of plant communities and species present, is often closely related to woodland age and origin.

The character and ecology of rural and urban landscapes, and opportunities for recreation, are greatly influenced by woodland. Semi-natural woodland is an especially important habitat for native plants and animals. It enhances the biodiversity of farmland, and creates an attractive image for tourism. Good plantation design is vital to watercourse management; to protect against heavy run-off, acidification and erosion, and to maintain the quality of the habitat for fish and other freshwater life.

4.4 SITES OF LOCAL BIODIVERSITY VALUE, ECOLOGICAL CORRIDORS AND BUFFER ZONES

The survey identified areas of biodiversity importance on a local and national level. Some examples of priority habitat protected under the EU Habitats Directive were also identified. Stakeholders including the NPWS and County Council have an obligation under the Habitats Directive to protect, maintain or restore natural habitats, which are of conservation importance as defined in the Directive, at a favourable conservation status.

Many habitats of conservation concern particularly designated sites are linked to the surrounding landscape by natural and manmade features, such as water courses (rivers, streams, canals and drainage ditches), hedgerows, treelines, roads and railways. Therefore, areas of conservation concern must not be considered in isolation, their linkages and buffer zones must also be protected to ensure the continued migration of species and genetic diversity throughout the study area.

Prescribing buffer zone widths to designated sites, areas of conservation concern or ecological corridors is dependant on a number of variables and often a 'one size fits all' approach is not always applicable. The need for maintaining a buffer zone adjacent to conservation sites is well documented; the width, however, is contested.

When prescribing buffer zones the following should be considered;

- Conservation value of feature to be protected;
- Intensity of adjacent land use;
- Tolerance of species and habitat to disturbance,

- Buffer characteristics (e.g. slope, soil type);
- Specific buffer functions,
- Proximity to existing development and lands zoned for development, and
- Area that could be practicable and appropriate from the point of management of the buffer zone.

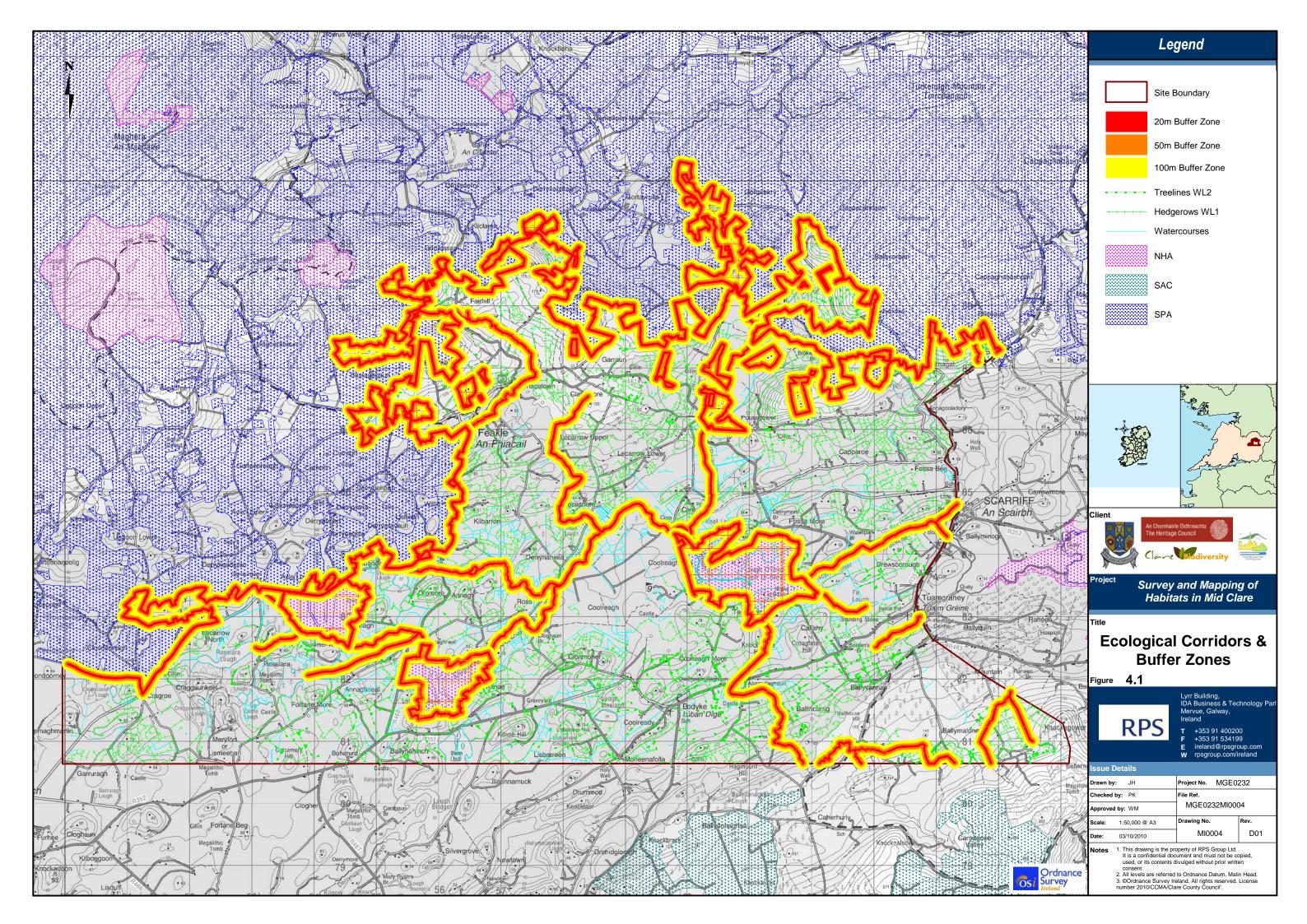
For example, buffer zones have been recommended for Riparian Zone Management in Forestry and are detailed in guidance from the Department of Agriculture Food and the Forest Service. The purpose of these buffer zones is to protect watercourses from forestry activities. Details of recommended buffer zones are provided in **Table 4.1** below.

Table 4.3: Buffer Zone widths for Riparian Zone Management in Forestry

Average slope leading to aquatic zone	Zone width on each side of the aquatic zone	Zone width on each side of highly erodable soils
Moderate slope 0- 1in7	10m	15m
Steep 1in7 –1in3	15m	20m
Very steep 1in3 or>	20m	25m

(Source:http://www.westernrbd.ie/PDF/Riparian/RiparianZone_Workshop_Pat_OCallaghan.pdf)

There are no prescribed buffer zones for ecological corridors and designated sites, therefore for illustrative purposes buffer zones of 20m, 50m and 100m have been place around key ecological corridors and designated sites. Drains and hedgerows also provide valuable corridors; these features are illustrated but are not buffered. The buffer zones are illustrated in **Figure 4.1**.



4.4.1 SITES OF LOCAL BIODIVERSITY INTEREST

4.4.1.1 Internationally/Nationally Important Ecological Sites – Highly Sensitive Habitats

These habitats have been chosen due to their links to Annex I habitats as listed in the Habitats Directive. These habitats are considered highly sensitive. Locations of these habitats within the study area are given, along with Target Notes numbers for the best examples of these habitat types.

Freshwater Habitats

FL2 Acid oligotrophic lakes correspond to two annexed habitats, 'oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) (3110)' and 'oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea (3130)'. Lough O'Grady and Keel Lough are good examples of this habitat type (see Target Note 4213-a_TN1).

Grassland Habitats

 Wet Grassland GS4, linked to the Annex I habitat Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) (6410). Wet Grassland is abundant throughout the study area, but habitat corresponding to the annexed habitat was found at only one site: in the townland of Coolreagh (see Target Note 4212b_TN6)

Heath and Dense Bracken Habitats

Wet Heath HH3 corresponds to the annexed habitat, 'northern Atlantic wet heaths with *Erica tetralix* (4010)'. Found in the townlands of Feakle, Kilbarron, Rossanure. A good example of this habitat type is described in Target Note 4154-c_TN2.

Peatland Habitats

- Raised Bog PB1 also priority habitat under Habitats Directive listed as 'Active Raised Bogs (Code 7110)'.
- PB4 Cutover Bog linked to the annexed habitat, 'depressions on peat substrates of the Rhynchosporion (7150)'. Found in the townlands of Coolreagh, Coolreagh Beg, Derrynaheila, Ballynahinch, Rosslara, Cloondoorney, Drummaghamartin, Lecarrow

North, Callahy (see Target Notes **4212-b_TN3**, **4154-d_TN5**, **4213-b_TN1**, **4213b_TN2**)

- PF1 Rich Fen and Flush linked to 'alkaline fens (7230)' and '*calcareous fens with *Cladium mariscus* and species of the Caricion davallianae (7210)'. The latter is a priority habitat that describes stands of species-rich alkaline fen vegetation in which Great Fen-sedge (*Cladium mariscus*) is dominant. Found in the townlands of Kilbarron and Callahy– see Target Notes 4154-c TN7 and 4213-b_TN2.
- PF3 Transition Mire and Quaking Bog. Corresponds to the annexed habitat, 'transition mires and quaking bogs (7140)'. Found in the townland of Kilbarron (see Target Note 4154-c_TN5.

Woodland Habitats

- WN1 Oak-birch-holly woodland is linked to the Annex I habitat Old sessile oak woods with *llex* and *Blechnum* in the British Isles (91A0)'. It is found mainly in the north-east of the study area; in the townlands of Coolreagh Beg and Fossa More – see Target Notes 4154-d_TN6.
- WN7 Bog Woodland also priority habitat under Habitats Directive listed as Bog Woodland (Code 91d0). This habitat type is found in small pockets at the edges of peatland areas in the townlands of Coolreagh Beg, Fossa More, Core, Rossanure, Clonmoher, Annaghneal, Craggaunkeel and Lecarrow North.

The areas listed above are of particular interest on an International and National level. These habitats are listed under Annex I of the EU Habitats Directive and a number of them are also Priority Habitats. Theses sites are rich in biodiversity and support a number of Annex II species. The Peatlands and Woodlands provide refuge and habitat for numerous animal and invertebrate species, including, Badger, Fox, Pine Martin, Smooth Newt, Common Frog, various species of bird including Barn Owl, Sparrow Hawk, Kestrel, Meadow Pipit, Sky Lark, and a variety of beetle, dragon fly and damselfly species.

4.4.1.2 Habitats of High Ecological Value in a Local Context – Very Sensitive Habitats

These habitats are considered to be of High Ecological Importance in a Local Level as they contain semi-natural habitat types with high biodiversity in a local context. They also form valuable linkages and function as part of the designated sites, which are found within and border the study area.

Freshwater Habitats

- Limestone Marl Lakes FL3. Good examples found in Rosslara Lough, Maryfort Lough and Castle Lough.
- Mesotrophic Lakes FL4. Good examples are Craggaunkeel Lough, Lough Bridget, Lough Meelagh, Dromore Lough.
- Eroding Upland Rivers FW1. Found throughout the study area.
- Depositing/Lowland Rivers FW2. Found throughout the study area.
- Reed and Tall Sedge Swamps FS1. Occurs in drains, rivers and fringing lakes throughout study area.

Grassland & Marsh Habitats

- Wet Grassland GS4. When Wet Grassland does not correspond to the Annex I habitat *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) (6410), but is still quite species-rich, it is considered to be of high ecological importance on a local scale. This habitat type was found scattered throughout the study area. Good examples of species-diverse Wet Grasslands are described in 4212-b_TN7, 4155-a_TN3, and 4154-a_TN1.
- Marsh GM1. This habitat type was scattered throughout the study area. Good examples of this habitat type are described in 4155-b_TN2 and 4210-d_TN1 and 4212-a_TN1.

Peatland Habitats

 Cutover Bog PB4 which does not correspond to the annexed habitat, 'depressions on peat substrates of the Rhynchosporion (7150)', This habitat type was found in numerous locations throughout the study area, including Coolreagh, Coolreagh Beg, Derrynaheila, Callahy and Ballynahinch (see Target Notes 4212-b_TN2, 4212b_TN4, 4213-b_TN2).

Woodlands

- Oak-Ash-Hazel woodland WN2. Found throughout the west and south west of the study site, in the townlands of Rossanure, Coolreagh, Annagh/Drumminnanav (4212-a_TN3), Boherurd (see Target Note 4211c_TN3) and Craggaunkeel.
- Wet Pedunculate Oak-Ash Woodland WN4 (very small pockets found in Gortaderry and Ross).

 Wet Willow-Alder-Ash Woodland WN6 (In the middle and south-western section of the study area, in the townlands of Feakle, Rossanure (see Target Note 4154d_TN2), Core, Coolreagh Beg, Core and Lecarrow North).

4.4.1.3 Habitats of Moderate Ecological Value in a Local Context – Moderately Sensitive Habitats

Sites containing some semi-natural habitat or locally important for wildlife;

Freshwater Habitats

• Drainage Ditches FW4. These are found scattered throughout the study area.

Grassland & Marsh Habitats

- Dry Calcareous and Neutral Grassland GS1. This habitat occurs throughout Study Site, particularly in the south west and north. Good, species-diverse examples of this habitat type are described in Target Notes 4155-a_TN4, 4155-a_TN5 and 4212a_TN8)
- Dry Meadows and Grassy Verges GS2. Good examples were found in Annagooladory and Fossa Beg (see target notes 4155-b_TN1 and 4156-c_TN2, respectively).
- Dry-humid Acid Grassland GS3. Found in small pockets within the study area, most notably in the townland of Clashmore, Lecarrow Lower, Core, Sheeaun, Aughrim/Tobernagat (see Target Notes 4097-c_TN2, 4155b_TN7).

Woodlands and Scrub

- (Mixed) Broadleaved Woodland WD1. This habitat type is found throughout the study area.
- Mixed Broadleaved/Conifer Woodland WD2 This woodland type is also foung throughout the study site. The largest area occurs in the south east, in Ballincurrig townland.
- Scrub WS1. This habitat type is found throughout the study area.
- Immature Woodland WS2. Found in the townlands of Lecarrow Lower, Feakle, Dromore, Lecarrow North, Lisbarreen, Ballincurrig and Ballymalone.
- Hedgerows WL1 (criss-cross the entire study area).
- Treelines WL2 (scattered throughout the study area).

Exposed Rock and Disturbed Ground

• ER2 Exposed Calcareous Rock (one very small patch in the townland of Annagh)

4.4.1.4 Habitats of Low Ecological value in a Local Context – Robust Habitats

Freshwater Habitats

• Other Artificial Lakes and Ponds FL8. Several small ponds were found throughout the study area. A good example is described in Target Note **4095-d_TN1**.

Grassland & Marsh Habitats

- Improved Agricultural Grassland GA1 (the predominant habitat in the study area).
- Amenity Grassland GA2 (found throughout the study area, mainly in gardens and parklands).

Heath and Dense Bracken Habitats

• Dense Bracken HD1. This habitat was recorded in small patches throughout the study area, mainly in areas of drained and/or cutover bog.

Woodlands

- (Mixed) Conifer plantation WD3. Found in the townlands of Ayle Lower, Lecarrow North, Craggaunkeel, Rosslara, Cloondoorne, Drummaghmartin, Coolready.
- Conifer Plantation WD4. Large area in the south eastern corner, in the townlands of Ballymalone and Ballyvannan, and scattered throughout the study area.
- Scattered Trees and Parkland WD5. A good example of this habitat type was found in the townland of Maryfort (Lismeehan).

Exposed rock and disturbed ground

- Spoil and Bare Ground ED2. Found in Rossanure, Feakle, Coolready.
- Recolonising Bare Ground ED3. Found in Poulagower, Ballynahinch, Knockagower.

Cultivated and built land

- Horticultural Land BC2. Found in the townland of Ballyvannan.
- Tilled Land BC3. Found in the townland of Lecarrow Lower.
- Buildings & Artificial Surfaces BL3. Found throughout the study area.

The locations of all of the habitats can be found in **Table 4.2** and in the supporting Habitat Map. Examples of these habitats are provided in the Target Notes in **Appendix A**.

4.5 AREAS LIABLE TO FLOOD

As part of the project brief, there is a requirement to outline and compare existing habitats with areas marked as "liable to flood" in the 6 inch Ordnance Survey maps. The current OPW flood maps for the area (<u>www.floodmaps.ie</u>) were also consulted for where recorded flood events correspond to the "liable to flood" identified on the 6 inch maps. The locations of all of the flood events within and adjacent to the study area are shown in **Habitat Map** attached and **Figure 4.1** below.

Each area is identified and discussed below in relation to flooding potential and existing habitats. The areas identified as "liable to flood" in the 6 inch maps are delineated by a black line.

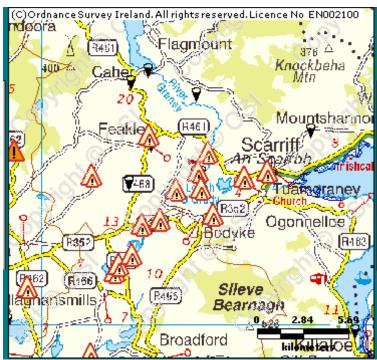
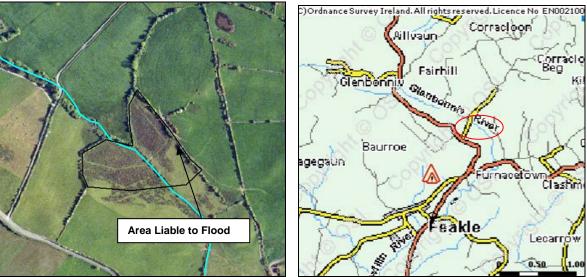


Figure 4.1: OPW National Flood Mapping Flood events within the Study Area



• AREA 1: GLENBONNIV RIVER AT FEAKLE (IGR: 157379, 187349)

Habitat Map

Extent of Flooding (OPW Flood Map)

Habitats: The area comprises Improved Agricultural Grassland with abundant rushes. Species diversity was not high enough to justify a Wet Grassland (GS4) classification.

Watercourses nearby: The Glenbonniv River bisects the area liable to flood.

OPW Flood maps website: There are no records for this flooding event on the OPW website. There is a record for a flood event approximately 700m to the south west of the site.

AREA 2: RIVER GRANEY AT LECARROW LOWER (IGR: 160225, 185362)



C)Ordnance Survey Ireland. All rights reserved. Licence No EN002100 Cologory Barraun hmare ow Upper Lesarrow Lower Core Keel Lough Bossa Mor 0 0.50 1.07

Habitat Map

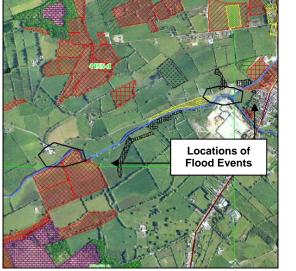
Extent of Flooding (OPW Flood Map)

RPS

Habitats: Most of the area marked as 'Liable to Flood' on the 6" Historic Maps has been planted with trees - an area of Conifer Plantation (WD4) was recorded in the northern section with an area of Mixed Broadleaved Woodland (WD1) immediately to the south. South again of this wooded area is a section of Wet Grassland (GS4).

Watercourses nearby: The River Graney is directly adjacent to the flooding area on the eastern side.

OPW Flood maps website: This site is recorded as a recurring flood event in the OPW Flood Maps.



AREA 3: SCARRIFF RIVER (IGR: 162830, 184080)



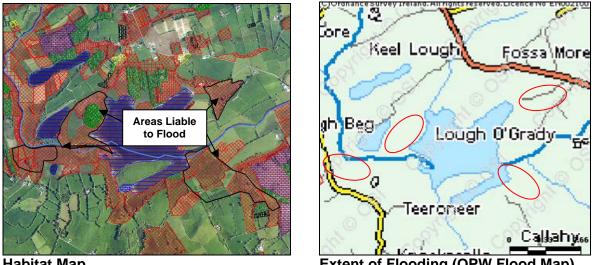
Habitat Map

Extent of Flooding (OPW Flood Map)

Habitats: These areas are not marked as Liable to Floods on the 6" Historical Maps but are recorded as recurring flood events on the OPW website. The lands at Scarriff River Waterpark comprise Wet Grassland (GS4) and Improved Agricultural Grassland GA1. To the north east in Scarriff town the lands comprise Buildings and Artificial Surfaces (BL3) and Improved Agricultural Grassland (GA1).

Watercourses nearby: The Scarriff River.

OPW Flood maps website: Both of these sites are recorded as recurring flood events on the OPW website.



AREA 4: LOUGH O'GRADY (IGR: 161296, 183700)

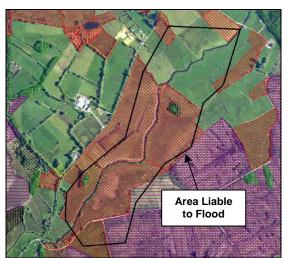
Habitat Map



Habitats: The lands surrounding Lough O'Grady comprise mainly Wet Grassland (GS4). There are some small patches of Reed and Large Sedge Swamp (FS1), and a small area of Oak Birch Holly Woodland (WN1) occurs on the north western side of the lake.

Watercourses nearby: The River Graney flows into the lake at the west end, while the River Scarriff flows out at the eastern side.

OPW Flood maps website: There are no OPW records for recent flooding events at this location.



AREA 5: DERRYHEILA/COOLREAGH

Habitat Map

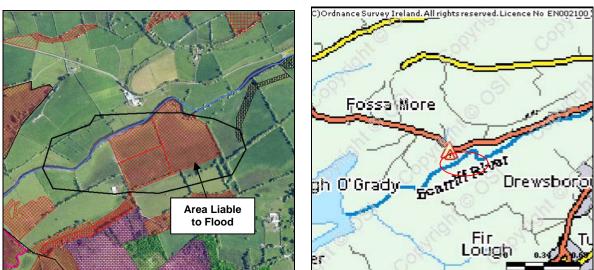


Extent of Flooding (OPW Flood Map)

Habitats: The habitats in the area marked Liable to Flood on the 6" Historical Maps comprise mainly Wet Grassland (GS4). The site also extends in to an area of Raised/Cutover Bog in the south east.

Watercourses nearby: The Cloghaun River flows through the area liable to flood.

OPW Flood maps website: There is an OPW records for a recurring flooding event just south east of the area marked liable to flood, to which it may correspond.



• AREA 6: SCARRIFF RIVER AT DREWSBOROUGH (IGR: 162697, 183879)

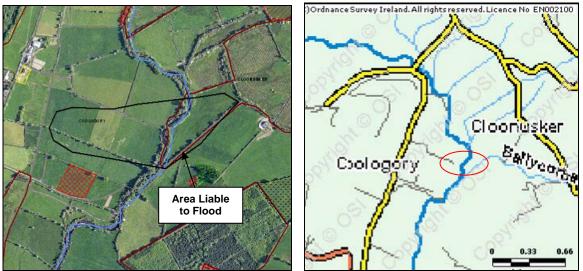
Habitat Map

Extent of Flooding (OPW Flood Map)

Habitats: The habitats in the area marked Liable to Flood on the 6" Historical Maps comprise mainly Wet Grassland (GS4). The surrounding lands are classified as Improved Agricultural Grassland (GA1).

Watercourses nearby: Lough O' Grady lies approximately 1km west of the area liable to flood. The Scarriff River flows in a north-easterly direction from Lough O'Grady through the area liable to flood.

OPW Flood maps website: There are no OPW records for recent flooding events at this location, indicating that the drainage has been altered at the site.



• AREA 7: RIVER GRANEY AT COOLOGORY (IGR: 161015, 187503)

Habitat Map

Extent of Flooding (OPW Flood Map)

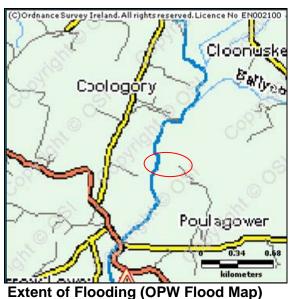
Habitats: The habitats in the area liable to flood are classified as Improved Agricultural Grassland (GA1), indicating that drainage has been improved at the site.

Watercourses nearby: The River Graney flows through the area liable to flood.

OPW Flood maps website: There are no OPW records for recent flooding events at this location, indicating that the drainage has been altered at the site.



AREA 8: RIVER GRANEY AT POULAGOWER



Habitat Map

Habitats: The western half of the area liable to flood is comprised of Improved Agricultural Grassland (GA1). The eastern half of the area appears to be wetter, comprising Wet Grassland (GS4).

Watercourses nearby: The River Grainey runs through the area in a north-south orientation.

OPW Flood maps website: There are no OPW records for recent flooding events at this location, indicating that the drainage has been altered at the site.



• AREA 9: CLONMOHER (IGR 158126, 181788)

Habitat Map

Extent of Flooding (OPW Flood Map)

Habitats: The eastern half of the area liable to flood is comprised of Improved Agricultural Grassland (GA1). The western half of the area appears to be wetter, with two sections of Wet Grassland (GS4) and a small patch of Reed and Large Sedge Swamp (FS1). Drainage Ditches (FW4) criss-cross the site.

Watercourses nearby: Lough Meelagh is situated approximately 400m to the south east of the area liable to flood. The Cloghaun River is 900m to the north-west.

OPW Flood maps website: There is a record for a recurring flood event in the area but it is mapped a few hundred metres west of the area marked as 'Liable to Flood'.

 Area Liable to Flood

 Image: Strate StrateS

AREA 10: LISBAREEN (IGR: 157578, 180773)

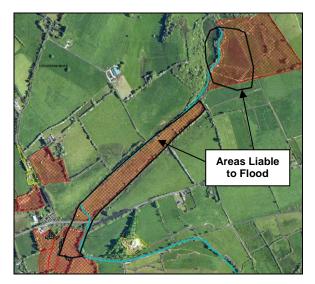
Habitat Map

Extent of Flooding (OPW Flood Map)

Habitats: The areas marked as Liable to Flood on the 6" Historical Maps comprise mainly Wet Grassland (GS4), with some Immature Woodland (WS2).

Watercourses nearby: Lough Meelagh is situated approximately 1km to the north-east of the area liable to flood

OPW Flood maps website: Two flooding events area recorded in the vicinity of the area marked as liable to flood, but it is unlikely that either of these correspond to the site, as they are both over 700m away.

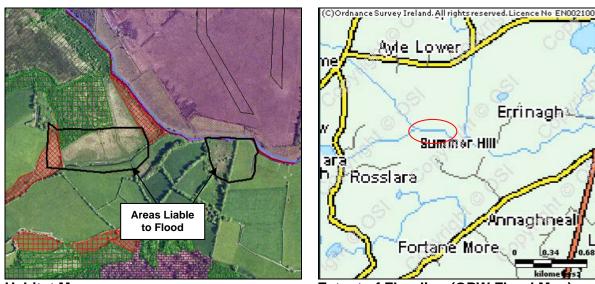




AREA 11: COOLREAGH MORE/BODYKE

Watercourses nearby: The Annaghmullahaun River flows along the western edge of the areas liable to flood.

OPW Flood maps website: This site is recorded as a recurring flood event on the OPW website.



• AREA 12: SUMMER HILL (IGR: 153853, 182685)

Habitat Map

Extent of Flooding (OPW Flood Map)

Habitats: The areas marked as Liable to Flood on the 6" Historical Maps comprise mainly Improved Agricultural Grassland (GA1). There is a small area of Wet Grassland (GS4) on the western side. Ayle Lower Bog NHA lies just to the north.

Watercourses nearby: The Cloghaun River flows along the northern side of the areas liable to flood.

OPW Flood maps website: There are no OPW records for recent flooding events at this location.

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AREA 13: ERRINAGH/DRUMMINANAV

Habitat Map

Extent of Flooding (OPW Flood Map)

Habitats: The areas marked as Liable to Flood on the 6" Historical Maps comprise mainly Wet Grassland (GS4), with some Improved Agricultural Grassland.

Watercourses nearby: The Cloghaun River flows along the northern side of the areas liable to flood.

OPW Flood maps website: There are no OPW records for recent flooding events at this location.

4.5.1 Conclusions on Areas Liable to Flood

A total of thirteen areas were identified from the 6 inch Ordnance Survey maps as "liable to flood. Many areas are still represented by wetland habitats which reflect high water tables or seasonal inundation with flood waters. Some areas are however Improved Agricultural Grasslands which have been subject to changes in the historical drainage patterns. These changes may have been implemented by the landowners or the OPW as part of maintenance works on the arterial drainage network or flood alleviation programmes.

In relation to the potential development of these lands careful consideration must be given to wetland habitats and their associated hydrology, whether they are supported by surface or groundwater fluctuations. Further investigation is required at these locations to identify potential pollution pathways and appropriate measures to be put in place to protect wetland habitats and their associated waterbodies.

5 OVERALL CONCLUSIONS AND RECOMMENDATIONS

Information from this survey is principally of value in revealing the nature of the biodiversity interest within the Study Area. The results can be used to compare the status of biodiversity with other areas where such surveys have taken place, provide a baseline to inform discussion and policy-making on biodiversity and/or inform future research on other aspects of biodiversity.

There are 117 habitat types classified in Ireland (Fossitt, 2000), 89 of these habitat types are terrestrial and 28 of these are marine habitat. Of the 89 terrestrial habitat types, 49 different types of habitats occur within the study area. Of the 50 different habitat types, 8 are classified under cultivated and built land and the remaining 41 habitats are described in detail throughout the report.

Within these habitats, the study revealed 13 habitat types are considered rare, not only in Clare, but also in Ireland and the rest of Europe.

The habitats found within the study area are evaluated based on their naturalness, value and vulnerability. Habitats that are assessed to be good examples of Annex I priority habitats are considered to be of International or National importance. Semi-natural habitats with high biodiversity in a local context and that are vulnerable, are considered to be of High Ecological value in a local context. Habitats that are considered semi-natural habitat or locally important for wildlife are considered to be of Moderate Ecological value in a local context, and robust habitats that have been highly modified are considered to be of Low Ecological value in a local context.

The habitat inventory and supporting biodiversity evaluation of the lands in Mid Clare has important implications for spatial planning in the area. This information also establishes a forum for education and further research into the biodiversity value of study area.

5.1 HABITAT MANAGEMENT

Some of the sites found within the study area which are of high conservation value are under threat from invasive species. These sites are in need of management measures in order to restore them to a favourable conservation status. Sites in need of management practices are described below.

5.1.1 Lough O' Grady

Lough O'Grady contains a population Zebra Mussel (*Dreissena polymorpha*), an invasive species which has recently entered the lake. Lough O Grady is connected to Lough Derg by the Scariff River which may be a corridor for the mussels. Other freshwater mussels were found in the lake which the Zebra mussels are using as anchor. Broken freshwater mussel shells are strewn all over the shore line. This and the abundance of spraints would indicate Otters have a good foothold in this habitat.

Due to the invasive nature of Zebra Mussels some control of this speceis is required to maintain the conservation status of the Lake. Many different strategies for control of Zebra Mussels exist, but these strategies can be divided into two main categories, chemical and non-chemical. Chemical methods include the use of ozone, chlorine, potassium permanganate, bromine, molluscicides, oxygen deprivation, flocculation processes, salinity and antifouling coatings. Chemical methods are the most widely used for control of the Zebra Mussel. These methods are **not** recommended, however, as they would result in pollution of the lake and are highly likely to impact upon other aquatic life.

Non-chemical methods include proactive techniques to prevent infestation such as application of UV light, filtration, acoustic energy, the use of electric and magnetic fields, and increasing water velocity. Reactive techniques to treat infestations include freezing, desiccation, thermal shock treatments, mechanical cleaning and biological control.

A full assessment must be carried out to determine which of these methods is most suitable for control of the Zebra Mussel infestation in Lough O'Grady. Advice should be sought from the NPWS, prior to the commencement of management measures at the site.

5.1.2 Raised Bog in Ballynahinch Townland

An area of Raised Bog (PB1) was found in the townland of Ballynahinch (see Target Note **4211-d_TN1**). This bog is mostly intact but has been cutover around the edges. The peat depth in the intact area is approximately 2 metres, as seen from peat banks. The intact area has been subject to extensive drainage works, with Drainage Ditches (FW4) criss-crossing the site.

The vegetation is typical of this habitat type, dominated by Ling (*Calluna vulgaris*) and Purple Moor-grass (*Molinia caerulea*). Patches of Bog Woodland (WN7) and Dense Bracken (HD1) occur on the northern, eastern and southern sides.

It was noted on the day of the field visit to this site that Rhododendron (*Rhododendron ponticum*) is starting to spread in to the bog on all sides, especially on the eastern side. This poses a threat to the diversity of the site, as Rhododendron is an invasive species which grows thickly and casts a heavy shade, suppressing the growth of other plants beneath it.

It is recommended that the Rhododendron be cleared at this site, in order to preserve to integrity of the bog habitat. There are several publications available on control of Rhododendron, such as Best Practice Management Guidelines Rhododendron *Rhododendron ponticum* and Cherry Laurel *Prunus laurocerasus*, Maguire, C.M., Kelly, J. and Cosgrove, P.J. (2008). Methods for control of Rhododendron described in this publication include cutting and removal of the plant, and treatment of stumps

5.2 RECOMMENDATIONS FOR SPATIAL PLANNING

The information in the survey provides an evaluation of the status of biodiversity in the surveyed area. The findings are the following;

- 1) There is a relatively good cover of semi-natural habitats in the wider countryside
- Linear features such as hedgerows and drainage ditches are important habitats and linking features should be communicated to the public, landowners and policy makers.
- 3) Priority research given into land abandonment and its impacts on peatlands, wetlands, species rich grassland etc. and should be carried out, and to initiate action projects to appropriately manage surviving good quality examples of these rare types of habitats.

These issues should be communicated to the general public and to stakeholders (Teagasc, IFA, landowners and planners) who are making decisions on land use. The secondary priority is to continue to gather such information on other parts of the county, particularly areas under pressure from development.

Strategic planning should recognise the sensitivity of the certain habitats to development, in particular water dependant habitats, where disruptions in the hydrological regime of an area can have significant impacts on these sensitive habitats. Projects such as quarrying, road building and large industrial and residential developments can cause irreversible consequences to these habitats.

Linkages and buffer zones should be maintained and incorporated into Development Plans. The removal of these linkages leads to habitat fragmentation and isolation. These corridors ensure the continued vitality of designated sites and protected habitats.

Specific policies should be developed to take into consideration habitats categorised in **Section 4.4** Sites of Local Biodiversity Interest. Development should be avoided in habitats classified as Highly Sensitive and Very Sensitive and minimised in habitats classified as Moderately Sensitive. The majority of the study area is covered by habitats categorised as Robust and development should be considered in these areas.

Where development is considered in habitats listed categorised as Highly Sensitive and Very Sensitive, policies may contain requirements for developers to evaluate and assess the impacts of the proposals on sensitive habitats. Under the Environmental Liability Regulations (SI 547, 2008), it is also important to note that protected species and natural habitats fall under the remit of this legislation wherever they occur in Ireland, for example in sites that do not meet the criteria for designation as a SAC. Designated site boundaries do not as a result present any limits on their protection. Damage to protected species and natural habitats can take place where such species and habitats occur, including migratory species.

Therefore, impacts to Annexed habitats and species may require screening and Appropriate Assessment under the Habitats Directive 92/43/EEC, Article 6(3) and (4), Assessment of Plans and projects Significantly Affecting Natura 2000 Sites.

Where developments are required for the socio-economic improvement of an area, these developments should be evaluated against the wider area at a strategic level. The assessment must include the direct, indirect and cumulative impacts of such developments, and the evaluation of any possible environmental impacts to specific sensitive habitats against the impact of the habitat coverage within the locality and area as a whole. Where such developments require it, this information should be assessed through a Strategic Environmental Assessment (SEA) Process.

5.3 LOCAL AREA PLANS

The information contained in this report may be used in conjunction with the South Clare Local Area Plan 2009. All information pertaining to this study is provided digitally in a GIS system and is access is available to all planners in Clare County Council and to the general public. This information is provided to facilitate a sustainable approach to planning and to identify opportunities to incorporate and manage sensitive habitats in local and regional scale.

5.4 STAKEHOLDER ENGAGEMENT

The positive engagement and co-operation of land owners and their representative bodies such as Teagasc, IFA etc., can contribute significantly to the success of the protection of local sites of ecological value. The management of these sites should also reflect the broad interests of landowners on to and identify mechanisms which will allow effective input.

The availability of digital information at County Council Offices, Teagasc, IFA and civic centres will assist in the dissemination of information to landowners, developers and agencies that advice on landuse and development.

Hardcopies of the Habitat Map and report will also be made available at these centres.

5.5 OPPORTUNITIES FOR FURTHER RESEARCH

Further studies should be conducted at sites identified as Internationally, Nationally Important Ecological Sites and also sites identified as being of High Ecological Value in a Local Context as per Table 4.1 Section 4.1. Some of these sites may meet the criteria for designation under European or Irish legislation. Other sites that do not meet the criteria for legal designation but contain habitats of conservation value may be designated as Sites of Local Nature Conservation Interest (SLNCI) and a strategic context for the designation of these sites may be incorporated into Local Area Plans.

This approach to the designation of local sites has been adopted in the UK and Northern Ireland, and Guidance for the Identification and Selection of Local Sites has been developed by the Department for the Environment Food and Rural Affairs (DEFRA). The evaluation and selection criterion for the local conservation sites is based on the 'Ratcliffe Criterion' as set out in the Nature Conservation Review 1977. A synopsis of the Ratcliffe criterion is provided in **Table 6.1**.

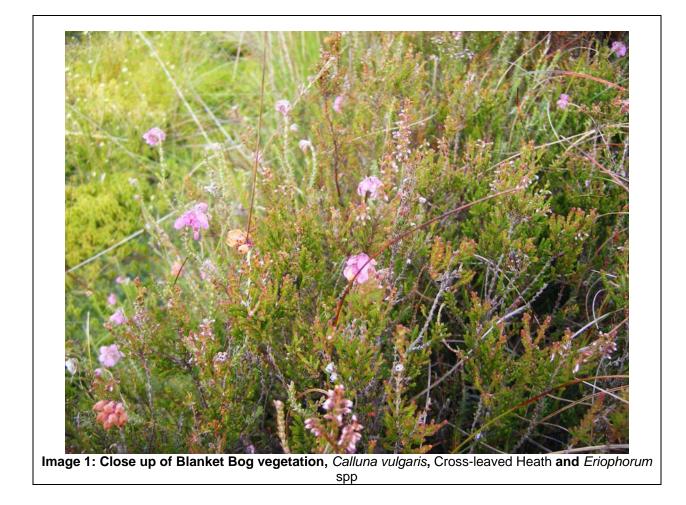
Criteria	Description
Size	A habitat's importance for nature conservation generally increases with
	its size.
Diversity	Variety is better than uniformity, species or habitat richness is generally
Diversity	better than a poor species or habitat complement.
	Sites, which have remained relatively unaltered by man, tend to be the
Naturalness	most valuable. Furthermore, sites which are considered most natural
	are generally those which are hardest to recreate.
	A habitat that is fragile is one that is sensitive to changing influences.
Fragility	Habitats, which are liable to such influences, are likely to be of higher
	value than those which are not.
Typicolnoop	Those habitats which are representative or typical of good examples of
Typicalness	their type are considered of higher value than those which are not.
Dority	A site where rare or protected species or habitats exist is considered of
Rarity	higher value.
Position in an	Sites, and their associated habitats, which are contiguous with other
ecological or	similar sites tend to be more valuable than those sites, which are
geographical unit	situated in isolation.
	Habitats, which, through an adjustment of current influences, have the
Potential Value	potential to be, of a higher nature conservation value than they are
	currently, have additional value
Intrincia Value	This criterion is based upon the value humans' place on a feature of
Intrinsic Value	ecology as opposed to its actual nature conservation value.

Table 5.1 Ratcliffe Criterion

APPENDIX A

TARGET NOTES

Target note no.: TN1 Area: 2.5ha Ecological Interest: High Ecological interest in an international context. This habitat type is linked with the Annex I Priority* Habitat, 'Blanket Bog (*if active) (7150)'. Habitat code Active Upland Blanket Bog PB2 at the edge of a large Conifer Plantation WD4 in groundition. However the habitat is under threat from Scrub WS1 encroachment. PB2 Species List Species List Species (Latin name) Species (common name) DAFOR Scale Calluna vulgaris Ling Heather Abundant Cladonia spp. Bearded Lichen Occasional <i>Erica tetralix</i> Cross-leaved Heath Abundant <i>Eriophorum</i> spp. Cottongrasses Occasional <i>Juncus articulatus</i> Jointed Rush Occasional Molinia caerulea Purple Moor-grass Abundant Narthecium ossifragum Bog Aphodel Frequent Potentilla erecta Tormentil Occasional Sphagnum spp. Bog Mosses Frequent Trichophorum Deergrass Frequent	Surveyor: John Curtin County name: Clare 1:2,500 Sheet no: 4036-d Townland: Gortavrulla/Gortaderry Grid Ref: 159961, 190228 Target note no.: TN1 Area: 2.5ha Ecological Interest: High Ecological interest in an international context. This habitat type is linked with the Annex I Priority* Habitat, 'Blanket Bog (*if active) (7150)'. Habitat code Active Upland Blanket Bog PB2 at the edge of a large Conifer Plantation WD4 in g condition. However the habitat is under threat from Scrub WS1 encroachment. PB2 Species List Species List Species (Latin name) Species (common name) DAFOR Scale Calluna vulgaris Ling Heather Abundant Cladonia spp. Bearded Lichen Occasional Juncus articulatus Jointed Rush Occasional Juncus articulatus Jointed Rush Occasional Molinia caerulea Purple Moor-grass Abundant Narthecium ossifragum Bog Mosses Frequent Patentilla erecta Tormentil Occasional Splagnum spp. Bog Mosses Frequent Patentilla erecta Tormentil Occasional Sphagnum spp. Bog Mosses Frequent Explorement	-		TARGET NOTES		
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Juncus articulatus Jointed Rush Occasional Molinia caerulea Purple Moor-grass Abundant Narthecium ossifragum Bog Aphodel Frequent Potentilla erecta Tormentil Occasional Salix spp. Willows Occasional Sphagnum spp. Bog Mosses Frequent Trichophorum Deergrass Frequent cespitosum Image: Comparison of the section of the sectio	Juncus articulatus Jointed Rush Occasional Molinia caerulea Purple Moor-grass Abundant Narthecium ossifragum Bog Aphodel Frequent Potentilla erecta Tormentil Occasional Salix spp. Willows Occasional Sphagnum spp. Bog Mosses Frequent Trichophorum Deergrass Frequent despitosum Frequent Trichophorum Verspitosum Deergrass Frequent			Cross	leaved Heath	Abundant
Molinia caerulea Purple Moor-grass Abundant Narthecium ossifragum Bog Aphodel Frequent Potentilla erecta Tormentil Occasional Salix spp. Willows Occasional Sphagnum spp. Bog Mosses Frequent Trichophorum Deergrass Frequent cespitosum Frequent Frequent	Molinia caerulea Purple Moor-grass Abundant Narthecium ossifragum Bog Aphodel Frequent Potentilla erecta Tormentil Occasional Salix spp. Willows Occasional Sphagnum spp. Bog Mosses Frequent Trichophorum Deergrass Frequent cespitosum Frequent Frequent		Eriophorum sp	p. Cotto	ngrasses	Occasional
Narthecium ossifragum Bog Aphodel Frequent Potentilla erecta Tormentil Occasional Salix spp. Willows Occasional Sphagnum spp. Bog Mosses Frequent Trichophorum Deergrass Frequent dabitat Map Frequent Frequent	Narthecium ossifragum Bog Aphodel Frequent Potentilla erecta Tormentil Occasional Salix spp. Willows Occasional Sphagnum spp. Bog Mosses Frequent Trichophorum Deergrass Frequent Habitat Map Image: Construct of the second sec			•	5	Occasional
Potentilla erecta Tormentil Occasional Salix spp. Willows Occasional Sphagnum spp. Bog Mosses Frequent Trichophorum Deergrass Frequent dabitat Map Frequent Frequent	Potentilla erecta Tormentil Occasional Salix spp. Willows Occasional Sphagnum spp. Bog Mosses Frequent Trichophorum Deergrass Frequent dabitat Map Frequent Frequent		Molinia caerul	ea Purple	e Moor-grass	Abundant
Salix spp. Willows Occasional Sphagnum spp. Bog Mosses Frequent Trichophorum cespitosum Deergrass Frequent Habitat Map Image: Comparison of the second s	Salix spp. Willows Occasional Sphagnum spp. Bog Mosses Frequent Trichophorum cespitosum Deergrass Frequent Habitat Map Image: Comparison of the second s		Narthecium os	sifragum Bog A	Aphodel	Frequent
Sphagnum spp. Bog Mosses Frequent Trichophorum cespitosum Deergrass Frequent	Sphagnum spp. Bog Mosses Frequent Trichophorum cespitosum Deergrass Frequent		Potentilla erec	ta Torm	entil	Occasional
Trichophorum cespitosum Deergrass Frequent Habitat Map Image: Comparison of the second	Trichophorum cespitosum Deergrass Frequent Habitat Map Image: Comparison of the second		Salix spp.	Willow	WS	Occasional
Image: cespitosum Image: cespitosum Habitat Map	cespitosum		Sphagnum sp	b. Bog N	losses	Frequent
Habitat Map	Habitat Map			Deerç	grass	Frequent
			cespitosum			
		Habitat Map				



Survey Title: Mic	d Clare Hat	bitat Mapping		Surv	/ey date: 22.06.10	
Surveyor: Jean I	Hamilton			Cou	nty name: Clare	
1:2,500 Sheet no	o: 4094-d	Townland: Gl	enbonniv	Grid	Ref: 155773, 187366	
Target note no.:	TN1		Area: 1.2ha	•		
Ecological Value	e: High Eco	ological interest	in a local context. Li	nked to A	nnex I Habitats, European Dry	у
			aths with <i>Erica tetral</i> leath HH1/HH3 on a		e a conifer plantation.	
code Po	otentially go	ood Hen Harrier	habitat; according to	the land	owner this area was formerly i	in
HH1/HH3	e Slieve Au	ighties SPA but	has since been rem	oved from	the designation.	
пп і/ппз						
	pecies List					
		atin name)	Species (common	name)	DAFOR Scale	
		um odoratum	Sweet Vernal		Frequent	
	Calluna vul	-	Ling		Frequent	
	Carex echir		Star Sedge		Frequent	
		a maculata	Heath Spotted-Orc		Abundant	
	Erica tetrali.		Cross-leaved Heat	h	Occasional	
	Juncus spp		Rushes		Abundant	
	Molinia cae		Purple Moor-grass		Abundant	
ŀ	Potentilla el	recta	Tormentil		Frequent	
Habitat Map					CF	

TARGET NOTES – ID No. 2

		ET NOTES – ID No. 3	
-	: Mid Clare Habitat Mapping	Su	Irvey date: 22.06.10
Surveyor: Je	ean Hamilton	Co	ounty name: Clare
1:2,500 She	et no: 4095-c Townland: Corr	racloon Beg Gr	id Ref: 156988, 187631
Target note	no.: TN1	Area: 0.34ha	
correspond	alue: Moderate Ecological int to any Annex I habitats.		
labitat	Wet Grassland/Marsh mosaid		
ode	and so is classified as Wet Gr patches with rushes, sedges,		
S4/GM1	in a depression in the landsc species-rich.		
	Species List		
	Species (<i>Latin</i> name)	Species (common nam	
	Anthoxanthum odoratum	Sweet Vernal	Dominant
	Ajuga reptans	Bugle	Occasional
	Angelica sylvestris	Wild Angelica	Occasional
	Carex spp.	Sedges	Abundant
	Cirsium palustre	Marsh Thistle	Occasional
	Cynosurus cristatus	Crested Dog's-tail	Frequent
	Dactylorhiza fuchsii	Common Spotted-Orchi	d Occasional
	Equisetum spp.	Horsetails	Abundant
	Holcus lanatus	Yorkshire Fog	Abundant
	Juncus spp.	Rushes	Abundant – Dominant
	Iris pseudacorus	Yellow Iris	Occasional
	Lotus pedunculatus	Greater Birds-foot Trefo	il Frequent
	Luzula spp.	Woodrushes	Occasional
	Menyanthes trifoliata	Bogbean	Occasional
	Poa spp.	Meadowsweet	Abundant
	Potentilla palustris	Marsh Cinquefoil	Frequent
	Valeriana officinalis	Common Valerian	Occasional



		TARGET N	OTES – ID No. 4	
Survey Title:	Mid Clare Ha	bitat Mapping		Survey date: 21.06.10
Surveyor: Je	an Hamilton			County name: Clare
1:2,500 Shee	t no: 4095-d	Townland: Kildavin		Grid Ref: 158851, 187768
Target note r	n o.: TN1		Area: 0.24ha	
Ecological V	alue: Modera	te Ecological interes	t in a local contex	ĸt
Habitat code FL8	Some Wate (<i>Juncus</i> spp	r Plantain occurs on .), Watercress (<i>Rorip</i>	the edges of the pa nastutium-aqu	ssland field. Used for watering cattle. pond. Fringe vegetation of rushes <i>atica</i>), Water Forget-me-not, Marsh o (<i>Ranunculus repens</i>). Good habitat
Habitat Map				
Legend				

Survey Title: Mid Clare Habitat Mapping Survey date: 21.06.10 Surveyor: Jean Hamilton County name: Clare 1:2,500 Sheet no: 4095-d Townland: Kildavin Grid Ref: 158758, 187401 Target note no: TN2 Area: 0.1ha Ecological Value: High Ecological interest in a local context. This habitat does not correspond to any annexed habitats but is considered to be of high ecological interest in a local context as broadleaved woodland is generally scarce in the landscape. Habitat code Small clump of Willow trees (Salix spp.) with occasional Ash (Fraxinus excelsior). There is a grassy ground layer with Bugle (Ajuga reptans), Watercress (Rorippa nasturtium-aqualicum agg), Creeping Buttercup (Ranunculus repens) and Herb Robert (Geranium robertianum). Habitat Map Townow (Geranium agg), Creeping Buttercup (Ranunculus repens) and Herb Robert (Geranium robertianum). Habitat Map Townow (Geranium agg), Creeping Buttercup (Ranunculus repens) and Herb Robert (Geranium robertianum). Habitat Map Townow (Geranium agg), Creeping Buttercup (Geranium robertianum). Habitat Map Townow (Geranium agg), Creeping Buttercup (Geranium robertianum). Habitat Map Townow (Geranium agg), Creeping Buttercup (Geranium robertianum). Habitat Map Townow (Geranium agg), Creeping Buttercup (Geranium agg), Creeping Buttercup (Geranium agg), Creeping (Geranium agg)	Surveyor: Jean Hamilton1:2,500 Sheet no: 4095-dTownland: KildavinTarget note no.: TN2	County name: Clare Grid Ref: 158758, 187401
1:2,500 Sheet no: 4095-d Townland: Kildavin Grid Ref: 158758, 187401 Target note no.: TN2 Area: 0.1ha Ecological Value: High Ecological interest in a local context. This habitat does not correspond to any annexed habitats but is considered to be of high ecological interest in a local context as broadleaved woodland is generally scarce in the landscape. Habitat code Small clump of Willow trees (Salix spp.) with occasional Ash (Fraxinus excelsior). There is a grassy ground layer with Bugle (Argue reptans), Watercress (Rorippa nasturitum-aquaticum agg.), Creeping Buttercup (Ranunculus repens) and Herb Robert (Geranium robertianum). Habitat Map Habitat Map	1:2,500 Sheet no: 4095-dTownland: KildavinTarget note no.: TN2	Grid Ref: 158758, 187401
Target note no.: TN2 Area: 0.1ha Ecological Value: High Ecological interest in a local context. This habitat does not correspond to any annexed habitats but is considered to be of high ecological interest in a local context as broadleaved woodland is generally scarce in the landscape. Habitat Code woodland is generally scarce in the landscape. Habitat Small clump of Willow trees (Salix spp.) with occasional Ash (Fraxinus excelsion). There is a grassy ground layer with Bugle (Ajuga reptans), Watercress (Rorippa nasturtium-aquaticum agg). Creeping Buttercup (Ranunculus repens) and Herb Robert (Geranium robertianum). Habitat Map Material Map	Target note no.: TN2	,
Ecological Value: High Ecological interest in a local context. This habitat does not correspond to any annexed habitats but is considered to be of high ecological interest in a local context as broadleaved woodland is generally scarce in the landscape. Habitat code WN6 Small clump of Willow trees (<i>Salix</i> spp.) with occasional Ash (<i>Fraxinus excelsion</i>). There is a grassy ground layer with Bugle (<i>Ajuga reptans</i>), Watercress (<i>Rorippa nasturtium- aquaticum agg.</i>), Creeping Buttercup (<i>Ranunculus repens</i>) and Herb Robert (<i>Geranium robertianum</i>).	-	Area: 0.1ha
any annexed habitats but is considered to be of high ecological interest in a local context as broadleaved woodland is generally scarce in the landscape. Habitat code Small clump of Willow trees (Salix spp.) with occasional Ash (Fraxinus excelsior). There is a grassy ground layer with Bugle (Ajuga reptans), Watercress (Rorippa nasturtium-aquaticum agg.), Creeping Buttercup (Ranunculus repens) and Herb Robert (Geranium robertianum). Habitat Map	Ecological Value: High Ecological interest in	
code Small clump of Willow trees (Salix spp.) with occasional Ash (Fraxinus excelsior). There is a grassy ground layer with Bugle (Ajuga reptans), Watercress (Rorippa nasturtium-aquaticum agg.), Creeping Buttercup (Ranunculus repens) and Herb Robert (Geranium robertianum). Habitat Map Image: the standard of the sta	any annexed habitats but is considered to b	be of high ecological interest in a local context as
ODDS-1_TI2	codeSmall clump of Willow trees (Sali is a grassy ground layer with Bu aquaticum agg.), Creeping Butter	ugle (Ajuga reptans), Watercress (Rorippa nasturtium-
Legend		

	TAR	GET NOTES – ID No. 6	
Survey Title:	East Clare Habitat Mapping		Survey date: 28/06/10
Surveyor: Jo	hn Curtin		County name: Clare
1:2,500 Shee	t no: 4096-a Townland: G	ortaderry	Grid Ref: 160535, 189205
Target note r		Area: 0.4ha	
	ological interest in a local co	ontext	
Habitat code	Inclined bank on side of field	I. Orchids (<i>Dactylorhiza</i> s	pp.) are present alongside s into Gorse (<i>Ulex</i>) scrub (WS1).
GS4/WS1	Species List		
l	Species (<i>Latin</i> name)	Species (common nar	
	Anagallis tenella	Bog Pimpernel	Frequent
	Anthoxanthum odoratum	Sweet Vernal-grass	Occasional
	Dactylorhiza sp.	Orchid	Frequent
	Erica tetralix	Heath, cross-leaved	Occasional
	Holcus lanatus	Yorkshire Fog	Occasional
	Juncus articulatus	Jointed Rush	Abundant
	Potentilla erecta	Tormentil	Occasional
	Ranunculus repens	Creeping buttercup	Occasional
	Rubus fruticosus	Bramble	Occasional
	Scorpidium scorpioides	Scorpidium moss	Frequent
	Sphagnum sp	Peat moss	Frequent
	Taraxacum sp	Dandelion sp	Frequent
	Trifolium repens	White clover	Occasional
	Ulex sp	Gorse	Frequent
	Vicia sp	Vetch	Occasional
Habitat Map			
		JU96-a_TN1	

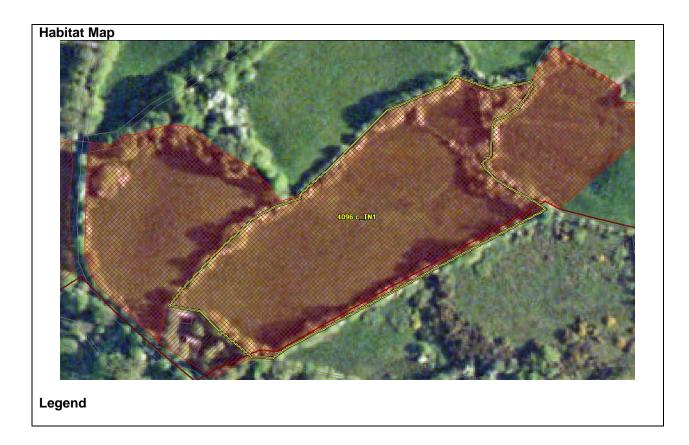
Legend

		GET NOTES – ID No. 7	
-	: Mid Clare Habitat Mapping		urvey date: 28/06/10
Surveyor: J	ohn Curtin	C	ounty name: Clare
1:2,500 She	et no: 4096-a Townland: C	appacannaun G	rid Ref: 161841, 189183
Target note	no.: TN2	Area: 1.8ha	
Ecological Annex I hat	Interest: Moderate ecological	l interest in a local context	t. The habitat is not linked to
Habitat code	Species-rich Wet grassland	GS4.	
GS4	Species List Species (<i>Latin</i> name)	Species (common name) DAFOR Scale
	Anthoxanthum odoratum	Sweet Vernal-grass	Frequent
	Carex panicea	Carnation sedge	Occasional
	Cirsium	Thistle	Occasional
	Cirsium palustre	Marsh Thistle	Occasional
	Cynosurus cristatus	Crested Dogs-tail	Occasional
	Dactylorhiza sp.	Orchid	Occasional
	Euphrasia arctica	Eyebright	Rare
	Filipendula ulmaria	Meadowsweet	Occasional
	Galium palustre	Marsh-bedstraw	Frequent
	Holcus lanatus	Yorkshire Fog	Frequent
	Juncus articulatus	Jointed Rush	Abundant
	Lotus pedunculatus	Greater Birds-foot-trefoil	Occasional
	Luzula sylvatica	Wood-rush	Occasional
	Mentha aquatica	Water Mint	Occasional
	Myosotis scorpioides	Water Forget-me-not	Occasional
	Pedicularis sylvatica	Lousewort	Frequent
	Plantago lanceolata	Ribwort Plantain	Rare
	Potentilla erecta	Tormentil	Frequent
	Ranunculus flammula	Lesser spearwort	Frequent
	Ranunculus repens	Creeping buttercup	Frequent
	Rumex sp	Sorrel sp	Occasional
	Trifolium repens	White clover	Frequent
	Ulex sp	Gorse	Occasional





		TAR	GET N	OTES – ID No. 8		
Survey Title:	Mid Clare Ha	bitat Mapping			Surv	rey date: 25/06/10
Surveyor: Jo	hn Curtin				Cou	nty name: Clare
1:2,500 Shee	t no: 4096-c	Townland: Cl	oonusl	ker	Grid	Ref: 161743, 187977
Target note r	10.: TN1			Area: 1.7ha		
Moderate eco	ological inter	est in a local co	ontext			
Habitat code GS4	(Rubus frutio	cosus) and Willo rus linifolius) and	ows (S	alix spp.). Species	s pres	ession occurring with Bramble ent in the sward include Bitter- tion of the field has been cut.
	Species (L		Spec	cies (common na	me)	DAFOR Scale
	Agrostis sp		Bent	grass		Occasional
	Anthoxanth	um odoratum	Swee	et Vernal-grass		Frequent
	Dactylis glo	omerata	Cock	s-foot		Occasional
	Dactylorhiz	a sp.	Orch	id		Occasional
	Euphrasia a	arctica	Eyeb	oright		Occasional
	Filipendula	ulmaria	Mea	dowsweet		Frequent
	Hieracium a	anglicum		kweed		Occasional
	Juncus arti	culatus	Joint	ed Rush		Abundant
	Lathyrus lin			r-vetch		Occasional
		num vulgare		ye Daisy		Rare
	Potentilla e		Torm			Frequent
	Plantago la			ort Plantain		Occasional
	Prunus spir			kthorn		Occasional
	Pteridophyt		Fern			Frequent
	Rhinanthus	minor		w-rattle		Occasional
	Rumex sp		Sorre	•		Occasional
	Stellaria me	edia		mon Chickweed		Occasional
	Ulex sp		Gors	е		Occasional







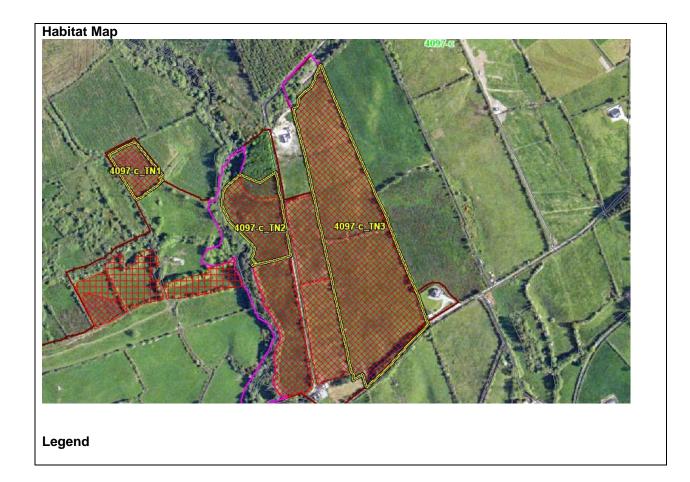
Legend



Target note no.: TN2High ecological interest in a loc'*species-rich Nardus grasslanspecies diversity is not high erHabitatSmall section of acodeSpecies ListGS3Species (Latin rAchillea millefoliti	rnland: Sheeaun Area: 1. cal context. This habitat ds on siliceous substrate tough in this area to corr cid grassland on hillside.	County Grid R 3ha type is linked to es in mountain a	areas (6230)', but the
1:2,500 Sheet no: 4097-cTowTarget note no.: TN2High ecological interest in a loo'*species-rich Nardus grasslanspecies diversity is not high erHabitatSmall section of acodeSpecies ListGS3Species (Latin r Achillea millefolitie)	Area: 1. cal context. This habitat ds on siliceous substrate ough in this area to corr cid grassland on hillside.	Grid R 3ha type is linked to es in mountain a	ef: 164679, 187427 • the Annex I habitat, areas (6230)', but the
Target note no.: TN2High ecological interest in a loc**species-rich Nardus grasslanspecies diversity is not high erHabitat codeSmall section of aSpecies ListGS3	Area: 1. cal context. This habitat ds on siliceous substrate ough in this area to corr cid grassland on hillside.	3ha type is linked to es in mountain a	the Annex I habitat, areas (6230)', but the
High ecological interest in a loc#species-rich Nardus grasslanspecies diversity is not high erHabitatcodeGS3Species ListAchillea millefoliti	cal context. This habitat ds on siliceous substrate hough in this area to corr cid grassland on hillside.	type is linked to es in mountain a	areas (6230)', but the
**species-rich Nardus grasslanspecies diversity is not high erHabitat codeSmall section of aGS3Species ListGS3Species (Latin r Achillea millefolitie)	ds on siliceous substrate ough in this area to corr cid grassland on hillside.	es in mountain a	areas (6230)', but the
species diversity is not high enHabitat codeSmall section of aGS3Species ListGS3Species (Latin r Achillea millefoliti	nough in this area to corr cid grassland on hillside.		
Habitat Small section of a code Species List GS3 Species (Latin r Achillea millefolia	cid grassland on hillside.		
GS3 Species List Achillea millefolit	ame) Species (com		
GS3 Species (Latin r Achillea millefoliu	ame) Species (com		
		mon name) D	DAFOR Scale
Agreetie on		-	requent
Agrostis sp	Bent grass	F	requent
Bryophyte	Moss spp	Δ	bundant
Carex nigra	Common Sedg	ge C	Occasional
Carex panicea	Carnation sed	ge C	Occasional
Cynosurus crista	tus Crested Dogs-	·tail F	requent
Festuca sp	Fescue sp	F	requent
Juncus articulatu	s Jointed Rush	F	Frequent
Nardus stricta	Mat-grass	F	requent
Plantago lanceol	ata Ribwort Planta	in F	requent
Potentilla erecta	Tormentil	F	requent
Prunella vulgaris	Self-heal	C	Occasional
Ranunculus repe	ens Creeping butte	ercup C	Occasional
Trifolium repens	White clover	F	requent
Ulex sp	Gorse	C	Dccasional



	TARG	GET NOTES – ID No. 12							
Survey Title	: Mid Clare Habitat Mapping	S	Survey date: 29/06/10						
Surveyor: J	ohn Curtin	C	ounty name: Clare						
1:2,500 She	et no: 4097-c Townland: St	neeaun G	rid Ref: 164856, 187389						
Target note	no.: TN3	Area: 5.8ha							
High ecolog	ical interest in a national co	ntext due to the presence	of the scarce Blue-eyed Gras						
This habitat Habitat	is not linked to any Annex I		a south Opposionally grazed						
code	Large, diverse wet grassland which slopes downhill to the south. Occasionally grazed. Contains Spotted-Orchids (<i>Dactylorhiza spp.</i>) and Blue-eyed Grass (<i>Sisyrinchium</i>								
	bermudiana), a species which								
GS4	Species List								
	Species (<i>Latin</i> name)	Species (common name) DAFOR Scale						
	Achillea millefolium	Yarrow	Occasional						
	Agrostis sp	Bent grass	Occasional						
	Anthoxanthum odoratum	Sweet Vernal-grass	Frequent						
	Bryophyte	Moss spp	Abundant						
	Carex echinata	Star Sedge	Abundant						
	Carex nigra	Common Sedge	Occasional						
	Carex panicea	Carnation sedge	Occasional						
	Dactylorhiza sp.	Orchid	Frequent						
	Euphrasia arctica	Eyebright	Occasional						
	Holcus lanatus	Yorkshire Fog	Occasional						
	Juncus articulatus	Jointed Rush	Dominant						
	Lotus pendunculatus	Greater Birds-foot-trefoil	Frequent						
	Luzula sylvatica	Great Woodrush	Occasional						
	Lychnis flos-cuculi	Ragged Robin	Occasional						
	Pedicularis sylvatica	Lousewort	Occasional						
	Potentilla erecta	Tormentil	Occasional						
	Prunella vulgaris	Self-heal	Occasional						
	Rhinanthus minor	Yellow-rattle	Occasional						
	Sisyrinchium bermudiana	Blue-eyed grass	Occasional						
	Taraxacum sp	Dandelion sp	Abundant						
	Trifolium repens	White clover	Occasional						



		TARGET NO	DTES – I	D No. 13			
Survey Title: Mid Clare Habitat Mapping					Survey date: 22.06.10		
Surveyor: Jean Hamilton					County name: Clar	e	
1:2,500 Sheet no: 4153-b Townland: Baurroe					Grid Ref: 155999, 186155		
Target note no.: TN1 Area: 1ha			ha				
Ecological V	alue: Moderat	te Ecological interest i	n a local	context			
Habitat code	Dry neutral grassland with a good diversity of species. Looks like it has not been receipting improved.						
GS1	Succion Lin						
	Species List		Species (Latin name) Specie		es (common name)		
		Anthoxanthum od		Sweet V	· · · · ·		
		Cynosurus cristati			d Dog's-tail		
		Dactylorhiza fuchs			on Spotted-orchid		
		Euphrasia nemore		Eyebright			
		Festuca spp.			S		
		Holcus lanatus			re Fog		
		Lotus corniculatus					
			Plantago lanceolata		t Plantain		
		Prunella vulgarisRanunculus spp.Rhinanthus minor		Selfheal Buttercups Yellow-rattle			
		Trifolium spp.		Clovers		•	
Habitat Map			hoss-b_TINT			95.4	
Legend							

		TARC	GET NO	OTES – ID No. 14					
Survey Title: Mid Clare Habitat Mapping Sur						rvey date: 17/06/06			
Surveyor: Ji	-/JH/SON/JC				Coun	ty name: Clare			
1:2,500 Sheet no: 4154-a Townland: Fe				akle Grid		d Ref: 156750, 185897			
Target note no.: TN1				Area: 2ha					
Ecological V	/alue: Modera	te Ecological in	terest i	n a local context.					
Habitat code	Species-rich Wet Grassland on slightly sloped ground. Evidence of grazing; quite poached.								
GS4	Species List								
	Species (<i>Latin</i> name)		-	cies (common nan	ne)	DAFOR Scale			
	Anthoxanthum odoratum		Sweet Vernal Grass			Frequent Occasional			
	Bellis perennis			Daisy		Frequent			
	Carex nigra		Common Sedge Marsh Thistle			Occasional			
	Cirsium palustre Cynosurus cristatus		Crested Dogs-tail			Frequent			
	Galium sp.		Bedstraw sp.			Frequent			
	Holcus lanatus			Yorkshire Fog		Dominant			
	Juncus acutiflorus		Sharp-flowered Rush			Frequent			
	Juncus conglomeratus		Compact Rush			Frequent			
	Juncus effusus		Soft Rush			Dominant			
	Lotus pedunculatus		Greater Bird's-foot Trefoil		oil	Abundant			
	Plantago lanceolata		Ribwort Plantain			Frequent			
	Poa spp.		Meadowgrasses			Abundant			
	Ranunculus flammula		Lesser Spearwort			Occasional			
	Ranunculus acris		Meadow Buttercup			Frequent			
	Ranunculus repens		Creeping Buttercup			Frequent			
	Rumex acetosa		Common Sorrel			Occasional			
	Trifolium pratense		Red Clover			Dominant			
	Trifolium re	pens	White Clover			Dominant			



		TARGET NOTES - I	D No. 15	
Survey Title:	Mid Clare Hab	itat Mapping		Survey date: 17/06/10
Surveyor: JF	/JH/SON/JC			County name: Clare
1:2,500 Shee	et no: 4154-a	Townland: Feakle		Grid Ref: 156972, 185894
Target note	n o.: TN2	Area: 2	.7ha	
Ecological V	alue: Moderate	Ecological interest in a local	context	
Habitat code		which is cut annually for hay.		
GS2	Species List	Species (Latin name)	Specie	s (common name)
		Alopecurus pratensis		w Foxtail
		Anthoxanthum odoratum	Sweet V	/ernal Grass
		Arrhenatherum elatius	False C	Dat-grass
		Bromus hordeaceus	Soft Bro	ome
		Cynosurus cristatus	Crested	d Dog's-tail
		Cerastium glomeratum	Sticky N	Aouse-ear
		Dactylis glomerata	Cock's-	foot
		Euphrasia nemorosa	Eyebrig	ht
		Heracleum sphondylium	Hogwee	ed
		Holcus lanatus	Yorkshi	re Fog
		Lathyrus pratensis	Meadov	w Vetchling
		Lolium perenne	Perenn	ial Rye-grass
		Plantago lanceolata	Ribwort	Plantain
		Poa pratensis		Meadow-grass
		Rhinanthus minor	Yellow-	
		Stellaria sp.	Stitchw	ort
Habitat Map				

Legend

Survey Title: N Surveyor: JH/ 1:2,500 Sheet Target note no	/lid Clare Habit				
1:2,500 Sheet Target note no		at Mapping		Survey date: 17/06	6/10
Target note no	JF/JC/SON			County name: Clar	re
-	no: 4154-a T	Townland: Feakle		Grid Ref: 157374, *	185767
).: TN3	Area	: 1.1ha		
Ecological Val	ue: Moderate	Ecological interest in a loc	cal context.		
code	extends into ar	pecies-diverse Wet Grass n adjacent field which has y have previously been thi	been plante	d with broadleaf tree	saplings. The
	Species List				
		Species (Latin name)	Specie	es (common name)	
		Blechnum spicant	Hard F	ern]
		Calluna vulgaris	Ling		1
		Carex echinata	Star Se	edge]
		Carex panicea	Carnat	ion Sedge]
		Carex viridula	Yellow	Sedge]
		Cirsium sp.	Thistle		1
		Dactylorhiza sp.	Spotted	d Orchid]
		Hypochaeris radicata	Cat's-e	ar]
		Juncus articulatus	Jointed	l Rush]
		Lotus pedunculatus	Large E	Bird's-foot Trefoil	
		Luzula multiflora	Heath	Wood-rush	
		Molinia caerulea	Purple	Moor-grass	
		Pedicularis sylvatica	Lousev	vort	
		Potentilla erecta	Tormer	ntil	
		Ranunculus flammula		Spearwort	
		Sphagnum spp.	Bog Mo	osses	
		Succisa pratensis	Devil's-	-bit Scabious	



	TARC	GET NOTES - ID No. 17	
Survey Title	e: Mid Clare Habitat Mapping	Su	rvey date: 17/06/10
Surveyor:	Jean Hamilton	Co	unty name: Clare
1:2,500 She	eet no: 4154-a Townland: Fe	eakle Gr	id Ref: 156691, 186800
Target note	e no.: TN4	Area: 1.6ha	
Ecological	Value: High Ecological interes	t in a local context.	
Habitat	Good example of species-ri	ch Wet Grassland GS4. Vege	etation looks young and fresh so
code	appears to have been mown	n recently, probably annually	for hay.
GS4	Species List		
	Species (Latin name)	Species (common name)	DAFOR Scale
	Ajuga reptans	Bugle	Occasional
	Anthoxanthum odoratum	Sweet Vernal	Abundant
	Carex echinata	Star Sedge	Frequent
	Carex nigra	Common Sedge	Frequent
	Carex ovalis	Oval Sedge	Occasional
	Cynosurus cristatus	Crested Dog's-tail	Frequent
	Dactylorhiza spp.	Spotted-orchids	Occasional
	Euphrasia nemorosa	Eyebright	Frequent
	Galium sp.	Bedstraw	Occasional
	Holcus lanatus	Yorkshire Fog	Frequent
	Juncus articulatus	Jointed Rush	Dominant
	Juncus conglomeratus	Compact Rush	Frequent
	Lotus pedunculatus	Greater Birds-foot Trefoil	Abundant
	Luzula sp.	Wood-rush	Occasional
	Lychnis flos-cuculi	Ragged Robin	Frequent
	Myosotis scorpioides	Water Forget-me-not	Rare
	Pedicularis sylvatica	Lousewort	Occasional
	Plantago lanceolata	Ribwort Plantain	Occasional
	Poa spp.	Meadowgrasses	Frequent
	Prunella vulgaris	Selfheal	Frequent
	Ranunculus flammula	Lesser Spearwort	Frequent
	Rhinanthus minor	Yellow-rattle	Frequent
	Trifolium spp.	Clovers	Abundant



		TARGET N	OTES - ID No. 18	
Survey Title:	Mid Clare Hal	oitat Mapping		Survey date: 18/06/10
Surveyor: Jea	an Hamilton			County name: Clare
1:2,500 Shee	t no: 4154-a	Townland: Feakle		Grid Ref: 157862, 185834
Target note n	10.: TN5		Area: 0.2ha	
Ecological Va	alue: Moderat	te Ecological interest i	n a local context	
Habitat code GS4	(GA1) fields. dominant, ab	Typical GS4 habitat w	vith Sweet Vernal a us spp.) and sedge	y Improved Agricultural Grassland and Meadowgrasses (<i>Poa</i> spp.) s (<i>Carex</i> spp.), but also with
Habitat Map			4154-a_TN5	
Legend				

		TARG	SET N	OTES - ID No. 19		
Survey Title:	Mid Clare Hal	oitat Mapping			Surv	ey date: 18/06/10
Surveyor: Je	an Hamilton				Cour	nty name: Clare
1:2,500 Shee	t no: 4154-a	Townland: Fe	akle		Grid	Ref: 157929, 186025
Target note r	io.: TN6			Area: 1.4ha		
						ed to Annexed Habitat inion caeruleae) 6410
Habitat code GS4/HH3		cabious (<i>Succisa</i> cently.				<i>aerulea</i>), with abundant tillary habitat. Hasn't been
	Species (L		Spec	cies (common nan	ne)	DAFOR Scale
	Carex nigra	1	Com	mon sedge		Frequent
	Dactylorhiz	a sp.	Spot	ted Orchid		Occasional
	Filipendula	ulmaria	Mead	dowsweet		Frequent
	Juncus spp		Rush	ies		Abundant
	Lotus cornie	culatus	Bird's	s-foot Trefoil		Frequent
	Lychnis flos	s-cuculi	Rago	ged Robin		Occasional
	Molinia cae	rulea	Purp	le Moor-grass		Dominant
	Pedicularis	sylvatica	Lous	ewort		Occasional
	Poa spp.		Mead	dowgrasses		Frequent
	Potentilla e	recta	Torm	nentil		Frequent
	Succisa pra	atensis	Devil	's-bit Scabious		Abundant
	Wet Heath-ty <i>tetralix</i>), Hare spp.). Also p	pe habitat, with e's-tail Cottongra	abuno ass (<i>E</i> Deerg	dant Ling (Calluna riophorum vaginatu rass (Trichophorum	vulgai um) ar n cesj	e east, where it grades in to ris), Cross-leaved Heath (<i>Erica</i> nd Bog mosses (<i>Sphagnum</i> <i>pitosum</i>), woodrushes (<i>Luzula</i> lentil (<i>Potentilla erecta</i>).



Survey Title: Mid Clare Habitat MappingSurvey date: 24/06/06Surveyor: Jean HamiltonCounty name: Clare1:2,500 Sheet no: 4154-bTownland: Lecarrow UpperGrid Ref: 158093, 185773Target note no.: TN1Area: 0.32haEcological Value: ModerateEcological interest in a local context.Habitat codeVery limited patch of Ash woodland. Ash (<i>Fraxinus excelsior</i>) is dominant, with frequen Hawthorn (<i>Crataegus monogyna</i>) and Blackthorn (<i>Prunus spinosa</i>) in the understorey. Abundant nettles (<i>Urtica dioica</i>) and Bramble (<i>Rubus fruticosus</i>) occur in the ground layer, along with scattered Germander Speedwell (<i>Veronica chamaedrys</i>), Broad-leave Willowherb (<i>Epilobium montanum</i>), Wood Avens (<i>Geum urbanum</i>) and ferns, including Lady Fern (<i>Athyrium filix-femina</i>) and Hart's-tongue Fern (<i>Phyllitis scolopendrium</i>)		TARGET NO	OTES - ID No. 20	
1:2,500 Sheet no: 4154-b Townland: Lecarrow Upper Grid Ref: 158093, 185773 Target note no.: TN1 Area: 0.32ha Ecological Value: Moderate Ecological interest in a local context. Habitat code Very limited patch of Ash woodland. Ash (<i>Fraxinus excelsior</i>) is dominant, with frequen Hawthorn (<i>Crataegus monogyna</i>) and Blackthorn (<i>Prunus spinosa</i>) in the understorey. Abundant nettles (<i>Urtica dioica</i>) and Bramble (<i>Rubus fruticosus</i>) occur in the ground layer, along with scattered Germander Speedwell (<i>Veronica chamaedrys</i>), Broad-leave Willowherb (<i>Epilobium montanum</i>), Wood Avens (<i>Geum urbanum</i>) and ferns, including	Survey Title: Mid Clare Ha	bitat Mapping		Survey date: 24/06/06
Target note no.: TN1 Area: 0.32ha Ecological Value: Moderate Ecological interest in a local context. Habitat code Very limited patch of Ash woodland. Ash (<i>Fraxinus excelsior</i>) is dominant, with frequen Hawthorn (<i>Crataegus monogyna</i>) and Blackthorn (<i>Prunus spinosa</i>) in the understorey. Abundant nettles (<i>Urtica dioica</i>) and Bramble (<i>Rubus fruticosus</i>) occur in the ground layer, along with scattered Germander Speedwell (<i>Veronica chamaedrys</i>), Broad-leave Willowherb (<i>Epilobium montanum</i>), Wood Avens (<i>Geum urbanum</i>) and ferns, including	Surveyor: Jean Hamilton			County name: Clare
Ecological Value: Moderate Ecological interest in a local context. Habitat Very limited patch of Ash woodland. Ash (<i>Fraxinus excelsior</i>) is dominant, with frequen Hawthorn (<i>Crataegus monogyna</i>) and Blackthorn (<i>Prunus spinosa</i>) in the understorey. Abundant nettles (<i>Urtica dioica</i>) and Bramble (<i>Rubus fruticosus</i>) occur in the ground layer, along with scattered Germander Speedwell (<i>Veronica chamaedrys</i>), Broad-leave Willowherb (<i>Epilobium montanum</i>), Wood Avens (<i>Geum urbanum</i>) and ferns, including	1:2,500 Sheet no: 4154-b	Townland: Lecarrow	/ Upper	Grid Ref: 158093, 185773
Habitat codeVery limited patch of Ash woodland. Ash (<i>Fraxinus excelsior</i>) is dominant, with frequen Hawthorn (<i>Crataegus monogyna</i>) and Blackthorn (<i>Prunus spinosa</i>) in the understorey. Abundant nettles (<i>Urtica dioica</i>) and Bramble (<i>Rubus fruticosus</i>) occur in the ground layer, along with scattered Germander Speedwell (<i>Veronica chamaedrys</i>), Broad-leave Willowherb (<i>Epilobium montanum</i>), Wood Avens (<i>Geum urbanum</i>) and ferns, including	Target note no.: TN1		Area: 0.32ha	
codeHawthorn (Crataegus monogyna) and Blackthorn (Prunus spinosa) in the understorey. Abundant nettles (Urtica dioica) and Bramble (Rubus fruticosus) occur in the ground layer, along with scattered Germander Speedwell (Veronica chamaedrys), Broad-leave Willowherb (Epilobium montanum), Wood Avens (Geum urbanum) and ferns, including	Ecological Value: Modera	te Ecological interest i	n a local context.	
	codeHawthorn (CAbundant neWN2Willowherb	Crataegus monogyna) a ettles (Urtica dioica) an with scattered Germar (Epilobium montanum)	and Blackthorn (<i>Pi</i> d Bramble (<i>Rubus</i> nder Speedwell (<i>Vi</i> , Wood Avens (<i>Ge</i>	<i>runus spinosa</i>) in the understorey. <i>fruticosus</i>) occur in the ground <i>eronica chamaedrys</i>), Broad-leaved <i>eum urbanum</i>) and ferns, including
Habitat Map				

		TARGET N	OTES - II	D No. 21			
Survey Title:	Mid Clare Hat	bitat Mapping			Survey date: 24/06/	/06	
Surveyor: Je	an Hamilton				County name: Clar	e	
1:2,500 Shee	t no: 4154-b	Townland: Clashmo	ore		Grid Ref: 158336, 1	86327	
Target note r	10.: TN2		Area: 4	1ha			
Ecological V	alue: Moderat	e Ecological interest i	n a local	context			
Habitat code GS3/WS1	diversity of g Grassland in	I which has not been intensively improved recently, and which contains a goo of grasses, sedges and herbs. The sward is short and there are many Ac I indicators, and so this is given a GS3 classification. This habitat grades in rub (WS1) to the north west.					
	Species List	Species (Latin na	ame)	Specie	s (common name)		
		Anthoxanthum od	oratum	Sweet V	/ernal Grass		
		Bellis perennis		Daisy			
		Carex spp.		Sedges			
		Cynosurus cristat	Cynosurus cristatus Crested Dog's-tail				
		Festuca spp. Fescues		S			
		Lotus corniculatus	5	Bird's-fo	oot Trefoil		
		Nardus stricta		Mat-gra	ISS		
		Pedicularis sylvat	ica	Lousew	vort		
		Plantago lanceola	ita	Ribwort	Plantain		
		Potentilla erecta		Tormen	til		
		Ranunculus reper	าร		ng Buttercup		
		Trifolium repens		White C	Clover		

Habitat Map



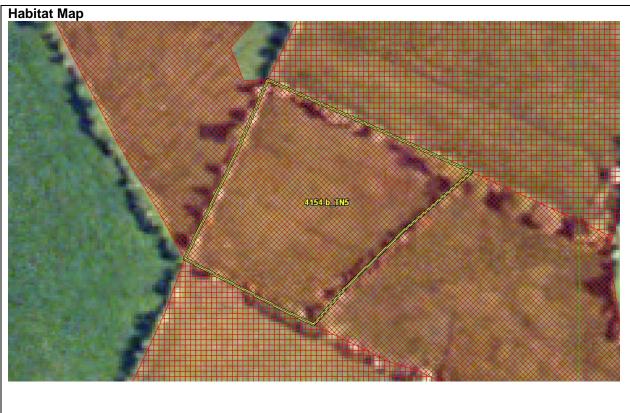
Legend

		TARGET N	OTES - ID No. 22	
Survey Title:	Mid Clare Ha	bitat Mapping		Survey date: 24/06/06
Surveyor: Je	an Hamilton			County name: Clare
1:2,500 Shee	t no: 4154-b	Townland: Lecarrow	/ Lower	Grid Ref: 159430, 186599
Target note r	10.: TN3		Area: 0.08ha	
Ecological V	alue: Modera	te Ecological interest i	n a local context.	
Habitat code FL8	(Juncus spp.), Reeds (Phragmites	australis) and othe	GA1) field, surrounded by Rushes er large grasses. Water Plantain he water. Good habitat for wildfowl.
Habitat Map				
	}			
Legend				

uent ently



d Clare Hat Hamilton o: 4154-b TN5	oitat Mapping			
o: 4154-b			Surve	ey date: 24/06/06
			Coun	ty name: Clare
TN5	Townland: Le	ecarrow Lower	Grid I	Ref: 159895, 186534
		Area: 0.52ha		
	e Ecological in	terest in a local context.	This ha	bitat does not correspond to
oitats.	Wet Grassland	on gently sloping groups	d Domi	nated by <i>Juncus</i> spp. but
ontains abui	ndant Commor	Spotted-orchid (Dactylo		ichsii) and occasional Less
utterfly Orch	nid (<i>Platanthera</i>	a bifolia).		
pecies List				
		Species (common na	me)	DAFOR Scale
Anthoxanth	um odoratum	Sweet Vernal Grass		Abundant
Cynosurus	cristatus	Crested Dog's-tail		Abundant
Dactylorhiza	a fuchsii	Common Spotted-orchi	id	Abundant
-ilipendula	ulmaria	Meadowsweet		Frequent
Galium palı	istre	Common Marsh-Bedstr	raw	Occasional
Holcus lana	tus	Yorkshire Fog		Abundant
<i>luncus</i> spp.		Rushes		Dominant
athyrus pra	atensis	Meadow Vetchling		Occasional
otus pendu	unculatus	Greater Birds-foot-trefo	oil	Occasional
<i>Luzula</i> spp.		Wood-rushes		Occasional
ychnis flos	-cuculi	Ragged Robin		Frequent
Platanthera	bifolia	Lesser Butterfly Orchid		Occasional
Ranunculus	flammula	Lesser Spearwort		Frequent
Trifolium pra	atense	Red Clover		Abundant
Trifolium rej	pens	White Clover		Abundant
	Species (La Anthoxanthi Cynosurus o Dactylorhiza Filipendula Galium palu Holcus lana Juncus spp. Lathyrus pradu Luzula spp. Lychnis flos Platanthera Ranunculus	Decies List Species (Latin name) Anthoxanthum odoratum Cynosurus cristatus Dactylorhiza fuchsii Filipendula ulmaria Galium palustre Holcus lanatus Juncus spp. Lathyrus pratensis Lotus pendunculatus Luzula spp. Lychnis flos-cuculi Platanthera bifolia Ranunculus flammula Trifolium pratense Trifolium repens	Species (Latin name)Species (common na Anthoxanthum odoratumAnthoxanthum odoratumSweet Vernal GrassCynosurus cristatusCrested Dog's-tailDactylorhiza fuchsiiCommon Spotted-orchFilipendula ulmariaMeadowsweetGalium palustreCommon Marsh-BedstHolcus lanatusYorkshire FogJuncus spp.RushesLathyrus pratensisMeadow VetchlingLotus pendunculatusGreater Birds-foot-trefoLuzula spp.Wood-rushesLychnis flos-cuculiRagged RobinPlatanthera bifoliaLesser SpearwortTrifolium pratenseRed Clover	Species (Latin name)Species (common name)Anthoxanthum odoratumSweet Vernal GrassCynosurus cristatusCrested Dog's-tailDactylorhiza fuchsiiCommon Spotted-orchidFilipendula ulmariaMeadowsweetGalium palustreCommon Marsh-BedstrawHolcus lanatusYorkshire FogJuncus spp.RushesLathyrus pratensisMeadow VetchlingLotus pendunculatusGreater Birds-foot-trefoilLychnis flos-cuculiRagged RobinPlatanthera bifoliaLesser SpearwortTrifolium pratenseRed Clover



Legend

		ARGET NOTES - ID No. 2	25
Survey Title:	Mid Clare Habitat Mappi		Survey date: 24/06/06
Surveyor: Je			County name: Clare
1:2,500 Shee		: Lecarrow Lower	Grid Ref : 159666, 186459
Target note r		Area: 1.6ha	,
Ecological V		al interest in a local contex	t. This habitat type does not
Habitat code GS3/GS1	overall quite short, dom and Mat-grass (<i>Nardus</i> grassland, grows along	inated by needle-leaved gr <i>stricta</i>). Quaking Grass (<i>Bi</i> side Mat-grass and Tormer and. Overall, the area has	of species. Sward height is varied but asses such as Fescues (<i>Festuca</i> spp.) <i>riza media</i>), an indicator of calcareous ntil (<i>Potentilla erecta</i>), which are both the appearance of Acid Grassland
	Species (Latin name)	Species (common r	name) DAFOR Scale
	Agrostis spp.	Bents	Abundant
	Briza media	Mat-grass	Frequent
	Carex spp.	Sedges	Frequent
	Dactylorhiza maculata	Heath Spotted-orchie	d Occasional
	Festuca spp.	Fescues	Abundant
	Lotus corniculatus	Birds-foot Trefoil	Occasional
	Luzula spp.	Wood-rushes	Occasional
	Nardus stricta	Mat-grass	Abundant
	Pedicularis sylvatica	Lousewort	Frequent
	Potentilla erecta	Tormentil	Frequent
	Prunella vulgaris	Selfheal	Occasional
	Trifolium repens	White Clover	Frequent
		Į	

Habitat Map



Legend

Surveyor: Jean Ha 1:2,500 Sheet no: Target note no.: T Ecological Value: Annex I habitats. Habitat code (Jun mos GS3/HH1 excu veel Spe Sp Ag An Ca Ca Ca Da Ern Fe Ga Ju Ju	4154-b Townland: Leo N7 High Ecological interest d Grassland / Heath on <i>ncus squarrosus</i>) is abun- sses (<i>Sphagnum</i> spp.).	Area: 1.7ha in a local context. This h flat area. Vegetation is dant, and there is extens Dwarf Ling (<i>Calluna vu</i> abitat may be categoriz is Heath HH1. Species (common nai Bents Sweet Vernal Grass Ling Carnation Sedge Star Sedge Heath spotted-orchid Common Cottongrass Fescues	Survey date: 24/06/06 County name: Clare Grid Ref: 159209, 186158 abitat does not correspond to any dominated by sedges. Heath rus sive moss cover, including some bolgaris) is widespread, but does not garis) is widespread, but does not red as Acid Grassland GS3, but if Frequent Abundant Frequent Abundant Frequent Abundant Frequent Abundant Abundant Abundant Abundant Abundant Abundant Abundant
1:2,500 Sheet no: Target note no.: T Ecological Value: Annex I habitats. Habitat Acid code (Jur mos GS3/HH1 excu veel Spe Sp Ag Ar Ca Ca Ca Ca Da Er Fe Ga Ju Ju	4154-b Townland: Lead IN7 High Ecological interest d Grassland / Heath on ncus squarrosus) is abundance seed 25% cover. This has seed 25% cover. This has wing towards Dry Siliceour ecies List becies List pecies (Latin name) grostis spp. nthoxanthum odoratum alluna vulgaris arex panicea arex echinata actylorhiza maculata riophorum angustifolium estuca spp.	Area: 1.7ha in a local context. This h flat area. Vegetation is dant, and there is extens Dwarf Ling (<i>Calluna vu</i> abitat may be categoriz is Heath HH1. Species (common nai Bents Sweet Vernal Grass Ling Carnation Sedge Star Sedge Heath spotted-orchid Common Cottongrass Fescues	Grid Ref: 159209, 186158 aabitat does not correspond to any dominated by sedges. Heath rus sive moss cover, including some bo <i>Igaris</i>) is widespread, but does not red as Acid Grassland GS3, but if Prequent Abundant Frequent Abundant Occasional Frequent
Target note no.: TEcological Value:Annex I habitats.HabitatAciocode(JurGS3/HH1excoVeelSpeSpeSpeSpeSpeCa <td< th=""><th>TN7 High Ecological interest d Grassland / Heath on <i>ncus squarrosus</i>) is abun- sses (<i>Sphagnum</i> spp.). I eed 25% cover. This ha wring towards Dry Siliceour ecies List Decies (<i>Latin</i> name) grostis spp. <i>nthoxanthum odoratum</i> alluna vulgaris arex panicea arex echinata actylorhiza maculata riophorum angustifolium estuca spp.</th><th>Area: 1.7ha in a local context. This h flat area. Vegetation is dant, and there is extens Dwarf Ling (<i>Calluna vu</i> abitat may be categoriz is Heath HH1. Species (common nai Bents Sweet Vernal Grass Ling Carnation Sedge Star Sedge Heath spotted-orchid Common Cottongrass Fescues</th><th>mabitat does not correspond to any dominated by sedges. Heath rus sive moss cover, including some bo lgaris) is widespread, but does not red as Acid Grassland GS3, but if me) DAFOR Scale Frequent Abundant Frequent Abundant Occasional Frequent</th></td<>	TN7 High Ecological interest d Grassland / Heath on <i>ncus squarrosus</i>) is abun- sses (<i>Sphagnum</i> spp.). I eed 25% cover. This ha wring towards Dry Siliceour ecies List Decies (<i>Latin</i> name) grostis spp. <i>nthoxanthum odoratum</i> alluna vulgaris arex panicea arex echinata actylorhiza maculata riophorum angustifolium estuca spp.	Area: 1.7ha in a local context. This h flat area. Vegetation is dant, and there is extens Dwarf Ling (<i>Calluna vu</i> abitat may be categoriz is Heath HH1. Species (common nai Bents Sweet Vernal Grass Ling Carnation Sedge Star Sedge Heath spotted-orchid Common Cottongrass Fescues	mabitat does not correspond to any dominated by sedges. Heath rus sive moss cover, including some bo lgaris) is widespread, but does not red as Acid Grassland GS3, but if me) DAFOR Scale Frequent Abundant Frequent Abundant Occasional Frequent
Ecological Value: Annex I habitats. Habitat Acio code (Jur mos GS3/HH1 exco vee Spe Ag Ar Ca Ca Ca Da Err Fe Ga Ju Ju	High Ecological interest d Grassland / Heath on ncus squarrosus) is abun- sses (Sphagnum spp.). I eed 25% cover. This ha oring towards Dry Siliceour ecies List Decies (Latin name) grostis spp. Inthoxanthum odoratum alluna vulgaris arex panicea arex echinata actylorhiza maculata riophorum angustifolium estuca spp.	in a local context. This h flat area. Vegetation is dant, and there is extens Dwarf Ling (<i>Calluna vu</i> abitat may be categoriz is Heath HH1. Species (common nai Bents Sweet Vernal Grass Ling Carnation Sedge Star Sedge Heath spotted-orchid Common Cottongrass Fescues	dominated by sedges. Heath rus sive moss cover, including some bo <i>Igaris</i>) is widespread, but does not ted as Acid Grassland GS3, but is me) DAFOR Scale Frequent Abundant Frequent Abundant Occasional Frequent
Annex I habitats. Habitat Acia code (Jur mos GS3/HH1 exca vee Spe Sp Ag Ar Ca Ca Ca Ca Da Er Fe Ga Ju Ju	d Grassland / Heath on ncus squarrosus) is abun- sses (Sphagnum spp.). I eed 25% cover. This ha ring towards Dry Siliceou ecies List becies (Latin name) grostis spp. nthoxanthum odoratum alluna vulgaris arex panicea arex echinata actylorhiza maculata riophorum angustifolium estuca spp.	flat area. Vegetation is dant, and there is extens Dwarf Ling (<i>Calluna vu</i> abitat may be categoriz is Heath HH1. Species (common nai Bents Sweet Vernal Grass Ling Carnation Sedge Star Sedge Heath spotted-orchid Common Cottongrass Fescues	dominated by sedges. Heath rus sive moss cover, including some bo <i>Igaris</i>) is widespread, but does not ted as Acid Grassland GS3, but is me) DAFOR Scale Frequent Abundant Frequent Abundant Occasional Frequent
code (Jur mos GS3/HH1 excu veel Spe Ag Ar Ca Ca Ca Ca Ca Ca Ca Ca Ca Ca Ca Ca Ca	ncus squarrosus) is abun sses (Sphagnum spp.). I eed 25% cover. This ha ring towards Dry Siliceou ecies List pecies (Latin name) grostis spp. nthoxanthum odoratum alluna vulgaris arex panicea arex panicea arex echinata actylorhiza maculata riophorum angustifolium estuca spp.	dant, and there is extens Dwarf Ling (<i>Calluna vu</i> abitat may be categoriz is Heath HH1. Species (common nar Bents Sweet Vernal Grass Ling Carnation Sedge Star Sedge Heath spotted-orchid Common Cottongrass Fescues	sive moss cover, including some bo Igaris) is widespread, but does no ed as Acid Grassland GS3, but is me) DAFOR Scale Frequent Abundant Frequent Abundant Occasional Frequent
Sp Ag Ar Ca Ca Ca Er Fe Ga Ju Ju	becies (Latin name) grostis spp. hthoxanthum odoratum alluna vulgaris arex panicea arex panicea arex echinata actylorhiza maculata riophorum angustifolium estuca spp.	Bents Sweet Vernal Grass Ling Carnation Sedge Star Sedge Heath spotted-orchid Common Cottongrass Fescues	Frequent Abundant Frequent Abundant Abundant Occasional Frequent
Ag Ar Ca Ca Ca Da Er Fe Ga Ju	grostis spp. nthoxanthum odoratum alluna vulgaris arex panicea arex echinata actylorhiza maculata riophorum angustifolium estuca spp.	Bents Sweet Vernal Grass Ling Carnation Sedge Star Sedge Heath spotted-orchid Common Cottongrass Fescues	Frequent Abundant Frequent Abundant Abundant Occasional Frequent
An Ca Ca Da En Fe Ga Ju	nthoxanthum odoratum alluna vulgaris arex panicea arex echinata actylorhiza maculata riophorum angustifolium estuca spp.	Sweet Vernal Grass Ling Carnation Sedge Star Sedge Heath spotted-orchid Common Cottongrass Fescues	AbundantFrequentAbundantAbundantOccasionalFrequent
Ca Ca Da En Fe Ga Ju	alluna vulgaris arex panicea arex echinata actylorhiza maculata riophorum angustifolium estuca spp.	Ling Carnation Sedge Star Sedge Heath spotted-orchid Common Cottongrass Fescues	Frequent Abundant Abundant Occasional Frequent
Ca Ca Da En Fe Ga Ju	arex panicea arex echinata actylorhiza maculata riophorum angustifolium estuca spp.	Carnation Sedge Star Sedge Heath spotted-orchid Common Cottongrass Fescues	Abundant Abundant Occasional Frequent
Ca Da En Fe Ga Ju	arex echinata actylorhiza maculata riophorum angustifolium estuca spp.	Star Sedge Heath spotted-orchid Common Cottongrass Fescues	Abundant Occasional Frequent
Da Er Fe Ga Ju	actylorhiza maculata riophorum angustifolium estuca spp.	Heath spotted-orchid Common Cottongrass Fescues	Occasional Frequent
En Fe Ga Ju	iophorum angustifolium estuca spp.	Common Cottongrass Fescues	Frequent
Fe Ga Ju Ju	estuca spp.	Fescues	
Ga Ju Ju			Abundant
Ju Ju	alium saxatile		
Ju		Heath Bedstraw	Occasional
	incus effusus	Soft Rush	Frequent
	incus squarrosus	Heath Rush	Abundant
Lu	ızula multiflora	Heath Wood-rush	Frequent
Pe	edicularis sylvatica	Lousewort	
Pc	olygala serpyllifolia	Heath Milkwort	Occasional
Pe	edicularis sylvatica	Lousewort	



		TARGET NOTES - I	D No. 27		
Survey Title: Mid Clare Habitat Mapping				Survey date: 24/06/06	
Surveyor: Jean Hamilton				County name: Clare	
1:2,500 Shee	et no: 4154-b	Townland: Lecarrow Lower		Grid Ref: 158797, 185583	
Target note	no.: TN8	Area: 1	.4ha		
Ecological V	alue: Moderat	e Ecological interest in a local	context		
Habitat code	Species-rich	neutral grassland on sloped gr	ound.		
064	Species List				1
GS1		Species (Latin name) Anthoxanthum odoratum	Species (common name) Sweet Vernal Grass		
					-
		Carex spp.	Sedges		
		Cirsium palustre	Marsh		
		Cynosurus cristatus		d Dogs-tail	ļ
		Dactylorhiza fuchsii		on Spotted-orchid	ļ
		Festuca spp.	Fescue		
		Holcus lanatus	Yorkshi	-	
		Leucanthemum vulgare	Oxeye	-	
		Lotus corniculatus		oot Trefoil	-
		Poa spp.		w grasses	-
		Potentilla erecta	nella vulgarisSelfhealrrinchium bermudianaBlue-eyed Grassblium pratenseRed Clover		
		Prunella vulgaris			
		Trifolium pratense			
		Vicia cracca	Tufted '	Vetch]
Habitat Map					
Legend					

	TARG	ET NOTES – ID No. 28	
Survey Titl	e: Mid Clare Habitat Mapping		Survey date: 08/07/10
Surveyor:	John Curtin	(County name: Clare
1:2,500 She	eet no: 4154-c Townland: Ki	ilbarron Grid Ref: 157330, 184814	
Target note	e no.: TN1	Area: 1.1ha	
Ecological habitats.	Interest: High ecological inte		-
Habitat code		nas recently been bulldoze	ed from area of field to the east o
GS4	site. The landowner is plann	ing to improve site by rotiv	ating and reseeding.
	Species List Species (<i>Latin</i> name)	Species (common nam	e) DAFOR Scale
	Anagallis tenella	Bog Pimpernel	Frequent
	Anthoxanthum odoratum	Sweet Vernal-grass	Occasional
	Carex echinata	Star Sedge	Frequent
	Carex nigra	Common Sedge	Frequent
	Carex viridula	Yellow Sedge	Occasional
	Cirsium palustre	Marsh-thistle	Occasional
	Dactylorhiza sp.	Orchid	Occasional
	Eriophorum angustifolium	Common Cottongrass	Occasional
	Galium palustre	Marsh-bedstraw	Occasional
	Holcus lanatus	Yorkshire Fog	Occasional
	Juncus articulatus	Jointed Rush	Frequent
	Juncus effusus	Soft Rush	Occasional
	Lotus pedunculatus	Greater Birds-foot-trefoil	Occasional
	Luzula sylvatica	Great Wood-rush	Occasional
	Pedicularis sylvatica	Lousewort	Occasional
	Poa sp	Meadow-grass	Occasional
	Potentilla erecta	Tormentil	Frequent
	Prunella vulgaris	Self-heal	Occasional
	Ranunculus flammula	Lesser spearwort	Occasional
	Salix sp	Willow	Occasional
	Sphagnum sp	Peat moss	Abundant
	Taraxacum sp	Dandelion sp	Occasional
	Ulex sp	Gorse	Occasional





	TARG	ET NOTES – ID No. 29	
Survey Title:	Mid Clare Habitat Mapping		Survey date: 08/07/10
Surveyor: Jol	nn Curtin		County name: Clare
1:2,500 Sheet	t no: 4154-c Townland: Fe	eakle	Grid Ref: 157350, 185367
Target note n	o.: TN2	Area: 1.1ha	
habitat 'North	terest: High ecological inte hern Atlantic wet heaths wit	h Erica tetralix (4010)'.	
Habitat code GS4/HH3	Mosaic habitat consisting of are present; Ling (<i>Calluna vu</i> typical bog species; Bog Asp <i>angustifolium</i>). Wet grassland plants found of <i>flammula</i>), rushes (<i>Juncus e</i> <i>odoratum</i> and <i>Holcus lanatu</i>)	Wet grassland (GS4) and Jgaris) and Cross-leaved bodel (<i>Narthecium ossif</i> on the site include; Lesse ffusus and Juncus articu s). sent suggesting if peat is	d Wet heath (HH3). Heather species d Heath (<i>Erica tetralix</i>) along with <i>ragum</i>), and Bog-cotton (<i>Eriophorum</i> er Spearwort (<i>Ranunculus</i> <i>latus</i>) and grasses (<i>Anthoxanthum</i> s present it is less than 50cm thus
	Species (Latin name)	Species (common nar	ne) DAFOR Scale
	Anthoxanthum odoratum	Sweet Vernal-grass	Frequent
	Calluna vulgaris	Ling	Frequent
	Carex nigra	Common Sedge	Frequent
	Dactylorhiza sp.	Orchid	Occasional
	Erica tetralix	Heath, cross-leaved	Frequent
	Eriophorum angustifolium	Common Cottongrass	Occasional
	Holcus lanatus	Yorkshire Fog	Occasional
	Juncus articulatus	Jointed Rush	Frequent
	Lotus pedunculatus	Greater Birds-foot-trefo	il Occasional
	Luzula sylvatica	Great Wood-rush	Occasional
	Myrica gale	Bog Myrtle	Occasional
	Narthecium ossifragum	Bog asphodel	Frequent
	Poa sp	Meadow-grass	Occasional
	Potentilla erecta	Tormentil	Frequent
	Prunella vulgaris	Self-heal	Occasional
	Ranunculus flammula	Lesser spearwort	Occasional
	Rumex sp	Sorrel	Occasional
	Salix repens	Creeping Willow	Occasional
	Sphagnum sp	Peat moss	Abundant
	Ulex sp	Gorse	Occasional



O 		RGET NOTES – ID No. 30			
-	e: Mid Clare Habitat Mapping	-	Survey date: 08/07/10		
Surveyor: J			County name: Clare		
•	eet no: 4154-c Townland:	Kilbarron	Grid Ref: 157080, 184499		
Target note		Area: 2ha			
	Interest: <mark>High</mark> Ecological Iı I to an Annex I Habitats	mportance in a local contex	t. This habitat does not		
Habitat		sland or fen with good conne	ctivity. Wet grasslands surround		
code		abitat close by to the west.	, ,		
GS4	Species List				
	Species (<i>Latin</i> name)	Species (common nam	e) DAFOR Scale		
	Agrostis sp	Bent grass	Occasional		
	Angelica sylvestris	Wild Angelica	Occasional		
	Briza media	Quaking-grass	Occasional		
	Carex nigra	Common Sedge	Occasional		
	Carex panicea	Carnation sedge	Occasional		
	Carex viridula	Yellow Sedge	Occasional		
	Cirsium dissectum	Meadow Thistle	Occasional		
	Cirsium palustre	Marsh-thistle	Occasional		
	Cirsium sp	Thistle	Frequent		
	Cynosurus cristatus	Crested Dogs-tail	Occasional		
	Dactylorhiza sp.	Orchid	Occasional		
	Digitalis purpurea	Foxglove	Rare		
	Epilobium sp	Willowherb	Occasional		
	Equisetum sp	Horsetail	Occasional		
	Filipendula ulmaria	Meadowsweet	Frequent		
	Galium palustre	Marsh-bedstraw	Occasional		
	Holcus lanatus	Yorkshire Fog	Frequent		
	Juncus articulatus	Jointed Rush	Abundant		
	Juncus effusus	Soft Rush	Occasional		
	Lotus pedunculatus	Greater Birds-foot-trefoil	Frequent		
	Mentha aquatica	Water Mint	Occasional		
	Mysotis sp	Forget-me-not	Occasional		
	Narthecium ossifragum	Bog asphodel	Occasional		
	Poa sp	Meadow-grass	Occasional		
	Potentilla anserina	Silverweed	Occasional		
	Potentilla erecta	Tormentil	Occasional		
	Potentilla palustris	Marsh Cinquefoil	Occasional		
	Prunella vulgaris	Self-heal	Occasional		
	Ranunculus repens	Creeping buttercup	Occasional		
	Rumex sp	Sorrel sp	Occasional		
	Stellaria media	Common Chickweed	Occasional		
	Trifolium pratense	Red Clover	Occasional		



-		ET NOTES – ID No. 31	
Surveyor	Mid Clare Habitat Mapping		urvey date: 08/07/10
Juiveyor. Ju	hn Curtin	C	ounty name: Clare
1:2,500 Shee	et no: 4154-c Townland: K	Kilbarron Grid Ref: 156324, 1843	
Target note		Area: 3ha	
Ecological Ir	nterest: High Ecological Imp	ortance in a local context.	This habitat does not
Habitat code		c. Rushes (Juncus articulat	us and Juncus effusus) domina
GS4/GM1	Species List Species (<i>Latin</i> name)	Species (common name) DAFOR Scale
	Anthoxanthum odoratum	Sweet Vernal-grass	Occasional
	Bryophyte	Moss	Abundant
	Carex nigra	Common Sedge	Occasional
	Caltha palustris	Marsh-marigold	Occasional
	Cirsium palustre	Marsh-thistle	Occasional
	Dactylorhiza sp.	Orchid	Rare
	Holcus lanatus	Yorkshire Fog	Frequent
	Hydrocotyle vulgaris	Marsh Pennywort	Occasional
	Iris pseudacorus	Iris	Occasional
	Juncus articulatus	Jointed Rush	Abundant
	Juncus effusus	Soft Rush	Abundant
	Lathyrus pratensis	Meadow Vetchling	Occasional
	Luzula sylvatica	Great Wood-rush	Occasional
	Lychnis flos-cuculi	Ragged Robin	Occasional
	Mentha aquatica	Water Mint	Frequent
	Pedicularis sylvatica	Lousewort	Occasional
	Prunella vulgaris	Self-heal	Occasional
	Ranunculus flammula	Lesser spearwort	Occasional
	Ranunculus repens	Creeping buttercup	Occasional

I



	TARG	ET NOTES – ID No. 32			
Survey Title	: Mid Clare Habitat Mapping	S	Survey date: 09/07/10		
Surveyor: Jo	ohn Curtin	C	county name: Clare		
1:2,500 She	et no: 4154-c Townland: Ki	ilbarron G	orid Ref: 157237, 184470		
Target note	no.: TN5	Area: 0.9ha			
	nterest: High Ecological Imp s to the Annex I habitat 'trans				
Habitat code PF3	is wetter than most raised b that is characteristic. It does however contain	ogs in the area and does n many typical raised bog	ansition mire and Quaking bog'. I not display the typical dome shape species; Round-leaved Sundew spora alba) and Bog asphode		
	(<i>Narthecium ossifragum</i>), alongside more fen affiliated species such as Marsh Cinquefe (<i>Potentilla palustris</i>).				
	Species List	Encoine (common name	DAFOR Scale		
	Species (Latin name) Anthoxanthum odoratum	Species (common name Sweet Vernal-grass	Occasional		
	Calluna vulgaris	Ling	Frequent		
	Carex echinata	Star Sedge	Frequent		
	Dactylorhiza sp.	Orchid	Occasional		
	Drosera rotundifolia	Round-leaved Sundew	Occasional		
	Erica tetralix	Heath, cross-leaved	Frequent		
	Eriophorum angustifolium	Common Cottongrass	Occasional		
	Juncus articulatus	Jointed Rush	Frequent		
	Juncus effusus	Soft Rush	Rare		
	Luzula sylvatica	Great Wood-rush	Occasional		
	Lycopodium	Clubmoss	Occasional		
	Menyanthes trifoliata	Bogbean	Occasional		
	Molinia caerulea	Purple Moor-grass	Abundant		
	Myrica gale	Bog Myrtle	Frequent		
	Narthecium ossifragum	Bog asphodel	Frequent		
	Potentilla erecta	Tormentil	Occasional		
	Potentilla palustris	Marsh Cinquefoil	Occasional		
	Rhynchospora alba	White Beak-sedge	Frequent		
	Salix sp	Willow	Occasional		
	Sphagnum sp	Peat moss	Abundant		



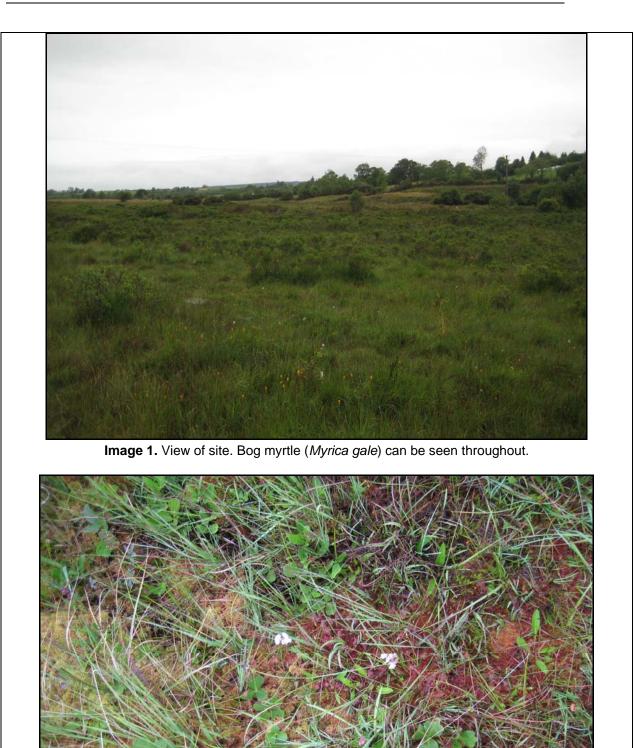


Image 3: Typical flora occurring on site. Peat moss (*Sphagnum*) and Bogbean (*Menyanthes trifoliata*) present.

	TARC	GET NOTES – ID No. 33	
Survey Title	: Mid Clare Habitat Mapping		Survey date: 09/07/10
Surveyor: Jo	ohn Curtin		County name: Clare
1:2,500 Shee	et no: 4154-c Townland: K	ilbarron	Grid Ref: 157083, 184299
Target note	no.: TN6	Area: 0.4ha	
	nterest: High Ecological Imp	ortance in a local contex	t. This habitat does not
correspond Habitat	to an Annex I Habitats	nnactivity to other diverse	wet habitats to the east and west.
code	wei grassianu with good co		wet habitats to the east and west.
	Species List		
GS4	Species (<i>Latin</i> name)	Species (common nam	,
	Angelica sylvestris	Wild Angelica	Occasional
	Anthoxanthum odoratum	Sweet Vernal-grass	Occasional
	Cirsium palustre	Marsh-thistle	Occasional
	Dactylorhiza sp.	Orchid	Occasional
	Equisetum sp	Horsetail	Occasional
	Euphrasia arctica	Eyebright	Occasional
	Filipendula ulmaria	Meadowsweet	Frequent
	Holcus lanatus	Yorkshire Fog	Occasional
	Juncus articulatus	Jointed Rush	Occasional
	Juncus effusus	Soft Rush	Frequent
	Lolium perenne	Rye-grass, perennial	Occasional
	Mentha aquatica	Water Mint	Occasional
	Plantago lanceolata	Ribwort Plantain	Occasional
	Prunella vulgaris	Self-heal	Occasional
	Ranunculus repens	Creeping buttercup	Occasional
	Rhinanthus minor	Yellow-rattle	Occasional
	Rumex sp	Sorrel sp	Occasional
	Salix sp	Willow	Occasional
	Schoenus nigricans	Black Bog-rush	Rare
	Stellaria media	Common Chickweed	Occasional
	Trifolium pratense	Red Clover	Occasional
	Vicia sp	Vetch	Occasional



	TA	RGET NOTES – ID No. 34	
Survey Title:	Mid Clare Habitat Mapping	Survey date: 09/07/10	
Surveyor: John Curtin			County name: Clare
1:2,500 Shee	et no: 4154-c Townland:	Kilbarron	Grid Ref: 156571, 184501
Target note	no.: TN7	Area: 5.2ha	
to the Annex	l habitat 'alkaline fens (72	230)'	al context. This habitat is linke
Habitat code	orientation. The land rises	somewhat to the north and	habitats following an east - w the south. hat has recently been converted
PF1	forestry. To the north, land has been improved. Threats to the site include; nutrient enrichment due to close proximity of improved farm land. Drainage is also a risk, with lands to the south being we present. These lands, although containing a high proportion of rushes, have diversity in comparison to nearby sites. Area to the East contains floristically diverse wet grasslands and transition TN3, TN5, TN6 and TN8).		
	Species List	Cassian (common nom	
	Species (<i>Latin</i> name)	Species (common nam	
	Betula sp Calluna vulgaris	Birch shrub Ling	Rare Occasional
	Carex echinata	Star Sedge	
	Carex hostiana	Tawny Sedge	Frequent Occasional
	Carex pendula	Pendulous Sedge	Frequent
	Carex pulicaris	Flea Sedge	Occasional
	Carex viridula	Yellow Sedge	Occasional
	Cirsium dissectum	Meadow thistle	Occasional
	Dactylorhiza sp.	Orchid	Occasional
	Equisetum sp	Horsetail	Occasional
	Equisetant sp Erica tetralix	Heath, cross-leaved	Frequent
	Galium palustre	Marsh-bedstraw	Occasional
	Juncus sp	Rush	Abundant
	Lotus pendunculatus	Greater Birds-foot-trefoil	Occasional
	Luzula sylvatica	Great Wood-rush	Occasional
	Menyanthes trifoliata	Bogbean	Occasional
	Molinia caerulea	Purple Moor-grass	Frequent
	Myrica gale	Bog Myrtle	Occasional
	Narthecium ossifragum	Bog asphodel	Occasional
	Osmunda regalis	Royal fern	Rare
	Pedicularis sp	Lousewort	Occasional
	Potentilla erecta	Tormentil	Frequent
	Potentilla palustris	Marsh Cinquefoil	Occasional
	•	Sorrel sp	Occasional
	Rumex sp	Solieisp	Occasional
	Salix sp	Willow	Occasional





Image 2: Shows lower elevation of site in comparison to background hill.

		ET NOTES – ID No. 35	
Survey Title	: Mid Clare Habitat Mapping		Survey date: 17/07/10
Surveyor: Jo	ohn Curtin		County name: Clare
1:2,500 Shee	et no: 4154-c Townland: Ki	ilbarron	Grid Ref: 157584, 184572
Target note	no.: TN8	Area: 3.9ha	
limited in ex	nterest: High ecological inte tent in Ireland and is linked t	to the Annex I habitat 'a	Ikaline fens (7230).
Habitat code	Shallow boggy substrate alongside species composition suggests that this site is a Fer It contains characteristic species of both rich; Marsh Pennywort (<i>Hydrocotyle vulga</i> and poor; Cottongrass (<i>Eriophorum angustifolium</i>) Fen. Sedges (<i>Carex nigra, Ca</i>		
PF1/PF2	panicea, Carex pendula a (<i>Bryophyte</i>) co-dominate. Slight elevation in site as I South. Wet habitat continues	and Carex viridula), rus and slopes higher towar	sh (<i>Juncus articulatus</i>) and mos
	Species List Species (<i>Latin</i> name)	Species (common nan	ne) DAFOR Scale
	Anthoxanthum odoratum	Sweet Vernal-grass	Occasional
	Briza media	Quaking-grass	Occasional
	Bryophyte	Moss spp	Abundant
	Carex nigra	Common Sedge	Occasional
	Carex panicea	Carnation sedge	Occasional
	Carex pendula	Pendulous Sedge	Occasional
	Carex viridula	Yellow Sedge	Occasional
	Dactylorhiza sp.	Orchid	Occasional
	Equisetum sp	Horsetail	Frequent
	Eriophorum angustifolium	Common Cottongrass	Frequent
	Holcus lanatus	Yorkshire Fog	Occasional
	Hydrocotyle vulgaris	Marsh Pennywort	Occasional
	Juncus articulatus	Jointed Rush	Abundant
	Lotus pedunculatus	Greater Birds-foot-trefoi	il Frequent
	Lychnis flos-cuculi	Ragged Robin	Occasional
	Mentha aquatica	Water Mint	Frequent
	Pedicularis sp	Lousewort	Frequent
	Prunella vulgaris	Self-heal	Occasional
	Trifolium repens	White clover	Occasional



	TARGET NO	DTES – ID No. 36	
Survey Title: Mid Clare H	abitat Mapping		Survey date: 28/06/10
Surveyor: Jean Hamilton			County name: Clare
1:2,500 Sheet no: 4154-d	Townland: Lecarrow	/ Lower	Grid Ref: 159222, 185282
Target note no.: TN1Area: 0.65ha			
Ecological Value: Moder	ate Ecological interest i	n a local context	
codeGood spect(Prunella viGS1	es diversity, with abunc <i>ulgaris</i>). Other species t	lant Eyebright (<i>Eu</i> hat feature strong o <i>merata</i>), Sweet V	bund which is grazed by horses. phrasia nemorosa) and Selfheal ly are Ribwort Plantain (<i>Plantago</i> ernal (<i>Anthoxanthum odoratum</i>),
Habitat Map			

		TARGET N	OTES – ID No. 37	,
Survey Title:	Mid Clare Hal	bitat Mapping		Survey date: 29/06/10
Surveyor: Jean Hamilton				County name: Clare
1:2,500 Sheet no: 4154-d Townland: Rossand			ire	Grid Ref: 158119, 185097
Target note no.: TN2			Area: 1ha (appr	rox.)
	tats but as nat nificance.	ural woodland is very	scarce in Ireland	habitat type is not linked to any it is considered to be of high ft and marshy, with abundant
code WN6	Horsetails (E Moss (Clima (Filipendula reptans), Wil	<i>Equisetum</i> spp.). There <i>cium dendroides</i>). Oth <i>ulmaria</i>), Water Forge d Angelica (<i>Angelica</i> (e is also an abund her species presei t-me-not (<i>Myosoti</i> sylvestris), Marsh	lance of bryophytes, including Tree nt in the field layer are Meadowsweet <i>is scorpioides</i>), Bugle (<i>Ajuga</i> Bedstraw (<i>Galium palustre</i>), ted Orchid (<i>Dactylorhiza</i> sp.).
			4154-1_TH2	
Legend				



Image 2: Field Layer with Dactylorhiza sp.

		TARGET NO	DTES – I	D No. 38		
					Survey date: 29.06	.10
Surveyor: Jean Hamilton					County name: Clare	9
1:2,500 Sh	1:2,500 Sheet no: 4154-d Townland: Rossanure				Grid Ref: 158238, 1	85214
Target not	te no.: TN3		Area: 1	ha		
Ecologica	l Value: High ecol	logical interest in a	local co	ntext		
Habitat code	willows (Salix	spp.). Occurs in a flu			bescens), with a few a natural – trees not in	
WD1	Species List	- field layer Species (<i>Latin</i> na	ime)	Specie	s (common name)	
		Ajuga reptans		Bugle		
		Betula pubscens		Downy	Birch	
		Climacium dendroides		Tree Moss		
		Filipendula ulmaria		Meadowsweet		
		Galium palustre		Marsh Bedstraw		
		Mentha aquatica		Waterm	lint	
		Ranunculus repens		Creepin	g Buttercup	
		Rubus fruticosus		Bramble		
Habitat Ma	ар					
					CFZ	G

MGE0232RP0001



		TARGET NO	DTES – ID No. 39	
Survey Title	e: Mid Clare Ha	bitat Mapping		Survey date: 29.06.10
Surveyor: J	Jean Hamilton			County name: Clare
1:2,500 She	et no: 4154-d	Townland: Coolreag	h Beg	Grid Ref: 160006, 184165
Target note no.: TN4Area: 1.8ha				
Ecological any annexe		ological interest in a lo	cal context. This h	nabitat type does not correspond to
Habitat code WN1	excelsior) wi monogyna) a from cattle Meadowswe (<i>Viola rivinia</i> There is son spindly bran	th frequent Rowan (S and Willows (<i>Salix</i> sp being driven through et (<i>Filipendula ulmaria</i> na), Herb Robert (<i>Ger</i> ne evidence that the iches coming from th	orbus aucuparia) a p.). The ground is n the wood, but n), Remote Sedge anium robertianun woodland was on ne bases of the	<i>tula pubescens</i>) and Ash (<i>Fraxinus</i> and occasional Hawthorn (<i>Crataegus</i> s quite trampled in places, probably there is a rich ground layer with (<i>Carex remota</i>), Common Dog-violet n) and ferns. ce managed as Coppice, with many tree trunks. This habitat is of high re scarce in the landscape.
then they have been perturbed and they need	In the local and the set and the local and the set and			



Image 2: Field Layer with Meadowsweet (*Filipendula ulmaria*), Enchanter's Nightshade (*Circaea lutetiana*) and Common Dog Violet (*Viola riviniana*).

		TARGET NO	OTES – ID No. 40	
Survey Title:	Mid Clare Ha	bitat Mapping		Survey date: 29.06.10
Surveyor: Jean Hamilton			County name: Clare	
1:2,500 Sheet no: 4154-d Townland: Coolreagh Beg			Grid Ref: 159327, 184234	
Target note r	Target note no.: TN5 Area: 10ha			
				ontext. This habitat type is linked
PB4	Extensive a (Sphagnum Sphagnum. Cutover are tetralix) dom (Calluna vul	rea of Cutover Bog (spp.), while the intac It is evident that the a, Purple Moor-grass ninate, with abundant garis) and Sundews (oughout the drier par	PB4). Quite wet i et bog adjacent to drainage has been s (<i>Molinia caerule</i> Cottongrasses (<i>B</i> <i>Drossera</i> spp.). So	n areas with plenty of Bog Mosses o it is quite dry and has hardly any n severely altered in the bog. In the ea) and Cross-leaved Heath (<i>Erica</i> <i>Eriophorum</i> spp.) and frequent Ling ome Birch (<i>Betula</i> spp.) saplings are the cutover area - beginnings of Bog
Habitat Map				
Legend				

Photographic Record:





Image 2: Close up of vegetation with Bog Moss (*Sphagnum* spp.), Cross-leaved Heath (*Erica tetralix*) and Downy Birch (*Betula pubescens*)



Image 3: Heath Spotted-Orchid (Dactylorhiza maculata) and Downy Birch (Betula pubescens).

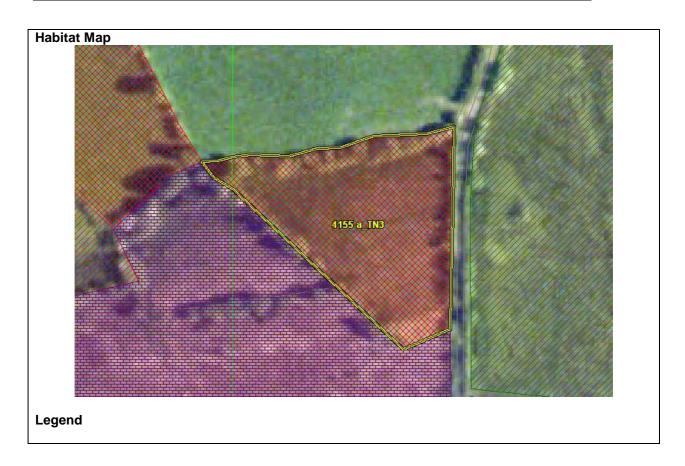
		TARG	GET NOTES – ID No. 4	1	
Survey Title	: Mid Clare Ha	bitat Mapping		Sur	vey date: 29/06/10
Surveyor: Jo	ohn Curtin		Cour		Inty name: Clare
1:2,500 Shee	et no: 4155-a	Townland: Po	oulagower	Gric	d Ref: 160600, 185619
Target note	no.: TN1		Area: 2.5ha		
Ecological In	nterest: High I				t. This habitat type is linked
to the Annex Habitat			wet heaths with Erica		
code	for peat in re		1H3) and Scrub (WS1)	surrour	nded by drain. Has not been cu
HH3/WS1	Species Lis		Creation (common r		
	Species (L		Species (common n	ame)	DAFOR Scale
	Betula pub		Downy Birch		Frequent
	Calluna vul	garis	Ling		Frequent
	Equisetum	-	Horsetail		Occasional
	Erica tetrali		Cross-leaved Heath		Rare
	Eriophorum vaginatum		Hares-tail cottongrass		Occasional
	Molinia caerulea		Purple Moor-grass		Frequent
	Osmunda regalis		Royal Fern		Occasional
	Potentilla e	recta	Tormentil		Occasional
	Rubus fruti	cosus	Bramble		Frequent
	Salix cinere	ea (shrub)	Grey Willow		Frequent
	Salix cinere	ea (tree)	Grey Willow		Frequent
	Ulex sp.		Gorse		Abundant
Habitat Map		- 10 B (0)			
				1. 10	
144	Station -				
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100 C					

Legend

-	e: Mid Clare Habitat Mapping	5	urvey date: 21/06/10
Surveyor: J	Iohn Curtin		ounty name: Clare
-	eet no: 4155-a Townland: Po		rid Ref: 160372, 185664
Target note		Area: 2.6ha	,,
-	gical interest in a local conte		not correspond to any Ann
Habitat code	Wet grassland with orchids meters away from river.	bordering the river Graney.	Substrate is sand for approx
GS4	Species List		
	Species (Latin name)	Species (common name)	
	Anthoxanthum odoratum	Sweet Vernal-grass	Frequent
	Dactylorhiza sp.	Orchid	Rare
	Equisetum sp	Horsetail	Occasional
	Euphrasia arctica	Eyebright	Frequent
	Galium sp	Bedstraw sp	Occasional
	Glyceria fluitans	Floating Sweet-grass	Occasional
Ju Lo	Holcus lanatus	Yorkshire Fog	Frequent
	Juncus articulatus	Jointed Rush	Dominant
	Lolium perenne	Rye-grass, perennial	Occasional
	Lotus corniculatus	Birds-foot-trefoil	Occasional
	Lotus pedunculatus	Greater Birds-foot-trefoil	Frequent
	Pedicularis sylvatica	Lousewort	Occasional
	Plantago lanceolata	Ribwort Plantain	Occasional
	Ranunculus repens	Creeping buttercup	Frequent
	Rhinanthus minor	Yellow-rattle	Frequent
	Rumex sp	Sorrel sp	Occasional
	Taraxacum sp	Dandelion sp	Occasional
	Trifolium pratense	Red Clover	Occasional
	Trifolium repens	White clover	Occasional
	Vicia sp	Vetch sp	Occasional



	TAR	GET NOTES – ID No. 43	
Survey Title	: Mid Clare Habitat Mapping		Survey date: 22/06/10
Surveyor: Jo	ohn Curtin		County name: Clare
1:2,500 Shee	et no: 4155-a Townland: F	Poulagower	Grid Ref: 160062, 185671
Target note	no.: TN3	Area: 0.6ha	
High ecolog habitats.	ical interest in a local conte	ext. This habitat type doe	s not correspond to any Annex
Habitat code			e of an area of Cutover Bog PB4. batches of Bog mosses (<i>Sphagnu</i>
GS4	Species List		
	Species (Latin name)	Species (common nan	ne) DAFOR Scale
	Agrostis sp	Bent grass	Occasional
	Anthoxanthum odoratum	Sweet Vernal-grass	Occasional
	Briza media	Quaking-grass	Frequent
	Carex echinata	Star Sedge	Frequent
	Carex nigra	Common Sedge	Occasional
	Carex panicea	Carnation sedge	Frequent
	Carex viridula	Yellow sedge	Occasional
	Cirsium dissectum	Meadow Thistle	Frequent
	Dactylorhiza sp.	Orchid	Frequent
	Equisetum	Horsetail	Occasional
	Eriophorum angustifolium	Common Cottongrass	Rare
	Filipendula ulmaria	Meadowsweet	Frequent
	Galium palustre	Marsh-bedstraw	Occasional
	Galium verum	Lady's Bedstraw	Occasional
	Holcus lanatus	Yorkshire Fog	Occasional
	Juncus articulatus	Jointed Rush	Abundant
	Juncus effusus	Soft Rush	Rare
	Lathyrus pratensis	Meadow-vetchling	Occasional
	Lychnis flos-cuculi	Ragged Robin	Occasional
	Mentha aquatica	Water Mint	Occasional
	Molinia caerulea	Purple Moor-grass	Occasional
	Potentilla erecta	Tormentil	Occasional
	Potentilla palustris	Marsh Cinquefoil	Rare
	Ranunculus flammula	Lesser spearwort	Occasional
	Ranunculus repens	Creeping buttercup	Occasional
	Rhinanthus minor	Yellow-rattle	Rare
	Sphagnum sp	Bog Mosses	Occasional
	Taraxacum sp	Dandelion sp	Occasional
	Trifolium pratense	Red Clover	Occasional
	Vicica cracca	Tufted-vetch	Occasional
	Vicia sp	Vetch	Occasional



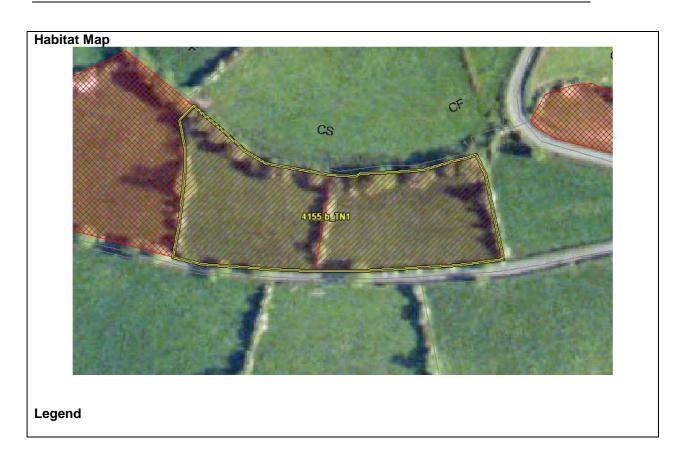
	TARG	GET NOTES – ID No. 44	
Survey Title	: Mid Clare Habitat Mapping	\$	Survey date: 22/06/10
Surveyor: Jo	bhn Curtin		County name: Clare
1:2,500 Shee	et no: 4155-a Townland: P	oulagower	Grid Ref: 160021, 186784
Target note	no.: TN4	Area: 0.74ha	
Moderate ec	ological interest in a local c	ontext	
Habitat	Species-rich neutral grassla		
code	Ornenies List		
GS1	Species List Species (<i>Latin</i> name)	Species (common name	e) DAFOR Scale
	Agrostis sp	Bent grass	Occasional
	Alopecurus pratensis	Foxtail	Frequent
	Anthoxanthum odoratum	Sweet Vernal-grass	Frequent
	Cynosurus cristatus	Crested Dogs-tail	Frequent
	Dactylis glomerata	Cooks-foot	Occasional
	Euphrasia arctica	Eyebright	Frequent
	Filipendula ulmaria	Meadowsweet	Rare
	Heracleum sphondylium	Hogweed	Rare
	Juncus sp	Rush	Rare
	Lotus pedunculatus	Greater Birds-foot-trefoil	Occasional
	Plantago lanceolata	Ribwort Plantain	Occasional
	Ranunculus repens	Creeping buttercup	Frequent
	Rhinanthus minor	Yellow-rattle	Frequent
	Rumex sp	Sorrel sp	Occasional
	Stellaria media	Common Chickweed	Occasional
	Trifolium pratense	Red Clover	Occasional
	Trifolium repens	White clover	Occasional



	TAR	GET NOTES - ID No. 45	
Survey Title:	Mid Clare Habitat Mapping		Survey date: 22/06/10
Surveyor: Jo	hn Curtin		County name: Clare
1:2,500 Shee	et no: 4155-a Townland:	Poulagower	Grid Ref: 160081, 186464
Target note I	no.: TN5	Area: 0.5ha	
Moderate ec	ological interest in a local o	context	
Habitat	Species-rich neutral grassl		
code	Creation Lint		
GS1	Species List Species (<i>Latin</i> name)	Species (common nam	ne) DAFOR Scale
	Agrostis sp	Bent grass	Frequent
	Alopecurus pratensis	Foxtail	Frequent
	Anthoxanthum odoratum	Sweet Vernal-grass	Frequent
	Cirsium sp	Thistle	Occasional
	Cynosurus cristatus	Crested Dogs-tail	Frequent
	Dactylis glomerata	Cocks-foot Grass	Occasional
	Dactylorhiza sp.	Spotted-Orchid	Occasional
	Filipendula ulmaria	Meadowsweet	Occasional
	Heracleum sphondylium	Hogweed	Rare
	Holcus lanatus	Yorkshire Fog	Occasional
	Juncus articulatus	Jointed Rush	Frequent
	Juncus conglomeratus	Compact Rush	Occasional
	Leontodon sp	Hawkbit sp	Occasional
	Lotus pedunculatus	Greater Birds-foot-trefoil	I Occasional
	Lychnis flos-cuculi	Ragged Robin	Occasional
	Potentilla anserina	Silverweed	Occasional
	Ranunculus repens	Creeping buttercup	Occasional
	Rhinanthus minor	Yellow-rattle	Frequent
	Rumex sp	Sorrel sp	Occasional
	Taraxacum sp	Dandelion sp	Frequent
	Trifolium pratense	Red Clover	Occasional
	Trifolium repens	White clover	Occasional
	Veronica sp	Speedwell	Rare
	Vicia cracca	Tufted Vetch	Rare



Survey Litle	Mid Olava Llabitat March	GET NOTES - ID No. 46		
C	: Mid Clare Habitat Mapping		Survey date: 21/06/10	
Surveyor: Jo		County name: Clare		
	et no: 4155-b Townland: Ar	• •	Grid Ref: 163581, 186262	
Target note		Area: 1ha		
	ical significance in a local co y meadows (<i>Alopecurus pra</i> t			
Habitat	Species-rich meadow.	censis, cangaiserba enter	nanoj	
code	Species List			
GS2	Species (Latin name)	Species (common name	e) DAFOR Scale	
	Agrostis sp	Bent grass	Frequent	
	Alopecurus pratensis	Foxtail	Occasional	
	Anthoxanthum odoratum	Sweet Vernal-grass	Frequent	
	Bellis perennis	Daisy	Occasional	
	Cynosurus cristatus	Crested Dogs-tail	Frequent	
	Dactylorhiza sp.	Orchid	Rare	
	Holcus lanatus	Yorkshire Fog	Occasional	
	Leontodon sp	Hawkbit sp	Frequent	
	Leucanthemum vulgare	Ox-eye Daisy	Frequent	
	Lolium perenne	Rye-grass, perennial	Occasional	
	Plantago lanceolata	Ribwort Plantain	Frequent	
	Poa sp	Meadow-grass	Occasional	
	Potentilla anserina	Silverweed	Occasional	
	Prunella vulgaris	Self-heal	Rare	
	Ranunculus repens	Creeping buttercup	Abundant	
	Rhinanthus minor	Yellow-rattle	Abundant	
	Rumex sp	Sorrel sp	Occasional	
	Taraxacum sp	Dandelion sp	Occasional	
	Trifolium pratense	Red Clover	Occasional	
	Trifolium repens	White clover	Occasional	

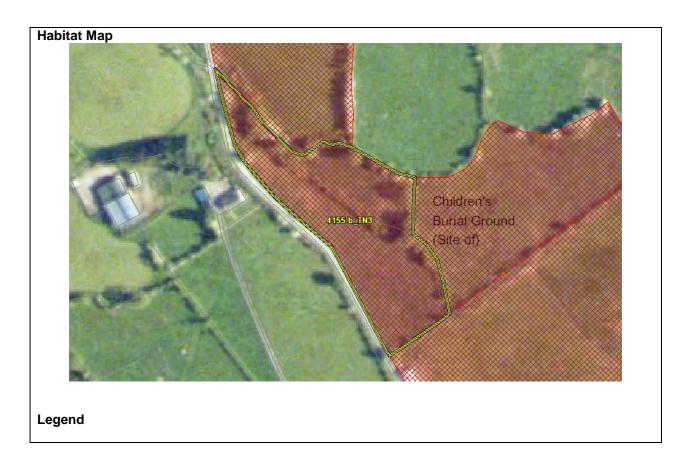


		TARG	ET NO	OTES - ID No. 47			
Survey Title: Mid Clare Habitat Mapping				Survey date: 23/06/10			
Surveyor: John Curtin				Cou		Inty name: Clare	
1:2,500 Sheet no: 4155-b Townland: Ca			apparoe Grid		Grid	Ref: 162098, 185810	
Target note no.: TN2				Area: 0.1ha			
Moderate eco	ological inter	est in a local co	ontext				
Habitat code			ounded	l by improved gras	slands	5.	
GM1	Species Lis Species (L		Spec	Species (common name)		DAFOR Scale	
	Agrostis sp	-	-	grass		Occasional	
	Cirsium palustre N			Marsh-thistle		Rare	
	•		Mead	dowsweet		Occasional	
			Mars	h-bedstraw		Occasional	
	Geranium r	obertianum	Herb	-robert		Rare	
	Glyceria flu	itans	Float	ing Sweet-grass		Occasional	
	Holcus lana	atus	Yorkshire Fog			Occasional	
	Iris pseuda	corus	Yellow Iris			Abundant	
	Juncus sp		Rush			Abundant	
	Mentha aquatica		Water Mint			Occasional	
	Menyanthes trifoliata		Bog-bean			Frequent	
	Molinia caerulea		Purple Moor-grass			Occasional	
	Ranunculus repens		Creeping buttercup			Occasional	
Habitat Map							
			-				
	-		4155-b	TN2			
					2		
-							

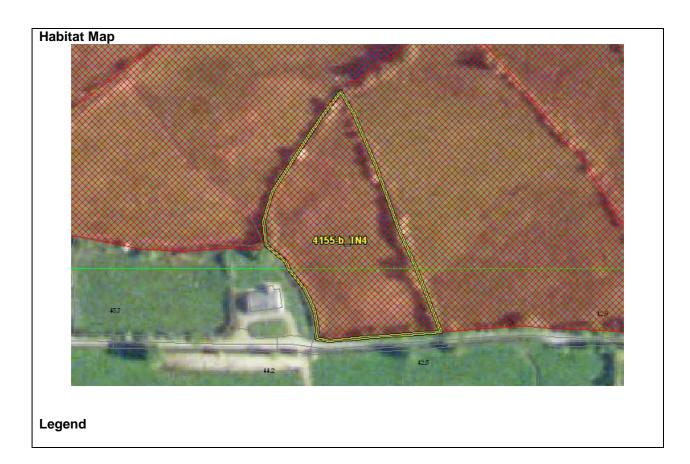
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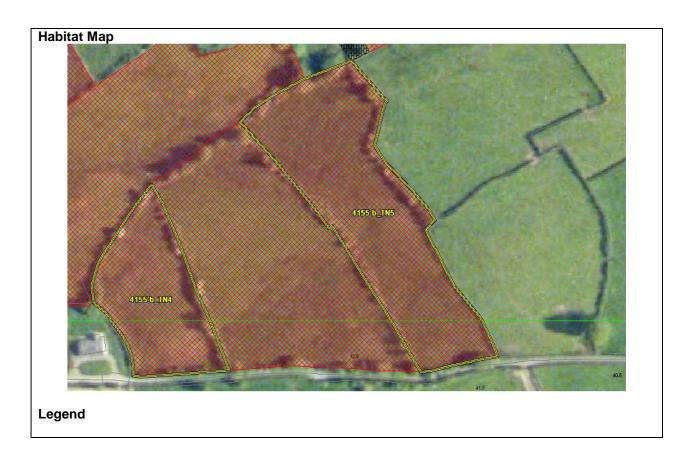
	TARC	GET NOTES - ID No. 48		
Survey Title	: Mid Clare Habitat Mapping		Survey date: 23/06/10	
Surveyor: Jo	ohn Curtin	(County name: Clare	
1:2,500 She	et no: 4155-b Townland: Fo	ossa Beg 🛛 🕻	Grid Ref: 163478, 185607	
Target note	no.: TN3	Area: 0.7ha		
Moderate ec	cological interest in a local c	ontext. Does not corresp	ond to any annexed habitats.	
Habitat code	woodland (WN6) and Scrub		urial ground. Grades into Willow of the surface is poached.	
GS4	Species List	Encoine (common nom	e) DAFOR Scale	
	Species (Latin name) Anagallis tenella	Species (common name Bog Pimpernel		
	Anaganis terrena Anthoxanthum odoratum	Sweet Vernal-grass	Occasional	
		•	Frequent	
	Briza media	Quaking-grass	Occasional	
	Carex panicea	Carnation sedge	Occasional	
	Carex viridula	Yellow-sedge	Occasional	
	Cynosurus cristatus	Crested Dogs-tail Orchid	Occasional Occasional	
	Dactylorhiza sp.			
	Drepanocladous sp Galium palustre	Sickle moss Marsh-bedstraw	Occasional	
		Hawkweed	Occasional	
	Hieracium sp Holcus lanatus		Occasional Occasional	
	Juncus effusus	Yorkshire Fog Soft Rush		
			Frequent	
	Lathyrus pratensis	Meadow Vetchling	Occasional	
	Lolium perenne	Rye-grass, perennial Water Mint	Occasional	
	Mentha aquatica		Occasional Occasional	
	Mysotis scorpioides Potentilla anserina	Water Forget-me-not Silverweed		
	Potentilla erecta	Tormentil	Occasional Occasional	
	Plantago lanceolata	Ribwort Plantain	Occasional	
	Ranunculus flammula	Lesser spearwort Creeping buttercup	Rare	
	Ranunculus repens Stellaria media	Creeping buttercup Common Chickweed	Occasional	
	Scorpidium scorpioides	Scorpidium moss	Occasional Occasional	
			Occasional	
	Trifolium repens	White clover	Occasional	



		GET NOTES - ID No. 49		
-	e: Mid Clare Habitat Mapping		Survey date: 23/06/10	
Surveyor: J	ohn Curtin	(County name: Clare	
1:2,500 She	et no: 4155-b Townland: Fo	ossa Beg C	Grid Ref: 163679, 185519	
Target note	no.: TN4	Area: 0.5ha		
Moderate ed	cological interest in a local c	ontext		
Habitat code	Species-rich Wet grassland (GS4) becoming drier with slight elevation. Rushes (Jaspp.) are present only on lower sections.			
GS4/GS1	Species List Species (<i>Latin</i> name)	Species (common name	e) DAFOR Scale	
	Agrostis sp	Bent grass	Occasional	
	Alopecurus pratensis	Foxtail	Occasional	
	Anthoxanthum odoratum	Sweet Vernal-grass	Frequent	
	Centaurea nigra	Common Knapweed	Abundant	
	Dactylorhiza maculata	Heath-spotted Orchid	Occasional	
	Euphrasia arctica	Eyebright	Occasional	
	Filipendula ulmaria	Meadowsweet	Occasional	
	Galium palustre	Marsh-bedstraw	Occasional	
	Hieracium anglicum	Hawkweed	Occasional	
	Holcus lanatus	Yorkshire Fog	Occasional	
	Juncus articulatus	Jointed Rush	Frequent	
	Leucanthemum vulgare	Ox-eye Daisy	Occasional	
	Lolium perenne	Rye-grass, perennial	Rare	
	Lotus pedunculatus	Greater Birds-foot-trefoil	Frequent	
	Lychnis flos-cuculi	Ragged Robin	Occasional	
	Poa sp	Meadow-grass	Occasional	
	Plantago lanceolata	Ribwort Plantain	Occasional	
	Pteridophyta	Fern	Occasional	
	Ranunculus repens	Creeping buttercup	Frequent	
	Rhinanthus minor	Yellow-rattle	Abundant	
	Rumex sp	Sorrel sp	Occasional	
	Stellaria media	Common Chickweed	Occasional	
	Trifolium pratense	Red Clover	Occasional	
	Trifolium repens	White clover	Frequent	
	Vicica cracca	Tufted Vetch	Occasional	



Survey Title	e: Mid Clare Habitat Mapping	S	urvey date: 23/06/10	
Surveyor:	John Curtin	C	Inty name: Clare	
1:2,500 She	eet no: 4155-b Townland: Fo	ssa Beg G	irid Ref: 163815, 185560	
Target note	e no.: TN5	Area: 1.1ha		
Habitat	Species-rich Wet grassland	d GS4. Contains Spotted	-Orchids (Dactylorhiza sp	
code	Blue-eyed Grass (Sisyrinch	<i>ium bermudiana</i>), a specie	es which is protected in N	
GS4	Ireland.			
	Species List			
	Species (Latin name)	Species (common name		
	Anthoxanthum odoratum	Sweet Vernal-grass	Frequent	
	Carex echinata	Star Sedge	Occasional	
	Carex nigra	Common Sedge	Occasional	
	Carex panicea	Carnation sedge	Occasional	
	Carex viridula	Yellow sedge	Occasional	
	Cirsium palustre	Marsh-thistle	Occasional	
	Cynosurus cristatus	Crested Dogs-tail	Occasional	
	Dactylorhiza sp.	Orchid	Frequent	
	Filipendula ulmaria	Meadowsweet	Frequent	
	Galium palustre	Marsh-bedstraw	Occasional	
	Hieracium anglicum	Hawkweed	Occasional	
	Holcus lanatus	Yorkshire Fog	Frequent	
	Juncus articulatus	Jointed Rush	Frequent	
	Juncus effusus	Soft Rush	Frequent	
	Luzula sylvatica	Wood-rush	Occasional	
	Lychnis flos-cuculi	Ragged Robin	Frequent	
	Mysotis sp	Forget-me-not	Frequent	
	Potentilla anserina	Silverweed	Occasional	
	Potentilla erecta	Tormentil	Occasional	
	Prunella vulgaris	Self-heal	Occasional	
	Ranunculus repens	Creeping buttercup	Frequent	
	Sisyrinchium bermudiana	Blue-eyed grass	Occasional	
	Stellaria media	Common Chickweed	Occasional	
	Trifolium pratense	Red Clover	Occasional	
	Trifolium repens	White clover	Occasional	



Survey Title: Mi		TARGE	T NOTES - ID No. 5	1		
Survey Title: Mid Clare Habitat Mapping			Surve		ey date: 23/06/10	
Surveyor: John Curtin				Coun	ty name: Clare	
1:2,500 Sheet no: 4155-b Townland: Aug			ghrim	Grid	Ref: 162546, 186998	
Target note no.: TN6			Area: 3.6ha			
Moderate ecolo habitats.	gical interes	t in a local cont	text. This habitat do	oes not co	prrespond to any annexed	
Habitat code					p). Sward approx 20cm and	
GS4/GM1/GS1	looks to have been cut within the last month or two. Lots of moss (<i>Campyliun stellatum</i>). This habitat grades in to Marsh GM1 to the south and beyond this is an area of Dry Neutral and Calcareous Grassland GS1.					
	Species Lis	Species List				
		. <i>atin</i> name)	Species (commor	name)	DAFOR Scale	
	Anthoxanti	hum odoratum	Sweet Vernal-gras	S	Occasional	
	Campyliun	n stellatum	Star Campylium m	oss	Abundant	
	Carex nigr	а	Common Sedge		Frequent	
	Carex virio	lula	Yellow sedge		Frequent	
	Cynosurus cristatus		Crested Dogs-tail		Occasional	
	Dactylorhiza sp.		Orchid		Frequent	
	Euphrasia arctica		Eyebright		Frequent	
	Holcus lanatus		Yorkshire Fog		Occasional	
	Juncus articulatus		Jointed Rush		Abundant	
	Pedicularis sylvatica		Lousewort		Occasional	
	Poa sp		Meadow-grass		Frequent	
	Potentilla erecta		Tormentil		Frequent	
	Plantago lanceolata		Ribwort Plantain		Occasional	
	Ranunculus repens		Creeping buttercup		Frequent	
	Rhinanthus minor		Yellow-rattle		Occasional	
	Taraxacum sp		Dandelion sp		Occasional	
	Trifolium pratense		Red Clover		Occasional	
	Trifolium re	epens	White clover		Occasional	

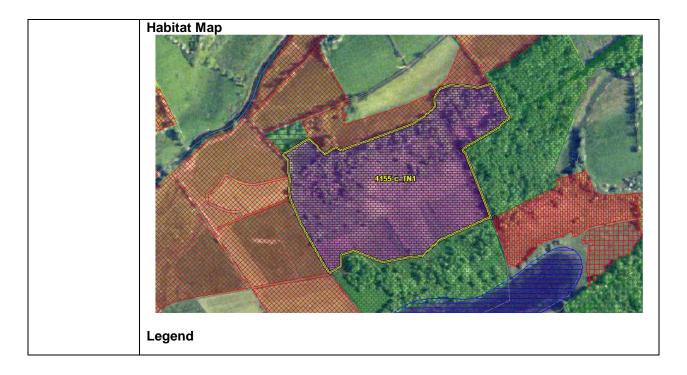


		TARG	ET NOTES -	ID No. 52			
Survey Title:	Mid Clare Hat	pitat Mapping			Surv	vey date: 23/06/10	
Surveyor: Jol	hn Curtin				Cou	nty name: Clare	
1:2,500 Shee	t no: 4155-b	Townland: Au	ghrim/Tobern	agat	Grid	Ref: 163319, 186714	
Target note n	10.: TN7		Area:	0.5ha			
-		est in a local co	ontext. This h	abitat type	e is lir	nked to the annexed habit	at,
		slands on silic					
Habitat code	Acid grasslar stricta).	nd on side of hill	l. Surface spri	ngy with m	oss sp	pecies. Mat-grass (Nardus	
oode	othota).						
GS3	Species List						_
	Species (La	atin name)	Species (co	mmon nar	ne)	DAFOR Scale	
	Agrostis sp		Bent grass			Occasional	
	-	um odoratum	Sweet Verna	0		Frequent	_
	Campylium		Star Campy			Frequent	
	Cynosurus		Crested Dog	js-tail		Occasional	
	Drepanocla	•	Sickle Moss			Frequent	
	Hieracium a	anglicum	Hawkweed			Occasional	
	Lotus cornic	culatus	Birds-foot-tre	efoil		Occasional	
	Nardus stric	cta	Mat-grass			Frequent	
	Plantago lai	nceolata	Ribwort Plar	ntain		Frequent	
	Potentilla er	recta	Tormentil			Occasional	
	Trifolium sp	1	Clover			Frequent	
	Ulex sp		Gorse			Occasional	
							_
Habitat Map							
A Second	A DECK				-	and the second second	
1 3.4				100		Constant of the owned when the owned	
1.32						The other and the state of the	
2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					A.	A Martinger	
					1	A State of the second second	
						A STATISTICS	
						A Company	
						The Contraction	
			4155-b_TN7			and the second	
OTA No.							
the second					-	1 ALL PROPERTY	
						ALL PROPERTY.	

Legend

Townland: Co area is considered to Priority Habitat, '*bo eration'. Cutover bog which re abundant. Peat de occurs to the south an crub on the northweste s List es (Latin name) canthum odoratum a vulgaris echinata nigra orhiza sp. cinerea etralix	Area: 5.7ha b be of High Eco g woodland (910 appears to be re pth is approxima id east of the bog ern side where it g	20)' and 'Degrade egenerating. Bog tely 1.5m. An are . There is an abu grades in to Wet C ommon name) nal-grass	e: Clare 524, 184555 an International ed raised bogs still mosses (<i>Sphagnur</i> ea of Bog Woodlan indance of Gorse an Grassland (GS4). DAFOR Scale Abundant Frequent Abundant Occasional Occasional
area is considered to Priority Habitat, '*bo eration'. Cutover bog which re abundant. Peat de occurs to the south an crub on the northweste s List es (Latin name) canthum odoratum a vulgaris echinata nigra orhiza sp. cinerea	Area: 5.7ha be of High Eco g woodland (910 appears to be re pth is approxima id east of the bog ern side where it g Species (c Sweet Verr Ling Star Sedge Common S Spotted-Or Bell Heathe	Grid Ref: 160 logical value in a 20)' and 'Degrade egenerating. Bog tely 1.5m. An ard . There is an abu grades in to Wet C ommon name) hal-grass	 b524, 184555 an International ed raised bogs still mosses (Sphagnur ea of Bog Woodlan indance of Gorse an Grassland (GS4). DAFOR Scale Abundant Frequent Abundant Occasional Occasional
area is considered to Priority Habitat, '*bo eration'. Cutover bog which re abundant. Peat de occurs to the south an crub on the northweste s List es (Latin name) canthum odoratum a vulgaris echinata nigra orhiza sp. cinerea	Area: 5.7ha be of High Eco g woodland (910 appears to be re pth is approxima id east of the bog ern side where it g Species (c Sweet Verr Ling Star Sedge Common S Spotted-Or Bell Heathe	logical value in a 20)' and 'Degrade egenerating. Bog tely 1.5m. An are . There is an abu grades in to Wet C ommon name) nal-grass	an International ed raised bogs still mosses (<i>Sphagnur</i> ea of Bog Woodlan indance of Gorse an Grassland (GS4). DAFOR Scale Abundant Frequent Abundant Occasional Occasional
Priority Habitat, '*bo eration'. Cutover bog which re abundant. Peat de occurs to the south an crub on the northweste s List es (Latin name) canthum odoratum a vulgaris echinata nigra orhiza sp. cinerea	appears to be reproved to be of High Eco g woodland (910 appears to be reproved t	20)' and 'Degrade egenerating. Bog tely 1.5m. An are . There is an abu grades in to Wet C ommon name) nal-grass	ed raised bogs still mosses (<i>Sphagnur</i> ea of Bog Woodlan indance of Gorse an Grassland (GS4). DAFOR Scale Abundant Frequent Abundant Occasional Occasional
Priority Habitat, '*bo eration'. Cutover bog which re abundant. Peat de occurs to the south an crub on the northweste s List es (Latin name) canthum odoratum a vulgaris echinata nigra orhiza sp. cinerea	g woodland (910 appears to be repth is approximated ad east of the bog ern side where it g Species (c Sweet Vern Ling Star Sedge Common S Spotted-Or Bell Heather	20)' and 'Degrade egenerating. Bog tely 1.5m. An are . There is an abu grades in to Wet C ommon name) nal-grass	ed raised bogs still mosses (<i>Sphagnur</i> ea of Bog Woodlan indance of Gorse an Grassland (GS4). DAFOR Scale Abundant Frequent Abundant Occasional Occasional
re abundant. Peat de boccurs to the south an crub on the northweste s List es (Latin name) canthum odoratum a vulgaris echinata nigra orhiza sp. cinerea	pth is approxima ad east of the bog ern side where it g Sweet Verr Ling Star Sedge Common S Spotted-Or Bell Heathe	tely 1.5m. An ard . There is an abu grades in to Wet C ommon name) nal-grass edge chid	ea of Bog Woodlan Indance of Gorse an Grassland (GS4). DAFOR Scale Abundant Frequent Abundant Occasional Occasional
es (Latin name) canthum odoratum a vulgaris echinata nigra orhiza sp. cinerea	Sweet Verr Ling Star Sedge Common S Spotted-Or Bell Heathe	nal-grass edge chid	Abundant Frequent Abundant Occasional Occasional
kanthum odoratum a vulgaris echinata nigra orhiza sp. sinerea	Sweet Verr Ling Star Sedge Common S Spotted-Or Bell Heathe	nal-grass edge chid	Abundant Frequent Abundant Occasional Occasional
a vulgaris echinata nigra orhiza sp. sinerea	Ling Star Sedge Common S Spotted-Or Bell Heathe	edge chid	Frequent Abundant Occasional Occasional
echinata nigra orhiza sp. cinerea	Star Sedge Common S Spotted-Or Bell Heathe	edge chid	Abundant Occasional Occasional
nigra orhiza sp. :inerea	Common S Spotted-Or Bell Heathe	edge chid	Occasional Occasional
orhiza sp. sinerea	Spotted-Or Bell Heathe	chid	
cinerea		er	
etralix	Cross-leav		Frequent
		ed heath	Frequent
orum angustifolium	Common C	otton-grass	Occasional
dula ulmaria	Meadowsw	reet	Occasional Frequent
us excelsior	Ash		
s lanatus	Yorkshire F	og	Occasional
eudacorus	Yellow Iris		Occasional
s spp.	Rushes		Abundant
s flos-cuculi	Ragged Ro	bin	Occasional
a caerulea	Purple Mod	or-grass	Abundant
gale			Abundant
nda regalis	Royal Fern		Frequent
illa erecta	Tormentil		Abundant
um aquilinum	Bracken		Occasional
iminalis	Osier		Occasional
s aucuparia	Rowan		Frequent
num spp.	Bog-Mosse	S	Abundant
	Gorse		Abundant
ana officinalis	Common V	alerian	Occasional
	s spp. s flos-cuculi a caerulea gale nda regalis illa erecta um aquilinum riminalis s aucuparia num spp. p. ana officinalis	is flos-cuculiRagged Roa caeruleaPurple ModgaleBog Myrtlenda regalisRoyal Ferniilla erectaTormentilum aquilinumBrackenviminalisOsiers aucupariaRowannum spp.Bog-Mossep.Gorse	is flos-cuculiRagged Robina caeruleaPurple Moor-grassgaleBog Myrtlenda regalisRoyal Ferniilla erectaTormentilum aquilinumBrackeniminalisOsiers aucupariaRowannum spp.Bog-Mossesp.Gorse

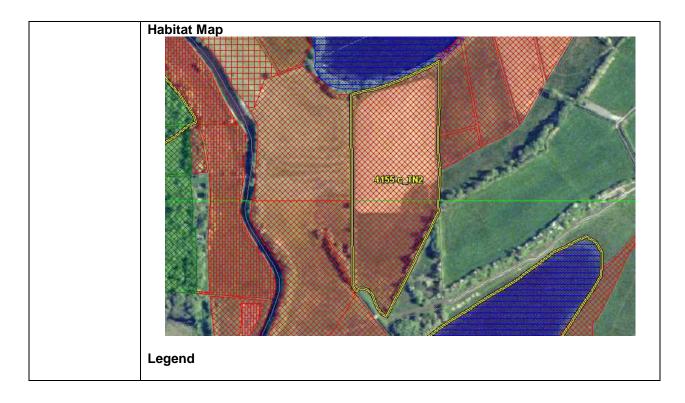






		TARGET NOT	ES - ID No. 54		
Survey Title: Mic	d Clare Habitat r	napping		Survey date:	21/6/10
Surveyor: Shane	e O Neill			County name	: Clare
1:2,500 Sheet no	o: 4155-c	Townland: Coolr	eagh Beg	Grid Ref: 160	359, 184039
Target note no.:	TN2		Area: 2.9ha		
This area is consi	idered to be of N	loderate Ecologica	al value in a Loc	al context. Doe	s not correspond to
any annexed hab	itats.				-
Habitat code	Species-rich V	Vet Grassland (GS4	1) to the south o	f a small lake.	
GS4					
	Species List:				
	Species (La			mmon name)	DAFOR Scale
	Anthoxanthu	m odoratum	Sweet Verna	l-grass	Abundant
	Carex echina		Star Sedge		Frequent
	Cirsium palu		Marsh Thistle		Occasional
	Dactylorhiza	•	Spotted-Orch	nid	Occasional
	Equisetacea		Horsetails		Occasional
	Filipendula u		Meadowswee		Frequent
	Holcus lanate		Yorkshire Fog Yellow Iris		Frequent
	Iris pseudaco	orus			Occasional
	Juncus spp.		Rushes		Occasional
	Lychnis flos-		Ragged Rob	n	Occasional
	Mentha aqua		Watermint Tormentil		Occasional
	Potentilla ere				Frequent
	Prunella vulg		Selfheal		Occasional
	Rhinanthus r		Yellow-rattle		Occasional
	Valeriana off	icinalis	Common Val		Frequent
	Vicia cracca		Tufted Vetch		Occasional
	Vicia cracca		Tufted Vetch		Occasional





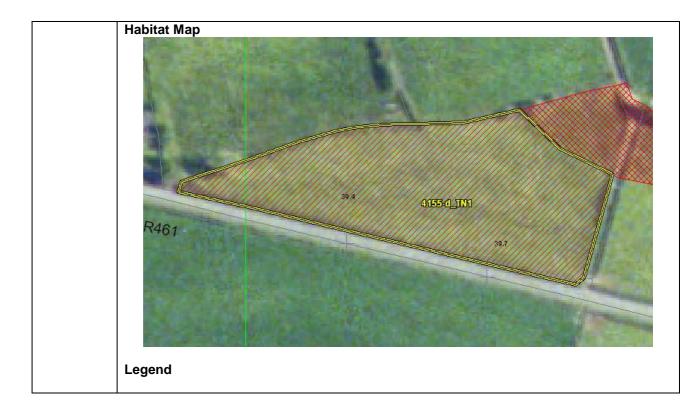


		TARGET	NOTES - ID No.	55		
Survey Tit	le: Mid Clare Hab	itat mapping		Survey dat	e: 22/6/10	
Surveyor:	Shane O Neill			County na	me: Clare	
1:2,500 Sh	eet no: 4155-c	Townland: Leca	rrow Lower Grid Ref: 159929, 185427			
Target note no.: TN3			Area: 13ha			
context. Coregeneration	orresponds to th on'.	e Annex I habitat	'Degraded raised	d bogs still c	e in an <mark>Internationa</mark> apable of natural	
Habitat code PB4	Sphagnum. So	rub WS1 encroach	ch appears to be nment is occurring	e regenerating over much of	g, with a thick car the area.	pet of
	Species List: Species (Lat		Species (com	mon name)	DAFOR Scale	
		ım odoratum	Sweet Vernal-g		Occasional	
	Calluna vulo		Ling	,	Abundant	
	Dactylorhiza		Spotted-Orchid	Spotted-Orchid		
	Equisetacea	•	Horsetails		Frequent	
	Erica tetralix		Cross-leaved H	Cross-leaved Heath		
	Eriophorum	angustifolium	Common Cotto	Common Cotton-grass		
	Filipendula	ulmaria	Meadowsweet		Frequent	
	Lychnis flos	-cuculi	Ragged Robin		Frequent	
	Molinia caei	ulea	Purple Moor-gr	ass	Dominant	
	Osmunda re	egalis	Royal Fern		Occasional	
	Polypodium	vulgare	Polypody		occasional	
	Potentilla er	ecta	Tormentil		Frequent	
	Potentilla pa	alustris	Marsh Cinquefe	oil	Frequent	
	Sphagnums	spp.	Bog-mosses		Abundant	
	Typha latifo	lia	Reedmace		Occasional	
	Valeriana of	ficinalis	Common Valer	ian	Occasional	
	Vicia cracca		Tufted vetch		Occasional	





		TARG	ET N	OTES – ID No. 5	6		
Survey Title	e: Mid Clare Hab	itat Mapping			Survey	date: 26/6/10	
Surveyor: S	Shane O Neill				County	name: Clare	
1:2,500 She	et No: 4155-d	Townland: Fos	samo	ore	Grid Re	f: 162085, 184418	}
Target note	no.: TN1			Area: 0.7ha			
						ontext. This habit sis, Sanguisorba	
Habitat code GS2/GS4	Grassland in c	one corner of the	e field	. The field immed	diately to	habitat and grade the east of this sit d had full planning	e comprises
	Species (La	<i>tin</i> name)	Spe	ecies (Common	name)	DAFOR Scale	
	Alopecurus p	oratensis	Fox	tail		Frequent	
	Anthoxanthu	m odoratum	Sw	Sweet Vernal-grass Knapweed		Frequent	-
	Centaurea ni	gra	Kna			Occasional	-
	Euphrasia of	ficinalis agg.	Eye	ebright		Occasional	-
	Heracleum s	phondylium	Ho	gweed		Occasional	
	Iris pseudaco	orus	Yel	low Iris		Frequent	
	Juncus effus	us	Sof	t Rush		Occasional	-
	Lathyrus prat	tensis	Me	adow Vetchling		Frequent	-
	Lotus cornicu	ılatus	Bird	d's-foot Trefoil		Frequent	-
	Prunella vulg	aris	Sel	fheal		Frequent	
	Ranunculus a	acris	Me	adow Buttercup		Frequent	
	Ranunculus	repens	Cre	eping Buttercup		Frequent	
	Rhinanthus n	ninor	Yel	low Rattle		Occasional	
	Trifolium prat	tense	Red	d Clover		Abundant	
	Trifolium repe	ens	Wh	ite Clover		Abundant	
1	Vicia cracca		Tuf	ted Vetch		Occasional]





		TARGET NO	TES – ID No. 57			
Survey Title: M	id Clare Habitat I	Mapping		Survey date:	30/7/10	
Surveyor: Shan	e O Neill			County name	e: Clare	
1:2,500 Sheet n	o: 4155-d	Townland: Cap	paroe	Grid Ref: 162	2625, 185106	
Target note no.	: TN2		Area: 7.1ha			
context. Corres	sponds to Priori ed bogs still cap	ity Habitat, '*bog bable of natural re	woodland (91D egeneration.	0)', 'active rais	e in an International sed bogs (7110)' and). Red and Black ants	
	were recorded	- · ·	unded by bog w		. Reu anu Diack ants	
PB1/WN7						
	Species List	(*** *** * * *	0			
	Species (La	<i>tin</i> name)		mmon name)	DAFOR Scale	
	0		Other Mosse	S	Frequent	
	Calluna vulg		Ling		Frequent	
	Cladonia sp		Bearded Lich		Frequent	
	Dactylorhiza		Heath Spotte		Rare	
	Erica tetralix		Cross-leaved		Frequent	
	-	angustifolium	Common Co	ttongrass	Occasional	
	Juncus spp.	-	Rushes		Occasional	
	Molinia caer		Purple Moor Grass		Dominant	
	Nardus strict		Mat-grass		Occasional	
	Potentilla ere		Tormentil Marsh Cinquefoil		Occasional	
	Potentilla pa				Occasional	
	Pteridium aq	luilinum	Bracken		Frequent	
	Habitat Map					
	Legend					

	e: Mid Clare Habitat Mapping	Si	urvey date: 30/06/10	
Surveyor:	John Curtin	C	ounty name: Clare	
1:2,500 She	eet no: 4156-c Townland:	Scarriff G	rid Ref: 164160, 185219	
Target note	e no.: TN1	Area: 1.6ha		
	gical interest in a national co , peaty or clayey-silt-laden s Wet grassland (GS4) clos (Dactylorhiza spp).			
GS4	Species List			
	Species (Latin name)	Species (common name)		
	Apiaceae sp	Umbellifer sp.	Occasional	
	Bryophyte	Moss spp	Abundant	
	Carex echinata	Star Sedge	Occasional	
	Carex nigra	Common Sedge	Occasional	
	Carex panicea	Carnation sedge	Occasional	
	Cynosurus cristatus	Crested Dogs-tail	Occasional	
	Dactylorhiza sp.	Orchid	Rare	
	Equisetum sp	Horsetail	Rare	
	Filipendula ulmaria	Meadowsweet	Occasional	
	Juncus articulatus	Jointed Rush	Abundant	
	Lathyrus pratensis	Meadow Vetchling	Occasional	
	Lotus pendunculatus	Greater Birds-foot-trefoil	Occasional	
	Mentha aquatica	Water Mint	Occasional	
	Molinia caerulea	Purple moor-grass	Frequent	
	Ranunculus flammula	Lesser spearwort	Occasional	
	Ranunculus repens	Creeping buttercup	Occasional	
	Stellaria media	Common Chickweed	Occasional	
	Trifolium repens	White clover	Frequent	
	Triglochin palustris	Marsh Arrowgrass	Rare	
	Vicia cracca	Tufted Vetch	Occasional	



		TARG	ET NOTES – ID No. 59			
Survey Title	: Mid Clare Habitat M	lapping		Surv	yey date: 30/06/10	
Surveyor: J	ohn Curtin			Cou	nty name: Clare	
1:2,500 She	et no: 4156-c Tow	nland: F	ossa Beg	Grid	J Ref: 164171, 185159	
Target note	no.: TN2		Area: 0.7ha			
'lowland ha	y meadows (<i>Alopec</i> es not correspond to	<i>urus prat</i> o this cla	ensis, Sanguisorba of ssification.		nked to the annexed habit is) but the vegetation in th	
Habitat code	Meadow grassland	fringing f	ootball pitch (GA2)			
	Species List					_
GS2	Species (<i>Latin</i> n	ame)	Species (common na	me)	DAFOR Scale	
	Agrostis sp		Bent grass		Frequent	
	Alopecurus prate		Foxtail		Occasional	
	Anthoxanthum oc	doratum	Sweet Vernal-grass		Occasional	
	Carex hirta		Hairy Sedge		Frequent	
	Cynosurus crista	tus	Crested Dogs-tail		Occasional	
	Deschampsia flex	xuosa	Wavy Hair-grass		Occasional	
	Euphrasia arctica	1	Eyebright		Frequent	
	Holcus lanatus		Yorkshire Fog		Frequent	
	Juncus articulatu	S	Jointed Rush Compact Rush Hawkbit sp Ox-eye Daisy		Frequent	
	Juncus conglome	eratus			Occasional	
	Leontodon sp				Frequent	
	Leucanthemum v	rulgare			Occasional	
	Lolium perenne		Rye-grass, perennial		Occasional	
	Lotus pedunculat	tus	Greater Birds-foot-trefo	oil	Frequent	
	Plantago lanceola	ata	Ribwort Plantain		Occasional	
	Poa sp		Meadow-grass		Frequent	_
	Prunella vulgaris		Self-heal		Frequent	
	Ranunculus repe	ns	Creeping buttercup		Frequent	
	Trifolium pratens		Red Clover		Occasional	



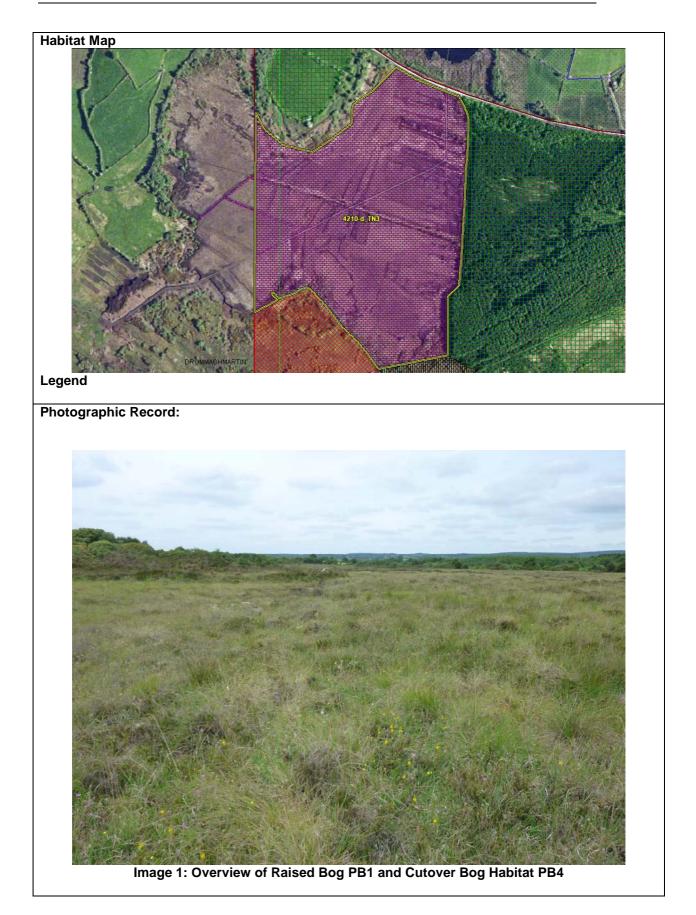
		TAR	GET NO	DTES – ID No. 60		
Survey Title:	Mid Clare Ha	bitat Mapping			Surv	vey date: 29/06/10
Surveyor: Je	n Fisher				Cou	nty name: Clare
1:2,500 Shee	t no: 4210-d	Townland: C	ragroe		Grid	l Ref: 151310, 181790
Target note	n o.: TN1			Area: 0.5ha		
			rtance	in a local context	t. This	s habitat does not
correspond t Habitat	to any Annex	I Habitats				
code	A small area	of freshwater I	Marsh (GM1 adjacent to th	e roa	d, some drainage evident.
GM1	Species Lis					
	Species (L	<i>atin</i> name)	Spec	cies (common na	me)	DAFOR Scale
	Cirsium pal	lustre	Mars	h Thistle		Frequent
	Filipendula	ulmaria	Mea	dowsweet		Frequent
	Iris pseuda	corus	Yello	wflag		Dominant
	Juncus con	glomeratus	Com	pact Rush		Abundant
	Ranunculus	s acris	Mea	dow Buttercup		Frequent
					CF	RAGROE
Legend						

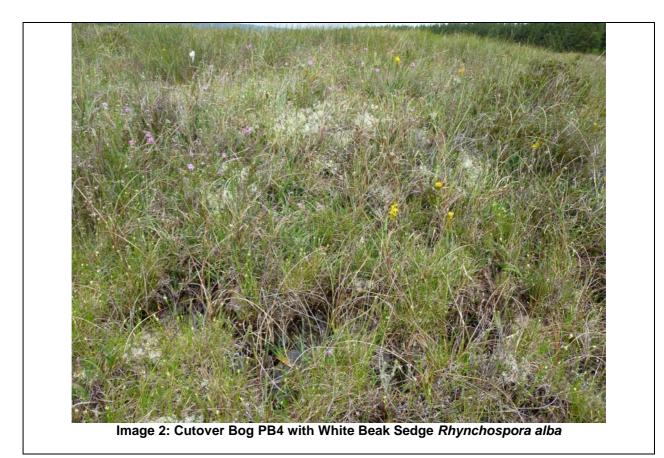
		TARGET NOTES	– ID No. 61		
Survey Title:	Mid Clare Ha	bitat Mapping		Survey date: 29/06/	10
Surveyor: Je	n Fisher			County name: Clare	•
1:2,500 Shee	t no: 4210-d	Townland: Cragroe		Grid Ref: 150673, 18	31331
Target note r	10.: TN2	Area	: 10.73ha		
		ological Importance in a lo	cal contex	t. This habitat does n	ot
correspond t Habitat	o any Annex	I Habitats			
code	Extensive ar	ea of Wet Grassland (GS4)	of which the	south western section	was verv
	species rich.	The whole area is probably	reclaimed b	oog. Some scrub was b	eginning to
GS4	encroach wit habitat.	hin the habitat. Silver Washe	ed Fritillary	Butterflies were record	ed in this
	Species Lis				
		Species (Latin name)		es (common name)	
		Cirsium palustre	Marsh		
		Equisetum sp.	Horset		
		Galium palustris		Bedstraw	
		Holcus lanatus		ire Fog	
		Juncus conglomeratus	•	act Rush	
		Juncus effusus	Soft Ru		
		Juncus inflexus	Hard R		
		Lathyrus pratensis		w Vetchling	
		Poa trivialis Ranunculus acris		Meadow Grass w Buttercup	
		Ranunculus flammula		Spearwort	
		Ranunculus repens		ng Buttercup	
		Rubus fruticosus agg	Bramb	•	
		Salix sp.	Willow		
		Senecio aquatica		Ragwort	
		Ulex europaeus	Gorse		
Habitat Map					



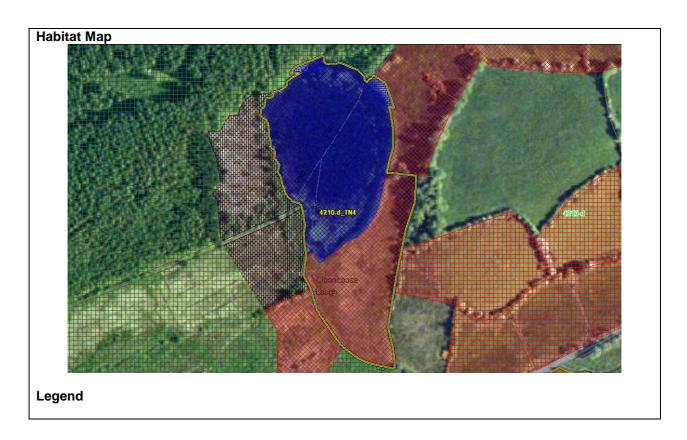
Survey Title	: Mid Cla	are Habitat Mapping		Survey da	te: 29/06/10	
Surveyor: Je	en Fishe	r		County na	ame: Clare	
1:2,500 She	et no: 42	210-d Townland: Cloodor	rney Grid Ref: 150150, 181870			
Target note	no.: TN	3	Area: 15.09ha			
	aised bo	igh ecological interest in a gs still capable of natural (7110)				
Habitat code PB1/PB4	was he have t have t Severa suppo majori	e area of Raised Bog PB1 v eavily poached in some are aken place. al turf banks were noted in t rted different accumulations ty of the cutover areas were els as well as Gorse and W	as and thus some g the cutover areas a s of plants and an a e re-vegetated at th	grazing of th nd these are bundance o e time of the	e habitat appeared eas were also wett f Sphagnum. The e survey. Some dra	
	Speci	es List Species (<i>Latin</i> name)	Species (comm	on name)	DAFOR Scale	
				-		
		Calluna vulgaris	Ling Heather		A	
		Calluna vulgaris Trichophorum cespitosum	Ling Heather Deer Grass		A D	
		Trichophorum	Deer Grass	Sedge		
		Trichophorum cespitosum	Deer Grass	Sedge	D	
		Trichophorum cespitosum Eriophorum angustifolium	Deer Grass		D F	
		Trichophorum cespitosum Eriophorum angustifolium Sphagnum sp.	Deer Grass Common Cotton		D F A	
		Trichophorum cespitosum Eriophorum angustifolium Sphagnum sp. Molinia caerulea	Deer Grass Common Cotton Purple Moor Gra	SS	D F A F	
		Trichophorum cespitosum Eriophorum angustifolium Sphagnum sp. Molinia caerulea Narthecium ossifragum	Deer Grass Common Cotton Purple Moor Gra Bog Asphodel	ss	D F A F A	
		Trichophorum cespitosum Eriophorum angustifolium Sphagnum sp. Molinia caerulea Narthecium ossifragum Erica tetralix	Deer Grass Common Cotton Purple Moor Gra Bog Asphodel Cross-leaved He	ss eath ge	D F A F A F	
		Trichophorum cespitosum Eriophorum angustifolium Sphagnum sp. Molinia caerulea Narthecium ossifragum Erica tetralix Rhynchospora alba	Deer Grass Common Cotton Purple Moor Gra Bog Asphodel Cross-leaved He White Beak-sed	ss eath ge	D F A F A F F	
		Trichophorum cespitosum Eriophorum angustifolium Sphagnum sp. Molinia caerulea Narthecium ossifragum Erica tetralix Rhynchospora alba Drosera rotundifolia	Deer Grass Common Cotton Purple Moor Gra Bog Asphodel Cross-leaved He White Beak-sedg Round-leaved Si	eath ge undew	D F A F A F F F F	
		Trichophorum cespitosum Eriophorum angustifolium Sphagnum sp. Molinia caerulea Narthecium ossifragum Erica tetralix Rhynchospora alba Drosera rotundifolia Myrica gale	Deer Grass Common Cotton Purple Moor Gra Bog Asphodel Cross-leaved He White Beak-sedo Round-leaved So Bog Myrtle	eath ge undew	D F A F A F F F F O	
		Trichophorum cespitosum Eriophorum angustifolium Sphagnum sp. Molinia caerulea Narthecium ossifragum Erica tetralix Rhynchospora alba Drosera rotundifolia Myrica gale Eriophorum vaginatum	Deer Grass Common Cotton Purple Moor Gra Bog Asphodel Cross-leaved He White Beak-sedg Round-leaved St Bog Myrtle Hare's-tail Cotton	eath ge undew n Sedge	D F A F A F F F F O F	
		Trichophorum cespitosum Eriophorum angustifolium Sphagnum sp. Molinia caerulea Narthecium ossifragum Erica tetralix Rhynchospora alba Drosera rotundifolia Myrica gale Eriophorum vaginatum Carex sp.	Deer Grass Common Cotton Purple Moor Gra Bog Asphodel Cross-leaved He White Beak-sedg Round-leaved So Bog Myrtle Hare's-tail Cotton Sedge	eath ge undew n Sedge	D F A F A F F F O F F	
		Trichophorum cespitosum Eriophorum angustifolium Sphagnum sp. Molinia caerulea Narthecium ossifragum Erica tetralix Rhynchospora alba Drosera rotundifolia Myrica gale Eriophorum vaginatum Carex sp. Carex panicea	Deer Grass Common Cotton Purple Moor Gra Bog Asphodel Cross-leaved He White Beak-sedg Round-leaved St Bog Myrtle Hare's-tail Cotton Sedge Carnation Sedge	eath ge undew n Sedge	D F A F A F F F O F F F F	
		Trichophorum cespitosum Eriophorum angustifolium Sphagnum sp. Molinia caerulea Narthecium ossifragum Erica tetralix Rhynchospora alba Drosera rotundifolia Myrica gale Eriophorum vaginatum Carex sp. Carex panicea Erica cinerea	Deer Grass Common Cotton Purple Moor Gra Bog Asphodel Cross-leaved He White Beak-sedg Round-leaved So Bog Myrtle Hare's-tail Cotton Sedge Carnation Sedge Bell Heather	eath ge undew n Sedge	D F A F A F F F O F F F F O	

TARGET NOTES - ID No. 62





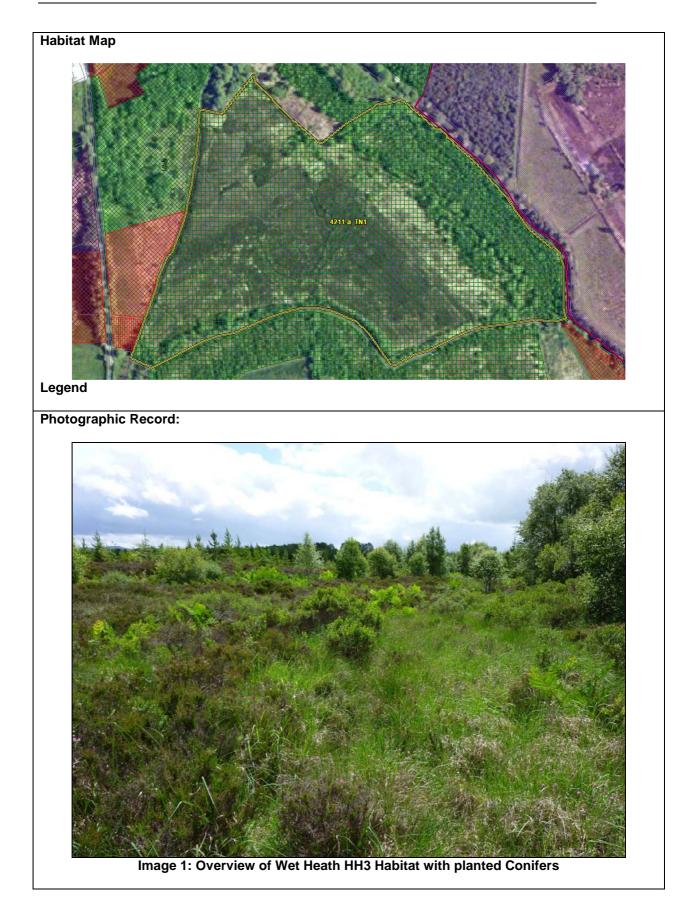
		TARGET NOTES – I	D No. 63						
Survey Title:	Mid Clare Ha	bitat Mapping		Survey date: 29/06	5/10				
Surveyor: Je	n Fisher			County name: Clar	е				
1:2,500 Shee	t no: 4210-d	Townland: Cloodorney		Grid Ref: 150784, *	181787				
Target note r	no.: TN4	Area: 2	2.4ha	I					
-		ological Importance in a Loc	al contex	t. This habitat does	not				
correspond t	o any Annex	I Habitats.							
Habitat code	Clooncoose								
	Grassland G	ough is classified as a Mesotrophic Lake FL4 surrounded by Wet 4, Conifer Plantation WD4 and Willow Scrub WS1. The lake was fringed							
FL4/ FS1	in the lake.	and Tall Herb Swamp FS1. An The Wet Grassland habitat was Ilerian and Meadow Thistle ar	s species	rich and included Tu	fted Hair Grass,				
	Species Lis	t							
		Species (Latin name)	Specie	s (common name)]				
		Alisma plantago aquatica	Commo	on Water Plantain					
		Cirsium dissectum	Meadov	w Thistle					
		Cirsium palustre	Marsh	Thistle	-				
		Dactylorhiza sp. Orc		3					
		Deschampsia cespitosa		Hair Grass					
		Equisetum sp.	Horseta						
		Galium palustris		Bedstraw					
		Holcus lanatus		Yorkshire Fog					
		Juncus conglomeratus Compa			_				
		Juncus effusus	Soft Ru	-	-				
		Juncus inflexus	Hard R		_				
		Lathyrus pratensis Menyanthes trifoliata		w Vetchling					
		Nuphar sp.	Bogbea Water L		-				
		Poa trivialis		-my Meadow Grass	-				
		Potamogeton sp.	Pondwe						
		Phragmites australis		on Reed					
		Ranunculus acris		w Buttercup	-				
		Ranunculus flammula		Spearwort	-				
		Ranunculus repens		ng Buttercup	-				
		Rubus fruticosus agg	Bramble						
		Salix sp.	Willow		-				
		Senecio aquaticus	Marsh F	Ragwort	1				
		Typha latifolia	Reedm	ace	1				
		Ulex europaeus	Gorse		1				



		TARG	SET NO	DTES – ID No. 64				
Survey Title: Mid Clare Habitat Mapping					Survey date: 29/06/10			
Surveyor: Jen Fisher					County name: Clare			
1:2,500 Sheet no: 4210-d Townland: Cra				keel	Grid Ref: 151950,181440			
Target note r	10.: TN5		-	Area: 2.63ha	1			
-		ological Impor	tance	in a local contex	t. This habitat does not			
	o any Annex	I Habitats						
Habitat code	Oak Ach Ha	rol Woodland M	/N2 on	Packy Outerana	This example of woodland is mor			
LUUE					in Ireland and is considered to be			
WN2	important for	conservation.						
	Species Lis	•						
	Species Lis		Spec	ies (common na	ime)			
	Acer pseud		-	more				
	-	n podagraria		nd Elder				
	Arum macu		Lord	s & Ladies				
	Brachypodi	um sylvaticum	False	Brome				
	Carex remo	-	Rem	ote Sedge				
	Corylus ave	ellana	Haze					
	Dryopteris filix-mas			Male Fern				
	Fagus sylvatica			Beech				
	Fraxinus excelsior Geum urbanum							
				d Avens				
	Hedera helix Phyllitis scolopendrium Pinus sylvestris		lvy					
			Hart'	s Tongue				
			Scot'	s Pine				
	Prunus spir	nosa	Black	kthorn				
	Quercus sp).	Oak					
	Rubus fruticosus agg			Bramble				
Habitat Map								

Legend

TARGET NOTES – ID No. 65							
Survey Title: Mid Clare Habitat Mapping				Survey date: 02/07/	Survey date: 02/07/10		
Surveyor: Je	Surveyor: Jen Fisher				County name: Clare		
1:2,500 Shee	et no: 4211-a	Townland: Ayle Lowe	er	Grid Ref: 153388, 1	83050		
Target note	n o.: TN1		Area: 7.9ha				
		blogical interest in a n Atlantic Wet heaths		Linked with the Annex etralix (4010).	I Habitat (EU		
Habitat code WD4/HH3	Immature Conifer Plantation on Wet Heath. The habitat was quite open and large areas of heath remain intact. The habitat was dominated by Ling Heather and Bog Myrtle. The presence of Purple Moor Grass, Deer Grass and cross-leaved heath supported a classification of Wet Heath. This habitat is linked with the Annex I Habitat (EU Habitat Directive) 'Northern Atlantic Wet heaths with Erica tetralix (4010). This habitat is not likely to persist however due to the planting of young conifers in the recent past.						
	Species List		·				
			cies (common name)				
		Betula pubescens		ny Birch			
	Calluna vulgaris		Ling	Heather			
		Carex panicea		ation Sedge			
		Carex rostrata		Bottle Sedge			
		Cirsium sp.		Thistle			
	Erica tetralix		Cros	Cross-leaved Heath			
	Eriophorum vaginatum		um Hare	Hare's-tail Cotton Sedge			
		Festuca rubra	Red	Fescue	_		
	Molinia caerulea		Purp	Purple Moor Grass			
		Myrica gale	Bog	Myrtle			
		Narthecium ossifrag	um Bog	Asphodel	_		
	Potentilla erecta		Torm	nentil			
		Salix sp.	Willo	W			
		Succisa pratensis	Devi	l's Bit Scabious	_		
		Trichophorum cespi	tosum Deer	Grass			



		TARGET NO	OTES – ID No.	66		
Survey Title:	Mid Clare Hat	Survey date: 02/0	Survey date: 02/07/10			
Surveyor: Je	n Fisher	County name: Cla	ire			
1:2,500 Shee	t no: 4211-a	Grid Ref: 152785,	182930			
Target note I	n o.: TN2					
				in a local context. Lin t heaths with Erica tet		
Habitat code HH3	Wet Heath HH3 Habitat which has become established on a large area of Cutover Bog PB4. The habitat was dominated by Ling Heather and Bog Myrtle. The presence of Purple Moor Grass, Deer Grass and cross-leaved heath supported a classification of Wet Heath. Large peat banks were present in the habitat. In several places excavated hollows supported a wetter assemblage of species. On dryer areas of habitat scrub such as gorse was abundant. This habitat is linked with the Annex I Habitat (EU Habitat Directive) 'Northern Atlantic Wet heaths with Erica tetralix (4010).					
	Species List		mal Sno	aiaa (aamman nama)		
		Species (Latin nar Betula pubescens		cies (common name) my Birch		
		Calluna vulgaris		Heather		
		Erica tetralix Eriophorum vaginat		s-leaved Heath		
				e's-tail Cotton Sedge		
-		Festuca rubra		Fescue		
		Molinia caerulea		ble Moor Grass		
		Narthecium ossifrag		Asphodel		
		Potentilla erecta		nentil		
	Pteridium aquilinum					
		Sphagnum sp.		Moss		
	Trichophorum cespitos			Deer Grass Gorse		
		Ulex europaeus	Gore	se		
Habitat Map						

Legend

Photographic Record:



		TARGET NOTES – I	D No. 67		
Survey Title: Mid Clare Habitat Mapping				Survey date: 30/06/10	
Surveyor: Jen Fisher				County name: Clar	е
1:2,500 Shee	et no: 4211-c	Fownland: Craggaunkeel		Grid Ref: 152600,	181560
Target note	no.: TN1	Area: 1	8.93ha	·	
		ogical Importance in a loca	al contex	t. This habitat does	not
Habitat code WN2	the dominant s	sh Hazel Woodland WN2 on species. Several well maintain nice example of this habitat ty	ned roads /pe, this h	s intersect the woodla	nd.
	considered to	be of conservation importance	e.		
	Species List				
		Species (<i>Latin</i> name)	-	s (common name)	4
		Anthyrium filix femina Blechnum spicant	Lady Fe		-
		Carex pendula		ous Sedge	-
		Carex sylvatica	Wood Sedge		-
		Circaea lutetiana	Enchanter's Nightshade		
		Corylus avellana	Hazel		
		Deschampsia cespitosa	Tufted Hair-grass		
		Fagus sylvatica	Beech		
		Fraxinus excelsior	Ash		
		Geum urbanum	Wood A		_
		Luzula sylvatica		Vood Rush	-
		Quercus sp. Salix sp.	Oak Willow		-
Habitat Map		Salix Sp.	Willow		
	CP-OS-GAINES				
Legend					



		TARGET NOTES – I	D No. 68			
Survey Title:	Mid Clare Hal	Survey date: 30/06/10				
Surveyor: Je	n Fisher	County name: Clare				
1:2,500 Shee	t no: 4211-c	Townland: Rosslara		Grid Ref: 152620, 182310		
Target note	no.: TN2	Area: 2	3.93ha			
-		ological Importance in a loca	I context	t. This habitat does	not	
correspond t Habitat	to any Annex	I Habitats				
FL4	Rosslara Lough is classified as a Large Mesotrophic Lake with extensive area of fringing Reed and Large Sedge Swamp FS1, and Wet Willow Alder Ash Woodland WN6. The reed beds were dominated by Common Reed and Bulrush. This is undoubtedly a valuable habitat for wildlife further enhanced by the extensive areas of woodland to the south of the lake. These wooded areas as well as being important habitats are valuable wildlife corridors.					
	for boat laun	s evidently used for recreationa ching was observed.	Il purpose	es and a picnic table a	as well as a slip	
	Species List	Species (<i>Latin</i> name)	Specie	s (common name)		
		Nuphar sp.	Water Lilly			
		Phragmites australis		on Reed		
		Salix sp.				
	Schoenoplectus lacustris		Bulrush			
		Valeriana officinalis	Commo	on Valerian		
Habitat Map		ECARROW MORTH				



Image 1: Rosslara Lough, Mesotrophic Lake FL4 with Water Lily Nuphar Lutea

		TARGET NO	TES – ID No	o. 69	
Survey Title: Mid Clare Habitat MappingSurvey date: 30/06/10					
Surveyor: Jen Fisher				County name: Clare	
1:2,500 Sheet no: 4211-c Townland: Fontane			More	Grid Ref: 153982, 181103	
Target note no.: TN3			Area: 3.2ha		
Ecological Valu correspond to a Habitat code			n a local co	ntext. This habitat does not	
WN2/WS1/ER2	Several fields with a mosaic of Ash Hazel Woodland WN2, Hazel Scrub on Exposed Calcareous Rock ER2, Improved Grassland GA1 and Neutral Grassland GS1. The field has been much improved in the past and a herd of cattle were present in the field during the survey. It is likely that this field was Calcareous Grassland GS1 in the past.				

Habitat Map



Legend



		TARGET N	OTES – ID No. 70		
Survey Title:	Mid Cla	are Habitat Mapping		Survey da	te: 01/07/10
Surveyor: Je	n Fishe	r		County na	me: Clare
1:2,500 Shee	et no: 42	211-c Townland: Mayfort	Grid Ref: 153000, 181495		
Target note	no.: TN	4	Area: 4.4ha		
-		igh Ecological Importance	in a local context	. This habi	tat does not
	to any A	Annex I Habitats			
Habitat code GS4/GS1/ WN7/ FL4/ FW4	seaso uneve	aic of several habitats in the nal flooding. The habitat had n. A very large Drainage Dit	d been grazed in the ch FL4 intersects th	e past and v ne habitat.	was heavily poached a
	Wood	le area of woodland to the land WN7 and was compose	ed of Birch and Will	OW.	
	Reed Acces	 Lough is classified as a M and large Sedge Swamp s was difficult at this site. 			
	Speci	es List GS4/GS1 Species (<i>Latin</i> name)	Species (commo	on name)	DAFOR Scale
		Alopecurus geniculatus	Marsh Foxtail		F
		Anagallis tenella	Bog Pimpernal		0
		Anthoxanthem odoratum	Sweet Vernal Gra	ass	0
		Arrhenatherum elatius	False Oat Grass		F
		Briza media	Quaking Grass		F
		Carex ovalis	Oval Sedge		0
		Carex paniculata	Greater Tussock	Sedge	0
		Cirsium palustre	Marsh Thistle		0
		Cyanosurus cristatus	Crested Dog's-ta	il	F
		Dactylorhiza sp.	Orchid		0
		Deschampsia cespitosa	Tufted Hair-grass	6	0
		Epilobium hirsutum	Great Willowherb)	0
		Equisetum sp.	Horsetail		F
		Festuca rubra	Red Fescue		A
	1		1		
		Filipendula ulmaria	Meadowsweet		F
		Filipendula ulmaria Galium palustris	Meadowsweet Marsh Bedstraw		F O
		Galium palustris	Marsh Bedstraw	Rush	0
		Galium palustris Holcus lanatus	Marsh Bedstraw Yorkshire Fog	Rush	O F
		Galium palustris Holcus lanatus Juncus acutiflorus	Marsh Bedstraw Yorkshire Fog Sharp-flowered R	Rush	O F A
		Galium palustris Holcus lanatus Juncus acutiflorus Juncus conglomeratus	Marsh Bedstraw Yorkshire Fog Sharp-flowered R Compact Rush		O F A A
		Galium palustris Holcus lanatus Juncus acutiflorus Juncus conglomeratus Juncus inflexus	Marsh Bedstraw Yorkshire Fog Sharp-flowered R Compact Rush Hard Rush		O F A A D
		Galium palustris Holcus lanatus Juncus acutiflorus Juncus conglomeratus Juncus inflexus Lathyrus pratensis	Marsh Bedstraw Yorkshire Fog Sharp-flowered R Compact Rush Hard Rush Meadow Vetchlin	g	0 F A A D 0
		Galium palustris Holcus lanatus Juncus acutiflorus Juncus conglomeratus Juncus inflexus Lathyrus pratensis Leucanthemum vulgare	Marsh Bedstraw Yorkshire Fog Sharp-flowered R Compact Rush Hard Rush Meadow Vetchlin Ox-eye Daisy	g	0 F A A D 0 0
		Galium palustris Holcus lanatus Juncus acutiflorus Juncus conglomeratus Juncus inflexus Lathyrus pratensis Leucanthemum vulgare Lollium perenne	Marsh Bedstraw Yorkshire Fog Sharp-flowered R Compact Rush Hard Rush Meadow Vetchlin Ox-eye Daisy Perennial Rye Gr	g	0 F A A D 0 0 0

	Rumex crispus Triglochin palustris Urtica dioica Valeriana officinalis Veronica beccabunga	Nettle	Arrowgrass on Valerian	0 0 0 0	
Spec	ies List Bog Woodland W	N7	Species (common		
	Betula pubesce	•	Downy Birch	i name)	
	Salix sp.		Willow		
	Ounx sp.		VVIIIOW		
Spec	ies List Mesotrophic Lake	e FL4	Species (common	name)	
	Species (Latin	name)	opecies (common	i namej	
	Carex paniculat	а	Greater Tussock S	edge	
	Iris pseudacorus	S	Yellowflag		
	Juncus acutiflor	us	Sharp-flowered Ru	sh	
	Juncus conglom	neratus	Compact Rush		
	Phragmites aus	tralis	Common Reed		
	Schoenoplectus	s lacustris	Bulrush		
	Typha latifolia		Reedmace		
	Valeriana officin	nalis	Common Valerian		
Habitat Map					SHERE &

Legend





		TARGET NOTES -	ID No. 71			
Survey Title:	: Mid Clare Hal	Survey date: 01/07	/10			
Surveyor: Je	en Fisher	County name: Clare				
1:2,500 Shee	et no: 4211-c		Grid Ref: 152584, 181684			
Target note	no.: TN6	Area:	2.3ha			
		cal Value: High Ecological Ir		e in a local context.	This habitat	
does not cor		ny Annex I Habitats	•			
Habitat code FL4/ FS1	Lough is classified as a Mesotrophic lake FL4 and is surrounded by Reed and L Sedge Swamps FS1, Broadleaf Woodland WD1, Conifer Plantation WD4, Wet C GS4 and Scrub WS1.					
	Species List	Species (<i>Latin</i> name)	Spacia	s (common name)	1	
		Equisetum sp.	Horseta		4	
		Iris pseudacorus	Yellowf		4	
		Menyanthes trifoliata	Bogbea	-	-	
		Nuphar sp.	-		_	
		Phragmites australis	Water Lilly Common Reed		-	
		Shoenoplectus lacustris	Bulrush		-	
		Typha latifolia	Reedmace		-	
		Valeriana officinalis		on Valerian		
Habitat Map		ATIC IN		e CD	afte	
Legend					Line and the second sec	



Survey Title: N	/lid Clare Hab	itat Mapping		Survey da	te: 01/07/10	
Surveyor: Jen	Fisher			County na	me: Clare	
1:2,500 Sheet	no: 4211-c	Townland: Rossla	ira	Grid Ref: 153720,182100		
Target note no	note no.: TN5 Ar					
Degraded rais	ed bogs still	logical interest in a capable of natural sporion (7150) and	regeneration (7120			
PB4/WS1/FL2	heath to wo	ge area of old Cutov odland with an intere e habitat and is class	esting composition of	of species. C	usack's Lough is i	
		to the north are dor itat is dominated by			however for the mo	ost
	were preser terrain was apparent. The habitat	nvading immature Bi at in the habitat. Severy very uneven and acc was surrounded by i ted using aerial pho	veral semi-mature S cess was difficult. No immature broadleaf	cot's Pine w o grazing or	ere also noted. Th management was	е
		ies (<i>Latin</i> name)	Species (comm	on name)	DAFOR Scale	1
	-	a pubescens	Downy Birch		F	
	Care	x panicea	Carnation Sedge	9	A	
		x panicea x paniculata	Carnation Sedge Greater Tussock		A O	
	Care	•	*			-
	Care. Callu	x paniculata	Greater Tussock		0	-
	Care. Callu Epilo	x paniculata na vulgaris	Greater Tussock		O D	-
	Care. Callu Epilo Festu	x paniculata na vulgaris bium sp.	Greater Tussock Ling Heather Willowherb		0 D 0	-
	Care. Callu Epilo Festu Filipe	x paniculata na vulgaris bium sp. ica rubra	Greater Tussock Ling Heather Willowherb Red Fescue		0 D 0 0	-
	Care Callu Epilo Festu Filipe Holcu	x paniculata na vulgaris bium sp. ica rubra indula ulmaria	Greater Tussock Ling Heather Willowherb Red Fescue Meadowsweet	Sedge	0 D 0 0 F	
	Care. Callu Epilo Festu Filipe Holcu Juncu	x paniculata na vulgaris bium sp. ica rubra ndula ulmaria is lanatus	Greater Tussock Ling Heather Willowherb Red Fescue Meadowsweet Yorkshire Fog	Sedge	0 D 0 0 F 0	
	Care Callu Epilo Festu Filipe Holcu Juncu	x paniculata na vulgaris bium sp. ica rubra indula ulmaria is lanatus us acutiflorus	Greater Tussock Ling Heather Willowherb Red Fescue Meadowsweet Yorkshire Fog Sharp-flowered I	x Sedge	0 D 0 0 F 0 F	
	Care Callu Epilo Festu Filipe Holcu Juncu Juncu	x paniculata na vulgaris bium sp. ica rubra indula ulmaria is lanatus us acutiflorus us conglomeratus	Greater Tussock Ling Heather Willowherb Red Fescue Meadowsweet Yorkshire Fog Sharp-flowered I Compact Rush	k Sedge Rush	0 D 0 0 F 0 F F F	
	Care Callu Epilo Festu Filipe Holcu Juncu Juncu Lathy Molin	x paniculata na vulgaris bium sp. uca rubra indula ulmaria us lanatus us acutiflorus us conglomeratus irus pratensis	Greater Tussock Ling Heather Willowherb Red Fescue Meadowsweet Yorkshire Fog Sharp-flowered I Compact Rush Meadow Vetchlin	k Sedge Rush	0 D 0 0 F 0 F F F 0	
	Care. Callu Epilo Festu Filipe Holcu Juncu Juncu Lathy Molin Myric	x paniculata na vulgaris bium sp. uca rubra ndula ulmaria us lanatus us acutiflorus us conglomeratus rrus pratensis ia caerulea a gale s sylvestris	Greater Tussock Ling Heather Willowherb Red Fescue Meadowsweet Yorkshire Fog Sharp-flowered I Compact Rush Meadow Vetchlin Purple Moor Gra Bog Myrtle Scot's Pine	k Sedge Rush	0 D 0 F 0 F F 0 F 0 D A F	
	Care. Callu Epilo Festu Filipe Holcu Juncu Juncu Lathy Molim Myricu Pinus	x paniculata na vulgaris bium sp. uca rubra undula ulmaria us lanatus us acutiflorus us conglomeratus vrus pratensis ia caerulea a gale s sylvestris ntilla erecta	Greater Tussock Ling Heather Willowherb Red Fescue Meadowsweet Yorkshire Fog Sharp-flowered I Compact Rush Meadow Vetchlin Purple Moor Gra Bog Myrtle	k Sedge Rush	0 D 0 0 F 0 F F 0 F 0 D A	
	Care. Callu Epilo Festu Filipe Holcu Juncu Juncu Lathy Molim Myricu Pinus	x paniculata na vulgaris bium sp. uca rubra ndula ulmaria us lanatus us acutiflorus us conglomeratus rrus pratensis ia caerulea a gale s sylvestris	Greater Tussock Ling Heather Willowherb Red Fescue Meadowsweet Yorkshire Fog Sharp-flowered I Compact Rush Meadow Vetchlin Purple Moor Gra Bog Myrtle Scot's Pine	k Sedge Rush ng nss	0 D 0 7 7 7 0 7 7 0 0 0 0 A 7 0 0 0 0 0 0 0 0 0 0 0 0 0	
	Care. Callu Epilo Festu Filipe Holcu Juncu Juncu Lathy Molin Myric Pinus Poter	x paniculata na vulgaris bium sp. uca rubra undula ulmaria us lanatus us acutiflorus us conglomeratus vrus pratensis ia caerulea a gale s sylvestris ntilla erecta	Greater Tussock Ling Heather Willowherb Red Fescue Meadowsweet Yorkshire Fog Sharp-flowered I Compact Rush Meadow Vetchlin Purple Moor Gra Bog Myrtle Scot's Pine Tormentil	k Sedge Rush ng nss	0 D 0 7 7 7 7 7 7 0 7 7 0 0 0 0 0 7 7 7 0 0 7 7 7 0 7 7 7 0 7 7 7 7 7 7 7 7 7 7 7 7 7	
	Care. Callu Epilo Festu Filipe Holcu Juncu Juncu Lathy Molin Myric Pinus Poter	x paniculata na vulgaris bium sp. ica rubra indula ulmaria is lanatus us acutiflorus us conglomeratus irus pratensis ia caerulea a gale s sylvestris ntilla erecta ntilla palustris is fruticosus agg	Greater Tussock Ling Heather Willowherb Red Fescue Meadowsweet Yorkshire Fog Sharp-flowered I Compact Rush Meadow Vetchlin Purple Moor Gra Bog Myrtle Scot's Pine Tormentil Marsh Cinquefoi	k Sedge Rush ng nss	0 D 0 F 0 F 0 F 0 0 0 A F 0 0 F F 0 0 F F 7 0 7 7 7 7 7 7 7 7 7 7 7 7 7	
	Care. Callu Epilo Festu Filipe Holcu Juncu Juncu Juncu Juncu Juncu Juncu Poter Poter Rubu Salix	x paniculata na vulgaris bium sp. ica rubra indula ulmaria is lanatus us acutiflorus us conglomeratus irus pratensis ia caerulea a gale s sylvestris ntilla erecta ntilla palustris is fruticosus agg	Greater Tussock Ling Heather Willowherb Red Fescue Meadowsweet Yorkshire Fog Sharp-flowered I Compact Rush Meadow Vetchlin Purple Moor Gra Bog Myrtle Scot's Pine Tormentil Marsh Cinquefoi Bramble	k Sedge Rush ng nss	0 D 0 F 0 F F 0 D A F 0 D A F 0 0 D F F	
	Care Callu Epilo Festu Filipe Holcu Juncu Juncu Juncu Juncu Juncu Poter Poter Rubu Salix Ulex	x paniculata na vulgaris bium sp. uca rubra indula ulmaria us lanatus us acutiflorus us conglomeratus rrus pratensis ia caerulea a gale s sylvestris ntilla erecta ntilla palustris s fruticosus agg sp.	Greater Tussock Ling Heather Willowherb Red Fescue Meadowsweet Yorkshire Fog Sharp-flowered R Compact Rush Meadow Vetchlin Purple Moor Gra Bog Myrtle Scot's Pine Tormentil Marsh Cinquefoi Bramble Willow	k Sedge Rush ng nss	0 D 0 F 0 F 0 F 0 0 0 A F 0 0 F F 0 0 F F 7 0 7 7 7 7 7 7 7 7 7 7 7 7 7	





Image 2: Scrub WS1 and Mature Scots Pine

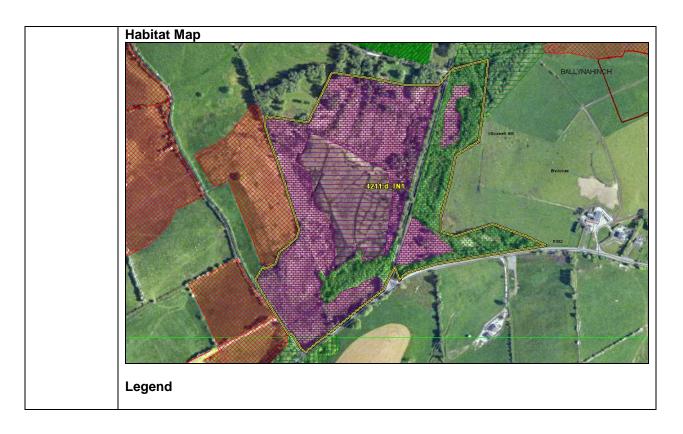
		TARGET NOTES – I	D No. 73			
Survey Title:	Mid Clare Hab	itat Mapping		Survey date: 30/06	/10	
Surveyor: Jen Fisher County nam				County name: Clar	e	
1:2,500 Sheet no: 4211-c Townland: Craggaunkeel				Grid Ref: 152182, 182626		
Target note	no.: TN7	.9ha				
		blogical interest in a local co lium mariscus and species o			itat 7210	
Habitat code FL4/FS1/ PF1	Craggaunkeel Lough is a small Mesotrophic Lake FL4 and an abundance of aqua vegetation was recorded in and around the lake, comprising Reed and large Sec Swamp FS1 and Rich Fen and Flush PF1. Beyond the wetland habitats the lake entirely surrounded by Broadleaf Woodland WD1, Conifer Plantation WD4 and Sc WS1					
		wetlands are linked with the en	Annex I	Habitat (EU Habitat	Directive) 7210	
	Species List					
		Species (Latin name)	Specie	s (common name)		
		Cladium mariscus		en Sedge		
		Equisetum sp.	Horseta			
		Iris pseudacorus		/ellowflag		
		Nuphar sp.	Water L		-	
		Phalaris arundinacea		Reed-Canary Grass		
		Potamogeton sp.	Pondwe		-	
		Schoenoplectus lacustris	Bulrush		-	
		Typha latifolia	Reedm	ace	J	
Habitat Map						
gaumke h			LIND			
Legend						

Photographic Record:



		TARGET NO	DTES – ID No. 7	4		
Survey Title:	: Mid Clare Habita	Survey date	e: 07/07/10			
Surveyor: Sh	nane O Neill			County nam	ne: Clare	
1:2,500 Sheet no: 4211-d Townland: Bally			ahinch	Grid Ref: 15	5136, 181250	
Target note no.: TN1			Area: 13ha		,	
Ecological Ir context. Cor 'Degraded ra	nterest: This are responds to Prica aised bogs still o	a is considered to ority Habitat, '*bog capable of natural	be of High Ecol woodland (91D regeneration'.	00)', 'active ra	ised bogs (7110)'	and
Habitat code PB4/PB1/ WN7/HD1/ FW4	intact area in been subject to the site. On the cutove (<i>Molinia caeru</i> Downy Birch ((HD1) occur of spread in to th	d Bog (PB1) which approximately 2 m to extensive drainag er area to the wes <i>llea</i>), with Bracken <i>Betula pubescens</i>). In the northern, eas e bog on all sides b	etres, as seen f ge works, with E t the vegetation (<i>Pteridium aqui</i> Patches of Bog stern and southe	rom peat ban Drainage Ditch is dominated <i>linum</i>), Bog M Woodland (W rn sides. Rho	ks. The intact are es (FW4) criss-cro d by Purple Moor- fyrtle (<i>Myrica gale</i> N7) and Dense Br dodendron is start	a ha ossin -gras e) an acke
	Species List: Species (Lat	tin name)	Species (com	mon name)	DAFOR Scale	1
			/	Frequent		
			Bog Rosemary	/	Frequent Dominant	
	Betula pubes	cens	Downy Birch	/	Dominant	-
	Betula pubes Calluna vulga	cens aris			Dominant Dominant	-
	Betula pubes	cens aris ana	Downy Birch Ling Hazel		Dominant	-
	Betula pubes Calluna vulga Corylus avell	cens aris ana media	Downy Birch Ling	Sundew	Dominant Dominant Frequent	-
	Betula pubes Calluna vulga Corylus avell Drosera inter	cens aris ana media	Downy Birch Ling Hazel Oblong-leaved	Sundew Sundew	Dominant Dominant Frequent Occasional	-
	Betula pubes Calluna vulga Corylus avell Drosera inter Drosera rotu	aris ana media ndifolia	Downy Birch Ling Hazel Oblong-leaved Round-leaved	Sundew Sundew Heath	Dominant Dominant Frequent Occasional Occasional Dominant	-
	Betula pubes Calluna vulga Corylus avell Drosera inter Drosera rotul Erica tetralix	aris ana media ndifolia angustifolium	Downy Birch Ling Hazel Oblong-leaved Round-leaved Cross-leaved I	Sundew Sundew Heath	Dominant Dominant Frequent Occasional Occasional Dominant Frequent	
	Betula pubes Calluna vulga Corylus avell Drosera inter Drosera rotul Erica tetralix Eriophorum a	aris ana media ndifolia angustifolium elsior	Downy Birch Ling Hazel Oblong-leaved Round-leaved Cross-leaved I Common Cotto	Sundew Sundew Heath on-grass	Dominant Dominant Frequent Occasional Occasional Dominant	
	Betula pubes Calluna vulga Corylus avell Drosera inter Drosera rotul Erica tetralix Eriophorum a Fraxinus exc	aris ana media ndifolia angustifolium elsior	Downy Birch Ling Hazel Oblong-leaved Round-leaved Cross-leaved I Common Cotte Ash	Sundew Sundew Heath on-grass	Dominant Dominant Frequent Occasional Occasional Dominant Frequent Frequent Abundant	
	Betula pubes Calluna vulga Corylus avell Drosera inter Drosera rotur Erica tetralix Eriophorum a Fraxinus exc Molinia caeru	aris ana media ndifolia angustifolium elsior Ilea	Downy Birch Ling Hazel Oblong-leaved Round-leaved Cross-leaved I Common Cotto Ash Purple Moor-g	Sundew Sundew Heath on-grass	Dominant Dominant Frequent Occasional Occasional Dominant Frequent Frequent	
	Betula pubes Calluna vulga Corylus avell Drosera inter Drosera rotul Erica tetralix Eriophorum a Fraxinus exc Molinia caeru Myrica gale Nardus stricta	acens aris ana media ndifolia angustifolium elsior Ilea	Downy Birch Ling Hazel Oblong-leaved Round-leaved Cross-leaved H Common Cotto Ash Purple Moor-g Bog Myrtle	Sundew Sundew Heath on-grass rass	Dominant Dominant Frequent Occasional Occasional Dominant Frequent Frequent Abundant Frequent	
	Betula pubes Calluna vulga Corylus avell Drosera inter Drosera rotul Erica tetralix Eriophorum a Fraxinus exc Molinia caeru Myrica gale	aris ana media ndifolia angustifolium elsior ilea a sssifragum	Downy Birch Ling Hazel Oblong-leaved Round-leaved Cross-leaved I Common Cotte Ash Purple Moor-g Bog Myrtle Mat-grass	Sundew Sundew Heath on-grass rass	Dominant Dominant Frequent Occasional Occasional Dominant Frequent Frequent Abundant Frequent Frequent	
	Betula pubesCalluna vulgaCorylus avellDrosera interDrosera rotulErica tetralixEriophorum aFraxinus excMolinia caeruMyrica galeNardus strictaNarthecium c	aris ana media ndifolia angustifolium elsior Ilea a sssifragum octa	Downy Birch Ling Hazel Oblong-leaved Round-leaved Cross-leaved H Common Cotto Ash Purple Moor-g Bog Myrtle Mat-grass Bog Asphodel	Sundew Sundew Heath on-grass rass	Dominant Dominant Frequent Occasional Occasional Dominant Frequent Frequent Abundant Frequent Frequent Abundant	
	Betula pubesCalluna vulgaCorylus avellDrosera interDrosera rotulErica tetralixEriophorum aFraxinus excMolinia caeruMyrica galeNardus strictaNarthecium cPotentilla ere	aris ana media ndifolia angustifolium elsior Ilea a sssifragum octa	Downy Birch Ling Hazel Oblong-leaved Round-leaved Cross-leaved H Common Cotto Ash Purple Moor-g Bog Myrtle Mat-grass Bog Asphodel Tormentil	Sundew Sundew Heath on-grass rass	Dominant Dominant Frequent Occasional Occasional Dominant Frequent Frequent Frequent Frequent Frequent Abundant Occasional	
	Betula pubesCalluna vulgaCorylus avellDrosera interDrosera rotulErica tetralixEriophorum aFraxinus excMolinia caeruMyrica galeNardus strictaNarthecium aPotentilla erePteridium aque	aris ana media media ndifolia angustifolium elsior Ilea a pssifragum ecta uilinum	Downy Birch Ling Hazel Oblong-leaved Round-leaved Cross-leaved I Common Cotte Ash Purple Moor-g Bog Myrtle Mat-grass Bog Asphodel Tormentil Bracken	Sundew Sundew Heath on-grass rass	Dominant Dominant Frequent Occasional Occasional Dominant Frequent Frequent Abundant Frequent Frequent Abundant Occasional Abundant	
	Betula pubesCalluna vulgaCorylus avellDrosera interDrosera rotulErica tetralixEriophorum aFraxinus excMolinia caeruMyrica galeNardus strictaNarthecium aPotentilla erePteridium aquQuercus sp.	aris ana media ndifolia angustifolium elsior ilea a ossifragum octa uilinum	Downy Birch Ling Hazel Oblong-leaved Round-leaved Cross-leaved I Common Cotto Ash Purple Moor-g Bog Myrtle Mat-grass Bog Asphodel Tormentil Bracken Oak	Sundew Sundew Heath on-grass rass	DominantDominantDominantFrequentOccasionalOccasionalDominantFrequentFrequentAbundantFrequentAbundantOccasionalAbundantOccasionalAbundantOccasionalAbundantOccasionalAbundantOccasional	
	Betula pubesCalluna vulgaCorylus avellDrosera interDrosera rotulErica tetralixEriophorum aFraxinus excMolinia caeruMyrica galeNardus strictaNarthecium aPotentilla erePteridium aquQuercus sp.Rhododendra	aris ana media ndifolia angustifolium elsior ilea a ossifragum octa uilinum	Downy Birch Ling Hazel Oblong-leaved Round-leaved Cross-leaved H Common Cotto Ash Purple Moor-g Bog Myrtle Mat-grass Bog Asphodel Tormentil Bracken Oak Rhododendror	Sundew Sundew Heath on-grass rass	Dominant Dominant Frequent Occasional Occasional Dominant Frequent Frequent Abundant Frequent Abundant Occasional Abundant Occasional Occasional Occasional	
	Betula pubesCalluna vulgaCorylus avellDrosera interDrosera rotulErica tetralixEriophorum aFraxinus exclMolinia caeruMyrica galeNardus strictaNarthecium oPotentilla erePteridium aquQuercus sp.RhododendroRhynchosporSalix sp.	aris ana media ndifolia angustifolium elsior ilea a ossifragum octa uilinum	Downy Birch Ling Hazel Oblong-leaved Round-leaved Cross-leaved I Common Cotte Ash Purple Moor-g Bog Myrtle Mat-grass Bog Asphodel Tormentil Bracken Oak Rhododendror White Beak Se	Sundew Sundew Heath on-grass rass	DominantDominantPrequentOccasionalOccasionalDominantFrequentFrequentAbundantFrequentAbundantOccasionalAbundantOccasionalAbundantOccasionalAbundantOccasionalAbundantOccasionalAbundantOccasionalAbundantOccasionalAbundant	

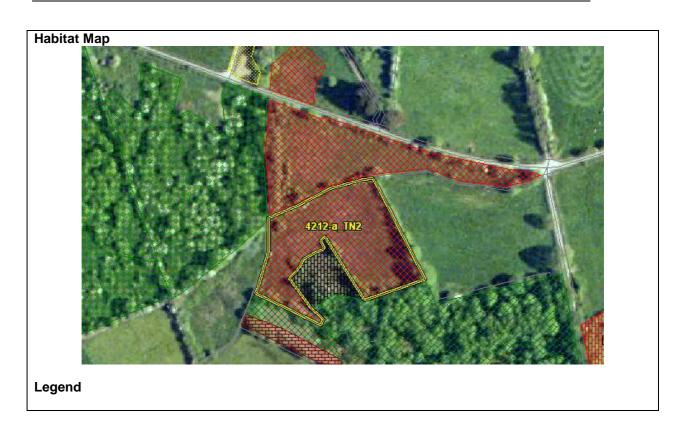




	TAR	GET NOTES – ID No. 75			
Survey Title:	Mid Clare Habitat Mapping		Survey date: 30/06/10		
Surveyor: Jo	hn Curtin		County name: Clare		
1:2,500 Shee	t no: 4212-a Townland: F	Ross	Grid Ref: 157220, 182968		
Target note r	10.: TN1	Area: 1.9ha			
Ecological In	terest: Moderate ecologica	al interest in a local cont	ext.		
Habitat code	Species-diverse Marsh GM some poaching from horses		river. The field is hummocky with ghout the area.		
GM1	Purple Moor-grass (Molinia bedstraw (Galium palustre)	<i>caerulea</i>), Lesser spearwa and Water Mint (<i>Mentha</i> a			
	Areas of exposed limestone water may be base-rich. Str Species List		est (TN3) indicating that the ground wet grasslands.		
	Species (Latin name)	Species (common nan	ne) DAFOR Scale		
	Agrostis sp	Bent grass	Occasional		
	Cardamine pratensis	Lady's Smock	Occasional		
	Carex echinata	Star Sedge	Occasional		
	Carex hirta	Hairy Sedge	Occasional		
	Carex panicea	Carnation sedge	Frequent		
	Carex viridula	Yellow Sedge	Occasional		
	Cirsium paluste	Marsh-thistle	Occasional		
	Dactylorhiza sp.	Orchid	Occasional		
	Deschampsia flexuosa	Wavy Hair-grass	Occasional		
	Eriophorum vaginatum	Hare's-tail Cottongrass	Occasional		
	Filipendula ulmaria	Meadowsweet	Occasional		
	Galium palustre	Marsh-bedstraw	Occasional		
	Juncus conglomeratus	Compact rush	Occasional		
	Juncus effusus	Soft Rush	Abundant		
	Lychnis flos-cuculi	Ragged Robin	Occasional		
	Mentha aquatica	Water Mint	Occasional		
	Molinia caerulea	Purple Moor-grass	Occasional		
	<i>Mysotis</i> sp.	Forget-me-not	Occasional		
	Potentilla erecta	Tormentil	Occasional		
	Prunella vulgaris	Self-heal	Occasional		
	Ranunculus flammula	Lesser spearwort	Occasional		
	Rumex sp	Sorrel sp	Occasional		
	Taraxacum sp	Dandelion sp	Occasional		
	Trifolium repens	White clover	Occasional		



	TARC	GET NOTES – ID No. 76	
Survey Title	e: Mid Clare Habitat Mapping		Survey date: 30/06/10
Surveyor: J	ohn Curtin		County name: Clare
1:2,500 She	et no: 4212-a Townland: D	rumminnanav	Grid Ref: 156519, 182782
Target note	no.: TN2	Area: 0.8ha	
Ecological	Interest: Moderate ecologica	I interest in a local conte	ext.
Habitat code	Peaty wet grassland with so Species List	me fen characteristics. Sv	vard height of approx 2ft.
GS4	Species (<i>Latin</i> name)	Species (common nam	ne) DAFOR Scale
	Anthoxanthum odoratum	Sweet Vernal-grass	Frequent
	Bryophyte	Moss spp	Frequent
	Carex spp.	Sedges	Occasional
	Cirsium palustre	Marsh-thistle	Occasional
	Filipendula ulmaria	Meadowsweet	Occasional
	Holcus lanatus	Yorkshire Fog	Occasional
	Juncus articulatus	Jointed Rush	Abundant
	Lotus pendunculatus	Greater Birds-foot-trefoi	l Occasional
	Luzula sylvatica	Wood-rush, great	Occasional
	Plantago lanceolata	Ribwort Plantain	Frequent
	Poa sp	Meadow-grass	Occasional
	Rumex sp	Sorrel sp	Occasional
	Stellaria media	Common Chickweed	Occasional
	Taraxacum sp	Dandelion sp	Occasional
	Trifolium repens	White clover	Occasional

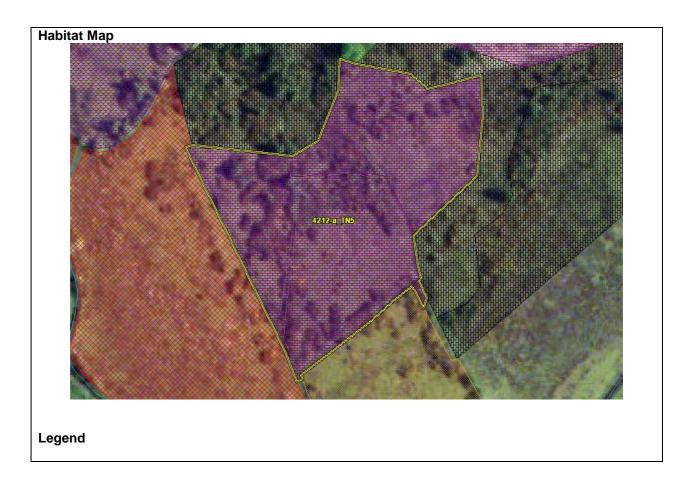


		TAR	GET NOTES - ID N	o. 77		
Survey Title:	Mid Clare Ha	bitat Mapping		Su	rvey date: 30/06/10	
Surveyor: Jo	hn Curtin		Cou		ounty name: Clare	
1:2,500 Shee	t no: 4212-a	Townland: A	nnagh/Drumminnar	nav Gr i	id Ref: 156265, 182797	
Target note r	10.: TN3		Area: 7.1ha	a		
	any Annex I	habitat, it is ve			Although this habitat type is ad and is therefore of high	
Habitat code	moss specie	es. Ash (<i>Ėraxin</i>		nates the	earance with a high proportion of canopy with frequent Hawthorn	
WN2	This habitat (WS1).	forms a mosaic	with Dry Neutral an	nd Calcare	eous Grassland (GS1) and Scrub	
	Species Lis	t				
	Species (L	<i>atin</i> name)	Species (commo	on name)	DAFOR Scale	
	Arum macu	ılatum	Lord and Ladies		Occasional	
	Bryophyte		Moss spp		Abundant	
	Crataegus	monogyna	Hawthorn		Frequent	
	Fraxinus excelsior		Ash		Dominant (Canopy)	
	Geranium r	robertianum	Herb Robert Ivy Orchid (In fruit) Blackthorn Bramble Violet sp		Frequent	
	Hedera hel	ix			Frequent Rare	
	Orchidacea	ne				
	Prunus spii	nosa			Occasional	
	Rubus fruti	cosus agg.			Occasional Occasional	
	Viola sp					
Habitat Map			4212- a_T\\3			
Legend						

	IAR	GET NOTES – ID No. 78	
Survey Titl	e: Mid Clare Habitat Mapping		Survey date: 30/06/10
Surveyor:	John Curtin		County name: Clare
1:2,500 She	eet no: 4212-a Townland:	Drumminnanav	Grid Ref: 157020, 182899
Target note	e no.: TN4	Area: 0.67ha	
_			
Habitat	Rich Fen and Flush habitat	on peaty substrate near t	he Cloghaun river. Sedges and
code			a) and Watermint (<i>Mentha aquat</i>
			ne east of this area, adjacent to a
PF1	drainage ditch. A species c	or Spotted-Orchid (Dactyloi	rhiza sp.) was recorded at this sit
	Species List		
	Species (Latin name)	Species (common nar	
	Anthoxanthum odoratum	Sweet Vernal-grass	Frequent
	Carex echinata	Star Sedge	Frequent
	Carex nigra	Common Sedge	Occasional
	Carex panicea	Carnation sedge	Frequent
	Carex viridula	Yellow sedge	Frequent
	Cirsium paluste	Marsh-thistle	Occasional
	Dactylorhiza sp.	Orchid	Rare
	Galium palustre	Marsh-bedstraw	Occasional
	Holcus lanatus	Yorkshire Fog	Frequent
	Juncus articulatus	Jointed Rush	Abundant
	Mentha aquatica	Water Mint	Frequent
	Plantago lanceolata	Ribwort Plantain	Frequent
	Potentilla anserina	Silverweed	Frequent
	Potentilla erecta	Tormentil	Occasional
	Potentilla palustris	Marsh Cinquefoil	Occasional
	Ranunculus flamula	Lesser spearwort	Frequent
	Ranunculus repens	Creeping buttercup	Frequent
	Salix sp	Willow	Occasional
	Trifolium repens	White clover	Occasional



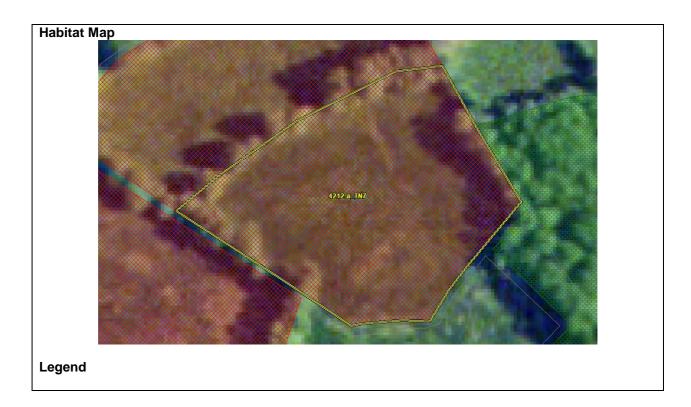
			ES – ID No. 79			
id Clare Habita		Surve	y date: 01/07/10			
Surveyor: John Curtin					y name: Clare	
o: 4212-a	Townland: De	errynah	rrynaheila Grid Ref: 157567, 183547			
.: TN5		Area: 1.4ha				
ed bogs still ca he Rhynchosp	apable of natu porion (7150) a	ral reg and <mark>An</mark> i	eneration (7120) nex 1 Priority Ha	, Depro	essions on peat Active raised bogs (7110	
throughout the bulldozed are Active work is	his area. Muc ea to the sout s ongoing in the	h of si h may e surrou	urrounding area be classified as inding area with i	has b Recolo mini-dig	been reclaimed. A recen ponising bare ground (ED3 gger.	
grassland (G	S4) to the west		,		DAFOR Scale	
,		•	•	ine)	Frequent	
	um odoratum				Occasional	
Antinoxantin			9		Abundant	
Calluna vuli	narie		зрр		Frequent	
		-	Sedae		Occasional	
			•		Occasional	
					Occasional	
			<u> </u>		Occasional	
-					Occasional	
	•		-		Abundant	
			,		Occasional	
-	-				Occasional	
Juncus artic	ulatus				Frequent	
					Abundant	
		· ·			Occasional	
	•	-			Frequent	
					Frequent	
Taraxacum	•		elion sp		Frequent	
Ulex sp		Gorse			Frequent	
	o: 4212-a : TN5 rest: High eco d bogs still ca re Rhynchosp Section of ac throughout th bulldozed are Active work is This habitat grassland (GS Species List Species List Species (La Agrostis sp Anthoxanthu Calluna vulg Carex echin Carex hostia Carex panic Cladonia sp Dactylorhiza Erica tetralix Erica tetralix Ericophorum Galium veru Juncus artic Molinia caer Narthecium	o: 4212-aTownland: DoTN5rest: High ecological interedd bogs still capable of natured bogs still capable of naturene Rhynchosporion (7150) aSection of active raised bothroughout this area. Mucbulldozed area to the soutActive work is ongoing in theThis habitat grades into Ggrassland (GS4) to the westSpecies ListSpecies (Latin name)	o: 4212-aTownland: Derrynahi: TN5Image: TN5rest: High ecological interest in a d bogs still capable of natural rege ne Rhynchosporion (7150) and Ann Section of active raised bog to the throughout this area. Much of str bulldozed area to the south may Active work is ongoing in the surrouThis habitat grades into Gorse (L grassland (GS4) to the west.Species ListSpecies ListSpecies ListSpecies ListCarex echinataCarex hostianaCarex hostianaCarex paniceaCarex paniceaCarex paniceaCarea fortina spLicherDactylorhiza sp.OrchitErica tetralixHeathEriophorum vaginatumHaresGalium verumLady's Juncus articulatusJointe Molinia caeruleaPotentilla erectaTorme	o: 4212-a Townland: Derrynaheila : TN5 Area: 1.4ha rest: High ecological interest in a national context dogs still capable of natural regeneration (7120) ne Rhynchosporion (7150) and Annex 1 Priority Ha Section of active raised bog to the south west of throughout this area. Much of surrounding area bulldozed area to the south may be classified as Active work is ongoing in the surrounding area with of surrounding area (GS4) to the west. Species List Species (Latin name) Species (common nather area (GS4) to the west. Species List Species (Latin name) Species (common nather area (GS4) to the west. Species List Species (Catin name) Species (common nather area (GS4) to the west.	o: 4212-aTownland: DerrynaheilaGrid R: TN5Area: 1.4harest: High ecological interest in a national context. Linked d bogs still capable of natural regeneration (7120), Depr he Rhynchosporion (7150) and Annex 1 Priority Habitat *Section of active raised bog to the south west of the mathroughout this area. Much of surrounding area has buildozed area to the south may be classified as Recold Active work is ongoing in the surrounding area with minidigThis habitat grades into Gorse (Ulex) scrub (WS1) to the grassland (GS4) to the west.Species ListSpecies ListSpecies ListCalluna vulgarisLingCarex echinataStar SedgeCarex hostianaTawny sedgeCarex paniceaCarex paniceaCarex paniceaCarex paniceaCarea tetralixHeath, cross-leavedEriophorum vaginatumHares-tail CottongrassGalium verumLady's BedstrawJuncus articulatusJointed RushMolinia caeruleaPurple Moor-grassNarthecium ossifragumBog asphodelPotentilla erectaTormentil	



		TARG	ET NOTES	– ID No. 80			
Survey Title: Mid Clare Habitat Mapping Surveyor: John Curtin					Survey date: 01/07/10		
Surveyor: John Curtin 1:2,500 Sheet no: 4212-a Townland: Derrynaheila					County name: Clare		
1:2,500 Shee	et no: 4212-a	Townland: De	rrynaheila	rynaheila Grid Ref: 157687, 183819			
Target note	no.: TN6		Area	: 4.3ha			
Degraded ra	ised bogs still of the Rhyncho	capable of nat sporion (7150)	ural regene and Annex	eration (712 1 Priority I	ext. Linked to Annex 1 habitat 0), Depressions on peat Habitat *Active raised bogs (7110)		
code	height of up t		nve – Spha	gnum moss	es occur throughout the site. Sward		
PB1	Species List						
	Species (La	atin name)	Species (name)	common	DAFOR Scale		
	Calluna vulg	garis	Ling		Abundant		
	Carex panio		Carnation		Frequent		
	Drosera rot			aved Sundev	w Occasional		
	Eleocharis s		Spike rush		Occasional		
	Erica cinere	a	Bell Heather		Occasional		
	Erica tetraliz	K	Heath, cross-leaved		Abundant		
	Molinia cae	rulea	Purple Moor-grass		Abundant		
	Myrica gale		Bog-myrtle		Frequent		
	Narthecium	ossifragum	Bog asphodel		Frequent		
	Rhynchospe	ora alba	White Beak-sedge		Frequent		
	Sphagnum	•	Peat moss		Frequent		
	Trichophoru	ım cespitosum	Deergrass	6	Frequent		
				<u></u>			



	: Mid Clare Habitat Mapping	Survey date: 01/07/10			
Surveyor: Jo		County name: Clare			
1:2,500 Sheet no: 4212-a Townland: Derrynaheila			Grid Ref: 157400, 183834		
Target note	no.: TN7	Area: 0.5ha			
	nterest: High Ecological Imp to any Annex I Habitats	ortance in a local contex	t. This habitat does not		
Habitat) characteristics and occasic			
code	limestone outcropping. W	Vet grassland species include Meadowsweet (Filipenc			
GS4/PF1			g Buttercup (<i>Ranunculus repens</i> he site include; Marsh Cinque		
004/111			<i>ilea)</i> and Great Wood-rush (<i>Luz</i>		
	Species List				
	Species (Latin name)	Species (common name	•		
	Agrostis sp	Bent grass	Occasional		
	Anthoxanthum odoratum	Sweet Vernal-grass	Frequent		
	Carex echinata	Star Sedge	Occasional		
	Carex nigra	Common Sedge	Occasional		
	Dactylorhiza sp.	Orchid	Occasional		
	Equisetum sp	Horsetail	Occasional		
	<i>Euphrasia</i> sp.	Eyebright	Occasional		
	Filipendula ulmaria	Meadowsweet	Occasional		
	Galium palustre	Marsh-bedstraw	Occasional		
	Holcus lanatus	Yorkshire Fog	Occasional		
	Juncus articulatus	Jointed Rush	Abundant		
	Lathyrus pratensis	Meadow Vetchling	Occasional		
	Luzula sylvatica	Great Wood-rush	Frequent		
	Molinia caerulea	Purple Moor-grass	Frequent		
	Plantago lanceolata	Ribwort Plantain	Occasional		
	Poa sp	Meadow-grass	Occasional		
	Potentilla anserina	Silverweed	Occasional		
	Potentilla erecta	Tormentil	Frequent		
	Potentilla palustris	Marsh Cinquefoil	Occasional		
	Ranunculus repens	Creeping buttercup	Frequent		
	Rhinanthus minor	Yellow-rattle	Occasional		
	Rumex sp	Sorrel sp	Occasional		
	Sisyrinchium bermudiana	Blue-eyed grass	Occasional		
	Sphagnum sp	Bog Moss	Frequent		
	Taraxacum sp	Dandelion sp	Occasional		
	Trifolium pratense	Red Clover	Occasional		
	Vicica cracca	Tufted Vetch	Occasional		



Survoy Titlo		GET NOTES – ID No. 82		
Survey Title: Mid Clare Habitat Mapping			Survey date: 01/07/10	
Surveyor: Jo	ohn Curtin	County name: Clare		
1:2,500 Shee	et no: 4212-a Townland: Re	oss Grid Ref: 156967, 183584		
Target note	no.: TN8	Area: 2.8ha		
	to any Annex I Habitats Mosaic habitat of Dry neutra (ER2) and scrub (WS1).		(GS1) with limestone outcroppi	
GS1/ ER2/WS1	The grassland had a short sward and contained species such as; Yarrow (<i>Achilli millefolium</i>), Bird's-foot Trefoil (<i>Lotus corniculatus</i> ,) and Quaking-grass (<i>Briza media</i>). Scrub present was dominated by Bramble (<i>Rubus fruticosus</i>), Hawthorn (<i>Crataeg monogyna</i>) and Hazel (<i>Corylus avellana</i>).			
	Species List Species (<i>Latin</i> name)	Species (common name) DAFOR Scale	
	Leucanthemum vulgare	Ox-eye Daisy	Occasional	
	Achillea millefolium	Yarrow	Frequent	
	Anthoxanthum odoratum	Sweet Vernal-grass	Frequent	
	Briza media	Quaking-grass	Occasional	
	Cirsium sp	Thistle	Occasional	
	Corylus avellana	Hazel	Frequent	
	Crataegus monogyna	Hawthorn	Frequent	
	Cynosurus cristatus	Crested Dogs-tail	Occasional	
	Arrhenatherum elatius	False Oat-grass	Frequent	
	Juncus effusus	Soft Rush	Occasional	
	Lolium perenne	Rye-grass, perennial	Occasional	
	Lotus corniculatus	Birds-foot-trefoil	Frequent	
	Plantago lanceolata	Ribwort Plantain	Abundant	
	Prunella vulgaris	Self-heal	Occasional	
	Ranunculus repens	Creeping buttercup	Occasional	
	Rubus fruticosus	Bramble	Frequent	
	Trifolium pratense	Red Clover	Occasional	
	Trifolium repens	White clover	Frequent	



Survey Title	e: Mid Clare Habitat Mapping	S	irvey date: 02/07/10	
Surveyor: J			ounty name: Clare	
			•	
		,		
	Interest: High ecological inte			
	adows on calcareous, peaty o			
Habitat code GS4	Interesting grassland bordering a large section of raised bog/ cutover bog to east. Wettest to the north towards road. Burnt remains of bramble (<i>Rubus fructicosa</i>) and gorse (<i>Ulex</i>) can be seen throughout indicating some management or, indeed, mis- management by indiscriminate burning. <i>Molinia</i> tussocks dominate. <i>Molinia</i> responds burning by increasing in abundance since its growing points are protected from the fire deep within the tussock.			
	Species List Species (<i>Latin</i> name)	Species (common name)	DAFOR Scale	
	Angelica sylvestris	Wild Angelica	Frequent	
	Anthoxanthum odoratum	Sweet Vernal-grass	Frequent	
	Carex hostiana	Tawny sedge	Frequent	
	Carex pendula	Pendulous Sedge	Occasional	
	Carex pulicaris	Flea Sedge	Occasional	
	Cirsium palustre	Marsh-thistle	Occasional	
	Dactylis glomerata	Cocksfoot	Occasional	
	Dactylorhiza sp.	Orchid	Occasional	
	Deschampsia flexuosa	Hair-grass, wavy	Occasional	
	Filipendula ulmaria	Meadowsweet	Frequent	
	Galium palustre	Marsh-bedstraw	Occasional	
	Holcus lanatus	Yorkshire Fog	Occasional	
	Iris pseudacorus	Yellow Iris	Frequent	
	Juncus articulatus	Jointed Rush	Frequent	
	Lotus pendunculatus	Greater Birds-foot-trefoil	Frequent	
	Luzula multiflora	Heath Woodrush	Occasional	
	Molinia caerulea	Purple Moor-grass	Abundant	
	Poa sp	Meadow-grass	Occasional	
	Potentilla erecta	Tormentil	Frequent	
	Rubus fruticosus	Bramble	Occasional	
	Salix	Willow	Occasional	
	Taraxacum sp	Dandelion sp	Occasional	
	Trifolium pratense	Red Clover	Occasional	
	Vicia cracca	Tufted Vetch	Occasional	



	TARG	ET NOTES – ID No. 84			
Survey Title	e: Mid Clare Habitat Mapping		Survey date: 02/07/10		
Surveyor: J	ohn Curtin		County name: Clare		
1:2,500 She	et no: 4212-a Townland: R	oss Grid Ref: 157950, 18326			
Target note	no.: TN10	Area: 2.3ha			
			xt. Linked to Annex 1 habitat		
<i>Molinia</i> mea Habitat	adows on calcareous, peaty o		s (Molinion caeruleae) (6410) i river. Lies adjacent to large raised		
code			fire grassland to the south east.		
~ ~/					
GS4	Species List Species (<i>Latin</i> name)	Species (common nar	me) DAFOR Scale		
	Angelica sylvestris	Wild Angelica	Occasional		
	Arrhenatherum elatius	False Oat-grass	Rare		
	Carex echinata	Star Sedge	Occasional		
	Carex hostiana	Tawny Sedge	Occasional		
	Carex nigra	Common Sedge	Occasional		
	Carex pulicaris	Flea Sedge	Occasional		
	Cirsium palustre	Marsh-thistle	Occasional		
	Cirsium sp	Thistle sp	Frequent		
	Dactylorhiza sp.	Orchid	Occasional		
	Deschampsia flexuosa	Wavy Hair-grass	Occasional		
	Eleocharis sp	Spike-rush	Occasional		
	Equisetum sp	Horsetail	Occasional		
	Eriophorum angustifolium	Common Cottongrass	Occasional		
	Filipendula ulmaria	Meadowsweet	Frequent		
	Galium palustre	Marsh-bedstraw	Rare		
	Glyceria fluitans	Floating Sweet-grass	Frequent		
	Holcus lanatus	Yorkshire Fog	Occasional		
	Juncus acutiflorus	Sharp-flowered Rush			
	Lychnis flos-cuculi	Ragged Robin	Frequent Occasional		
	Molinia caerulea	Purple Moor-grass	Abundant		
	Plantago lanceolata	Ribwort Plantain	Occasional		
	Potentilla palustris	Marsh Cinquefoil	Rare		
	Ranunculus flammula	Lesser spearwort	Rare		
			Occasional		
	Ranunculus repens Rhinanthus minor	Creeping buttercup Yellow-rattle			
	Taraxacum sp	Dandelion sp	Rare Occasional		
	Trifolium sp	Clover sp	Occasional		
	Vicia cracca	Tufted Vetch	Occasional		
			Occasional		



on calcareous, peaty o ies-rich Wet Grasslan <i>ulea</i>) dominates. Cocks sionally to be found.	Con oss Gri Area: 1.2ha rest in a national context. L or clayey-silt-laden soils (Ma d near the Cloughaun rive		
212-a Townland: Ro 11 High ecological inte on calcareous, peaty o ies-rich Wet Grasslan <i>ulea</i>) dominates. Cocks sionally to be found.	Area: 1.2ha Area: 1.2ha rest in a national context. L or clayey-silt-laden soils (Mo d near the Cloughaun rive	d Ref: 157838, 182797 inked to Annex 1 habitat plinion caeruleae) (6410) er. Purple Moor-grass (<i>Molin</i>	
N11 High ecological inte on calcareous, peaty o ies-rich Wet Grasslan <i>ulea</i>) dominates. Cocks sionally to be found.	Area: 1.2ha rest in a national context. L or clayey-silt-laden soils (Me d near the Cloughaun rive	inked to Annex 1 habitat blinion caeruleae) (6410) er. Purple Moor-grass (<i>Molii</i>	
: High ecological inte on calcareous, peaty o ties-rich Wet Grasslan ulea) dominates. Cocks sionally to be found.	rest in a national context. L or clayey-silt-laden soils (Ma d near the Cloughaun rive	<mark>plinion caeruleae) (6410)</mark> er. Purple Moor-grass (<i>Molii</i>	
on calcareous, peaty o ies-rich Wet Grasslan <i>ulea</i>) dominates. Cocks sionally to be found.	o <mark>r clayey-silt-laden soils (M</mark> d near the Cloughaun rive	<mark>plinion caeruleae) (6410)</mark> er. Purple Moor-grass (<i>Molii</i>	
ulea) dominates. Cocks sionally to be found.			
·iae l iet			
cies List ecies (<i>Latin</i> name)	Species (common name)	DAFOR Scale	
nillea millefolium	Yarrow	Occasional	
hoxanthum odoratum	Sweet Vernal-grass	Frequent Occasional	
tylis glomerata	Cocks-foot		
tylorhiza sp.	Spotted-Orchid	Occasional	
schampsia flexuosa	Wavy Haired-grass	Occasional	
bendula ulmaria	Meadowsweet	Frequent	
acleum sphondylium	Hogweed	Occasional	
cus lanatus	Yorkshire Fog	Occasional	
hyrus pratensis	Meadow Vetchling	Occasional	
us pendunculatus	Greater Birds-foot-trefoil	Occasional	
linia caerulea	Purple Moor-grass	Dominant	
nella vulgaris	Self-heal	Frequent	
ridophyta	Fern	Occasional	
nunculus repens	Creeping buttercup	Occasional Occasional	
nex sp	Sorrel sp		
llaria media	Common Chickweed	Occasional	
a sp	Vetch	Occasional	
	illea millefolium noxanthum odoratum tylis glomerata tylorhiza sp. champsia flexuosa nendula ulmaria acleum sphondylium cus lanatus nyrus pratensis is pendunculatus inia caerulea nella vulgaris ridophyta nunculus repens nex sp laria media	illea millefoliumYarrownoxanthum odoratumSweet Vernal-grasstylis glomerataCocks-foottylorhiza sp.Spotted-Orchidchampsia flexuosaWavy Haired-grassendula ulmariaMeadowsweetacleum sphondyliumHogweedcus lanatusYorkshire Fognyrus pratensisMeadow Vetchlinginia caeruleaPurple Moor-grassnella vulgarisSelf-healridophytaFernnunculus repensCreeping buttercupnex spSorrel splaria mediaCommon Chickweed	



		TARGET NO	OTES – ID No. 86			
Survey Title: Mid Clare Habitat Mapping				Survey date: 05/07/10		
Surveyor: John Curtin				County name: Clare		
1:2,500 Sheet no: 4212-b Townland: Coolreag			agh Grid Ref: 156260, 183860			
Target note no.: TN1			Area: 12.62ha			
		ecological interest ir				
Molinia mead Habitat	dows on calc	areous, peaty or clay	ey-silt-laden soils	s (Molinion	caeruleae) (6410)	1
GS4	southern bar intact bog lie (see Target diverse plan Cinquefoil, (nated wet grassland th hks of the Cloghaun riv s to the east. To the s Notes 4212-a_TN9 an t community including; Potentilla palustris) and	ver. A large area o outhwest lies large d TN10) can also l Lesser Butterfly C	f cutover Ra areas of div be found. Th Drchid (<i>Plata</i>	ised Bog PB1 with verse wet grasslan nis site supports a <i>inthera bifolia</i>), Ma	some ids
	Species Lis	t cies (<i>Latin</i> name)	Species (comm	on name)	DAFOR Scale	1
	-	stis sp	Bent grass	on name)	Occasional	
		oxanthum odoratum	Sweet Vernal-gra	ass	Occasional	+
		x nigra	Common Sedge		Occasional	1
		x panicea	Carnation sedge		Frequent	-
		um dissectum	Meadow-thistle		Occasional	-
	Cirsi	um palustre	Marsh-thistle		Occasional	1
		ylorhiza sp.	Orchid		Occasional	1
	Desc	hampsia flexuosa	Wavy Hair- grass	3	Frequent	1
	Eleo	charis sp	Spike-rush		Occasional	
	Equi	setum sp	Horsetail		Occasional	
	Filipe	endula ulmaria	Meadowsweet		Frequent	
	Galiu	ım palustre	Marsh-bedstraw		Occasional	
	Hera	cleum sphondylium	Hogweed		Rare	
	Holc	us lanatus	Yorkshire Fog		Occasional	
	Iris p	seudacorus	Yellow Iris		Occasional	
	Junc	us articulatus	Jointed Rush		Abundant	1
	Junc	us effusus	Soft Rush		Occasional]
	Lotus	s pendunculatus	Greater Birds-foo	ot-trefoil	Occasional]
	Men	ha aquatica	Water Mint		Occasional	1
	Molir	nia caerulea	Purple Moor-gras	SS	Dominant]
	Plata	nthera bifolia	Lesser butterfly of	orchid	Rare]
		ntilla anserina	Silverweed		Occasional	
		ntilla erecta	Tormentil		Frequent	
		ntilla palustris	Marsh Cinquefoil		Occasional	
		cus sp	Oak		Rare	
	Ranı	inculus repens	Creeping butterc	up	Rare	
		ex sp	Sorrel sp		Occasional	
	Salix	•	Willow		Occasional	
	Spar	ganium erectum	Branched Bur-re	ed	Occasional	

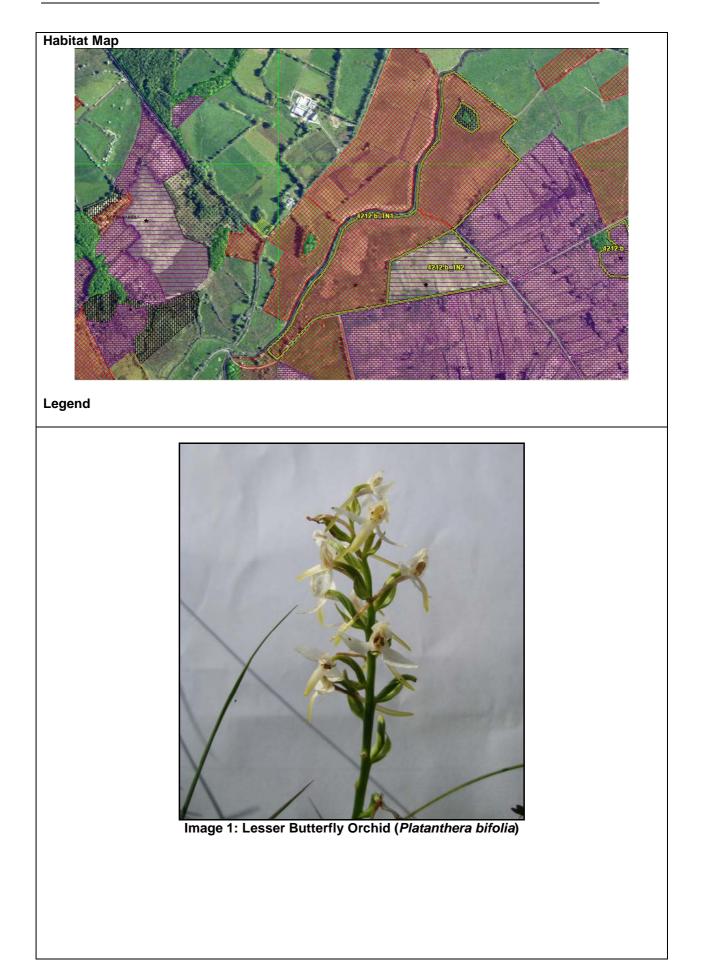
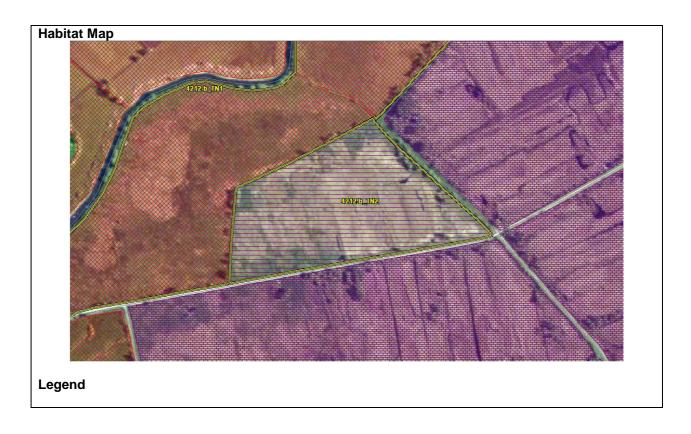




Image 2: Overview of Wet Grassland Habitat GS4 on banks of Cloghaun River

ourvey mile.	Mid Clare Habitat Mappir	Ig	Survey date: 05/07/10			
Surveyor: Jo	••	-	County name: Clare			
1:2,500 Shee		: Coolreagh	Grid Ref: 158420, 183730			
Target note i		Area: 3.6ha	,,,			
Ecological In Degraded rai	terest: High ecological	interest in a national co	ontext. Linked to Annex 1 habitat (7120) and Annex 1 Priority Habitat			
code PB1	Small section of Raised Bog PB1, which has been subject to some peat cuttir recent burning, represented by burnt Willow (<i>Salix</i>) and Ling heather (<i>Calluna</i> The bog is active however, with <i>Sphagnum</i> hummocks and mosses dominating					
FDI	ground layer. Purple Mo		ea) is dominant and Lesser Butterfly			
	Species List					
	Species (<i>Latin</i> name)	Species (common	· · · · · · · · · · · · · · · · · · ·			
	Anthoxanthum odoratu	5				
	Calluna vulgaris	Ling	Occasional			
	Carex flacca	Glaucous Sedge	Occasional			
	Carex nigra	Common Sedge	Frequent			
	Carex viridula	Yellow Sedge	Occasional			
	Dactylorhiza sp.	Orchid	Frequent			
	Erica tetralix	Heath, cross-leave				
	Eriophorum angustifoli	-				
	Luzula sylvatica	Great Wood-rush	Occasional			
	Molinia caerulea	Purple Moor-grass				
	Myrica gale	Bog-myrtle	Occasional			
	Narthecium ossifragum		Frequent			
	Platanthera bifolia	Lesser Butterfly ord				
	Poa sp	Meadow-grass	Occasional			
	Polygala vulgaris	Common Milkwort	Rare			
	Potentilla erecta Potentilla palustris	Tormentil Moreh Cinquefeil	Abundant			
		Marsh Cinquefoil Willow	Occasional			
	Salix sp		Occasional			
	Sphagnum sp Trichophorum	Peat moss	Abundant Occasional			
		Deergrass	Occasional			



		TARGET N	OTES – ID No. 88		
Survey Title	: Mid Clare Ha	bitat Mapping		Survey da	ate: 05/07/10
Surveyor: Jo	ohn Curtin			County na	ame: Clare
1:2,500 Shee	et no: 4212-b	Townland: Coolrea	agh	Grid Ref:	158930, 183620
Target note	no.: TN3		Area: 95.12ha		
	ised bogs sti	ecological interest i Il capable of natural			
code PB4/ WN7	managemer	of Cutover Bog PB4. It. Patches of Bog woo ense Bracken (HD1) a	odland (WN7) lie to	the east ar	d west with a small
	Species Lis	t			
		cies (<i>Latin</i> name)	Species (comm	on name)	DAFOR Scale
	Anth	oxanthum odoratum	Sweet Vernal-gra	ass	Frequent
	Call	ına vulgaris	Ling		Occasional
	Care	ex echinata	Star Sedge		Occasional
	Care	ex hostiana	Tawny Sedge		Occasional
	Care	ex viridula	Yellow Sedge		Occasional
	Cirsi	um palustre	Marsh-thistle		Occasional
	Daci	ylorhiza sp.	Orchid		Rare
	Epilo	bium sp	Willowherb		Occasional
	Erica	a cinerea	Heather, bell		Occasional
	Erica	a tetralix	Heath, cross-lea	ved	Occasional
	Gali	um palustre	Marsh-bedstraw		Occasional
	Hold	us lanatus	Yorkshire Fog		Occasional
		ericum pulcrum	Slender St. John	's-wort	Occasional
		us articulatus	Jointed Rush		Frequent
	Luzi	ıla sylvatica	Great Wood-rush	n	Occasional
	Men	tha aquatica	Water Mint		Occasional
	Moli	nia caerulea	Purple Moor-gras	SS	Abundant
	Poa		Meadow-grass		Occasional
		ntilla erecta	Tormentil		Frequent
		idium	Bracken		Frequent
	Rub	us fruticosus	Bramble		Occasional
	Ulex	sp	Gorse		Occasional



			IOTES –	D No.'s 89a	& 89b		
Survey Tit	le: Mid Clare Hab	itat Mapping			Surv	ey date: 05/0	07/10
Surveyor:	John Curtin				Cour	nty name: Cla	are
1:2,500 Sh	eet no: 4212-b	Townland: C	oolreagh		Grid	Ref: 159460, 158520,	
Target not	e no.: TN4		A	r ea: 15ha			
Degraded	l Interest: High e raised bogs still s of the Rhyncho	capable of na	tural rege	eneration (71	120), De	pressions on	n peat
Habitat code PB1	Two areas of Bog PB4 (see on the southe banks. Typical specie <i>tetralix)</i> , Deer (<i>Narthecium of</i> <i>alba</i>). The sw This area of b altered signifi contains very Due to the lac	intact Raised E 4212-b_TN3) ern end of the s grass (<i>Trichop</i> ossifragum), Su rard height is a oog has been d cantly. As a res little Bog Moss ck of peat-form ertheless, due	Bog PB1 w which is t ite. Peat o le Ling (Ca horum ces undew (Dr oproximat rained and sult the ma s (Sphagn ing specie to the seve	which are local being actively lepths of at le alluna vulgari spitosum), Per osera sp) and ely 1-2ft. d cut away at ain area of int um spp.) and es such as Bo ere depletion	ated with cut. Sor east 3m a is), Cross eat-moss d White I the edg tact bog I there ar og Mosse of this A	in a larger are ne burning ha are evident or s-leaved Heat (<i>Sphagnum</i>) Beak-sedge (es and so dra has dried out re some patch es, this area o nnex I habita	ea of Cutover as also occurred n some cut ther <i>(Erica</i> , Bog Asphodel <i>Rhynchospora</i> ainage has beer somewhat and nes of bare peat f bog is probabl t type in Ireland
	Crassian Lint		be of flig			in an internat	ional context.
	Species List Species (<i>La</i>					DAFOR Sca	
	Species List Species (La Andromeda	atin name)	Species	s (common n			
	Species (La	atin name) polifolia		s (common n		DAFOR Sca	
	Species (La Andromeda	atin name) polifolia garis	Species Bog-rose	s (common n		DAFOR Sca Occasional	
	Species (La Andromeda Calluna vulg	atin name) polifolia garis	Species Bog-rose	s (common n emary on sedge		DAFOR Sca Occasional Abundant	
	Species (La Andromeda Calluna vulg Carex panic	atin name) polifolia garis ea	Species Bog-rose Ling Carnatic Cup Lich	s (common n emary on sedge		DAFOR Sca Occasional Abundant Occasional	
	Species (La Andromeda Calluna vulg Carex panic Cladonia	atin name) polifolia garis ea a sp.	Species Bog-rose Ling Carnatic Cup Lich Spotted	common n emary on sedge	ame)	DAFOR Sca Occasional Abundant Occasional Frequent	
	Species (La Andromeda Calluna vulg Carex panic Cladonia Dactylorhiza	atin name) polifolia garis ea ea sp. ermedia	Species Bog-rose Ling Carnatic Cup Lich Spotted Oblong-	s (common n emary on sedge nen •Orchid sp.	ew	DAFOR Sca Occasional Abundant Occasional Frequent Frequent	
	Species (La Andromeda Calluna vulg Carex panic Cladonia Dactylorhiza Drosera inte	atin name) polifolia garis ea ea sp. ermedia undifolia	Species Bog-rose Ling Carnatic Cup Lich Spotted Oblong-	s (common n emary on sedge hen Orchid sp. leaved Sunde	ew	DAFOR Sca Occasional Abundant Occasional Frequent Frequent Frequent	
	Species (La Andromeda Calluna vulg Carex panic Cladonia Dactylorhiza Drosera inte Drosera rotu	atin name) polifolia garis ea ea sp. ermedia undifolia a	Species Bog-rose Ling Carnatic Cup Lich Spotted Oblong- Round-le Bell Hea	s (common n emary on sedge hen Orchid sp. leaved Sunde	ew	DAFOR Sca Occasional Abundant Occasional Frequent Frequent Frequent Frequent	
	Species (LaAndromedaCalluna vulgCarex panicCladoniaDactylorhizaDrosera inteDrosera rotuErica cinereaErica tetralix	atin name) polifolia garis ea ea sp. ermedia undifolia a	Species Bog-rose Ling Carnatic Cup Lich Spotted Oblong- Round-le Bell Hea Heath, c	s (common n emary on sedge nen Orchid sp. leaved Sunde eaved Sunde	ew	DAFOR Sca Occasional Abundant Occasional Frequent Frequent Frequent Frequent Abundant	
	Species (LaAndromedaCalluna vulgCarex panicCladoniaDactylorhizaDrosera inteDrosera rotuErica cinereaErica tetralix	atin name) polifolia garis ea ea sp. ermedia undifolia a c angustifolium	Species Bog-rose Ling Carnatic Cup Lich Spotted Oblong- Round-le Bell Hea Heath, c Commo	s (common n emary on sedge hen Orchid sp. leaved Sunde eaved Sunde ther cross-leaved	ew s	DAFOR Sca Occasional Abundant Occasional Frequent Frequent Frequent Frequent Abundant	
	Species (LaAndromedaCalluna vulgCarex panicCladoniaDactylorhizaDrosera inteDrosera rotuErica cinereaErica tetralixEriophorum	atin name) polifolia garis ea a sp. ermedia undifolia a c angustifolium vaginatum	Species Bog-rose Ling Carnatic Cup Lick Spotted Oblong- Round-le Bell Heat Heath, c Commo Hares-ta	s (common n emary on sedge nen Orchid sp. leaved Sunde eaved Sunde ther cross-leaved n Cottongras	ew s	DAFOR Sca Occasional Abundant Occasional Frequent Frequent Frequent Abundant Abundant Occasional	
	Species (LaAndromedaCalluna vulgCarex panicCladoniaDactylorhizaDrosera inteDrosera rotuErica cinereErica tetralixEriophorumEriophorum	atin name) polifolia garis ea ea esp. ermedia undifolia a c angustifolium vaginatum rulea	Species Bog-rose Ling Carnatic Cup Lick Spotted Oblong- Round-le Bell Heat Heath, c Commo Hares-ta	s (common n emary on sedge nen Orchid sp. leaved Sunde aved Sunde ther cross-leaved n Cottongrass ail Cottongrass	ew s	DAFOR Sca Occasional Abundant Occasional Frequent Frequent Frequent Abundant Abundant Occasional	
	Species (LaAndromedaCalluna vulgCarex panicCladoniaDactylorhizaDrosera inteDrosera rotuErica cinereErica tetralixEriophorumEriophorumMolinia caer	atin name) polifolia garis ea a sp. ermedia undifolia a a angustifolium vaginatum rulea ta	Species Bog-rose Ling Carnatic Cup Lich Spotted Oblong- Round-le Bell Heat Heath, c Commo Hares-ta Purple N	s (common n emary on sedge nen Orchid sp. leaved Sunde ather cross-leaved n Cottongrass ail Cottongrass Moor-grass	ew s	DAFOR Sca Occasional Abundant Occasional Frequent Frequent Frequent Abundant Abundant Occasional Occasional	
	Species (LaAndromedaCalluna vulgCarex panicCladoniaDactylorhizaDrosera inteDrosera rotuErica cinereErica tetralixEriophorumMolinia caerNardus strict	atin name) polifolia garis ea ea ea esp. ermedia undifolia a a c angustifolium vaginatum rulea ta ossifragum	Species Bog-rose Ling Carnatic Cup Lich Spotted Oblong- Round-le Bell Heat Heath, c Commo Hares-ta Purple M Mat-gras	s (common n emary on sedge nen Orchid sp. leaved Sunde aved Sunde ther cross-leaved n Cottongrass ail Cottongrass ail Cottongrass ss hodel	ew s	DAFOR Sca Occasional Abundant Occasional Frequent Frequent Frequent Abundant Abundant Occasional Occasional Frequent	
	Species (LaAndromedaCalluna vulgCarex panicCladoniaDactylorhizaDrosera inteDrosera rotuErica cinereErica tetralixEriophorumKolinia caerNardus stricNarthecium	atin name) polifolia garis ea a sp. ermedia undifolia a a angustifolium vaginatum rulea ta ossifragum egalis	Species Bog-rose Ling Carnatic Cup Lich Spotted Oblong- Round-le Bell Heat Heath, c Commo Hares-ta Purple M Mat-gras Bog asp Royal fe	s (common n emary on sedge nen Orchid sp. leaved Sunde aved Sunde ther cross-leaved n Cottongrass ail Cottongrass ail Cottongrass ss hodel	ew s	DAFOR Sca Occasional Abundant Occasional Frequent Frequent Frequent Abundant Abundant Occasional Occasional Frequent Frequent	
	Species (LaAndromedaCalluna vulgCarex panicCladoniaDactylorhizaDrosera inteDrosera rotuErica cinereErica tetralixEriophorumMolinia caerNardus stricNartheciumOsmunda re	atin name) polifolia garis ea ea a sp. ermedia undifolia a a angustifolium vaginatum rulea ta ossifragum egalis ora alba	Species Bog-rose Ling Carnatic Cup Lich Spotted Oblong- Round-le Bell Heat Heath, c Commo Hares-ta Purple M Mat-gras Bog asp Royal fe	s (common n emary on sedge nen Orchid sp. leaved Sunde aved Sunde ther cross-leaved n Cottongrass ail Cottongrass ss hodel rn eak-sedge	ew s	DAFOR Sca Occasional Abundant Occasional Frequent Frequent Frequent Abundant Abundant Occasional Occasional Frequent Frequent Frequent	
	Species (LaAndromedaCalluna vulgCarex panicCladoniaDactylorhizaDrosera inteDrosera rotuErica cinereErica tetralixEriophorumMolinia caerNardus stricNartheciumOsmunda reRhynchospor	atin name) polifolia garis ea ea a sp. ermedia undifolia a angustifolium vaginatum rulea ta ossifragum egalis ora alba	Species Bog-rose Ling Carnatic Cup Lich Spotted Oblong- Round-le Bell Heat Heath, c Commo Hares-ta Purple M Mat-gras Bog asp Royal fe White Be	s (common n emary on sedge nen Orchid sp. leaved Sunde ather cross-leaved n Cottongrass ail Cottongrass ss hodel rn eak-sedge pss	ew s	DAFOR Sca Occasional Abundant Occasional Frequent Frequent Frequent Abundant Occasional Occasional Occasional Frequent Frequent Frequent	





Survey Title:		TARGET NO	DTES – ID No. 90		
	Mid Clare Ha	abitat Mapping		Survey da	te: 05/07/10
Surveyor: Jo	hn Curtin			County na	me: Clare
1:2,500 Shee	t no: 4212-b	Townland: Clonmoh	er	Grid Ref:	158320,182820
Target note r	10.: TN5		Area: 5.34ha		
Degraded rai	sed bogs st	ecological interest ir ill capable of natural r osporion (7150), and	egeneration (712	0), Depress	ions on peat
Habitat code PB1/ PB4/ WN7	alongside ty elevated se areas of Bo	as been cut for peat in t /pical bog species. Quid ctions dominated by De g Woodland WD7. On o ed just to the south of la st	et even topograph ense Bracken HD1 other sides the site	y under foot . To the nor e is surround	. To the north are thwest and south are led by wet grassland
		cies (<i>Latin</i> name)	Species (comm	on name)	DAFOR Scale
	Cirs	ium dissectum	Meadow-thistle		Occasional
	Cirs	ium paluste	Marsh-thistle		Occasional
	Dac	tylorhiza sp.	Orchid		Occasional
	Equ	isetum sp	Horsetail		Occasional
	Eric	a tetralix	Heath, cross-lear	ved	Abundant
	Gal	ium palustre	Marsh-bedstraw		Occasional
	Mer	yanthes trifoliata	Bogbean		Occasional
	Mol	inia caerulea	Purple Moor-gras	SS	Abundant
	Nar	thecium ossifragum	Bog asphodel		Frequent
	Pote	entilla erecta	Tormentil		Abundant
	Pote	entilla palustris	Marsh Cinquefoi		Occasional
			Crooping buttore	n	Occasional
	Ran	unculus repens	Creeping butterc	up	Occasional
		agnum sp	Peat moss	up	Abundant

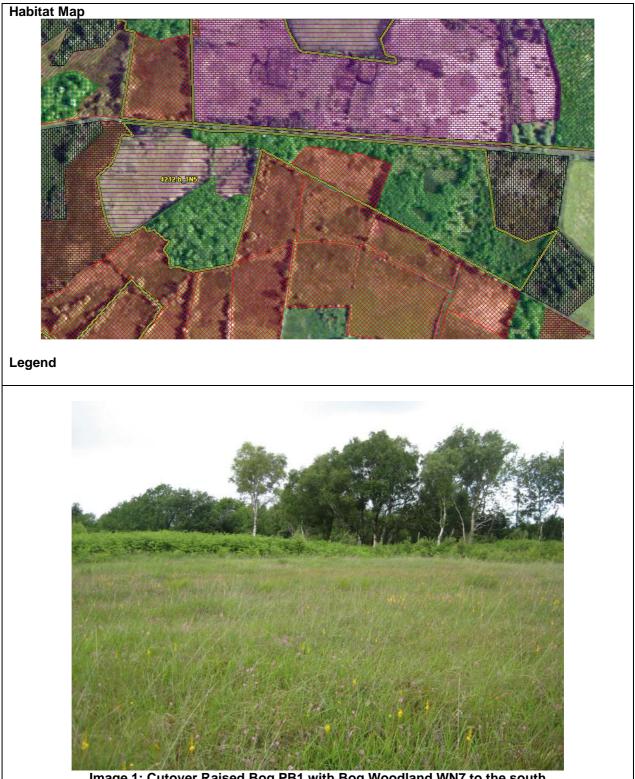


Image 1: Cutover Raised Bog PB1 with Bog Woodland WN7 to the south

		TARGET NO	OTES – ID No. 91			
Survey Title:	: Mid Clar	e Habitat Mapping		Survey da	te: 05/07/10	
Surveyor: Jo	ohn Curtin)		County na	me: Clare	
1:2,500 Shee	et no: 421	12-b Townland: Coolrea	gh	Grid Ref:	158280, 183090	
Target note	no.: TN6		Area: 3.3ha			
habitat <i>Molii</i> (6410)		High ecological interest in ows on calcareous, peaty				:)
Habitat code GS4/ GS2/ HD1/ WS1/ WD3/ WN7	corresp laden s edges a to the n The swa Moor-gr (<i>Juncus</i> site. Co where t Occasion herbace	abitat is classified as W bond to the Annex I Habitat soils (Molinion caeruleae) and grades into Bracken (H borth west and Bog Woodlan rard height within the grass rass (<i>Molinia caerulea</i>). S s <i>articulatus</i>) and Torment ocks-foot (<i>Dactylis glomer</i> the grassland grades into D conal limestone outcroppir eous plants such as Bir <i>is polytrichus</i>). Hawthorn (m s.	t <i>Molinia</i> meadows (6410). This wet (D1), Scrub (WS1) nd (WN7) to the sc land is approximat Sedges (<i>Carex pe</i> il (<i>Potentilla erect</i> <i>ata</i>) and Yorkshir ry meadows and G ngs (ER2) are a ds-foot-trefoil (<i>Lo</i>	s on calcare meadow is and Mixed (outh east. ely 2-4ft and endula and a) are also e Fog (<i>Hol</i> Grassy Verge lso present tus cornicul	ous, peaty or clay slightly elevated Conifer Woodland d is dominated by <i>Carex vesicaria</i>), common througho <i>cus lanatus</i>) also es GS2. . These contain <i>atus</i>) and Wild	ey-sil at th (WD: Purp Rus but th occi sma Thym
	Specie	s List Species (<i>Latin</i> name)	Species (comm	on name)	DAFOR Scale]
		Anthoxanthum odoratum	Sweet Vernal-gra	ass	Frequent	
		Briza media	Quaking-grass		Occasional	
		Bryophyte	Moss		Frequent	
		Carex pendula	Pendulous Sedg	^		
	_		_	e	Frequent	
		Carex ~ vesicaria	Bladder Sedge		Frequent Occasional	
		Carex ~ vesicaria Cirsium dissectum	Bladder Sedge Meadow-thistle	6	•	
			•		Occasional	
		Cirsium dissectum	Meadow-thistle		Occasional Occasional	
		Cirsium dissectum Cirsium sp	Meadow-thistle Thistle		Occasional Occasional Frequent	
		Cirsium dissectum Cirsium sp Crataegus monogyna	Meadow-thistle Thistle Hawthorn		Occasional Occasional Frequent Occasional	
		Cirsium dissectum Cirsium sp Crataegus monogyna Dactylis glomerata	Meadow-thistle Thistle Hawthorn Cocks-foot		Occasional Occasional Frequent Occasional Occasional	
		Cirsium dissectum Cirsium sp Crataegus monogyna Dactylis glomerata Dactylorhiza sp.	Meadow-thistle Thistle Hawthorn Cocks-foot Orchid		Occasional Occasional Frequent Occasional Occasional Occasional	
		Cirsium dissectum Cirsium sp Crataegus monogyna Dactylis glomerata Dactylorhiza sp. Filipendula ulmaria	Meadow-thistle Thistle Hawthorn Cocks-foot Orchid Meadowsweet		Occasional Occasional Frequent Occasional Occasional Occasional Frequent	
		Cirsium dissectum Cirsium sp Crataegus monogyna Dactylis glomerata Dactylorhiza sp. Filipendula ulmaria Galium palustre	Meadow-thistle Thistle Hawthorn Cocks-foot Orchid Meadowsweet Marsh-bedstraw		Occasional Occasional Frequent Occasional Occasional Occasional Frequent Occasional	
		Cirsium dissectum Cirsium sp Crataegus monogyna Dactylis glomerata Dactylorhiza sp. Filipendula ulmaria Galium palustre Holcus lanatus	Meadow-thistle Thistle Hawthorn Cocks-foot Orchid Meadowsweet Marsh-bedstraw Yorkshire Fog		Occasional Occasional Frequent Occasional Occasional Frequent Occasional Occasional	
		Cirsium dissectum Cirsium sp Crataegus monogyna Dactylis glomerata Dactylorhiza sp. Filipendula ulmaria Galium palustre Holcus lanatus Juncus articulatus	Meadow-thistle Thistle Hawthorn Cocks-foot Orchid Meadowsweet Marsh-bedstraw Yorkshire Fog Jointed Rush		Occasional Occasional Frequent Occasional Occasional Occasional Frequent Occasional Frequent	
		Cirsium dissectum Cirsium sp Crataegus monogyna Dactylis glomerata Dactylorhiza sp. Filipendula ulmaria Galium palustre Holcus lanatus Juncus articulatus Lotus corniculatus	Meadow-thistle Thistle Hawthorn Cocks-foot Orchid Meadowsweet Marsh-bedstraw Yorkshire Fog Jointed Rush Birds-foot-trefoil	ot-trefoil	Occasional Occasional Frequent Occasional Occasional Occasional Frequent Occasional Frequent Occasional	
		Cirsium dissectum Cirsium sp Crataegus monogyna Dactylis glomerata Dactylorhiza sp. Filipendula ulmaria Galium palustre Holcus lanatus Juncus articulatus Lotus corniculatus Lotus pedunculatus	Meadow-thistle Thistle Hawthorn Cocks-foot Orchid Meadowsweet Marsh-bedstraw Yorkshire Fog Jointed Rush Birds-foot-trefoil Greater Birds-foot	ot-trefoil	Occasional Occasional Frequent Occasional Occasional Occasional Frequent Occasional Frequent Occasional Occasional Occasional	
		Cirsium dissectum Cirsium sp Crataegus monogyna Dactylis glomerata Dactylorhiza sp. Filipendula ulmaria Galium palustre Holcus lanatus Juncus articulatus Lotus corniculatus Lotus pedunculatus Luzula sylvatica	Meadow-thistle Thistle Hawthorn Cocks-foot Orchid Meadowsweet Marsh-bedstraw Yorkshire Fog Jointed Rush Birds-foot-trefoil Greater Birds-foo Great Wood-rush	ot-trefoil	Occasional Occasional Frequent Occasional Occasional Occasional Frequent Occasional Frequent Occasional Occasional Occasional Occasional	
		Cirsium dissectum Cirsium sp Crataegus monogyna Dactylis glomerata Dactylorhiza sp. Filipendula ulmaria Galium palustre Holcus lanatus Juncus articulatus Lotus corniculatus Lotus pedunculatus Luzula sylvatica Molinia caerulea	Meadow-thistle Thistle Hawthorn Cocks-foot Orchid Meadowsweet Marsh-bedstraw Yorkshire Fog Jointed Rush Birds-foot-trefoil Greater Birds-foot Great Wood-rush Purple Moor-gras	ot-trefoil	Occasional Occasional Frequent Occasional Occasional Occasional Frequent Occasional Frequent Occasional Occasional Occasional Occasional Occasional Occasional	
		Cirsium dissectum Cirsium sp Crataegus monogyna Dactylis glomerata Dactylorhiza sp. Filipendula ulmaria Galium palustre Holcus lanatus Juncus articulatus Lotus corniculatus Lotus pedunculatus Luzula sylvatica Molinia caerulea Potentilla anserina	Meadow-thistle Thistle Hawthorn Cocks-foot Orchid Meadowsweet Marsh-bedstraw Yorkshire Fog Jointed Rush Birds-foot-trefoil Greater Birds-foo Great Wood-rush Purple Moor-gras Silverweed	ot-trefoil	Occasional Occasional Frequent Occasional Occasional Occasional Frequent Occasional Occasional Frequent Occasional Occasional Occasional Occasional Occasional Occasional	

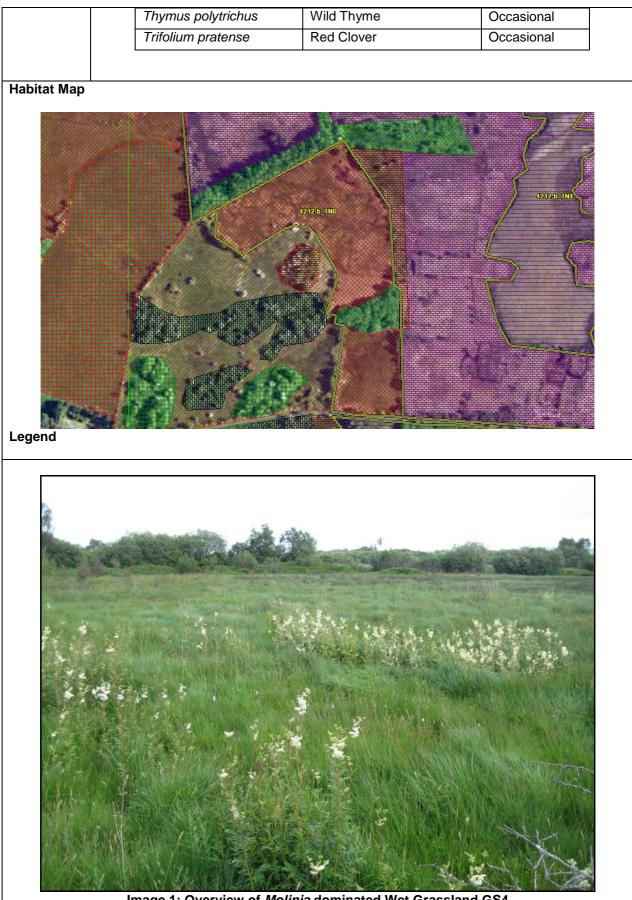


Image 1: Overview of Molinia dominated Wet Grassland GS4



Image 2: Limestone Outcrop

		ET NOTES – ID No. 92		
•	: Mid Clare Habitat Mapping			te: 06/07/10
Surveyor: Jo	ohn Curtin		County na	me: Clare
1:2,500 Shee	et no: 4212-b Townland: C	oolreagh	Grid Ref: 1	59710, 182970
Target note		Area: 1.9ha		
	nterest: High Ecological Imp to an Annex I Habitats	ortance in a local conte	ext. This hat	oitat does not
Habitat code GS4	Diverse Wet Grassland GS4 improved agricultural grassla separates golf course with s	ands on other sides. Lies	in a depress	sion. Marsh (GM
	Species List			
	Species (Latin nam		on name)	DAFOR Scale
	Agrostis sp	Bent grass		Occasional
	Anthoxanthum odora	tum Sweet Vernal-gra	ass	Occasional
	Briza media	Quaking-grass		Occasional
	Bryophyte	Moss		Occasional
	Cirsium palustre	Marsh-thistle		Occasional
	Cynosurus cristatus	Crested Dogs-tai	I	Occasional
	Dactylorhiza sp.	Orchid		Frequent
	Equisetum sp	Horsetail		Occasional
	Filipendula ulmaria	Meadowsweet		Frequent
	Galium palustre	Marsh-bedstraw		Occasional
	Holcus lanatus	Yorkshire Fog		Frequent
	Iris pseudacorus	Yellow Iris		Occasional
	Juncus articulatus	Jointed Rush		Frequent
	Juncus effusus	Soft Rush		Abundant
	Lolium perenne	Rye-grass, perer	Rye-grass, perennial	
	Lotus pedunculatus	Greater Birds-foo	ot-trefoil	Frequent
	Mysotis sp	Forget-me-not		Occasional
	Plantago lanceolata	Ribwort Plantain		Frequent
	Potentilla anserina	Silverweed		Frequent
	Prunella vulgaris	Self-heal		Occasional
	Ranunculus repens	Creeping butterc	up	Occasional
	Rumex sp	Sorrel sp		Frequent
	Stellaria media	Common Chickw	veed	Occasional
	Trifolium pratense	Red Clover		Occasional
	Trifolium repens	White clover		Frequent
	Vicia cracca	Tufted Vetch		Frequent

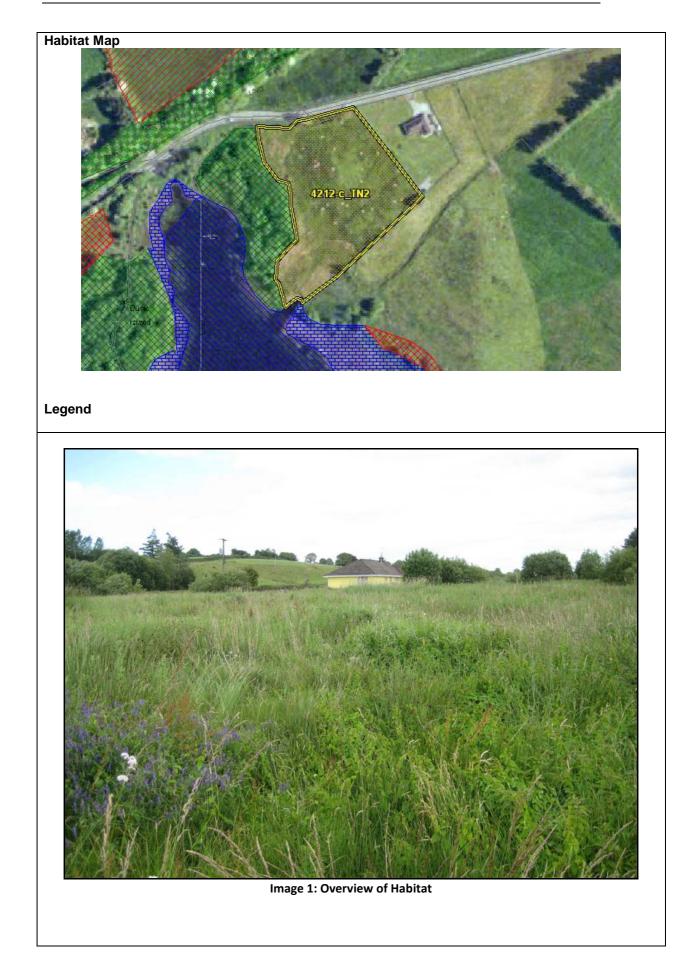




		RGET NOTES – ID No. 93	
	Mid Clare Habitat Mapping		Survey date: 06/07/10
Surveyor: Jo	hn Curtin		County name: Clare
1:2,500 Shee	t no: 4212-c Townland:	Kilnoe	Grid Ref: 157991, 181158
Target note	וס.: TN1	Area: 2.1ha	
Ecological Ir	terest: High Ecological Ir	nportance in a local conte	ext. This habitat does not
	o an Annex I Habitats		
Habitat code		g an abandoned house. Th ows (<i>Salix</i> spp.) trees are p	e land rises from this area to the
oodo	occasionally, and there a	e some signs of poaching.	-
GS4		onal Spotted-Orchids (Dacty	/lorhiza sp) and St. John's-wort
	(Hypericum sp).		
	Species List		
	Species (Latin name)	Species (common nar	,
	Anthoxanthum odoratum		Occasional
	Cirsium palustre	Marsh-thistle	Frequent
	Conopodium majus	Pignut	Occasional
	Dactylorhiza sp.	Orchid	Occasional
	Equisetum sp	Horsetail	Frequent
	Filipendula ulmaria	Meadowsweet	Frequent
	Galium palustre	Marsh-bedstraw	Occasional
	Holcus lanatus	Yorkshire Fog	Frequent
	Hypericum sp.	St. Johns-wort	Occasional
	Juncus effusus	Soft Rush	Abundant
	Lathyrus pratensis	Meadow-vetchling	Occasional
	Mentha aquatica	Water Mint	Occasional
	Potentilla anserina	Silverweed	Occasional
	Ranunculus repens	Creeping buttercup	Occasional
	Rumex sp	Sorrel sp	Frequent
	Salix sp	Willow	Frequent
	Trifolium repens	White clover	Frequent
	Vicia cracca	Tufted Vetch	Occasional



	TARG	ET NOTES – ID No. 94	
Survey Title:	Mid Clare Habitat Mapping		Survey date: 06/07/10
Surveyor: Jo	hn Curtin		County name: Clare
1:2,500 Shee	t no: 4212-c Townland: K	ilnoe	Grid Ref: 156477, 181199
Target note r	no.: TN2	Area: 1.1ha	
Ecological In	terest: Moderate ecological	interest in a local con	text
Habitat code ED3	plants are present in the swa (<i>Urtica dioica</i>) and bindweed been recently managed.	ard than grasses. Sward	ecies composition. More herbaceous height ranges from 1-4ft. Nettle equent. Land does not look like it has
	Species List Species (<i>Latin</i> name)	Species (common na	me) DAFOR Scale
	Calystegia sp	Bindweed	Frequent
	Chamerion angustifolium	Rosebay Willowherb	Abundant
	Dactylis glomerata	Cocks-foot	Occasional
	Equisetum sp	Horsetail	Frequent
	Glyceria fluitans	Floating Sweet-grass	Frequent
	Holcus lanatus	Yorkshire Fog	Frequent
	Lathyrus pratensis	Meadow-vetchling	Occasional
	Potentilla anserina	Silverweed	Frequent
	Rubus fruticosus	Bramble	Occasional
	Rumex sp	Sorrel sp	Frequent
	Salix sp	Willow	Frequent
	Trifolium pratense	Red Clover	Occasional
	Urtica dioica	Nettle	Frequent
	Vicia cracca	Tufted Vetch	Occasional



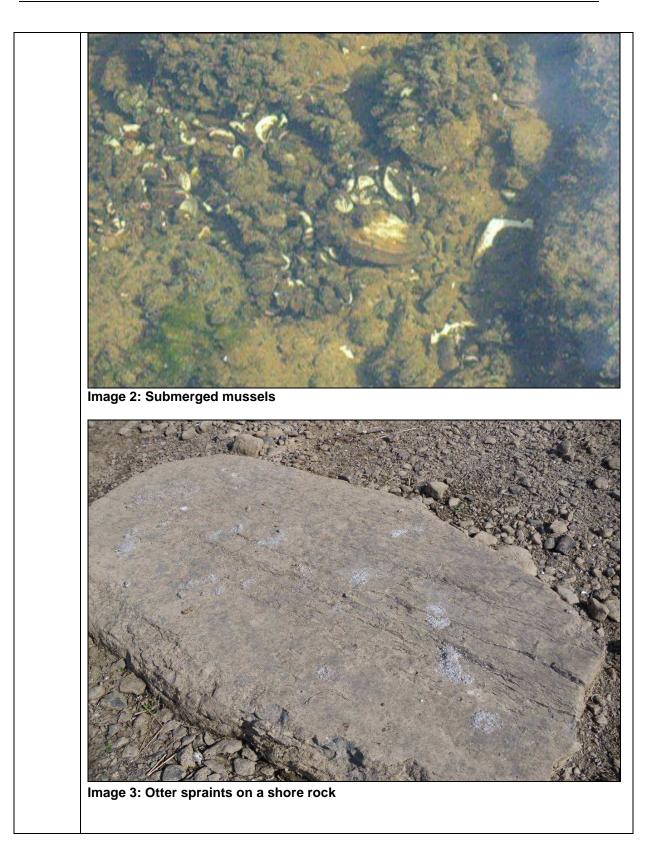


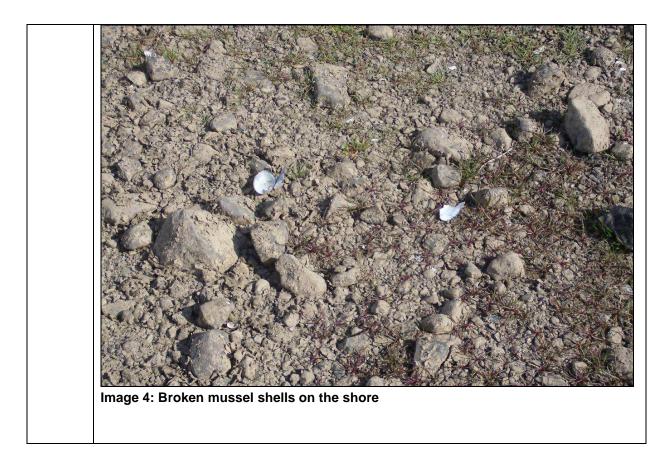


		TARGET	NOTES – ID No. 9	5
Survey T	itle: Mid Clare Hab	itat mapping		Survey date: 28/6/10
Surveyor	: Shane O Neill			County name: Clare
1:2,500 S	heet no: 4213-a	Townland: Teer	oneer	Grid Ref: 161303, 183695
Target no	ote no.: TN1		Area: 46ha	
	nnex I habitats.	-	-	ocal context. Does not correspond
Habitat code FL2	Lough O'Grady of FL2 Acid Oligotri River Graney flow eastern side. A w pockets of Reed comprising main GS4, which in plate a good diversity of in places, along (<i>Cardamine prate</i> grass are less sp islands and penir grazed. On the southeast have started to in the Scariff river w found in the lake shells are strewn Otters have a good The lake is an i Teal, Mallard and Island O'Grady at	ophic Lake. This ws into the lake a variety of wetland and Large Sedg ly of Willow (<i>Sali</i> : aces grades into fr of plants, with sed with such species <i>ensis</i>), and Devil' ecies rich and are isulas are classifient t side of this lake infest the lake. This which may be a c which the Zebra is all over the shore od foothold in this is mportant wildfowl d Lapwing. Green is a roost (NPWS shore	lake is situated ab t the west end, wh habitats can be for e Swamp FS1, We c spp.) and Birch reshwater Marsh G ges (Carex spp.) a s as Meadowswee s Bit Scabious (<i>Su</i> e dominated by graded as Improved Ag Zebra Mussels (<i>Dr</i> s lake (Lough O G orridor for the mus mussels are using e line. This and the habitat. site with regional land White-fronted site synopsis).	Heritage Area and is classified as an yout 3 km south-west of Scarriff. The hile the River Scarriff flows out at the ound around the lake including small et Willow Alder Ash Woodland WN6, (<i>Betula pubescens</i>). Wet Grassland M1, occurs around the lake. There is and rushes (<i>Juncus effusus</i>) dominant et (<i>Filipendula ulmaria</i>), Cuckoo plant <i>uccisa pratensis</i>). The drier areas of sses and rushes. Well drained lands, ricultural Grassland GA1 and are well reissena polymorpha) were found and grady) is connected to Lough Derg by ssels. Other freshwater mussels were as anchor. Broken freshwater mussel abundance of spraints would indicate ly significant populations of Wigeon, Geese regularly visit the site and use the site survey. A Heronry was found borth west of the lake.











		TARGET NOT	ES – ID No. 96	
Survey Title: Mic	d Clare Habitat n	napping		Survey date: 28/6/10
Surveyor: Shane	e O Neill			County name: Clare
1:2,500 Sheet no	o: 4213-a	Townland: Coolr	eagh Beg	Grid Ref: 160464, 183774
Target note no.:	TN2		Area: 4.4ha	
This area is cons	idered to be of F	ligh Ecological val	ue in an Nation	al context.
Habitat code FL4	On the Southe Herons on it. T	east side of this la here is a heronry i	ke there is a sa n the trees on th	andy peninsula that had four juvenile ne Southern shore of this lake.
	Habitat Map	Burantin	4213:a_TNZ	

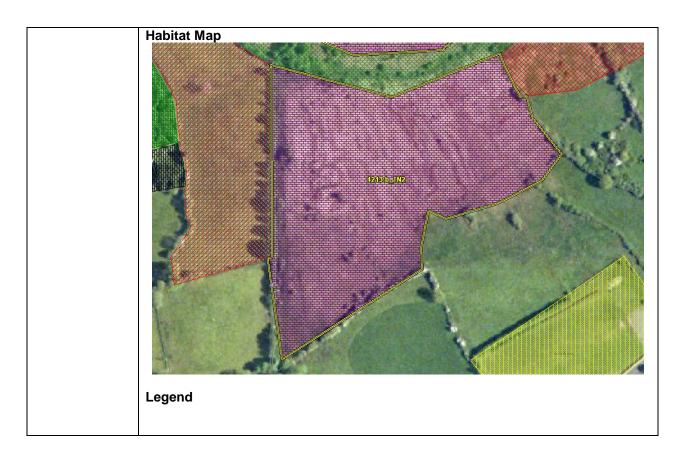


		TARGET NO	TES – ID No. 97	,	
Survey Title: M	id Clare Habitat	mapping		Survey date:	01/07/2010
Surveyor: Shar	ne O Neill			County name	e: Clare
1:2,500 Sheet n	io: 4213-b	Townland: Callag	jhy	Grid Ref: 162	2560, 183299
Target note no.	.: TN1	I	Area: 17ha	I	
Although the	Annex I habi		on peat sub	trates of the	e in a Local context. Rhyncosporion' is d at this site.
Habitat code	Area of Cutov now ceased at		ome Bog wood	and (WN7) at	the edges. Cutting has
PB4/WN7	Species List:				
	Species (Lat	<i>tin</i> name)	Species (con	nmon name)	DAFOR Scale
	Betula sp.	a ría	Birch		Frequent
	Calluna vulga		Ling Spotted Orah	d	Occasional
	Dactylorhiza Equisetaceae		Spotted-Orch Horsetails	iu	Occasional Occasional
	Filipendula u		Meadow swee	ət	Occasional
	Molinia caeru		Purple Moor-g		Frequent
	Myrica gale		Bog Myrtle	31400	Occasional
	Potentilla ere	ecta	Tormentil		Occasional
	Pteridium aq	uilinum	Bracken		Dominant
	Salix sp.		Willow		Frequent
	Ulex sp		Gorse		Dominant
	Habitat Map				
	Legend				



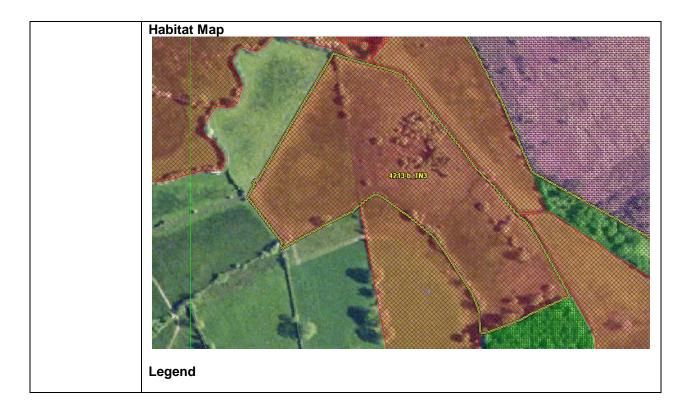
		TARGET NO				
Survey Title: Mid	d Clare Habitat r	mapping		Survey date:	02/07/10	
Surveyor: Shane	e O Neill			County name	: Clare	
1:2,500 Sheet no	o: 4213-b	Townland: Call	ahy	Grid Ref: 162	679, 182967	
Target note no.:	TN2		Area: 6.1ha			
context. Corres formation', '*act <i>mariscus</i> and s	ponds to seve tive raised bog pecies of the Ca	ral Annex I habi s (7110)', 'alkalin aricion davallian	itats, 'Degraded le fens' (7230) a ae (7210)'.	raised bogs s nd '*calcareou	e in an <mark>Internatio</mark> still capable of p s fens with <i>Cladi</i>	eat <i>um</i>
Habitat code PB1/PF1	Moor-grass (<i>M</i> Bogbean (<i>Me</i> rush (<i>Schoen</i> habitat that mi This habitat '*calcareous f (7210)'. The I	Molinia caerulea) of enyanthes trifoliate bus nigricans). Th ight encroach on i corresponds to fens with Cladium	dominates the sw a), Saw Sedge (ere has been O t. two annexed h <i>n mariscus</i> and habitat that desc	ard with Reedm Cladium marisc PP granted for abitats, 'alkalin species of the ribes stands of	I Flush (PF1). Pur nace (<i>Typha latifo</i> , cus), and Black B r an area above f ne fens (7230)' a Caricion davalliar species-rich alkal dominant.	ia), og- this and nae
	Species List:		Spacios (co		DAEOR Scolo	
	Species (La	<i>tin</i> name)		mmon name)	DAFOR Scale	
	Species (La Calluna vulg	tin name) aris	Ling	mmon name)	Frequent	
	Species (La Calluna vulg Carex echina	tin name) aris ata	Ling Star Sedge		Frequent Frequent	-
	Species (La Calluna vulg Carex echina Cladium mai	tin name) aris ata riscus	Ling Star Sedge Great Fen-se	edge	Frequent Frequent Frequent	-
	Species (La Calluna vulg Carex echina Cladium mai Dactylorhiza	t in name) aris ata riscus fuchsii	Ling Star Sedge Great Fen-se Common Sp	edge otted-Orchid	Frequent Frequent Frequent Frequent	-
	Species (La Calluna vulg Carex echina Cladium mai Dactylorhiza Dactylorhiza	t in name) aris ata riscus fuchsii	Ling Star Sedge Great Fen-se Common Sp Heath Spotte	edge otted-Orchid	FrequentFrequentFrequentFrequentFrequentFrequent	
	Species (La Calluna vulg Carex echina Cladium mai Dactylorhiza Dactylorhiza Drosera sp.	tin name) aris ata riscus fuchsii maculata	Ling Star Sedge Great Fen-se Common Sp Heath Spotte Sundews	edge otted-Orchid ed-Orchid	FrequentFrequentFrequentFrequentFrequentOccasional	
	Species (La Calluna vulg Carex echina Cladium mar Dactylorhiza Dactylorhiza Drosera sp. Erica tetralix	tin name) aris ata riscus fuchsii maculata	Ling Star Sedge Great Fen-se Common Sp Heath Spotte Sundews Cross-leaved	edge otted-Orchid ed-Orchid	FrequentFrequentFrequentFrequentFrequentFrequent	
	Species (La Calluna vulg Carex echina Cladium mai Dactylorhiza Dactylorhiza Drosera sp. Erica tetralix Eriophorum	tin name) aris ata riscus fuchsii maculata angustifolium	Ling Star Sedge Great Fen-se Common Sp Heath Spotte Sundews Cross-leaved Common Co	edge otted-Orchid ed-Orchid I heath ttongrass	FrequentFrequentFrequentFrequentFrequentOccasionalFrequent	-
	Species (La Calluna vulg Carex echina Cladium mar Dactylorhiza Dactylorhiza Drosera sp. Erica tetralix	tin name) aris ata riscus fuchsii maculata maculata angustifolium cuculi	Ling Star Sedge Great Fen-se Common Sp Heath Spotte Sundews Cross-leaved	edge otted-Orchid ed-Orchid I heath ttongrass	FrequentFrequentFrequentFrequentFrequentOccasionalFrequentOccasionalOccasionalOccasional	
	Species (La Calluna vulg Carex echina Cladium mar Dactylorhiza Dactylorhiza Drosera sp. Erica tetralix Eriophorum a Lychnis flos-	tin name) aris ata riscus fuchsii maculata maculata angustifolium cuculi trifoliata	Ling Star Sedge Great Fen-se Common Sp Heath Spotte Sundews Cross-leaved Common Co Ragged Rob	edge otted-Orchid ed-Orchid d heath ttongrass in	FrequentFrequentFrequentFrequentFrequentOccasionalFrequentOccasional	
	Species (La Calluna vulg Carex echina Cladium mai Dactylorhiza Dactylorhiza Drosera sp. Erica tetralix Eriophorum Lychnis flos- Menyanthes Molinia caer	tin name) aris ata riscus fuchsii maculata maculata angustifolium cuculi trifoliata	Ling Star Sedge Great Fen-se Common Sp Heath Spotte Sundews Cross-leaved Common Co Ragged Rob Bogbean	edge otted-Orchid ed-Orchid d heath ttongrass in	FrequentFrequentFrequentFrequentFrequentOccasionalFrequentOccasionalOccasionalFrequentFrequent	
	Species (La Calluna vulg Carex echina Cladium mar Dactylorhiza Dactylorhiza Drosera sp. Erica tetralix Eriophorum a Lychnis flos- Menyanthes Molinia caera	tin name) aris ata riscus fuchsii maculata angustifolium cuculi trifoliata ulea	Ling Star Sedge Great Fen-se Common Sp Heath Spotte Sundews Cross-leaved Common Co Ragged Rob Bogbean Purple Moor- Bog Myrtle	edge otted-Orchid ed-Orchid d heath ttongrass in	FrequentFrequentFrequentFrequentFrequentOccasionalFrequentOccasionalOccasionalFrequentOccasionalFrequentOccasionalFrequentOccasionalOccasional	
	Species (La Calluna vulg Carex echina Cladium mai Dactylorhiza Dactylorhiza Drosera sp. Erica tetralix Eriophorum Lychnis flos- Menyanthes Molinia caer	tin name) aris ata riscus fuchsii maculata angustifolium cuculi trifoliata ulea	Ling Star Sedge Great Fen-se Common Sp Heath Spotte Sundews Cross-leaved Common Co Ragged Rob Bogbean Purple Moor-	edge otted-Orchid ed-Orchid d heath ttongrass in	FrequentFrequentFrequentFrequentOccasionalFrequentOccasionalOccasionalFrequentDoccasionalDoccasionalDoccasional	
	Species (La Calluna vulg Carex echina Cladium mar Dactylorhiza Dactylorhiza Drosera sp. Erica tetralix Eriophorum a Lychnis flos- Menyanthes Molinia caera Myrica gale Narthecium o	tin name) aris ata ta fiscus fuchsii maculata angustifolium cuculi trifoliata ulea ossifragum acta	Ling Star Sedge Great Fen-se Common Sp Heath Spotte Sundews Cross-leaved Common Co Ragged Rob Bogbean Purple Moor- Bog Myrtle Bog Asphode	edge otted-Orchid ed-Orchid I heath ttongrass in grass	FrequentFrequentFrequentFrequentOccasionalFrequentOccasionalOccasionalOccasionalOccasionalOccasionalOccasionalOccasionalOccasionalOccasionalOccasionalOccasionalOccasionalOccasionalOccasionalOccasionalOccasionalOccasional	
	Species (La Calluna vulg Carex echina Cladium mai Dactylorhiza Dactylorhiza Drosera sp. Erica tetralix Eriophorum Lychnis flos- Menyanthes Molinia caera Myrica gale Narthecium of Potentilla ere	tin name) aris ata ta fiscus fuchsii maculata angustifolium cuculi trifoliata ulea ossifragum acta	Ling Star Sedge Great Fen-se Common Spo Heath Spotte Sundews Cross-leaved Common Co Ragged Rob Bogbean Purple Moor- Bog Myrtle Bog Asphode Tormentil	edge otted-Orchid ed-Orchid I heath ttongrass in grass	FrequentFrequentFrequentFrequentOccasionalFrequentOccasionalOccasionalOccasionalOccasionalOccasionalFrequentOominantOccasionalOccasionalFrequent	
	Species (La Calluna vulg Carex echina Cladium mar Dactylorhiza Dactylorhiza Drosera sp. Erica tetralix Eriophorum Lychnis flos- Menyanthes Molinia caera Myrica gale Narthecium Potentilla ere Schoenus ni	tin name) aris ata ata riscus fuchsii maculata angustifolium cuculi trifoliata ulea ossifragum ecta gricans	Ling Star Sedge Great Fen-se Common Sp Heath Spotte Sundews Cross-leaved Common Co Ragged Rob Bogbean Purple Moor- Bog Myrtle Bog Asphode Tormentil Black Bog-ru	edge otted-Orchid ed-Orchid d heath ttongrass in •grass el	FrequentFrequentFrequentFrequentFrequentOccasionalFrequentOccasionalOccasionalOccasionalFrequentOccasionalFrequentDominantOccasionalOccasionalFrequentFrequentAbundant	
	Species (LaCalluna vulgCarex echinaCladium marDactylorhizaDactylorhizaDrosera sp.Erica tetralixEriophorum aLychnis flos-MenyanthesMolinia caeraMyrica galeNarthecium aSchoenus niSphagnum	tin name) aris ata ata fiscus fuchsii maculata angustifolium cuculi trifoliata ulea ossifragum acta gricans ensis	Ling Star Sedge Great Fen-se Common Sp Heath Spotte Sundews Cross-leaved Common Co Ragged Rob Bogbean Purple Moor- Bog Myrtle Bog Asphode Tormentil Black Bog-ru	edge otted-Orchid ed-Orchid d heath ttongrass in •grass el	FrequentFrequentFrequentFrequentFrequentOccasionalFrequentOccasionalOccasionalFrequentOccasionalOccasionalFrequentDominantOccasionalOccasionalFrequentFrequentFrequentFrequentFrequentFrequentFrequentFrequent	







	TARGET NO	ΓES – ID No. 99			
Survey Title: M	id Clare Habitat mapping	Sı	Survey date: 29/7/10		
Surveyor: Shan	e O Neill	Co	County name: Clare		
1:2,500 Sheet n	o: 4213-b Townland: Calla	ihy Gr	id Ref: 162	246, 183228	
Target note no.	: TN3	Area:			
This area is cor any Annex I ha	nsidered to be of High Ecological bitats.	value in a Local co	ontext. Doe	s not correspond	
Habitat code	Species-rich Wet Grassland (G				
GS4/PB4	(PB4) at the southern end. A s field.	tone track has beer	n constructe	ed at the edge of	
	Species List Species (<i>Latin</i> name)	Species (comm	on name)	DAFOR Scale	
	Anthoxanthum odoratum	Sweet Vernal-gra	,	Frequent	
	Carex echinata	Star Sedge		Frequent	
	Carex rostrata	Bottle sedge		Frequent	
	Carex viridula ssp.oedocarpa	Common Yellow	Sedge	Occasional	
	Dactylorhiza fuchsia	Common Spotte	Common Spotted-Orchid		
	Dactylorhiza sp.	Spotted-Orchid		Frequent Occasional	
	Eriophorum angustifolium	Common Cotton	Common Cotton Grass		
	Filipendula ulmaria	Meadowsweet			
	Galium palustre	Marsh-bedstraw		Frequent	
	Holcus lanatus	Yorkshire Fog		Frequent	
	Luzula multiflora	Heath Wood-rus	h	Frequent	
	Mentha aquatica	Water Mint		Frequent	
	Platanthera chlorantha	Grater Butterfly (Drchid	Frequent	
	Potentilla erecta	Tormentil			
	Potentilla palustris	Marsh Cinquefoi		Frequent	
	Prunella vulgaris Sel		Selfheal		
	Ranunculus repens	Creeping Buttero	up	Occasional	
	Sphagnum	Bog-Moss		Frequent	
	Trifolium pratense	Red Clover		Occasional	
	Trifolium repens	White clover		Occasional Occasional	
	Vicia cracca	Tufted Vetch	Tufted Vetch		



		TARGET N	OTES – ID No. 100)		
Survey Title: Mid Clare Habitat Mapping				Survey date: 2/7/2010		
Surveyor: Sh	ane O'Neil			County na	ame: Clare	
1:2,500 Sheet	t no: 4213-d	Townland: Ballincu	rrig	Grid Ref:	162943, 181127	
Target note n	10.: TN1		Area: 5.2ha			
context. Corr	esponds to t bable of natur	al regeneration'.	"active raised bo	gs (7110)' a	and 'Degraded raised	
Habitat					ssland (GS4). The Wet	
code					ses venturing onto the nabundant <i>Sphagnum</i> ,	
PB1/GS4	and is very w	vet.	indery 211. It is sui	ractive, with	r abunuant opnagnum,	
	Species List				DAFOD Orali	
	Species (L		Species (commo	on name)	DAFOR Scale	
	Calluna vul	•	Ling		Frequent	
	-	n angustifolium	Common Cottong		Occasional	
	Eriopnorum Erica tetrali	n vaginatum	Hare's-tail Cotton Cross Leafed Hea	-	Occasional	
					Frequent Dominant	
	Molinia caerulea Nardus stricta		Purple Moor-grass			
	Potentilla erecta		Mat Grass Tormentil		Frequent Frequent	
	Pteridium aquilinum		Bracken		Frequent	
	Sphagnum spp.		Bog-mosses		Abundant	
	Trichophorum cespitosum		Deergrass		Frequent	
Ulex europaeus		Gorse		Occasional		
	Viola sp.		Violet		Occasional	
					Coodonnai	
Habitat Map			KIRATUR			
Legend						

		TARGET N	OTES – ID No. 101				
Survey Title: Mid Clare Habitat Mapping				Survey da	Survey date: 28/06/10		
Surveyor: Jen Fisher				County na	ame: Clare		
1:2,500 Shee	et no: 4214-c	Townland: Mounta	in Park	Grid Ref:	164787, 181757		
Target note	no.: TN1		Area: 1.3ha				
		cological Importance	e in a local contex	t. This habi	tat does not		
correspond [·] Habitat	to any Annex	I Habitats					
code	A typical e	xample of the Wet	Grassland GS4 i	n the local	area. The habita	at wa	
GS4		by rushes, the field				nd wa	
334	neavily poar	ched and had evident	ly been subject to g	nazing in the	e past.		
	Species Lis						
		cies (<i>Latin</i> name)	Species (comm	on name)	DAFOR Scale		
	-	ecurus geniculatus	Marsh Foxtail		0	_	
		ium palustre	Marsh Thistle		A		
		um palustris	Marsh Bedstraw		С	_	
		eria fluitans	Floating Sweet C	irass	C	_	
		sus lanatus	Yorkshire Fog		A		
		cus acutiflorus	Sharp-flowered Rush		A		
		cus effusus	Soft Rush		D		
	Lolium perennePerennial Rye GrassPoa trivialisRough Meadow GrassRanunculus acrisMeadow ButtercupRanunculus flammulaLesser Spearwort			A			
			A	_			
		unculus repens	Creeping Butter		A	_	
		ecio aquaticus	Marsh Ragwort	Jup	C		
	Trifolium repens Clover			A			
	11110	Thiolium repens Clover		A			
Habitat Map							
	CALCON!				A MART		
	1.4.						
						5	
	COMP AN						
	A COMPANY			CARGE (
	NO.			P. A.M.			
	2 3 M A		4214-c_TN1				
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Survey Title: Mid Clare Habitat Mapping				Survey date: 28/06/10	
Surveyor: Jen Fisher				County name: Clare	
1:2,500 Shee	et no: 4214-	c Townland: Knockagow	er	Grid Ref: 165	276, 1812
Farget note	no.: TN2	A	rea: 2ha		
-		Ecological Importance in		. This habitat	does not
correspond		ex I Habitats			
labitat ode		a of Wet Grassland GS4 ł	abitat surroup	ding a Conifer	Plantation
Joue		was very species rich with			
GS4/ GM1		11 was also present in the v			as running
WS1	of this hat	bitat. Some scrub and trees	were also prese	ent.	
	Species I	ist			
		Species (Latin name)	Species (cor	nmon name)	DAFOR
		Agrostis sp.	Bent sp.		0
		Alopecurus geniculatus	Marsh Foxtail		С
		Angelica sylvestris	Wild Angelica		0
		Anthoxanthum odoratum	Sweet Vernal	Grass	С
		Carex echinata	Star Sedge		0
		Carex sp.	Sedge		А
		Cirsium palustris	Marsh Thistle		С
		Cynosurus cristatus	Crested Dog's-tail		С
		Dactylorhiza fuchsii	Common Spo	otted Orchid	0
		Equisetum sp.	Horsetail sp.		С
		Filipendula ulmaria	Meadowswee	et	0
		Galium palustre	Marsh Bedstr	aw	0
		Holcus lanatus	Yorkshire Fog	9	С
		Iris pseudacorus	Yellowflag		F
		Juncus acutiflorus	Sharp-flowere	ed Rush	А
		Juncus conglomerate	Compact Rus	h	С
		Juncus effusus	Soft Rush		D
		Lotus pedunculatus	Large Birds-fo	oot Trefoil	0
		Lychnis flos-cuculi	Ragged Robi		0
		Lysimachia nemorum	Yellow Pimpe	rnel	0
		Myosotis sp.	Forget-me-kn	ot	0
		Prunella vulgaris	Selfheal		С
		Ranunculus flammula	Lesser Spear	wort	С
		Ranunculus repens	Creeping But	tercup	F
		Trifolium repens	Clover		F
		Ulex europaeus	Gorse		0
					0

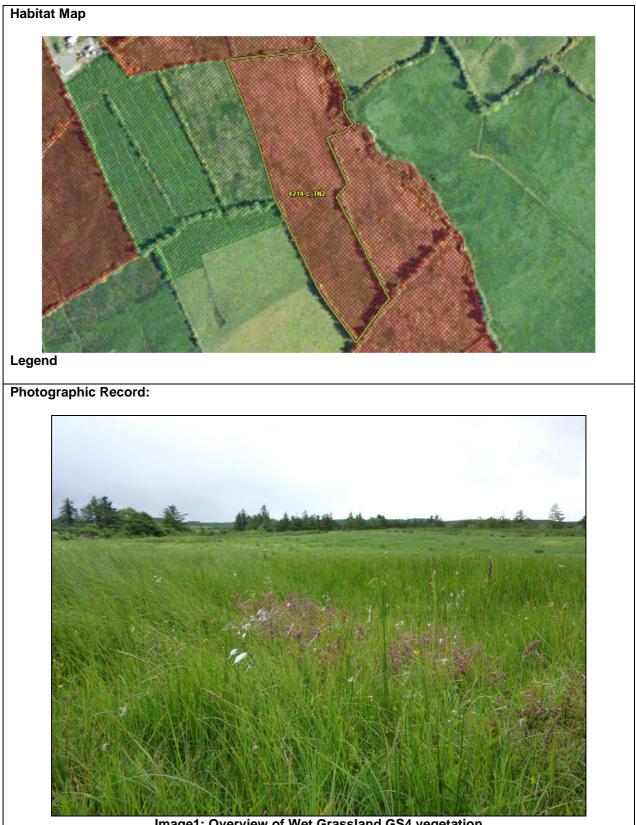


Image1: Overview of Wet Grassland GS4 vegetation

Survey Title: Mid Clare Habitat Mapping			Survey date: 28/06/10		
Surveyor: Jen Fisher				County name: Clare	
:2,500 Shee	et no: 4214-	c Townland: Ballymalone)	Grid Ref: 164	833, 181
arget note	no.: TN3	Α	rea: 3.9ha		
cological V prrespond	alue: High	Ecological Importance in a ex I Habitats	a local context	. This habitat	does not
bitat	Excellent	overale of a apopies rich M	(of Crossland ()	264) with on a	hundana
ode iS4	Sedges a habitat wa	example of a species rich W nd Rushes. Some peat influ- as heavily grazed and poach thern and eastern areas of t	ence (probably ed in parts and	a peatland hab	itat in the
	Species	Species (<i>Latin</i> name)	Species (con	nmon name)	DAFOR
		Agrostis sp.	Bent sp.		0
		Alopecurus geniculatus	Marsh Foxtail		C
		Angelica sylvestris	Wild Angelica		0
		Anthoxanthum odoratum	Sweet Vernal		C
		Carex echinata	Star Sedge		0
		Carex sp.	Sedge		A
		Cirsium palustre	Marsh Thistle		С
	Cynosurus cristatusCrested Dog's-tailDactylorhiza fuchsiiCommon Spotted Orchid		С		
			tted Orchid	0	
		Equisetum sp.	Horsetail sp.		С
		Filipendula ulmaria	Meadowswee	t	0
		Galium palustre	Marsh Bedstraw		0
		Holcus lanatus	Yorkshire Fog]	С
		Juncus acutiflorus	Sharp-flowere	ed Rush	А
		Juncus conglomeratus	Compact Rus	h	С
		Juncus effusus	Soft Rush		D
		Lotus pedunculatus	Large Birds-fo	oot Trefoil	0
		Lychnis flos-cuculi	Ragged Robi	n	0
		Lysimachia nemorum	Yellow Pimpe	rnel	0
		Myosotis sp.	Forget-me-kn	ot	0
		Prunella vulgaris	Selfheal		С
		Ranunculus flammula	Lesser Spear	wort	С
		Ranunculus repens	Creeping But	tercup	F
		Trifolium repens	Clover		F

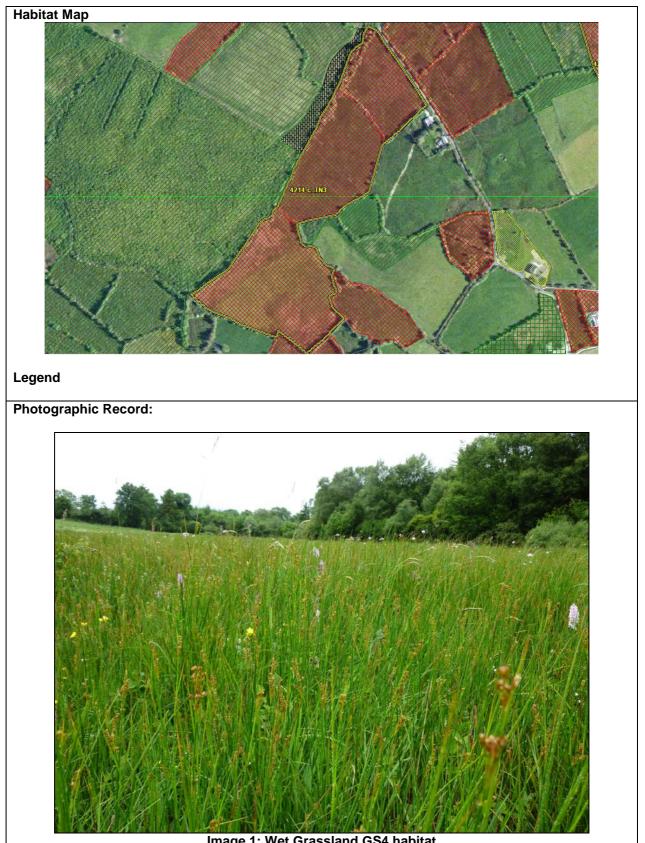
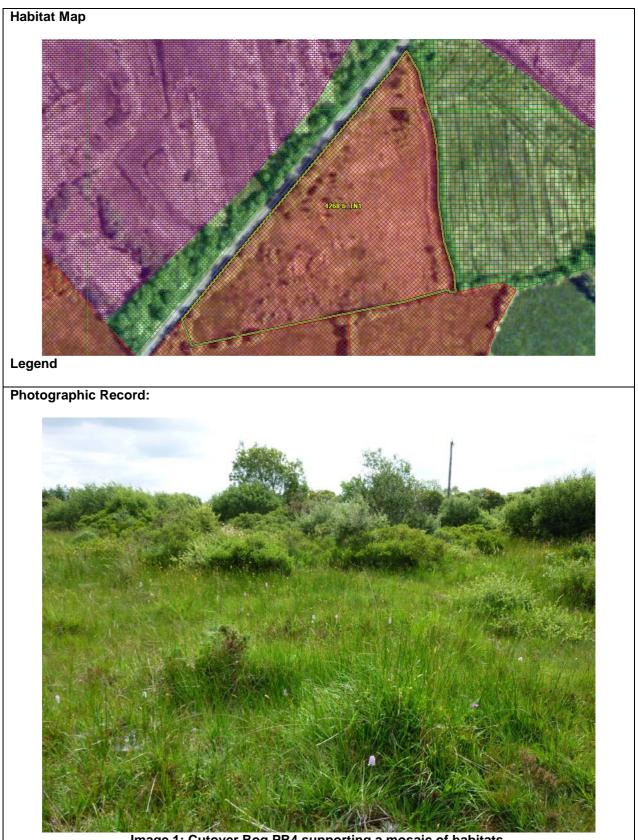


Image 1: Wet Grassland GS4 habitat

			ES – ID No. 104			
Survey T	urvey Title: Mid Clare Habitat Mapping Su			Survey date	Survey date: 29/06/10	
Surveyor: Jen Fisher			County nan	ne: Clare		
1:2,500 S	Sheet no: 426	3-b Townland: Drummag	hmartin	Grid Ref: 18	50190, 180	
arget n	ote no.: TN1		Area: 1.9ha			
	nd to any An This peat lar recorded du	n Ecological Importance in nex I Habitats nd habitat has been cutove ring the field visit, including W WS1, and Bog Woodland W	r at some time ir Wet Grassland G	n the past. A S4, Wet Hea	mosaic of	
	Species Lis					
		Species (<i>Latin</i> name)	Species (com		DAFOR	
		Anthoxanthum odoratum	Sweet Vernal G	Grass	А	
		Calluna vulgaris	Ling		А	
		Carex echinata	Star Sedge		F	
		Carex nigra	Common Sedg		A	
		Carex panicea	Carnation Sedg	ge	А	
		Cirsium dissectum	Meadow Thistle		0	
		Cynosurus cristatus	Crested Dog's-tail		А	
		Dactylorhiza fuchsii	Common Spott	ed Orchid	F	
		Dactylorhiza maculata	Heath Spotted	Orchid	F	
		Drosera rotundifolia	Round-leaved	Sundew	F	
		Equisetum sp.	Horsetail sp.		А	
		Erica cinerea	Bell Heather		F	
		Erica tetralix	Cross-leaved H	leath	F	
		Eriophorum angustifolium	Common Cotton Sedge Yorkshire Fog		0	
		Holcus lanatus			А	
		Juncus acutiflorus	Sharp-flowered	Rush	A	
	[Juncus conglomeratus	Compact Rush		A	
		Luzula sp.	Wood Rush		0	
		Molinia caerulea	Purple Moor-gr	ass	A	
		Myrica gale	Boy Myrtle		A	
		Narthecium ossifragum	Bog Asphodel		F	
		Osmunda regalis	Royal Fern		A	
		Potentilla erecta	Tormentil		A	
		Succisa pratensis	Devil's-bit Scat	pious	A	
	1 H	Sphagnum sp.	Bog Moss		А	



		ET NOTES – ID No. 105	
•	Mid Clare Habitat Mapping	Survey date: 12/07/10	
Surveyor: Jo	hn Curtin	County name: Clare	
1:2,500 Shee	t no: 4270-b Townland: Mo	oneenafolla	Grid Ref: 159616, 180959
Target note i		Area: 1.2ha	
habitats, *ac (7120)' and 'o	tive raised bogs (7110)', Deg depressions on peat substra	raded raised bogs stil tes of the Rhyncospor	
Habitat code PB1/PB4/ WN7/WS1/	(WN7). Forestry (WD1) plan	nted 15 years ago surro he past. Peat depths <	(WS1), drains and Willow woodlar bunds this. The area surrounding th 3m. Bearded Lichen (<i>Cladonia sp</i>) is also present.
WD1	Species List		
	Species (<i>Latin</i> name)	Species (common name)	DAFOR Scale
	Andromeda polifolia	Bog-rosemary	Rare
	Calluna vulgaris	Ling	Abundant
	Carex panicea	Carnation sedge	Frequent
	Cladonia sp	Lichen	Abundant
	Erica cinerea	Bell Heather	Occasional
	Erica tetralix	Heath, cross-leaved	Frequent
	Eriophorum angustifolium	Common Cottongrass	s Occasional
	Narthecium ossifragum	Bog asphodel	Frequent
	Potentilla erecta	Tormentil	Rare
	Rhynchospora alba	White Beak-sedge	Frequent
	Sphagnum sp	Peat moss	Abundant
	Trichophorum cespitosum	Deergrass	Frequent
		4270-b_TIVI	
Legend	olla		

APPENDIX B

HABITAT MAP

Knockaner -LISS/ Male nei Ballycroun • 306 Uggoon Upper . 105 Curragh Gorteenreach Carheen Derryvinna angel **Derrykeadgrar** = 1/ • 86 Medali Garruragh Tomb Castle /Clogher

(82)

Cillin

51 ●

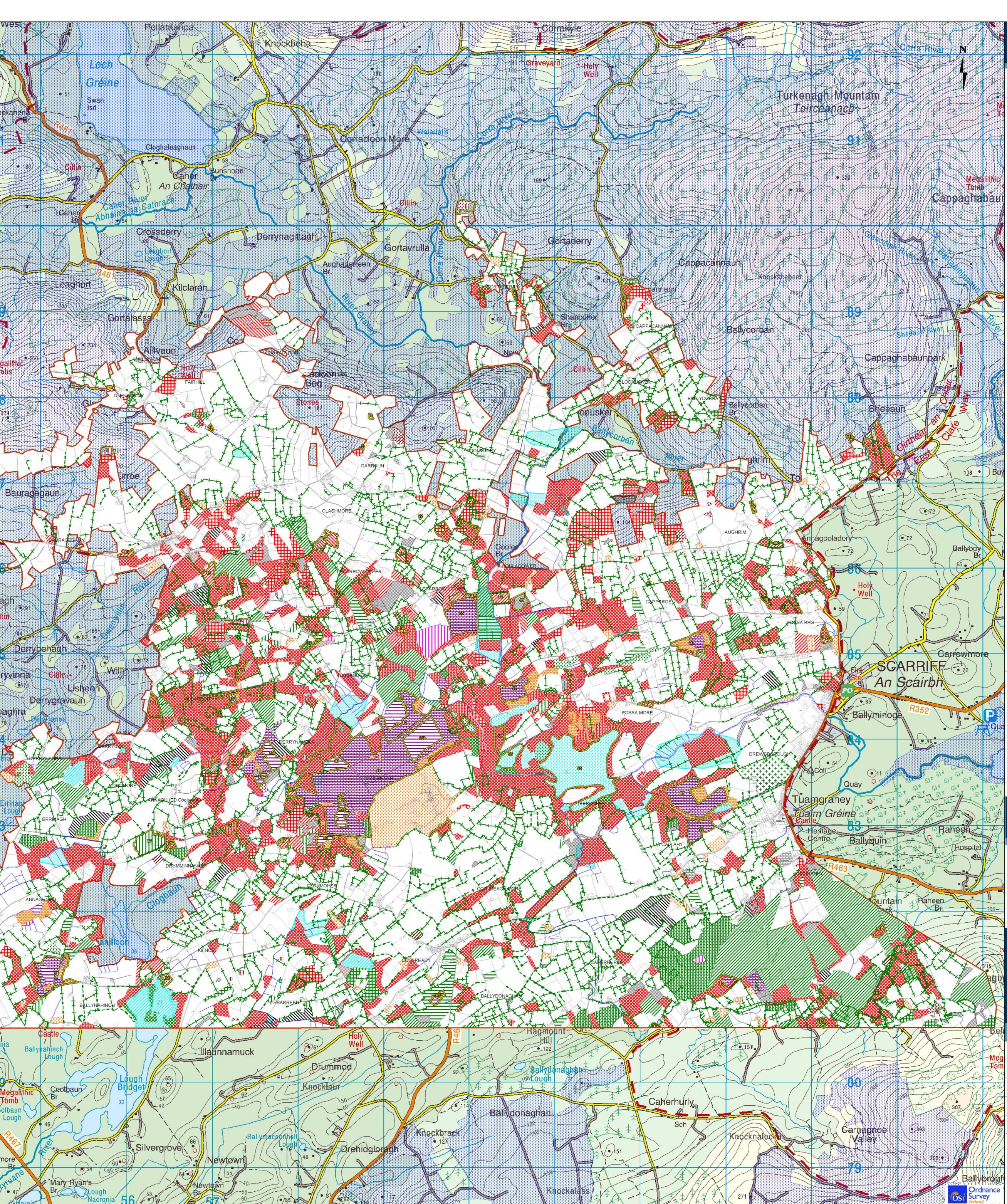
Cloghaum

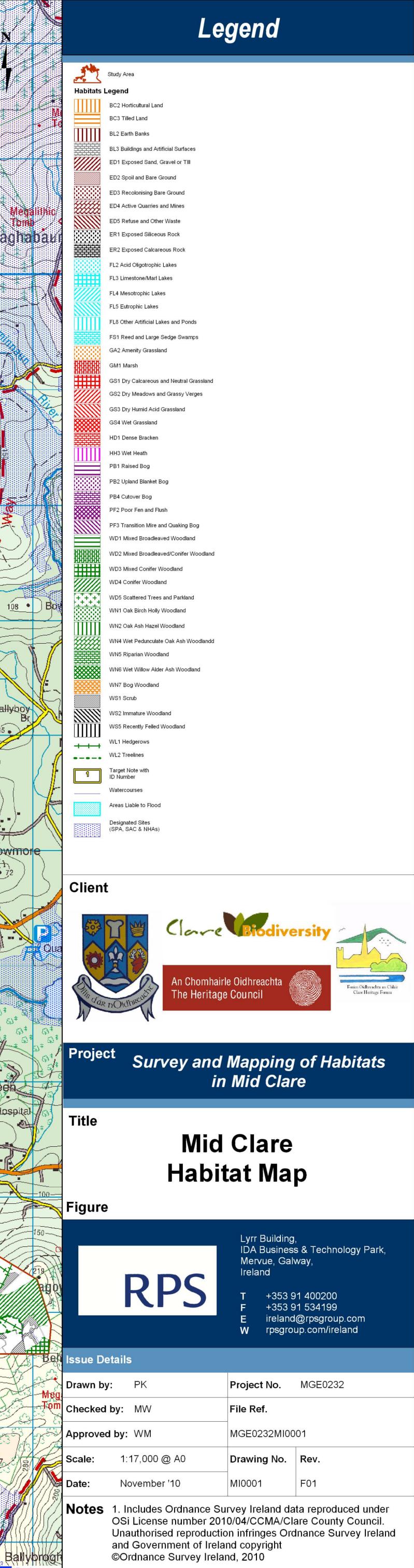
adòò

Kilboggoor

Fortane Bec

Derrymore





3 307