RPS

Habitat Mapping of Habitats in County Roscommon

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Habitat Mapping of Habitats In County Roscommon

Survey Findings Report

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1 EXECUTIVE SUMMARY

Roscommon County Council in association with the Heritage Council commissioned RPS, commissioned the mapping of habitats within County Roscommon. The study excluded lands designated for nature conservation.

County Roscommon 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 Roscommon is to provide an inventory and classification of the habitats present 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.

Detailed field by field surveys were conducted within; Roscommon Town, Castlerea, Ballaghaderreen and Boyle. Information on the habitats found within the County was gathered through and interpretation of aerial photography. The habitat boundaries for the towns were mapped and classified to Fossitt III in accordance with the national habitats classification produced by the Heritage Council, A Guide to Habitats in Ireland (Fossitt, 2000). The large scale mapping for the County was predominately mapped to Fossitt I and based on the quality of supplementary information the habitats were sub classified into Fossitt II and III.

The field study was conducted in July 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 habitat. Of the 89 terrestrial habitat types, 49 different types of habitats occur within the County Roscommon. Of the 49 different habitat types, 8 are classified under cultivated and built land and the remaining 41 habitats are described in detail throughout the 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 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 within the Towns 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 County Roscommon 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, Roscommon County Council, with the support of the Heritage Council, commissioned the mapping of habitats within County Roscommon.

This project will contribute towards fulfilment of actions in the Heritage Council Strategic Plan 2007-2011, the National Biodiversity Plan and at a county level; the project will contribute towards achievement of Chapter 8 of Roscommon County Development Plan 2008-2014 (Natural Landscape and Heritage).

The lack of definitive habitat information at national and county level is a huge constraint towards providing information to enable the consideration of biodiversity in a county, be it at policy level through development plans, development control, and provision of services or engaging with communities in the promotion of biodiversity at the local scale.

The purpose of these surveys is to establish the following:

a) To undertake a desktop review and survey of habitats within County Roscommon using other habitat datasets (GSI, native woodland surveys, OSI mapping etc)
b) To survey and map habitats of specified areas within Counties Roscommon to EU Habitats Directive and GIS map to Fossitt Level 1 or Fossitt Level 3 where appropriate.
c) To conduct a detailed field survey and mapping of specific towns, including; Roscommon Town, Castlerea, Ballaghaderreen and Boyle.
d) To present all information in a format suitable for planners and other technical staff within Roscommon County Council.
e) To inform forward planning and Roscommon County Council and Strategic Planning.

The detailed mapping and inventory of the habitats, landscape features and ecological features within County Roscommon 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.

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. Jean Hamilton and Jennifer Fisher conducted the field surveys. 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 is an independent botanist 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 County Roscommon, using published information available from the GSI.

2.3 SCOPE

There are two parts to the habitat mapping project as detailed in the Tender Brief provided by Roscommon County Council. The requirements under each part are as follows;

Part i: Strategic Habitat Survey

- Scope existing biological datasets for County Roscommon, including information gathered in the 2007 ‘Audit of Biological Datasets’ carried out for both counties by MERC Consultants; and using existing geographical habitat datasets,
- Carry out desktop analysis of data gathered,

- Prepare a preliminary GIS habitat map for the county, to include baseline information on the location, type, extent and distribution in the county,
- Identify sites of potential conservation interest outside of designated areas for management or safeguarding at county level,
- Identify potential ecological corridors or stepping stones,
- Identify barriers between habitat types where corridors / stepping stones should be provided,
- Provide maps of protected / rare species of outstanding interest (such as over-mature trees),
- Provide maps of invasive and alien species where encountered,
- Guide spatial and development planning of Roscommon County Councils by provision of information about habitat areas of ecological value, outside of designated areas,
- Following mapping and field work suggest areas which may in the future warrant further study,
- Collate and make the information gathered available for future research, through a detailed desktop survey and review report for each county and a GIS database,
- Contribute to baseline information required for the development of a Local Biodiversity Action Plan for each county, and
- Project to be carried out in accordance with 'Best Practice Guidance for Habitat Survey and Mapping', pre-publication version made available on line, by The Heritage Council, February 2010.

Part ii: Site Based Habitat Survey

- Carry out detailed habitat survey and mapping to Fossitt Level 3 for selected settlements in Roscommon, settlements are as follows;

Table 2.1: Settlements Listed within County Roscommon

Settlements Name	County	Area Covered
Roscommon	Roscommon	24km^2
Boyle	Roscommon	
Ballaghaderreen	Roscommon	
Castlerea	Roscommon	

Designated sites for environmental protection are subject to separate habitat mapping programmes by the NPWS, and therefore have been excluded from the study area. It is also anticipated that urban areas will be excluded from the vector mapping and aerial photography and classified as built environment.

2.4 METHODOLOGY

The habitats within County Roscommon 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.

The key elements employed in the preparation of the Roscommon Habitat Mapping Project follow the steps in planning and managing habitat surveys as detailed in the Heritage Councils *Best Practice Guidance for Habitat Survey and Mapping*, see **Table 2.2.**

Table 2.2: Outline Steps in Planning and Managing Habitat Mapping

Step	Tasks
Determine survey objectives	Identify size of survey area
	Determine data to be collected during field survey
	Decide proportion of survey area to be covered by field survey
Decide on project management structures	Appoint project steering group if required
	Appoint project team
	Provide required skills and training
Prepare for field survey	Finalise survey methodology
	Consider land access
	Divide survey area if required
Prepare project data management procedures	Determine data presentation objectives
	Determine data circulation protocols

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.

- Roscommon County Development Plan 2008-2014,
- Roscommon County Heritage Plan 2004-2008,
- 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 Roscommon 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', pre-publication version, by The Heritage Council, February 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 3km^2 tiles for ease of processing and field work.

The aerial photography was carefully examined to interpret the type of habitats present within County Roscommon. 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.

2.4.3 Field Access

Prior to the commencement of field surveys a description of the project was provided to local newspapers and parish newsletters. Surveyors had information leaflets to issue to farmers during the site survey, if required.

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

Field sites and surveys were identified and co-ordinated from the results of the desk study. The towns selected for detailed habitat mapping land areas, the survey planning was based on the guidance Heritage Council's *Best Practice Guidance for Habitat Survey and Mapping* (2010), which suggests that between 0.8 and 6.5 km^2 per day can be covered during habitat mapping projects. On average the field surveyor covered up to 2 km^2 per day, due to access, terrain, naturalness of habitats encountered and resulting relevés. Designated sites and those areas which were delineated as the built environment were excluded from the field surveys.

The field surveys were conducted by RPS ecologists with significant experience of habitat and botanical surveying. The habitats were classified according to Level III of *A Guide to Habitats in Ireland* (Fossitt 2000). The survey will be 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.

2.4.5 Habitat Classification

The habitats 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 project identified 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.

Where sites of ecological value are encountered, the study area was divided into sample stands based on plant community units. Target notes were prepared based on each relevé within the habitat. A single relevé plot was placed at a carefully chosen site within each sample stand so that the data from the plot represent the attributes of the stand as a whole. The DAFOR Scale was used to characterize the vegetation.

2.4.6 Map Production

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

Photographs were taken for each habitat type 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. Metadata will comply with the requirements of the INSPIRE Directive (EC 2007/03/14).

3 STUDY AREA CONTEXT

3.1 STUDY AREA

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

3.2 LANDFORM AND GEOLOGY

3.2.1 Landform

The total area of Co. Roscommon is 2,538 square kilometers and is bound to the east by the River Shannon and the River Suck to the West.

Roscommon is generally a low-lying County, with meandering rivers and lakes, wetlands such as the Shannon Callows, Raised Bogs, Semi-natural Grasslands, Turloughs and Caves. The unique landscape supports a diversity of habitats and abundance of flora and fauna, as well as historical and archaeological features.

The uplands are confined largely to the north east of the County on the borders of Sligo and Leitrim. The highest peaks are Kilronan Mountain (355m OD) and Corry Mountain (426m OD). The Curlew Mountain Range also on the boundary of Roscommon and Sligo reaches elevations of just over 250 metres. The low-lying plains of southern Roscommon supports extensive peatlands, whilst the grey limestone in the central area of the county forms rising plateaus. A drumlin belt runs in an east-west direction, north of Strokestown.

The River Shannon forms the whole of the eastern boundary of Co. Roscommon. The Suck rises in Mayo and soon passes into Roscommon, running through Lough O' Flynn and passing by Castlerea, forming for about 50 miles the boundary between counties Roscommon Galway, till it joins the River Shannon near Shannon Bridge. The Arigna flows mostly through the northern part of the county, into the Shannon. The Boyle River flows through the "Plains of Boyle" from Lough Gara to Lough Key, and merges with the Shannon. Other rivers include the Breedogue River and the River Lung.

Lakes of varying size are scattered throughout the county. The most significant of these is Lough Key which covers an area of 9 square kilometres, is nestled in the north of Roscommon. The lakes on the River Shannon which extend into the county are Lough Ree, Lough Forbes, Lough Bofin, Lough Boderg and Lough Allen. Near the town of Lough Glinn stands a lake of that name, and in the same part of the county are Loughs Cloonagh, Errit and Cloonacolly. Near Ballinlough Lough O'Flynn is of considerable size. South of Elphin is Kilglass Lake, 2 miles in length. South of Strokestown are Loughs Ardakillen, Clonfree, and Finn. In the south are Lough Funshinagh, Lough Croan, and Corkip Lake.

Turloughs are temporary lakes that are filled and emptied through a swallow hole connected with the underground water table. Turloughs are abundant in Roscommon, especially in the west of the county. A grouping occurs in the region around Castleplunkett and a second grouping occurs along the River Suck Valley, between Castlecoote and Four Roads. Two further sites are located in the Ballinlough area. **Figure 3.1** illustrates the landform of County Roscommon.

Figure 3.1: Landform of County Roscommon[1].

[1] Source - Hole-filled seamless SRTM data V1, 2004, International Centre for Tropical Agriculture (CIAT), available from http://gisweb.ciat.cgiar.org/sig/90m_data_tropics.htm.

3.2.2 Geology, Soils and Subsoils

The geology and soils of County Roscommon 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 County Roscommon is presented in **Figure 3.2** and was constructed from available GSI (1:100,000) Bedrock Geology maps and reports. The oldest rocks in County Roscommon are from the Ordovician and Silurian periods, 470 – 420 years ago, and consist of sandstones, siltstones and shales with minor amounts of volcanic tuffs and lavas. These form part of a belt of bedrock which stretches from Longford through Roscommon, County Down and into the Southern Uplands of Scotland.

Most of Roscommon's geological history is within the Carboniferous Period, 350 – 325 million years ago. Nearly all the county has limestone near the surface, which was laid down in a shallow tropical sea which covered Ireland during this period. This limestone occurs in thick beds that are continuous over a large area. In the uplands around Lough Allen on the north-eastern boundary of the county, younger Carboniferous rocks are present. These comprise mainly shales and sandstones with occasional beds of coal, and some ironstone nodules.

Glacial deposits overlay the limestone in some areas, but it is generally a thin layer. Parts of Roscommon are now known to have karstic features such as swallow holes and caves in the limestone, where water mostly drains underground. Turloughs are another feature of this karstic environment. Turloughs are temporary lakes that are filled and emptied through a swallow hole connected with the underground water table.

Eskers are plentiful in the southeast part of the county. Eskers are conspicuous ridges of gravel deposited by rivers flowing beneath ice sheets during the last ice age, and were left as sinuous ridges once the ice had melted. Many of these ridges have been subject to gravel extraction by small quarries.

From information gleaned from the Teagasc Subsoils and Soils map, County Roscommon is predominantly underlain by either sandstone or shale dominated till, till derived from Devonian and Carboniferous rocks and cutover peat.

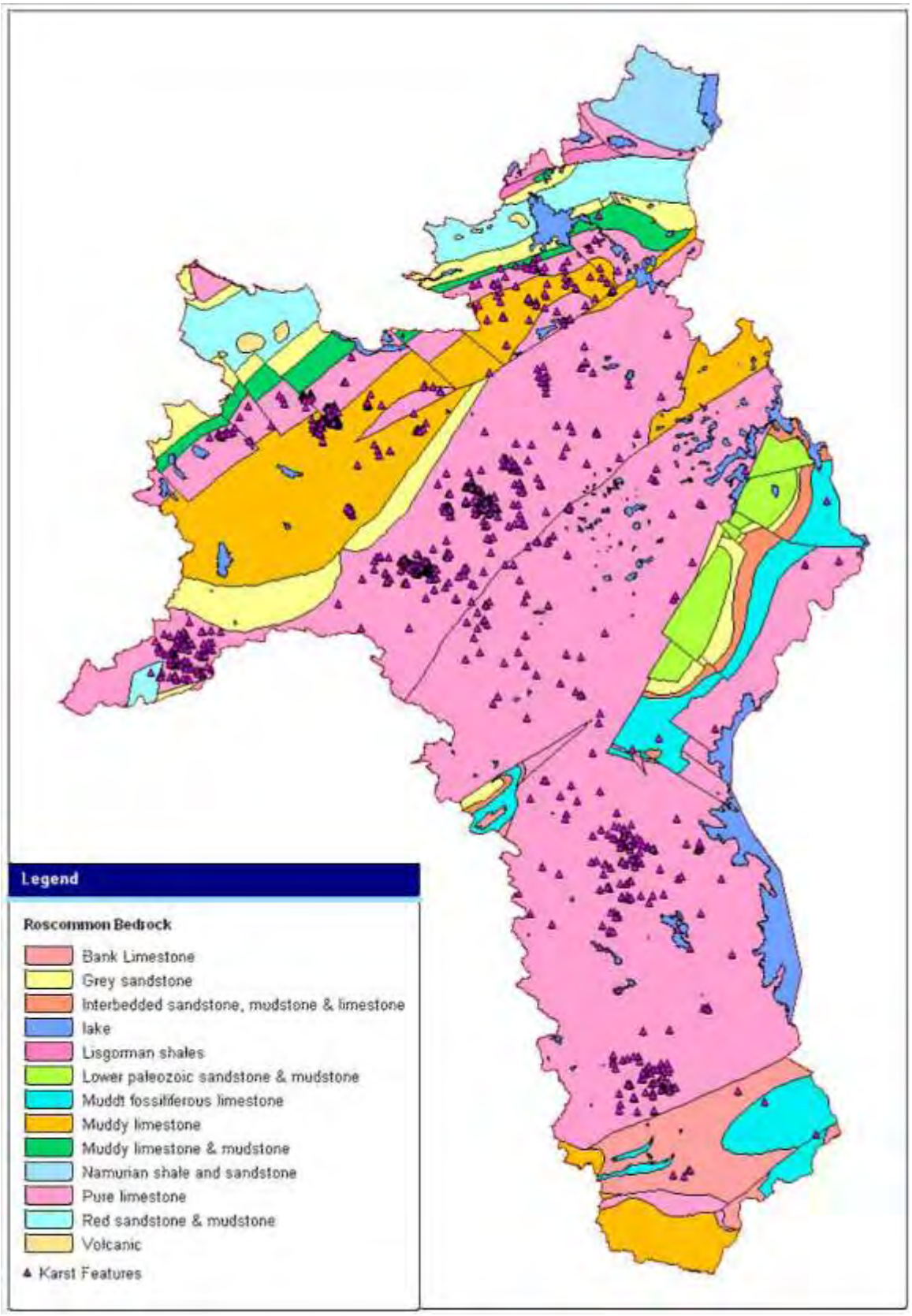


Figure 3.2: Geology of County Roscommon.

Drumlins occur in the north east of the county, north of Strokestown, and run in an east-west direction. These drumlin hills are often well drained and are used extensively for pasture and dominated by Improved Agricultural Grassland (GA1) with Broadleaf Woodland (WD1). Interspersed between the drumlin hills are numerous Loughs, Mesotrophic Lakes (FL4) and pockets of wetland where the drainage is impeded and peat has formed giving rise to Wet Grassland (GS4), Marsh (GM1), Raised Bog (PB1), Reed and Large Sedge Swamp (FS1) and areas of Rich Fen and Flush (PF1) habitats.

Raised bogs are common within the county. These have been subject to extensive cutting and land reclamation, resulting in a variety of habitats including Cutover Bog (PB4), Wet Heath (HH3), Wet Grassland (GS4) and Acid Grassland (GS3). Large areas of Cutover Bog have also been planted for commercial forestry (WD4).

3.2.3 Karst Features

Karstification is the process whereby limestone is slowly dissolved by acidic waters moving through the rock. This most often occurs in the upper bedrock layers where the resulting features are referred to as epikarst. Solution of limestone can occur along pre-existing fissures and fractures in the rock which slowly become enlarged. Other factors influencing solution processes include the type and solubility of limestone, the degree of jointing, faulting and bedding, the chemical and physical character of the groundwater, the rate of water circulation and the subsoil cover.

Solution results in the progressive development of distinctive karst landforms such as collapses, caves, swallow holes, sinking streams, turloughs (seasonal lakes) and dry valleys. It also results in a unique and dynamic groundwater and surface water flow regime, where drainage is largely underground in solution enlarged fissures and conduits.

On review of online geological data (http://www.gsi.ie), there are 1289 recorded karst features scattered throughout Roscommon, comprising caves, springs, enclosed depressions, swallow holes and turloughs. Turloughs are given priority status under the EU Habitats Directive and so are of major ecological importance.

3.3 LAND USE

The predominant land use in Roscommon is agricultural, comprising mainly pasture and hay/silage (Improved Agricultural Grassland (GA1), but there are some fields with Arable crops (BC1) and horticultural land (BC2). Other common land uses are peat extraction, forestry and fisheries. The villages and towns including support residential and commercial business.

Coillte owned forested lands and small pockets of privately owned forestry scattered throughout Roscommon. Peat extraction is a prominent activity within the Blanket Bogs to the north and Raised Bogs scattered throughout the County.

Tourism is a thriving industry, with thousands of visitors hiring cruise boats on the River Shannon every year. Other attractions include Lough Key Forest Park near Boyle in the northeast of the county, Strokestown Park House and Famine Museum and Arigna Mines. There are also a number of local amenities which can be enjoyed by tourists and residents of the towns include the following: Game and coarse fishing, Golf, Horse riding, and Walking. The Suck Valley Way is a 100km Waymarked Walk which runs through the Suck River Valley, incorporating parts of counties Roscommon and Galway. It is unusual among Irish Waymarked Walks because for most of its length it runs across lowland farms. Other important walkways include the Arigna Miner's Way and Historical Trail, which is a network of walking paths which wind their way through adjoining parts of Counties Leitrim, Roscommon and Sligo. The Miners Way follows many of the paths that were used by the miners going to work in the Arigna coal mines. These walks are important from a tourism perspective.

3.4 ECOLOGICAL IMPORTANCE

County Roscommon covers an area of approximately 2,538km^2. The County has a rich and varied landscape and supports a diversity of wildlife and habitats that are both rare in Ireland and Europe. As a result approximately 180km^2 (7%) of the landmass is designated for nature conservation.

Sites of high conservation importance 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 3.1** and details of designated sites are detailed in **Table 3.2**, and illustrated in **Figure 3.3.**

Table 3.1: National and European Legislation for Nature Conservation

Legislation		Explanatory Note
EU Legislation	**Habitats Directive 92/43/EU** (transposed into Irish Law under the European Communities (Natural Habitats) Regulations 1997 SI/97/094 as amended)	This legislation is structured around the 'Natura 2000' network of protected sites and a strict system of species protection. Ireland has a legal obligation to protect the habitats and species which are listed in the Annexes to the legislation, as Special Areas of Conservation (SACs). The main objective of the Directive is to maintain or restore natural habitats, and species of plants and animals, which are of conservation importance as defined in the Directives, at a favourable conservation status. Ireland supports 60 Annex I 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).
	Birds Directive 79/409/EE	This Directive identifies 194 species and sub-species of birds afforded protection. Annex 1 lists the bird species for which conservation requires the designation of Special Protection Areas (SPAs); this also applies to important concentrations of migratory birds.
National Legislation	**Wildlife (as amended) Act 1976**	This legislation aims to protect sites of scientific interest because of their habitats, plants and animals, or landforms and geological or geomorphological features 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 SAC and SPA sites. The Act further encompasses the statutory protection for important geological and geomorphological sites, including fossil sites by designation as NHAs.
	The Flora (Protection) Order 1999	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 illegal to cut, uproot or damage the listed species in any way, or to offer them for sale. This prohibition extends to 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: Special Areas of Conservation (SACs) in Co. Roscommon

SITE	STATUS	SITE CODE	PRINCIPAL HABITAT
Annaghmore Lough	cSAC	001626	Hard Water Lake, Alkaline Fen
Ballinturly Turlough	cSAC	000588	Turlough
Ballynamona Bog & Corkip Lough	cSAC	002339	Active Raised Bog
Bellanagare Bog	cSAC	000592	Active Raised Bog
Callow Bog	cSAC	000595	Active Raised Bog
Carrowbehy / Cahir Bog	cSAC	000597	Active Raised Bog
Castlesampson Esker	cSAC	001625	Orchid Rich Calcareous Grassland
Cloonchambers Bog	cSAC	000600	Active Raised Bog & Alkaline Fen
Cloonshanville Bog	cSAC	000614	Active Raised Bog
Coolcam Turlough	cSAC	000218	Turlough
Corbo Bog	cSAC	002349	Active Raised Bog
Corliskea/Trien/ Cloonfelliv Bog	cSAC	002110	Active Raised Bog & Bog Woodland
Derrinea Bog	cSAC	000604	Active Raised Bog
Drumalough Bog	cSAC	002338	Active Raised Bog
Errit Lough	cSAC	000607	Hard Water Lake
Four Roads Turlough	cSAC	001637	Turlough
Killeglan Grassland	cSAC	002214	Orchid Rich Calcareous Grassland
Lisduff Turlough	cSAC	000609	Turlough
Lough Arrow	cSAC	001673	Hard Water Lake
Lough Croan Turlough	cSAC	000610	Turlough
Lough Forbes Complex	cSAC	001818	Natural Eutrophic Lake, Active Raised Bog
Lough Funshinagh	cSAC	000611	Turlough
Lough Ree	cSAC	000440	Active Raised Bog
Mullygollan Turlough	cSAC	000612	Turlough
River Moy	cSAC	000298	Active Raised Bog
Shannon Callows	cSAC	000216	Lowland wet grassland
Tullaghanrock Bog	cSAC	002354	Active Raised Bog
Urlaur Lakes	cSAC	001571	Hard water lakes

Table 3.3: Special Protection Areas (SPAs) in Co. Roscommon

SITE	STATUS	SITE CODE	PRINCIPAL SPECIES
Bellanagare Bog	SPA	004105	Wintering Greenland White-fronted Goose, Golden Plover & Red Grouse
Lough Gara	SPA	004048	Greenland White-fronted Goose & Whooper Swan, Great Crested Grebe & Mute Swan
Lough Ree	SPA	004064	Wigeon, Teal, Pintail, Tufted Duck, Goldeneye, Golden Plover & Lapwing
Middle Shannon Callows	SPA	004096	Whooper Swan, Mute Swan, Wigeon, Golden Plover, Lapwing & Black-tailed Godwit
Lough Arrow	SPA	004050	Tufted Duck, Pochard, Goldeneye Little Grebe, Coot Whooper Swan & Mallard
River Suck Callows	SPA	004097	Greenland White-fronted Goose, Whooper Swan, Lapwing & Wigeon

Table 3.4: Natural Heritage Areas (NHAs) in Co. Roscommon

SITE	STATUS	SITE CODE	HABITAT
NHA's			
Bella Bridge Bog	NHA	000591	Raised Bog
Carrickynaghtan Bog	NHA	001623	Raised Bog
Cornaveagh Bog	NHA	000603	Raised Bog
Derrycanan Bog	NHA	000605	Raised Bog
Lisnanarriagh Bog	NHA	002072	Raised Bog
Lough Namuckla Bog	NHA	000220	Raised Bog
Moorfield Bog / Farm Cottage	NHA	000221	Raised Bog
Suck River Callows	NHA	000222	Wet Grassland
Tullaghan Bog	NHA	001652	Raised Bog
Corry Mountain Bog	NHA	002321	Blanket Bog
pNHA's			
Ardagh Bog	pNHA	001222	Raised Bog
Ardakillin Lough	pNHA	001617	Hard Water Lake
Attishane Turlough	pNHA	001618	Turlough
Ballinturly Turlough	pNHA	000588	Turlough
Ballynamona Bog & Corkip Lough	pNHA	002302	Raised Bog
Brierfield Turlough	pNHA	000594	Turlough
Carrowreagh Turlough	pNHA	001624	Turlough
Castleplunket Turlough	pNHA	000598	Turlough
Cloonshanville Bog	pNHA	000614	Raised Bog
Corbally Turlough	pNHA	001627	Turlough
Corrigeenroe Marsh	pNHA	000596	Marsh
Corry Mountain Bog	pNHA	002321	Upland Blanket Bog
Cranberry Lough	pNHA	001630	Oligotrophic Lake
Drum Bridge	pNHA	001631	Marsh
Drummans Island	pNHA	001633	Oak Ash Hazel Woodland
Feacle Turlough	pNHA	001634	Turlough
Fin Lough	pNHA	001636	Fen
Hogs Island	pNHA	001638	Ash Woodland
Kilglass & Grange Loughs	pNHA	000608	Hard Water Lake
Kilronan Mountain Bog	pNHA	000617	Upland Blanket Bog
Lough Arrow	pNHA	001673	Hard Water Lake
Lough Boderg & Lough Bofin	pNHA	001642	Wet Woodland, Mesotrophic Lake
Lough Drumharlow	pNHA	001643	Callows
Lough Gara	pNHA	000587	Raised Bog
Lough Glinn	pNHA	001644	Mesotrophic Lake
Lough O'Flynn	pNHA	001645	Natural Eutrophic Lake
Lough Ree	pNHA	002310	Mesotrophic Lake, Grasslands, Raised Bog, Wet Woodland
Newtown Turlough	pNHA	001646	Turlough
Rathnalulleagh Turlough	pNHA	000613	Turlough
Shad Lough	pNHA	001648	Turlough
Tawnytaskin Wood	pNHA	001651	Oak Ash Hazel Woodland

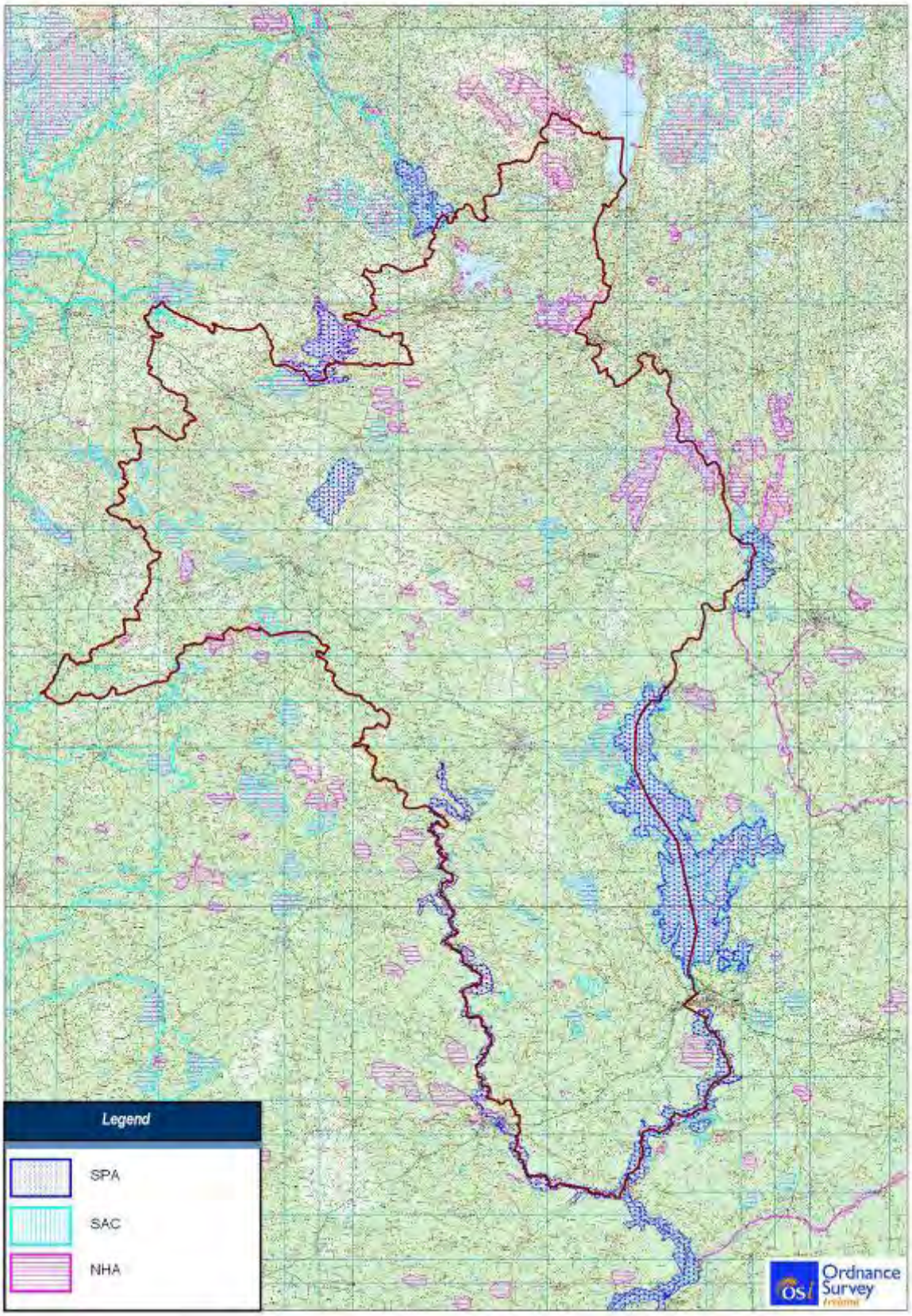


Figure 3.3: County Roscommon and Designated Sites

4 HABITATS

4.1 HABITAT EVALUATION

The National Roads Authority (NRA) '*Guidelines for Assessment of Ecological Impacts of National Road Schemes, NRA Revision 2, 2009',* include a system for evaluating sites, habitats and species populations on a five-point geographic scale of importance (NRA, 2009). Habitats that are assessed to be good examples of Priority and Non-Priority Annex I habitats are considered to be of International importance. Semi-natural habitats with high biodiversity that are vulnerable are considered to be of either National importance or County Importance. Habitats that are considered semi-natural habitat or locally important for wildlife are considered to be of Local Importance (higher value) and sites containing small areas of semi-natural habitat or are of some importance in maintaining connectivity between habitats are considered to be of Local Importance (lower value).

This ranking scale takes into account criteria such as rarity, naturalness and position in the ecological unit. This system has been used to evaluate the habitats recorded within the study area. **Table 4.1** provide a suggested ranking based on the Site Evaluation Scheme as detailed in the NRA Guidelines.

Table 4.1: Ecological Site Assessment Scheme

Ratings for Ecological Sites	
A	**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: o Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or o 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).

Ratings for Ecological Sites	
	- 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).
B	**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: o Species protected under the Wildlife Acts; and/or o Species listed on the relevant Red Data list. - Site containing 'viable areas' of the habitat types listed in Annex I of the Habitats Directive.

Ratings for Ecological Sites	
C	**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: o Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; o Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; o Species protected under the Wildlife Acts; and/or o 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: o Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; o Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; o Species protected under the Wildlife Acts; and/or o 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.
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 town's surveyed and overall ranking in accordance with the guidelines in **Table 4.1** are detailed in **Table 4.2**.

Table 4.2: Conservation Value of Habitats Recorded Within County Roscommon

Habitat Group	Habitat Sub-Group	Habitat	Links to Annex I Habitats	Ranking
F Freshwater	**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)	A/B

Habitat Group	Habitat Sub-Group	Habitat	Links to Annex I Habitats	Ranking
		FL3 Limestone Marl Lakes	Limestone & Marl Lakes corresponds to the annexed habitat, 'hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. (3140)'.	A/B
		FL4 Mesotrophic lakes	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea (3130)	C
		FL5 Eutrophic Lakes	Natural Eutrophic Lakes with Magnopotamion or Hydrocharition-type vegetation (3150)	A/B- Natural Examples E - Polluted Waters
		FL6 Turloughs	Turloughs (3180) under Annex I of the EU Habitats Directive.	A/B
	FW Watercourses	FW1 Eroding/upland rivers	Watercourses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation (3260)	C
		FW2 Depositing/lowland rivers	Rivers with muddy banks with Chenopodion rubri p.p. and Bidention p.p. vegetation (3270)	C
		FW3 Canals		D
		FW4 Drainage ditches		D
	FS Swamps	FS1 Reed and large sedge swamps		C
		FS2 Tall herb swamps	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels (6430)	C
G Grassland & Marsh	**GA Improved grassland**	GA1 Improved agricultural grassland		E
		GA2 Amenity grassland		E
	GS Semi-natural grassland	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)	C

Habitat Group	Habitat Sub-Group	Habitat	Links to Annex I Habitats	Ranking
		GS2 Dry meadows and grassy verges	Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*) (6510)	C
		GS3 Dry-humid acid grassland	*Species-rich Nardus grasslands on siliceous substrates in mountain areas (and submountain areas in continental Europe) (6230)	C
		GS4 Wet grassland	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) (6410)	D/C
	GM Freshwater marsh	GM1 Marsh	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels (6430)	D/C
H Heath & Dense Bracken	**HH Heath**	HH3 Wet heath	Northern Atlantic wet heaths with Erica tetralix (4010)	C
	HD Dense bracken	HD1 Dense bracken		E
P Peatlands	**PB Bogs**	PB1 Raised bogs	*Active raised bogs (7110)	A/B
		PB2 Upland Blanket Bogs	Blanket Bogs (*if active) (7130)	A/B
		PB4 Cutover bog	Depressions on peat substrates of the Rhynchosporion (7150)	C
	PF Fens and Flushes	PF1 Rich fen and flush	Alkaline fens (7230)	A/B
W Woodland and scrub	**WN Semi-natural woodland**	WN1 Oak Birch Holly Woodland		C/D
		WN2 Oak-ash-hazel woodland		C
		WN5 Riparian woodland		C/D
		WN6 Wet willow-alder-ash woodland		C
		WN7 Bog woodland	*Bog woodland (91D0)	A/B
	WD Highly modified/non-Native Woodland	WD1 (Mixed) broadleaved woodland		D
		WD2 Mixed broadleaved/conifer woodland		D
		WD3 (Mixed) Conifer plantation		E
		WD4 Conifer plantation		E
		WD5 Scattered		E

Habitat Group	Habitat Sub-Group	Habitat	Links to Annex I Habitats	Ranking
		trees and parkland		
	WS Scrub/transitional woodland	WS1 Scrub	Juniperus communis formations on heaths or calcareous grasslands (5130)	D
		WS2 Immature woodland		D/E
		WS5 Recently Felled Woodland		E
	WL Linear woodland/scrub	WL1 Hedgerows		D
		WL2 Treelines		D
E Exposed rock and disturbed ground	**ER Exposed rock**	ER1 Exposed Siliceous Rock	Siliceous rocky slopes with chasmophytic vegetation (8220)	A/D
		ER2 Exposed calcareous rock	Calcareous rocky slopes with chasmophytic vegetation (8210) & *limestone pavements (8240)'	A/D
		EU1 Non-Marine Caves	Caves not open to the public (8310)	A/B
		ED1 Exposed sand, gravel or till		E
		ED2 Spoil and bare ground		E
		ED3 Recolonising bare ground		E
		ED4 Active Quarries& Mines		E
B Cultivated and built land	**BC Cultivated land**	BC1 Arable crops		E
		BC2 Horticultural land		E
	BL Built Land	BL3 Buildings & Artificial Surfaces		E

* 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.

4.2 HABITATS RECORDED WITHIN COUNTY ROSCOMMON

The following section comprises summary descriptions and assessments of the principal habitats found within County Roscommon. The habitats are first described in terms of the broad Fossitt Level I classification, to which the entire county was classified, to a reasonable level of accuracy, using aerial photography. Where possible, these habitats were also assigned a Fossitt Level II classification, and these are also described below.

In some cases it was possible to assign a Fossitt Level III classification to the habitats using aerial photography, for example when supplementary data was available (e.g. FIPS), or when the habitat type was obvious due to certain features, e.g. peat banks in Cutover bogs.

Four towns in the county were surveyed by ecologists, and the habitats within these study areas were classified to Fossitt Level III. Classification of habitats within these study areas is therefore considered to be highly accurate. Habitats of conservation and biodiversity interest for each of the study towns are complemented by species lists and target notes which are contained in Appendix A-F.

4.2.1 F Freshwater

This broad category includes all bodies of freshwater that may be natural, modified or entirely artificial, and that are either permanent or seasonal. Swamps are an integral part of many freshwater bodies and are also discussed in this section.

4.2.1.1 FL Lakes

Lakes and ponds include all bodies of open or standing freshwater that lack a strong unidirectional flow of water. These can be natural, modified or entirely artificial, as in the case of some reservoirs, ornamental lakes, or flooded quarries and gravel pits, and may be either temporary or seasonal as in the case of turloughs and some ponds. Artificial linear water bodies with no obvious connection to a wider drainage network are also included here. To distinguish a lake from a wide stretch of river, most of the water in the former should be either standing, moving imperceptibly or circulating within the basin, as opposed to moving with a strong unidirectional flow. Note that no distinction is made between lakes and ponds.

Lakes can provide important habitat for waterfowl, supporting internationally important numbers of Greenland White Fronted Geese, nationally important numbers of Green Tufted Duck, Coot, and regionally/locally important numbers of Great Crested Grebe, Wigeon, Teal and Goldeneye along with Pochard and Lapwing. Mesotrophic lakes can support populations of white clawed crayfish (*Austropotamobius pallipes*), an Annex II species of the EU Habitats Directive. Lakes and watercourses can be of high amenity and scenic value.

- **FL2 Acid Oligotrophic Lakes**

Lough Allen is classified as an oligotrophic lake (EPA 2002) which means that it has low nutrient inputs and relatively acid waters. Small oligotrophic ponds can be found in Upland Blanket Bog PB2 habitats, such as in Corry Mountain Bog NHA. The shores and margins of these lakes support a variety of habitats including Reed and Large Sedge Swamps FS1, Tall Herb Swamp FS2, Rich Fen and Flush PF1, Wet Grassland GS4, Marsh GM1 and Wet Heath HH3. Species typical of this habitat include Bulbous rush (*Juncus bulbosus*), Common rush (*Juncus effusus*), Bog Pondweed (*Potomageton polygonifolius*) and Common Spike-rush (*Eleocharis palustris*). Small submerged aquatic species are also associated with these lakes including shoreweed (*Littorella uniflora*). The water generally has a dark hue due to the input from peaty soils in the surrounding uplands.

These lakes can be of local ornithological interest, particularly for geese, swans, duck and Cormorants.

Field Survey: This habitat type was not encountered in any of the towns surveyed.

Ecological Interest	Links to Annex I Habitats	Locations
A/B - International to National Importance, Highly Sensitive	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 Allen and Upland Blanket Bog PB2 in the uplands in northern Roscommon

- **Limestone/Marl Lakes FL3**

This category includes lakes and ponds of limestone areas that are base-rich and poor to moderately rich in nutrients (oligotrophic to mesotrophic). They generally have clear water and the sediment usually contains a lot of marl, the white clayey precipitate of calcium carbonate. Stoneworts (*Chara* spp.), which give rise to marl, are usually abundant, forming thick carpets in unpolluted waters. Various-leaved Pondweed *(Potamogeton gramineus)* is

also often found in this lake type. These lakes are frequently fringed by Rich Fen and Flush PF1 vegetation.

Limestone/Marl Lakes are abundant in Roscommon, as the bedrock geology is predominantly Limestone. Good examples of this habitat type include; Errit Lough in the northwest of the county, Annaghmore Lough in the northeast, Lough Gara and Lough Arrow on the border with Sligo in the northwest. This habitat type corresponds to the Annex I habitat 'hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. (3140)', and so all of these have been designated as Special Areas of Conservation (SACs), except for Lough Gara, which is a designated Special Protection Area (SPA) under the EU Birds Directive, due the presence of an internationally important Greenland White-fronted Goose population and high numbers of Whooper Swan and Golden Plover.

Field Survey: This habitat type was not encountered during the field survey.

Ecological Interest	Links to Annex I Habitats	Locations
A/B - International to National Importance, Highly Sensitive	Corresponds to the annexed habitat, 'hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. (3140)'.	Errit Lough, Annaghmore Lough, Lough Gara and Lough Arrow.

- **Mesotrophic Lakes FL4**

A number of lakes in County Roscommon can be classified as Mesotrophic Lakes FL4 or as lakes that are moderately rich in nutrients. Many of these lakes are found near the towns and villages, where they are susceptible to nutrient enrichment and prone to algal blooms. Lough Ree on the southeastern border of the county is classed as a Mesotrophic Lake, as this lake unlike so many others has not been excessively polluted and for this reason the lake is protected under European Law. The shrimp (*Mysis relicta)* occurs in this lake and is a relict of the glacial period in Ireland.

These lakes can be bordered by lush fringing communities of Reed and Large Sedge Swamp FS1, Tall Herb Swamp (FS2), Rich Fen and Flush PF1, Wet Grassland (GS4), Marsh GM1 and Wet Heath (HH3). Species such as pondweeds (*Potamogeton spp*) and Waterlilies (*Nuphar lutea*) are often recorded within the waterbody.

Field Survey: This habitat type was encountered during the field survey – a small pond in Boyle (see **Target Note 1740-a_TN7** and **Image 4.1** below).

Ecological Interest	Links to Annex I Habitats	Locations
C - County Importance, Very Sensitive	Mesotrophic Lakes do not correspond to Annex I Habitats under the EU Habitats Directive.	Lough Boderg, Lough Bofin Lough Ree, Lough Glinn and a small pond in Boyle.

Image 4.1: Small Mesotrophic Pond FW4 with Marsh GM1 and Reed and Large Sedge Swamp FS1 fringe in Boyle

- **Eutrophic Lakes FL5**

This habitat category includes lakes and ponds that are high in nutrients and base-rich (Fossitt 2000). The water in such environments is often discoloured or turbid from algae or suspended sediments. Polluted waters are also included in this category. Aquatic plants that are typical of Eutrophic Lakes include Duckweeds (*Lemna* spp.) and Pondweeds (*Potamogeton* spp.). Lough Forbes cSAC is categorised as a Natural Eutrophic Lake and is situated west of Newtown Forbes on the Longford/Roscommon boundary. Lough O' Flynn is located between Castlerea and Ballyhaunis, and is classified as a limestone lake, that tends to be naturally eutrophic.

Field Survey: This habitat type was not encountered during the field survey.

Ecological Interest	Links to Annex I Habitats	Locations
A/E- International Importance in natural form to Local Importance (lower value) for polluted waters. Highly Sensitive to Robust	Corresponds to Annex I habitat Natural Eutrophic lakes with Magnopotamion or Hydrocharition-typevegetation. (3150).	Lough Forbes and Lough O'Flynn

- **Turloughs FL6**

Turloughs are seasonal lakes that occupy basins or depressions in limestone areas and may extend over many acres. This phenomenon is virtually unique to Ireland with a high number occurring in County Roscommon in association with the karst features that can be found throughout the county. A grouping occurs in the region around Castleplunkett and a second grouping occurs along the River Suck Valley, between Castlecoote and Four Roads. Two further sites are located in the Ballinlough area. Most of the larger turloughs have been designated as Special Areas of Conservation (SACs).

In wet weather they can fill with groundwater which comes to the surface, through subterranean passages (caves and crevices) in the rock to a swallow hole at the surface and empty by the same means. Some also have inflowing rivers or streams. The size of the Turlough depends on several factors connected with underground drainage. Plant communities typically form in concentric rings around the Turlough basin, with the different zones reflecting the differences in the extent, depth and frequency of flooding. A number of aquatic and terrestrial habitats plant communities can be found within Turlough basins. The broad habitat types include: Reed and Large Sedge Swamps FS1, Tall herb swamps FS2, Wet Grassland, Marsh GM1 and Rich Fen and Flush PF1.

Field Survey: Loughnaneane Turlough, Roscommon Town, See **Target Note 2550b TN1**.

Ecological Interest	Links to Annex I Habitats	Locations
A/B - International to National Importance, Highly Sensitive	Corresponds to Priority Habitat, Turloughs (3180) under Annex I of the EU Habitats Directive.	Found throughout the county. A grouping occurs in the region around Castleplunkett and a second grouping occurs along the River Suck Valley, between Castlecoote and Four Roads. Two further sites are located in the Ballinlough area. Loughnaneane Turlough, Roscommon Town

- **Eroding Upland Rivers FW1**

Eroding upland rivers and steams 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.

The River Suck rises in Mayo, a quarter of a mile from the boundary with Roscommon, crosses the boundary into Roscommon and falls into Lough O'Flynn. The upper reaches of this river is classified as an Eroding Upland River.

Field Survey: This habitat type was encountered during the field survey, in Ballaghaderreen. (see **Target Note 1857-d_TN2** and **Image 4.2** below).

Ecological Interest	Links to Annex I Habitats	Locations
C - County Importance, Very Sensitive	Eroding and upland rivers do not correspond to any Annex I or Priority Habitats under the EU Habitats Directive.	Upper Reaches of the River Suck, stream in Ballaghaderreen and various other upland streams throughout the county.

Image 4.2: Small eroding upland stream in Ballaghaderreen

- **Depositing Lowland Rivers FW2**

Due to the flat nature of the county, most of the rivers in Co. Roscommon fit in to this category. The River Shannon, the longest river in Ireland, forms the entire western boundary of Co. Roscommon. Other notable examples are the River Boyle, River Suck, Arigna River, the River Breedoge, and the Lung River. Almost the entire county is drained by the River Shannon. The riparian vegetation on the banks of these rivers varies considerably throughout County Roscommon, varying between limestone pavement, 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*).

Field Survey: This habitat type was encountered during the field survey, in Boyle and Castlerea (see **Target Notes 1739-d_TN4** and **2219-b_TN1** and **Image 4.3** below).

Ecological Interest	Links to Annex I Habitats	Locations
C - County Importance, Very Sensitive	Depositing Lowland Rivers FW2 does not correspond to any Annex I or Priority Habitats	River Shannon, River Boyle, River Suck, Arigna River, the River Breedoge, and the Lung River

Image 4.3: River Suck, a Lowland Depositing River (FW2) in Castlerea

- **Canal (FW3)**

A Canal extends from the village of Lecarrow to enter Lough Ree at Blackbrink Bay. The Boyle Canal extends from Boyle Harbour to join the Boyle River just before it enters Lough Key. Jamestown Canal forms a link between the River Shannon from south of Jamestown to Lough Nanoge to the south of Drumsna. The canals in County Roscommon are used for amenity boating and have mooring facilities developed by Waterways Ireland. The embankments of these canals support a number of habitats ranging from semi-improved grasslands to woodlands and scrub.

Field Survey: This habitat type was encountered during the field survey, in Boyle (see **Target Notes 1740-a_TN2**, **1740-a_TN3** and **Image 4.4** below).

Ecological Interest	Links to Annex I Habitats	Locations
D- Local Importance (higher value), Moderately Sensitive	Canals FW3 do not correspond to any Annex I or Priority Habitats	Lecarrow Canal, Boyle Canal and Jamestown Canal

Image 4.4: Marsh GM1/Willow Scrub WS1 Habitat on the Northern banks of the Harbour Canal in Boyle

- **Drainage Ditches FW4**

Drainage ditches occur throughout County Roscommon. The drains flow into larger tributaries of the larger rivers within County Roscommon. The water in drains is slow-moving and stagnant in places. Fools Watercress (*Apium nodiflorum*) and Common duckweed (*Lemna minor*) were also common throughout with Water Mint (*Mentha aquatica*) occurring in the verges. Tall emergent vegetation is evident in drains throughout the county. This vegetation corresponds with Reed and Large sedge swamp (FS1), and occurs in the deep drains in the low lying areas of County Roscommon in the vicinity of the River Shannon and River Suck, however these areas are often too small to map. Species such as Common Reed (*Phragmites australis*), Common Club Rush (*Schoenoplectus lacustris*), and Reed canary grass (*Phalaris canariensis*) occur frequently.

Field Survey: This habitat type was found in all the towns surveyed.

Ecological Interest	Links to Annex I Habitats	Locations
D- Local Importance (higher value), Moderately Sensitive	Drains are important for invertebrate diversity, and also Common Frog (*Rana temporaria*) and Smooth Newts (*Triturus vulgaris*). Drains flow into designated watercourses and are therefore considered sensitive.	Found throughout the county.

- **Reed and Large Sedge Swamps FS1**

Areas of Reed and large Sedge Swamps FS1 occupy the margins of lakes and rivers throughout County Roscommon. This habitat often forms intimate mosaics with Tall Herb Swamps FS2, Marsh GM1 and Wet Grassland GS4. 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*).

Field Survey: This habitat type was encountered fringing streams and waterbodies within the towns surveyed.

Ecological Interest	Links to Annex I Habitats	Locations
C - County Importance, Very Sensitive	Reed and Large Sedge Swamps FS1 habitat does not correspond to EU Annex I habitats.	Occurs in drains, rivers, fringing lakes throughout County Roscommon

Image 4.4: Small stream in Boyle with fringing vegetation of Reed and Large Sedge Swamp FS1

4.2.2 G Grassland and Marsh

This section includes habitats where the vegetation is either dominated by grasses and freshwater marshes which have a dominance of herbs.

4.2.2.1 GA Improved Grasslands

Within the grasslands category there is a distinction between improved and semi-improved grasslands. Improved grasslands are defined as species-poor and intensively managed grasslands, and those that are unimproved or semi-improved may receive some inputs of fertiliser (organic or artificial), but they are not intensively managed and have not recently been reseeded.

Improved grassland is by far the most widespread type and makes up a large proportion of Ireland's productive farmland.

- **Improved Agricultural Grassland GA1**

Improved agricultural Grassland GA1 occurs throughout the county, in well-drained areas. 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 glomerta*), 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.

Field Survey: This habitat type was abundant in the agricultural areas surrounding the towns surveyed.

Ecological Interest	Links to Annex I Habitats	Locations within Roscommon
E- Local Importance (lower value) Robust	This habitat type does not correspond to EU Annex I Habitats	Throughout Roscommon

Image 4.5: Improved Agricultural Grassland in Boyle

- **Amenity Grassland (improved) GA2**

The amenity grassland occurs in 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.

Field Survey: This habitat type was abundant in the towns surveyed, in gardens, parks etc.

Ecological Interest	Links to Annex I Habitats	Locations within Roscommon
E- Local Importance (lower value), Robust	This habitat type does not correspond to EU Annex I Habitats	Amenity Grassland occurs throughout Roscommon

4.2.2.2 GS Semi-Improved Grasslands

Semi-improved grasslands are generally higher in species diversity than improved grasslands, and are less regularly fertilised and re-seeded than improved grasslands.

- **Dry Calcareous and Neutral Grassland GS1**

Dry Calcareous and Neutral Grassland GS1 covers a broad category of semi-improved grassland that may be either calcareous or neutral but not acid. Small examples of

Calcareous grasslands are found on Eskers and limestone soils throughout County Roscommon. From the NPWS *Semi-Natural Grassland Survey of Counties Roscommon and Offaly* (BEC Consultants, 2007), this grassland type is found in the townlands of Callowbeg, Culliaghmore, Kiltrustan, Cloonfenbaun, Castlestrange, Skrine and Turrock. This grassland type is also found near Annaghmore Lough cSAC and the Orchid Rich Grasslands of Castlesampson Esker cSAC. Commonly found plant species present in calcareous grassland include Blue Moor-Grass (*Sesleria albicans*), Wild Thyme (*Thymus praecox*), Harebell (*Campanula rotundifolia*) and Bird's-Foot Trefoil (*Lotus corniculatus*).

Dry Neutral Grassland GS1 is more common within Roscommon occurring on free draining soils in areas of low intensity agriculture. Neutral Grassland GS1 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*) and Bird's-foot Trefoil (*Lotus corniculatus*).

Field Survey: This habitat type occurred in small pockets in the areas surrounding the towns surveyed. Specific examples are described in **Target Notes for Roscommon Town 2551-c_TN1, 2481-d_TN1, Ballaghadereen 1857-d_TN2** and **Boyle 1739-d_TN1**. **Image 4.6** below shows a good example of a species-rich Dry Neutral Grassland that was found on the outskirts of Roscommon Town.

Ecological Interest	Links to Annex I Habitats	Locations
C- County Importance, Very Sensitive	*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 (*Festuco-Brometea*) (*important orchid sites) (6210)'.	Castlesampson Esker, Annaghmore Lough have examples of Calcareous grassland. Neutral grassland occurs throughout the county

Image 4.6: Species-rich Dry Neutral Grassland GS1 in Roscommon Town

- **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 (*Dactylis 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 bursa-pastoris*) 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.

Small pockets of this habitat type occur throughout the county, on road verges and in fields that are managed for hay and not intensively fertilised or grazed.

Field Survey: This habitat type occurred in road verges throughout the towns surveyed. One entire field which fits in to this category was found in Boyle. This is described in **Target Note 1740-a_TN1**.

Ecological Interest	Links to Annex I Habitats	Locations
C- County Importance, Very Sensitive	This grassland habitat corresponds to the annexed habitat, 'Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*)'.	Occurs on road verges and some fields throughout County Roscommon. One good example was found in Boyle.

Image 4.7: Dry Meadow (GS2) Habitat

- **Dry-Humid Acid Grassland GS3**

This habitat type has limited distribution within County Roscommon, confined to some small pockets of reclaimed bogs and the uplands to the north west of the County.

Dry-Humid Acid Grassland (GS3) 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.

Field Survey: This habitat type was only encountered at two sites during the field survey, both in Boyle. These sites are described in **Target Notes 1739-b_TN1** and **1740-a_TN9**.

Ecological Interest	Links to Annex I Habitats	Locations
C- County Importance, Very Sensitive	EU Habitats Directive Annex I Habitat: Dry-humid Acid Grassland includes the priority habitat 'species-rich *Nardus* grasslands on siliceous substrates in mountain areas (6320)'. This habitat type does not occur within County Roscommon.	Throughout the county on peaty soils including two sites in Boyle

Image 4.8: Small patch of Dry Humid Acid Grassland GS1 on shallow soils with Grey Sandstone outcrop, Boyle

- **Wet Grassland GS4**

This habitat occurs throughout County Roscommon 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.

This habitat also occurs on the banks of rivers and lakes throughout the County. Species such as Meadowsweet (*Filipendula ulmaria*), Purple Loosestrife *(Lythrum salicaria*), Lesser

Spearwort (*Ranunculus flammula*), Meadow buttercup (*Ranunculus acris*), and grasses such as Yorkshire Fog (*Holcus lanatus*), Creeping Bent (*Agrostis stolonifera*), Rough Meadow Grass (*Poa trivialis*), Cuckoo Flower *(Cardamine pratensis)* and Meadow Foxtail (*Alopecurus geniculatus*) also occur in more neutral soils.

Small areas of *Molinia* dominated Wet Grassland GS4 occur in the River Shannon Callows, which is a designated SAC. 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 County Roscommon and is largely determined by management practices.

Field Survey: Species rich and diverse examples of Wet Grassland GS4 where found in Ballaghaderreen Target Notes **1857-d TN1 - TN3**, Boyle Target Notes **1740-a TN2 - TN6,** Castlerea Target Notes **2220-a TN1 - TN3 and TN5,** and Roscommon Town Target Notes **2482-c TN1-TN4 and 2481-d TN2**.

Ecological Interest	Links to Annex I Habitats	Locations
C/D- County to Local Importance, Very to Moderately Sensitive	Few Wet Grassland GS4 habitats within the Roscommon correspond to the EU Habitats Directive Annex I Habitat: '*Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)' (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 Roscommon.

Image 4.9: Close up of Wet Grassland GS4 Vegetation, with Common Spotted-Orchid (*Dactylorhiza fuchsii*)

4.2.2.3 GM Freshwater Marsh

- **Marsh GM1**

Marsh GM1 habitats are common throughout County Roscommon, occurring predominantly in the margins of rivers in association with other habitats such as Reed and Large Sedge Swamps FS1 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.

Field Survey: Species rich and diverse examples of Marsh GM1 where they occur within the Study Towns were target noted. An extensive area of Marsh was found in Castlerea (**Target Note 2219-b_TN2**).

Ecological Interest	Links to Annex I Habitats	Locations
C/D- County to Local Importance, Very to Moderately Sensitive	Marsh may sometimes contain pockets of the Annex I 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.	Throughout County Roscommon

Image 4.10: Extensive area of Marsh (GM1) in Castlerea

4.2.3 H Heath and Dense Bracken

4.2.3.1 HH Heath

Heath includes areas of vegetation where there is at least 25% cover of dwarf shrubs and where the underlying peat is usually of less than 0.5 m.

- **Wet Heath HH3**

Wet Heath HH3 occurs on Cutover Bogs (PB4) throughout the County. The Wet Heath HH3 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.

Field Survey: This habitat type was found on Cutover Bog PB4 in Ballaghadereen, **Target Note 1917-a_TN1**

Ecological Interest	Links to Annex I Habitats	Locations
C- County Importance, Very Sensitive	Wet heath corresponds to the Annex 1 habitat 'northern Atlantic wet heaths with *Erica tetralix* (4010)'.	Wet peaty habitats throughout Roscommon. Found on Cutover Bog PB4 in

		Ballaghadereen

Image 4.11: Wet Heath HH3 habitat on Cutover Bog PB4 in Ballaghadereen

4.2.3.2 HD Dense Bracken

This category is used for areas of open vegetation that are dominated by Bracken *(Pteridium aquilinum)*. Bracken cover should exceed 50% to fit into this category.

- **Dense Bracken HD1**

Small areas of Dense Bracken HD1 occur in a variety of habitats within County Roscommon, such as in the areas of scrub and woodland.

Field Survey: This habitat type was not identified within the study towns.

Ecological Interest	Links to Annex I Habitats	Locations
E- Local Importance (lower value), Robust	This habitat does not correspond to EU Habitats Directive Annex 1 Habitats. This vegetation type can be invasive and is considered to be of low conservation value.	Small areas throughout County Roscommon

Image 4.11: Dense Bracken

4.2.4 P Peatlands

Fossitt (2000), describes Peatlands as follows; '*Peatlands are subdivided into two main types, bogs and fens. Bogs are ombrotrophic (rain-fed) peatlands where almost all inputs of water to the system are derived from precipitation and where acid, oligotrophic peat deposits accumulate. Fens are minerotrophic peatlands that, in addition to precipitation, are fed by groundwater or moving surface waters. They have a higher nutrient status than bogs and can be either acid or base-rich. Flushes, which may or may not form peat, are included with fens as they support similar vegetation communities*. '

4.2.4.1 PB Bogs

- **Raised Bogs PB1**

Uncut raised bogs are a rarity in Ireland but some of the best examples occur in County Roscommon. Raised bogs are found mostly in the midlands of Ireland and they typically 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.

There were formerly significant areas of Raised Bog (PB1) throughout Roscommon. Much of these bogs have been subject to peat harvesting. In the west of the county, the main areas of bog are concentrated in the north-west corner around Castlerea/Ballinlough and Frenchpark/Ballaghdereen. This region exhibits several good examples of raised bog habitat

and variety of associated habitat types. Exploitation in this region has been on a smaller scale with turf cutting mainly being carried out by local landowners (turbary cutting). Most of the raised bog within the County has been designated as Special Areas of Conservation under the EU Habitats Directive, or as Natural Heritage Areas. Ballenagare Bog, situated 6km northeast of Castlerea, is a good example of an Active raised bog, a habitat which has been given priority status under Annex I of the EU Habitats Directive.

The dome shape can still be seen at some of Raised bog sites in Roscommon; however, the tall peat banks and ramparts show evidence of a long history of peat extraction. 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 WD4 and or Bog Woodland (WN7) has established on the dryer edges.

The typical floral assemblage of this habitat type 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. This habitat type was not found within the study towns.

Field Survey: This habitat type was not identified within the study towns.

Ecological Interest	Links to Annex I Habitats	Locations
A/B- International to National Importance, Highly Sensitive	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 the Rhynchosporion (7150)' occurs in pockets as a sub-habitat of raised bog.	Bellanagare, Cloonshanville, Callow, Cloonchambers, Clooneen and Corbo amongst other sites in the west, east and south of the county.

- **Upland Blanket Bogs PB2**

Upland Blanket Bog PB2 habitat is a globally scarce resource and Upland Blanket Bogs, due to their exposure to severe climatic conditions at high elevations, are particularly vulnerable to erosion by human activities and extensive areas are currently undergoing active erosion due mainly to overgrazing. The current area of intact upland blanket bog in Ireland represents only a fraction of the original resource, due to the combined impacts of afforestation and overgrazing, and intact examples are therefore extremely valuable.

A large expanse of upland blanket bog occurs on the plateau of Kilronan Mountain, a designated Natural Heritage Area (NHA Site Code 000617). Another extensive area occurs in Corry Mountain, straddling the Roscommon/Leitrim county boundary, located about 4 km west of Lough Allen. This area is relatively intact, with a good diversity of blanket bog microhabitats, including flushes and *Sphagnum* lawns.

The floral assemblage typical of Upland Blanket Bog PB2 habitat includes; Deergrass (*Trichophorum caespitosum*), Common Cottongrass (*Eriophorum angustifolium.*), Bog Pimpernel (*Anagellis tenella*), Bog Asphodel (*Narthecium ossifragum*) and Sedge species (*Carex spp.*) and Rush species (*Juncus spp*.), Ling Heather (*Calluna vulgaris*), Cross-leaved Heath (*Erica tetralix*), Purple Moor-grass (*Molinia caerulea*) and some occasional dwarf shrubs such as Bilberry (*Vaccinium myrtillus*) also occurs. *Sphagnum* spp. can be found throughout and with Reindeer Mosses (*Cladonia spp.)* on the dry hummocks and exposed peat haggs.

Field Survey: This habitat type was not identified within the study towns.

Ecological Interest	Links to Annex I Habitats	Locations within Study Area
A/B- International to National Importance, Highly Sensitive	EU Habitats Directive Annex 1 Species: Blanket bogs that are still capable of peat formation correspond to the priority habitat 'blanket bogs (*if active bog) (7130)', while the annexed habitat 'depressions on peat substrates of the *Rhynchosporion* (7150)' can occur as a sub habitat of blanket bog. Limited areas of intact blanket bog are evident at higher altitudes.	Kilronan Mountain, Corry Mountain.

- **Cutover Bog PB4**

Turf banks can be seen in peatland areas from the aerial photography. 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 S*phagnum* species occur throughout.

Field Survey: A section of Cutover bog (PB4) was found in Ballaghaderreen – see **Target Note 1917-a_TN1**.

Ecological Interest	Links to Annex I Habitats	Locations
C- County Importance, Very Sensitive	EU Habitats Directive Annex 1 Species: The annexed habitat 'depressions on peat substrates of the *Rhyncosporion* (7150)' can occur in pockets on cutover bog. This annexed habitat occurs in wet depression it the areas of cut Raised Bog.	Found throughout Co. Roscommon. Large areas are present in the west, east and south of the county.

Image 4.12: Exposed Peat Banks from peat harvesting

4.2.4.2 PF Fens

- **Rich Fen and Flush PF1**

Fens develop from damp or water logged hollows in the landscape and small areas can be found throughout County Roscommon. They are generally associated with lake edges, flood plains and river valleys where the substrate is waterlogged peat with a high mineral content (Fossitt 2000). Fens often form mosaics with a variety of woodland, wetland and open water habitats. The habitat can be found on the banks of the cSACs Annaghmore Lough, the Cloonchambers Bog, Corrigeenroe Marsh pNHA, Fin Lough pNHA and Lough Key.

This habitat can support species such as Great Fen Sedge (*Cladium mariscus)*, Bogbean (*Menyanthes trifoliata*), Purple Moor-grass (*Molinia caerulea*), Grass-of-Parnassus *(Parnassia palustris)*, Common Cottongrass (*Eriophorum angustifolium*), Velvet Bent (*Agrostis canina*), Yorkshire-fog (*Holcus lanatus*), Marsh Pennywort *(Hydrocotyle vulgaris)*, Water Mint *(Mentha aquatica)*, Common Butterwort *(Pinguicula vulgaris)* and Devil's-bit scabious (*Succisa pratensis*). A well developed moss layer is also characteristic, with species such as *Campylium stellatum, Scorpidium scorpioides* and *Drepanocladus revolvens*.

This habitat can also occur in close association with Alder Carr and Wet Willow-Alder-Ash Woodland WN6.

Field Survey: This habitat type was not identified within the study towns.

Ecological Interest	Links to Annex I Habitats	Locations
A/B- International to National Importance, Highly Sensitive	The annexed habitat 'Alkaline Fens (7230)'.	Shores of Annaghmore Lough, Cloonchambers Bog, Corrigeenroe Marsh pNHA, Fin Lough pNHA and Lough Key.

4.2.5 W Woodland and Scrub

Woodland is defined here as any area that is dominated by trees, as opposed to shrubs, and where the canopy height is greater than 5 m, or 4 m in the case of woodland in wetland areas or on bogs. Scrub or transitional woodland includes areas that are dominated by shrubs, brambles and stunted or immature trees, and where the canopy height is less than that outlined above for woodland.

4.2.5.1 WN Semi-Natural Woodland

- **Oak-Birch-Holly Woodland WN1**

This woodland type is found on free draining acid or base-poor soils. It has limited distribution in County Roscommon and is largely confined to the uplands in north Roscommon. These Woodlands are dominated by Downy Birch (*Betula pendula*), with some Oak (*Quercus* spp.), Ash (*Fraxinus excelsior*), Holly (*Ilex aquifolium*) and Rowan (*Sorbus aucuparia*). Willows (*Salix* spp.) and Hawthorn (*Crataegus monogyna*) are common in the understorey layer.

Field Survey: This habitat type was not identified within the study towns.

Ecological Interest	Links to Annex I Habitats	Locations within Study Area
C/D- County to Local Importance, Very to Moderately Sensitive	This habitat corresponds to the annexed habitat 'old sessile oak woods with *Ilex* and *Blechnum* in the British Isles'.	Small examples of this woodland type may be found in the uplands in the north of the county.

- **Oak-Ash-Hazel Woodland WN2**

This habitat can be found on the limestone soils and outcrops which occur throughout County Roscommon. The habitat type forms intimate mosaics with Hazel Scrub WS1 and open areas of Limestone Pavement. Good examples of this woodland type can be found on the shores of Lough Key known as Drummans Island, Tawnytaskin Wood, in the townland of Coolteige to the north of Roscommon Town and in the townland of Skrine, east of Athleague

This type of woodland occurs on calcareous 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.

Field Survey: This habitat type was not identified within the study towns.

Ecological Interest	Links to Annex I Habitats	Locations
C- County Importance, Very Sensitive	This habitat does not correspond to Annex I 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.	Small areas throughout Roscommon including

- **Riparian Woodland WN5**

This woodland occurs in ribbon-like strips on the edges of lakes and low lying river margins of the River Shannon, River Boyle, River Suck, Arigna River, the River Breedoge, and the Lung River. Riparian woodland WN5, is dominated by willow species (*Salix* spp.) with Alder (*Alnus glutinosa*) and Birch (*Betula pendula*) occurring infrequently. The ground flora varies depending on levels of water inundation. In very wet sites the ground flora reflects species found in Reed and Large Sedge Swamps FS1. More often the ground flora species composition is similar to Wet Grassland GS4 habitat. These areas of woodland are limited to the riparian zone of the watercourses, restricted by agriculture and land reclamation. Semi-natural woodlands are a rarity in a landscape otherwise dominated by Improved Agricultural Grassland GA1, Acid Grasslands GS3 and Conifer Plantations WD4.

Field Survey: This habitat type was identified on the banks of the Boyle River, which flows through Boyle Town, **Target Note 1739-d_TN4**.

Ecological Interest	Links to Annex I Habitats	Locations
C/D- County to Local Importance, Very to Moderately Sensitive	This habitat does not correspond to Annex I habitats, however the habitat is considered to be of high conservation value in a local context.	On the banks of the River Boyle, River Suck, Arigna River, the River Breedoge, and the Lung River

Image 4.12: Riparian Woodland WN5 on the banks of the Boyle River

- **Wet Willow-Alder-Ash Woodland WN6**

This classification includes Woodlands of permanently waterlogged sites particularly around lakes that are dominated by willows (*Salix* spp.), Alder (*Alnus glutinosa*) or Ash (*Fraxinus excelsior*). These woodlands are often referred to as Fen Carr Woodlands. The field layer generally comprises; Creeping Bent (*Agrostis stolonifera*), Meadowsweet (*Filipendula ulmaria*), Purple-loosestrife (*Lythrum salicaria*), Skullcap (*Scutellaria galericulata*), Remote Sedge (*Carex remota*), Iris (*Iris pseudacorus*), Water Mint (*Mentha aquatica*), Royal Fern (*Osmundo regalis*), Lady Fern (*Athyrium filix-femina*), Marsh Horsetail (*Equisetum palustre*), Soft Rush (*Juncus effusus*), Bryophytes (*Climacium dendroides, Rhizomnium punctatum*, *Eurhynchium striatum*)

Field Survey: A good example of this habitat is found in Castlerea; see **Target Note 2157-d_TN1**. This habitat may be under threat from development in the town.

Ecological Interest	Links to Annex I Habitats	Locations
C- County Importance, Very Sensitive	This habitat does not correspond to Annex I habitats, however the habitat is limited within County Roscommon, in particular Alder Carr and is therefore considered to be of high conservation value in a local context.	Tributary of the Lung River (Ballaghaderreen) River Suck (Castlerea), Boyle River (Boyle), Derrymacstur Wood (at Lough Bofin)

Image 4.12: Wet Willow Alder Ash Woodland WN6 and Marsh GM1 Mosaic

- **Bog Woodland WN7**

This woodland occurs on areas of Cutover Bog PB4 throughout County Roscommon. Bog Woodland WN7 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 pubescens*), 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. This habitat types was not recorded within the study towns.

Field Survey: This habitat type was not identified within the study towns.

Ecological Interest	Links to Annex I Habitats	Locations
A/B- International to National Importance, Highly Sensitive	This habitat corresponds to the Annex I habitat 'Bog Woodland (91DO)', this classification refers to woodland of intact raised bog. The woodland occurs on the fringes of cutover raised bog and is considered to be of moderate to high conservation value in a local context.	Cutover Bogs (PB4) throughout Roscommon

4.2.5.2 Highly Modified Non-Native Woodland

- **(Mixed) Broadleaved Woodland WD1**

This woodland type occurs throughout County Roscommon, particularly to the south of the county. This classification is the most common broadleaved woodland found within County Roscommon. The woodland type is synonymous with the Demesnes near villages and towns, and represents remnants of the large estates that once existed here. 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.

Field Survey: This woodland type can be found in all of the study towns. A good example of this habitat is found in Castlerea; see **Target Note 2220-a_TN4**.

Ecological Interest	Links to Annex I Habitats	Locations
D- Local Importance (higher value) Moderately Sensitive.	This habitat does not correspond to Annex I habitats and is quite common throughout County Roscommon. However, compartments of deciduous woodland can be valuable to wildlife, providing refuge and foraging for a variety of animals.	Throughout County Roscommon

Image 4.13: Ash dominated Broadleaved Woodland WD1

- **Mixed Broadleaved/Conifer Woodland WD2**

This habitat comprises mixed stands of broadleaved trees and conifer trees. These woodlands can be large with a good variety of tree species, with good understorey and ground flora. Deadwood (both fallen and standing) is common and helps to encourage biodiversity in such habitats. These woodlands can provide excellent connectivity with other habitats and an abundance of roosting and nesting habitats for birds and mammals. Species such as Beech (*Fagus sylvatica*), Ash (*Fraxinus excelsior*), Scots Pine (*Pinus sylvestris*), Horsechestnut (*Aesculus hippocastanum)* and Sycamore can be common species in these woodlands.

Field Survey: Small compartments of this habitat type are found around Roscommon Town, Castlerea and Boyle.

Ecological Interest	Links to Annex I Habitats	Locations
D- Local Importance (higher value) Moderately Sensitive	This habitat does not correspond to Annex I habitats, but does however offer some refuge to wildlife.	Roscommon Town, Castlerea and Boyle and throughout County Roscommon.

- **(Mixed) Conifer Woodland WD3**

Small compartments of this habitat type occur throughout County Roscommon. Some have been planted for commercial plantation forestry and are typically found within the old estates.

Field Survey: This habitat type was found in Ballaghaderreen.

Ecological Interest	Links to Annex I Habitats	Locations
E- Local Importance (lower value) Robust	This habitat does not correspond to Annex I habitats.	Ballaghaderreen and scattered throughout County Roscommon

- **Conifer Plantation WD4**

Large plantations of commercial forestry can be found on marginal land throughout County Roscommon, particularly in the north west of the County. Commercial forestry owned by Coillte, dominates the slopes of Slieve Bawn located to the east of the County, and Curlew Mountain and Kilronan Mountain to the north and west. The plantations are harvested for commercial forestry, and the species planted typically comprise of Sitka Spruce (*Pices sitchensis*), Logepole Pine (*Pinus contorta*) and Japanese Larch (*Larix kaempferi*). 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. Short rotation Conifer Plantation WD4 forestry is a favoured foraging habitat for Hen Harrier.

Field Survey: Small compartments of this habitat type are found around Roscommon Town, Castlerea and Boyle.

Ecological Interest	Links to Annex I Habitats	Locations
E- Local Importance (lower value) Robust.	This habitat does not correspond to Annex I habitats.	Small compartments around Roscommon Town, Castlerea and Boyle and larger blocks throughout County Roscommon.

Image 4.14: Conifer Plantation WD1 in Castlerea, with Willow Scrub WS1 and Wet Grassland GS4 habitats to the foreground.

- **Scattered Trees and Parkland WD5**

Areas of scattered trees and parklands occur in the old estates around Roscommon Town and Boyle. Large mature native and non-native trees are a prominent feature in the landscape. Beech (*Fagus sylvatica*), Horsechestnut (*Aesculus hippocastanum)* and Oak (*Quercus* spp.) 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 Owl, and a variety of insects.

Field Survey: This woodland type is found in Roscommon Town and Boyle.

Ecological Interest	Links to Annex I Habitats	Locations
E- Local Importance (lower value) Robust	This habitat does not correspond to Annex I habitats, however some exquisite examples of mature trees have persisted in these landholdings.	Roscommon Town and Boyle

4.2.5.3 WS Scrub/Transitional Woodland

- **Scrub WS1**

Areas of scrub occur throughout County Roscommon. 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. The species composition of this habitat varies dramatically within County Roscommon, such as; Blackthorn (*Prunus spinosa*), Hawthorn (*Crataegus monogyna*), Gorse (*Ulex europaeus*) scrub is frequent throughout the County, with Hazel occurring in

areas of limestone outcrops. Gorse Scrub is frequent around the drier edges of Cutover Bogs PB4. Species such as Bramble (*Rubus fruticosus* agg.) and Guelder Rose (*Viburnum opulus*) are also common components.

Field Survey: Scrub WS1 habitat is found throughout County Roscommon.

Ecological Interest	Links to Annex I Habitats	Locations
D- Local Importance (higher value) Moderately Sensitive.	This habitat does not correspond to Annex I habitats, however it can be important for wildlife, particularly insects and birds.	Throughout County Roscommon

Image 4.14: Scrub WS1, Dry Neutral Grassland GS3 and Marsh GM1 Mosaic in Boyle

- **Immature Woodland WS2**

Plots of Immature Woodland WS2 occur scattered throughout County Roscommon. Ash (*Fraxinus excelsior*) and Alder (*Alnus glutinosa*) are the main species planted in broadleaved plantation woodlands, where Willow (*Salix* spp.) and Birch (*Betula* spp.) saplings can be the first to colonise Wet Grassland GS4 and Cutover Bog PB4 through natural succession to woodland. The ground flora of Immature Woodlands WS2 often reflects these habitats.

Field Survey: Scrub WS1 habitat is found throughout County Roscommon.

Ecological Interest	Links to Annex I Habitats	Locations
D/E- Local Importance (lower-higher value) Moderately Sensitive to Robust	This habitat does not correspond to Annex I habitats, however it can be important for wildlife, particularly insects and birds.	Small plots throughout County Roscommon

Image 4.14: Immature woodland (WS2) comprising Willow Saplings plantation in Wet Grassland (GS4) habitat.

- **Recently-Felled Woodland WS5**

Timber harvesting is an ongoing activity, particularly in the extensive Coillte Forestry lands throughout County Roscommon. Post harvesting, unless the areas are replanted, tend to colonise with pioneering species such as Willowherb (*Epilobium* spp), grasses and Scrub WS1 species predominate.

Field Survey: Recently-Felled Woodland WS5 is found in plantation forestry throughout County Roscommon.

Ecological Interest	Links to Annex I Habitats	Locations within Study Area
E- Local Importance (lower value) Robust	This habitat does not correspond to Annex I habitats.	Throughout plantation forestry lands in County Roscommon

4.2.5.4 WL Linear Woodland and Scrub

- **Hedgerows WL1**

These linear features are prominent throughout County Roscommon and are often found in association with stonewalls and earth banks. From the County Roscommon Hedgerow Survey Report carried out in 2005, only 5% of the hedges in the County were considered species rich. These species found in hedgerows comprise native and ornamental/non-native species; native species include Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus*

spinosa), Gorse (*Ulex europaeus*), Holly (*Ilex aquifolium*), Elder (*Sambucus nigra*), Spindle (*Euonymus europaeus*) and Willow (*Salix* spp).

Taller mature trees were also recorded within the hedgerows, the most common being Ash (*Fraxinus excelsior*), with Sycamore (*Acer pseudoplatanus*), Beech (*Fagus sylvatica*) Oak (*Quercus* spp.), 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 County Roscommon was equally diverse supporting a variety of species corresponding to Dry Meadows and Grassy Verges Habitat GS2.

Field Survey: Hedgerows WL1 are found throughout County Roscommon.

Ecological Interest	Links to Annex I Habitats	Locations
D- Local Importance (higher value) Moderately Sensitive	This habitat does not correspond to Annex I habitats.	Throughout County Roscommon

Image 4.15: Hedgerows criss-crossing landscape throughout County Roscommon

- **Tree-lines WL2**

Good examples of mature tree-lines can be found enclosing farmlands, particularly in the south and east of County Roscommon. Ash (*Fraxinus excelsior*) is the most common component of the Treelines WL2 in Roscommon with some Oak (*Quercus* spp), Scots Pine (*Pinus sylvestris*), Beech (*Fagus sylvatica*), Sycamore (*Acer pseudoplatanus*), Horsechestnut (*Aesculus hippocastanum*) and Alder (*Alnus glutinosa*) occuring 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*). Invasive exotic species were also recorded such as Japanese Knotweed (*Fallopia japonica*) was also recorded which is one of the most invasive species in Europe.

Field Survey: Treelines WL2 are found throughout County Roscommon.

Ecological Interest	Links to Annex I Habitats	Locations
D- Local Importance (higher value) Moderately Sensitive	This habitat does not correspond to Annex I habitats.	Throughout County Roscommon

Image 4.16: Mature Tree-lined hedgerow in Roscommon Town, with Marsh GM1 vegetation to the foreground

4.2.6 E Exposed Rock and Disturbed Ground

Exposed rock includes all natural or artificial exposures of bedrock and loose rock. Disused or infrequently used stone quarries, or parts of quarries are also included.

4.2.6.1 ER Exposed Rock

- **Exposed Siliceous Rock ER1**

Outcrops of siliceous rock comprising a mix of sandstones and shale occur to the north west of Roscommon. These outcrops are often vegetated with heath and deciduous scrub species. Habitats correspond to Dry siliceous heath HH1 and Scrub WS1 vegetation.

Field Survey: Grey Sandstone outcrop if found near Boyle and in the uplands to the northwest of the County.

Ecological Interest	Links to Annex I Habitats	Locations within Study Area
A/D- International to Local Importance, Highly to Moderately Sensitive	This habitat corresponds to the annexed habitat, 'siliceous rocky slopes with chasmophytic vegetation (8220)'.	Boyle and in the northwest of Roscommon

- **Exposed Calcareous Rock ER2**

Exposed Calcareous Rock ER2 is found in limestone plateau which runs through the centre of Roscommon. From the GSI database, twelve areas Exposed Limestone rock have been recorded as Limestone Pavement. Limestone Pavement can be seen intermittently between areas of Calcareous Grassland GS1, Hazel Scrub WS1 and Oak Ash Hazel Woodlands WN2, in the townland of Coolteige to the north of Roscommon Town and in the townland of Skrine, east of Athleague. Limestone Pavement is found within Annaghmore Lough cSAC/pNHA and Mullygollan Turlough cSAC/pNHA.

The most characteristic surface features of limestone pavements which are formed due to the solubility of the rock is the division of the rock into blocks, called clints, bounded by deep vertical fissures known as grikes. Vegetation found growing in cracks included Herb Robert (*Geranium robertianum*), Ivy (*Hedera helix*), Bramble (*Rubus fruticosus*), Bloody Cranesbill (*Geranium sanguineum*), Wild Thyme (*Thymus polytrichus*), Lady's Bedstraw (*Galium verum*), Wood Sage (*Teucrium scorodonia*) and ferns such as Hart's-tongue Fern (*Phyllitis scolopendrium*), Rusty-back (*Ceterach officinarum*), Wall-rue (*Asplenium ruta-muraria*) and

Maidenhair Spleenwort (*Asplenium trichomanes*). White Stonecrop (*Sedum album*) is found growing in abundance on the Limestone Pavement found near Annaghmore Lough.

Field Survey: Exposed Calcareous Rock ER2 can be found in the central limestone plateau in Roscommon.

Ecological Interest	Links to Annex I Habitats	Locations
A/D- International to Local Importance, Highly to Moderately Sensitive	Exposed calcareous rock corresponds to two annexed habitats, 'calcareous rocky slopes with chasmophytic vegetation (8210)' and '*limestone pavements (8240)'.	Centre of Roscommon

- **Non-Marine Caves EU1**

Due the to the limestone bedrock geology that underlies much of the County, a total of eighteen cave systems are recorded on the GSI database, which are dotted in a roughly east-west band from Roosky to Ballaghadereen, and just south of Boyle to north of Strokestown. Pollawaddy Cave system 7.5km south of Ballaghadereen is 45.5m in length and is Roscommon's longest cave system. Lissanany Cave is located in a highly karsified area, 3.5km north of Castlerea. Other caves include Cavetown Cave, Patricks Cave and Pollnagollum Cave. The caves can be important roosting sites for bats including Lesser Horseshoe Bats which are protected under Annex II of the EU Habitats Directive. Kerry is the main stronghold for this species, followed by Clare, then Galway, Cork, Mayo and Limerick in turn (Kelleher, 2004). A single animal was recorded in Co. Roscommon in 2004 (Roche, *pers. comm.,* 2006). In the past these caves were used by local people for storing perishables during the summer months.

Field Survey: Non-Marine Caves EU1 can be found in the central limestone plateau in Roscommon.

Ecological Interest	Links to Annex I Habitats	Locations
A/B- International to National Importance, Highly Sensitive	Non-Marine Caves correspond to the Annex I habitat Caves not Open to the Public (8310)	North and mid Roscommon

4.2.6.2 ED Disturbed Ground

- **ED1 Exposed Sand, Gravel or Till**

There are areas of exposed sand, gravel and till, in the vicinity of the active and disused quarries throughout Roscommon. This habitat is often colonised by a diversity of herbs, however vegetation cover must be less than 50% to be considered in this category.

Field Survey: This habitat can be found throughout County Roscommon.

Ecological Interest	Links to Annex I Habitats	Locations within Study Area
E- Local Importance (lower value) Robust	This habitat does not correspond to Annex I habitats.	Small areas throughout County Roscommon.

- **ED2 Spoil and Bare Ground**

Small areas of spoil and bare ground occur throughout the study area and are often associated with excavations for the construction of buildings and dredging of drains, and watercourses. Spoil heaps are often transient in nature but will colonise with pioneer plant and ruderal species if left for length of time.

Field Survey: This habitat can be found throughout County Roscommon.

Ecological Interest	Links to Annex I Habitats	Locations within Study Area
E- Local Importance (lower value) Robust	This habitat does not correspond to Annex I habitats.	Throughout County Roscommon.

- **ED3 Recolonising Bare Ground**

This habitat classification is used to describe areas of bare ground or derelict sites that have been colonised by herbaceous plants. The vegetation cover must exceed 50% to be considered under this classification. This habitat can support a diversity of early pioneer plants and ruderal species including Nettle (*Urtica dioica*), Dandelion (*Taraxacum* spp.), Colts Foot (*Tussilago farfara*), Teasel (*Dipsacus fullonum)*, Willowherbs (*Epilobium* spp.) and grasses favoring disturbed ground such Annual Meadow Grass (*Poa annua*) may also occur.

Field Survey: This habitat can be found throughout County Roscommon.

Ecological Interest	Links to Annex I Habitats	Locations within Study Area
E- Local Importance (lower value) Robust	This habitat does not correspond to Annex I habitats.	Scattered throughout County Roscommon

Image 4.43: White Musk Mallow (*Eremalche exilis)* growing in area of disturbed ground in Roscommon Town

- **ED4 Active quarries and mines**

There are quarries scattered throughout County Roscommon. There are limestone quarries throughout Roscommon with small sand and gravel quarries to the northwest. Abandoned quarry faces can provide suitable nesting opportunities for birds such as Peregrine Falcon.

Field Survey: This habitat can be found throughout County Roscommon.

Ecological Interest	Links to Annex I Habitats	Locations within Study Area
E- Local Importance (lower value) Robust	This habitat does not correspond to Annex I habitats.	Throughout County Roscommon

- **BC1 Arable crops**

Farming is mostly pastoral only about two percent of the land being used for arable farming, the crops grown include oats, barley and potatoes. Areas of agricultural land cultivated and managed for Arable Crops BC1 found throughout the Roscommon, being concentrated in the centre and south of the county. Ploughed arable fields, stubble and tillage fields can be important for birds such as Yellow Hammers and Lapwing.

Field Survey: This habitat can be found in Ballaghaderreen and throughout County Roscommon.

Ecological Interest	Links to Annex I Habitats	Locations within Study Area
E- Local Importance (lower value) Robust	This habitat does not correspond to Annex I habitats.	Throughout County Roscommon

- **BC2 Horticultural land**

This type of agriculture is limited within the County Roscommon. Horticultural land is used for growing fruit, vegetables, ornamental flowers and plants.

Ecological Interest	Links to Annex I Habitats	Locations within Study Area
E- Local Importance (lower value) Robust	This habitat does not correspond to Annex I habitats.	Throughout County Roscommon

4.2.6.3 Built Land

- **BL3 Buildings & Artificial Surfaces**

This classification includes all buildings including, domestic, agricultural, industrial and artificial surfaces including car parks, pavements, roads, tracks etc. Older structures can be important for wildlife including, birds and bat species.

Ecological Interest	Links to Annex I Habitats	Locations within Study Area
E- Local Importance (lower value) Robust	This habitat does not correspond to Annex I habitats.	Throughout study area

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 57% of the total area of County Roscommon outside designated lands, with some semi-natural habitats persisting in the less intensively managed areas. The uplands to the northwest provide the greatest diversity of upland peatland habitats; however Conifer Plantation WD4 is also extensive in this area. The central region boasts an array of semi-natural habitats, including Oak Ash Hazel Woodland WN2, Limestone Pavement ER1, Calcareous Grasslands GS1, Turloughs FL6, and Cave Systems. Raised Bogs PB1 are a significant feature of the flood plains of the River Suck and River Shannon to the west, east and south of the County.

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, confined to adjacent to wetlands designated as nature conservation areas. Rich Fen and Flush PF1 habitat occurs on the shores of some Turloughs FL6. 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. There are significant Raised Bog PB1 formations in County Roscommon, many of which are designated for nature conservation. Many of the peatland in County Roscommon have been extensively cut over the last centuries, and peat harvesting continues at many of these sites. In the depressions of the Cutover Bog, the Annexed Habitat, ‘depressions on peat substrates of the Rhynchosporion (7150)’ can also be found as a sub-habitat of Raised Bog PB1.

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.

Target notes have been produced for each of the study towns were habitats of ecological interest and diversity were identified. The ecological importance of each of the sites is highlighted in red in the Target Notes. Discussed below are the habitat types found within County Roscommon and there sensitivity to development. The habitat types are subdivided into **Highly Sensitive, Very Sensitive** and **Moderately Sensitive Habitats.** Habitats classified as Highly Sensitive or Very Sensitive should, where appropriate, form part of plans to retain and enhance existing biodiversity.

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. Accounts should be provided of the following;

1. The habitats directly affected,
2. Those indirectly affected, and
3. Proposed measures to integrate biodiversity with development through avoidance, mitigation or compensatory measures.

The GIS base habitat maps for County Roscommon can expedite this assessment.

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.

Robust Habitats are habitats that can more readily absorb development and development should be encouraged in these habitat types. Whilst these habitats are of low ecological value in a local context they may support local wildlife such as bird and mammal species. Therefore, planning applications in these areas must be assessed on a case by case basis.

The Target Notes for each of the study towns will identify habitats that are important for local wildlife, which can assist in further assessment.

4.3.1 A/B - Internationally/Nationally Important Ecological Sites – Highly Sensitive Habitats

Habitats with links to Annex I habitats as listed in the Habitats Directive are considered to be internationally or nationally important. Annex I habitats are considered highly sensitive to development and development should almost always be avoided in these areas. Examples of habitats found within the study area with links to Annex I habitats include;

Freshwater Habitats

- Acid Oligotrophic Lakes FL2,
- Limestone Marl Lakes FL3,
- Turloughs priority habitat under Habitats Directive listed as ‘Turloughs (3180)’, Loughnaneane Turlough, Roscommon Town, See **Target Note 2550b TN1**

Peatland Habitats

- Raised Bog PB1 priority habitat under Habitats Directive listed as ‘Active Raised Bogs (Code 7110)’, and
- Upland Blanket Bog priority* habitat under Habitats Directive listed as ‘Blanket Bog (*if active) (7130)’.

Woodland Habitats

- Bog Woodland WN7 also priority habitat under Habitats Directive listed as Bog Woodland (Code 91d0).

Exposed Rock Habitats

- Exposed calcareous rock ER2 priority habitat limestone pavements (8240)
- Non-Marine Caves EU1 Caves not open to the public (8310)

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. These sites are rich in biodiversity and support a number of Annex II species. The Non-Marine Caves EU1 recorded are important roosting sites for Lesser Horseshoe Bats which are protected under Annex II of the Habitats Directive. 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.

4.3.2 C- Habitats of County Importance – 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 County Roscommon. Examples of habitats of high ecological value in a local context found within the study area include;

Freshwater Habitats

- Mesotrophic Lakes FL4, **Target Note 1740-a_TN7,**
- Eroding Upland Rivers FW1, **Target Note 1857-d_TN2,**
- Depositing/Lowland Rivers FW2, **Target Notes 1739-d_TN4** and **2219-b_TN1,** and
- Reed and Tall Sedge Swamps FS1.

Grassland & Marsh Habitats

- Species Rich examples of Dry Calcareous and Neutral Grassland GS1 **-Target Notes for Roscommon Town 2551-c_TN1, 2481-d_TN1, Ballaghadereen 1857-d_TN2** and **Boyle 1739-d_TN1,**
- Species Rich examples of Dry Meadows and Grassy Verges GS2, **Target Note 1740-a_TN1,**
- Species Rich examples of Wet Grassland GS4, Ballaghaderreen Target Notes **1857-d TN1 - TN3**, Boyle Target Notes **1740-a TN2 - TN6,** Castlerea Target Notes **2220-a TN1 - TN3 and TN5,** and Roscommon Town Target Notes **2482-c TN1-TN4 and 2481-d TN2,** and
- Species Rich examples of Marsh GM1, in Castlerea **Target Note 2219-b_TN2**.

Heath and Dense Bracken Habitats

- Dry Siliceous Heath HH1, and
- Wet Heath HH3, on Cutover Bog PB4 in Ballaghadereen **Target Note 1917-a_TN1**

Pentland Habitats

- Cutover Bog PB4 linked to the annexed habitat, 'depressions on peat substrates of the Rhynchosporion (7150)', **Target Note 1917-a,** and
- Rich Fen and Flush PF1.

Woodlands

- Oak-Ash-Hazel woodland WN2,
- Riparian Woodland WN5, Boyle **Target Note 1739-d_TN4,** and
- Wet Willow-Alder-Ash Woodland WN6, Castlerea; see **Target Note 2157-d_TN1**.

4.3.3 D-Habitats of Local Importance (Higher Value) – Moderately Sensitive Habitats

Examples of habitats containing some semi-natural habitat or locally important habitats for wildlife found within the study area include;

Freshwater Habitats

- Canals FW3, **Target Notes 1740-a_TN2**, **1740-a_TN3**
- Eutrophic Lakes FL5, and
- Drainage Ditches FW4.

Grassland & Marsh Habitats

- Dry-humid Acid Grassland GS3, **Target Notes 1739-b_TN1** and **1740-a_TN9,**
- Wet Grassland GS4, and
- Marsh GM1.

Woodlands and Scrub

- (Mixed) Broadleaved Woodland WD1, Castlerea; see **Target Note 2157-d_TN1**,
- Mixed Broadleaved/Conifer Woodland WD2, Roscommon **Target Note 2551-a_TN2**
- Scrub WS1,
- Immature Woodland WS2,
- Hedgerows WL1, and
- Treelines WL2.

Exposed Rock and Disturbed Ground

- ER1 Exposed Siliceous Rock
- ER2 Exposed Calcareous Rock

4.3.4 E-Habitats of Local Importance (Lower Value)– Robust Habitats

Examples of robust habitats found within the study area include;

Freshwater Habitats

- Other Artificial Lakes and Ponds FL8

Grassland & Marsh Habitats

- Improved Agricultural Grassland GA1, and
- Amenity Grassland GA2.

Heath and Dense Bracken Habitats

- Dense Bracken HD1

Woodlands

- Mixed Conifer Woodland WD3,
- Conifer Plantation WD4,
- Scattered Trees and Parkland WD5, and
- Recently-Felled Woodland WS5.

Exposed rock and disturbed ground

- Exposed Sand, Gravel or Till ED1
- Spoil and Bare Ground ED2
- Recolonising Bare Ground ED3

Cultivated and built land

- Arable Crops BC1
- Horticultural Land BC2
- Buildings & Artificial Surfaces BL3

The locations of all of the habitats can be found in **Section 4.2** and in the supporting digital Habitat Map. Examples of some these habitats are provided in the Target Notes for each of the study towns in **Appendices A to F**.

4.4 SITES OF LOCAL BIODIVERSITY VALUE, ECOLOGICAL CORRIDORS AND STEPPING STONES

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 Local Authorities 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, the linkages and buffer zones must also be protected to ensure the continued migration of species and genetic diversity throughout County Roscommon.

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

Geology –soils – terrain – slope - run off

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 key ecological corridors and stepping stones identified within County Roscommon and the illustrated buffer zones are shown in **Figure 4.1**.

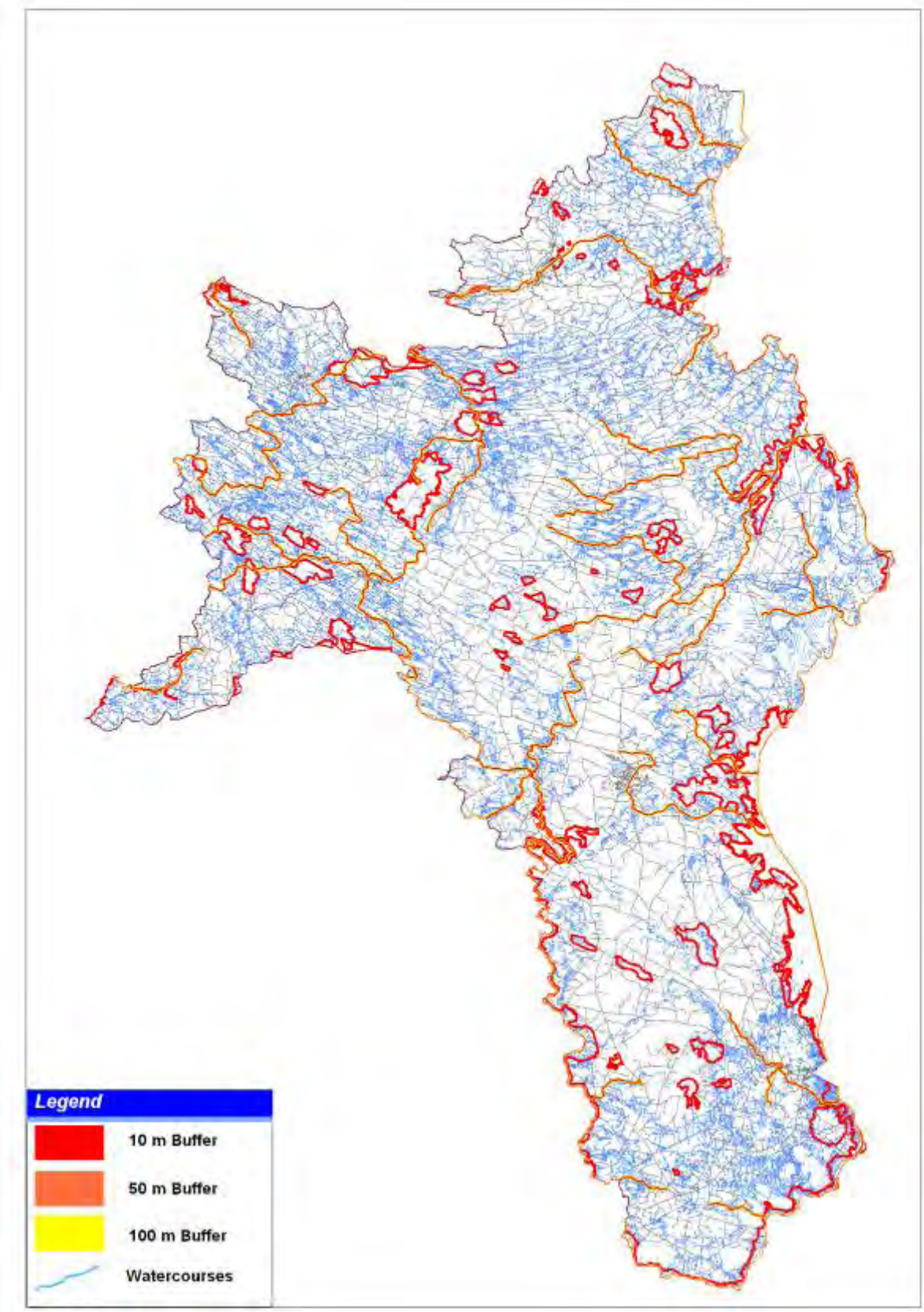


Figure 4.1: Key Ecological Corridors and Stepping Stones within County Roscommon and Suggested Buffer Zones

5 OVERALL CONCLUSIONS AND RECOMMENDATIONS

Information from this survey is principally of value in revealing the nature of the biodiversity interest within County Roscommon. 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 County Roscommon. Of the 49 different habitat types, 8 are classified under cultivated and built land and the remaining 41 habitats are described in detail throughout the report. Habitats with links to Annex I habitats are described in **Section 5.1.2**.

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 Priority and Non-Priority Annex I habitats are considered to be of International or National importance. Semi-natural habitats with high biodiversity that are vulnerable are considered to be of County Importance. Habitats that are considered semi-natural habitat or locally important for wildlife are considered to be of Local Importance (higher value) and sites containing small areas of semi-natural habitat or are of some importance in maintaining connectivity between habitats are considered to be of Local Importance (lower value).

The habitat inventory and supporting biodiversity evaluation of the lands in Roscommon 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 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,
2) Linear features such as hedgerows and drainage ditches are important habitats and linking features should be communicated to the public, landowners and policy makers, and

3) Priority research given into land abandonment and its impacts on peatlands, wetlands, species rich grassland, limestone pavement 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 (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.

5.1.1 Strategic Planning

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 damage to these habitats. It should facilitate change in areas characterised as Robust or Very Robust. Development should be avoided in habitats classified as Highly Sensitive and Very Sensitive and minimised in habitats classified as Moderately Sensitive, or those with functional linkages to sites with nature conservation designations. These are principally wetlands and unimproved grasslands. Priorities here should be to retain and enhance existing biodiversity.

5.2 STAKEHOLDER ENGAGEMENT

The positive engagement and co-operation of land owners and their representative bodies 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 and identify mechanisms which will allow effective input. The findings of the habitat mapping project will be available on the Roscommon County Council Website.

5.3 OPPORTUNITIES FOR FURTHER RESEARCH

Further studies should be conducted at sites identified as Internationally, Nationally, County Important Ecological Sites and also sites identified as being of Ecological Value in a Local Context as per **Table 4.1 Section 4 and Section 4.3.1 to 4.3.4** 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 5.1.**

Table 5.1: Ratcliffe Criterion

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

APPENDIX A

BALLAGHADERREEN

BALLAGHADEREEN

Ballaghaderreen is a thriving Cathedral town with a population of approximately 2000. It was known historically as the ‘gateway to the west’. Located in County Mayo until 1899, it was transferred to Roscommon by the Local Government (Ireland) Act 1898. The Irish meaning of the town name is 'the way (Bealach) of the little oak (Doirín)'. The town is quite picturesque, situated in a river valley and surrounded by hills, and has provided much inspiration for artists.

Habitats

There is a good diversity of habitats within the town boundary. Drainage is generally poor, with the result that the dominant habitat types are Wet Grassland (GS4) and Marsh (GM1). These habitats are generally quite species-rich. Some examples are described in Target Notes 1857-d_TN1. These grasslands add to the habitats diversity of the town and environs.

An area of peatland in the southern section of the town has been classified as PB4. Though the area within the town boundary has not actually been cut, it is apparent that the hydrological regime has been altered due to cutting which has been taking place in the peatlands just outside the town boundary. The habitat is very dry and is dominated by Ling Heather (*Calluna vulgaris*), with frequent Deergrass (*Trichophorum* sp.), Bog Asphodel (*Narthecium ossifragum*), Downy Birch (*Betula pubescens*) and Common Common-grass (*Eriophorum angustifolium*). This peatland offers a valuable refuge for wildlife in the vicinity of Ballaghaderreen.

Hedgerows (WL1) and Mature Treelines (WL2) criss-cross the town. These linear habitats add greatly to the ecological value of Ballaghaderreen, as they act as ‘wildlife corridors’.

Two small streams which flow through the town have been classified as Eroding Upland Rivers (FW1). These are characterising by fast moving waters, a rocky substrate and a lack of floating vegetation.

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 05/07/10
Surveyor: Jen Fisher		**County name:** Roscommon
1:2,500 Sheet no: 1857-d	**Townland:** Ballaghaderreen	**Grid Ref:** 163389, 295259
Target note no.: TN1	**Area:** 7ha	
Ecological Value: **C/D- County to Local Importance, Very to Moderately Sensitive**		

Habitat code

GS4/GM1

Species rich mosaic of Wet Grassland GS4 grading into Marsh GM1 in some areas. The habitat was large comprising four fields and was heavily poached, indicating some grazing. Some mature hawthorn was present along field boundaries.

Species List

Species (*Latin* name)	Species (common name)	DAFOR Scale
Cirsium palustre	Marsh Thistle	Occasional
Cynosurus cristatus	Crested Dog's-tail	Frequent
Equisetum sp.	Horsetail	Frequent
Filipendula ulmaria	Meadowsweet	Frequent
Galium palustris	Marsh Bedstraw	Occasional
Holcus lanatus	Yorkshire Fog	Frequent
Iris pseudacorus	Yellow Flag Iris	Abundant
Juncus conglomeratus	Compact Rush	Frequent
Juncus effuses	Soft Rush	Frequent
Juncus inflexus	Hard Rush	Occasional
Ranunculus repens	Creeping Buttercup	Frequent
Senecio aquatica	Marsh Ragwort	Occasional
Trifolium repens	Clover	Frequent
Alopecurus pratensis	Meadow Foxtail	Frequent
Potentilla anserina	Silverweed	Frequent
Arrhenatherum elatius	False Oat Grass	Frequent
Carex rostrata	Bottle Sedge	Occasional

Habitat Map

Image 1: Marsh GM1 habitat

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 06/07/10
Surveyor: Jen Fisher		**County name:** Roscommon
1:2,500 Sheet no: 1857-d	**Townland:** Ballaghaderreen	**Grid Ref:** 162760, 295485
Target note no.: TN2	**Area:** 1.2ha	
Ecological Value: **C/D- County to Local Importance, Very to Moderately Sensitive (Mosaic of Habitats)**		

Habitat code

GS4/GS1/FW1

Field was a mosaic of Wet Grassland GS4 and Neutral Grassland GS1. The field was subject to grazing. A small stream flows through the field that was best classified as Eroding Upland River FW1. The stream was approximately 1m wide and enclosed with vegetation. The stream had a rocky substrate. The area is under pressure from local development.

Species List

Species (*Latin* name)	Species (common name)	DAFOR Scale
Centaurea nigra	Knapweed	Frequent
Equisetum sp.	Horsetail	Frequent
Filipendula ulmaria	Meadowsweet	Abundant
Holcus lanatus	Yorkshire Fog	Abundant
Iris Pseudacorus	Yellow Flag Iris	Frequent
Juncus acutiflorus	Sharp-flowered Rush	Occasional
Juncus conglomeratus	Compact Rush	Frequent
Lychnis flos-cuculi	Ragged Robin	Occasional
Rumex acetosa	Common Sorrel	Occasional
Senecio aquatica	Marsh Ragwort	Occasional

Habitat Map

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 06/07/10
Surveyor: Jen Fisher		**County name:** Roscommon
1:2,500 Sheet no: 1857-d	**Townland:** Ballaghaderreen	**Grid Ref:** 162394, 295046
Target note no.: TN3	**Area:**	
Ecological Value: **D- Local Importance (higher value) Moderately Sensitive**		
Habitat code FW1	Small stream Classified as an Eroding Upland River FW1, flowing through an area of Wet Grassland GS4 and Improved Agricultural Grassland GA1 mosaic. The stream was narrow approximately 1m wide with a rocky substrate and a moderate flow of water. No aquatic vegetation was recorded in the steam at this location. This stream flows into a tributary of the River Lung	

Habitat Map

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 06/07/10
Surveyor: Jen Fisher		**County name:** Roscommon
1:2,500 Sheet no: 1917-a	**Townland:** Ballaghaderreen	**Grid Ref:** 161860, 294328
Target note no.: TN1	**Area:** 1.9ha	

Ecological Value: C- County Importance, Very Sensitive. Linked to **Annex 1 Habitat** 'depressions on peat substrates of the Rhynchosporion (7150)' occurs in pockets as a sub-habitat of raised bog.

Habitat code

PB4

A large area of Cutover Bog PB4 in Ballaghaderreen. An uncut area within the town boundary is a least 2m higher than the adjacent cutover area. This is deep peat consistent with bog but the habitat was very dry probably as a result of interference with the hydrological regime via drainage. The habitat was dominated by Ling Heather.

Species List

Species (*Latin* name)	Species (common name)	DAFOR Scale
Calluna vulgaris	Ling Heather	Dominant
Carex panicea	Carnation Sedge	Frequent
Erica tetralix	Cross-leaved Heath	Occasional
Eriophorum angustifolium	Common Cotton Sedge	Frequent
Molinia caerulea	Purple Moor Grass	Occasional
Narthecium ossifragum	Bog Asphodel	Frequent
Rhynchospora alba	White Beak-sedge	Occasional
Sphagnum sp.	Bog Moss	Frequent
Trichophorum	Deer Grass	Frequent
Ulex europaeus	Gorse	Frequent
Betula pubescens	Downy Birch	Frequent
Pteridium aquilinum	Bracken	Frequent

Habitat Map

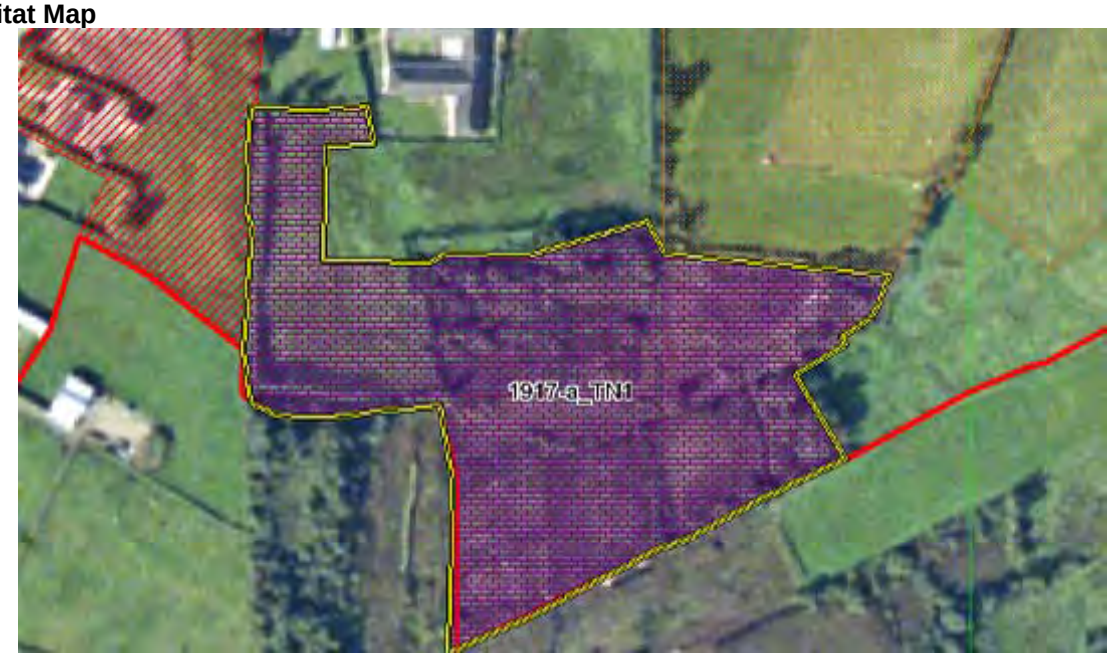
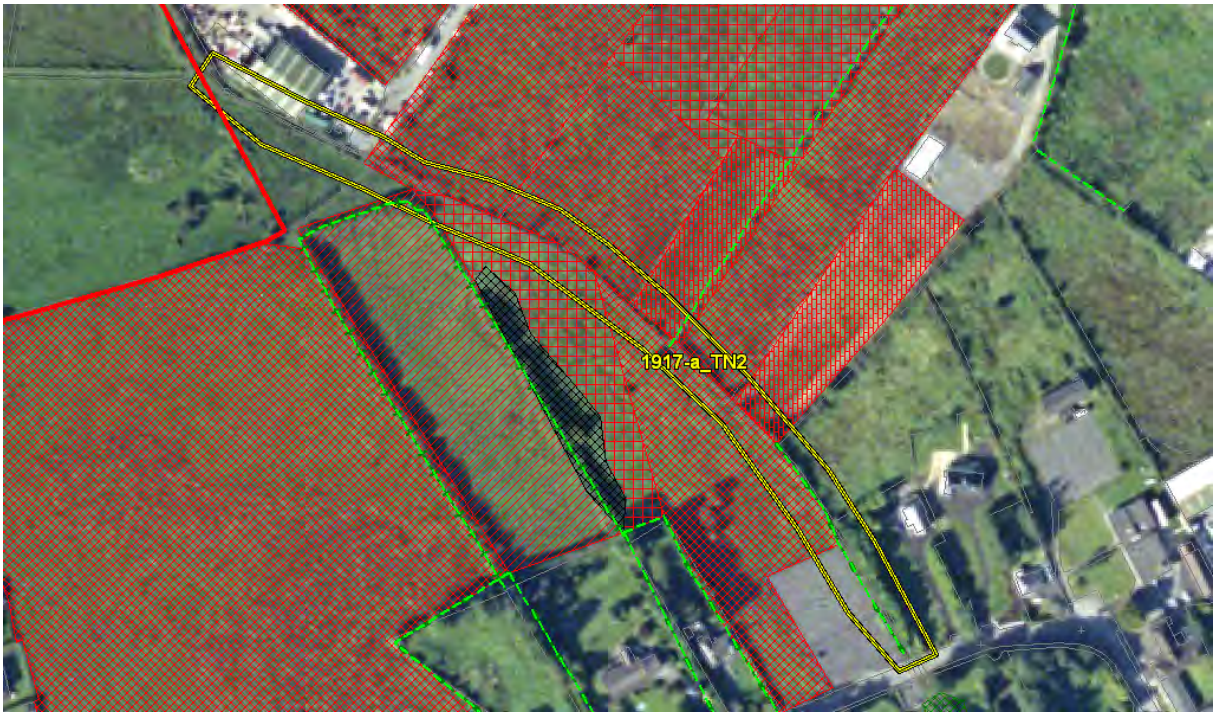


Image 1: Peat banks in Cutover Bog PB4

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 06/07/10
Surveyor: Jen Fisher		**County name:** Roscommon
1:2,500 Sheet no: 1917-a	**Townland:** Ballaghaderreen	**Grid Ref:** 161369, 294898
Target note no.: TN2	**Area:**	
Ecological Value: D- Local Importance (higher value) Moderately Sensitive		
Habitat code FW1	The stream was narrow approximately 1m wide with a rock and boulder substrate and a moderate flow of water. No aquatic vegetation was recorded in the steam at this location.	

Habitat Map



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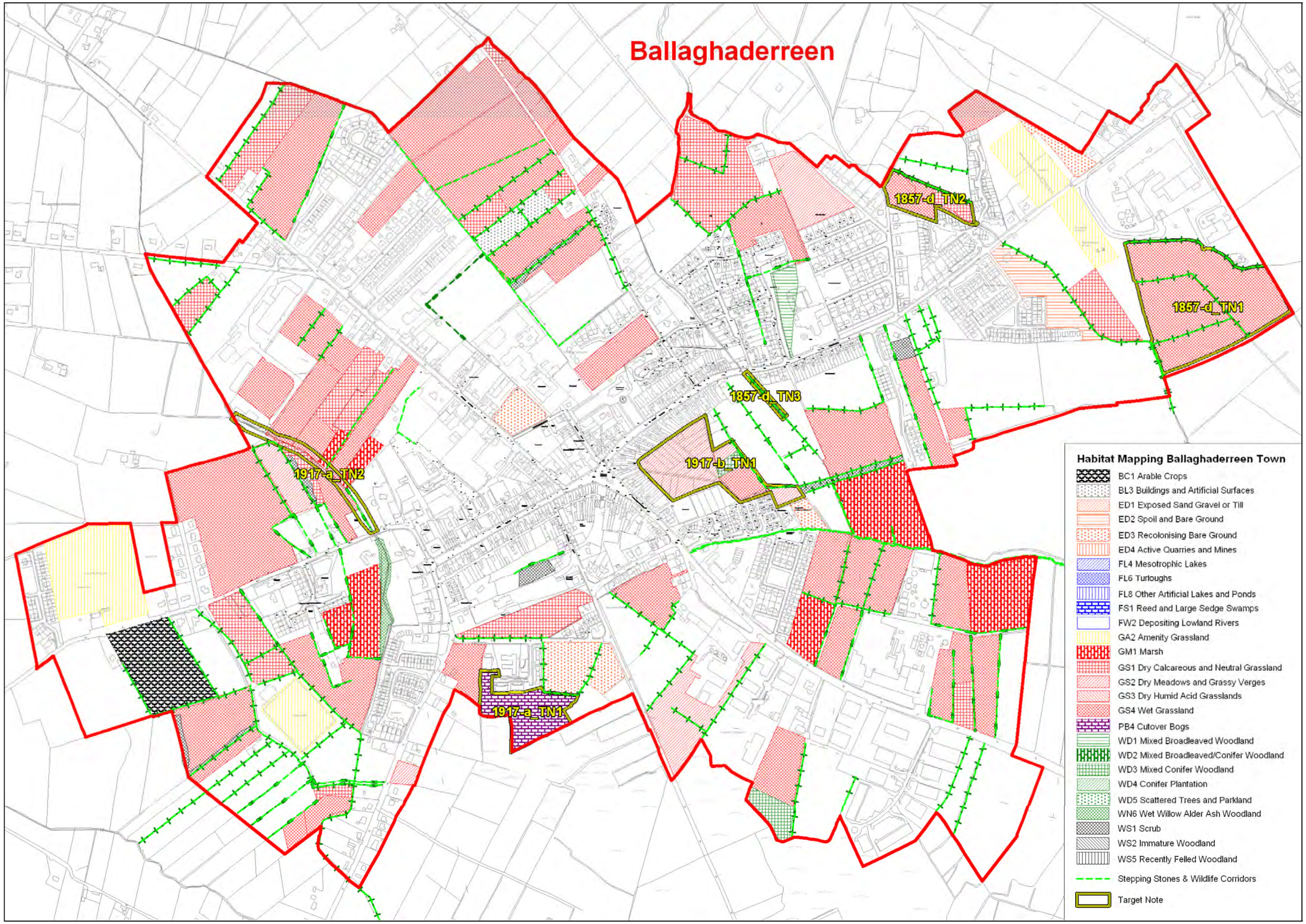
<tr><th colspan="4">TARGET NOTES</th></tr>
<tr><td colspan="3">Survey Title: Roscommon Habitat Mapping</td><td>Survey date: 06/07/10</td></tr>
<tr><td colspan="3">Surveyor: Jen Fisher</td><td>County name: Roscommon</td></tr>
<tr><td colspan="2">1:2,500 Sheet no: 1917-b</td><td>Townland: Ballaghaderreen</td><td>Grid Ref:</td></tr>
<tr><td colspan="2">Target note no.: TN1</td><td colspan="2">Area:</td></tr>
<tr><td colspan="4">Ecological Value: C - County Importance, Very Sensitive</td></tr>
<tr><td>Habitat code

GS2/WL2</td><td colspan="3">Large area that is subdivided into many small fields, with mature field boundaries. Some of these boundaries are conifer and some are broadleaf. The fields themselves have not been managed for some time and are dominated by rank, tussocky grasses and are consistent with Dry Meadows and Grassy Verges GS2, which is an increasingly rare habitat in Ireland. In some areas these fields have become invaded by scrub and young trees. The area appears to be used for recreation and was intersected by several well defined paths/tracks.

Species List
<table>
<tr><th>Species (Latin name)</th><th>Species (common name)</th></tr>
<tr><td>Acer pseudoplatanus</td><td>Sycamore</td></tr>
<tr><td>Anthriscus sylvestris</td><td>Cow Parsley</td></tr>
<tr><td>Crataegus monogyna</td><td>Hawthorn</td></tr>
<tr><td>Fagus sylvatica</td><td>Beech</td></tr>
<tr><td>Fraxinus excelsior</td><td>Ash</td></tr>
<tr><td>Rubus fruticosus agg</td><td>Bramble</td></tr>
<tr><td>Salix sp.</td><td>Willow</td></tr>
<tr><td>Urtica dioica</td><td>Nettle</td></tr>
</table></td></tr>
</table>

Habitat Map


Ballaghaderreen
1857-d_TN2
1857-d_TN1
1857-d_TN3
1917-b_TN1
1917-a_TN2
1917-a_TN1
Habitat Mapping Ballaghaderreen Town
BC1 Arable Crops
BL3 Buildings and Artificial Surfaces
ED1 Exposed Sand Gravel or Till
ED2 Spoil and Bare Ground
ED3 Recolonising Bare Ground
ED4 Active Quarries and Mines
FL4 Mesotrophic Lakes
FL6 Turloughs
FL8 Other Artificial Lakes and Ponds
FS1 Reed and Large Sedge Swamps
FW2 Depositing Lowland Rivers
GA2 Amenity Grassland
GM1 Marsh
GS1 Dry Calcareous and Neutral Grassland
GS2 Dry Meadows and Grassy Verges
GS3 Dry Humid Acid Grasslands
GS4 Wet Grassland
PB4 Cutover Bogs
WD1 Mixed Broadleaved Woodland
WD2 Mixed Broadleaved/Conifer Woodland
WD3 Mixed Conifer Woodland
WD4 Conifer Plantation
WD5 Scattered Trees and Parkland
WN6 Wet Willow Alder Ash Woodland
WS1 Scrub
WS2 Immature Woodland
WS5 Recently Felled Woodland
Stepping Stones & Wildlife Corridors
Target Note

APPENDIX B

BOYLE

BOYLE

Boyle town, nestled under the Curlew Mountains, is an attractive town of significant cultural and historical interest. It has several sites of historic and architectural interest, including the twelfth century Boyle Abbey and the 18th century King House. These attractive buildings, the traditional layout of the town centre and the presence of the Boyle River flowing through the town all combine to make Boyle an attractive place within which to live, work and visit. The Shannon Waterway was recently extended close to the town and the nearby Lough Key Forest Park has opened a Visitor Centre, Tree Top Walk, Restaurant and an Adventure Play Kingdom.

Habitats

The main habitat in Boyle (apart from Buildings and Artificial Surfaces), is Improved Agricultural Grassland, comprising mainly pasture farmland. Poorly-drained areas are generally dominated by Wet Grassland (GS4) and Marsh (GM1). These wetland habitats are generally quite species-diverse and add significantly to the ecological value of the town.

A small pond occurs in a depression in the eastern section of the town, and this may be classified as FL4 Mesotrophic Lakes. This pond is surrounded by Reed and Large Sedge FS1Swamp. Both of these habitats are important for wildlife and add to the ecological richness of the Boyle.

The Boyle River, which winds its way from the west to the north-eastern tip of the town, is quite slow moving and has been classified as a Depositing/ Lowland River (FW2). Its fringing vegetation comprises mainly Marsh (GM1) habitat, with Yellow Flag Iris (*Iris pseudacorus*), Marsh Bedstraw (*Galium palustre*), Marsh Thistle (*Cirsium palustre*) and Bogbean (*Menyanthes trifoliata*).

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 14.07.10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 1739-b	**Townland:** Boyle	**Grid Ref:** 179984, 303560
Target note no.: TN1	**Area:** 0.5ha	
Ecological Value: **C- County Importance, Very Sensitive**		

Habitat code

GS3

Grassland which displays somewhat acidic characteristics, with a short sward and abundant needle-leaved grasses (mainly Fescues (*Festuca* spp.), no Mat-grass (*Nardus stricta*) was found, however other indicators of Acid Grassland GS3, such as Tormentil (*Potentilla erecta*) and Heath Bedstraw (*Galium saxatile*), along with abundant rushes (*Juncus* spp.) and woodrushes (*Luzula* spp.) were recorded. Some rock outcrop (Grey Sandstone) is present and it is near here that the vegetation displays the most acidic qualities.

Habitat Map

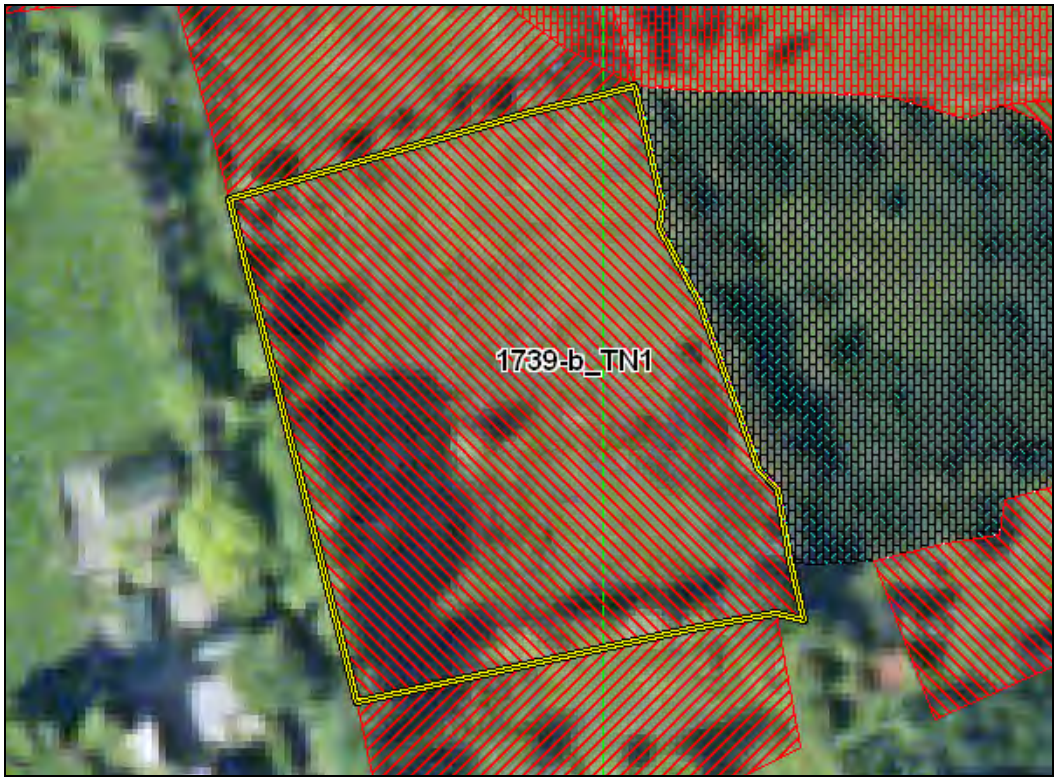


Image 1: Rock Outcrop of Grey Sandstone

Image 2: Close-up of Acid Grassland GS3 Vegetation

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 14/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 1740-a	**Townland:** Boyle	**Grid Ref:** 180796, 303593
Target note no.: TN1	**Area:** 1.6ha	
Ecological Value: **C - County Importance, Very Sensitive**		

Habitat code

GS2

Species-rich Dry Meadows and Grassy Verges GS2 type habitat with a tall sward (>1m high) dominated by tall tussocky grasses such as Meadow Foxtail, Sweet Vernal, Yorkshire Fog and some False Oat-grass. The area does not appear to be grazed and looks like it has not been improved in recent years.

Species List

Species (*Latin* name)	Species (common name)	DAFOR Scale
Alopecurus pratensis	Meadow Foxtail	Abundant
Anthoxanthum odoratum	Sweet Vernal	Abundant
Arrhenatherum elatius	False Oat-grass	Frequent
Cynosurus cristatus	Crested Dog's-tail	Occasional
Dactylis glomerata	Cock's-foot	Frequent
Festuca spp.	Fescues	Frequent
Filipendula ulmaria	Meadowsweet	Occasional
Holcus lanatus	Yorkshire Fog	Abundant
Lathyrus pratensis	Meadow Vetchling	Frequent
Lotus pedunculatus	Greater Bird's-foot Trefoil	Frequent
Phleum pratense	Timothy Grass	Frequent
Plantago lanceolata	Ribwort Plantain	Occasional
Poa spp.	Bents	Frequent
Ranunculus acris	Meadow Buttercup	Occasional
Ranunculus repens	Creeping Buttercup	Frequent
Rhinanthus minor	Yellow-rattle	Occasional
Stellaria graminea	Lesser Stitchwort	Rare
Trifolium pratense	Red Clover	Frequent

Habitat Map

Image 1: Overview of Dry Meadows and Grassy Verges GS2 Habitat

Image 2: Close-up of Vegetation Showing Meadow Vetchling (*Lathyrus pratensis*), Sweet Vernal (*Anthoxanthum odoratum*), Yorkshire Fog (*Holcus lanatus*) and Ribwort Plantain (*Plantago lanceolata*)

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 14/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 1740-a	**Townland:** Boyle	**Grid Ref:** 181206, 304045
Target note no.: TN2	**Area:** 6.3ha	
Ecological Value: **C/D- County to Local Importance, Very to Moderately Sensitive**		

Habitat code

FW3/WS1/ GM1/GS4

On the northern banks of the Harbour Canal, lies a mosaic of Willow Scrub WS1 and Marsh GM1. A variety of Willow species are present, including Osier (*Salix viminalis*) and Bay Willow (*Salix pentandra*). The Marsh GM1/Wet Grassland GS4 habitat is unusual, with a mixture of wet- and dry-land species. Species composition varies dramatically throughout.

Species List

Species (*Latin* name)	Species (common name)
Arrhenatherum elatius	False Oat-grass
Epilobium sp.	Willowherb
Filipendula ulmaria	Meadowsweet
Hypericum tetrapterum	Square-stalked St. John's-wort
Juncus conglomeratus	Compact Rush
Lathyrus pratensis	Meadow Vetchling
Phalaris arundinacea	Reed Canary-Grass
Phragmites australis	Common Reed
Salix pentandra	Bay Willow
Salix viminalis	Osier
Scutellaria sp.	Skullcap
Ulex europaeus	Gorse
Valeriana officinalis	Common Valerian
Vicia cracca	Tufted Vetch

Habitat Map

Image 1: Marsh / Willow Scrub Habitat

Image 2: Willows (*Salix* spp.)

Image 3: Marsh GM1/Willow Scrub Habitat With Small Drainage Ditch FW4

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 14/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 1740-a	**Townland:** Boyle	**Grid Ref:** 182033, 302627
Target note no.: TN3	**Area:** 0.4ha	
Ecological Value: **C/D- County to Local Importance, Very to Moderately Sensitive**		

Habitat code

GM1/GS4

Mosaic of Wet Grassland and Marsh on the southern banks of the Harbour Canal. Much of the area is dominated by tall grasses such as Tufted Hair Grass (*Deschampsia cespitosa*), with some herbs such as Meadow Vetchling (*Lathyrus pratensis*) and Tufted Vetch (*Vicia cracca*). In some areas Meadowsweet (*Filipendula ulmaria*), Common Valerian (*Valeriana officinalis*), Wild Angelica (*Angelica sylvestris*) and Yellow Iris (*Iris pseudacorus*) are dominant, and can be classified as Marsh GM1.

Species List

Species (*Latin* name)	Species (common name)	DAFOR Scale
Angelica sylvestris	Wild Angelica	Abundant
Arrhenatherum elatius	False Oat-grass	Frequent
Deschampsia cespitosa	Tufted Hair Grass	Dominant
Epilobium sp.	Willowherb	Occasional
Filipendula ulmaria	Meadowsweet	Abundant
Juncus conglomeratus	Compact Rush	Frequent
Lathyrus pratensis	Meadow Vetchling	Abundant
Phalaris arundinacea	Reed Canary-Grass	Occasional
Phragmites australis	Common Reed	Occasional
Salix pentandra	Bay Willow	Frequent
Salix viminalis	Osier	Frequent
Ulex europaeus	Gorse	Occasional
Valeriana officinalis	Common Valerian	Occasional
Vicia cracca	Tufted Vetch	Abundant

Habitat Map

Image 1: Marsh GM1 and Wet Grassland GS4 Mosaic with an area of Marsh in the Foreground

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 14/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 1740-a	**Townland:** Boyle	**Grid Ref:** 180333, 303489
Target note no.: TN4	**Area:** 0.9ha	
Ecological Value: **D- Local Importance (higher value) Moderately Sensitive**		

Habitat code

GS4

Area of Wet Grassland GS4

Species List

Species (*Latin* name)	Species (common name)
Anthoxanthum odoratum	Sweet Vernal
Cynosurus cristatus	Crested Dog's-tail
Filipendula ulmaria	Meadowsweet
Juncus acutiflorus/articulatus	Jointed/Sharp-flowered Rush
Juncus conglomeratus	Compact Rush
Juncus effusus	Soft Rush
Plantago lanceolata	Ribwort Plantain
Ranunculus repens	Creeping Buttercup
Rhinanthus minor	Yellow-rattle

Habitat Map

Image 1: Wet Grassland

Image 2: Close-up of GS4 Vegetation

Survey Title: Roscommon Habitat Mapping		**Survey date:** 15/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 1740-a	**Townland:** Boyle	**Grid Ref:** 181552, 303283
Target note no.: TN5	**Area:** 0.7ha	
Ecological Value: **C/D- County to Local Importance, Very to Moderately Sensitive**		

Habitat code

GS4/GM1

Wet Grassland GS4/Marsh Mosaic GM1 in abandoned field (former building site – some part-built houses and piles of spoil on the site). The entire area appears to have been fairly recently recolonised, but there is almost 100% cover of vegetation. Sedges (*Carex* spp.) dominate with Rushes (*Juncus* spp.) and Meadowsweet frequent to abundant.

Species List

Species (*Latin* name)	Species (common name)	DAFOR Scale
Carex hirta	Hairy Sedge	Abundant
Carex nigra	Common Sedge	Dominant
Carex ovalis	Oval Sedge	Dominant
Cerastium fontanum	Common Mouse-ear	Frequent
Cirsium palustre	Marsh Thistle	Occasional
Dactylorhiza fuchsii	Common Spotted-Orchid	Frequent
Iris pseudacorus	Yellow Iris	Frequent
Mentha aquatica	Watermint	Frequent
Ranunculus repens	Creeping Buttercup	Abundant
Triglochin palustre	Marsh Arrowgrass	Occasional
Urtica dioeca	Nettles	Occasional

Habitat Map

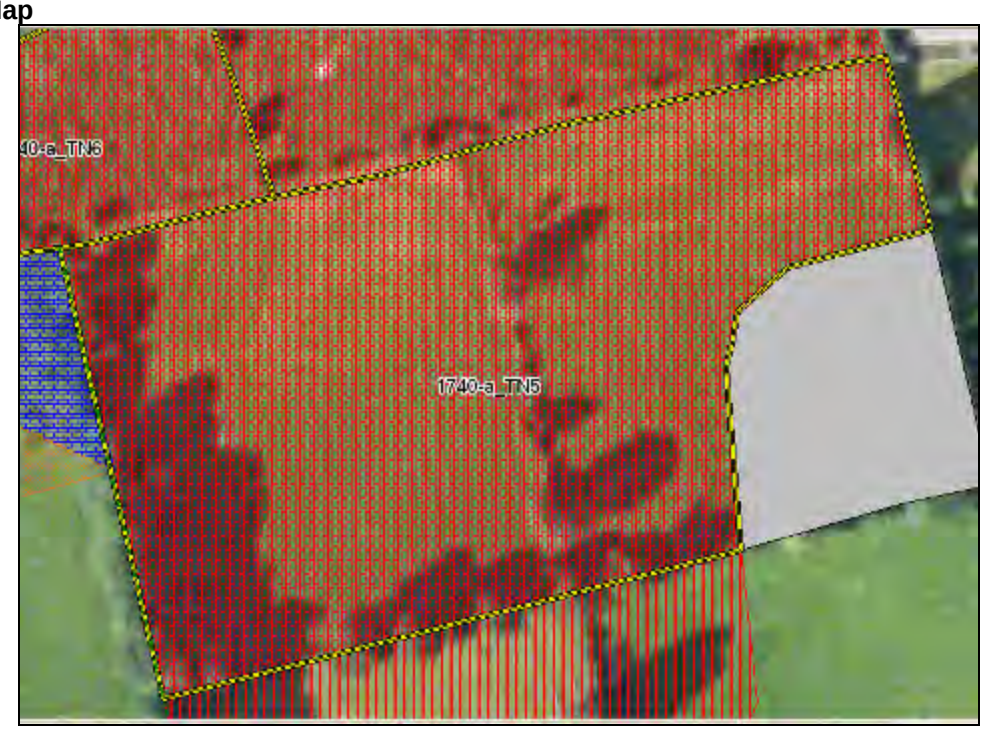


Image 1: Wet Grassland/Marsh Mosaic

Image 2: Common Spotted-Orchid (*Dactylorhiza fuchsii*)

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 15/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 1740-a	**Townland:** Boyle	**Grid Ref:** 181456, 303331
Target note no.: TN6	**Area:** 0.5ha	
Ecological Value: **C/D- County to Local Importance, Very to Moderately Sensitive**		

Habitat code

GS4/GM1

Species-rich Wet Grassland GS4/ Marsh Mosaic GM1. Rushes (*Juncus acutiflorus/articulatus, J. effusus*) and sedges (*Carex* spp.) are dominant, with abundant Meadowsweet (*Filipendula ulmaria*), Watermint (*Mentha aquatica*), Creeping Buttercup (*Ranunculus repens*) and Horsetails (*Equisetum* spp.). Common Spotted-Orchid (*Dactylorhiza fuchsii*) and Ragwort (*Senecio jacobaea*) are frequent.

Species List

Species (*Latin* name)	Species (common name)	DAFOR Scale
Carex hirta	Hairy Sedge	Abundant
Carex nigra	Common Sedge	Dominant
Carex ovalis	Oval Sedge	Dominant
Cerastium fontanum	Common Mouse-ear	Frequent
Cirsium palustre	Marsh Thistle	Occasional
Dactylorhiza fuchsii	Common Spotted-Orchid	Frequent
Iris pseudacorus	Yellow Iris	Frequent
Mentha aquatica	Watermint	Frequent
Ranunculus repens	Creeping Buttercup	Abundant
Triglochin palustre	Marsh Arrowgrass	Occasional
Urtica dioeca	Nettles	Occasional

Habitat Map

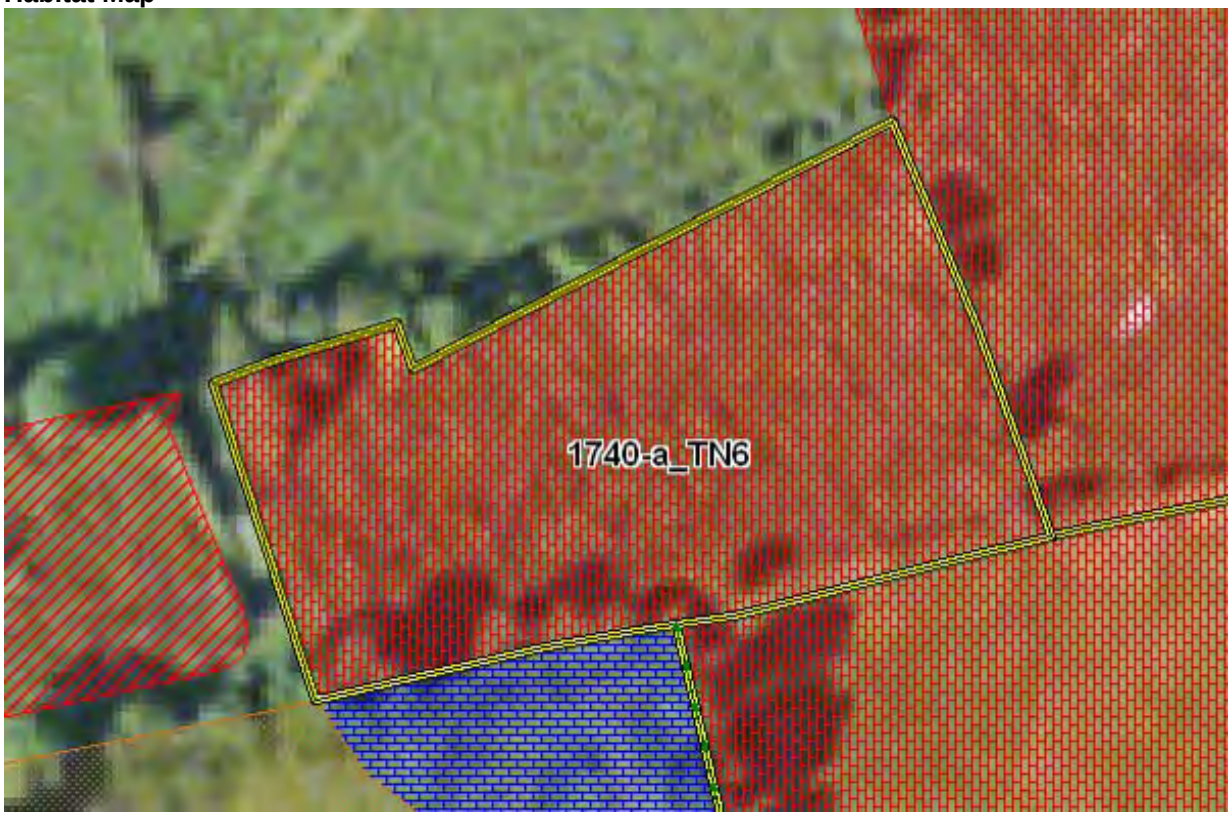


Image 1: Bumblebee on Common Spotted Orchid in Marsh Habitat

Image 2: Wet Grassland GS4/ Marsh GM1 Mosaic

TARGET NOTES			
Survey Title: Roscommon Habitat Mapping			**Survey date:** 15/07/10
Surveyor: Jean Hamilton			**County name:** Roscommon
1:2,500 Sheet no: 1740-a	**Townland:** Boyle		**Grid Ref:** 181365, 302848
Target note no.: TN7		**Area:** 0.7ha	
Ecological Value: **C - County Importance, Very Sensitive**			
Habitat code **FL4/GM1/FS1**	Pond in a depression at the bottom of a field. Looks natural and has a lush fringing community of Yellow Iris (*Iris pseudacorus*)–dominated Marsh and Common Reed (*Phragmites*)-dominated swamp, so is classified as FL4 – Mesotrophic lakes.		

Habitat Map

Image 3: Mesotrophic Pond FL4 with Marsh and Swamp Fringing vegetation

TARGET NOTES

Survey Title: Roscommon Habitat Mapping		**Survey date:** 15/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 1740-a	**Townland:** Boyle	**Grid Ref:** 181245, 302652
Target note no.: TN8	**Area:** 3.5ha	

Ecological Value: **C/D- County to Local Importance, Very to Moderately Sensitive**

Habitat code

GM1

Large area of Marsh (GM1), with Meadowsweet (*Filipendula ulmaria*) and Horsetails (*Equisetum* spp.) dominant. High sward (>1m) provides good cover for wildlife. A Heron (*Ardea cinerea*) was spotted flying from a tree at this point and may have a nest there.

Species List

Species (*Latin* name)	Species (common name)	DAFOR Scale
Angelica sylvestris	Wild Angelica	Abundant
Cirsium palustre	Marsh Thistle	Occasional
Dactylorhiza fuchsii	Common Spotted-Orchid	Occasional
Equisetum spp.	Horsetails	Dominant
Filipendula ulmaria	Meadowsweet	Dominant
Holcus lanatus	Yorkshire Fog	Abundant
Lathyrus pratensis	Meadow Vetchling	Occasional
Triglochin palustre	Marsh Arrowgrass	Occasional

Habitat Map

Image 1: Marsh GM1

Image 2: Close-up of Marsh Vegetation with Meadowsweet (*Filipendula ulmaria*), Horsetails (*Equisetum* spp.) and Marsh Arrowgrass (*Triglochin palustre*)

TARGET NOTES			
Survey Title: Roscommon Habitat Mapping			**Survey date:** 14.07.10
Surveyor: Jean Hamilton			**County name:** Roscommon
1:2,500 Sheet no: 1740-a	**Townland:** Boyle		**Grid Ref:** 180163, 303542
Target note no.: TN9		**Area:** 1.4ha	
Ecological Value: **C/D- County to Local Importance, Very to Moderately Sensitive**			
Habitat code **WS1/GS3/GM1**	Mosaic of Gorse (*Ulex europaeus*)-dominated Scrub (WS1), Acid Grassland (GS3 – similar to 1739-b_TN1) and Marsh (GM1) dominated by Yellow Iris (*Iris pseudacorus*) and rushes (*Juncus* spp.). The Marsh habitat occurs in a depression in the bottom of the field and grades in to Acid Grassland as the ground slopes upwards, where it forms a mosaic with Gorse scrub. Grassland which displays somewhat acidic characteristics, with a short sward and abundant needle-leaved grasses (mainly Fescues (*Festuca* spp.), no Mat-grass (*Nardus stricta*) was found, however other indicators of Acid Grassland GS3, such as Tormentil (*Potentilla erecta*) and Heath Bedstraw (*Galium saxatile*), along with abundant rushes (*Juncus* spp.) and woodrushes (*Luzula* spp.) were recorded. Some rock outcrop (Grey Sandstone) is present and it is near here that the vegetation displays the most acidic qualities.		

Habitat Map

Image 1: WS1/GS3/GM1 Mosaic

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 14/07/10
Surveyor: Jen Fisher		**County name:** Roscommon
1:2,500 Sheet no: 1740-c	**Townland:** Boyle	**Grid Ref:** 180077, 301529
Target note no.: TN2	**Area:** 1ha	
Ecological Value: **D- Local Importance (higher value) Moderately Sensitive**		

Habitat code

GS4

Small pockets of very nice habitat on the margins of highly improved area.

Species List

Species (Latin name)	**Species (common name)**	**DAFOR Scale**
Anthoxanthum odoratum	Sweet Vernal Grass	
Dactylorhiza fuchsii	Common Spotted Orchid	
Equisetum sp.	Horsetail	
Filipendula ulmaria	Meadowsweet	
Holcus lanatus	Yorkshire Fog	
Juncus conglomeratus	Compact Rush	
Ranunculus acris	Meadow Buttercup	
Stachys sp.	Woundwort	
Vicia cracca	Tufted Vetch	

Habitat Map

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 14/07/10
Surveyor: Jen Fisher		**County name:** Roscommon
1:2,500 Sheet no: 1739-d	**Townland:** Boyle	**Grid Ref:** 179656, 301816
Target note no.: TN1	**Area:** 1.9ha	
Ecological Value: **D- Local Importance (higher value) Moderately Sensitive**		

Habitat code

GS1

Neutral grassland that has been improved with some Perennial Rye Grass. An abundance of other species was recorded.

Species List

Species (Latin name)	**Species (common name)**
Bromus hordeaceus	Soft Brome
Cynosurus cristatus	Crested Dog's-tail
Holcus lanatus	Yorkshire Fog
Hypochaeris radicata	Common Cat's-ear
Juncus acutiflorus	Sharp-flowered Rush
Lolium perenne	Perennial Rye Grass
Plantago lanceolata	Ribwort Plantain
Poa trivialis	Rough Meadow Grass
Ranunculus repens	Creeping Buttercup
Rhinanthus minor	Yellow Rattle
Trifolium pratense	Red Clover

Habitat Map

Image 1: Dry Neutral Grassland

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 15/07/10
Surveyor: Jen Fisher		**County name:** Roscommon
1:2,500 Sheet no: 1739-d	**Townland:** Boyle	**Grid Ref:** 179526, 302391
Target note no.: TN2	**Area:** 1ha	
Ecological Value: **C/D- County to Local Importance, Very to Moderately Sensitive**		

Habitat code

GM1

Marsh GM1 with Yellowflag and Meadowsweet forming dense stands interspersed with more open areas. The marsh was being grazed by horses at the time of the survey and some of the sward was quite short. This area (and all surrounding fields to the north of the railway line) is part of a commonage which is grazed by a mixture of livestock.

Species List

Species (Latin name)	**Species (common name)**
Arrhenatherum elatius	False Oat Grass
Centaurea nigra	Knapweed
Cirsium palustre	Marsh Thistle
Equisetum sp.	Horsetail
Festuca rubra	Red Fescue
Filipendula ulmaria	Meadowsweet
Iris Pseudacorus	Yellowflag
Juncus acutiflorus	Sharp-flowered Rush
Odontites verna	Red Bartsia
Potentilla anserina	Silverweed
Ranunculus repens	Creeping Buttercup
Rumex sp.	Dock
Senecio aquatica	Marsh Ragwort
Trifolium pratense	Red Clover
Trifolium repens	Clover
Triglochin palustris	Marsh Arrowgrass

Habitat Map

Image 1: Marsh GM1

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 15/07/10
Surveyor: Jen Fisher		**County name:** Roscommon
1:2,500 Sheet no: 1739-d	**Townland:** Boyle	**Grid Ref:** 179466, 302325
Target note no.: TN3	**Area:** 1.4ha	
Ecological Value: **D- Local Importance (higher value) Moderately Sensitive**		

Habitat code

GS4

Nice example of Wet grassland GS4 habitat. This area appears to have received little management apart from grazing in the recent past. This area is within a commonage area.

Species List

Species (Latin name)	**Species (common name)**	**DAFOR Scale**
Alopecurus pratensis	Meadow Foxtail	O
Anthoxanthum odoratum	Sweet Vernal Grass	F
Carex flacca	Glaucous Sedge	F
Carex viridula	Yellow Sedge	O
Cirsium palustre	Marsh Thistle	F
Cynosurus cristatus	Crested Dog's-tail	F
Dactylorhiza fuchsii	Common Spotted Orchid	F
Dactylorhiza sp.	Marsh Orchid sp.	O
Festuca pratensis	Meadow Fescue	F
Festuca rubra	Red Fescue	A
Holcus lanatus	Yorkshire Fog	O
Juncus acutiflorus	Sharp-flowered Rush	A
Lathyrus pratensis	Meadow Vetchling	F
Lolium perenne	Perennial Rye Grass	O
Luzula sp.	Wood Rush	F
Phleum pratense	Timothy Grass	F
Prunella vulgaris	Selfheal	F
Succisa pratensis	Devil's Bit Scabious	F
Trifolium pratense	Red Clover	F
Trifolium repens	Clover	F

Habitat Map

Image 1: Wet Grassland

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 15/07/10
Surveyor: Jen Fisher		**County name:** Roscommon
1:2,500 Sheet no: 1739-d	**Townland:** Boyle	**Grid Ref:** 179320, 302349
Target note no.: TN4	**Area:**	
Ecological Value: **C - County Importance, Very Sensitive**		

Habitat code

FW2/WN5

Boyle River is classified as a Depositing lowland river FW2, with a riparian zone consistent with Marsh GM1 and Riparian Woodland WN5 vegetation. The river was slow flowing and approximately 10-15 metres wide at this location. The river appeared to have a peat influence.

Species List

Species (Latin name)	**Species (common name)**
Alisma plantago aquatica	Common Water Plantain
Cirsium palustre	Marsh Thistle
Galium palustris	Marsh Bedstraw
Iris Pseudacorus	Yellowflag
Menyanthes trifoliata	Bogbean
Myosotis sp.	Forget-me-not
Phalaris arundinacea	Reed-Canary Grass
Typha latifolia	Reedmace

Habitat Map

Image 1: Depositing Lowland River- Boyle River

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 15/07/10
Surveyor: Jen Fisher		**County name:** Roscommon
1:2,500 Sheet no: 1739-d	**Townland:** Boyle	**Grid Ref:** 179307, 302216
Target note no.: TN5	**Area:** 0.9ha	
Ecological Value: **D- Local Importance (higher value) Moderately Sensitive**		

Habitat code

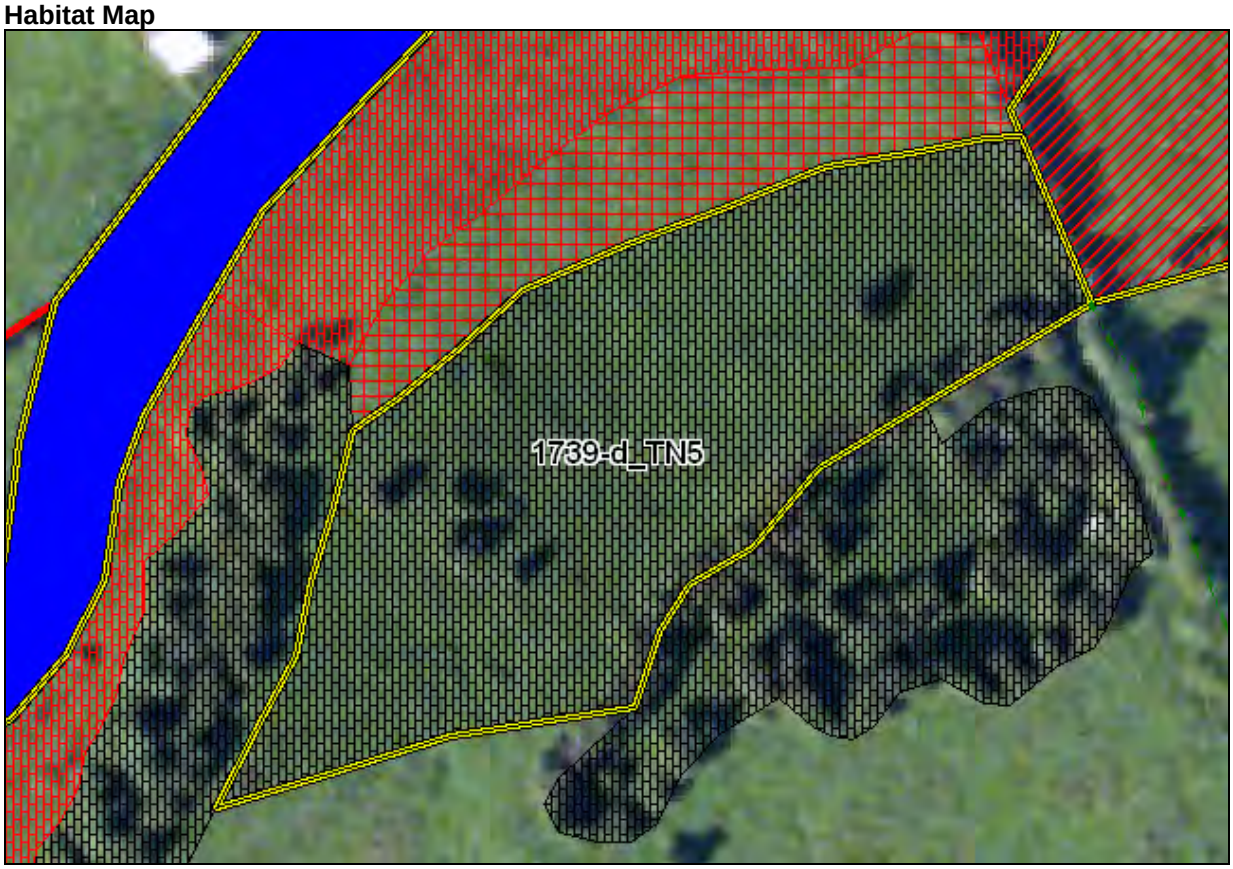
WS1/ED4

Old limestone Quarry that has become colonized by mature Hawthorn and Bramble Scrub. Good site for local Wildlife

Species List

Species *(Latin name)*	**Species (common name)**
Crataegus monogyna	Hawthorn
Rubus fruticosus agg	Bramble

Habitat Map



TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 19/07/10
Surveyor: Jen Fisher		**County name:** Roscommon
1:2,500 Sheet no: 1740-b	**Townland:** Boyle	**Grid Ref:** 182035, 302625
Target note no.: TN1	**Area:** .42ha	
Ecological Value: **C/D- County to Local Importance, Very to Moderately Sensitive**		

Habitat code

GM1

Nice area of freshwater marsh dominated by Yellowflag and Sedges. The marsh was wet underfoot.

Species List

Species (Latin name)	**Species (common name)**	**DAFOR Scale**
Agrostis sp.	Bent	O
Bidens cernua	Nodding Bur Marigold	F
Carex rostrata	Bottle Sedge	A
Carex sp.		O
Epilobium sp.	Willowherb	O
Galium palustris	Marsh Bedstraw	F
Hippuris vulgaris	Mare's-tail	F
Iris Pseudacorus	Yellowflag	D
Juncus acutiflorus	Sharp-flowered Rush	O
Myosotis sp.	Forget-me-knot	F
Phalaris arundinacea	Reed-Canary Grass	R
Ranunculus flammula	Lesser Spearwort	F

Habitat Map

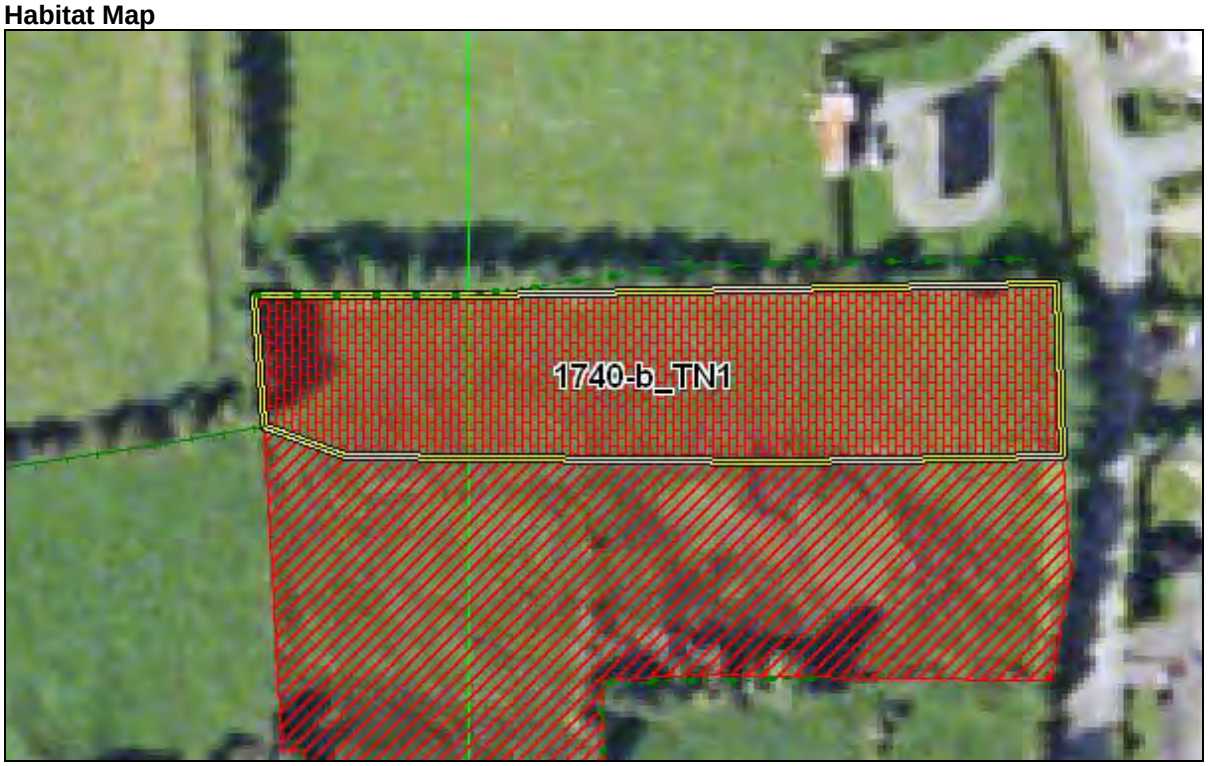


Image 1: Marsh

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 19/07/10
Surveyor: Jen Fisher		**County name:** Roscommon
1:2,500 Sheet no: 1740-c	**Townland:** Boyle	**Grid Ref:** 180763, 301702
Target note no.: TN1	**Area:** .26ha	
Ecological Value: **D/E- Local Importance (higher to lower value), Moderately Sensitive to Robust**		

Habitat code

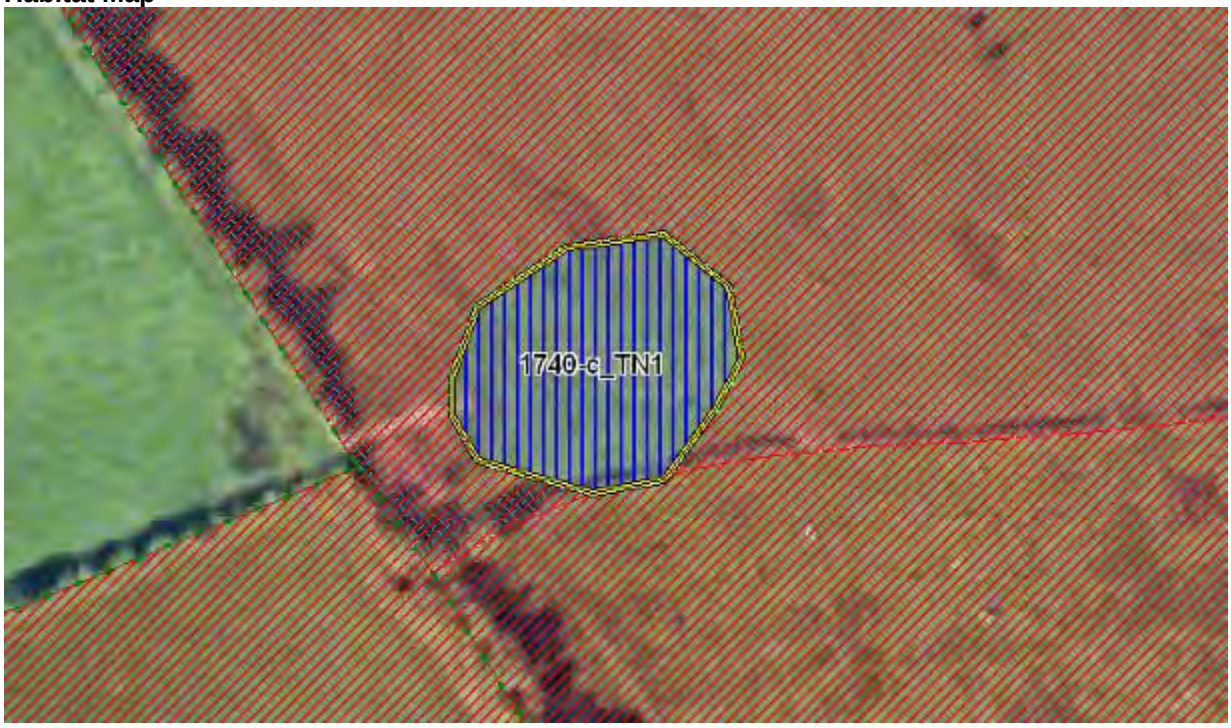
FL8

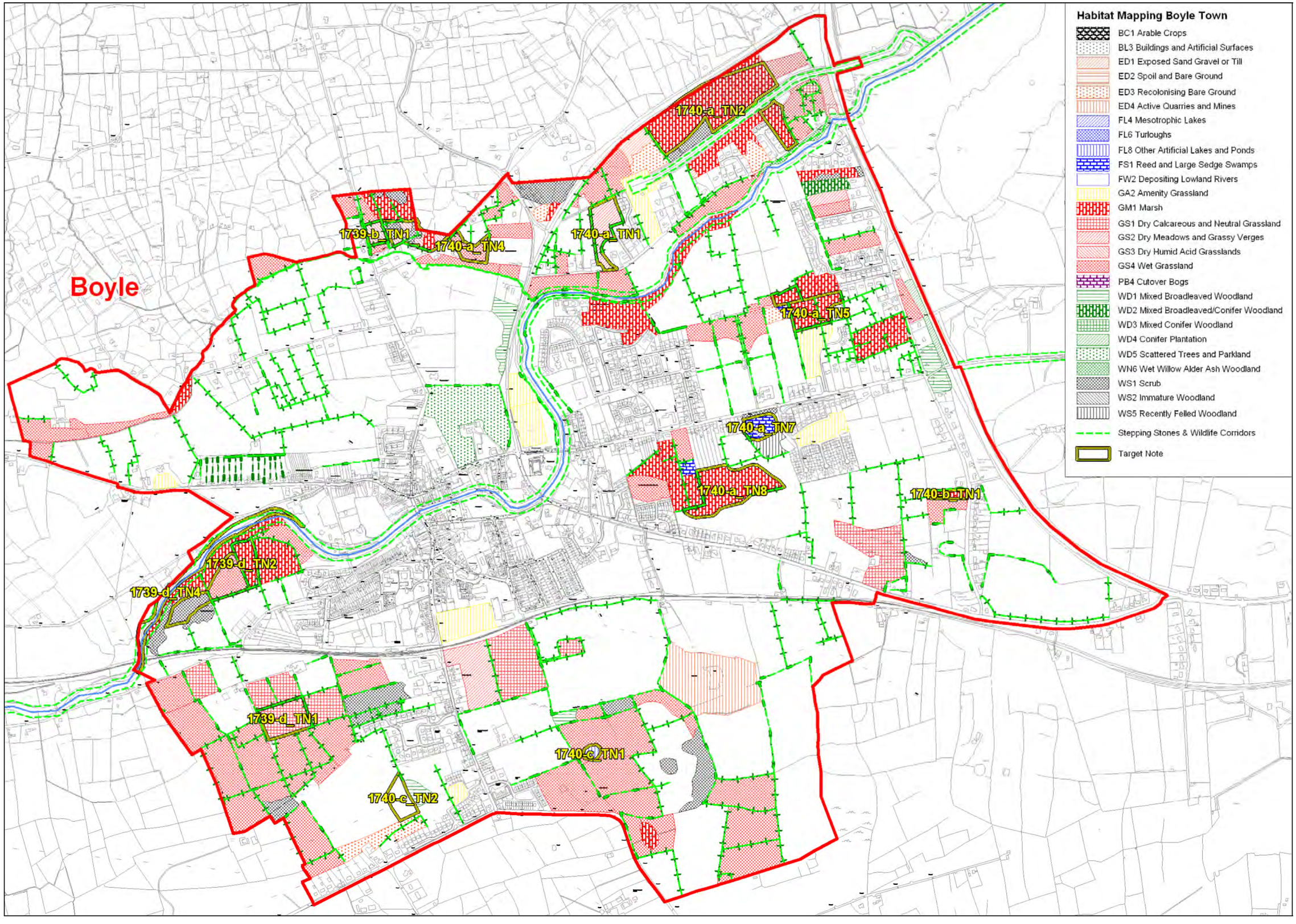
Small artificial pond with good diversity of aquatic vegetation.

Species List

Species (Latin name)	**Species (common name)**	**DAFOR Scale**
Potamogeton sp.	Pondweed	A
Senecio aquatica	Marsh Ragwort	F
Sparganium sp.	Bur reed	D

Habitat Map




Habitat Mapping Boyle Town
BC1 Arable Crops
BL3 Buildings and Artificial Surfaces
ED1 Exposed Sand Gravel or Till
ED2 Spoil and Bare Ground
ED3 Recolonising Bare Ground
ED4 Active Quarries and Mines
FL4 Mesotrophic Lakes
FL6 Turloughs
FL8 Other Artificial Lakes and Ponds
FS1 Reed and Large Sedge Swamps
FW2 Depositing Lowland Rivers
GA2 Amenity Grassland
GM1 Marsh
GS1 Dry Calcareous and Neutral Grassland
GS2 Dry Meadows and Grassy Verges
GS3 Dry Humid Acid Grasslands
GS4 Wet Grassland
PB4 Cutover Bogs
WD1 Mixed Broadleaved Woodland
WD2 Mixed Broadleaved/Conifer Woodland
WD3 Mixed Conifer Woodland
WD4 Conifer Plantation
WD5 Scattered Trees and Parkland
WN6 Wet Willow Alder Ash Woodland
WS1 Scrub
WS2 Immature Woodland
WS5 Recently Felled Woodland
Stepping Stones & Wildlife Corridors
Target Note
Boyle
1740-a_TN2
1739-b_TN1
1740-a_TN4
1740-a_TN1
1740-a_TN5
1740-a_TN7
1740-a_TN8
1740-b_TN1
1739-d_TN2
1739-d_TN4
1739-d_TN1
1740-c_TN1
1740-c_TN2

APPENDIX C

CASTLEREA

CASTLEREA

Castlerea is the second largest town in Roscommon, with a population of 2,842 (as of 2006). Roughly translated from Irish, Castlerea can mean Brindled Castle (Caisleán Riabhach) or King's Castle (Caisleán Rí). The town is built on the River Suck and the River Francis, both tributaries of the River Shannon.

Habitats

The lands surrounding Castlerea are relatively dry and largely classified as Improved Agricultural Grasslands GA1. Species rich Wet Grassland GS4 and Marsh GM1 habitats can be found to the southwest of the town on the banks of the River Suck, and in the southern tip where drainage is impeded.

Castlerea contains more wooded areas than most towns in Roscommon, with large tracts of Conifer Plantation (WD4) to the east and west of the town, and some pockets of Mixed Broadleaved/Conifer Woodland in the town centre. A small section of Wet Willow Alder Ash Woodland (WN6) occurs in the northwest of the town (see Target Note 2157-d_TN1). This habitat is dominated by Ash (*Fraxinus excelsior*) with occasional Willows (*Salix* spp.), with a moist field layer containing Meadowsweet (*Filipendula ulmaria*) and Remote Sedge (*Carex remota*).

Both the River Suck and tributary the Francis rivers flow through the town are classified as Depositing / Lowland Rivers FW2, characterised by a slow flow of water and fine sediment deposits on the river beds. Target Note 2219-b_TN1 gives a description of the River Suck in the west of the town. The River was quite slow moving at this point, with Waterlilies (*Nuphar* spp.) floating on the surface. The fringing vegetation was composed of Reed Canary Grass (*Phalaris arundinacea*) and Common Reed (*Phragmites australis*).

TARGET NOTES			
Survey Title: Roscommon Habitat Mapping			**Survey date:** 13/07/10
Surveyor: Jean Hamilton			**County name:** Roscommon
1:2,500 Sheet no: 2157-d	**Townland:** Castlerea		**Grid Ref:** 167399, 280330
Target note no.: TN1		**Area:** 2ha	
Ecological Value: **C- County Importance, Very Sensitive**			
Habitat code **WN6**	Wet Willow Alder Ash Woodland WN6 with small streams running adjacent to and through it. The canopy is dominated by Ash (*Fraxinus excelsior*), with Willows (*Salix* spp.) occasional to frequent. The field layer contains Meadowsweet (*Filipendula ulmaria*), Ivy (*Hedera helix*) and Remote Sedge (*Carex remota*). There is a line of non-native trees around the edge of the woodland and there are many Sycamore (*Acer pseudoplatanus*) and Beech (*Fagus sylvatica*) in the field layer.		

Habitat Map

Image 1: Wet Willow Alder Ash Woodland WN6

Image 2: Interior of woodland

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 13/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 2158-c	**Townland:** Castlerea	**Grid Ref:** 168255, 280269
Target note no.: TN1	**Area:** 2.4ha	
Ecological Value: **C/D- County to Local Importance, Very to Moderately Sensitive**		
Habitat code **GS4/GM1**	Wet Grassland/Marsh mosaic dominated by rushes (*Juncus* spp.) and Meadowsweet (*Filipendula ulmaria*). The cover of grasses is <50% over much of the area, and so is classified and Marsh (GM1). Other species include Yorkshire Fog (*Holcus lanatus*), Sweet Vernal (*Anthoxanthum odoratum*), Meadowgrasses (*Poa* spp.), Bents (*Agrostis* spp.), and Meadow Vetchling (*Lathyrus pratensis*). Not very species-rich but the tall sward provides good cover for wildlife. Looks ungrazed.	

Habitat Map

Image 1: GS4/GM1 Mosaic

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 13/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 2219-b	**Townland:** Castlerea	**Grid Ref:** 167587, 279636
Target note no.: TN1	**Area:**	
Ecological Value: **High** Ecological interest in a local context – **Very Sensitive**		
Habitat code **FW2**	Lowland Depositing River (FW2). Slow moving, with some Waterlilies (*Nuphar* spp.) floating on the surface. The fringing vegetation is composed of Reed Canary Grass (*Phalaris arundinacea*) and Common Reed (*Phragmites australis*).	

Habitat Map

Image 1: Lowland Depositing River (FW2)

Image 2: Floating vegetation (Waterlilies) and fringing vegetation (Common Reed and Reed Canary Grass)

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 13/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 2219-b	**Townland:** Castlerea	**Grid Ref:** 167634, 279706
Target note no.: TN2	**Area:** 1.8ha	
Ecological Value: **C/D- County to Local Importance, Very to Moderately Sensitive**		
Habitat code **GM1/GS4**	Extensive area of Marsh / Wet Grassland mosaic. Much of the area is dominated by Meadowsweet (*Filipendula ulmaria*), Common Valerian (*Valeriana officinalis*) and rushes (*Juncus* spp.).	

Habitat Map

Image 1: Extensive area of Marsh

Image 2: Marsh habitat dominated by rushes (*Juncus* spp.), Meadowsweet (*Filipendula ulmaria*) and Common Valerian (*Valeriana officinalis*)

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 13/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 2220-a	**Townland:** Castlerea	**Grid Ref:** 168299, 278565
Target note no.: TN1	**Area:** 2.1ha	
Ecological Value: D- Local Importance (higher value) Moderately Sensitive		

Habitat code

GS4

Species-rich Wet Grassland on flat ground beside a conifer plantation. It is slightly on the acidic side with a low sward and lots of sedges and mosses, but with abundant Wet Grassland species such as Meadowsweet (*Filipendula ulmaria*), Ragged Robin (*Lychnis flos-cuculi*) and rushes (*Juncus* spp.). Vegetation composition varies considerably throughout the site. It does not appear to be grazed.

Species (*Latin* name)	Species (common name)	DAFOR Scale
Agrostis spp.	Bents	Frequent
Anthoxanthum odoratum	Sweet Vernal	Abundant
Arrhenatherum elatius	False Oat-grass	Occasional
Alopecurus sp.	Foxtail	Occasional
Cardamine pratensis	Lady's Smock	Occasional
Carex echinata	Star Sedge	Frequent
Carex nigra	Common Sedge	Frequent
Carex ovalis	Oval Sedge	Frequent
Cirsium palustre	Marsh Thistle	Occasional
Cynosurus cristatus	Crested Dog's-tail	Frequent
Dactylorhiza fuchsii	Common Spotted-Orchid	Occasional
Filipendula ulmaria	Meadowsweet	Abundant
Galium palustre	Marsh Bedstraw	Occasional
Holcus lanatus	Yorkshire Fog	Frequent
Juncus conglomeratus	Compact Rush	Frequent
Juncus effusus	Soft Rush	Abundant
Lathyrus pratensis	Meadow Vetchling	Occasional
Luzula spp.	Woodrushes	Occasional
Lychnis flos-cuculi	Ragged Robin	Abundant
Poa spp.	Meadowgrasses	Frequent
Potentilla erecta	Tormentil	Occasional
Ranunculus acris	Meadow Buttercup	Occasional
Trifolium repens	White Clover	Frequent
Vicia cracca	Bush Vetch	Occasional

Habitat Map

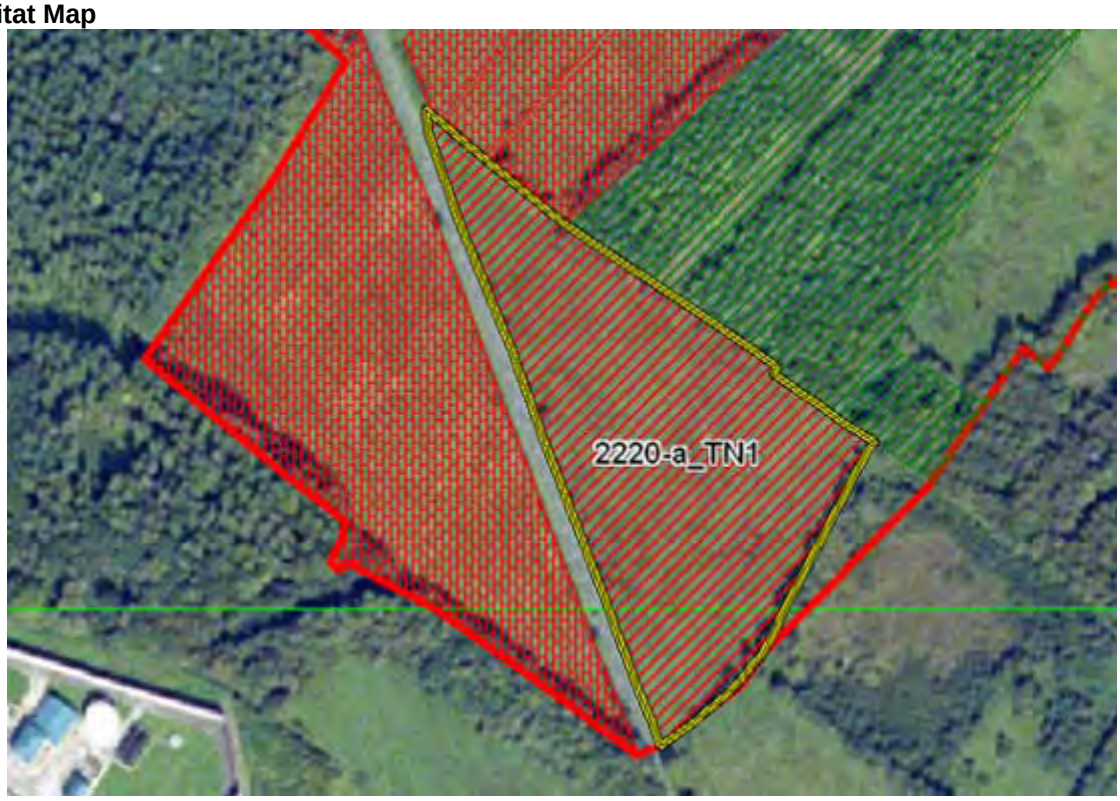


Image 1: Species-rich Wet Grassland

Image 2: Ragged Robin (*Lychnis flos-cuculi*)

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 13/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 2220-a	**Townland:** Castlerea	**Grid Ref:** 168324, 278779
Target note no.: TN2	**Area:** 1.4ha	
Ecological Value: **C/D- County to Local Importance, Very to Moderately Sensitive**		

Habitat code

GS4/GM1

Wet Grassland/Marsh habitat. The ground is quite dry and solid underfoot but rushes (*Juncus* spp.), sedges (*Carex* spp.) and Meadowsweet (*Filipendula ulmaria*) are dominant over much of the area and so the classification GM1 is most suitable.

Species List

Species (*Latin* name)	Species (common name)	DAFOR Scale
Anthoxanthum odoratum	Sweet Vernal	Frequent – Abundant
Arrhenatherum elatius	False Oat-grass	Frequent – Abundant
Carex spp.	Sedges	Abundant
Filipendula ulmaria	Meadowsweet	Dominant
Juncus spp.	Rushes	Abundant
Lathyrus pratensis	Meadow Vetchling	Frequent
Lychnis flos-cuculi	Ragged Robin	Occasional
Potentilla anserina	Silverweed	Frequent - Abundant
Salix spp.	Willows	Occasional
Stellaria sp.	Stitchwort sp.	Occasional

Habitat Map

Image 1: Marsh (GM1)

Image 2: Marsh with Willows (*Salix* spp.)

Image 3: Marsh with Meadowsweet (*Filipendula ulmaria*) dominant

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 13/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 2220-a	**Townland:** Castlerea	**Grid Ref:** 168127, 279016
Target note no.: TN3	**Area:** 1.2ha	
Ecological Value: **D- Local Importance (higher value) Moderately Sensitive**		
Habitat code **GS4/WS2**	Wet Grassland GS4 with abundant Willow saplings natural succession to Immature Woodland WS2.	

Habitat Map

Image 1: Wet Grassland with Immature Woodland WS2 with abundant Willow (*Salix* spp.) saplings

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 13/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 2220-a	**Townland:** Castlerea	**Grid Ref:** 168665, 279957
Target note no.: TN4	**Area:** 3.6ha	
Ecological Value: **D- Local Importance (higher value) Moderately Sensitive**		
Habitat code **WD1**	Ash-dominated woodland on flat ground. The presence of Beech (*Fagus sylvatica*) and Sycamore (*Acer pseudoplatanus*) exclude it from a 'WN' classification, but it is still a significant habitat in an urban context, providing shelter for birds an animals and amenity for humans. Ash (*Fraxinus excelsior*), dominates the canopy, with occasional Beech (*Fagus sylvatica*) and Sycamore (*Acer pseudoplatanus*) and abundant Hawthorn (*Crataegus monogyna*) in the sub-canopy layer. Bramble dominates the field layer, with frequent Meadowsweet (*Filipendula ulmaria*), Enchanter's Nightshade (*Circaea lutetiana*), Sanicle (*Sanicula europaea*) and abundant mosses. Some trees have been felled	

Habitat Map

Image 1: Ash-dominated woodland

Image 2: Field Layer

Image 3: Tree stump in Ash woodland

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 13/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 2220-a	**Townland:** Castlerea	**Grid Ref:** 168877, 279881
Target note no.: TN5	**Area:** 1.7ha	
Ecological Value: **C/D- County to Local Importance, Very to Moderately Sensitive**		

Habitat code

GS4/GM1

Mosaic of wetland habitats. Meadowsweet and sedges are dominant over much of the area, with small patches of grass-dominant Wet Grassland GS4.

Species List

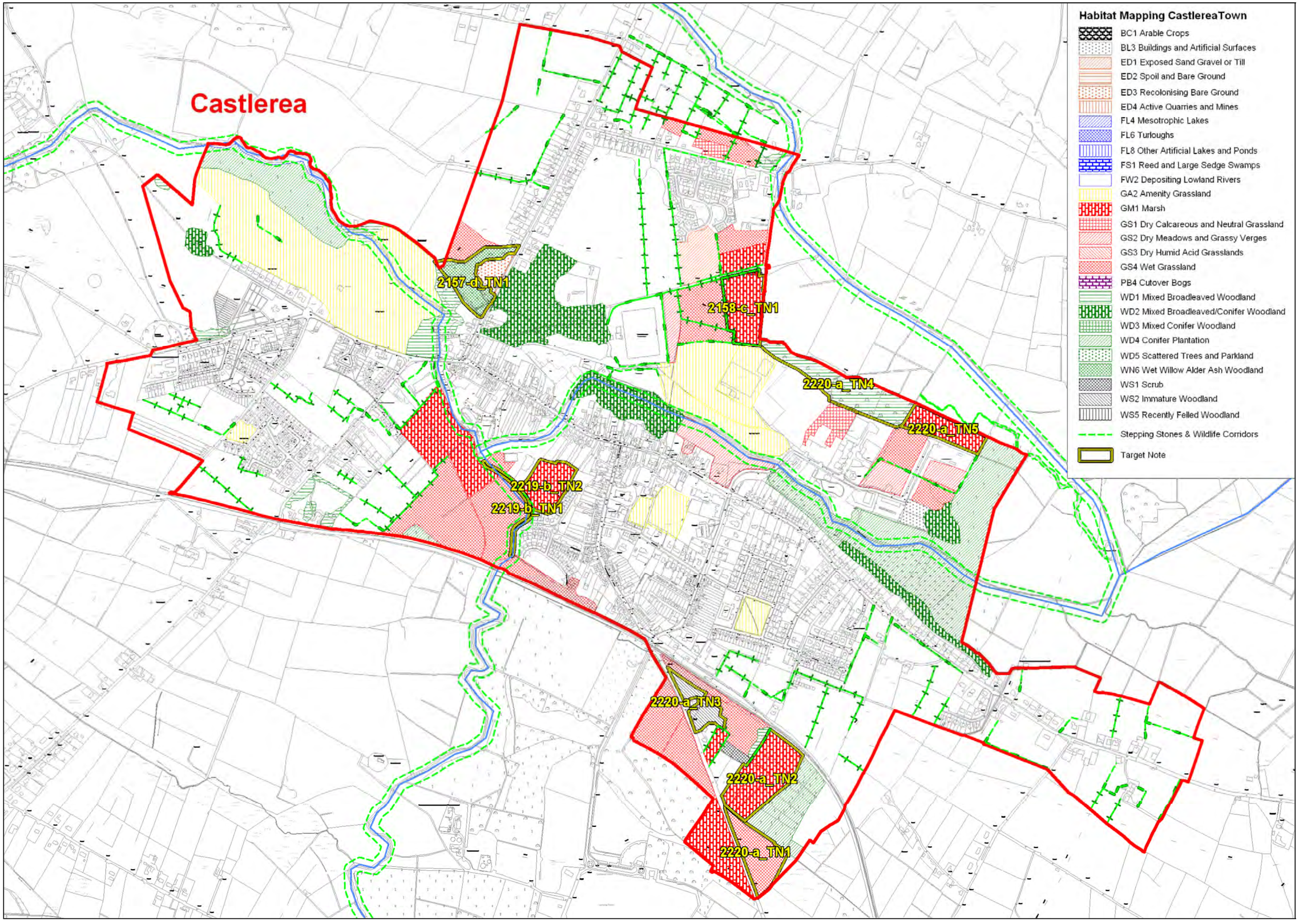
Species (*Latin* name)	Species (common name)
Carex spp.	Sedges
Dactylorhiza fuchsii	Common Spotted-Orchid
Filipendula ulmaria	Meadowsweet
Galium palustre	Marsh Bedstraw
Juncus effusus	Soft Rush
Potentilla anserina	Silverweed
Potentilla erecta	Tormentil
Ranunculus acris	Meadow Buttercup
Succisa pratensis	Devil's-bit Scabious
Valeriana officinalis	Common Valerian

Habitat Map

Image 1: Mosaic of wetland habitats

Image 2: Marsh Habitat

Image 3: *Valeriana officinalis*


Castlerea
2157-d_TN1
2158-c_TN1
2220-a_TN4
2220-a_TN5
2219-b_TN2
2219-b_TN1
2220-a_TN3
2220-a_TN2
2220-a_TN1
Habitat Mapping CastlereaTown
BC1 Arable Crops
BL3 Buildings and Artificial Surfaces
ED1 Exposed Sand Gravel or Till
ED2 Spoil and Bare Ground
ED3 Recolonising Bare Ground
ED4 Active Quarries and Mines
FL4 Mesotrophic Lakes
FL6 Turloughs
FL8 Other Artificial Lakes and Ponds
FS1 Reed and Large Sedge Swamps
FW2 Depositing Lowland Rivers
GA2 Amenity Grassland
GM1 Marsh
GS1 Dry Calcareous and Neutral Grassland
GS2 Dry Meadows and Grassy Verges
GS3 Dry Humid Acid Grasslands
GS4 Wet Grassland
PB4 Cutover Bogs
WD1 Mixed Broadleaved Woodland
WD2 Mixed Broadleaved/Conifer Woodland
WD3 Mixed Conifer Woodland
WD4 Conifer Plantation
WD5 Scattered Trees and Parkland
WN6 Wet Willow Alder Ash Woodland
WS1 Scrub
WS2 Immature Woodland
WS5 Recently Felled Woodland
Stepping Stones & Wildlife Corridors
Target Note

APPENDIX D

ROSCOMMON TOWN AND ENVIRONS

ROSCOMMON TOWN AND ENVIRONS

Roscommon (Irish: *Ros Comáin*) is the county town of County Roscommon. Its population at the 2006 census stood at 8,657 (including the rural area). The town is located near the junctions of the N60, N61 and N63 roads. The name Roscommon is derived from Coman mac Faelchon who built a monastery there in the 5th century. The woods near the monastery became known as Saint Coman's Wood (Ros Comáin). This was later anglicised to Roscommon.

Roscommon is the administrative capital of the County as well as the service centre for the surrounding rural area. The town is home to a number of features and buildings of archaeological and historical significance, such as the ruins of Roscommon Castle and the Roscommon Dominican Abbey, both of which date from the thirteenth century, the Old Infirmary which houses the County Library Headquarters and the Old Roscommon Gaol which is now in private ownership and has been re-developed.

Habitats

Much of the surrounding area is well drained and comprises Improved Agricultural Grassland (GA1), with pasture and silage production the predominant land use. There are some poorly drained areas, especially to the northwest of the town, and these comprise mainly Marsh (GM1) and Wet Grassland (GS4), both of which are quite species rich and add significantly to the ecological value of the town.

A network of Hedgerows (WL1) and Tree lines (WL2) criss-cross the town. These are important features of the landscape, acting as ‘wildlife corridors’.

In the north-western section of the town, there is a small area of species-rich Dry Neutral Grassland. This habitat type is relatively uncommon in the landscape and adds significantly to the ecological value of Roscommon town.

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 15/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 2482-c	**Townland:** Roscommon	**Grid Ref:** 189622, 265912
Target note no.: TN1	**Area:** 5.7ha	
Ecological Value: **C/D- County to Local Importance, Very to Moderately Sensitive**		
Habitat code **GM1**	Mosaic of habitats on disturbed ground. The site was used for deposition of building materials and has since been abandoned. The vegetation is now at a transitional stage between Recolonising Bare Ground (ED3), with Rosebay Willowherb (*Chamerion angustifolium*) dominant, and Marsh (GM1). The large spoil heaps have created a hummocky terrain with an interesting diversity of micro-habitats. The Marsh habitat is dominant, with abundant rushes (*Juncus* spp.), Meadowsweet (*Filipendula ulmaria*), Yellow Iris (*Iris pseudacorus*), Marsh Thistle (*Cirsium palustre*), Reed Canary Grass (*Phalaris arundinacea*) and Reed Sweet-grass (*Glyceria maxima*).	

Habitat Map

Image 1: Waste ground with abundant Willowherb

Image 2: View of site showing diversity of micro-habitats

<table>
<tr><th colspan="4">TARGET NOTES</th></tr>
<tr><td colspan="3">Survey Title: Roscommon Habitat Mapping</td><td>Survey date: 15/07/10</td></tr>
<tr><td colspan="3">Surveyor: Jean Hamilton</td><td>County name: Roscommon</td></tr>
<tr><td>1:2,500 Sheet no: 2482-c</td><td colspan="2">Townland: Roscommon</td><td>Grid Ref: 189468, 266289</td></tr>
<tr><td colspan="2">Target note no.: TN2</td><td colspan="2">Area: 3.3ha</td></tr>
<tr><td colspan="4">Ecological Value: D- Local Importance (higher value) Moderately Sensitive</td></tr>
<tr><td>Habitat code

GS4/GM1</td><td colspan="3">Species-rich Wet Grassland/Marsh mosaic with abundant Common Spotted-Orchid (Dactylorhiza fuchsii).

Species List
<table>
<tr><th>Species (Latin name)</th><th>Species (common name)</th></tr>
<tr><td>Anthoxanthum odoratum</td><td>Sweet Vernal</td></tr>
<tr><td>Briza media</td><td>Quaking-grass</td></tr>
<tr><td>Carex panicea</td><td>Carnation Sedge</td></tr>
<tr><td>Centaurea nigra</td><td>Knapweed</td></tr>
<tr><td>Cerastium fontanum</td><td>Common Mouse-ear</td></tr>
<tr><td>Chamerion angustifolium</td><td>Rosebay Willowherb</td></tr>
<tr><td>Dactylorhiza fuchsii</td><td>Common Spotted-Orchid</td></tr>
<tr><td>Filipendula ulmaria</td><td>Meadowsweet</td></tr>
<tr><td>Holcus lanatus</td><td>Yorkshire Fog</td></tr>
<tr><td>Iris pseudacorus</td><td>Yellow Iris</td></tr>
<tr><td>Juncus effusus</td><td>Soft Rush</td></tr>
<tr><td>Lathyrus pratensis</td><td>Meadow Vetchling</td></tr>
<tr><td>Phleum pratense</td><td>Timothy</td></tr>
<tr><td>Poa spp.</td><td>Meadowgrasses</td></tr>
<tr><td>Potentilla anserina</td><td>Silverweed</td></tr>
<tr><td>Potentilla erecta</td><td>Tormentil</td></tr>
<tr><td>Potentilla palustris</td><td>Marsh Cinquefoil</td></tr>
<tr><td>Ranunculus repens</td><td>Creeping Buttercup</td></tr>
<tr><td>Trifolium pratense</td><td>Red Clover</td></tr>
<tr><td>Trifolium repens</td><td>White Clover</td></tr>
</table></td></tr>
</table>

Habitat Map

Image 1: Wet Grassland/Marsh mosaic

Image 2: Close-up of vegetation

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 15/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 2482-c	**Townland:** Roscommon	**Grid Ref:** 189009, 265177
Target note no.: TN3	**Area:** 2.8ha	
Ecological Value: **D- Local Importance (higher value) Moderately Sensitive**		
Habitat code **GS4**	Field grazed by horses with Silverweed (*Potentilla anserina*) and Meadowsweet (*Filipendula ulmaria*) dominant. Lady's Bedstraw (*Galium verum*) is also abundant. Other species recorded in the site were Watermint (*Mentha aquatica*) and Knapweed (*Centaurea nigra*).	

Habitat Map

Image 1: Wet grassland with Silverweed and Meadowsweet dominant

Image 2: Close-up of vegetation

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 15/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 2482-c	**Townland:** Roscommon	**Grid Ref:** 188650, 265091
Target note no.: TN4	**Area:** 0.9ha	
Ecological Value: **D- Local Importance (higher value) Moderately Sensitive**		

Habitat code

GS4/GS2

Wet Grassland/Meadow with False Oat-grass dominant. Appears to have been abandoned, with tall, tussocky grasses and much decayed vegetation.

Species List

Species (*Latin* name)	Species (common name)	DAFOR Scale
Filipendula ulmaria	Meadowsweet	Abundant
Arrhenatherum elatius	False Oat-grass	Dominant
Phalaris arundinacea	Reed Canary-grass	Frequent
Vicia cracca	Tufted Vetch	Abundant
Lathyrus pratensis	Meadow Vetchling	Frequent
Ranunculus repens	Creeping Buttercup	Occasional

Habitat Map

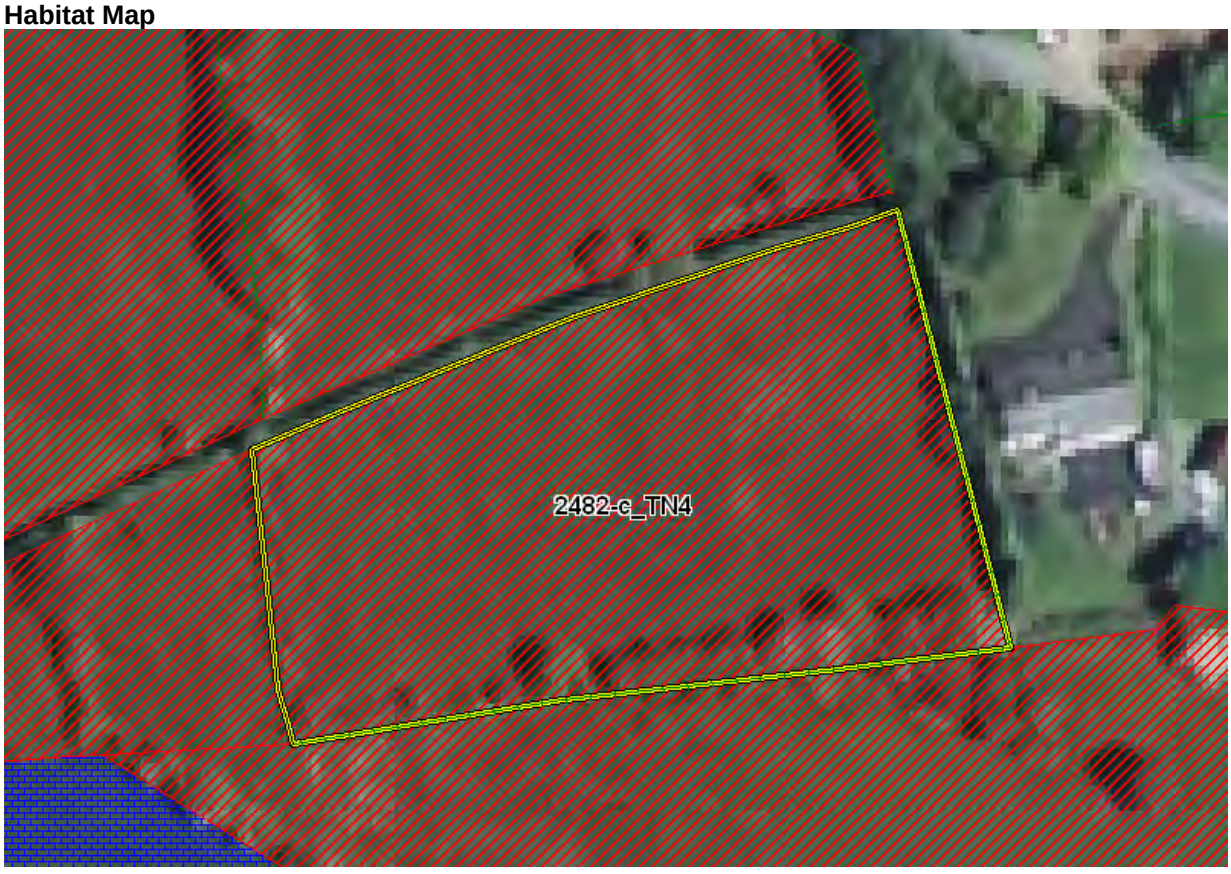


Image 1: Grassland with False Oat-grass dominant

Image 2: Meadowsweet and False Oat-grass dominant

Image 3: Close up of grassland showing decayed vegetation

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 15/07/10
Surveyor: Jen Fisher		**County name:** Roscommon
1:2,500 Sheet no: 2550-d	**Townland:** Roscommon	**Grid Ref:** 187508, 263041
Target note no.: TN1	**Area:**	
Ecological Value: **C - County Importance, Very Sensitive**		

Habitat code

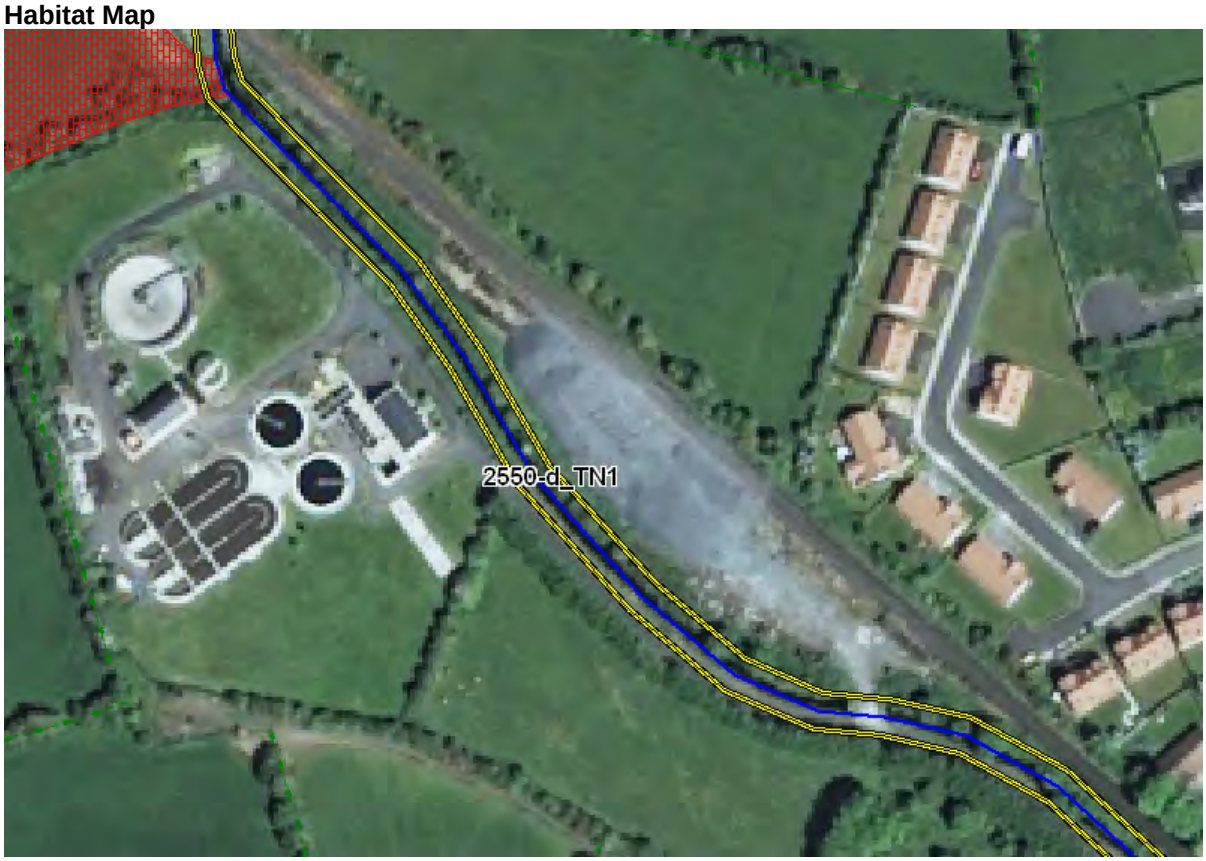
FW1

Small stream best classified as eroding upland river, approximately 2-3 metres wide and of variable flow. The stream had been culverted adjacent to the road.

Species List

Species (Latin name)	**Species (common name)**
Apium nodiflorum	Fool's Watercress
Callitriche sp.	Starwort
Lemna minor	Duckweed
Sparganium erectum	Branched Bur-reed

Habitat Map



Legend

Image 2: Eroding Upland River

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 16/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 2550-d	**Townland:** Roscommon	**Grid Ref:** 187695, 263464
Target note no.: TN2	**Area:** 2.5ha	
Ecological Value: **C/D- County to Local Importance, Very to Moderately Sensitive**		
Habitat code **GM1**	Marsh (GM1) with Yellow Iris (*Iris pseudacorus*) and Meadowsweet (*Filipendula ulmaria*) dominant. It has been somewhat improved and there are areas where Perennial Ryegrass (*Lolium perenne*) and Clovers (*Trifolium* spp.) dominate. It is grazed by horses and is quite trampled in places.	

Habitat Map

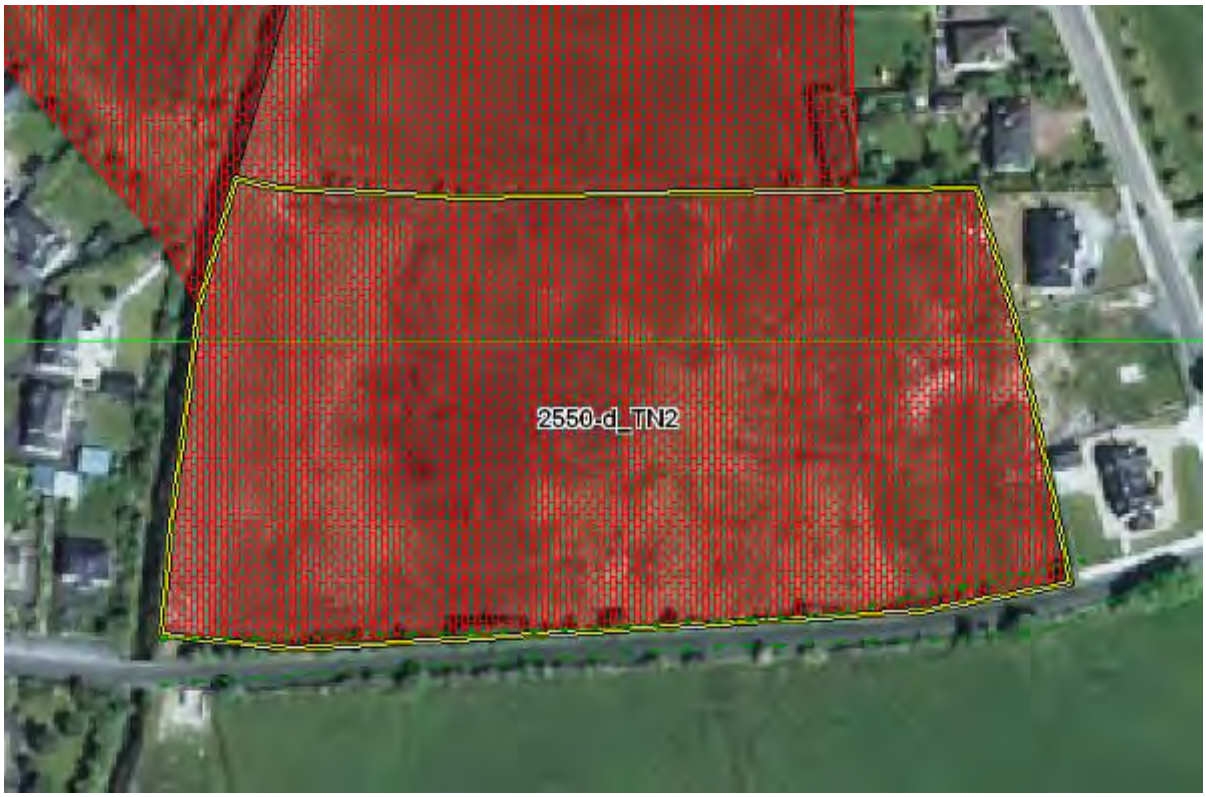


Image 1: Marsh (GM1) habitat

Image 2: Close-up of Marsh vegetation with Yellow Iris (*Iris pseudacorus*) and Meadowsweet (*Filipendula ulmaria*) dominant

TARGET NOTES

Survey Title: Roscommon Habitat Mapping		**Survey date:** 16/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 2551-a	**Townland:** Roscommon	**Grid Ref:** 188276, 264521
Target note no.: TN1	**Area:** 6.8ha	
Ecological Value: **C/D- County to Local Importance, Very to Moderately Sensitive**		

Habitat code

GM1

Extensive area of Marsh (GM1). Quite species-rich. Species composition varies considerably; rushes (*Juncus* spp.), Meadowsweet (*Filipendula ulmaria*) and Yellow Iris (*Iris pseudacorus*) are by turns dominant.

Species List

Species (*Latin* name)	Species (common name)
Cirsium palustre	Marsh Thistle
Equisetum spp.	Horsetails
Festuca sp.	Fescue sp.
Filipendula ulmaria	Meadowsweet
Glyceria fluitans	Floating Sweet-grass
Glyceria maxima	Reed Sweet-grass
Hypericum tetrapterum	Square-stalked St. John's-wort
Iris pseudacorus	Yellow Iris
Juncus articulatus acutiflorus	Jointed/Sharp-flowered Rush
Juncus inflexus	Hard Rush
Lathyrus pratensis	Meadow Vetchling
Mentha aquatica	Watermint
Phleum pratense	Timothy
Potentilla anserina	Silverweed
Triglochin palustre	Marsh Arrowgrass
Valeriana officinalis	Common Valerian
Vicia cracca	Bush Vetch

Habitat Map

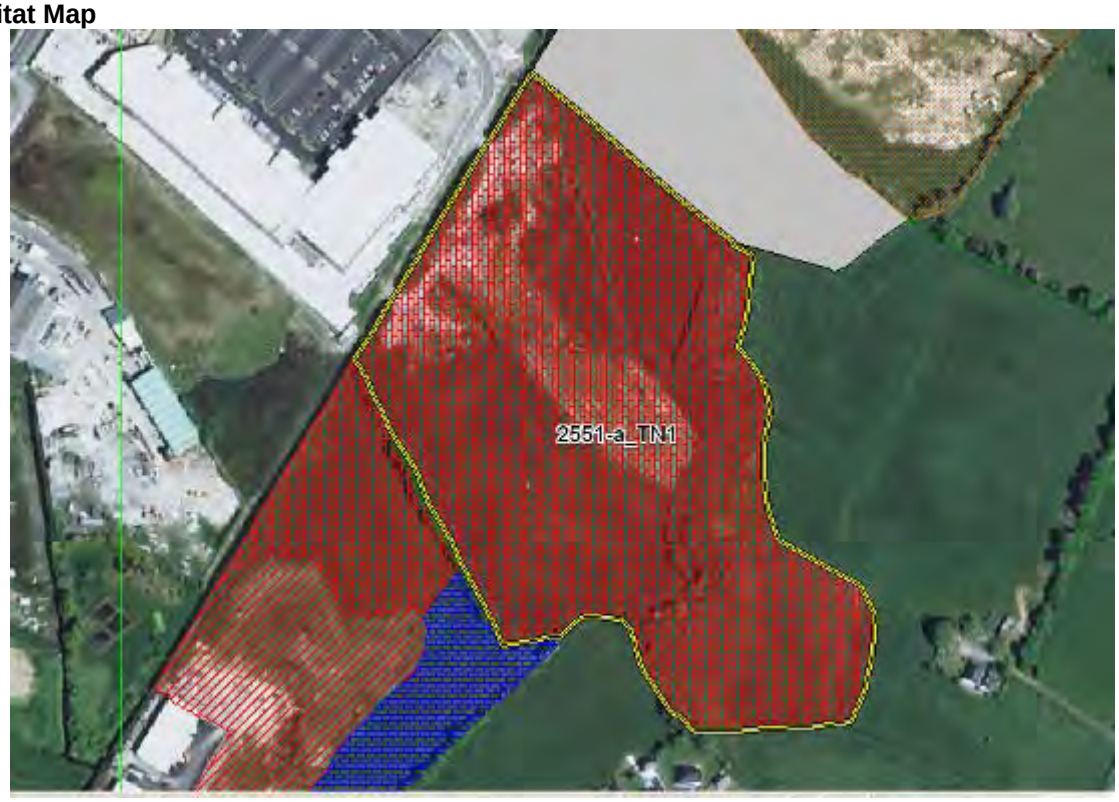


Image 1: Marsh

Image 2: Close-up of Marsh vegetation

Image 3: Species-rich Marsh

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 16/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 2551-a	**Townland:** Roscommon	**Grid Ref:** 188238, 264875
Target note no.: TN2	**Area:** 1.8ha	
Ecological Value: **D- Local Importance (higher value) Moderately Sensitive**		
Habitat code **WD2/GM1**	Mixed Broadleaf/Conifer plantation (mainly Horse Chestnut and Sycamore) on a Marsh Habitat. Marsh is dominated by Meadowsweet (*Filipendula ulmaria*), Horsetails (*Equisetum* spp.) and sedges (*Carex* spp.), and also Common Valerian (*Valeriana officinalis*), Bindweed (*Calystegia* sp.) and rushes (*Juncus* spp.).	

Habitat Map

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 16/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 2551-a	**Townland:** Roscommon	**Grid Ref:** 188093, 264363
Target note no.: TN3	**Area:** 2ha	
Ecological Value **C/D- County to Local Importance, Very to Moderately Sensitive**		
Habitat code **ED3/GS2/WL2**	Disturbed ground which has recolonised with very varied vegetation. There is >90% cover of vegetation so the entire area cannot be classified as Recolonising Bare Ground ED3. The area has been infilled (at a much higher level than the surrounding fields) and building materials are scattered around. Overall, this area may fit in to the Dry Meadows and Grassy Verges GS2 category, with a good cover of tall grasses such as False Oat-grass and Cocksfoot, with other indicators of this habitat type such as vetches (*Vicia cracca* and *Lathyrus pratensis*). There are also areas where Bramble (*Rubus fruticosus*) dominates and willow saplings are frequent. To the east of this site is an area of Reed and Large Sedge Swamp FS1 and to the north is an area of Marsh GM1.	

Habitat Map

Image 1: Overview of Recolonised Area

Image 2: Close-up of vegetation

Image 3: Marsh GM1 habitat to the north of the site

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 16/07/10
Surveyor: Jean Hamilton		**County name:** Roscommon
1:2,500 Sheet no: 2551-c	**Townland:** Roscommon	**Grid Ref:** 188220, 263348
Target note no.: TN1	**Area:** 1.4ha	
Ecological Value: **D - Local Importance (higher value) Moderately Sensitive**		

Habitat code

GS1

Dry Neutral Grassland with a good diversity of species.

Species List

Species (*Latin* name)	Species (common name)	DAFOR Scale
Agrostis spp.	Bents	Abundant
Alopecurus pratensis	Meadow Foxtail	Dominant
Anthoxanthum odoratum	Sweet Vernal	Abundant
Centaurea nigra	Common Knapweed	Abundant
Cynosurus cristatus	Crested Dog's-tail	Occasional
Euphrasia nemorosa	Eyebright	Abundant
Festuca sp.	Fescue sp.	Frequent
Lathyrus pratensis	Meadow Vetchling	Occasional
Ranunculus acris	Meadow Buttercup	Frequent
Rhinanthus minor	Yellow-rattle	Abundant
Trifolium pratense	Red Clover	Abundant

Habitat Map

Image 1: Dry Neutral Grassland (GS1)

Image 2: GS1 vegetation including Eyebright (*Euphrasia nemorosa*) and Yellow-rattle (*Rhinanthus minor*)

TARGET NOTES

Survey Title: Roscommon Habitat Mapping		**Survey date:** 15/07/10
Surveyor: Jen Fisher		**County name:** Roscommon
1:2,500 Sheet no: 2550-d	**Townland:** Roscommon	**Grid Ref:** 187508, 263041
Target note no.: TN1	**Area:**	

Ecological Value: **Moderate** Ecological interest in a local context – **Moderately Sensitive**

Habitat code

FW1

Small stream/river (Hind River) best classified as eroding upland river, approximately 2-3 metres wide and of variable flow. The stream had been culverted adjacent to the road.

Species List

Species (Latin name)	**Species (common name)**
Apium nodiflorum	Fool's Watercress
Callitriche sp.	Starwort
Lemna minor	Duckweed
Sparganium erectum	Branched Bur-reed

Habitat Map

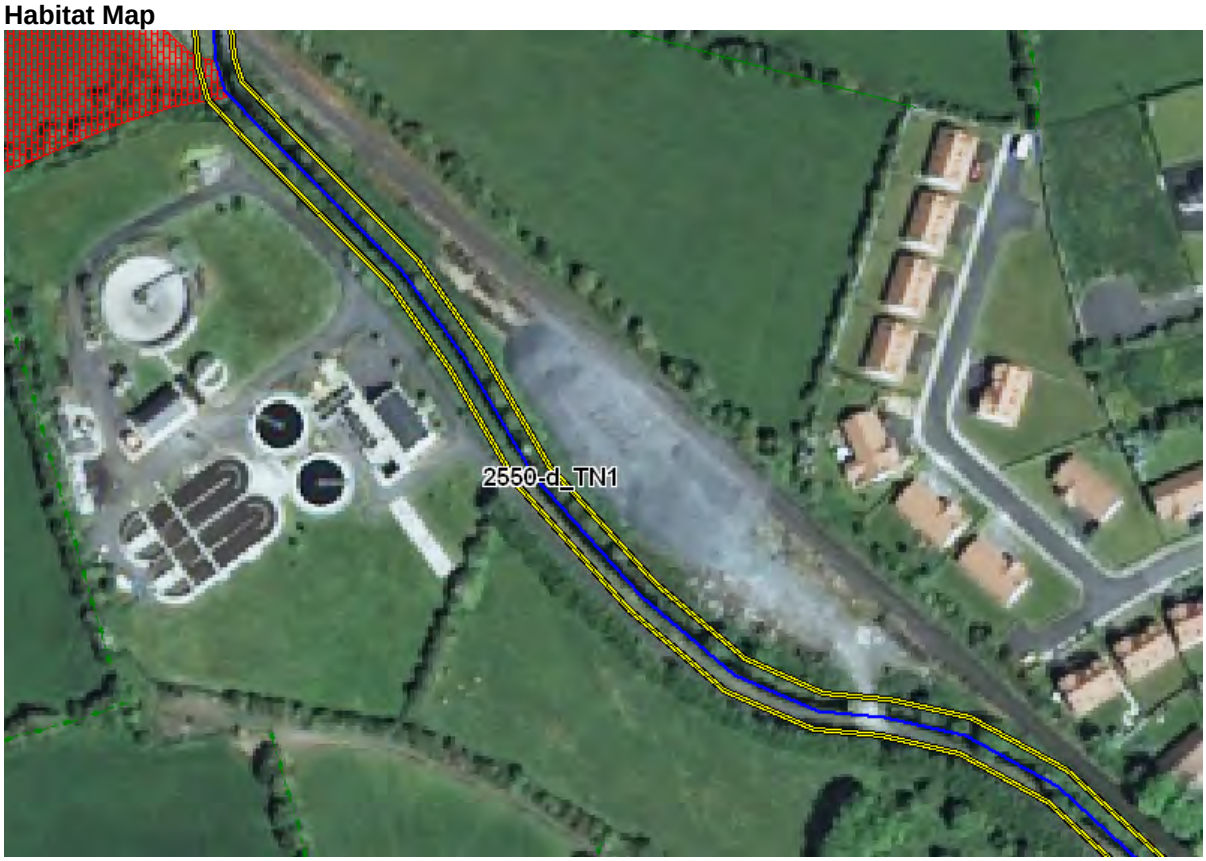


Image 1: Eroding Upland River

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 15/07/10
Surveyor: Jen Fisher		**County name:** Roscommon
1:2,500 Sheet no: 2481-d	**Townland:** Roscommon	**Grid Ref:** 186001, 265588
Target note no.: TN2	**Area:** 1.2ha	
Ecological Value: **D- Local Importance (higher value) Moderately Sensitive**		

Habitat code

GS4

The field is a mixture of recolonising bare ground, wet grassland and neutral grassland. The habitat classified as wet grassland was unusual in that is was dominated by Common Spike Rush and Compact rush. A patch of brown bare earth was present in the centre of the habitat, probably the remnants of a dried out pond.

Species List

Species (Latin name)	Species (common name)	DAFOR Scale
Eleocharis palustris	Common Spike Rush	D
Glyceria maxima	Reed Sweet Grass	A
Holcus lanatus	Yorkshire Fog	F
Juncus acutiflorus	Sharp-flowered Rush	F
Juncus conglomeratus	Compact Rush	D
Juncus inflexus	Hard Rush	O

Habitat Map

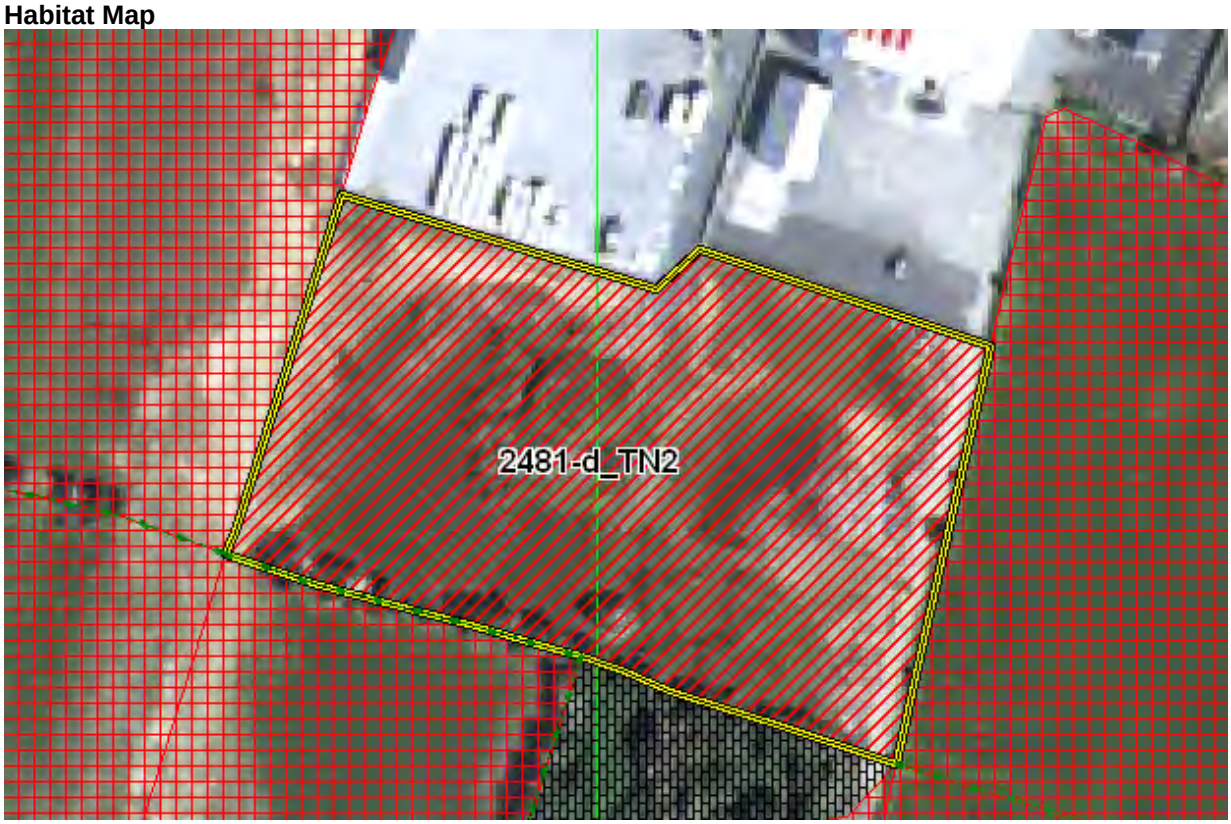


Image 1: Wet Grassland vegetation with common Spike Rush dominant

TARGET NOTES

Survey Title: Roscommon Habitat Mapping		**Survey date:** 15/07/10
Surveyor: Jen Fisher		**County name:** Roscommon
1:2,500 Sheet no: 2481-d	**Townland:** Roscommon	**Grid Ref:** 186000, 265421
Target note no.: TN1	**Area:** 1.3ha	
Ecological Value: **D- Local Importance (higher value) Moderately Sensitive**		

Habitat code

GS1

A nice example of species rich neutral grassland. The habitat was very herb rich and Knapweed appeared to be the dominant species. There were many similar habitats to this within the town boundary of Roscommon.

Species List

Species (Latin name)	**Species (common name)**	**DAFOR Scale**
Achillea millefolium	Yarrow	F
Agrimonia sp.	Agrimony	R
Anthoxanthum odoratum	Sweet Vernal Grass	F
Arrhenatherum elatius	False Oat Grass	O
Carex sp.		O
Centaurea nigra	Knapweed	D
Cerastium fontanum	Common Mouse Ear	F
Cirsium arvense	Creeping Thistle	F
Cirsium palustre	Marsh Thistle	O
Dactylis glomerata	Cock's Foot	O
Festuca pratensis	Meadow Fescue	F
Festuca rubra	Red Fescue	A
Filipendula ulmaria	Meadowsweet	O
Galium verum	Ladies Bedstraw	O
Holcus lanatus	Yorkshire Fog	F
Hypochaeris radicata	Common Cat's-ear	F
Lolium perenne	Perennial Rye Grass	F
Lotus corniculatus	Bird's-foot Trefoil	O
Luzula sp.	Wood Rush	R
Odontites verna	Red Bartsia	O
Phleum pratense	Timothy Grass	A
Plantago lanceolata	Ribwort Plantain	A
Plantago Major	Greater Plantain	O
Potentilla anserina	Silverweed	F
Prunella vulgaris	Selfheal	F
Ranunculus repens	Creeping Buttercup	F
Rumex acetosa	Common Sorrel	F
Succisa pratensis	Devil's Bit Scabious	F

Habitat Map

Image 1: Species-rich Neutral Grassland

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 15/07/10
Surveyor: Jen Fisher		**County name:** Roscommon
1:2,500 Sheet no: 2550-b	**Townland:** Roscommon	**Grid Ref:** 186669, 264839
Target note no.: TN1	**Area:** 34ha	
Ecological Value: **A/B- International to National Importance, Highly Sensitive,** Linked to **Annex 1 Habitat, Turlough (3180).**		

Habitat code

FL6/
GM1

This area is known as Loughnaneane Turlough FL6 and is located to the east of the town. As the habitat survey was undertaken in the summer, the area of the Turlough under water was limited to a small area to the western boundary, probably at the location of the swallowhole. Loughnaneane Turlough is an important feeding and roosting site for the winter visitor Whooper Swan, resident Mute Swan along with large numbers of Golden Plover, Lapwing and Curlew. Species of ducks using the Turlough include Shoveler, Wigeon. Teal, Coot, Tufted, Pintail and Mallard (source: Roscommon County Council *Heritage Access Audit of County Roscommon*).

The habitats within the Turlough comprise freshwater Marsh GM1 dominated by Yellowflag, Meadowsweet, Greater Willowherb and Reed Canary Grass. The marsh was being grazed by horses at the time of the field visit. The grazed area was of short sward and of a different species composition (i.e. those mentioned below). Roscommon Castle and an amenity park were situated in the vicinity of the marsh.

Species List

Species (Latin name)	**Species (common name)**	**DAFOR Scale**
Agrostis sp.	Creeping Bent	Abundant
Calliergon cuspidatum	Moss	Frequent
Cardamine pratensis	Cuckoo Flower	Frequent
Carex echinata	Star Sedge	Frequent
Carex nigra	Sedge	Frequent
Epilobium hirsutum	Great Willowherb	Occasional
Festuca rubra	Red Fescue	Frequent
Filipendula ulmaria	Meadowsweet	Frequent
Galium palustre	Marsh Bedstraw	Frequent
Iris Pseudacorus	Yellowflag	Dominant
Juncus acutiflorus	Sharp-flowered Rush	Occasional
Lychnis flos-cuculi	Ragged Robin	Occasional
Mentha aquatica	Water Mint	Frequent
Odontites verna	Red Bartsia	Occasional
Phalaris arundinacea	Reed-Canary Grass	Frequent
Polygonium persicaria	Redshank	Frequent
Potentilla anserina	Silverweed	Frequent
Ranunculus acris	Meadow Buttercup	Frequent
Ranunculus repens	Creeping Buttercup	Frequent
Senecio aquatica	Marsh Ragwort	Occasional
Trifolium pratense	Red Clover	Frequent

Habitat Map

Legend

Image 1: Wet Grassland / Marsh Vegetation in Turlough

TARGET NOTES		
Survey Title: Roscommon Habitat Mapping		**Survey date:** 16/07/10
Surveyor: Jen Fisher		**County name:** Roscommon
1:2,500 Sheet no: 2550-b	**Townland:** Roscommon	**Grid Ref:** 187554, 263928
Target note no.: TN2	**Area:** 2.7ha	
Ecological Value: **C/D- County to Local Importance, Very to Moderately Sensitive**		

Habitat code

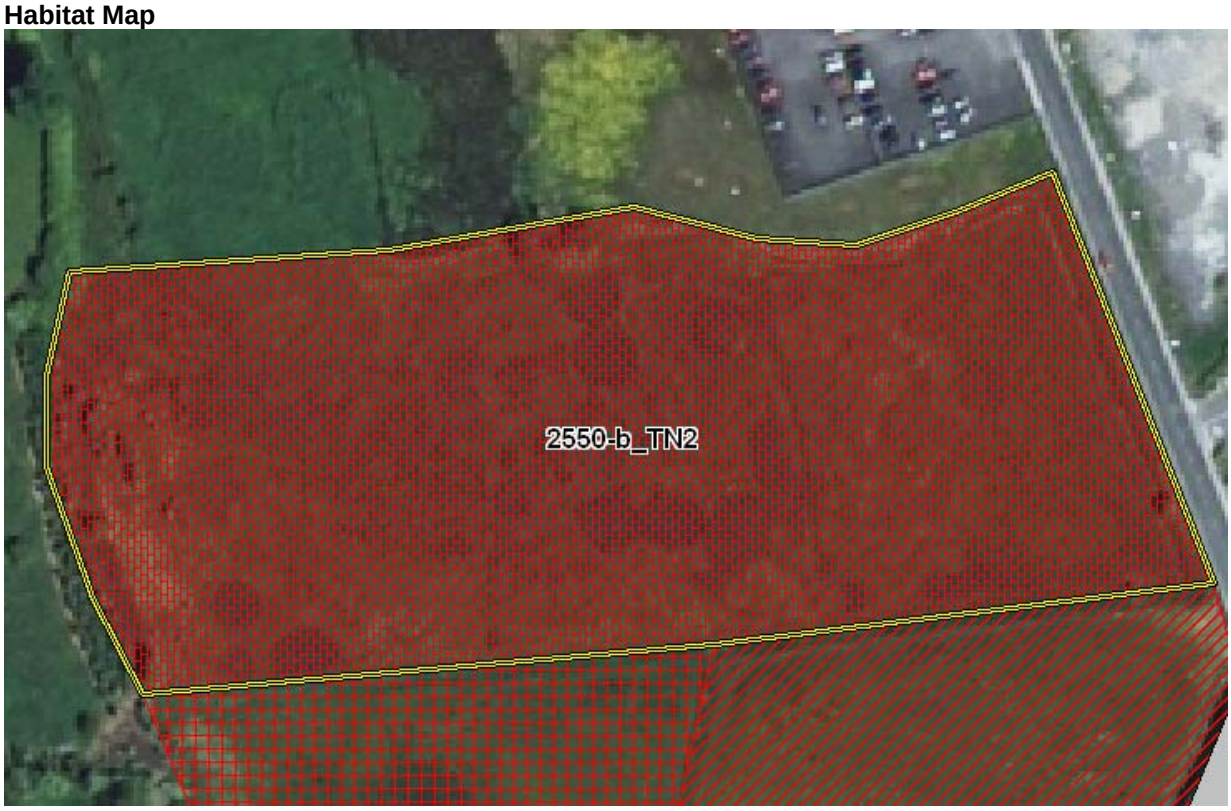
GM1

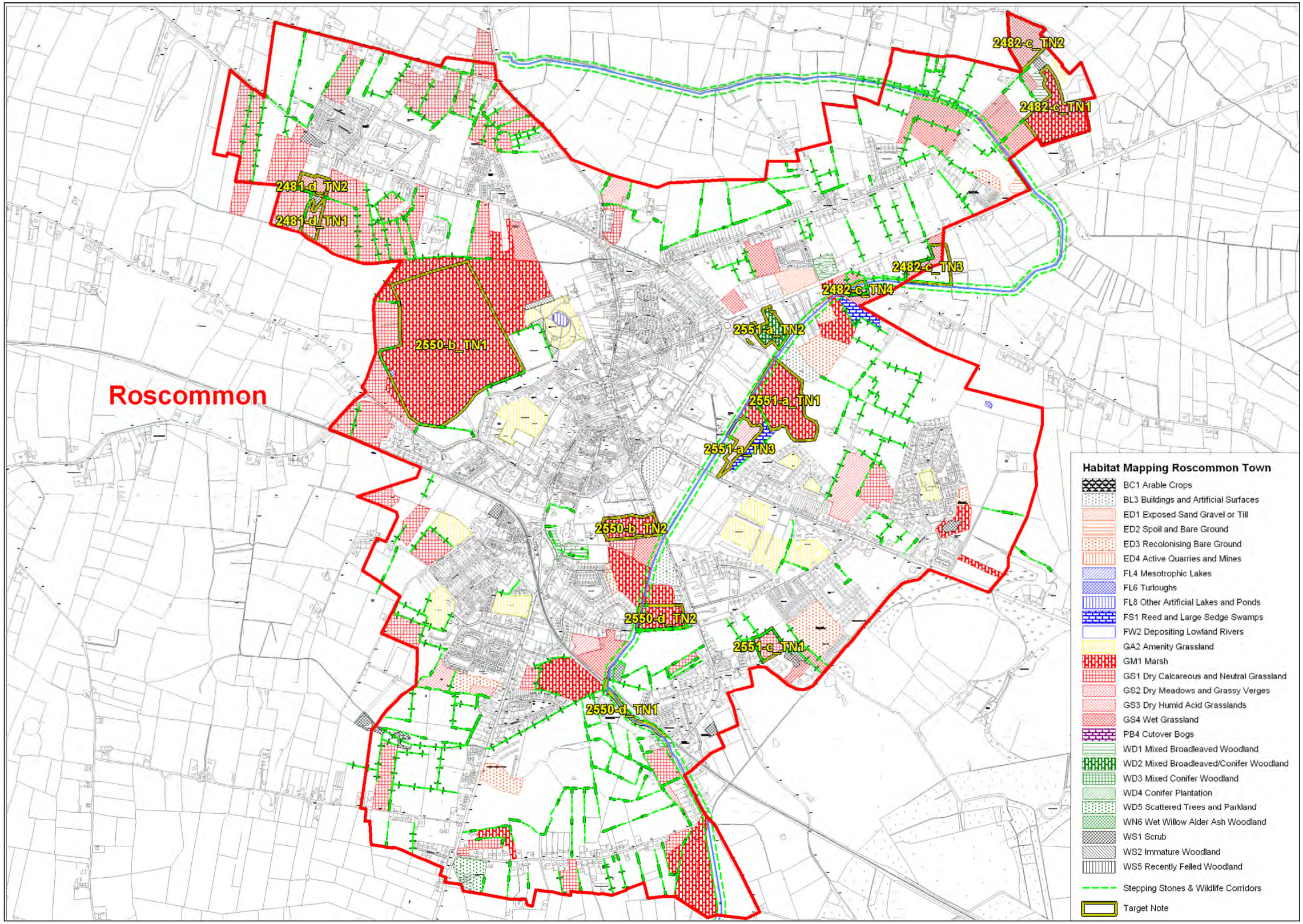
Large marsh composed of species listed below. The marsh has been extensively drained by several large drainage ditches which intersect the site.

Species List

Species (Latin name)	**Species (common name)**
Filipendula ulmaria	Meadowsweet
Iris Pseudacorus	Yellowflag
Juncus conglomeratus	Compact Rush
Phalaris arundinacea	Reed-Canary Grass

Habitat Map




Roscommon
2482-c_TN2
2482-c_TN1
2481-d_TN2
2481-d_TN1
2482-c_TN3
2482-c_TN4
2551-a_TN2
2550-b_TN1
2551-a_TN1
2551-a_TN3
2550-b_TN2
2550-d_TN2
2551-c_TN1
2550-d_TN1
Habitat Mapping Roscommon Town
BC1 Arable Crops
BL3 Buildings and Artificial Surfaces
ED1 Exposed Sand Gravel or Till
ED2 Spoil and Bare Ground
ED3 Recolonising Bare Ground
ED4 Active Quarries and Mines
FL4 Mesotrophic Lakes
FL6 Turloughs
FL8 Other Artificial Lakes and Ponds
FS1 Reed and Large Sedge Swamps
FW2 Depositing Lowland Rivers
GA2 Amenity Grassland
GM1 Marsh
GS1 Dry Calcareous and Neutral Grassland
GS2 Dry Meadows and Grassy Verges
GS3 Dry Humid Acid Grasslands
GS4 Wet Grassland
PB4 Cutover Bogs
WD1 Mixed Broadleaved Woodland
WD2 Mixed Broadleaved/Conifer Woodland
WD3 Mixed Conifer Woodland
WD4 Conifer Plantation
WD5 Scattered Trees and Parkland
WN6 Wet Willow Alder Ash Woodland
WS1 Scrub
WS2 Immature Woodland
WS5 Recently Felled Woodland
Stepping Stones & Wildlife Corridors
Target Note