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Irish Semi-natural Grasslands Survey

Annual Report No. 2:

Counties Cavan, Leitrim, Longford & Monaghan

F.H. O'Neill, J.R. Martin, P.M. Perrin, A. Delaney, K.E. McNutt & F.M. Devaney

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BOTANICAL, ENVIRONMENTAL & CONSERVATION CONSULTANTS LTD.

www.botanicalenvironmental.com

26 Upper Fitzwilliam Street, Dublin 2

Tel: 01 6619713

Email: info@botanicalenvironmental.com

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Cover: Wet grassland at Moneensauran, Co. Cavan. (Photo © Fiona Devaney & BEC Consultants)

Executive Summary

In 2009, 239 sites and 1053 relevés in Cavan, Leitrim, Longford and Monaghan were surveyed as part of the Irish Semi-natural Grasslands Survey (ISGS). Eighty-six of these sites were associated with an NPWS conservation site (SAC, NHA, pNHA and SPA), but just four of the nine SACs in which Annex I grassland habitat was recorded list Annex I grassland habitats as a qualifying interest. Wet grassland was the most frequent semi-natural grassland habitat, recorded at 95.8% of sites and covering over 70% of the total area of grassland surveyed. Freshwater marsh was the least frequent and represented just 1% of the grassland surveyed in 2009. The most common EU Habitats Directive Annex I grassland habitat was *Molinia* meadows (6410), recorded at 7.9% of sites, followed by *Nardus* grasslands (6230), recorded at 5% of sites, and *Festuco-Brometalia* (6210), recorded at 4.1% of sites. The remaining Annex I grassland habitats – Lowland hay meadows (6510) and Hydrophilous tall herb communities (6430) – were only recorded at 3.3% of sites surveyed in 2009. 6410 covered the greatest area, at 62.4 ha, followed by 6510 (18.9 ha) and 6230 (17.6 ha). Calaminarian grassland (6130) was not recorded in 2009.

Semi-natural grassland sites in Cavan, Leitrim, Longford and Monaghan were relatively large (median area 24.1 ha, ranging from 0.3 ha to 208.0 ha). Of the 33 sites that scored highly (a score of 40% or over) in the conservation evaluation, 23 were associated with an NPWS conservation site. Of the 21 sites that received high threat evaluations, nine were associated with an NPWS conservation site.

The main habitats adjacent to surveyed sites were treelines/hedgerows and scrub. Unsurveyed semi-natural grassland and marsh occurred adjacent to a greater proportion of sites in 2009 than in 2008, indicating their presence within larger complexes of semi-natural grassland in the 2009 study area.

A list of 47 primary areas of Annex I grassland habitat, representing the best quality Annex I grassland habitat recorded to date, was compiled for all grassland sites surveyed during ISGS 2007-2009. Future years of ISGS will add further sites to this list, providing a focus for semi-natural grassland conservation in Ireland. The main threat recorded for Annex I grassland habitats surveyed in 2009 was encroachment/undergrazing, highlighting the urgency with which the problem of land abandonment needs to be tackled. The uplands of Leitrim and Cavan were found to contain many of the highest quality grasslands surveyed to date.

The overall quality of each of the Annex I grassland habitats surveyed was *Unfavourable – Bad*, emphasising their vulnerability in Ireland and the urgency with which they need to be studied and monitored.

The ISGS vegetation classification utilised hierarchical cluster analysis to analyse all relevé data recorded during 2009, plus relevé data recorded by the ISGS in 2007 and 2008. The classification contained four main groups. The two dry grassland groups, which accounted for 37.7% of the relevés, were named *Plantago lanceolata – Festuca rubra* and *Potentilla erecta – Galium saxatile*, based on the top indicator species. The wet grassland groups, which accounted for 62.3% of the

relevés, were named *Agrostis stolonifera – Juncus effusus* and *Juncus acutiflorus – Calliergonella cuspidata*. The four vegetation groups were further subdivided into 21 vegetation types, six more than in 2008. The addition of extra relevés in 2009 resulted in more vegetation types being identified, due partly to regional differences and partly to the redistribution of relevés within existing groups which led to further subdivision of groups.

During 2009, the criteria for the evaluation of the conservation status and threats to grassland sites were refined as follows:

- Positive indicator species were divided into high quality (H.Q.) and non-H.Q. indicators, with H.Q. indicators generally species found in high quality grassland habitats.
- Three additional positive indicator species were included for the assessment of the structure and functions of the Annex I habitat *Nardus* grassland (6230).

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1: INTRODUCTION

1.1 General background

Grassland habitats cover approximately 73% of the land area of Ireland (O'Sullivan 1982), but the overwhelming majority of this is improved agricultural grassland, with semi-natural grassland habitats contributing only a small percentage of the total. The current dominance of grassland habitats in Ireland is the result of millennia of human activity altering the predominantly wooded landscape that existed 5000 years ago (Hall & Pilcher 1995). The low-intensity agricultural practices that once allowed the development of species-rich semi-natural grassland have now all but ceased, threatening the existence of this habitat type within Ireland. Any semi-natural grasslands that remain are threatened either by the abandonment of all management, which for most grassland areas results in reversion to scrub, or by the intensification of management, resulting in the replacement of a diverse array of species with a small number of high-yielding ones.

During the last fifty years, agriculture in Ireland has changed completely with increases in mechanisation, the implementation of arterial drainage schemes and the application of fertilisers. Ireland's entry into the European Union in 1973 resulted in financial incentives to improve agricultural productivity (Feehan 2003), and as a result the nature of Ireland's grasslands has been radically altered. The majority of the remaining areas of semi-natural grassland owe their continued existence to edaphic and topographical conditions that make them unsuitable for fertiliser application, reseeding or drainage.

1.2 Vegetation studies of Irish grasslands

Since Braun-Blanquet & Tüxen (1952) made the initial attempts at classifying the grasslands of Ireland, the number of vegetation studies of this habitat has been disproportionately small considering the large area of Ireland that grasslands occupy. One reason for this is that the overwhelming majority of Irish grassland vegetation is low-diversity agricultural grassland. The most notable research on Irish grasslands was conducted by O'Sullivan (1965, 1968, 1976, 1982), who collected field data from a broad range of grassland habitats. In addition to this research contributing to the most comprehensive classification of Irish grasslands to date (O'Sullivan 1982), the data from the thousands of individual relevés collected provide researchers with a well-documented and archived dataset (D. Bourke, pers. comm.). The majority of the other grassland vegetation studies carried out in Ireland have been more limited in their aims. Research has either focused on a particular region of Ireland, such as the Burren (Ivimey-Cook & Proctor 1966, O'Donovan 1987, Keane & Sheehy Skeffington 1995), Leinster (Byrne 1996), Sligo (O'Donovan 2007) or Fermanagh (Eakin 1995), or on a particular grassland vegetation type, such as callows grassland (Heery 1991, Tolkamp 2001), esker grasslands (Bleasdale 1998, Tubridy 2006), hay meadows (Martin 1991) or Calaminarian grasslands (Holyoak 2008). However, some of the most recent studies have been broader in their remit.

O'Donovan & Byrne (2004) carried out research in Sligo and Westmeath with the aim of developing a method for mapping semi-natural grassland across Ireland, and Dwyer *et al.* (2007) carried out a countrywide study of priority Annex I grassland habitats within Special Areas of Conservation (SACs). More recently in 2007, the semi-natural grasslands in both Roscommon and Offaly were surveyed (Martin *et al.* 2007), serving as a pilot study for the current project. In 2008, the current project commenced with a comprehensive survey of the semi-natural grasslands of Cork and Waterford.

1.3 Classification of Irish grasslands

Braun-Blanquet & Tüxen (1952) were the first to systematically classify Irish grasslands based on the Zurich-Montpellier phytosociological approach, but it was not until 1982 that the first comprehensive classification was published (O'Sullivan 1982). Using the same phytosociological approach, O'Sullivan divided all non-coastal Irish grassland into three classes: the Molinio-Arrhenatheretea, the Nardetea and the Festuco-Brometea. The Molinio-Arrhenatheretea, which includes lowland meadows and pastures on neutral soils, was the most frequent group, based on over 2,500 relevés and estimated to cover 65% of the land area of Ireland. The Molinio-Arrhenatheretea is divided into the Arrhenatheretalia elatoris and Molinietalia caeruleae orders. The Arrhenatheretalia elatoris generally includes drier meadows and pastures, including improved agricultural fields dominated by *Lolium perenne* and *Trifolium repens*. The Molinietalia caeruleae represents wet meadows and pasture communities on clay, loam and humus-rich gley soils that are generally not fertilised. The Nardetea includes acid grassland communities and was estimated to cover 4.4% of the land area of Ireland. The Festuco-Brometea, represented in Ireland by the sole order Brometalia erecti, includes dry limestone grasslands on base-rich soils, and was estimated to be the least frequent of the three major classes of grassland, covering only 0.3% of the Irish land area. White & Doyle (1982) in their catalogue of Irish vegetation types drew heavily on the work of O'Sullivan (1982), reapplying his classification of Irish grasslands and adding some rarer associations, such as the Violetea calaminariae class, which includes the grassland vegetation of areas rich in heavy metals, and the Carici rupestris-Kobresietea bellardii class of arctic-alpine grass heaths, of which one association, the Breutelio-Seslerietum, has been described in Ireland from Ben Bulben in Co. Sligo.

Fossitt (2000) is the most widely utilised grassland classification in Ireland. Unlike O'Sullivan (1982), which is a vegetation classification, Fossitt (2000) is a habitat classification which utilises soils, geology and landscape features, in addition to plant communities, to define each habitat. Fossitt (2000) presents a simplified and standardised way to classify habitats in Ireland but is based on the results of previous phytosociological studies rather than being based objectively on empirical data. The five Fossitt habitat categories directly relevant to this survey of semi-natural grassland are as follows:

- **Fossitt Code GS1 - Dry calcareous and neutral grassland.** This encompasses all unimproved and semi-improved grasslands on both calcareous and neutral soil. It is associated with free-draining mineral soils and low-intensity agriculture.
- **Fossitt Code GS2 - Dry meadows and grassy verges.** This habitat is found on free-draining mineral soils. The management is different from that in GS1 in that the grassland has little or no grazing but instead is managed primarily by cutting.
- **Fossitt Code GS3 - Dry-humid acid grassland.** This grassland is found on free-draining acid soils that are not waterlogged. It is found mainly on mineral-rich or peaty podzols in uplands, but is also found on siliceous sandy soils in the lowlands.
- **Fossitt Code GS4 - Wet grassland.** This habitat type is found on poorly drained mineral and organic soils and includes grassland that is seasonally or periodically flooded. It encompasses a range of wet grassland types, from wet rushy pasture to callows.
- **Fossitt Code GM1 - Freshwater marsh.** This habitat is found on waterlogged mineral and shallow peat soils near lake and river edges and other wetland habitats, where the watertable is near to the surface for most of the year. It is characteristically rich in broadleaf herbs, and grasses and sedges should not exceed 50% of the ground cover.

The grasslands section of the National Vegetation Classification (NVC) used to classify British plant communities (Rodwell 1991, 1992, 1995, 2000) does not utilise Irish data, but it does provide an indication of the range of plant communities likely to exist in Ireland. It also provides this in a system that does not follow the subjective methods inherent in the central European phytosociological approach of Braun-Blanquet & Tüxen (1952). Recently, Perrin *et al.* (2008a, b) produced an NVC-style classification of Irish woodland vegetation employing a range of more objective techniques. These techniques were also applied to the analysis of the semi-natural grasslands of Roscommon, Offaly, Cork and Waterford for the Irish Semi-natural Grasslands Survey (ISGS) 2007-2008 (Martin *et al.* 2008). This vegetation classification utilised hierarchical cluster analysis to analyse relevé data from these four counties, and produced four main groups: two dry grassland groups, named *Plantago lanceolata – Festuca rubra* and *Agrostis capillaris – Galium saxatile*, and two wet grassland groups, named *Agrostis stolonifera – Ranunculus repens* and *Juncus acutiflorus – Molinia caerulea*. The four vegetation groups were further subdivided into 15 vegetation types. This vegetation classification proposed by Martin *et al.* (2008) highlights the limitations of Fossitt (2000), which only classifies semi-natural grassland into four groups and marsh into one group that is rigidly defined by the proportion of forbs present.

1.4 Conservation of Irish grasslands

Semi-natural grasslands are an extremely vulnerable habitat in Ireland. Areas of semi-natural grassland that are accessible to machinery are particularly vulnerable to agricultural improvement. Keane & Sheehy Skeffington (1995) showed that the addition of fertiliser to semi-natural grasslands resulted in a change of sward composition and a loss of plant species diversity. The vulnerability of

semi-natural grasslands to agricultural improvement, afforestation and scrub encroachment was demonstrated by Byrne (1996), who found that 38% of the sites documented by O'Sullivan during the 1970s no longer supported semi-natural grassland communities by 1994. Similar trends have also been demonstrated in England and Wales, where a review of available data showed that only between one and two percent of remaining lowland grasslands comprise semi-natural communities (Blackstock *et al.*1999).

Grasslands of conservation interest are protected in Ireland through conservation designations that vary in the level of protection they provide to the species and habitats found within them. Grasslands located within National Parks and Nature Reserves can have the highest level of protection, as they are State-owned and managed for conservation. SACs and Special Protection Areas for birds (SPAs) designated as a result of EU directives provide the next highest level of protection, while Natural Heritage Areas (NHAs) designated under domestic legislature provide the third tier of protection. As not all NHAs have been designated, proposed NHA (pNHA) is used to distinguish non-designated sites. Throughout this report when referring collectively to SACs, NHAs and pNHAs, the term 'NPWS conservation sites' is often used. As there has been no comprehensive survey of semi-natural grassland for over 25 years, the application of conservation designations to protect areas of semi-natural grassland has taken place in the absence of an accurate record of the extent of each habitat on the ground.

The EU Habitats Directive has contributed to the conservation of semi-natural grassland in Ireland by listing and defining 28 types of Annex I habitat of conservation importance in Europe (Anon. 2007). Under this directive, Ireland has a responsibility to designate SACs to protect any of these habitats that occur within the State and to maintain them at a favourable conservation status. Seven Annex I grassland habitats of conservation importance have been recorded within Ireland by the National Parks and Wildlife Service (NPWS):

- Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (6210).[1]
- Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (important orchid sites) (6211).[2]
- Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and sub-mountain areas, in Continental Europe) (6230).
- *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) (6410).
- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels (6430).

[1] Festuco-Brometalia is an old synonym for the order Brometalia-erecti. It is *not* synonymous with the class Festuco-Brometea as indicated in Fossitt (2000)
[2] 6211 in this report refers to the priority habitat variant of category 6210 (following the precedent set by JNCC (2004)).

- Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*) (6510).
- Calaminarian grasslands of the Violetalia calaminariae (6130).

Only two grassland habitats in Ireland, 6211 and 6230, are accorded priority status.

As semi-natural grasslands in Ireland almost always exist within farming systems, there is the possibility that agri-environment schemes such as the Rural Environmental Protection Scheme (REPS) and the NPWS Farm Plan Scheme (A. Bleasdale, pers. comm.) will contribute to the conservation of semi-natural grassland. However, there is currently little evidence that these schemes are contributing to the conservation of semi-natural grassland in Ireland, and the budget announcement in 2009 of the closure of the REPS scheme to new applicants may have further negative effects.

The systematic monitoring and assessment of the Annex I grassland habitats located within the State has started, with 33 orchid-rich calcareous grassland sites (6210/6211) and nine species-rich *Nardus* grasslands (6230) having been surveyed during 2006 (Dwyer *et al.* 2007). The methodology employed for the monitoring and assessment adapted those published by the EU (Anon. 2006), the Joint Nature Conservancy Council (JNCC) in Britain (JNCC 2004) and the methodology already utilised for dune systems in Ireland (Ryle *et al.* 2009). In addition to Dwyer *et al.* (2007), 41 areas of Annex I grassland within 34 different sites in Roscommon and Offaly were surveyed during 2007, the most common being Festuco-Brometalia (6210/6211) and *Molinia* meadows (6410) (Martin *et al.* 2007). A further 48 areas of Annex I grassland within 46 sites in Cork and Waterford were assessed in 2008, mostly *Molinia* meadows (6410) and species-rich *Nardus* grassland (6230) (Martin *et al.* 2008). Additional studies of Annex I grassland habitats within Ireland include studies of the Shannon Callows (Heery 1991) and Calaminarian grasslands (Holyoak 2008), the latter study having a particular emphasis on bryophytes. In the UK, the process of monitoring, assessing and reporting on Annex I grassland habitats is far in advance of Ireland, as indicated by the recent publication of *The European Context of British Lowland Grasslands* (Rodwell *et al.* 2007). However, the National Parks & Wildlife Service has recently published *The Status of EU Protected Habitats and Species in Ireland* (Anon. 2008), which lists the overall conservation status of each of the Annex I grassland habitats as bad or poor.

1.5 Scope of this report

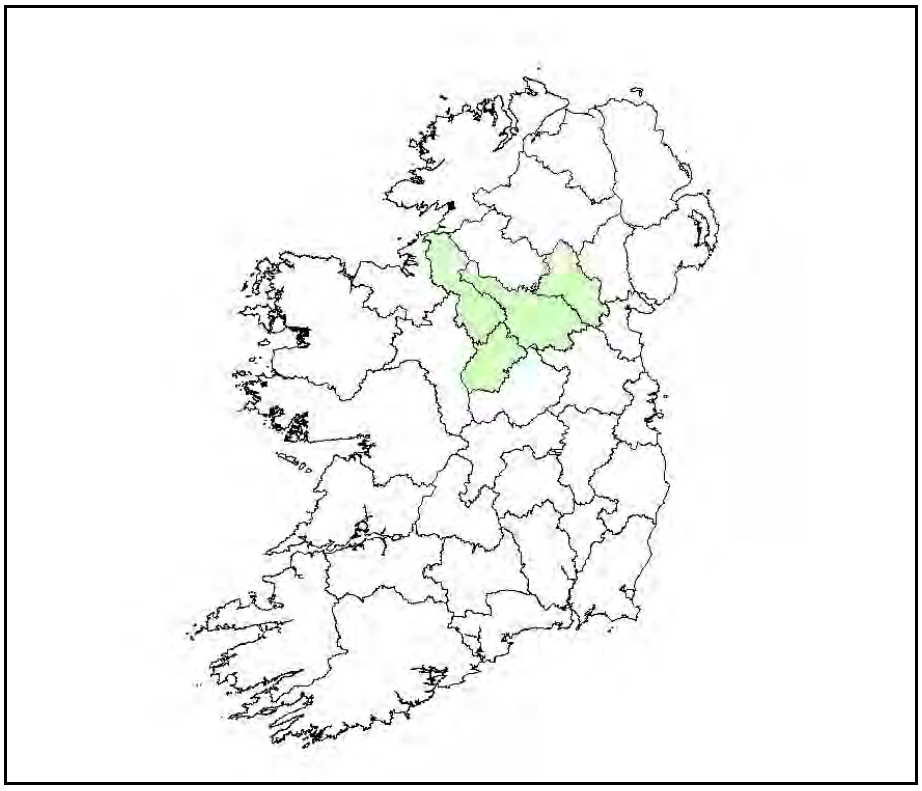
This document reports on a survey of semi-natural grasslands and marsh communities in Counties Cavan, Leitrim, Longford and Monaghan conducted in summer 2009, which represents the second year of the *Irish Semi-natural Grasslands Survey* (ISGS). It follows on from the survey of Cork and Waterford grasslands in 2008 (Martin *et al.* 2008) and from the pilot survey of Roscommon and Offaly the previous year (Martin *et al.* 2007). The remit of the project this year was to survey 250 sites across the four counties, recording relevés in each of the semi-natural grassland types which occur,

and to map all habitat types found at each site using GIS. A further aim was to conduct a conservation assessment of any Annex I grassland habitats found. Data from the survey were to be combined with those from the previous studies carried out in Roscommon, Offaly, Cork and Waterford, to be used to evaluate existing classification systems and to create an objective classification that described the diversity of vegetation types found. A scheme to assess the conservation value of each site as a whole was to be devised and used to highlight important sites outside the existing NPWS conservation sites system. To facilitate comparison of results across all eight counties, conservation evaluation criteria were to be calculated for all sites surveyed, including those from the pilot study. The discussion in this report will comment on data collected from the pilot and main surveys between 2007 and 2009.

1.6 Study area

Counties Cavan, Leitrim, Longford and Monaghan are located in the north-midlands and northwest of Ireland (Fig. 1.1). The Central Statistics Office and Eurostat list Leitrim, Cavan and Monaghan within the Border region and Longford in the Midland region (CSO 2005). The area of Ireland within which the four counties are located is less well developed than eastern and southern parts of the country, with farm sizes in the Border, Midland and West regions collectively smaller than those in the eastern and southern regions, and farm incomes generally lower (Lafferty *et al.* 1999, CSO 2005).

Figure 1.1 Map of Ireland showing the survey area of counties Cavan, Leitrim, Longford and Monaghan.



Cavan and Monaghan are in the province of Ulster, Leitrim is in Connacht and Longford is in Leinster. All counties are inland, apart from a 4.5 km coastal strip at the extreme northwest of Leitrim, part of which is designated as an SAC for machair. All four counties have relatively high proportions of inland water (ranging from 2% in Co. Monaghan to 5.8% in Co. Leitrim), due to the large number of inland lakes and the presence of the River Shannon, which rises in Co. Cavan and runs through Leitrim and Longford; the Shannon floodplain is a significant feature of parts of the study area, particularly in Longford. Cavan is the largest of the four counties (1932 km^2), followed by Leitrim, while Longford has the smallest area at 1091 km^2 (OSI 2009).

Drumlins are a prominent feature of Cavan, Leitrim and Monaghan; within Longford they are mostly confined to the northern half of the county. In Cavan, partially submerged drumlins are located within Lough Oughter and its associated loughs which, fed by the Erne River, occupy much of the lowland drumlin belt in north and central Cavan. This complex of loughs has been designated as an SAC and is the best inland example of a flooded drumlin landscape in Ireland, with a diverse array of biological communities, including natural eutrophic lakes and bog woodland. Upland areas are mostly found in the northern half of Leitrim and northwest Cavan, with outcropping limestone rock a dominant feature of the landscape. A number of upland SACs have been designated in the region, including the Ben Bulben area of Co. Leitrim, the Cuilcagh-Anierin Uplands of Cavan and Leitrim, and Boleybrack Mountain, also in Cavan and Leitrim. Blanket peats are particularly prevalent in the uplands of Leitrim. Longford and Monaghan are predominantly lowland, with the highest altitude in each reaching no higher than 365 m (Slieve Beagh) in Monaghan and 278 m (Cairn Hill) in Longford, compared to 666 m and 630 m in Cavan and Leitrim respectively. Soils in the region are predominantly glacial tills, mostly acidic, although more basic tills are found in southwest Longford, northwest and southwest Leitrim, and small areas of west Monaghan and north-central and south Cavan. Despite the glacial history of the area, extant eskers are rare and occur mainly in Longford. Areas of conservation interest emphasise the importance of bogs, lakes and river systems in this lowland region, including Kilroosky Lough Complex (the only SAC in Monaghan) and Ardagullion Bog and Lough Ree in Longford.

2: METHODS

2.1 Site selection

The target for this project was to visit 250 sites across counties Cavan, Leitrim, Longford and Monaghan, recording at least one relevé in each site. The number of sites selected in each county was calculated based on a combination of the size of the county and the amount of agricultural intensification within each county (Lafferty *et al.* 1999). Based on agricultural intensification, Leitrim and Cavan were expected to contain the largest amount of semi-natural grassland, so 4-5 sites per 10 km square were selected here, compared to 3-4 sites per 10 km square in Longford and Monaghan. Additional sites were selected to allow for those that would not be surveyed due to problems such as a lack of semi-natural grassland habitats or owners denying access. (However, it should be noted that, despite selecting a minimum of three sites in each 10 km square, it is entirely possible that fewer or in fact *no* sites within a particular 10 km square may be surveyed, due to access problems or lack of suitable grassland habitat.)

In addition to this stratified sampling of the survey area, the criteria listed below were considered during site prioritisation to ensure that a broad range of semi-natural grassland sites were included in the survey:

- NPWS conservation sites[1], particularly those which have an Annex I grassland habitat listed as being present within the site.
- Large areas of semi-natural grassland for which little or no data are currently available.
- Sites which occurred on different soil and sub-soil types, as indicated by the digital soils map of Fealy *et al.* (2006).
- Sites that represented the geographical variation that existed in the study area, such as altitudinal range.
- Sites associated with important landscape features (e.g., eskers, hills).
- Sites adjacent to river systems, ensuring a representative sample of wet grasslands and marshes.
- Sites highlighted by previous publications, such as *The Flora of County Cavan* (Reilly 2001), that had not been comprehensively surveyed.
- Large sites of natural grassland or inland marsh indicated by CORINE 2000 (EPA 2000).
- Information from the Botanical Survey of the British Isles (BSBI) county recorders.
- Sites suggested following consultation with the National Biodiversity Data Centre (NBDC).
- Information from NPWS regional staff.

Each of the criteria listed above were used in conjunction with the 2005 set of aerial orthographical photographs, which were used to either identify or confirm all sites.

A subjective approach to site selection was adopted for this survey, primarily due to the practical restraints on the project and the need to acquire a critical mass of data for several habitat types. For

[1] Note that, throughout this report, the term “NPWS conservation sites” is used to refer to NHAs, proposed NHAs (pNHAs), SACs and SPAs

example, for rarer grassland habitats, such as marsh, it was desirable to include a minimum number of sites within the survey to ensure that a reasonable level of information about this habitat type was obtained. It was also desirable to survey NPWS conservation sites, such as SACs, that contained semi-natural grassland so that comparisons could be made with sites outside this network. Given that a limited number of sites could be surveyed within the financial and time limits of the project, a purely randomised approach could well have omitted some or all of these sites. A similar case can be made for most of the criteria listed above. Furthermore, difficulties with obtaining access permission and accurately identifying semi-natural grassland habitats from aerial photographs and GIS datasets made a randomisation approach to site selection unworkable.

For the location and summary data of all sites see Appendices 1 and 2.

2.2 General site survey

For all sites selected for field survey, a site pack was compiled. Each site pack included a cover sheet that detailed general site information for the field surveyors (e.g., townlands, geology, soil types, grid reference), a blank six-inch map, an aerial photograph of the site at a scale appropriate for mapping, and copies of any previous survey notes. Data sheets for recording site and relevé data (Appendix 3), as well as information on Annex I habitat assessment data (Appendix 5), were carried by individual surveyors.

For each selected site, a decision was made upon arrival in the field on the validity of surveying it, based on the presence of semi-natural grassland habitats and the area they covered: sites with semi-natural grassland covering less than the minimum size of 0.5 ha were rejected. Similarly, sites deemed to be comprised primarily of improved grassland or non-grassland habitat (e.g. heath, scrub) were rejected. Permission was sought from the owner or owners of a site before entering and whenever possible the management of the site was discussed with the landowner. Sites for which access was denied were rejected. In some cases landowners were contacted by telephone before leaving for a site by using the Land Direct on-line service provided by the Land Registry Office. For a small fee the name and address of the registered landowner for a particular site could be obtained. Eircom's on-line telephone directory was then utilised to get telephone numbers.

The minimum site size for this project was 0.5 ha; sites at which recent habitat loss had reduced the area of suitable habitat to less than 0.5 ha were rejected. An exception was made for sites found, on arrival at the site, to contain only a small area of a nationally rare Annex I grassland habitat (e.g., Calaminarian grassland). Areas of non-grassland habitat (such as woodland) >400 m^2 and linear habitats (such as rivers) >4 m wide were excluded from the site. Species-poor *Molinia*-dominated vegetation on deeper, often degraded peats (>0.5 m deep) were deemed to be peatland and excluded from the site. Areas of improved grassland (GA under Fossitt (2000)) that had recently been ploughed, re-seeded with *Lolium perenne* and *Trifolium repens,* and fertilised were also excluded.

However, some intermediate, semi-improved grassland types were retained within sites, especially if it was considered that areas were of potential conservation importance if negative practices such as overgrazing or fertiliser application were to be removed. When semi-improved GA grassland habitats were recorded, an 'i' was inserted into the Fossitt category of the habitat type deemed to have been present prior to improvement. Thus, for example, GSi4 denotes semi-improved wet grassland of potential conservation value.

The following details were recorded for each site surveyed (data sheets are shown in Appendix 3):

Internal habitats: All habitats that were observed within the boundaries of a site were noted. The internal grassland habitats recorded within each site were categorised as Annex I grassland habitats (Anon. 2007), non-Annex I semi-natural grassland habitats (Fossitt 2000) and semi-improved grassland. Non-grassland habitats, as defined by Fossitt (2000), which had been retained within the site (<400 m^2 in area or linear habitats <4 m wide) were also listed.

Following Dwyer *et al.* (2007), no differentiation was made between semi-natural dry grassland and scrubland facies on calcareous substrates (6210) and semi-natural dry grassland and scrubland facies on calcareous substrates – important orchid sites (6211). The main reason for Dwyer *et al*. (2007) not distinguishing orchid-rich sites is the ephemeral nature of orchids, with large orchid populations present one year and absent the next.

Summary information on the grassland habitats recorded at each site is in Appendix 4.

Site species list: For the semi-natural grassland habitats present at each site, a comprehensive list of vascular plant species and the major components of the bryophyte flora was recorded and input into a Microsoft® Access database and subsequently downloaded to a Turboveg database (Turboveg for Windows 2.83) for site data. The bryophyte list was supplemented, particularly in the case of smaller and less obvious taxa, by the intensive sampling conducted within each relevé; identification in the laboratory was conducted as required. Nomenclature throughout the survey followed Stace (1997) for vascular plants, Smith (2004) for mosses, Paton (1999) for liverworts and Dobson (2000) for lichens. The site species field sheet is given in Appendix 3.

Site geography and topographical situation: Where the site was associated with a particular geographical feature, for example, in a valley or on a drumlin, this was recorded. The topographical position (e.g., upper slope, mid-slope, lower slope) occupied by the grassland site was also noted. In many cases, the site extended over many topographical positions, and this variation was recorded by ticking more than one box on the field sheet.

Seasonal flooding: If seasonal flooding was observed or thought to occur on the site, this was noted.

Site management: Semi-natural grasslands are habitats that require some human management, in most cases grazing or mowing. Land managers were consulted, wherever possible, to ascertain current management practices. Variables recorded include frequency and timing of grazing/mowing, type of livestock, fertiliser application and burning.

Grazing level: Grazing is an inherent part of natural grassland dynamics; however, high and very low grazing levels may have negative impacts on a grassland ecosystem. Grazing level was recorded on a three-point scale, based on the JNCC Common Standards Monitoring Guidance for grassland habitats (JNCC 2004):

- Overgrazing: High density of dung. Frequent bare ground and/or evidence of runoff. Sward height below relevant threshold: GS1 = 3 cm; GS2 = 10 cm; GS3 = 5 cm; GS4 = 40 cm; GM1 = 40 cm.
- Appropriate grazing: No indicators of inappropriate grazing.
- Undergrazing: Overall sward height above relevant thresholds: GS1 and GS3 = 50 cm; GS2, GS4 and GM1 = 80 cm.

The nature of any encroachment was also noted as follows:

- Scrub: Species include: *Crataegus monogyna, Prunus spinosa, Rubus fruticosus* agg., *Ulex europaeus, Corylus avellana*, *Salix* spp.
- Heath: Species include: *Calluna vulgaris, Erica* spp., *Vaccinium* spp., *Ulex gallii*.
- Bracken: *Pteridium aquilinum.*

The extent of encroachment was not recorded but was often visible on the aerial photograph and mapped out if it exceeded the thresholds specified in Fossitt (2000) (i.e., >25% cover of heather recorded as heath, >50% cover of bracken recorded as dense bracken, >50% cover of shrubs, stunted trees or brambles recorded as scrub).

Adjacent habitats and site boundary: Adjacent habitats (e.g., woodlands and heath) and boundary habitats (e.g., hedges and walls) observed during the field survey were recorded for each site using categories defined by Fossitt (2000). Fence and dry ditch are two additional common boundary structures that were recorded. Also, the transition from semi-natural grassland to other habitat types was described as either abrupt or diffuse. As more than one boundary type sometimes occurred over a site, both could be recorded.

Fauna: In addition to domestic animals such as cattle, sheep and horses using grassland for pasture, there are also several relatively common wild animals that utilise semi-natural grassland habitats and may contribute to the overall grazing level. The presence of any of these species was recorded on the field sheets. Anthills were also recorded within the fauna section, as there is evidence that they can indicate the presence of areas of old semi-natural grassland (Breen & O'Brien 1995).

Damaging operations: Three damaging operations were listed on the field sheet: drainage, dumping and recent afforestation in the vicinity. The occurrence of dumping at a site can be associated with illegal activities, whereas drainage and afforestation represent changes in management practice which are typically detrimental to semi-natural grassland habitats. Damage caused by grazing is not recorded within damaging operations but in the grazing level section listed above. Burning is included under site management. Camp fires were recorded separately as a damaging operation under 'Other'.

Archaeological features: Where a site was associated with a particular archaeological feature (e.g., lazy beds, ringforts), this was recorded.

Habitat mapping: A handheld GPS minicomputer MobileMapper CE (Magellan, Carquefou) with ArcPad 7 (ESRI, Redlands, California) GIS software was used in the field to accurately map site boundaries, areas of Annex I grassland habitats (Anon. 2007), non-Annex I semi-natural grasslands (Fossitt 2000) and semi-improved grassland habitats. The minimum mapping unit for habitats was 400 m^2, with a minimum habitat width of 4 m. An accurate habitat map of each site was produced using these data within ArcGIS 9.3.

Site area: Site area (ha) was derived from the ArcGIS habitat maps as accurately as is possible in the absence of a Digital Terrain Model (DTM). In the absence of a DTM, areas of habitat on steep slopes are likely to be underestimated due to the fact that only a vertical projection has been used to calculate area.

The area of each of the surveyed sites is given in Appendix 2.

Site summary: In addition to the specific data gathered and recorded on the various field sheets, a general description of each site was also made. A specific format was adhered to when writing descriptions of the sites. Included within these descriptions were:

- A summary of the location and geography of the site
- A description of the habitats and vegetation types present at the site
- A summary of management at the site and any damaging activities
- Rare/protected or notable species recorded at the site
- Archaeological features recorded on site
- Any relevant information given by the landowner / locals.

General site survey results are in section 3.1.
For a summary of each site, see the Addendum to this report.
Project field sheets are reproduced in Appendix 3.
Summary information on the grassland habitats recorded at each site is in Appendix 4.

All the above site data, with the exception of the habitat maps, were input into the Access database and subsequently downloaded to the Turboveg site database. When there was ownership information available for a site, this was also added to the Access database. Digital photos were taken at all of the surveyed sites, and all of these images were submitted on CD with the ArcGIS project.

2.3 Relevé survey

A sample relevé sheet is shown in Appendix 3. A minimum of one 2 m x 2 m relevé was recorded from within each grassland habitat area mapped within each site. Multiple relevés were recorded where there was significant variation in the sward composition within a habitat type, for example, in transitional areas, or where Annex I grassland habitat assessments were conducted. For each relevé, a 10-figure grid reference was obtained using a GPS unit, and topography, altitude, slope and aspect were recorded.

Cover in vertical projection for each vascular and bryophyte species was recorded on the Domin scale (Kent & Coker 1992), as were other general parameters: bare soil, bare rock, leaf litter, surface water, total field layer and total bryophyte cover. The Domin scale is superior to the Braun-Blanquet scale as the greater number of recording subdivisions permits more variation in vegetation composition to be detected in subsequent analysis. It also provides for a more sensitive means of monitoring changes in sward composition over time.

For each relevé, additional data were also recorded to define the structure of the grassland within the 2 m x 2 m plot. These were:

- Overall cover of forbs, measured on the Domin scale
- Ratio of forb species to graminoid (grass / sedge / rush) species
- An estimate of the median graminoid height
- An estimate of the median forb height
- A digital photograph of the relevé.

Five soil sub-samples were taken from each relevé (one from the centre and one from each corner) with an aluminium corer to a depth of 10 cm, and combined for analysis. Soil pH of field-fresh material was recorded using a glass electrode and a 1:1 soil / water paste. Soil samples were air-dried and retained for subsequent laboratory analyses of total organic carbon and total phosphorus. A soil profile was examined to a minimum depth of 30 cm, and the soil type defined according to a simplified version of the Great Soil Groups of Gardiner & Radford (1980) with the aid of the soil identification key in Trudgill (1989). The simplified categories are as follows:

- Well-drained mineral: includes brown earths, grey/brown podzolics and brown podzolics
- Gleys: includes gleys and peaty gleys
- Podzols
- Basin peat

- Upland peat
- Other: includes rendzinas, regosols, lithosols, skeletal soils, alluvial soils, blanket peat and some coastal soils such as shallow peat over sand.

All of the above relevé data, with the exception of the digital photographs, were added to the Access database and subsequently downloaded to a second Turboveg database containing relevé data only. All digital images were submitted on CD with the ArcGIS project.

2.4 Assessment of Annex I grassland

The conservation status of all mapped areas of Annex I grassland habitat within Cavan, Leitrim, Longford and Monaghan was assessed. The methodology used was similar to that used by the NPWS for their survey of dune systems (Ryle *et al*. 2009) and grassland (Dwyer *et al.* 2007, Martin *et al*. 2007, 2008). *JNCC Common Standards Monitoring Guidelines* (JNCC 2004) were used as a guide to help evaluate the conservation status of the habitats in conjunction with *Assessment, Monitoring and Reporting Under Article 17 of the Habitats Directive* (Anon. 2006).

For each habitat assessment, three parameters were scored: area, structure and functions, and future prospects. For a habitat at a site to receive an overall assessment of *Favourable*, the habitat had to be assessed as *Favourable* within each of the three assessment parameters (Table 2.1). Any deviation from stability, as indicated by a negative change in area, structure and functions (determined by defined criteria assessed at monitoring stops; see Appendix 5) or future prospects (determined by defined criteria assessed at the Annex I habitat level; see Appendix 7), implies a negative impact, and the assessment is affected accordingly.

Table 2.1 Summary matrix of the parameters and conditions required to assess the conservation status of habitats (modified from Ryle *et al*. (2009)).

	Favourable	Unfavourable - Inadequate	Unfavourable - Bad
Area	Stable	>0% <1% decline/year	≥1% decline/year
Structure & Functions	Stable	1 – 25% monitoring stops decline/failure	>25% monitoring stops decline/failure
Future Prospects	Good (≥0)	Poor (-1 to -3)	Bad (≤-3)
Overall	All green	Combination of green and / or amber	One or more red

Results of Annex I grassland assessments are in section 3.2 as follows:
Area assessment: p. 38; Structure and functions: p. 39 and Appendix 6; Future prospects: p.41;
Overall assessment: p. 41 and Appendix 9

Area

Loss of extent was assessed by comparing the area of the Annex I grassland habitat mapped during the 2009 survey with the estimated extent of the habitat apparent in 2000 following interpretation of

the aerial photographs from 2000. This comparison was made using the GIS. While small changes in area were difficult to detect, this was regarded as the best approach for the baseline assessment in the absence of an established monitoring scheme.

Structure and functions

The information required for the structure and functions assessment was recorded at monitoring stops, as described in Ryle *et al.* (2009). Structure and functions were assessed at each monitoring stop using a number of criteria, namely positive indicator species, negative indicator species, forb:graminoid ratio, encroachment, sward height, litter cover, extent of bare ground, and grazing and disturbance levels. Threshold values for each of these criteria differ for each of the Annex I grassland habitats assessed and are given in Appendix 5.

Areas of Annex I grassland habitat measuring less than 400 m^2 (the minimum mapping unit for the project), were not assessed. In cases where the area was only slightly larger than 400 m^2, only one or two monitoring stops were made to avoid stops being positioned adjacent to each other. Where the habitat area was large enough, a minimum of four monitoring stops were made. Following the methodology of Ryle *et al.* (2009), because the categories of conservation status assessment are based on a cutoff point of 25% (≤ 25% = *Unfavourable – Inadequate*, > 25% = *Unfavourable – Bad;* Table 2.1), the monitoring stops were, as a general rule, carried out in multiples of four to allow simplified assessment of whether or not more than 25% of the monitoring stops had failed to meet the required structure and functions criteria. At each monitoring stop a full relevé was also recorded, with the exception of soil data, which was generally only recorded from the first stop in each Annex I grassland habitat. Each series of monitoring stops was positioned to encompass the variation that existed within the habitat, but did not include seriously disturbed areas or areas suffering from encroachment. For the Annex I habitat to receive a *Favourable* assessment for structure and functions, a pass was generally required for all criteria within all monitoring stops; however, high quality sites which narrowly failed on litter, bare ground or disturbance (less critical components of structure and functions that may also vary seasonally) were examined and, using expert judgement, a decision was made on whether a *Favourable* assessment for structure and functions was warranted.

Positive and negative indicator species and the threshold values for other factors varied by habitat type (Appendix 5). The assessment criteria of Dwyer *et al*. (2007) were adapted for habitats Festuco-Brometalia (6210/6211) and species-rich *Nardus* grasslands on siliceous substrates in mountain areas (6230). For *Molinia* meadows on calcareous, peaty or clayey-silt laden soils (6410), Hydrophilous tall herb fringe communities (6430) and Lowland hay meadows (6510), the assessment criteria proposed in the pilot study by Martin *et al.* (2007) were adapted. For this report, all the structure and functions criteria were reviewed using the data collected during the 2007 and 2008 surveys, the *Interpretation Manual of European Union Habitats* (Anon. 2007) and White & Doyle (1982). For Calaminarian grasslands of the Violetalia calaminariae (6130), a similar approach was taken, but due to the importance of metalliferous bryophyte species Holyoak (2008) was also consulted. The main change to the assessment criteria used during 2009 was to divide the positive

indicator species into High Quality (H.Q.) and non-H.Q. indicator species, with H.Q. indicators almost always species only found in high quality grassland habitats (QUB 2008). Three species were also added to the positive indicator species list for 6230 (see below).

- Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (6210/6211)

This Annex I grassland habitat is the most readily identifiable since it typically occurs on obvious geological features such as eskers and in association with limestone pavement. This habitat has been well documented (Dwyer *et al.* (2007), Ivimey-Cook & Proctor (1966), O'Donovan (1987), Keane & Sheehy Skeffington (1995), Tubridy (2006), Breen & O'Brien (1995), Bleasdale (1998), Byrne (1996)).

- Species-rich *Nardus* grasslands on siliceous substrates in mountain areas (6230)

For this habitat, the list of positive indicator species was based on those proposed by Dwyer *et al*. (2007). The data presented in Martin *et al.* (2008) also indicated that the moss species *Hylocomium splendens* and *Rhytidiadelphus loreus* should be included in the list of positive indicator species. Three additional species listed within the Nardetalia (White & Doyle 1982) were also included in 2009: the diagnostic species *Carex binervis, Festuca vivipara* and *Veronica officinalis*.

- *Molinia* meadows on calcareous, peaty or clayey-silt laden soils (6410)

For this habitat, the positive indicator species selected included the character species listed for the Molinietalia and the Junco conglomerati – Molinion (White & Doyle 1982), except for *Juncus effusus*, which was considered too common to be a reliable positive indicator species. *Crepis paludosa* and *Caltha palustris* from the Calthion palustris alliance (White & Doyle 1982) were also included as they are also listed for this habitat in Anon. (2007). Martin *et al*. (2007) listed the top 11 indicator species for this habitat type and, with the exception of *Plantago lanceolata*, which cannot always be regarded as a positive indicator for the condition of *Molinia* meadows, an additional seven species are provided by this list. These species are *Carex panicea, Potentilla erecta, Calliergonella cuspidata, Trifolium pratense, Carex flacca, Centaurea nigra* and *Rhinanthus minor.*

- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels (6430)

For this habitat, the native diagnostic species from the Glechometalia hederaceae and Convolvuletalia sepium, the character species from the Aegopodion podagraiae, and diagnostic and differential species from the Filipendulion, all listed in White & Doyle (1982), were included. As *Filipendula ulmaria* is often abundant in the Filipendulion, it was also included as a positive indicator species for this habitat. The uncommon Irish species *Crepis paludosa* and *Trollius europaeus* are listed for this habitat in Anon. (2007), and so they were also included as positive indicator species. After examining all data collected in this Annex I grassland habitat during 2007 and 2008 it was decided, based on the frequency of species within the examples of the habitat surveyed to date, to also include *Equisetum fluviatile, Galium palustre, Iris pseudacorus* and *Mentha aquatica* in the list of positive indicator species.

- Lowland hay meadows (6510)

For this habitat, the positive indicator species used in the assessment included the character and diagnostic species listed for the Arrhenatherion elatioris (White & Doyle 1982), except *Bellis perennis* and *Taraxacum* agg., as these can also be indicative of improved grassland (Fossitt 2000). *Arrhenatherum elatius* and *Dactylis glomerata* are other character species of the Arrhenatherion elatioris that were not included in the list of positive indicator species. This was due to the fact that a high cover score for both of these species would indicate a lack of management, such as mowing, and an increase in the rank nature of the grassland. JNCC (2004) lists both these species as negative indicators for lowland meadows when their cover is high. As the Arrhenatherion elatioris represents only plant communities found on well-drained soils, six species that are found within lowland meadows on more impeded soils were also included within the assessment: *Centaurea nigra, Filipendula ulmaria, Lotus corniculatus, Rhinanthus minor, Succisa pratensis* and *Thalictrum flavum*. These six species are listed as positive indicator species for NVC habitat MG4 (JNCC 2004), a UK habitat thought to correspond closely to lowland hay meadows (6510). *Sanguisorba officinalis* was also included from the NVC MG4 list, although it should be noted that it is a rare species in Ireland that has not been recorded in Cavan, Leitrim, Longford and Monaghan (Preston *et al*. 2002). Martin *et al.* (2007) list the top eight indicator species for this habitat type, providing an additional six species: *Plantago lanceolata, Trifolium pratense*, *Ranunculus acris, Festuca pratensis, Phleum pratense* and *Crepis capillaris.*

- Calaminarian grasslands of the Violetalia calaminariae (6130)

For this habitat, the positive indicator species used in the assessment included the two character species listed for the Violetea calaminariae, *Minuartia verna* and *Silene vulgaris* (White & Doyle 1982). *Armeria maritima* from the Sileno-Armerietum maritimae metallicolae association (White & Doyle 1982) and *Cochlearia pyrenaica* ssp*. alpina* were also included as they are listed for this habitat in Anon. (2007). As the four vascular plants listed only exhibit facultative heavy metal tolerance, the thirteen bryophyte species listed by Holyoak (2008) as obligate heavy metal tolerant were also included in the positive indicator species list.

Future prospects

Future prospects were assessed in the field following the methodology in Ryle *et al*. (2009), but a recent report on the pressures, threats and impacts on Annex I habitats (Ssymank, in press) led to a subsequent adjustment in the future prospects scores of the Annex I grassland habitats assessed in 2009. In particular, the availability of this report has prompted the amalgamation of some categories and the removal of others.

During the field season, 12 categories – ten negative and two positive – were utilised to calculate the overall future prospects for a site. These were: drainage, overgrazing, undergrazing, agricultural improvement, dumping, active quarries, scrub encroachment, bracken encroachment, heath encroachment and afforestation (negative threat categories); and notable species and NPWS

conservation site status (positive conservation categories). The importance of each category at a site was assessed and given a score ranging from 0 to -3 (corresponding to the EU criteria of A=high impact, B=medium impact, C=low impact), with threats being assigned a negative value, and a score of zero indicating that the category was not recorded on the site. The two categories for positive conservation, although recorded during the field survey, have subsequently been removed from the 2009 future prospects assessment to follow the approach of Ssymank (in press). The negative score of -1 was also removed from the analysis for the majority of the categories as, in the previous methodology (Martin *et al.* 2007), this score generally represented threats that were recorded on the site but not adjacent to the Annex I habitat. The ten categories representing threats to a site were scored during the field season. However, following Ssymank (in press) undergrazing, scrub encroachment, bracken encroachment and heath encroachment were all amalgamated into one category for the analysis. Ssymank (in press) was only available after the end of the 2009 field season, therefore the 2008 methodology was utilised when scoring future prospects on the field sheets but the adjusted assessments were used in the data analysis. The new codes for the threats and conservation categories (Deirdre Lynn pers. comm.) were applied to the 2009 Annex I grassland future prospects data. The scoring system utilised for each of the future prospects categories is listed in Appendix 7, with the results given in Appendix 8.

All results for the assessment of Annex I grassland habitats (under the parameters area, structure and functions, and future prospects) are given in section 3.2. All assessment data were input into the Access database.

2.5 Ranking of sites using conservation and threat evaluations

Conservation of habitats is often best achieved on a site-by-site basis, with specific management plans based on the individual characteristics of a given habitat at a particular site (e.g., management, history, rarity). However, it is also useful to be able to evaluate sites in the context of others, and to make general comparisons regarding status. A broad range of sites is surveyed in the Irish Semi-natural Grasslands Survey (ISGS), with varying degrees of naturalness. As part of the survey methodology, data are collected which allow the general condition of the site to be evaluated, with regard in particular to its conservation value and the presence of threats to the grassland. Factors which contribute to the conservation value of a site include size, habitat diversity and quality, species richness and the presence of plant species which are of conservation interest, and factors such as these have been used when evaluating sites for conservation in the UK (Usher, 1989). By assigning a conservation score to each site, the sites can be compared and sites which are of particularly high conservation value can be identified. This will allow management efforts to focus on the sites which are most valuable from a conservation point of view, and also provides a basis for monitoring individual sites into the future. Human activities such as agriculture, recreation and development can pose threats to semi-natural grassland habitats, as can the abandonment of traditionally managed land.

Table 2.2 Criteria used in the calculation of the conservation score for each site.

Criterion	Scoring		Max. score
Semi-natural grassland habitats	1 for each semi-natural grassland habitat 0.5 for each semi-improved grassland habitat where the corresponding semi-natural grassland habitat is not present		5
Annex I grassland habitats	Annex I grassland habitats are divided into primary and secondary areas on the basis of quality (see section 3.2)		12
	2 One secondary Annex I grassland habitat	4 One primary Annex I grassland habitat	
	4 Two or more secondary Annex I grassland habitats	8 Two or more primary Annex I grassland habitats	
Adjacent and internal semi-natural habitats	0.5 for each of the following habitat groups which were recorded during the survey:		2.5
	F (Freshwater)	GS (Semi-natural grassland)	
	H/P (Heath, bog and fen)	WN/WS/WL (Woodland and scrub)	
	ER/CS/CM/LR/LS (Exposed rock, salt marsh and coastal habitats)		
Area	Sites are divided into eight groups on the basis of the percentile distribution. The range is greater in the larger site groups, and this is reflected by the steep increase in the scores for larger sites.		12
	0 0-0.5ha	4 20-40ha	
	1 0.5-5ha	6 40-80ha	
	2 5-10ha	9 80-160ha	
	3 10-20ha	12 Over 160 ha	
Species density*	To remove the bias towards larger sites, the number of species present on each site was divided by the $\log_{10}$ (area +1). The resulting figures were then divided according to percentiles as shown.		4
	0 Fewer than 25 spp.	2 within 2nd quartile	
	1 within 1st quartile	3 within 3rd quartile	
		4 within 4th quartile	
Notable species	Notable species include those listed on the Flora Protection Order 1999 (FPO) and the Red Data Book (RDB) (Curtis & McGough 1988) of vascular plants.		8
	0 No notable species	2 One RDB species	
	4 One FPO species	4 Two RDB species	
	8 Two or more FPO species	6 Three or more RDB species	
High quality indicator species	High quality indicator species were identified as described in section 3.2. Sites were scored on the number of high quality (H.Q.) indicator species present.		4
	0 1-10 H.Q. species	2 16-20 H.Q. species	
	1 11-15 H.Q. species	3 21-25 H.Q. species	
		4 >25 H.Q. species	
Maximum total score			**47.5**

* Woody species were excluded from this calculation

Conservation status was scored on the basis of seven criteria (Table 2.2). As the methodology for calculating conservation scores changed in 2009 from that presented in Martin *et al.* (2008) to refine scoring of species density and site area, the scores were calculated for all 580 sites surveyed during ISGS 2007-2009. The final score for each site is given as a percentage of the total possible score of

47.5. The 2009 results are discussed in section 3.3, and the full list of site conservation scores (2007-2009) is given in Appendix 11, with the top-ranked sites for each county given in Appendix 13.

The assessment of threats to each site was based on the criteria detailed in Table 2.3. Damaging activities consisted mainly of drainage, dumping, quarries and recent afforestation in the vicinity of grassland sites. Agricultural improvement primarily included fertiliser application, liming, topping and supplementary feeding. The negative adjacent habitats of improved grassland and cultivated land follow the definitions of Fossitt (2000). The presence of certain negative species indicating habitat disturbance or sward improvement was used as a further measure of the extent to which sites were under threat. Fourteen species were used for this assessment: *Brassica napus, B. rapa, Capsella bursa-pastoris, Chenopodium album, Cirsium arvense, Lolium perenne, Matricaria discoidea, Plantago major, Poa annua, Polygonum aviculare, Rumex crispus, Senecio jacobaea, Stellaria media* and *Trifolium repen*s.

Conservation and threat scores were entered separately into the Access database and were *not* combined to produce one overall score. Combining scores can lead to misinterpretation when comparing sites, for example comparing a high quality site with many threats and a medium quality site with no threats. Therefore threats were scored separately from conservation value so that sites with a high conservation score which are threatened could be identified. The scores are written as percentages of the total possible score. This allows a simple comparison to be made between sites even if data were not available in all of the categories shown in Tables 2.2 and 2.3.

Table 2.3 Criteria used in the calculation of the threat score for each site.

Criteria	Scoring	Max. score
Encroachment	One point for each type of encroachment (scrub, bracken or heath) present on the site	3
Grazing	0 No inappropriate grazing occurring 1 Undergrazing or overgrazing occurring on the site 2 Undergrazing and overgrazing occurring on the site	2
Negative adjacent habitats	0 No negative adjacent habitats 1 Improved grassland (GA) or Cultivated land (BC) adjacent 2 Improved grassland (GA) and Cultivated land (BC) adjacent	2
Damaging activities*	0 No damaging activities 1 One damaging activity 2 Two damaging activities 3 Three or more damaging activities	3
Agricultural Improvement*	0 No improvements 1 One improvement type 2 Two improvement types 3 Three or more improvement types	3
Negative species**	1 1-3 species 2 4-6 species 3 7-9 species 4 10-12 species 5 13-14 species	5
Maximum total score		**18**

* See section 2.5 for description of criteria.
** See section 2.5 for list of species scored.

Conservation and threat score results are in section 3.3; full details in Appendices 11 and 12.

2.6 Vegetation data analysis

Data preparation

Analysis to produce a working classification of grassland and marsh for Ireland combined the relevé data collected in counties Roscommon and Offaly during the pilot survey (Martin *et al.* 2007; *n* = 305) with the relevé data recorded during 2008 in counties Cork and Waterford (Martin *et al.* 2008; *n* = 785) and with the relevé data recorded during 2009 in counties Cavan, Leitrim, Longford and Monaghan (*n* = 1053). Of these 2143 relevés recorded between 2007 and 2009, five were excluded due to lack of bryophyte species data. The remaining data samples were examined for univariate outliers that might signal vegetation samples not within the remit of the survey. Fourteen such relevés were identified and were excluded; these were deemed to represent swamp, wet heath or flush communities which had been misclassified in the field. Multivariate outlier analysis was used to examine the remaining relevés. The mean distance of each sample from each other sample was calculated using Quantitative Sørensen (Bray-Curtis) as the distance measure. Ten relevé samples with a mean distance greater than the threshold of three standard deviations above the grand mean were found. Five of these relevés were deemed to be unusual grassland swards within the remit of the survey and were included in the analysis. The remaining five relevés were fen/flush samples that were reclassified and excluded from the analysis.

Only plant records which had been identified to the species level were included in the analysis, as records at the genus level (e.g., *Carex* sp.) may be amalgams of species with markedly different ecological preferences and therefore meaningless. Five relevés were excluded in which genus level records of greater than 10% had been deleted. Records for *Agrostis vinealis* and *Agrostis canina* were combined. To reduce noise, species recorded in fewer than five relevés were also excluded. Domin scores were converted to percentage cover using the method of Currall (1987) prior to analysis, as mean values cannot be calculated directly from a non-linear scale. This preparation resulted in a dataset of 2114 relevés and 331 species for vegetation analysis. As soil data were not recorded from all four of the monitoring stops within any given area of Annex I grassland habitat, summary statistics for pH values and soil types were calculated on a subset of these relevés. The median values were used in the summary statistics for pH, percentage loss on ignition and total Phosphorus.

Analysis techniques

Two complementary statistical techniques were used to analyse the dataset. Analysis was conducted using PC-ORD 5 (MjM Software, Oregon) with the aim of defining an objective classification that largely followed the procedures in Perrin *et al.* (2006a, b, 2008a, b) and Martin *et al.* (2007, 2008). Perrin *et al.* (2006a, b) discuss the advantages of these techniques over the more commonly used methods of Detrended Correspondence Analysis and TWINSPAN.

1) Hierarchical, polythetic, agglomerative cluster analysis. This was the main method selected for grouping the data into vegetation types. From a data matrix of *n* samples x *p* species, an *n* x *n* distance matrix is calculated by measuring the dissimilarity (or similarity) between each pair of

samples. The most similar samples, which are selected using a predetermined criterion of minimum distance (linkage method), are merged into a group and their attributes are combined. The procedure is repeated *n*-1 times until the samples have been merged (clustered) into two groups, with the results being displayed as a dendrogram (McCune & Grace 2002). Quantitative Sørensen (Bray-Curtis) was selected as the distance measure, as it has been shown to be one of the most effective measures for ecological community analysis, being less prone to exaggerating the influence of outliers and retaining greater sensitivity with heterogeneous datasets (McCune & Grace 2002). Flexible beta was used as the linkage method with $\beta = -0.25$ (Lance & Williams 1967). This option is compatible with Sørensen distance and is space-conserving, i.e. properties in theoretical space defined by the original dissimilarity matrix are preserved as groups form during the cluster procedure. Space-distorting strategies can lead to undesirable effects such as high levels of chaining, the sequential addition of single items to existing groups (Legendre & Legendre 1998; McCune & Grace 2002).

2) Indicator Species Analysis (ISA). This method of Dufrene & Legendre (1997) was used to identify species that differentiated between clusters of samples. ISA produces percentage indicator values (IndVals) for species and works on the concept that, for a predetermined grouping of samples, an ideal indicator species will be found exclusively within one group and will be found in all the samples in that group at maximum abundance. IndVals are thus a simple combination of measures of relative abundance between groups and relative frequency within groups. At any given level of clustering, species are assigned to the group for which their IndVal is maximal. Dufrene & Legendre (1997) concluded that ISA was more sensitive at identifying indicator species than TWINSPAN.

Results of the cluster analysis are given in section 3.4. A full treatment of the resulting vegetation classification is given in Chapter 4. This includes: distribution throughout the eight counties surveyed so far; descriptions and photographs of each of the vegetation types identified; affinities to previously described classifications; and a short list of example sites.

3: RESULTS

3.1 General site survey

During the Irish Survey of Semi-natural Grasslands (ISGS) from April to September 2009, 7965.6 ha of grassland were surveyed: 1841.5 ha in Cavan, 3924.9 ha in Leitrim, 1305.8 ha in Longford and 893.4 ha in Monaghan. The location of each site is shown in Appendix 1, and data collected at each of the sites are summarised in Appendix 2. In total, 239 sites were surveyed: 66 (27.6%) in Cavan, 77 (32.2%) in Leitrim, 49 (20.5%) in Longford and 47 (19.6%) in Monaghan. While 11 fewer sites were surveyed in 2009 than the 250 originally planned, the number of relevés was higher: a total of 1053 relevés were recorded, 163 more than the 890 projected. The median site area in 2009 was 24.1 ha, ranging from 0.3 ha to 208.0 ha.

An additional 45 sites were visited but rejected from the survey. This is equal to 15.8% of the 284 sites which were visited. The reasons for rejecting sites fell into five broad categories: difficulty in obtaining permission to access a site, dominance of non-grassland habitats, strong evidence of agricultural improvement, development, and presence of potentially dangerous livestock. Some sites were rejected for more than one reason. Table 3.1 indicates the number of sites which were rejected within each of the different categories.

Table 3.1 The number of sites that were rejected and the reasons for rejection.

Reason for rejection	Number of sites
Agricultural improvement	30
Access difficulty	14
Non-grassland habitat	13
Presence of dangerous livestock	2
Development	1
Number of sites rejected	*45*

The most frequently cited reasons for rejecting sites were agricultural improvement and difficulty in obtaining access to the site. Agricultural improvement can include conversion to improved grassland for agricultural or amenity use, or conversion to arable land. Difficulty in obtaining access to the site was generally due to the refusal of permission by the owner, or difficulty in making contact with the owner. Refusal of access was a particular problem in parts of east Monaghan, where opposition to the construction of pylons by Eirgrid led to locals being unwilling to grant access to surveyors from any company onto their land. In one instance access was prevented due to flooding of the site. The next most frequently recorded reason for site rejection was dominance of non-grassland habitats. Non-grassland habitats encountered most frequently included scrub, plantation forestry and dense bracken. For reasons of personal safety, land was not entered if certain livestock (e.g. a bull) were present or if building work was in progress.

All but one site included in the survey were owned privately, either by a single or by multiple owners (Table 3.2). One site was partly in public ownership, being partly owned by NPWS.

Table 3.2 The number of sites included in the survey that were in public and private ownership.

Ownership	Number of sites
Private	237
Combination of public and private	1
Unknown	1
Total	*239*

Grassland habitats

A detailed habitat map has been produced for each site showing the Fossitt (2000) and Annex I grassland habitats, the position of all relevés and the location of any associated NPWS conservation sites (pNHAs, NHAs and SACs) (see Addendum). The area covered by the different grassland habitats included in the survey in 2009, defined according to Fossitt (2000), is shown in Fig. 3.1 and Table 3.3, and Appendix 4 gives the percentage of each grassland habitat in every site.

Figure 3.1 Area in hectares of grassland habitats surveyed in 2009, differentiated by county. All areas of GSi (semi-improved grassland) are listed as GA1.

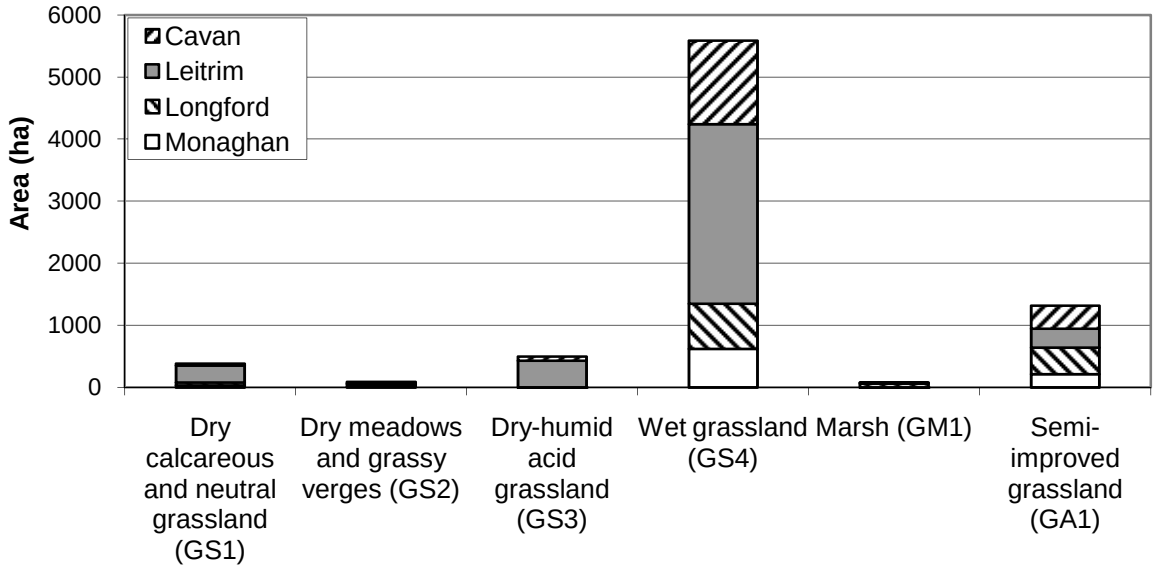
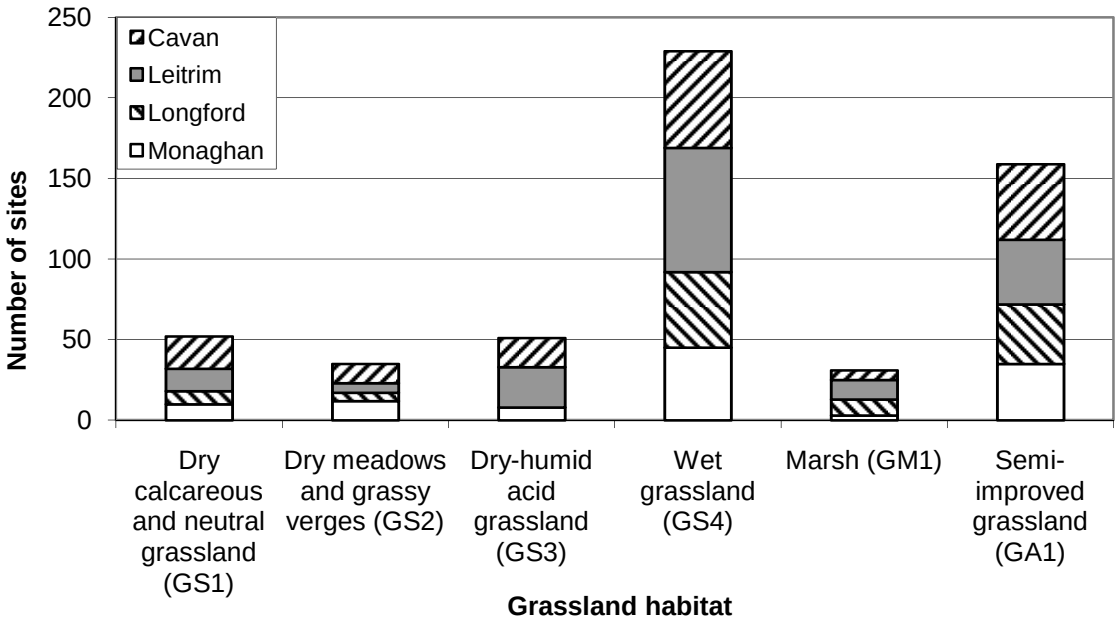


Table 3.3 Area in hectares of grassland habitats surveyed in 2009, differentiated by county. (The percentage of the total area of that habitat type surveyed is shown in brackets.) All areas of GSi (semi-improved grassland) are listed as GA1.

	GS1	GS2	GS3	GS4	GM1	GA1
Cavan	31.2 (0.4%)	18.2 (0.2%)	70.8 (0.9%)	1346.5 (16.9%)	2.9 (<0.1%)	370.5 (4.7%)
Leitrim	270.2 (3.4%)	17.7 (0.2%)	425.5 (5.3%)	2895.3 (36.3%)	13.3 (0.2%)	302.9 (3.8%)
Longford	47.6 (0.6%)	41.5 (0.5%)	0 (0%)	725.9 (9.1%)	57.3 (0.7%)	431.1 (5.4%)
Monaghan	34.8 (0.4%)	11.9 (0.1%)	4.9 (0.1%)	622.5 (7.8%)	5.3 (0.1%)	214.1 (2.7%)
Total	*383.8 (4.8%)*	*89.2 (1.1%)*	*501.2 (6.3%)*	*5590.2 (70.2%)*	*78.8 (1.0%)*	*1318.6 (16.6%)*

GS4 (wet grassland) was by far the most extensive of the semi-natural grassland habitats recorded in the survey, accounting for 70.2% of all grassland surveyed in 2009. This was followed in order of decreasing extent by GS3 (dry-humid acid grassland) at 6.3%, GS1 (dry calcareous and neutral grassland) at 4.8%, GS2 (dry meadows and grassy verges) at 1.1% and GM1 (marsh) at 1.0%. GS4 covered a similarly large proportion of the surveyed area within Leitrim (73.8% of the grassland surveyed in the county), Cavan (73.1%) and Monaghan (69.7%), with somewhat less cover within Longford (55.6%). GS3 was more predominant within Leitrim (10.8%) than within Cavan (3.8%) or Monaghan (0.5%), with no GS3 recorded in Longford. However, Longford recorded the highest proportion by area of GS2 (3.2% of grassland surveyed in the county) and GM1 (4.4%). GS1 had a greater cover within Leitrim (6.9%) than Monaghan (3.9%) and Longford (3.6%), and was very limited in extent in Cavan (1.7%). Areas of GA1 (improved agricultural grassland) which had a sufficient quantity of semi-natural grassland species to be of interest to the survey were included within the GSi (semi-improved grassland) category used throughout this survey. Of the area surveyed in each county, Longford (33.0%) and Monaghan (24.0%) had the greatest proportion of semi-improved GA1, with Cavan having 20.1% cover of semi-improved grassland and Leitrim only 7.7%.

Figure 3.2 Frequency of occurrence of different grassland habitats, differentiated by county. Fossitt (2000) habitats are shown and all occurrences of GSi (semi-improved grassland) are listed within the GA1 category.



In terms of frequency (i.e., occurrence of grassland habitats on sites, without regard to the area covered), GS4 occurred at 95.8% of sites, and was the most frequently occurring grassland habitat (Fig. 3.2). The next most frequently occurring semi-natural grassland habitat was GS1 (22.2% of sites) followed by GS3 (21.3% of sites). Although GS3 was slightly less frequent than GS1, it covered a greater area, indicating a larger average area of habitat per site. Semi-improved GA1 occurred at a greater proportion of sites in Longford (75.5%), Monaghan (74.5%) and Cavan (71.2%), compared to Leitrim (51.9%). Leitrim and Cavan had the highest frequency of GS3 (32.5% and 27.3%

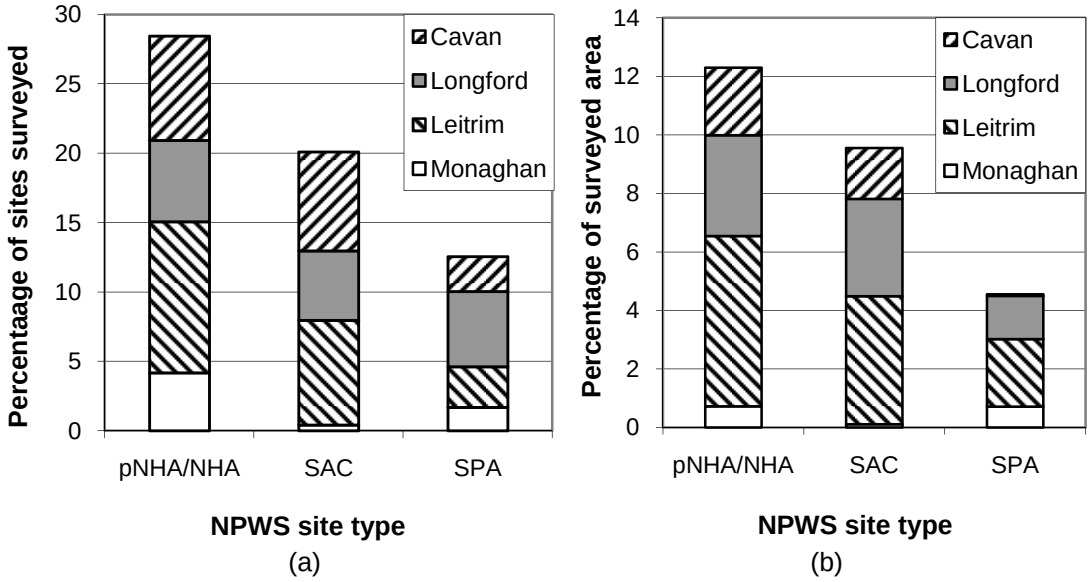
respectively), while Monaghan and Cavan had the highest frequency of GS2 (25.5% and 18.2% respectively). Cavan also had the highest frequency of GS1 (30.3%), despite its limited extent in the county. Longford had the highest frequency of GM1 (20.4%).

NPWS conservation sites

Any site containing an overlap with an NPWS conservation site of less than 0.3 ha was visually inspected in order to decide if the overlap was more than merely two boundaries fringing. In ten cases it was decided that there was no meaningful overlap and these sites were excluded from the following analysis. In 76 cases, sites surveyed in ISGS 2009 included land within an NHA, pNHA, SAC or SPA, with 48 sites coinciding with an SAC (Fig. 3.3a). Both NHAs/pNHAs and SACs were found within 42 sites, while SPAs coincided with NHAs/pNHAs on 28 sites and with SACs on 24 sites. NHAs/pNHAs, SACs and SPAs all occurred together on 24 sites.

Fig. 3.3(b) shows the percentage of the total area surveyed in Cavan, Leitrim, Longford and Monaghan coinciding with an NHA, pNHA, SAC or SPA. Over all four counties, 13.7% of the total area surveyed was within at least one type of NPWS conservation site, whether pNHA/NHA, SAC or SPA; 12.3% of the area surveyed was located within an NHA/pNHA, and 9.6% of the area was within an SAC, with just 4.6% within an SPA. Leitrim's NPWS conservation sites contributed the greatest area of surveyed grassland (6.7% of the total area surveyed), more than Longford and Cavan combined (3.4% and 2.6% respectively), while Monaghan's NPWS conservation sites contributed less than 1% to the total area surveyed. Of the four counties, Longford was found to have the highest proportion of surveyed grassland in NPWS conservation sites, with over one-fifth of the total surveyed area of Longford occurring within an NPWS conservation site.

Figure 3.3 Occurrence of NPWS conservation sites (pNHA/NHA, SAC and SPA) within the survey.
(a) percentage of sites surveyed which coincided with an NPWS conservation site
(b) percentage of area surveyed which coincided with an NPWS conservation site



The semi-natural grassland habitat with the largest area within NHAs/pNHAs was GS4 (563.8 ha), followed by GS3 (225.1 ha; Table 3.4). This is followed in decreasing order by GS1, semi-improved GA1, GM1 and GS2. The overall proportion of each grassland habitat surveyed that occurred within NHAs/pNHAs varied depending on the habitat. For example, only a small proportion (4.2%) of the semi-improved GA1 surveyed occurred within an NHA/pNHA, compared to over half (56.4%) of GM1 surveyed.

Table 3.4 Area in hectares of different grassland habitats surveyed within NHAs and pNHAs. (The percentage of the total area of that habitat type surveyed is shown in brackets.)

	Dry calcareous and neutral grassland GS1	**Dry meadows and grassy verges GS2**	**Dry-humid acid grassland GS3**	**Wet grassland GS4**	**Marsh GM1**	**Semi-improved grassland GA1**
Cavan	1.1 (0.3%)	1.5 (1.7%)	20.0 (4.0%)	120.4 (2.2%)	2.1 (2.6%)	37.9 (2.9%)
Leitrim	47.6 (12.2%)	0.8 (0.9%)	204.5 (40.8%)	208.3 (3.7%)	2.0 (2.5%)	1.2 (0.1%)
Longford	20.0 (5.2%)	12.2 (13.7%)	0 (0%)	183.0 (3.3%)	43.5 (51.6%)	13.1 (1.0%)
Monaghan	1.0 (0.3%)	0.5 (0.5%)	0.6 (0.1%)	52.1 (0.9%)	0 (0%)	3.2 (0.2%)
Total	*69.8 (17.4%)*	*15.0 (16.9%)*	*225.1 (44.9%)*	*563.8 (10.1%)*	*47.5 (56.4%)*	*55.5 (4.2%)*

The occurrence of the habitats within SACs followed a similar pattern: GS4 was again the habitat with the largest area in SACs (430.1 ha), followed by GS3 (193.4 ha; Table 3.5), and then, in decreasing order, GM1, semi-improved GA1, GS1 and GS2. The percentage of the surveyed GM1 that fell within SACs was 53.6% and that of GS3 was 38.6% (Table 3.7). Of the tall herb swamps (FS2) surveyed, 84.6% was located within NHA/pNHAs and 89.3% within SACs. There was a large overlap between the area covered by NHAs/pNHAs and SACs, with 88.0% of the surveyed area of SAC also coinciding with an NHA/pNHA.

Table 3.5 Area in hectares of different grassland habitats surveyed within SACs. (The percentage of the total area of that habitat type surveyed is shown in brackets.)

	Dry calcareous and neutral grassland GS1	**Dry meadows and grassy verges GS2**	**Dry-humid acid grassland GS3**	**Wet grassland GS4**	**Marsh GM1**	**Semi-improved grassland GA1**
Cavan	1.0 (0.3%)	1.5 (1.7%)	18.7 (3.7%)	93.9 (1.7%)	1.7 (2.2%)	20.8 (1.6%)
Leitrim	10.8 (2.8%)	0 (0%)	174.7 (34.9%)	153.8 (2.8%)	0 (0%)	9.1 (0.7%)
Longford	19.7 (5.1%)	12.2 (13.7%)	0 (0%)	174.7 (3.1%)	43.5 (51.6%)	13.1 (1.0%)
Monaghan	1.0 (0.3%)	0 (0%)	0 (0%)	7.6 (0.1%)	0 (0%)	0 (0%)
Total	*32.6 (8.4%)*	*13.8 (15.4%)*	*193.4 (38.6%)*	*430.1 (7.7%)*	*45.2 (53.6%)*	*43.0 (3.3%)*

GS4 covered the largest area surveyed in SPAs (164.5 ha, just 2.9% of all GS4 surveyed), followed closely by GS3 (158.5 ha, or 31.6% of all GS3 surveyed; Table 3.6). GS1, GS2, GM1 and semi-improved GA1 accounted for a relatively small proportion of the area of SPAs surveyed.

Table 3.6 Area in hectares of different grassland habitats surveyed within SPAs. (The percentage of the total area of that habitat type surveyed is shown in brackets.)

	Dry calcareous and neutral grassland GS1	Dry meadows and grassy verges GS2	Dry-humid acidic grassland GS3	Wet grassland GS4	Marsh GM1	Semi-improved grassland GA1
Cavan	0.3 (<0.1%)	0.2 (0.2%)	0 (0%)	2.4 (<0.1%)	0.2 (0.3%)	1.1 (<0.1%)
Leitrim	9.8 (2.5%)	0 (0%)	158.5 (31.6%)	15.7 (0.3%)	0 (0%)	0 (0%)
Longford	2.8 (0.7%)	12.2 (13.6%)	0 (0%)	90.0 (1.6%)	11.4 (13.6%)	1.3 (0.1%)
Monaghan	0 (0%)	0 (0%)	0 (0%)	56.5 (1.0%)	0 (0%)	0 (0%)
Total	*12.9 (3.3%)*	*12.4 (13.9%)*	*158.5 (31.6%)*	*164.5 (2.9%)*	*11.7 (13.9%)*	*2.4 (0.2%)*

Table 3.7 Percentage of surveyed area of the different grassland habitats that falls within NHA/pNHAs, SACs and SPAs.

	Dry calcareous and neutral grassland GS1	Dry meadows and grassy verges GS2	Dry-humid acid grassland GS3	Wet grassland GS4	Marsh GM1	Semi-improved grassland GA1
NHA/pNHA	17.9	16.9	44.9	10.1	56.4	4.2
SAC	8.4	15.4	38.6	7.7	53.6	3.3
SPA	3.3	13.9	31.6	2.9	13.9	0.2

Annex I grassland habitats

The area of land covered by Annex I grassland habitats in Cavan, Leitrim, Longford and Monaghan is shown in Table 3.8. In total, 110.9 ha of Annex I grassland habitat were recorded during the survey, which is equal to 1.4% of the total area surveyed. The greatest amount of this occurred in Leitrim, where 60.4 ha were mapped as Annex I grassland habitat, representing only 1.5% of the total area of grassland surveyed in Leitrim. In Cavan, 36.4 ha of the total area surveyed were mapped as an Annex I grassland habitat, while only 7.3 ha and 6.8 ha of Annex I grassland habitat were mapped in Longford and Monaghan respectively.

Table 3.8 Area in hectares of Annex I grassland habitats recorded in Cavan, Leitrim, Longford and Monaghan.

County	Calaminarian grassland (6130)	Festuco-Brometalia (6210)	*Nardus* grassland (6230)	*Molinia* meadows (6410)	Hydrophilous tall herb communities (6430)	Lowland hay meadows (6510)	*Total*
Cavan	0.0	5.0	8.0	17.2	0.1	6.1	*36.4*
Leitrim	0.0	6.7	9.2	33.2	0.0	11.2	*60.4*
Longford	0.0	0.0	0.0	5.6	0.0	1.7	*7.3*
Monaghan	0.0	<0.1	0.4	6.3	0.0	0.0	*6.8*
Total	*0.0*	*11.9*	*17.6*	*62.4*	*0.1*	*18.9*	*110.9*

The Annex I grassland habitat with the greatest cover in all four counties was *Molinia* meadows (6410), with 62.4 ha in total. This is followed by Lowland hay meadows (6510), which had a total cover of 18.9 ha across Cavan, Leitrim and Longford, and *Nardus* grassland (6230), with a total cover of 17.6 ha across Cavan, Leitrim and Monaghan. Other Annex I grassland habitats found include

Festuco-Brometalia (6210) in Cavan, Leitrim and Monaghan, and a Hydrophilous tall herb community (6430) in Cavan.

A total of 51 areas of Annex I grassland habitat were recorded in 2009. However, two of these were below the minimum mapping area for the project and were therefore not assessed; they will not be considered further in this report. The remaining 49 assessed areas of Annex I grassland habitat occurred at 45 surveyed sites, or 18.8% of sites (Table 3.9). Of these, 21 sites were in Leitrim (27.3% of sites in Leitrim), 16 were in Cavan (24.2% of sites in Cavan), five were in Monaghan (10.6% of Monaghan sites) and three were in Longford (6.1% of Longford sites). The Annex I grassland habitat *Molinia* meadows (6410) was the most frequently recorded habitat (19 areas), as well as covering the largest area. The next most frequently recorded Annex I grassland habitats were *Nardus* grassland (6230), which occurred in 12 sites, and Festuco-Brometalia (6210), recorded from ten sites. Although Lowland hay meadows (6510) covered the second largest area of Annex I grassland habitat surveyed, it was recorded less frequently than 6210 and 6230, being recorded from only seven sites. The Annex I habitat with the largest average area per site where it occurred was 6410, with an average area of 3.3 ha, followed by 6510, with an average of 2.7 ha. Smaller average sizes were recorded for 6230 *(*1.5 ha) and 6210 (1.2 ha). At three sites in Cavan and at one site in Leitrim, two separate Annex I grassland habitats were recorded.

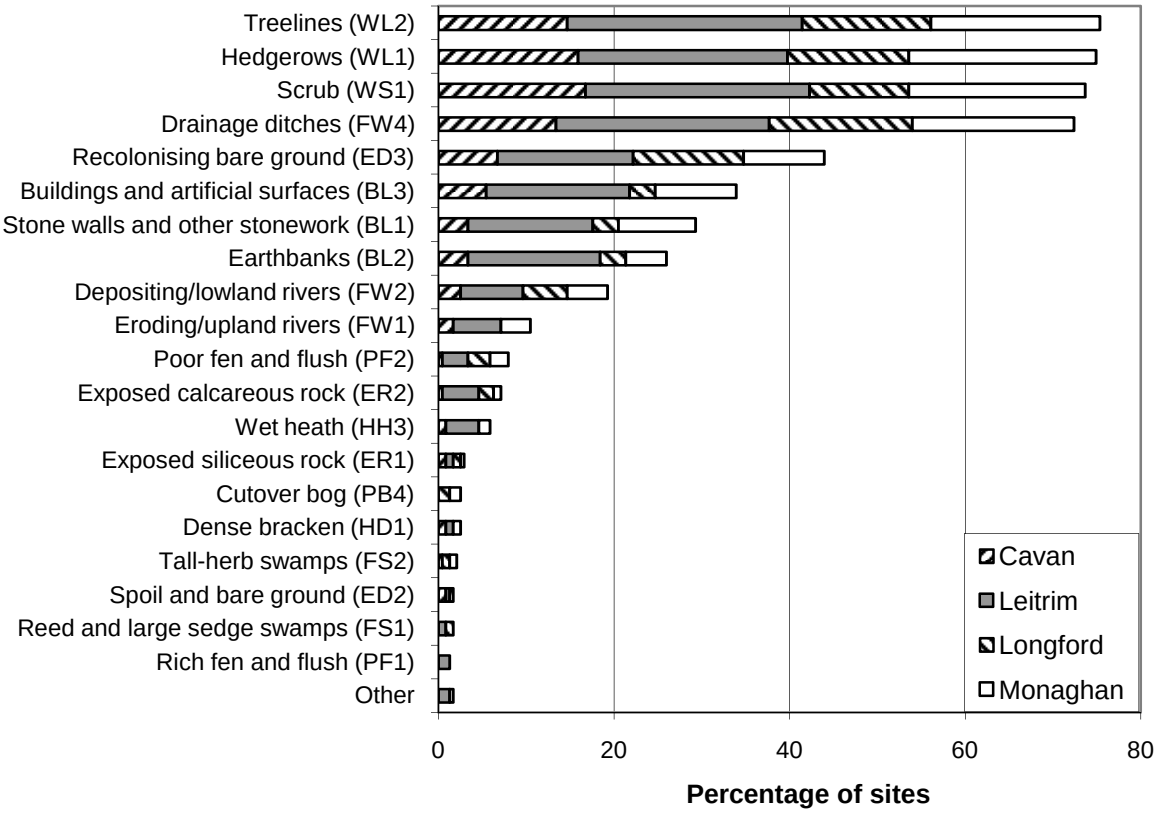
Table 3.9 Number of areas of Annex I grassland habitats recorded in Cavan, Leitrim, Longford and Monaghan. Annex I grassland habitat was recorded within 16 Cavan sites and 21 Leitrim sites, with four of these sites containing two separate Annex I grassland habitats.

	Calaminarian grassland (6130)	**Festuco-Brometalia (6210)**	***Nardus* grassland (6230)**	***Molinia* meadows (6410)**	**Hydrophilous tall herb communities (6430)**	**Lowland hay meadows (6510)**	***Total no. of Annex I Habitats***
Cavan	0	4	5	6	1	3	*19*
Leitrim	0	5	5	9	0	3	*22*
Longford	0	0	0	2	0	1	*3*
Monaghan	0	1	2	2	0	0	*5*
Total	*0*	*10*	*12*	*19*	*1*	*7*	*49*

Internal habitats

Non-grassland internal habitats recorded during the 2009 survey of Cavan, Leitrim, Longford and Monaghan are shown in Fig. 3.4. Treelines and hedgerows were the most frequently occurring non-grassland internal habitat at sites across all four counties, each present at 75% of sites and either one or both present at 88.3% of sites. The next most frequent internal habitat was scrub, which was present at 73.6% of sites, followed by drainage ditches (72.4% of sites), recolonising bare ground (43.9% of sites), and buildings and artificial surfaces (33.9% of sites). The “Other” category includes habitats which occurred at less than 1% of sites in the survey, including exposed sand, gravel or till, calcareous scree and loose rock, and scattered trees and parkland.

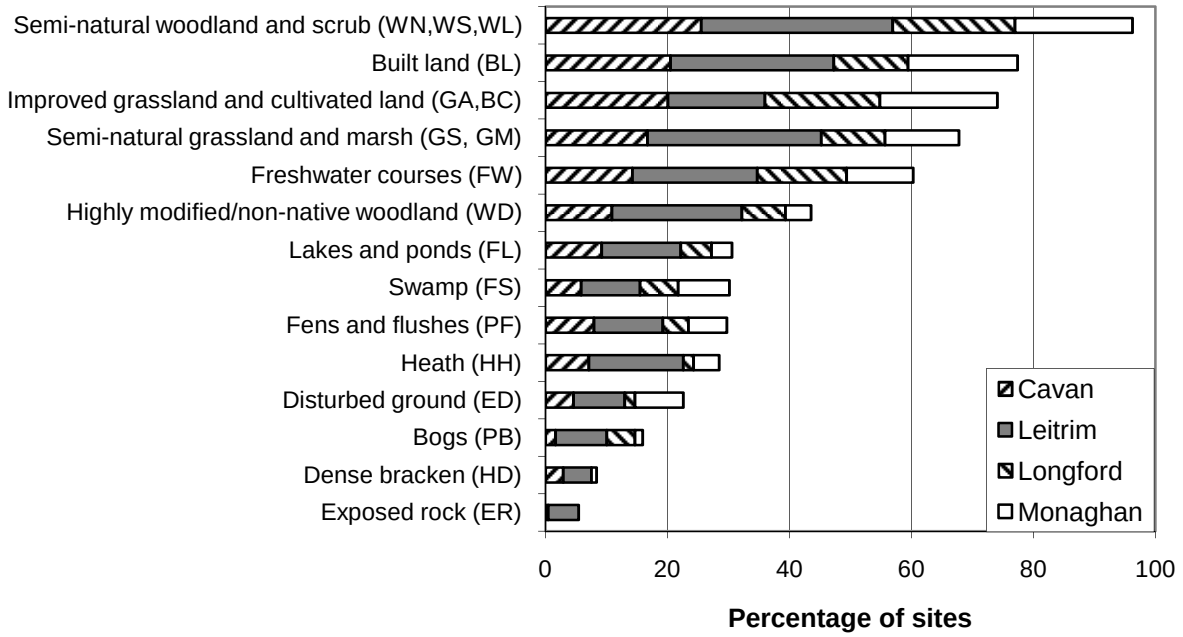
Figure 3.4 Frequency of non-grassland Fossitt (2000) habitats within all surveyed sites, differentiated by county.



Adjacent habitats

Frequency of habitats which occurred adjacent to sites is shown in Fig. 3.5. Semi-natural woodland and scrub together formed the main land use adjacent to sites in the survey, and were recorded from 96.2% of sites. This category includes linear features and scrub, but excludes highly modified woodland. The bulk of this figure can be attributed to treelines and hedgerows (adjacent to 77.0% of sites), followed by scrub (adjacent to 74.1% of sites). Improved grassland and cultivated land were recorded from 74.1% of sites, while semi-natural grassland and marsh occurred next to 67.8% of sites. Other habitats frequently recorded adjacent to sites included freshwater courses (adjacent to 39.2% of sites), highly modified and non-native woodland (adjacent to 43.5% of sites) and lakes and ponds (adjacent to 30.5% of sites). Multiple adjacent habitats were frequently recorded at sites. Built land, including roads, occurred next to 77.4% of sites.

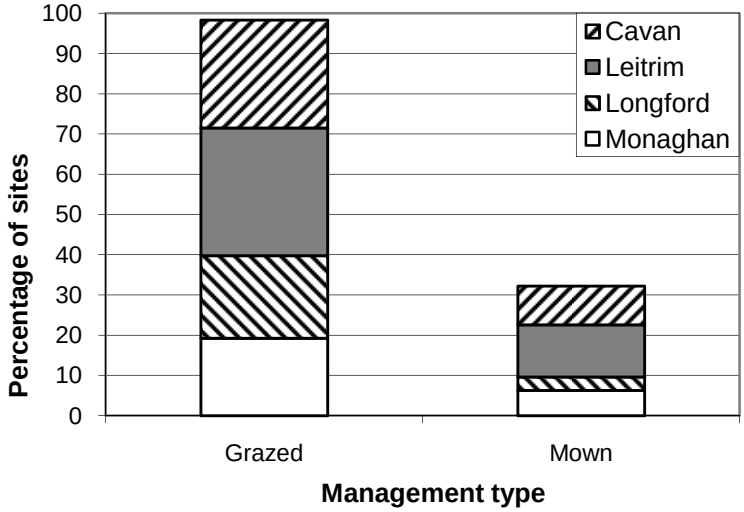
Figure 3.5 Frequency of habitats occurring adjacent to surveyed sites, differentiated by county.



Management

The majority of sites in Cavan, Leitrim, Longford and Monaghan were grazed (98.3% of sites), and not cut (68.2% of sites; Fig. 3.6). There was a slightly higher proportion of mown sites in Leitrim (13.0%) and Cavan (9.6%) than in Longford (3.3%) or Monaghan (6.3%). Sites at which little evidence of grazing or mowing was observed were often scrubbing over to some extent; however, only 0.4% of the sites had no evidence of mowing or grazing recorded.

Figure 3.6 Frequency of different management regimes at sites, differentiated by county.



More than one grazing type was frequently encountered on a site. Cattle were the most frequently occurring grazing animal recorded in Cavan, Leitrim, Longford and Monaghan, and were recorded on 91.6% of sites (Fig. 3.7). Horses and sheep were encountered at 36.0% and 33.9% of sites

respectively. Other domestic grazers included donkeys and goats. Wild and feral grazers were also recorded, and these included deer, goats, rabbits and hares. Most common of these were hares, recorded at 20.1% of sites.

Figure 3.7 Frequency of grazing animals at sites, differentiated by county.

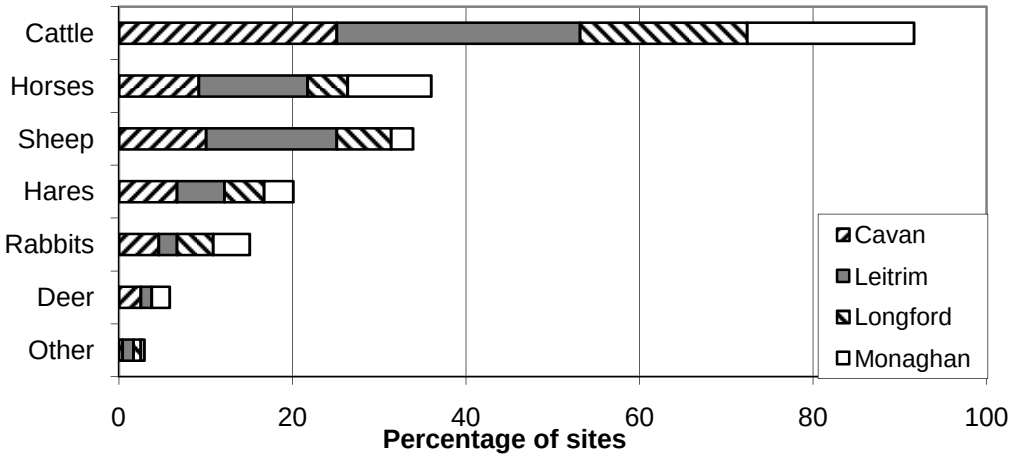
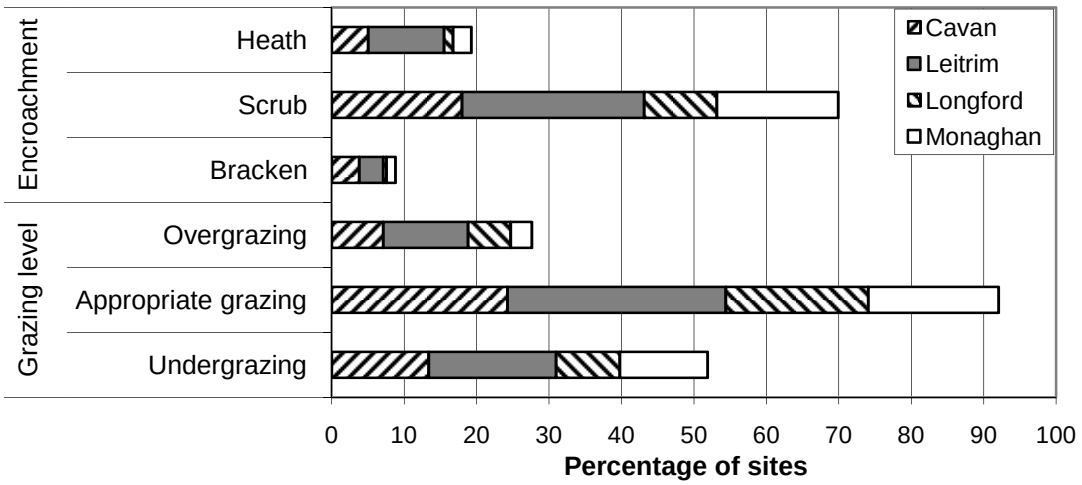


Fig. 3.8 shows the relative frequencies of different types of encroachment and levels of grazing. More than one type of encroachment occurred at many sites, with 75.7% of all sites surveyed in 2009 experiencing encroachment. The counties with the highest proportion of sites with some form of encroachment occurring were Monaghan and Leitrim (87.2% and 87.0% of surveyed sites in each county respectively), compared to 74.2% of sites in Cavan and just 49.0% of sites in Longford. Encroachment was most frequently attributed to scrub, as opposed to heath or bracken, with 69.9% of sites surveyed in 2009 suffering scrub encroachment, with Monaghan the worst affected (85.1% of Monaghan sites); in fact, of the 41 Monaghan sites in which encroachment was recorded, scrub encroachment was recorded in all but one. Heath was encroaching at 19.2% of sites surveyed, particularly in Leitrim (32.5% of Leitrim sites). Longford showed the least amount of heath encroachment, as it was recorded at only 6.1% of Longford sites. Bracken encroachment was the least most frequently recorded type, occurring at less than 9% of sites in the four counties.

Figure 3.8 Frequency of different grazing levels and encroachment at sites, differentiated by county.



More than one grazing level was recorded at most sites, as not all parts of a site were always submitted to the same level or type of management. Most sites (92.1% of sites) had at least some areas that were appropriately grazed; however, many of these sites also had areas that were either under- or overgrazed, so there is some overlap in the following figures. In general, undergrazing was more of a problem than overgrazing in the four counties surveyed in 2009, being recorded at 51.9% of sites, compared to overgrazing recorded at just 27.6% of sites. Higher levels of undergrazing were recorded in Monaghan (61.7% of sites in Monaghan), compared to the other counties, with Longford the lowest (42.9% of sites undergrazed). Monaghan also had the lowest level of overgrazing (14.9% of sites in the county), compared to 36.4% of sites in Leitrim. This supports the findings for encroachment detailed above, as undergrazing is responsible for the majority of encroachment of woody species on sites.

The most frequently recorded damaging activity in 2009 was drainage (75.7% of sites), followed by adjacent afforestation (42.3% of sites) and dumping (9.2% of sites; Fig. 3.9). Housing development (3.8% of sites) and recreational activities (0.8% of sites) were also recorded. Other damaging activities included quarrying, topsoil removal, piling of soil from river dredging, hedge removal and scrub clearance.

Figure 3.9 Frequency of occurrence of different types of damaging activity at sites, differentiated by county.

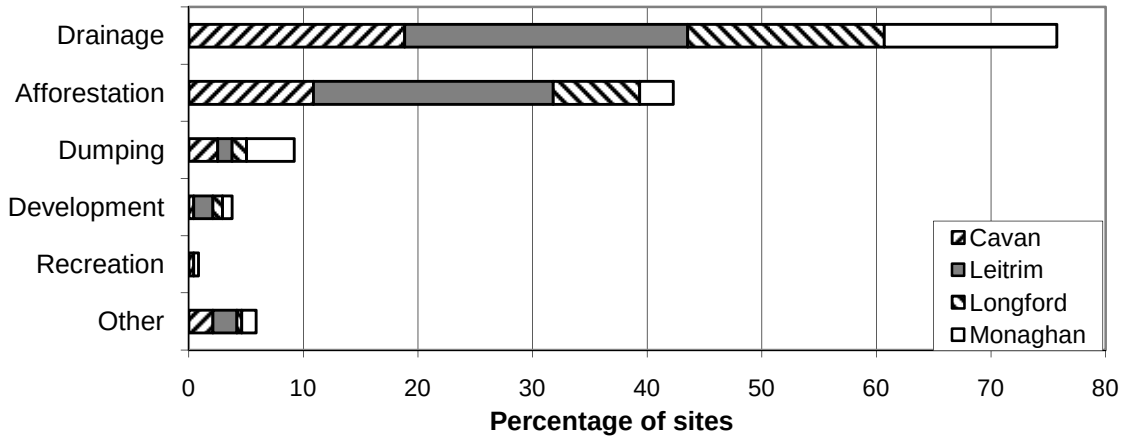


Fig. 3.10 indicates the frequency of agricultural activities in Cavan, Leitrim, Longford and Monaghan. The most frequent method of improvement observed during 2009 was the application of fertiliser (41.0% of sites), which was relatively more frequent in Monaghan (over 55% of Monaghan sites), compared to the other counties, with Longford recorded as having the lowest relative frequency of fertiliser application (28.6% of Longford sites). Supplementary feeding (recorded in 31.0% of all sites) and topping (28.0% of all sites) were the next most frequent agricultural activities recorded. Both of these activities were highest in Leitrim (37.7% and 44.2% of Leitrim sites respectively) and lowest in Monaghan (19.1% and 14.9% of Monaghan sites respectively). Other activities such as burning, liming and herbicide application were recorded in much fewer semi-natural grassland sites, the only one of any significance being burning in Monaghan (12.8% of Monaghan sites).

Figure 3.10 Frequency of agricultural activities recorded, differentiated by county.

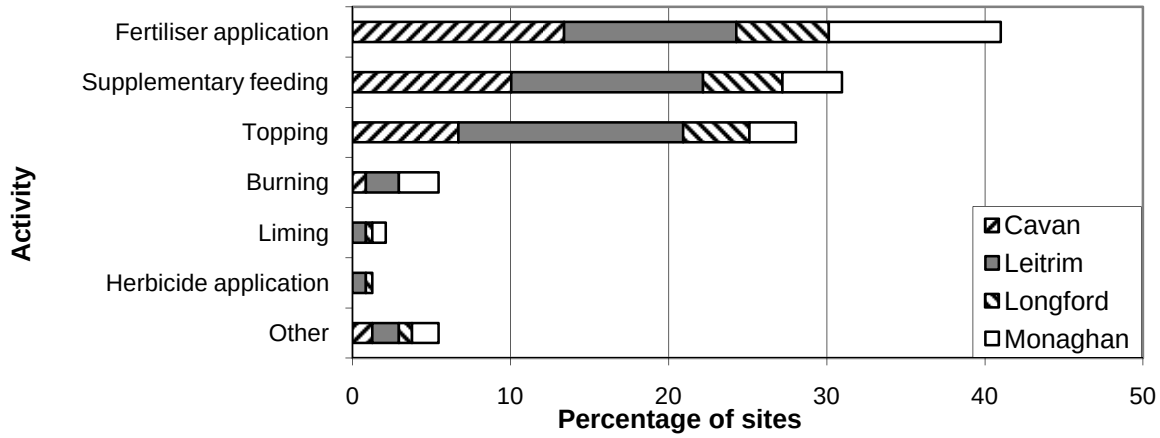
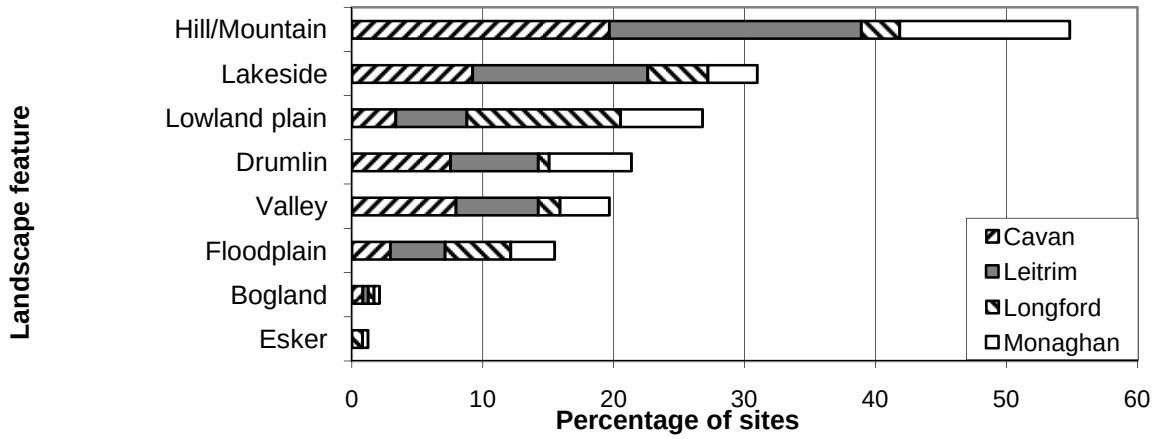


Figure 3.11 Frequency of different geographical features associated with sites, differentiated by county.



Landscape features

Fig. 3.11 indicates the landscape features associated with sites included in the survey. The landscape feature most frequently recorded in association with sites was Hill/Mountain, occurring in almost 55% of sites. Cavan was the county with the highest proportion of sites on hills or mountains (71.2% of sites in the county). Longford had the lowest incidence of sites on hills, recorded at only 14.3% of sites in the county. Lakesides were the next most frequent landscape feature, recorded at 31% of all sites surveyed, highest in Leitrim (41.6% of sites in the county) and lowest in Monaghan (19.1% of Monaghan sites). Lowland plain was the most frequent landscape feature in Longford, recorded in association with well over half (57.1%) of sites in the county, whereas Cavan recorded the lowest incidence (12.1% of Cavan sites). Drumlins occurred in conjunction with over one-fifth of sites, occurring most frequently in Monaghan (31.9% of Monaghan sites), but virtually absent from Longford (just two sites, or 4% of Longford sites surveyed). Sites occurred less frequently in valleys than on hillsides (only one-fifth, compared to over half of sites on hillsides), with the majority of sites associated with hills not extending to the valley floor. The only other feature of significance was floodplains, mostly associated with the River Shannon. This feature was present in 15.5% of sites, highest in Longford (almost one-quarter of Longford sites) and lowest in Cavan (10.6% of Cavan

sites). Eskers were only recorded on three sites: two in Longford and one in Monaghan. None supported Annex I quality habitats and all had been semi-improved to some extent.

Species richness

The mean number of species recorded from each site in Cavan was 81.3, for Leitrim the mean number was 107.9, for Longford the mean number was 92.5 and the mean number for Monaghan was 78.4 species. A one-way analysis of variance between groups was conducted to investigate whether there was a difference in the number of species per site in Cavan, Leitrim, Longford and Monaghan. Monaghan was found to have significantly fewer species per site than both Leitrim ($F = 16.38$, $p < 0.001$) and Longford ($F = 16.38$, $p < 0.05$), while Leitrim was also found to have significantly more species per site than Cavan ($F = 16.38$, $p < 0.001$).

Table 3.10 Frequency of the 50 most common species recorded in Cavan, Leitrim, Longford and Monaghan grasslands in 2009. Species considered as indicators of high quality habitat are marked with an asterisk.

Name	No. sites	Name	No. sites
Trifolium repens	239	*Lolium perenne*	194
Agrostis stolonifera	238	*Brachythecium rutabulum*	193
Holcus lanatus	238	*Lathyrus pratensis**	192
Ranunculus repens	236	*Potentilla erecta**	191
Rumex acetosa	236	*Pseudoscleropodium purum*	187
Juncus effusus	232	*Agrostis capillaris*	186
Anthoxanthum odoratum	230	*Bellis perennis*	181
Calliergonella cuspidata	230	*Potentilla anserina*	177
Cirsium palustre	229	*Carex panicea**	174
Ranunculus acris	229	*Stellaria graminea*	172
Cerastium fontanum	227	*Succisa pratensis**	172
Rhytidiadelphus squarrosus	227	*Glyceria fluitans*	172
*Cardamine pratensis**	222	*Carex nigra**	168
Plantago lanceolata	218	*Poa trivialis*	168
Cynosurus cristatus	217	*Alopecurus pratensis*	168
Juncus acutiflorus	214	*Centaurea nigra**	164
Festuca rubra	214	*Stellaria uliginosa*	164
*Prunella vulgaris**	210	*Angelica sylvestris**	160
Trifolium pratense	210	*Urtica dioica*	160
*Galium palustre**	208	*Deschampsia cespitosa*	160
*Ranunculus flammula**	208	*Rumex obtusifolius*	158
Taraxacum agg.	208	*Agrostis canina*	154
*Filipendula ulmaria**	204	*Cirsium arvense*	150
Senecio aquaticus	196	*Dactylis glomerata*	150
*Hypochaeris radicata**	195	*Cardamine flexuosa*	147

Species frequency

The frequencies of the 50 most common species recorded in 2009 grassland surveys in Cavan, Leitrim, Longford and Monaghan are shown in Table 3.10. Woody species have been excluded from the list as being non-grassland species. The species listed represent a broad range of ecological conditions, including wet (e.g., *Galium palustre, Juncus effusus*), dry (e.g., *Hypochaeris radicata, Centaurea nigra*), acidic (e.g., *Potentilla erecta, Succisa pratensis*) and neutral (e.g., *Bellis perennis, Prunella vulgaris*). Species confined to highly calcareous substrates are absent from this list, an indication of the relative scarcity of calcareous grassland in the area studied. The majority of the most

frequently recorded plants are broad-spectrum species such as *Holcus lanatus, Agrostis stolonifera* and *Cerastium fontanum*, which are found in both wet and dry grassland and have a wide pH range. However, the prevalence of wet grassland in the 2009 survey is borne out by the high number of species on this list that are characteristic of wetter habitats. Significantly, a number of the species on this list are also characteristic of semi-improved grassland, including *Trifolium repens, Lolium perenne* and *Cirsium arvense*, an indication of the extent to which agricultural improvements are influencing the species composition of many Irish grasslands. Species deemed to be indicators of high quality grassland have been marked with an asterisk. It is notable that only 13 out of the 50 most frequent species fall into this group, an indication of the rarity of high quality grassland in the region.

On the other end of the frequency scale, a large number of species occurred in only a small number of sites. Table 3.11 shows an abbreviated list of these. This list excludes bryophytes and non-grassland species; it also excludes species that were recorded from more than three sites in 2009. The list is confined to those species whose recording in 2009 represents a new 10 km square record, or a re-finding of an old record. Other taxa, such as rarer species of *Euphrasia (*e.g*., E. rostkoviana* and *E. saliburgensis)* that are nationally rare but whose core distribution is in the vicinity of several of the sites surveyed in 2009, particularly a number of sites in the Leitrim uplands, occurred in more than three sites and are not shown here; however, several of these records are also new or re-found for the 10 km square. In one instance, the site extended over more than one 10 km square and, as the species was not recorded in a relevé, it was not possible to determine with certainty in which 10 km square the record was made; this uncertainty is indicated in the table.

Table 3.11 Species recorded from three grassland sites or fewer in Cavan, Leitrim, Longford and Monaghan whose recording in ISGS 2009 is a new or re-found 10 km square record.

(a) New 10 km square record

Name	10 km square	Name	10 km square
Potentilla anglica x *P. erecta*	H63	*Geranium columbinum*	H51, N89
Euphrasia tetraquetra	G78	*Euphrasia confusa*	G85, G74
Equisetum pratense	G74/G75?*	*Agrostis vinealis*	G74, G84
Filago vulgaris	G83	*Phleum bertolonii*	G90, N48
Centaurea scabiosa	N15	*Agrimonia procera*	M96, M95
Myosotis ramosissima	N15	*Anacamptis pyramidalis*	N26, H02
Saxifraga tridactylites	N15	*Coeloglossum viride*	G90
Eleocharis multicaulis	M95	*Sherardia arvensis*	N15
Rorippa amphibia x R. sylvestris	N07	*Gentianella amarella*	G73
Ranunculus aquatilis	N08	*Carex pallescens*	N39, N48
Epipactis palustris	N26	*Lathyrus palustris*	N07
Cardamine amara	H93	*Silene acaulis*	G85
Sisyrinchium bermudiana	H12	*Leontodon hispidus*	N06
Poa humilis	H30	*Aira caryophyllea*	N15, H02
Blackstonia perfoliata	N48	*Oenanthe fistulosa*	H30

* exact 10 km square uncertain as site extends over two 10 km squares

(b) Re-finding of old 10 km square record

Name	10 km square	Name	10 km square
Vicia sylvatica	G74	*Silene uniflora*	G85
Bromus racemosus	G90	*Sedum acre*	G90, N15
Thalictrum flavum	N05	*Aira caryophyllea*	G90

Table 3.12 Sites surveyed in 2009 containing areas assessed as Annex I grassland habitat.

Site no.	Annex I habitat	County	SAC*	Other information
717	6410	Monaghan	-	-
718	6410	Monaghan	-	-
723	6230	Monaghan	-	-
729	6210	Monaghan	-	-
762	6230	Monaghan	-	-
802	6410	Leitrim	000428	-
804	6410	Leitrim	000428	Some Annex I habitat outside SAC
806	6410	Leitrim	-	Non-Annex I parts of site in SAC 000428
811	6230	Leitrim	000623	-
815	6210	Leitrim	-	Most Annex I habitat in pNHA 001421
822	6230	Leitrim	-	-
825	6210	Leitrim	-	-
826	6210	Leitrim	-	-
836	6230	Leitrim	-	Annex I habitat adjoins SAC 002032
837	6410	Leitrim	-	Non-Annex I parts of site in pNHA 000426
849	6510	Leitrim	-	Small area of Annex I habitat in pNHA 001420
850	6510	Leitrim	-	-
850	6210	Leitrim	-	-
872	6510	Leitrim	-	-
874	6410	Leitrim	-	Most Annex I habitat in pNHA 001643
881	6410	Leitrim	-	-
887	6410	Leitrim	-	-
890	6230	Leitrim	-	-
893	6230	Leitrim	-	Non-Annex I parts of site in NHA 002435
894	6210	Leitrim	000623	Some Annex I habitat not in SAC
895	6410	Leitrim	-	-
896	6410	Leitrim	-	-
943	6510	Longford	-	-
949	6410	Longford	000440	Some Annex I habitat not in SAC
999	6410	Longford	-	Non-Annex I parts of site in pNHA 001687
1004	6410	Cavan	-	Non-Annex I parts of site in SAC 002032
1007	6410	Cavan	-	-
1008	6230	Cavan	000584	-
1008	6410	Cavan	-	Non-Annex I parts of site in SAC 000584
1009	6410	Cavan	-	Non-Annex I parts of site in SAC 000584
1011	6230	Cavan	000584	-
1013	6410	Cavan	-	-
1016	6410	Cavan	-	Non-Annex I parts of site in SAC 000584
1016	6230	Cavan	-	Non-Annex I parts of site in SAC 000584
1032	6430	Cavan	000007	-
1051	6510	Cavan	-	-
1061	6210	Cavan	-	-
1067	6210	Cavan	-	-
1067	6230	Cavan	-	-
1072	6210	Cavan	-	-
1087	6510	Cavan	-	-
1088	6230	Cavan	-	-
1090	6510	Cavan	-	-
1091	6210	Cavan	-	Annex I habitat adjacent to pNHA 000987

* SAC code only shown if Annex I grassland habitat occurs within the SAC

3.2 Assessment of Annex I grassland

From 2007 to 2009, 441 monitoring stops were recorded within 278 polygons of Annex I grassland habitat. In total, 123 sites (21%) of the 580 semi-natural grassland sites surveyed between 2007 and 2009 contained an area of Annex I grassland habitat greater than the minimum mapping area of 400 m^2, and 45 of these sites were surveyed during 2009. Of these 45 sites, the majority were in counties Leitrim (21 sites) and Cavan (16 sites; Table 3.12). The data presented below summarise the extent, structure and functions and future prospects for the 49 areas of Annex I grassland habitat recorded within the 45 sites surveyed in 2009.

Area assessment

Of the 49 areas of Annex I grassland habitat assessed during 2009, 35 had not declined in extent during the last nine years (2000 to 2009) and one had increased in extent (Table 3.13), based on an area comparison between aerial photographs of 2000 and areas mapped during the 2009 survey (section 2.4). These 36 areas were scored as *Favourable* for the area parameter. Of the remaining 13 areas, only two had declined in extent greater than 1% per annum and were scored as *Unfavourable – Bad*; site 762 was *Nardus* grassland (6230), while site 826 was Festuco-Brometalia (6210). The remaining 11 areas had declined by less than 1% per annum and were scored as *Unfavourable – Inadequate*.

Table 3.13 Annual percentage change in area between the years 2000 and 2009 of each of the 49 Annex I grassland habitat areas assessed in 2009.

Site no.	Annex habitat	Area in 2009 (m^2)	%change yr^{-1}	Site no.	Annex habitat	Area in 2009 (m^2)	%change yr^{-1}
717	6410	47831	-0.4	895	6410	2168	0
718	6410	14936	0	896	6410	2142	0
723	6230	1671	0	943	6510	7909	0
729	6210	631	0	949	6410	48856	0
762	6230	2773	-1.5	999	6410	7635	0
802	6410	27076	0	1004	6410	109040	0
804	6410	25049	-0.8	1007	6410	30482	0
806	6410	5094	0	1008	6230	13775	0
811	6230	14758	-0.3	1008	6410	9738	0
815	6210	27646	-0.4	1009	6410	8122	0
822	6230	808	0	1011	6230	19827	0
825	6210	2230	0	1013	6410	9790	0
826	6210	1452	-2.2	1016	6410	736	0
836	6230	49595	-0.4	1016	6230	13456	-0.9
837	6410	27275	-0.8	1032	6430	928	0
849	6510	29014	0	1051	6510	41641	0
850	6510	40846	0.1	1061	6210	3386	-0.6
850	6210	5970	0	1067	6210	16816	0
872	6510	42005	0	1067	6230	31097	0
874	6410	216632	-0.2	1072	6210	27810	-0.2
881	6410	21485	0	1087	6510	17861	0
887	6410	5369	0	1088	6230	5062	-0.8
890	6230	21170	0	1090	6510	1177	0
893	6230	5853	0	1091	6210	2444	0
894	6210	25560	0				

Structure and functions assessment

During 2009, 55% of monitoring stops recorded (83 of 152) passed the assessment for structure and functions (Table 3.14). Of the ten criteria assessed, forb:graminoid ratio and overall positive indicator species had the lowest pass rate across all Annex I grassland habitats, particularly for *Molinia* meadows (6410) and Lowland hay meadows (6510). The pass rate for the overall relevé assessment was lower than for the individual criteria because a failure in any one of the criteria resulted in a failure for the relevé overall. The majority of passes at individual monitoring stops were within the Annex I grassland habitats *Nardus* grassland (6230) and Festuco-Brometalia (6210). This was also the case for the overall assessment of structure and functions for the Annex I habitat at a site (as described in section 2.4), with 42% of the areas of *Nardus* grassland (6230) and 40% of the areas of Festuco-Brometalia (6210) scored as *Favourable* (Table 3.15) for the structure and functions parameter.

Table 3.14 Pass rate for criteria used to assess the structure and functions for each Annex I grassland habitat surveyed in 2009*.

	% of monitoring stops that passed				
Assessment Criteria	**Festuco-Brometalia (6210)**	***Nardus* grassland (6230)**	***Molinia* meadows (6410)**	**Lowland hay meadows (6510)**	***Overall***
Overall positive indicator species	80	87	82	65	*80*
Positive indicator species (H.Q.**)	100	87	87	96	*91*
Positive indicator species (Non-H.Q.)	80	100	94	70	*88*
Negative indicator species	89	84	98	87	*91*
Forb : graminoid ratio	83	97	65	91	*80*
Litter cover	100	97	85	83	*91*
Encroachment	100	97	100	100	*99*
Bare ground cover	100	100	98	100	*99*
Sward height	100	100	100	100	*100*
Grazing & disturbance	100	97	98	100	*99*
Overall assessment for relevé	66	71	45	43	*55*

* Annex I grassland habitats Calaminarian grassland (6130) and hydrophilous tall herb communities (6430) were not included in this table as so few monitoring stops were recorded in each (6130: *n* = 0; 6430: *n* = 1).
** H.Q. = High Quality (see section 2.4)

Table 3.15 Overall structure and functions assessment for the five different Annex I grassland habitats recorded during 2009.

Annex I habitat	**Number of areas scored as *Favourable* overall**	**Number of areas scored as *Unfavourable – Inadequate* overall**	**Number of areas scored as *Unfavourable – Bad* overall**	***Annex I habitat total***
6210	4	2	4	*10*
6230	5	2	5	*12*
6410	3	2	14	*19*
6430	0	0	1	*1*
6510	2	0	5	*7*
Total	*14*	*6*	*29*	*49*

Table 3.16 Future prospects for each of the 49 assessed areas of Annex I grassland habitat surveyed during 2009. Five of the six negative impacts recorded during 2009 are listed with their EU code. Active quarries (C01) only affected two sites and these are indicated, with the score included in the total.

Site no.	Annex Habitat	J02 Drainage	A04.01 Evidence of overgrazing	B01 Afforested	A04.03 Undergrazing /encroach.	A02.01 Agri. improved	Total score
717	6410	-2	0	-2	-3	0	-7
718	6410	0	0	0	0	-2	-2
723	6230	-1	0	0	-2	-1	-4
729	6210	0	0	0	0	-2	-2
762	6230	0	0	0	-3	0	-3
802	6410	0	-3	0	-3	0	-6
804	6410	0	0	-2	-3	0	-5
806	6410	0	0	0	-3	0	-3
811	6230	0	0	0	0	0	0
815	6210	0	0	0	-3	0	-3
822	6230	0	0	-1	-1	0	-2
825	6210	0	0	0	0	0	0
826	6210	0	0	0	-2	0	-2
836	6230	0	0	-2	-2	0	-4
837	6410	0	0	0	-3	0	-3
849	6510	0	0	0	0	0	0
850	6510	0	0	0	0	0	0
850	6210	0	0	0	-3	0	-3
872	6510	0	0	0	0	0	0
874	6410	0	0	0	-3	0	-3
881	6410	0	0	0	0	-2	-2
887	6410	0	0	-2	-2	0	-4
890	6230	0	0	0	-2	0	-2
893	6230	0	0	0	0	0	0
894	6210	0	0	0	-3	0	-3
895	6410	0	0	-2	-2	0	-4
896	6410	0	0	0	-3	0	-3
943	6510	0	0	0	0	0	0
949	6410	-3	0	0	0	0	-3
999	6410	0	0	0	0	0	0
1004	6410	-3	-3	0	-3	-3	-12
1007	6410	0	0	-2	-3	0	-5
1008	6230	0	0	0	-2	0	-2
1008	6410	0	0	0	-2	0	-2
1009	6410	0	0	0	0	-2	-2
1011	6230	0	0	0	-2	0	-2
1013	6410	-3	0	-2	0	0	-5
1016	6230	0	0	0	-3	0	-3
1016	6410	-2	0	0	0	0	-2
1032	6430	0	0	0	0	-2	-2
1051	6510	0	0	0	0	0	0
1067	6210	0	0	0	-3	0	-3
1067	6230	0	0	-2	-3	0	-5
1072	6210	0	0	0	-2	-2	-4
1087	6510	0	0	0	0	-2	-2
1088	6230	-3	0	0	0	0	-3
1090	6510	0	0	0	0	0	0
1061*	6210	0	0	0	-3	0	-5
1091*	6210	0	0	0	0	0	-2

*includes a negative impact of -2 due to Active quarries (C01)

Future prospects assessment

Assessment of the Future prospects parameter for each of the Annex I grassland areas identified was carried out according to the system outlined in Table 2.1, with a score of 0 assessed as *Favourable*, -1 to -3 as *Unfavourable – Inadequate*, and less than -3 as *Unfavourable – Bad*. Ten of the 49 areas of Annex I grassland habitat recorded during 2009 were scored as *Favourable*, with no negative impacts recorded as affecting the future prospects of the Annex I habitat (Table 3.16). Significantly, six of the ten areas scored as *Favourable* were Lowland hay meadows (6510), with only one area of this Annex I habitat scored as *Unfavourable – Inadequate*. Of the six negative impacts recorded, undergrazing/encroachment was the most significant, affecting 55% of the Annex I grassland habitat areas. Of the other negative impacts, it should be noted that active quarries only affected two areas, both Festuco-Brometalia (6210).

Overall Assessment for the 2009 dataset

The overall assessment scores for all 49 areas of Annex I grassland habitat recorded in 2009 are given in Appendix 9. Examining each of the assessment parameters separately (area, structure and functions, and future prospects), the highest number of *Favourable* assessments were within area assessment (Table 3.17), and the lowest were within future prospects. The highest number of *Unfavourable – Bad* assessments were within structure and functions, while the lowest were within area assessment.

Table 3.17 Total scores within each of the assessment criteria for the 49 areas of Annex I grassland habitat surveyed during 2009.

	Number of sites scored as *Favourable*	**Number of sites scored as *Unfavourable – Inadequate***	**Number of sites scored as *Unfavourable – Bad***
Area Assessment	36	11	2
Structure and Functions Assessment	14	6	29
Future Prospects Assessment	10	26	13

In terms of the overall assessment (i.e., combining all three assessment parameters with reference to the matrix presented in Table 2.1) for each of the 49 areas of Annex I grassland habitat, five areas received an overall assessment of *Favourable* (Table 3.18). The most frequent overall assessment score was *Unfavourable – Bad*, scored at 34 of the 49 areas of Annex I grassland habitat recorded in 2009.

Table 3.18 Overall assessment scores for the five different types of Annex I grassland habitat recorded during 2009.

Annex I habitat	Number of areas scored as *Favourable* overall	Number of areas scored as *Unfavourable – Inadequate* overall	Number of areas scored as *Unfavourable – Bad* overall	Areas of Annex I habitat
6210	1	3	6	*10*
6230	1	5	6	*12*
6410	1	2	16	*19*
6430	0	0	1	*1*
6510	2	0	5	*7*
Total	*5*	*10*	*34*	*49*

Primary areas of Annex I grassland habitat

Between 2007 and 2009, 135 areas of Annex I grassland habitat greater than the minimum mapping area located at 123 sites (12 sites contained more than one Annex I grassland habitat) were surveyed. Many areas of Annex I grassland habitat are either small (less than 1 ha) or have unfavourable structure and functions. Due to these facts, it was proposed in Martin *et al.* (2008) that a list of premium quality sites containing Annex I grassland habitats above a minimum size and of adequate structure and functions should be produced. Table 3.19 shows this list, which has been compiled from Annex I grassland habitats assessed during the ISGS between 2007 and 2009. The 47 areas of Annex I grassland listed are hereafter referred to as ***primary areas*** of Annex I grassland. They represent the best examples of Annex I grassland habitat so far recorded during the ISGS and are judged to be of primary importance due to a combination of the area they cover and their structure and functions. The extent of Annex I habitat within each of these primary areas is at least 1 ha, except for Calaminarian grassland (6130), as currently no areas greater than 0.25 ha have been recorded for this habitat. Seven of the primary areas of Annex I grassland habitat listed have a *Favourable* structure and functions; however, many of the other primary areas contained stops which failed but were considered to be near misses (e.g. only one positive indicator species off a pass, or within 10% of the required forb:graminoid ratio). Five of the seven primary areas with a *Favourable* structure and functions score were surveyed during 2009. Eighteen of the 47 primary areas were recorded during 2009, all but two of these in either Leitrim or Cavan, with one each in Longford and Monaghan.

Table 3.19 List of the primary areas of Annex I grassland habitat surveyed between 2007 and 2009 during ISGS. The sites are ordered by area within each Annex I habitat type. The structure and functions column shows the number of monitoring stops that passed and the EU assessment category.

(a) The four primary areas of Calaminarian grassland (6130).

Site no.	County	Area (ha)	Structure & functions	% within NPWS conservation site
584	Cork	0.16	25% pass: Unfavourable – Bad	None
366	Waterford	0.09	0% pass: Unfavourable – Bad	92% pNHA
463	Cork	0.08	0% pass: Unfavourable – Bad	None
582	Cork	0.05	0% pass: Unfavourable – Bad	100% SAC

(b) The nine primary areas of Festuco-Brometalia (6210).

Site no.	County	Area (ha)	Structure & functions	% within NPWS conservation site
215	Roscommon	22.3	75% pass: Unfavourable – Inadequate	None
226	Roscommon	10.5	50% pass: Unfavourable – Bad	None
263	Roscommon	8.3	25% pass: Unfavourable – Bad	None
224	Roscommon	8.2	50% pass: Unfavourable – Bad	<1% SAC
815	Leitrim	2.8	89% pass: Unfavourable – Inadequate	76% pNHA
894	Leitrim	2.6	50% pass: Unfavourable – Bad	89% SAC
1067	Cavan	1.7	50% pass: Unfavourable – Bad	None
116	Roscommon	1.2	50% pass: Unfavourable – Bad	None
1	Offaly	1.0	50% pass: Unfavourable – Bad	100% SAC

(c) The nine primary areas of *Nardus* grassland (6230)

Site no.	County	Area (ha)	Structure & functions	% within NPWS conservation site
316	Waterford	99.2	0% pass*: Unfavourable – Bad	98% SAC
354	Waterford	7.7	100% pass: Favourable	None
402	Cork	6.5	50% pass: Unfavourable – Bad	100% SAC
488	Cork	4.0	75% pass: Unfavourable – Inadequate	2% SAC
1067	Cavan	3.1	50% pass: Unfavourable – Bad	None
890	Leitrim	2.1	100% pass: Favourable	None
489	Cork	1.0	75% pass: Unfavourable – Inadequate	None
811	Leitrim	1.5	100% pass: Favourable	100% SAC
1008	Cavan	1.3	50% pass: Unfavourable – Bad	100% SAC

* Adequate positive indicator species within the monitoring stops, near misses in other categories

(d) The 14 primary areas of *Molinia* meadows (6410).

Site no.	County	Area (ha)	Structure & functions	% within NPWS conservation site
107	Offaly	33.7	100% pass: Favourable	100% SAC
874	Leitrim	21.7	25% pass: Unfavourable – Bad	95% pNHA
113	Roscommon	13.6	50% pass: Unfavourable – Bad	100% SAC
109	Offaly	11.2	75% pass: Unfavourable – Inadequate	100% SAC
1004	Cavan	10.9	40% pass: Unfavourable – Bad	None
18	Offaly	7.4	0% pass*: Unfavourable – Bad	None
949	Longford	4.9	75% pass: Unfavourable – Inadequate	29% SAC
717	Monaghan	4.8	70% pass: Unfavourable – Bad	100% NHA
68	Offaly	4.7	25% pass: Unfavourable – Bad	None
837	Leitrim	2.7	50% pass: Unfavourable – Bad	None
802	Leitrim	2.7	75% pass: Unfavourable – Inadequate	46% SAC
804	Leitrim	2.5	60% pass: Unfavourable – Bad	23% SAC
881	Leitrim	2.1	100% pass: Favourable	None
25	Roscommon	1.9	50% pass: Unfavourable – Bad	35% pNHA

* Only one monitoring stop recorded

(e) The four primary areas of Hydrophilous tall herb community (6430)

Site no.	County	Area (ha)	Structure & functions	% within NPWS conservation site
110*	Offaly	3.2	0% pass: Unfavourable – Bad	100% SAC
418	Cork	1.7	0% pass: Unfavourable – Bad	100% pNHA
30*	Roscommon	1.5	0% pass: Unfavourable – Bad	100% pNHA
210	Roscommon	1.2	75% pass: Unfavourable – Inadequate	41% pNHA

* Due to heavy rains and high water levels on the River Shannon it was only possible to record one monitoring stop within each of these sites

(f) The seven primary areas of Lowland hay meadows (6510).

Site no.	County	Area (ha)	Structure & functions	% within NPWS conservation site
68	Offaly	20.9	50% pass: Unfavourable – Bad	None
109	Offaly	13.5	75% pass: Unfavourable – Inadequate	100% SAC
108	Offaly	6.8	50% pass: Unfavourable – Bad	95% SAC
872	Leitrim	4.2	50% pass: Unfavourable – Bad	None
1051	Cavan	4.2	100% pass: Favourable	None
850	Leitrim	4.1	100% pass: Favourable	None
114	Roscommon	1.9	50% pass: Unfavourable – Bad	100% SAC

Due to the fact that the assessment criteria were updated in 2009, the scores for each individual monitoring stop for the structure and functions of all the areas of Annex I grassland habitat surveyed between 2007 and 2009 can be viewed in Appendix 6, and the future prospects scores for each site are in Appendix 8.

In addition to the 2009 Lowland hay meadows (6510) sites 850 and 1051, two of the primary Annex I grassland habitat areas surveyed in 2007 and 2008 with a structure and functions assessment of *Favourable* were also assessed to have an overall score of *Favourable*. These were the *Molinia* meadows (6410) site 107 and the *Nardus* grassland (6230) site 354. The overall assessment scores for all 47 primary areas of Annex I grassland habitat are in Appendix 10.

3.3 Ranking of sites using conservation and threat evaluations

Conservation and threat scores were calculated as described in section 2.5. The method of assigning conservation scores changed in 2009, so the conservation scores of all 580 sites surveyed between 2007 and 2009 were re-calculated to allow comparisons across all years of the ISGS. The threat scores were calculated by the same method as was used in previous years. Conservation and threat scores for all sites surveyed between 2007 and 2009 are presented in Appendices 11 and 12, with Appendix 13 showing the top-ranked sites by conservation score for each county. Each site was given an overall conservation or threat ranking based on its conservation or threat score relative to the other 579 sites.

Conservation scores

The 33 sites of highest conservation value surveyed in 2009 are presented in Table 3.20. All of these sites scored 40% or over in the conservation assessment. Eighteen of these sites are in Leitrim, including the highest ranked site at Larganavaddoge (site 811). Eight of the top 33 sites are in Cavan, four in Longford and three in Monaghan. Twenty-three of the sites occur at least partly within an NPWS conservation site.

All of the highest ranking sites received the top score for high quality indicator species, and eight of them contain at least one notable species. All but four of them are over 40 ha. Twenty-two of the 33 sites contain at least one Annex I habitat. Of the sites which contain Annex I habitat, eight sites – 825, 826, 850, 872, 890, 1007, 1051 and 1067 – are not in an NPWS conservation site.

Threat scores

The 21 most threatened sites are presented in Table 3.21, and all of these scored over 55% in the threat evaluation. Longford contains the fewest of these sites, with two appearing on the list, while five of the sites occur in Monaghan, six in Cavan and eight in Leitrim. Four of the most threatened sites (732 Tusker, Monaghan; 813 Aghatleeve, Leitrim; 1004 Moneen and 1067 Manragh Upper, Cavan) also appear on the list of the sites of greatest conservation value. The most frequently recorded threats in 2009 were damaging operations and species associated with agricultural activity. Nine of these sites occur at least partly within NPWS conservation sites, and these include sites 732 (Tusker, Monaghan) and 835 (Corcusconny, Leitrim), which share the highest threat score with a third site.

Table 3.20 The 33 highest ranking grassland sites according to their conservation evaluation surveyed in 2009. Rankings shared by two or more sites are indicated by "=".

Site no.	Site name	County	NHA	pNHA	SAC	SPA	Conservation Score	Rank
811	Larganavaddoge	Leitrim	-	000623	000623	004187	66.32	1
1067	Manragh Upper	Cavan	-	-	-	-	63.16	2
850	Letterfine	Leitrim	-	-	-	-	60.00	3
815	Sheemore	Leitrim	-	001421	-	-	55.79	4
1004	Moneen	Cavan	-	-	002032	-	54.74	5
813	Aghalateeve	Leitrim	-	000623 001919	000623 001919	004187	53.68	6
825	Ballynaboll	Leitrim	-	-	-	-	52.63	7
808	Keeloges	Leitrim	-	001403	001403	004187	51.58	8
818	Lugnafaughery	Leitrim	002435	-	000623	-	50.53	9
807	Aghadunvane	Leitrim	-	001403	001403	004187	49.47	10
1008	Moneensauran	Cavan	-	000584	000584	-	48.42	11
712	Coolberrin	Monaghan	-	-	-	-	47.37	=12
999	Glen Lough	Longford	-	001687	-	004045	47.37	=12
802	Gubacreeny	Leitrim	-	000428	000428	-	46.32	=14
890	Kilroosk	Leitrim	-	-	-	-	46.32	=14
949	Drumnee	Longford	-	000440	000440	004064	46.32	=14
823	Fawnlion	Leitrim	002435	-	-	-	45.26	17
837	Corry	Leitrim	-	000426	-	-	44.21	=22
1016	Gubnafarna	Cavan	-	000584	000584	-	44.21	=22
1051	Drumcrow	Cavan	-	-	-	-	44.21	=22
812	Cloontyprughlish	Leitrim	-	000623	000623	004187	43.16	=27
849	Corderry	Leitrim	-	001920	-	-	43.16	=27
872	Gort	Leitrim	-	-	-	-	42.11	=29
874	Hartley	Leitrim	-	001643	-	-	42.11	=29
1009	Bellavalley	Cavan	-	000584	000584	-	42.11	=29
826	Gortermone	Leitrim	-	-	-	-	41.05	=34
717	Barratitoppy Upper	Monaghan	001603	-	-	004167	40.00	=36
732	Tusker	Monaghan	-	001605	-	-	40.00	=36
804	Gubalaun	Leitrim	-	000428	000428	-	40.00	=36
910	Keel Deer Park	Longford	-	-	-	-	40.00	=36
948	Pollagh	Longford	-	000440	000440	004064	40.00	=36
1007	Legnagrow	Cavan	-	-	-	-	40.00	=36
1019	Killywilly	Cavan	-	000007 000974	000007	-	40.00	=36

Table 3.21 The 21 highest ranking semi-natural grassland sites according to their threat evaluation surveyed in 2009. Rankings shared by two or more sites are indicated by "=".

Site no.	Site name	County	NHA	pNHA	SAC	SPA	Threat Score	Rank
732	Tusker	Monaghan	-	001605	-	-	66.67	=1
835	Corcusconny	Leitrim	-	001976	001976	-	66.67	=1
857	Annaghoney	Leitrim	-	-	-	-	66.67	=1
718	Ardginny	Monaghan	-	001782	-	-	61.11	=4
733	Drumgoose	Monaghan	-	-	-	-	61.11	=4
813	Aghalateeve	Leitrim	-	000623 001919	000623 001919	004187	61.11	=4
828	Carrickleitrim	Leitrim	-	-	001976	-	61.11	=4
829	Munakill	Leitrim	-	-	-	-	61.11	=4
860	Derrygoan	Leitrim	-	-	-	-	61.11	=4
891	Attimanus	Leitrim	-	-	-	-	61.11	=4
942	Carrickmoyragh	Longford	-	-	-	-	61.11	=4
757	Drumfurrer	Monaghan	-	-	-	-	55.56	=12
758	Killycooly	Monaghan	-	000558	-	-	55.56	=12
845	Sradrinagh	Leitrim	-	-	-	-	55.56	=12
943	Derawley	Longford	-	-	-	-	55.56	=12
1001	Killyvally	Cavan	-	000007	000007	004049	55.56	=12
1004	Moneen	Cavan	-	-	002032	-	55.56	=12
1018	Cashelbane	Cavan	-	-	-	-	55.56	=12
1067	Manragh Upper	Cavan	-	-	-	-	55.56	=12
1074	Behy	Cavan	-	000002	-	-	55.56	=12
1078	Shantemon	Cavan	-	-	-	-	55.56	=12

3.4 Cluster analysis

The results of the cluster analysis were examined manually and using expert judgement it was decided to cut the dendrogram at the four cluster level. The four ***grassland groups*** resulting from this represented combinations of two strong environmental gradients: acidic-basic and wet-dry. Groups were named using the two best indicator species as identified by ISA. For each of the four subsets of data, cluster analysis was rerun and the resulting dendrograms were again examined manually to identify the level of clustering with the best ecological integrity. Hence each grassland group was divided into a number of ***vegetation types***. ISA was run for each of the four groups of vegetation types and each vegetation type was named after their two best indicator species. Grouping nomenclature inevitably differs from that presented in previous phases. Confusion tables showing how Annex I and Fossitt habitats relate to the groups are presented as Tables 3.22 and 3.23 respectively. An overview of the classification is shown in Table 3.24. The classification is presented in full in Chapter 4.

The majority of the relevés from the Annex I habitats Calaminarian grassland (6130), Lowland hay meadows (6510) and Festuco-Brometalia (6210) were classified under group 1, while the majority of *Nardus* grassland (6230) samples were included in group 2. All hydrophilous tall herb (6430) relevés

were assigned to group 3. Relevés from *Molinia* meadows (6410) were split among groups 2, 3 and 4. The group with the largest proportion of non-Annex I habitat relevés was group 3.

Table 3.22 Confusion table comparing grassland group assignment of relevés using cluster analysis with assignment of relevés to Annex I grassland habitat types.

	6130	**6210**	**6230**	**6410**	**6430**	**6510**	**None**	***Total***
1 *Plantago lanceolata – Festuca rubra*	9	79	10	8		37	456	599
2 *Potentilla erecta – Galium saxatile*	1		84	40			72	197
3 *Agrostis stolonifera – Juncus effusus*	3	2	4	37	11	6	807	870
4 *Juncus acutiflorus – Calliergonella cuspidata*			6	88		2	352	448
Total	13	81	104	173	11	45	1687	2114

GS1 relevés were chiefly assigned to group 1, while GS2 relevés were split fairly evenly between groups 1 and 3, as were most GA1 samples. GM1 relevés were assigned mainly to groups 3 and 4. Group 3 contains the majority of GS4 relevés. Group 4 consists primarily of most of the remaining GS4 samples. Group 2 consists largely of GS3 relevés, although a significant proportion of these were classified under group 1.

Table 3.23 Confusion table comparing grassland group assignment of relevés using cluster analysis with *a priori* classification of relevés using Fossitt (2000).

	FS2	**GA1**	**GM1**	**GS1**	**GS2**	**GS3**	**GS4**	***Total***
1 *Plantago lanceolata – Festuca rubra*		122	1	239	98	69	70	599
2 *Potentilla erecta – Galium saxatile*		3		2		121	71	197
3 *Agrostis stolonifera – Juncus effusus*	6	95	56	37	72	14	590	870
4 *Juncus acutiflorus – Calliergonella cuspidata*	1	8	34	9	4	22	370	448
Total	7	228	91	287	174	226	1101	2114

Table 3.24 List of vegetation types with summary environmental data and affinities.

	Vegetation type	Main Fossitt affinity	Main Annex I affinity	Main NVC affinity	Number of relevés	Number of species	pH	Slope	Altitude
1	***Plantago lanceolata – Festuca rubra* group**	-	-	-	599	22.7	5.5	7	80
1a	*Succisa pratensis – Carex flacca* vegetation type	GS1/GS3	6210	CG10	67	37.9	6.5	23	200
1b	*Trifolium pratense – Plantago lanceolata* vegetation type	GS1/GS2	6210	MG5	159	24.4	6	5	60
1c	*Lolium perenne – Trifolium repens* vegetation type	GA1	-	MG6	69	18.6	5.4	5	90
1d	*Cynosurus cristatus – Cirsium palustre* vegetation type	GS1/GA1	-	MG6	58	25.2	5.6	6.5	120
1e	*Agrostis capillaris – Anthoxanthum odoratum* vegetation type	GS1/GS4	-	MG6	184	19.4	5.1	8	100
1f	*Festuca rubra – Agrostis stolonifera* vegetation type	GS1/GS2	-	MC9	46	13.9	6	4	30
1g	*Armeria maritima – Plantago coronopus* vegetation type	GS1/GS3	6130	MC10	16	14.3	5.4	9.5	80
2	***Potentilla erecta – Galium saxatile* group**	-	-	-	197	19.3	4.6	8	210
2a	*Molinia caerulea – Juncus acutiflorus* vegetation type	GS4	6410	M25	59	17.3	5.6	1	110
2b	*Anthoxanthum odoratum – Hylocomium splendens* vegetation type	GS3	6230	U5	73	20.5	4.4	10	220
2c	*Nardus stricta – Carex panicea* vegetation type	GS3	6230	U5	19	21.3	4.3	12	320
2d	*Agrostis capillaris – Galium saxatile* vegetation type	GS3	6230	U5	35	17.2	4.6	12	330
2e	*Festuca ovina – Cerastium fontanum* vegetation type	GS3	6230	U4	11	25.5	5.5	15	320
3	***Agrostis stolonifera – Juncus effusus* group**	-	-	-	870	16	5.7	0	70
3a	*Filipendula ulmaria – Carex disticha* vegetation type	GS4	-	MG10	205	15.5	6	0	50
3b	*Holcus lanatus – Anthoxanthum odoratum* vegetation type	GS4	-	MG10	370	17.1	5.5	0	80
3c	*Agrostis stolonifera – Myosotis laxa* vegetation type	GS4	-	MG10	75	13.1	5.8	0	50
3d	*Juncus effusus – Calliergonella cuspidata* vegetation type	GS4	-	M23	220	15.8	5.3	0	90
4	***Juncus acutiflorus – Calliergonella cuspidata* group**	-	-	-	448	23.9	5.3	0	80
4a	*Juncus acutiflorus – Holcus lanatus* vegetation type	GS4	-	M23	142	20.9	5.3	0	90
4b	*Molinia caerulea – Filipendula ulmaria* vegetation type	GS4	6410	M24	58	27.1	6	0	45
4c	*Calliergonella cuspidata – Cardamine pratensis* vegetation type	GS4/GM1	-	M23	105	26.2	5.8	0	60
4d	*Potentilla erecta – Succisa pratensis* vegetation type	GS4	6410	U5	69	27.7	4.9	6	100
4e	*Rhytidiadelphus squarrosus – Agrostis canina* vegetation type	GS4	-	M25	74	20.6	4.7	3	100

4: VEGETATION CLASSIFICATION

Grassland groups

For each of the four grassland groups, a list of ten key indicator species is presented, together with distribution maps, on pages 50 and 51. These ***group indicators*** help distinguish between plant communities in the different groups. The figures indicate the value of the species as indicators in percent, where 100% would represent the perfect indicator that was only ever found within that group, within all its samples and at maximum abundance. **Note that it is certainly possible that samples may lack either or both of the title species of their group.**

Vegetation type accounts

For each vegetation type, a description is given of the typical floristic composition and the edaphic and topographic situations in which it occurs. A small number of example sites which contain the vegetation type are then listed, together with their site codes. The examples listed tend to consist of sites that are already known, such as NPWS conservation sites, and sites at which vegetation types are represented by multiple relevés.

The affinities that each of the vegetation types has to previously described classifications are detailed:

- Under ***Fossitt***, comparisons are made to the habitat categories from the Heritage Council's *Guide to Habitats in Ireland* (Fossitt 2000). The percentage of relevés of that vegetation type ascribed to each grassland habitat category is given.
- Under ***Annex I***, categories from Annex I of the EU Habitats Directive are listed where more than 10% of relevés for that vegetation type have been deemed relevant.
- Under ***CEP***, subjective comparisons are made with the groupings of the Central European phytosociology tradition. The associations and sub-associations described for Ireland in White & Doyle (1982) and O'Sullivan (1982) were used as the references.
- Under ***NVC***, comparison with the British NVC is presented, utilising the MAVIS Plot Analyser v1.00 (Centre for Ecology and Hydrology, Lancaster). This program makes comparisons of groups of plots with the NVC based solely on the frequency of species within those groups; it does not take abundance into account. For each vegetation type only species from the synoptic table with 20% or greater frequency within that vegetation type were entered into MAVIS. The best three matches with NVC communities or sub-communities are presented.
- Under ***Corine***, the Corine habitat category linked with the top NVC match is given following Hill (1996).

A distribution map is given for each vegetation type indicating its occurrence in the eight counties surveyed so far. These records are indicated on a hectad (10 km x 10 km square) basis. Two photographs give examples of swards and sites. Note that vegetation types may contain far more

variation than it is possible to show in just two pictures and they should be used in conjunction with the description and the synoptic table.

Synoptic tables

A synoptic table is presented for each grassland group displaying a summary of the floristic and environmental data. The tables are arranged as follows:

- Data for each vegetation type within the group are presented in a separate column identified by lower case letter, with summary data for the group as a whole presented in the final column.
- Only species which have 5% or greater frequency in the group and less frequent species that are indicators are included in the table.
- Frequency and abundance data are given for each species in each vegetation type. ***Frequency*** here refers to the percentage of relevés in which that species occurs, irrespective of how much is present, and is indicated by Roman numerals, where I = 0.1 – 20.0%, II = 20.1 – 40.0%, III = 40.1 – 60.0%, IV = 60.1 – 80.0% and V = 80.1 – 100%. ***Abundance*** refers to the mean cover that species provides within the samples, irrespective of frequency, and is in percent.
- Species identified by within-group ISA as good indicators for a particular vegetation type are marked by a number of dots. These ***type indicators*** help differentiate only between the vegetation types within that group and should not be used to make comparisons with vegetation types from other groups. The number of dots denotes the value of the species as an indicator such that: • = 10 – 20.0%, •• = 20.1 – 40.0%, ••• = 40.1 – 60.0%, •••• = 60.1 – 80.0% and ••••• = 80.1 – 100%.

Species are ordered within the table as follows:

- The first section contains the constant species, which in phytosociological terminology are those with an overall frequency in the group of IV or V. Within this section, species are ordered by their indicator status for each of the vegetation types.
- The subsequent sections contain the indicator species for each of the vegetation types in turn. Within these sections, species are ordered by their value as indicators.
- After the indicator species the remaining species which do not have any significant affinity for one of the vegetation types are shown. These companion species have been divided into sections according to whether they are forbs, grasses, sedges or rushes, bryophytes or other vascular plants, and within these sections they are ordered by frequency within the grassland group.

In the final sections of the synoptic table, environmental data are presented for each vegetation type and the grassland group. Species richness simply indicates the mean number of species per relevé. For soil pH, altitude and slope, median values are given. Soil type is presented by percentage of relevés for each of six broad categories: well-drained mineral soils, basin peats, gleys, uplands peats, podzols and other soils. As soil data are only available for a subset of relevés, the sample size for each data value is also presented.

Main groups: indicator species and maps

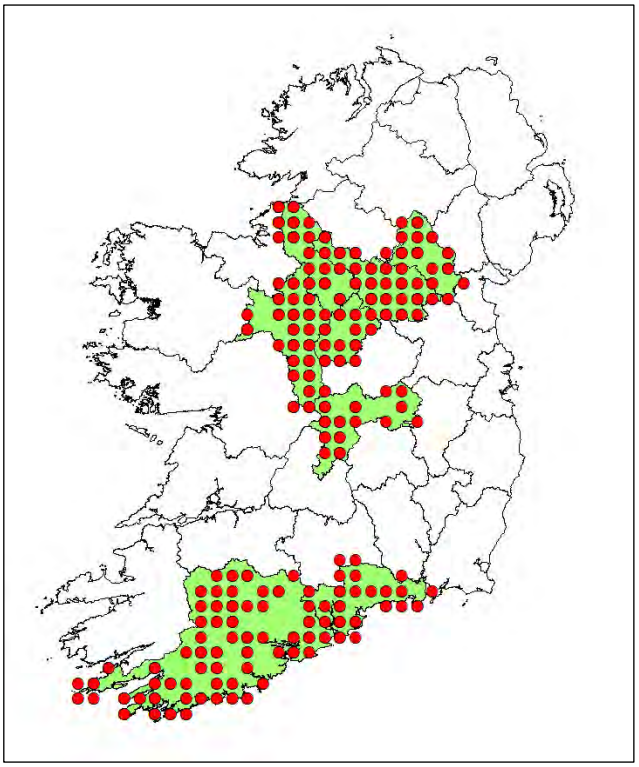
The top ten indicator species are listed for each group. Percentage figures indicate value of each species as indicator for that group.

1. *Plantago lanceolata – Festuca rubra* grassland group

599 relevés, 7 vegetation types

Plantago lanceolata	52%
Festuca rubra	40%
Cynosurus cristatus	40%
Trifolium repens	35%
Lolium perenne	34%
Trifolium pratense	34%
Lotus corniculatus	31%
Cerastium fontanum	30%
Achillea millefolium	28%
Hypochaeris radicata	27%

Dry neutral or calcareous grassland including semi-improved swards.

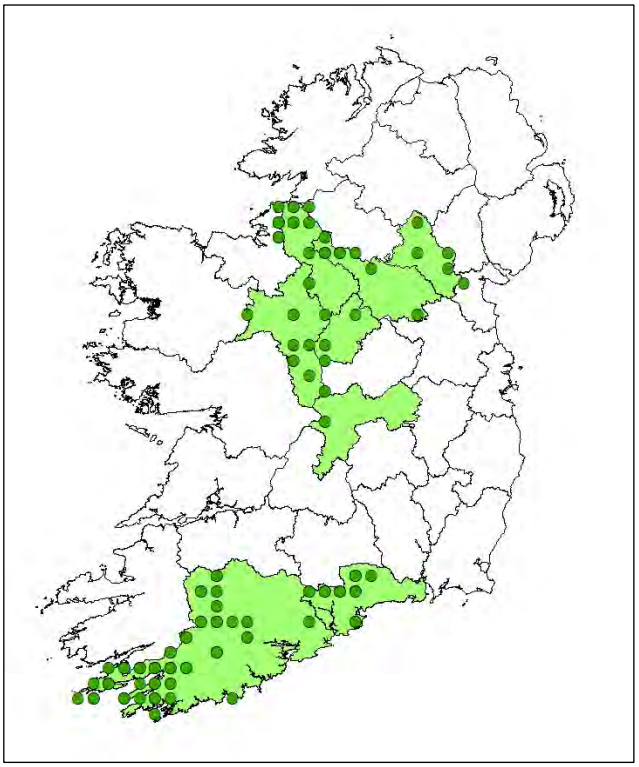


2. *Potentilla erecta – Galium saxatile* grassland group

197 relevés, 5 vegetation types

Potentilla erecta	60%
Galium saxatile	46%
Hylocomium splendens	45%
Molinia caerulea	43%
Nardus stricta	38%
Agrostis capillaris	36%
Festuca ovina	34%
Luzula multiflora	28%
Thuidium tamariscinum	28%
Danthonia decumbens	25%

Upland acid grassland

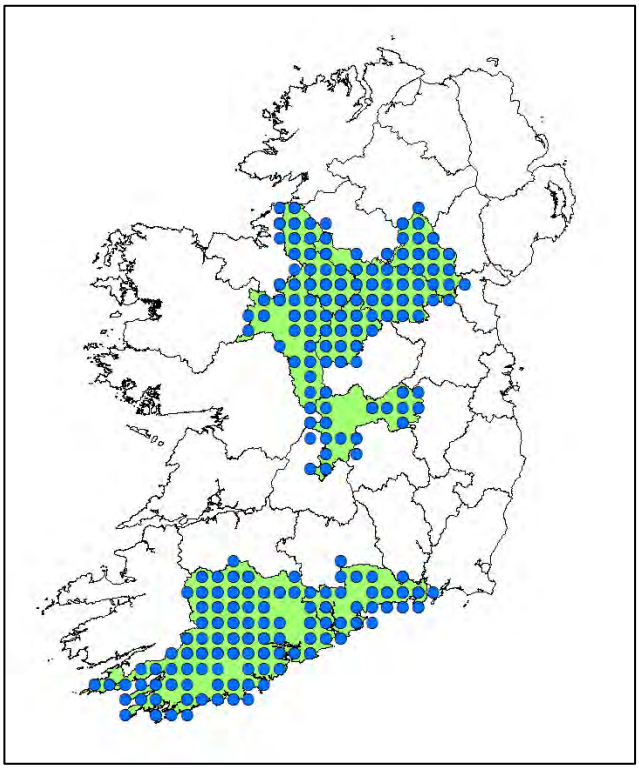


3. *Agrostis stolonifera – Juncus effusus* grassland / marsh group

870 relevés, 4 vegetation types

Agrostis stolonifera	49%
Juncus effusus	41%
Holcus lanatus	35%
Ranunculus repens	30%
Rumex acetosa	19%
Filipendula ulmaria	19%
Poa trivialis	16%
Potentilla anserina	11%
Equisetum fluviatile	10%
Deschampsia cespitosa	9%

Neutral wet, rushy grassland, marsh and tall herb communities

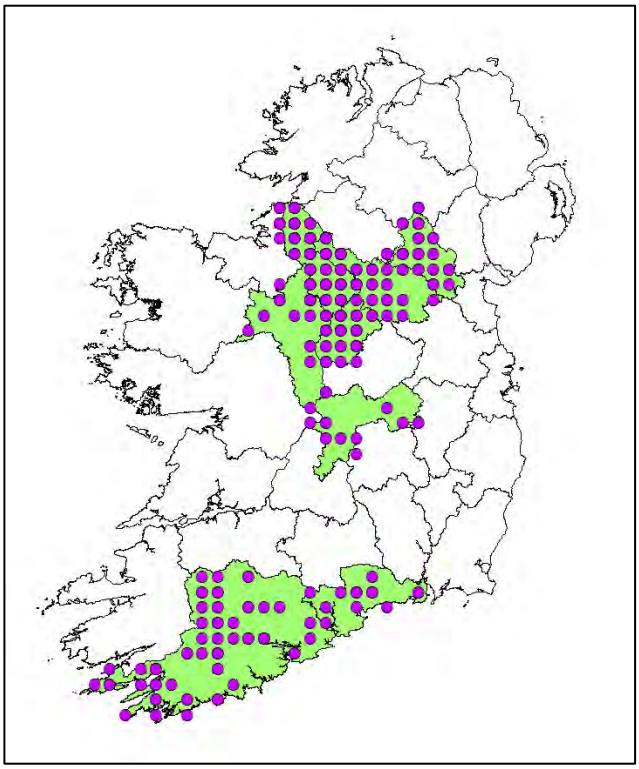


4. *Juncus acutiflorus – Calliergonella cuspidata* grassland group

448 relevés, 5 vegetation types

Juncus acutiflorus	63%
Calliergonella cuspidata	54%
Rhytidiadelphus squarrosus	34%
Anthoxanthum odoratum	26%
Carex panicea	26%
Ranunculus acris	25%
Ranunculus flammula	17%
Agrostis canina / A. vinealis	25%
Carex nigra	25%
Succisa pratensis	15%

Mildly acidic rushy pastures and *Molinia* meadows



1. *Plantago lanceolata – Festuca rubra* grassland group

a. *Succisa pratensis – Carex flacca* vegetation type

Description

Grouped here are examples of very species-rich swards typically from well-drained pastures with some calcareous influence on steeply sloping ground. The main species are *Festuca rubra*, *Succisa pratensis* and *Carex flacca,* but also abundant are *Anthoxanthum odoratum, Briza media, Plantago lanceolata, Thymus polytrichus* and *Cynosurus cristatus*. There is also likely to be some cover from *Agrostis capillaris, Holcus lanatus* and *Trifolium repens*. The sward is typically low and there is a reasonable bryophyte layer composed mainly of *Hylocomium splendens*, *Rhytidiadelphus squarrosus* and *Rhytidiadelphus triquetrus.* These are essentially unimproved grasslands exhibiting few indicators of intensification.

Example sites

All Saints Bog, Offaly (Site 1); Carrickmore, Roscommon (Site 215); Sheemore, Leitrim (Site 815); Manragh Upper, Cavan (Site 1067).

Affinities

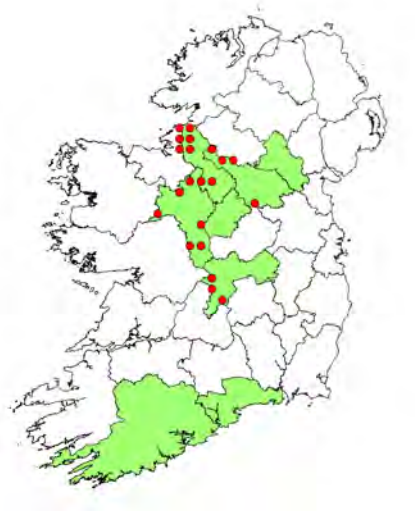
Fossitt: GS1 69%; GS3 24%; GS4 6%; GS2 2%

***Annex I*:** 6210 / 6211 Semi-natural dry grasslands and scrubland facies on calcareous substrates (51%)
6230 Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (12%)

CEP: Centaureo-Cynosuretum galietosum sub-association / Antennarietum hibernicae association

NVC: CG10 *Festuca ovina – Agrostis capillaris – Thymus praecox* grassland (63%)
CG10b *Festuca ovina – Agrostis capillaris – Thymus praecox* grassland *Carex pulicaris – Carex panicea* sub-community (60%)
CG10a *Festuca ovina – Agrostis capillaris – Thymus praecox* grassland *Trifolium repens – Luzula campestris* sub-community (59%)

Corine: C34.321 Northern Mesobromion



Distribution

This rather rare sward type has only been recorded so far from Roscommon, Offaly, Cavan and Leitrim where it has a scattered distribution.

Diverse sward of *Succisa pratensis, Carex flacca, Carex panicea, Agrosis capillaris, Festuca rubra, Potentilla erecta, Trifolium pratense* and *Prunella vulgaris*, Manragh Upper, Cavan.

Closely grazed sward of *Carex flacca, Succisa pratensis, Festuca rubra, Cynosurus cristatus* and *Plantago lanceolata* with some *Bellis perennis* and *Achillea millefolium*, Meenagraun, Leitrim.

1. *Plantago lanceolata – Festuca rubra* grassland group

b. *Trifolium pratense – Plantago lanceolata* vegetation type

Description

This common sward type consists of relatively mesotrophic, dry pastures and meadows of the lowlands on well-drained mineral soils. The sward is typically dominated by *Festuca rubra* and *Plantago lanceolata* with *Holcus lanatus*, *Anthoxanthum odoratum* and *Trifolium pratense* also abundant. Other frequent species include *Agrostis capillaris, Dactylis glomerata, Centaurea nigra, Agrostis stolonifera, Lotus corniculatus, Rhytidiadelphus squarrosus* and *Hypochaeris radicata*. *Lolium perenne and Cerastium fontanum* are also frequent but these are generally not semi-improved grasslands. The hemi-parasitic *Rhinanthus minor* is an occasional but locally abundant indicator species. The proportion of forbs in the sward is fairly high.

Example sites

Clonmacnoise, Offaly (Site 107); Moystown Demesne and Island, Offaly (Site 109); Mallavogue, Cork (Site 471); Carrick, Cavan (Site 1072).

Affinities

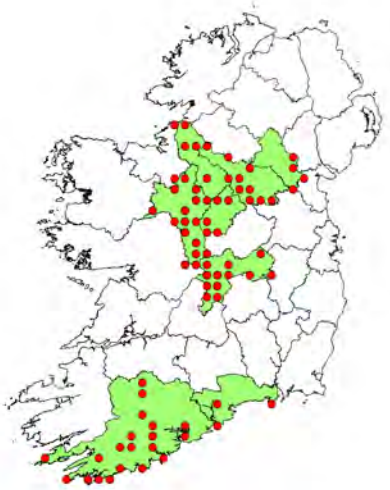
Fossitt: GS1 51%; GS2 31%; GS3 8%; GA1 8%; GS4 2%

Annex I: 6210 / 6211 Semi-natural dry grasslands and scrubland facies on calcareous substrates (23%)
6510 Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*) (15%)

CEP: Centaureo-Cynosuretum galietosum sub-association / Antennarietum hibernicae association

NVC: MG5 *Cynosurus cristatus – Centaurea nigra* grassland (74%)
MG5a *Cynosurus cristatus – Centaurea nigra* grassland *Lathyrus pratensis* sub-community (74%)
MG5b *Cynosurus cristatus – Centaurea nigra* grassland *Galium verum* sub-community (71%)

Corine: C38.112 Centaureo-Cynosuretum



Distribution

This sward type was frequently recorded across the northern counties. In Cork and Waterford it is more frequent in the south and along the coast.

Species-rich pasture of *Plantago lanceolata, Alopecurus pratensis, Rhinanthus minor, Leucanthemum vulgare, Cynosurus cristatus, Ranunculus acris* and *Trifolium pratense*, Carrick, Cavan.

Lowland hay meadow sward composed mainly of *Agrostis capillaris, Plantago lanceolata, Trifolium pratense* and *Centaurea nigra*, Ballyheelan, Cavan.

1. *Plantago lanceolata – Festuca rubra* grassland group

c. *Lolium perenne – Trifolium repens* vegetation type

Description

This vegetation type includes rather species-poor semi-improved swards on well-drained mineral soils and gleys typically dominated by *Lolium perenne, Holcus lanatus* and *Trifolium repens.* Other frequent grass species include *Agrostis stolonifera, Cynosurus cristatus* and *Anthoxanthum odoratum*. *Festuca rubra* is far scarcer here than in any other vegetation type within this group. The main herbaceous elements comprise *Plantago lanceolata*, *Ranunculus repens, Taraxacum* agg., *Rumex acetosa* and the ubiquitous *Cerastium fontanum*. Sward height is generally low due to fairly intensive farming practices. The prominence of *Lolium perenne* and *Trifolium repens* suggests that these fields have been reseeded and fairly heavily fertilised.

Example sites

Kilcormac Esker, Offaly (Site 45); Stonehouse, Waterford (Site 350); Annaghybane, Monaghan (Site 710); Coolnalitteragh, Cavan (Site 1033).

Affinities

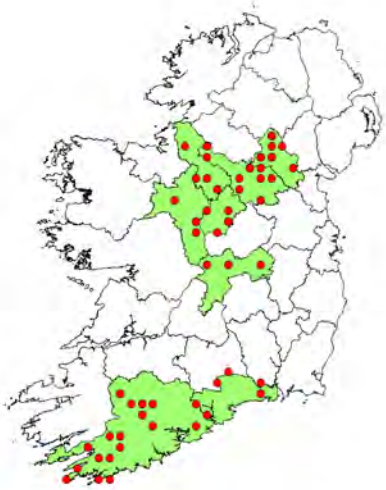
Fossitt: GA1 83%; GS1 9%; GS4 4%; GS3 3%; GS2 2%

***Annex I*:** No major correspondence

CEP: Lolio-Cynosuretum association

NVC: MG6b *Lolium perenne – Cynosurus cristatus* grassland *Anthoxanthum odoratum* sub-community (76%)
MG6a *Lolium perenne – Cynosurus cristatus* grassland typical sub-community (76%)
MG6 *Lolium perenne – Cynosurus cristatus* grassland (72%)

Corine: C38.111 Lolio-Cynosuretum



Distribution

This sward type was recorded scattered across the whole of the surveyed area.

Heavily grazed sward of *Lolium perenne, Agrostis capillaris, Anthoxanthum odoratum, Taraxacum* agg., *Poa trivialis* and *Festuca rubra*, Commons North, Longford.

Semi-improved pasture composed of *Lolium perenne, Anthoxanthum odoratum* and *Holcus lanatus* with the customary scattering of *Taraxacum* agg., Cashelbane, Cavan.

1. *Plantago lanceolata – Festuca rubra* grassland group

d. *Cynosurus cristatus – Cirsium palustre* vegetation type

Description

This sward type comprises fairly typical mesotrophic pastures on well-drained lowland soils and is distinguished from others in this group by the relative abundance of *Cynosurus cristatus*. The other main grass species are *Agrostis capillaris, Holcus lanatus, Festuca rubra* and *Anthoxanthum odoratum,* whilst the chief herbs are *Plantago lanceolata, Ranunculus repens, Trifolium repens, Trifolium pratense, Cerastium fontanum* and *Prunella vulgaris.* In the bryophyte layer, *Rhytidiadelphus squarrosus* and *Calliergonella cuspidata* are frequent. *Lolium perenne* is common here but far less abundant that in type 1c; combined with the prominence of *Trifolium repens*, this suggests that these grasslands may be regularly fertilised but have not been reseeded in the recent past. As result, this sward type is quite species rich.

Example sites

Slieve Bloom, Offaly (Site 41); Ballincollig Regional Park, Cork (Site 500); Tusker, Monaghan (Site 732); Derrynabuntale, Longford (Site 968).

Affinities

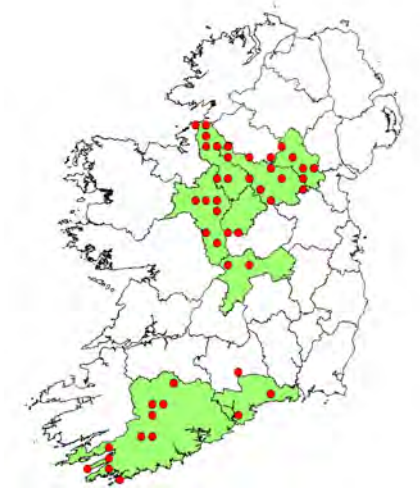
Fossitt: GS1 48%; GA1 26%; GS4 12%; GS3 7%; GS2 7%

***Annex I*:**No major correspondence

CEP: Centaureo-Cynosuretum typicum sub-association / Lolio-Cynosuretum association

NVC: MG6b *Lolium perenne – Cynosurus cristatus* grassland *Anthoxanthum odoratum* sub-community (76%)
MG5a *Cynosurus cristatus – Centaurea nigra* grassland *Lathyrus pratensis* sub-community (70%)
MG5 *Cynosurus cristatus – Centaurea nigra* grassland (69%)

Corine: C38.111 Lolio-Cynosuretum



Distribution

This sward type was recorded scattered across the whole of the surveyed area.

Mesotrophic sward chiefly composed of *Cynosurus cristatus, Holcus lanatus, Festuca rubra, Agrostis capillaris, Plantago lanceolata, Centaurea nigra* and *Leontodon autumnalis*, Kilmore West, Monaghan.

Diverse sward with *Agrostis capillaris, Cynosurus cristatus, Leucanthemum vulgare, Stellaria graminea, Anthoxanthum odoratum, Plantago lanceolata* and *Centaurea nigra*, Letterfine, Leitrim.

1. *Plantago lanceolata – Festuca rubra* grassland group

e. *Agrostis capillaris – Anthoxanthum odoratum* vegetation type

Description

This is a common but rather poorly-defined sward type found on rather base-poor soils and is somewhat transitional between groups 1 and 2. *Agrostis capillaris* is far more abundant here than elsewhere in group 1. The other main grasses are *Holcus lanatus* and *Anthoxanthum odoratum*. Other frequent species are *Trifolium repens, Festuca rubra*, *Plantago lanceolata, Rumex acetosa*, *Ranunculus repens* and *Cynosurus cristatus*. *Juncus* spp. are occasional in this vegetation type, indicating that grouped here are some samples from damper swards. In terms of agricultural improvement this group is also intermediate, with *Lolium perenne* being only occasional and *Trifolium repens* less abundant than in types 1c and 1d.

Example sites

Knockacullen, Cork (Site 534); Gortermone, Leitrim (Site 826); Ballyclamay, Longford (Site 923); Greaghclaugh, Cavan (Site 1087).

Affinities

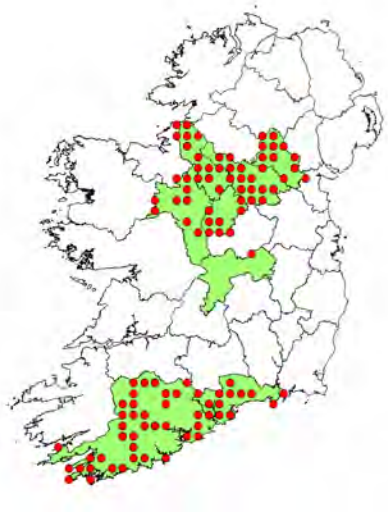
Fossitt: GS1 29%; GS4 24%; GA1 20%; GS2 15%; GS3 13%

Annex I: No major correspondence

CEP: Centaureo-Cynosuretum juncetosum sub-association

NVC: MG6b *Lolium perenne – Cynosurus cristatus* grassland *Anthoxanthum odoratum* sub-community (72%)
U4b *Festuca ovina – Agrostis capillaris – Galium saxatile* grassland
Holcus lanatus – Trifolium repens sub-community (65%)
MG6 *Lolium perenne – Cynosurus cristatus* grassland (63%)

Corine: C38.111 Lolio-Cynosuretum



Distribution

This sward type was regularly recorded throughout the survey area, with the exception of Offaly from which it was largely absent.

Sward dominated by *Agrostis capillaris, Anthoxanthum odoratum, Festuca rubra, Juncus effusus, Juncus acutiflorus* and *Alopecurus pratensis*, Hartley, Leitrim.

Damp ground sward of *Agrostis capillaris, Holcus lanatus, Rumex acetosa, Festuca rubra, Dactylis glomerata* and *Lathyrus pratensis*, Coolberrin, Monaghan.

1. *Plantago lanceolata – Festuca rubra* grassland group

f. *Festuca rubra – Agrostis stolonifera* vegetation type

Description

This vegetation type essentially comprises very species-poor, often rank swards on well-drained mineral soils dominated by *Festuca rubra*. Included here are coastal grasslands and abandoned grassland from inland sites. *Agrostis stolonifera* is typically present but does not dominate. Other frequent species are *Holcus lanatus, Trifolium repens*, *Plantago lanceolata and Lotus corniculatus.* Apart from *Festuca rubra*, this vegetation type is poorly distinguished by indicator species, with the occurrence of *Arrhenatherum elatius and Agrostis stolonifera* being of marginal aid. In maritime situations, *Plantago maritima, Plantago coronopus* and *Armeria maritima* may occur but are far less abundant than in vegetation type 1g; this sward would typically occur in less exposed and less heavily grazed situations. In inland situations, the sward may occur on less well-drained ground and may have a variety of accompanying species.

Example sites

Leitra Callow, Offaly (Site 108); Sherkin Island, Cork (Site 401); Ballymacredmond, Cork (Site 456); Hare Island, Cork (Site 482).

Affinities

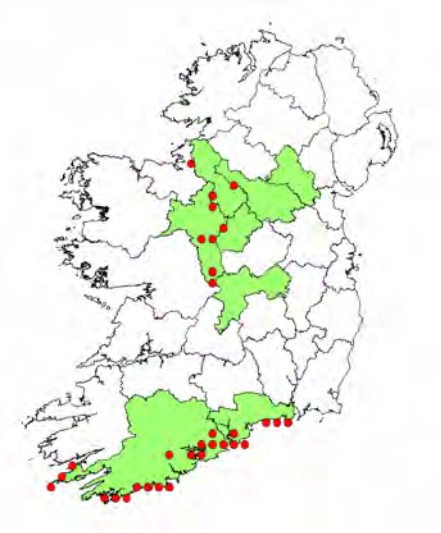
Fossitt: GS1 35%; GS2 35%; GS4 20%; GS3 9%; GA1 2%

***Annex I*:** No major correspondence

CEP: Centaureo-Cynosuretum typical sub-association / Festuco-Armerietum rupestris associations

NVC: MC9a *Festuca rubra – Holcus lanatus* maritime grassland *Plantago maritima* sub-community (64%)
MC9d *Festuca rubra – Holcus lanatus* maritime grassland *Primula vulgaris* sub-community (63%)
MC9 *Festuca rubra – Holcus lanatus* maritime grassland (61%)

Corine: C18.2 Vegetated sea cliffs (cf. C38.2 Coarse grass, hay meadow)



Distribution

This sward type occurs along most of the southern coastline. It is largely absent from inland areas except for a few records from Roscommon and Leitrim.

Rank *Festuca rubra*-dominated sward with *Plantago lanceolata* and *Arrhenatherum elatius,* Ardmore Head, Waterford.

Sward of *Festuca rubra* with *Armeria maritima* and *Lotus corniculatus*, Ballymacredmond, Cork.

1. *Plantago lanceolata – Festuca rubra* grassland group

g. *Armeria maritima – Plantago coronopus* vegetation type

Description

This vegetation type is largely restricted to maritime cliff-top grasslands subject to considerable grazing, exposure and sea-spray. The typical sward is relatively species-poor and dominated by *Festuca rubra, Armeria maritima, Plantago coronopus* and *Plantago maritima*. Other frequent species are *Agrostis stolonifera, Agrostis capillaris, Trifolium repens, Plantago lanceolata and Sedum anglicum.* Back from the cliff-tops this sward type tends to merge into dry heath communities, hence heath species such as *Calluna vulgaris* and *Erica cinerea* may also occasionally occur. The sward is typically very low due to heavy sheep grazing, with occasional taller, dense clumps of *Armeria maritima*. Included in this vegetation type are grass-poor communities on metalliferous spoil which exhibit sizeable areas of bare ground. This vegetation type shows little signs of agricultural improvement.

Example sites

Knockmahon, Waterford (Site 366); Garinish Point, Cork (Site 405); Dursey Island, Cork (Site 465); Polleenateada, Cork (Site 584).

Affinities

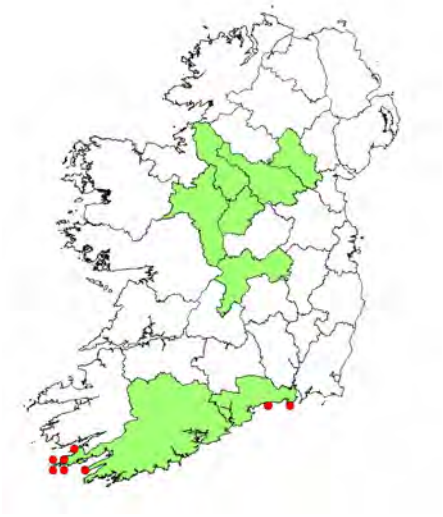
Fossitt: GS1 56%; GS3 44%

***Annex I*:** 6130 Calaminarian grasslands of the Violetalia calaminariae (50%)

CEP: Festuco-Armerietum rupestris association / Sileno-Armerietum maritimae metallicolae

NVC: MC10 *Festuca rubra – Plantago* spp. maritime grassland (63%)
MC10a *Festuca rubra – Plantago* spp. maritime grassland *Armeria maritima* sub-community (58%)
H7e *Calluna vulgaris – Scilla verna* heath *Calluna vulgaris* sub-community (60%)

Corine: C18.21 Atlantic sea cliffs



Distribution

This rare sward type is restricted to maritime headlands and islands along the southern coast

Short sward of dry coastal grassland dominated by *Armeria maritima, Plantago coronopus* and *Festuca rubra*, Dursey Island, Cork.

Relevé dominated by *Armeria maritima* and *Festuca rubra*. Recorded on rocky cliff-top grassland near old copper mine, Polleenateada, Cork.

Synoptic table for *Plantago lanceolata* - *Festuca rubra* grassland group

	a	b	c	d	e	f	g	Group
Constants								
Holcus lanatus	2.7 IV	6.8 IV	13.2 V	9.5 V	13.7 V ••	2.3 III	0.1 I	8.9 IV
Trifolium repens	2.3 IV	4.3 III	16.2 V ••	12.2 V	6.3 V	1.8 III	0.6 III	6.5 IV
Festuca rubra	11.5 V	21.1 V	3.4 II	9.1 IV	6.8 III	57.6 V •••	16.7 V	15.1 IV
Anthoxanthum odoratum	6.2 IV	7.8 IV	6.2 III	5.7 V	16.5 V ••	2.2 II	0.4 I	9.3 IV
Plantago lanceolata	5.1 IV	14.9 V ••	3.3 III	8.0 V	5.3 III	2.6 IV	1.2 III	7.5 IV
Agrostis capillaris	5.0 IV	5.8 III	4.1 II	10.4 V	27.9 V •••	0.5 I	2.0 III	12.2 IV
a) *Succisa* - *Carex* vegetation type indicators								
Succisa pratensis	11.8 IV ••••	0.6 I	0.0 I	0.2 I	0.4 I	0.3 I		1.6 I
Carex flacca	12.0 V ••••	2.4 II	0.2 I	1.0 II	0.8 I	0.8 II		2.4 II
Ctenidium molluscum	3.2 IV •••	0.2 I		0.1 I	0.1 I			0.4 I
Linum catharticum	1.1 IV •••	0.3 I	0.0 I	0.1 I	<0.05 I			0.2 I
Rhytidiadelphus triquetrus	1.6 III •••	0.4 I		<0.05 I	<0.05 I			0.3 I
Thymus polytrichus	4.7 III •••	0.3 I		0.1 I	<0.05 I	0.1 I	0.6 II	0.6 I
Carex pulicaris	1.9 III •••	<0.05 I		<0.05 I	<0.05 I	<0.05 I		0.2 I
Hylocomium splendens	5.8 IV ••	0.6 I	0.0 I	2.3 I	0.4 I	<0.05 I		1.2 I
Pilosella officinarum	1.7 IV ••	0.7 I		0.2 I	0.1 I			0.4 I
Briza media	5.2 IV ••	2.3 II		0.6 I	0.1 I	0.2 I		1.3 I
b) *Trifolium* - *Plantago* vegetation type indicators								
Trifolium pratense	2.2 III	7.8 IV ••	0.7 II	3.1 III	2.0 II	0.7 II	<0.05 I	3.4 III
Dactylis glomerata	0.9 III	4.4 III ••	1.2 II	1.0 II	1.7 II	1.9 II	0.2 I	2.2 II
Centaurea nigra	1.6 II	3.6 III ••	0.2 I	1.2 II	1.3 II	1.1 I		1.8 II
Trisetum flavescens	0.1 I	1.6 I •		<0.05 I	<0.05 I			0.4 I
Rhinanthus minor	0.2 I	1.8 II •	0.2 I	0.5 I	0.7 I	0.1 I		0.8 I
c) *Lolium* - *Trifolium* vegetation type indicators								
Lolium perenne	0.4 I	3.8 III	35.6 V ••••	4.1 III	2.6 II	0.3 I		6.4 III
Ranunculus repens	0.3 I	1.1 II	4.8 IV ••	2.6 IV	3.5 IV	0.3 I		2.2 III
Cerastium fontanum	0.2 II	0.9 IV	1.6 V ••	1.1 V	0.8 IV	0.2 I	0.1 II	0.8 III
Taraxacum agg.	0.3 II	0.6 II	1.5 III ••	0.5 III	0.4 II	0.2 I		0.5 II

	a	b	c	d	e	f	g	Group
Brachythecium rutabulum	0.1 I	0.5 I	2.1 III ••	1.0 II	1.3 II	0.3 I	<0.05 I	0.9 II
Poa trivialis	0.1 I	0.7 I	2.9 II •	0.9 II	0.8 I	1.5 I		1.0 I
Rumex obtusifolius		<0.05 I	0.3 I •		<0.05 I			<0.05 I
Alopecurus pratensis	0.1 I	0.5 I	2.8 II •	0.2 I	0.5 I	1.6 I		0.8 I
Poa annua	<0.05 I	0.1 I	0.8 II •	0.2 I	<0.05 I	<0.05 I		0.2 I
d) *Cynosurus* - *Cirsium* vegetation type indicators								
Cynosurus cristatus	7.3 IV	6.0 III	5.0 III	24.0 V •••	4.1 III	0.3 I		6.6 III
Cirsium palustre	1.4 III	0.3 I	0.7 II	1.7 III •	1.0 II	<0.05 I		0.8 II
e) *Agrostis* - *Anthoxanthum* vegetation type indicators								
Lotus pedunculatus		0.3 I	0.1 I	0.6 I	1.8 II •	0.4 I		0.7 I
Juncus acutiflorus	0.2 I	0.2 I	0.3 I	0.3 I	1.7 II •	0.2 I	0.1 I	0.7 I
f) *Festuca* - *Agrostis* vegetation type indicators								
Agrostis stolonifera	0.4 I	4.5 III	7.7 IV	2.3 II	4.8 II	7.4 V •	2.7 III	4.5 III
Arrhenatherum elatius	0.4 I	1.1 I		<0.05 I	0.1 I	5.2 II •		0.8 I
g) *Armeria* - *Plantago* vegetation type indicators								
Armeria maritima		0.3 I				0.7 II	12.3 V •••••	0.5 I
Plantago coronopus		0.1 I				0.7 I	13.7 V •••••	0.4 I
Sedum anglicum		<0.05 I					0.8 III •••	<0.05 I
Plantago maritima		0.3 I				1.8 II	15.0 III •••	0.6 I
Erica cinerea		<0.05 I				0.1 I	3.0 III •••	0.1 I
Hypnum cupressiforme	<0.05 I	<0.05 I			<0.05 I		0.2 II ••	<0.05 I
Jasione montana						<0.05 I	0.8 II ••	<0.05 I
Silence uniflora		0.1 I					0.3 II ••	<0.05 I
Anthyllis vulneraria	0.2 I	0.1 I			<0.05 I	0.7 I	1.5 II •	0.2 I
Calluna vulgaris	0.5 I	0.1 I	<0.05 I	<0.05 I	<0.05 I	0.2 I	1.4 II •	0.1 I

	a	b	c	d	e	f	g	Group
Other broadleaved forbs								
Rumex acetosa	0.0 I	1.1 III	1.9 III	1.0 III	2.3 IV	1.6 II	0.5 II	1.4 III
Hypochaeris radicata	2.2 IV	2.8 III	0.6 II	2.8 III	1.8 II	0.2 I	0.7 II	1.9 III
Prunella vulgaris	3.0 V	1.3 III	0.7 II	3.1 IV	1.1 II	0.0 I		1.4 III
Lotus corniculatus	3.1 III	4.5 III	0.5 I	1.4 II	0.8 II	4.1 IV	0.7 II	2.3 II
Ranunculus acris	0.4 II	2.1 III	1.3 II	1.1 III	1.3 II	0.3 I		1.2 II
Achillea millefolium	1.2 III	1.8 III	0.9 I	1.2 II	0.5 I	0.6 I	0.1 I	1.0 II
Potentilla erecta	2.9 IV	1.6 II	0.0 I	0.2 II	0.7 II	1.2 II	0.1 I	1.1 II
Bellis perennis	1.5 IV	0.8 II	1.4 II	2.0 III	0.6 I	0.0 I		0.9 II
Senecio jacobea	0.2 II	0.4 II	0.6 II	0.6 II	0.3 I	0.0 I		0.3 II
Galium verum	1.4 III	1.4 II		0.2 I	0.1 I	0.7 I		0.6 I
Leontodon autumnalis	0.2 I	0.3 I	0.2 I	0.9 II	0.3 I	0.2 I	0.0 I	0.3 I
Crepis capillaris	0.1 I	1.0 II	0.2 I	0.6 II	0.3 I	0.1 I		0.5 I
Euphrasia officinalis agg.	0.6 II	1.1 II	0.2 I	0.1 I	0.1 I	0.0 I	0.2 II	0.4 I
Leucanthemum vulgare	1.5 II	1.2 II	0.0 I	0.3 I	0.0 I	0.1 I		0.5 I
Conopodium majus	0.8 II	1.0 II	0.1 I	0.1 I	0.3 I	0.0 I		0.4 I
Ranunculus bulbosus	0.7 II	1.0 I	0.2 I	1.3 I	0.2 I	0.1 I		0.6 I
Stellaria graminea		0.3 I	0.0 I	0.1 I	0.4 II	0.2 I		0.2 I
Veronica chamaedrys	0.2 I	0.5 I	0.4 I	0.1 I	0.3 I	0.1 I		0.3 I
Lathyrus pratensis	0.1 I	0.3 II	0.1 I	0.0 I	0.5 I	1.2 I		0.4 I
Cirsium arvense	0.0 I	0.3 I	0.9 II	0.5 II	0.4 I	0.2 I		0.4 I
Cardamine pratensis	0.0 I	0.1 I	0.3 II	0.2 I	0.1 I	0.0 I		0.1 I
Filipendula ulmaria	0.1 I	0.9 I	0.3 I	0.0 I	0.3 I	0.5 I		0.4 I
Viola riviniana	0.7 II	0.1 I			0.0 I	0.1 I	0.4 II	0.1 I
Hypericum pulchrum	0.4 III	0.1 I	0.0 I	0.0 I	0.0 I			0.1 I
Potentilla anglica	0.2 I	0.0 I	0.0 I	0.2 I	0.4 I	0.0 I		0.2 I
Daucus carota	0.1 I	0.7 I		0.1 I	0.0 I	0.4 I	0.0 I	0.2 I
Galium saxatile	0.3 I	0.1 I	0.0 I	0.0 I	0.3 I	0.0 I		0.2 I
Leontodon hispidus	1.0 I	1.2 I		0.0 I	0.1 I	0.0 I		0.5 I
Vicia cracca	0.0 I	0.3 I	0.0 I		0.2 I	0.8 I		0.2 I
Veronica serpyllifolia	0.0 I	0.0 I	0.1 I	0.0 I	0.0 I			0.0 I
Senecio aquaticus	0.0 I	0.0 I	0.1 I	0.0 I	0.1 I			0.1 I
Alchemilla filicaulis	0.3 II	0.1 I	0.0 I	0.0 I	0.0 I			0.1 I
Veronica officinalis	0.3 II	0.1 I	0.0 I	0.0 I	0.0 I			0.1 I
Sagina procumbens	0.0 I	0.1 I	0.3 I	0.0 I	0.0 I		0.2 I	0.1 I

	a	b	c	d	e	f	g	Group
Other grasses, sedges and rushes								
Luzula campestre	0.4 II	0.8 II	0.9 II	0.5 II	0.8 II	0.1 I		0.6 II
Juncus effusus	0.3 I	0.2 I	1.7 II	1.8 II	2.4 II	1.1 I		1.3 I
Danthonia decumbens	1.2 III	0.4 I		0.0 I	0.1 I	0.3 I	0.1 I	0.3 I
Carex panicea	1.3 II	0.5 I	0.0 I	1.1 I	0.2 I	0.1 I	0.1 I	0.5 I
Helicotrichon pubescens	0.7 II	1.1 I	0.0 I		0.1 I	0.0 I		0.4 I
Poa pratensis	0.0 I	0.4 I	0.1 I	0.1 I	0.7 I	0.1 I		0.4 I
Luzula multiflora	0.1 I	0.0 I		0.1 I	0.2 I			0.1 I
Koeleria macrantha	1.8 II	0.2 I		0.1 I	0.0 I	0.1 I		0.3 I
Carex nigra	0.2 I	0.2 I		0.2 I	0.5 I	0.7 I		0.3 I
Phleum pratense	0.0 I	1.2 I	0.4 I	0.0 I	0.2 I			0.4 I
Carex caryophyllea	0.6 II	0.1 I	0.0 I	0.1 I	0.1 I			0.1 I
Festuca ovina	3.0 II	0.3 I	0.1 I	0.1 I	0.5 I		1.0 I	0.6 I
Other bryophytes								
Rhytidiadelphus squarrosus	3.2 IV	3.0 III	1.8 II	3.1 IV	5.6 III	0.3 I	0.1 I	3.4 III
Calliergonella cuspidata	0.9 III	1.0 III	1.4 II	1.4 III	1.1 II	0.3 I		1.0 II
Pseudoscleropodium purum	2.5 V	0.6 II	0.2 I	1.0 II	0.8 II	0.0 I	0.3 II	0.8 II
Kindbergia praelonga		0.1 I	0.2 II	0.2 I	0.3 II	0.2 I	0.2 II	0.2 I
Plagiomnium undulatum	0.3 II	0.1 I	0.1 I	0.3 II	0.1 I	0.0 I		0.1 I
Thuidium tamariscinum	1.0 III	0.1 I	0.1 I	0.4 I	0.2 I	0.0 I		0.2 I
Lophocolea bidentata	0.1 I	0.0 I	0.0 I	0.1 I	0.1 I	0.0 I	0.0 I	0.0 I
Dicranum scoparium	0.5 II	0.0 I		0.0 I	0.0 I	0.0 I	0.1 I	0.1 I
Hypnum lacunosum	0.5 II	0.3 I		0.0 I	0.0 I			0.2 I
Number of relevés	67	159	69	58	184	46	16	599
Number of species	37.9	24.4	18.6	25.2	19.4	13.9	14.3	22.7
Altitude (m)	200	60	90	120	100	30	35	80
Slope (°)	23.0	5.0	5.0	6.5	8.0	4.0	9.5	7.0
Forb height (cm)	5.0	13.5	5.5	7.0	10.0	15.0	2.0	10
Grass/sedge/rush height (cm)	10.0	16.5	10.0	10.0	20.0	25.0	3.0	15
Forb proportion (%)	42	45.0	30.0	40.0	25.0	20.0	65.0	30

	a	b	c	d	e	f	g	Group
Soil pH	6.5	6.0	5.4	5.6	5.1	6.0	5.4	5.5
n =	34	121	69	54	174	43	10	505
Soil LOI (%)	18.0	14.0	15.0	17.0	14.0	16.0	26.5	15.0
n=	34	121	62	51	159	41	10	478
Soil Total P	1.10	0.96	1.20	1.18	0.90	0.63	0.51	0.91
n=	25	74	57	42	149	38	10	395
Soil types								
Well-drained mineral soils	75.0	82.4	46.4	61.8	50.3	68.9	66.7	62.8
Gleys	20.0	15.3	42.0	34.5	42.2	22.2	0.0	30.5
Basin peats	0.0	0.0	7.2	1.8	3.5	2.2	0.0	2.5
Podzols	2.5	0.8	4.3	0.0	1.7	2.2	33.3	2.3
Upland peats	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.4
Other	2.5	1.5	0.0	1.8	1.2	4.4	0.0	1.5
n =	40	131	69	55	173	45	9	522

2. *Potentilla erecta - Galium saxatile* grassland group

a. *Molinia caerulea - Juncus acutiflorus* vegetation type

Description

This vegetation type primarily consists of *Molinia*-dominated wet pastures and meadows on gleyed soils and basin peats. The main sward components are *Juncus acutiflorus, Potentilla erecta* and *Holcus lanatus. Succisa pratensis, Anthoxanthum odoratum* and *Agrostis stolonifera* are frequent. These swards occur on level ground but at high altitudes; however, this vegetation type occurs at the lowest altitude out of all the vegetation types within this group. It is also differentiated from other types within the group by the relatively low occurrence of acid grassland species, which ties in with the higher soil pH for this group, and also by its much greater sward height. The cover of herbs is typically low.

Example sites

Clonmacnoise, Offaly (Site 107); Moystown Demesne and Island, Offaly (Site 109); Drumlosh, Roscommon (Site 113); Gubalaun, Leitrim (Site 804); Hartley, Leitrim (Site 874).

Affinities

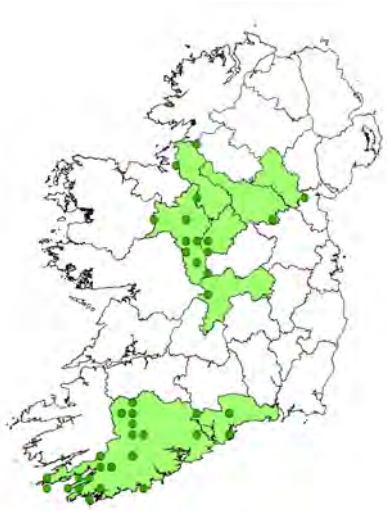
Fossitt: GS4 95%; GS3 3%; GS1 2%

***Annex I*:** 6410 *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) (54%)

CEP: Junco acutiflori-Molinietum association

NVC: M25b *Molinia caerulea – Potentilla erecta* mire *Anthoxanthum odoratum* sub-community (74%)
M25 *Molinia caerulea – Potentilla erecta* mire (68%)
M25c *Molinia caerulea – Potentilla erecta* mire *Angelica sylvestris* sub-community (60%)

Corine: C37.312 Acid *Molinia* grassland



Distribution

This sward type is scattered across Cork, Waterford and Roscommon, with only a few occurrences along the borders of Leitrim, Longford Cavan, Monaghan and Offaly.

Tall sward of *Molinia caerulea, Juncus acutiflorus, Potentilla erecta, Potentilla anserina* and *Anthoxanthum odoratum*, Ryefield, Cavan.

Tall sward of *Succisa pratensis, Molinia caerulea, Anthoxanthum odoratum, Juncus acutiflorus* and *Lythrum salicaria*, Ballynamona Lower, Waterford.

2. *Potentilla erecta - Galium saxatile* grassland group

b. *Anthoxanthum odoratum - Hylocomium splendens* vegetation type

Description

These are primarily swards of mountain slopes on gleys, upland peats and well-drained mineral soils. They are dominated by *Anthoxanthum odoratum, Potentilla erecta* and *Agrostis capillaris*. Bryophytes are an important component of this sward type; the chief species are *Hylocomium splendens* and *Rhytidiadelphus squarrosus* but *Pseudoscleropodium purum* is also frequent. Other frequent species include *Galium saxatile, Luzula multiflora, Festuca ovina* and *Nardus stricta*. *Molinia caerulea* is fairly frequent but is far less abundant than in vegetation type 2a. As this type of grassland often occurs in mosaic with areas of heath, *Calluna vulgaris* frequently occurs in low abundances, with *Vaccinium myrtillus*, *Erica tetralix* and *Erica cinerea* occasional. Grazing is typically by sheep and usually results in a tight, low sward. Under lighter grazing regimes typical of commonage areas, a ranker sward prone to heath encroachment develops.

Example sites

MountGabriel, Cork (Site 485); Rougham, Cork (Site 488); Ballynagree East, Cork (Site 571); Inchamore, Cork (Site 645); Moneensauran, Cavan (Site 1008).

Affinities

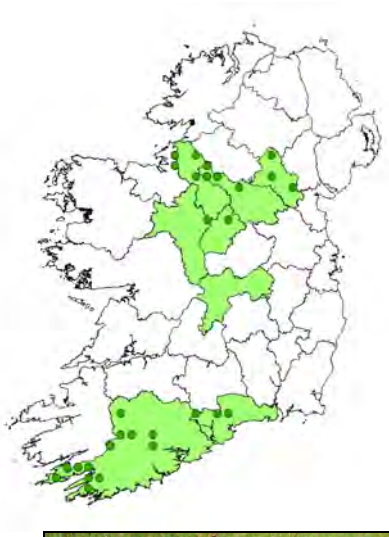
Fossitt: GS3 80%; GS4 19%; GA1 1%

Annex I: 6230 Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (60%)
6410 *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) (11%)

CEP: Nardo-Caricetum binervis association

NVC: U5c *Nardus stricta – Galium saxatile* grassland *Carex panicea – Viola riviniana* sub-community (69%)
U4d *Festuca ovina – Agrostis capillaris – Galium saxatile* grassland *Holcus lanatus – Trifolium repens* sub-community (67%)
U5 *Nardus stricta – Galium saxatile* grassland (62%)

Corine: C35.11 Nardo-Galion acid grassland



Distribution

This sward type is scattered throughout Cork, Waterford, Monaghan, Leitrim and north Cavan. It occurs once in both Roscommon and Longford and is absent from Offaly.

Acidic sward of *Festuca ovina, Molinia caerulea, Potentilla erecta, Luzula campestris* and *Hylocomium splendens,* Corlea, Cavan.

Low sward of *Galium saxatile, Potentilla erecta, Luzula multiflora, Anthoxanthum odoratum* and an abundance of bryophyte species, Gubnafarna, Cavan.

2. *Potentilla erecta - Galium saxatile* grassland group

c. *Nardus stricta – Carex panicea* vegetation type

Description

This vegetation type is situated at high altitudes and is largely found on gleys and acidic soils including upland peats and podzols. It is dominated by *Nardus stricta, Potentilla erecta* and *Carex panicea.* Frequent species include *Juncus squarrosus, Galium saxatile, Festuca ovina, Anthoxanthum odoratum* and *Danthonia decumbens*. This vegetation type is similar to vegetation type 2b. Bryophytes are an important component of this sward type; *Rhytidiadelphus squarrosus* is dominant while *Rhytidiadelphus loreus* and *Hylocomium splendens* are frequent. Ericaceous species including *Calluna vulgaris, Vaccinium myrtillus* and *Erica tetralix* occasionally occur in low abundances and grazing is typically by sheep, resulting in a low sward height. It is differentiated from the other vegetation types within this group by the frequency and abundance of *Nardus stricta*, *Carex panicea, Juncus squarrosus* and *Rhytidiadelphus loreus*, and it is found at a higher altitude than any of the others.

Example sites

Lyre Mountain, Waterford (Site 316); Knockanaffrin, Waterford (Site 317); Barnankile, Waterford (Site 326); Glendalough, Waterford (Site 372); Kealagowlane, Cork (Site 489).

Affinities

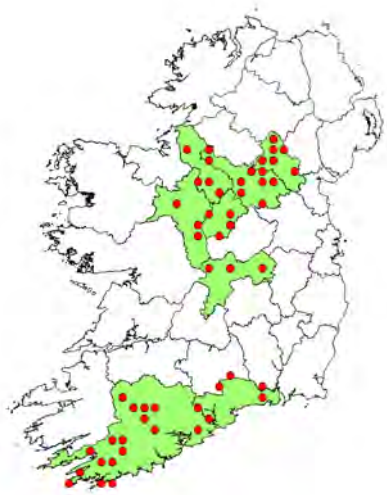
Fossitt: GS3 100%

Annex I: 6230 Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (68%)

CEP: Nardo-Caricetum binervis association

NVC: U5c *Nardus stricta – Galium saxatile* grassland *Carex panicea – Viola riviniana* sub-community (68%)
U5 *Nardus stricta – Galium saxatile* grassland (68%)
U5d *Nardus stricta – Galium saxatile* grassland
Calluna vulgaris – Danthonia decumbens sub-community (69%)

Corine: C35.11 Nardo-Galion acid grassland



Distribution

This sward type has a scattered distribution across all the counties surveyed.

Short sward of *Potentilla erecta* and *Carex panicea*, with a ground layer of bryophyte species, Larganavaddoge, Leitrim.

Nardus-dominated short sward with *Potentilla erecta, Agrostis stolonifera* and an abundance of bryophyte species, Glenpatrick, Waterford.

2. *Potentilla erecta - Galium saxatile* grassland group

d. *Agrostis capillaris – Galium saxatile* vegetation type

Description

This vegetation type is similar to vegetation types 2b and 2c in that it is located at high altitudes on a mixture of upland peats and well-drained mineral soils, and is grazed by sheep, thereby resulting in a low sward height. It differs mainly in the stronger dominance of *Agrostis capillaris. Galium saxatile* and *Potentilla erecta* are frequent but as these species are often the only broadleaf herbs present in this vegetation type, broadleaf herb cover is typically very low. Other frequent species include *Carex binervis, Anthoxanthum odoratum, Nardus stricta* and *Juncus squarrosus.* Bryophytes feature strongly again in this vegetation type, with frequent species including *Rhytidiadelphus loreus, Hylocomium splendens, Thuidium tamariscinum* and *Pseudoscleropodium purum*. *Hypnum lacunosum* occurs occasionally at low abundances.

Example sites

Glenpatrick, Waterford (Site 354); Meoul, Waterford (Site 357); Glandart, Cork (Site 475); Aghalateeve, Leitrim (Site 813); Lissinagroagh, Leitrim (Site 822).

Affinities

Fossitt: GS3 91%; GS4 3%; GA1 6%

Annex I: 6230 Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (69%)

CEP: Achilleo-Festucetum tenuifoliae association

NVC: U5 *Nardus stricta – Galium saxatile* grassland (72%)
U5d *Nardus stricta – Galium saxatile* grassland *Calluna vulgaris – Danthonia decumbens* sub-community (67%)
U5a *Nardus stricta – Galium saxatile* grassland species-poor sub-community (66%)

Corine: C35.11 Nardo-Galion acid grassland

Distribution

This sward type is relatively rare, with occurrences restricted to north Leitrim and Cavan, and west Cork and Waterford.

Short acidic sward of *Galium saxatile, Potentilla erecta, Anthoxanthum odoratum* and bryophyte species such as *Polytrichum commune* and *Hylocomium splendens*, Coppanaghmore, Cavan.

Short sward with *Galium saxatile, Potentilla erecta, Nardus stricta* and an abundance of bryophytes, Lissinagroagh, Leitrim.

2. *Potentilla erecta - Galium saxatile* grassland group

e. *Festuca ovina – Cerastium fontanum* vegetation type

Description

This is a small grouping of mixed samples also found mainly in upland situations, but largely on well-drained mineral soils that are less acidic than those in the previous three vegetation types within this group. The chief characteristic is the high abundance of *Festuca ovina*. Broadleaf herb cover is high; frequent broadleaf herbs include *Cerastium fontanum, Galium saxatile* and *Trifolium repens,* while *Thymus polytrichus, Epilobium brunnescens, Hypochaeris radicata, Bellis perennis, Lotus corniculatus, Viola riviniana* and *Prunella vulgaris* are occasional. Frequent grass species include *Holcus lanatus, Anthoxanthum odoratum, Agrostis capillaris* and *Nardus stricta*. Sward height is very low due to sheep grazing and to the fact that this vegetation type is often found on shallow soil overlying rock. It can be differentiated from the other vegetation types within this group by its higher broadleaf herb cover and the frequency of *Festuca ovina, Cerastium fontanum* and *Trifolium repens*.

Example sites

Knockaunabulloga, Waterford (Site 307); Curraheen, Waterford (Site 360); Glanmore, Cork (Site 402); Lemgare Rocks, Monaghan (Site 762); Larganavaddoge, Leitrim (Site 811).

Affinities

Fossitt: GS3 91%; GS1 9%

Annex I: 6230 Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (36%)

CEP: Achilleo-Festucetum tenuifoliae association

NVC: U4d *Festuca ovina – Agrostis capillaris – Galium saxatile* grassland *Holcus lanatus – Trifolium repens* sub-community (59%)
CG10 *Festuca ovina – Agrostis capillaris – Thymus praecox* grassland (59%)
U4a *Festuca ovina – Agrostis capillaris – Galium saxatile* grassland typical sub-community (59%)

Corine: C35.11 Nardo-Galion acid grassland

Distribution

This sward type is very rare, with occurrences restricted to the coastlines of Leitrim and west Cork, and along the county borders of Monaghan and Waterford.

Herb-rich, low sward of *Anthoxanthum odoratum, Holcus lanatus, Trifolium repens, Prunella vulgaris, Hypochaeris radicata* and *Thymus polytrichus,* Dursey Island, Cork.

Low sward overlying rock showing *Potentilla erecta, Anthoxanthum odoratum* and *Festuca ovina,* along with an abundance of bryophyte species, Lemgare Rocks, Monaghan.

Synoptic table for *Potentilla erecta - Galium saxatile* grassland group

Constants	a	b	c	d	e	Group
Potentilla erecta	6.8 V	13.6 V ••	9.7 V	3.9 V	5.9 III	9.0 V
Anthoxanthum odoratum	5.0 IV	17.5 V •••	3.8 III	7.8 IV	3.5 III	10.0 IV
Rhytidiadelphus squarrosus	0.9 II	12.6 V ••	6.6 V	10.5 V	4.4 IV	7.7 IV
Agrostis capillaris	2.3 II	19.8 V	8.6 IV	41.6 V •••	6.0 IV	16.6 IV
a) *Molinia caerulea - Juncus acutiflorus* vegetation type indicators						
Molinia caerulea	48.4 V •••••	8.3 III	1.4 II	0.7 I	1.5 I	17.9 III
Juncus acutiflorus	6.4 IV •••	2.9 II	0.6 II	0.3 I		3.1 II
Succisa pratensis	3.1 III ••	1.3 II	<0.05 I		0.4 I	1.4 II
Agrostis stolonifera	5.9 III ••	1.9 I	0.3 I	1.1 II	0.1 I	2.7 II
Holcus lanatus	6.3 IV ••	2.8 IV	1.3 II	1.6 II	3.8 IV	3.5 III
Lotus pedunculatus	1.3 II ••	0.5 I				0.6 I
Filipendula ulmaria	2.6 II ••	<0.05 I	0.2 I			0.8 I
Carex flacca	1.7 II ••	0.2 I	0.5 II	0.2 I		0.7 I
Mentha aquatica	0.7 I •					0.2 I
Angelica sylvestris	0.3 I •		<0.05 I			0.1 I
Epilobium palustre	0.1 I •		<0.05 I			<0.05 I
Lythrum salicaria	0.3 I •					0.1 I
Galium palustre	0.2 I •	0.1 I				0.1 I
Kindbergia praelonga	0.2 I •	<0.05 I	<0.05 I	<0.05 I		0.1 I
Potentilla anserina	0.3 I •					0.1 I
Cirsium dissectum	1.1 I •					0.3 I
Vicia cracca	0.3 I •					0.1 I
Lathyrus pratensis	0.2 I •	<0.05 I				0.1 I
b) *Anthoxanthum - Hylocomium* vegetation type indicators						
Hylcomium splendens	0.7 I	15.5 V ••	12.2 IV	7.9 IV	8.4 IV	9.0 III
Pseudoscleropodium purum	1.0 II	3.1 III ••	0.8 II	0.9 III	0.6 II	1.7 III
Luzula multiflora	0.5 II	1.4 IV ••	0.7 III	0.7 II	0.5 III	0.9 III
Pedicularis sylvatica	0.1 I	0.6 II ••	<0.05 I		0.2 I	0.2 I
Carex nigra	0.4 I	1.5 II •	0.4 I	0.3 I	0.0 I	0.8 I

	a	b	c	d	e	Group
c) *Nardus* - *Carex* vegetation type indicators						
Nardus stricta	0.1 I	3.8 III	36.1 V ••••	6.2 III	2.5 III	6.2 III
Carex panicea	1.2 II	2.3 III	5.2 V •••	0.5 I	0.6 II	1.9 III
Hypnum cupressiforme	0.2 I	<0.05 I	4.2 II ••	0.1 I		0.5 I
Juncus squarrosus	0.1 I	1.5 II	5.7 IV ••	2.0 III	3.2 II	1.7 II
Campylopus flexuosus		<0.05 I	0.9 II ••	0.1 I		0.1 I
Rhytidiadelphus loreus		2.7 II	4.6 IV ••	1.8 III	2.9 II	1.9 II
Trichophorum germanicum		0.4 I	1.9 II •	0.1 I		0.4 I
Sphagnum capillifolium		0.1 I	0.9 I •			0.1 I
Racomitrium lanuginosum		<0.05 I	0.9 I •	0.2 I	0.1 I	0.1 I
Juncus conglomeratus	0.3 I	0.1 I	0.9 I •			0.2 I
d) *Agrostis* - *Galium* vegetation type indicators						
Galium saxatile	0.1 I	5.6 IV	2.6 IV	8.3 V ••	1.0 III	3.9 III
Carex binervis	0.7 I	1.2 II	1.5 II	3.2 III •	0.4 I	1.4 II
Hypnum lacunosum				0.7 I •		0.2 I
e) *Festuca* - *Cerastium* vegetation type indicators						
Festuca ovina	0.6 I	4.0 III	3.7 III	11.8 IV	37.3 V ••••	6.2 II
Cerastium fontanum	0.1 I	0.1 I	0.1 I	0.1 I	0.5 IV •••	0.1 I
Trifolium repens	0.2 I	0.7 II	0.2 I	0.9 II	4.5 III ••	0.8 II
Thymus polytrichus	<0.05 I	0.1 I	0.2 I		0.9 II ••	0.1 I
Epilobium brunnescens		<0.05 I			5.8 II ••	0.3 I
Rhytidiadelphus triquetrus		<0.05 I		<0.05 I	5.2 II ••	0.3 I
Ctenidium molluscum	<0.05 I		0.2 I		1.5 II ••	0.1 I
Frullania tamarisci		<0.05 I		<0.05 I	0.3 II ••	<0.05 I
Hypochaeris radicata	0.3 I	0.4 II			1.0 II ••	0.3 I
Bellis perennis		<0.05 I	0.2 I		0.3 II •	0.0 I
Plantago maritima					4.4 I •	0.2 I
Armeria maritima					0.4 I •	<0.05 I
Oxalis acetosella				<0.05 I	0.4 I •	<0.05 I
Achillea millefolium		<0.05 I		<0.05 I	0.3 I •	<0.05 I
Mnium hornum	<0.05 I				0.2 I •	<0.05 I
Lotus corniculatus	0.2 I	0.2 I	<0.05 I		0.7 II •	0.2 I

	a	b	c	d	e		Group
Veronica officinalis		<0.05 I		<0.05 I	0.1 I	•	<0.05 I
Campylopus rotundifolia	<0.05 I				0.3 I	•	<0.05 I
Pleurozia schreberi	0.2 I	0.1 I	<0.05 I	<0.05 I	1.5 I	•	0.2 I
Prunella vulgaris	0.2 I	0.3 I	0.2 I		0.9 II	•	0.3 I
Plagiomnium undulatum		<0.05 I	0.1 I	<0.05 I	0.5 I	•	<0.05 I
Cynosurus cristatus	<0.05 I	0.2 I	0.6 I	<0.05 I	0.5 II	•	0.2 I
Viola riviniana	0.1 I	<0.05 I	0.2 I	<0.05 I	0.3 II	•	0.1 I
Trifolium pratense	0.2 I				0.5 I	•	0.1 I
Euphrasia officinalis agg.	<0.05 I	0.1 I			0.2 I	•	<0.05 I
Dactylis glomerata	0.1 I	<0.05 I		0.8 I	1.5 I	•	0.2 I
Other broadleaved forbs							
Cirsium palustre	0.6 II	1.0 II	1.8 II	0.4 I	0.7 II		0.8 II
Rumex acetosa	0.2 I	0.3 I	0.1 I	0.2 I	0.1 I		0.2 I
Plantago lanceolata	0.2 I	0.5 II	0.1 I		0.5 I		0.3 I
Polygala serpyllifolia	<0.05 I	0.2 II	0.3 II	0.1 I			0.1 I
Ranunculus repens	0.3 I	<0.05 I	0.1 I		<0.05 I		0.1 I
Viola palustris	0.2 I	0.4 I	0.2 I				0.2 I
Ranunculus flammula	0.1 I	0.1 I	0.1 I		<0.05 I		0.1 I
Anagalis tenella	0.1 I	0.1 I	0.1 I	<0.05 I	0.2 II		0.1 I
Cardamine pratensis	0.1 I	<0.05 I	0.1 I	<0.05 I	0.2 I		0.1 I
Other grasses, sedges and rushes							
Danthonia decumbens	<0.05 I	2.4 III	3.4 III	1.3 III	2.1 III		1.6 II
Festuca rubra	3.7 III	3.4 II	8.6 II	1.5 I	<0.05 I		3.5 II
Juncus effusus	1.8 II	1.8 II	0.1 I	2.0 II	0.4 I		1.6 II
Agrostis canina	0.9 I	3.1 II	2.1 II	1.8 II	0.4 I		2.0 II
Carex viridula	0.3 I	0.3 I	0.9 II	0.4 I	0.3 I		0.4 I
Carex echinata	0.4 I	1.1 II	0.9 II	0.1 I			0.6 I
Carex pilulifera	<0.05 I	0.9 I	1.4 II	0.2 I	0.8 II		0.5 I
Carex pulicaris	0.3 I	0.3 I	0.2 II	0.1 I	0.2 I		0.2 I
Juncus bulbosus	0.1 I	0.5 I	0.2 I	0.2 I			0.3 I
Deschampsia flexuosa		0.4 I	0.1 I	0.8 I	3.6 I		0.5 I
Luzula campestris		0.4 I		<0.05 I	<0.05 I		0.2 I

	a	b	c	d	e	Group
Other bryophytes						
Thuidium tamariscinum	0.1 I	1.6 III	2.9 III	2.2 IV	2.8 II	1.5 II
Polytrichum formosum		1.2 II	0.2 II	1.1 III	0.1 I	0.7 I
Calliergonella cuspidata	1.0 II	0.5 I	0.7 II	0.1 I	0.4 I	0.6 I
Polytrichum commune	0.2 I	1.7 II	0.9 I	2.1 I	1.7 II	1.3 I
Dicranum scoparium		0.1 I	<0.05 I	0.2 II	0.4 II	0.1 I
Lophocolea bidentata	0.4 I	<0.05 I	<0.05 I	0.1 I	0.1 I	0.1 I
Diplophyllum albicans	<0.05 I	0.1 I	0.2 I	<0.05 I	<0.05 I	0.1 I
Sphagnum palustre	0.5 I	0.1 I	0.6 I	0.3 I		0.3 I
Breutelia chrysocoma	<0.05 I	0.2 I	0.5 II	<0.05 I	0.3 II	0.2 I
Sphagnum denticulatum	<0.05 I	0.4 I	0.5 II			0.2 I
Aulacomnium palustre	0.1 I	0.2 I			<0.05 I	0.1 I
Sphagnum subnitens	0.5 I	0.6 I			<0.05 I	0.4 I
Other woody species, ferns and horsetails						
Calluna vulgaris	0.4 I	1.1 III	1.5 II	1.2 II	1.4 II	1.0 II
Vaccinium myrtillus		0.2 I	0.3 II	0.4 II	1.6 I	0.2 I
Erica tetralix	0.1 I	0.1 I	0.3 II	<0.05 I	0.1 I	0.1 I
Erica cinerea	<0.05 I	0.1 I	0.3 I	0.1 I	<0.05 I	0.1 I
Blechnum spicant	<0.05 I	0.1 I		<0.05 I		<0.05 I
Number of relevés	59	73	19	35	11	197
Number of species	17.3	20.5	21.3	17.2	25.5	19.3
Altitude (m)	110	220	320	330	320	210
Slope (°)	1	10	12	12	15	8
Forb height (cm)	30.0	7.0	6.0	5.0	4.0	7.0
Grass/sedge/rush height (cm)	55.0	15.0	15.0	10.0	7.0	18.0
Forb proportion (%)	15.0	25.5	10.0	6.0	35.0	15.0

		a	b	c	d	e	Group
Soil pH		5.6	4.4	4.3	4.6	5.5	4.6
	n =	37	48	15	22	10	132
Soil LOI (%)		33.0	40.0	25.0	23.0	26.5	28.8
	n =	35	46	15	21	10	127
Soil Total P		0.84	0.90	0.70	0.79	1.03	0.87
	n =	26	45	15	21	10	117
Soil types							
	Well-drained mineral soils	18.2	21.4	0.0	27.6	50.0	21.7
	Gleys	36.4	33.9	53.8	20.7	20.0	32.9
	Basin peats	31.8	5.4	0.0	0.0	0.0	11.2
	Podzols	0.0	16.1	15.4	17.2	10.0	11.2
	Upland peats	4.5	21.4	30.8	31.0	10.0	18.4
	Other	9.1	1.8	0.0	3.4	10.0	4.6
	n =	44	56	13	29	10	52

3. *Agrostis stolonifera – Juncus effusus* grassland / marsh group

a. *Filipendula ulmaria – Carex disticha* vegetation type

Description

This rather variable vegetation type includes a range of wet grassland and marsh communities of flat, poorly-drained or regularly inundated sites frequently adjacent to lakes or watercourses. These are typically on gleyed, relatively base-rich soils in the lowlands. The main sward species are *Agrostis stolonifera, Holcus lanatus, Filipendula ulmaria* and *Ranunculus repens*, with *Filipendula ulmaria* being a good indicator for the group. Other characteristic species include *Carex disticha*, *Poa trivialis*, *Mentha aquatica, Equisetum fluviatile, Vicia cracca, Carex nigra, Lathyrus pratensis, Phleum pratensis* and *Festuca pratensis*. *Juncus* species are occasional but never abundant. Broadleaf herb cover is much higher than in other vegetation types in this group.

Example sites

Little Brosna Callows, Offaly (Site 18); Ballindangan Marsh, Cork (Site 505); Derrindrehid, Leitrim (Site 851); Drumnee, Longford (Site 949).

Affinities

Fossitt: GS4 57%; GM1 16%; GS2 15%; GA1 7%; FS2 3%; GS1 2%

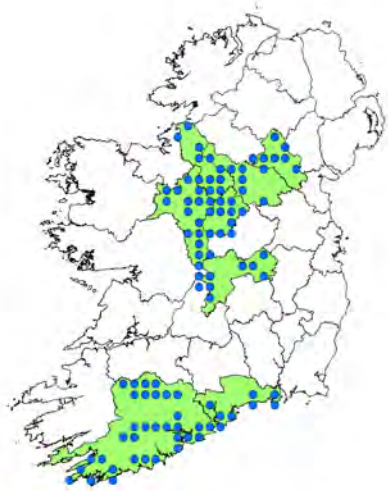
Annex I: No major correspondence

CEP: Filipendulo-Iridetum pseudacori association

NVC:

MG10a *Holcus lanatus – Juncus effusus* rush-pasture typical sub-community		(67%)
M23 *Juncus effusus/acutiflorus – Galium palustre* rush-pasture		(60%)
M27c *Filipendula ulmaria – Angelica sylvestris* mire		
	Juncus effusus – Holcus lanatus sub-community	(59%)

Corine: C37.241 Tall rush pastures



Distribution

This sward type is found throughout most of the survey area but was unrecorded from parts of west Cork, Offaly, north Waterford and east Cavan.

Marshy sward of *Agrostis stolonifera, Filipendula ulmaria, Glyceria fluitans, Equisetum fluviatile*, *Caltha palustris* and *Lychnis flos-cuculi*, Gransha More, Monaghan.

Wet pasture containing a tall sward of *Iris pseudacorus*, *Filipendula ulmaria, Poa trivialis, Holcus lanatus, Agrostis stolonifera* and *Carex hirta,* Glen Lough, Longford.

3. *Agrostis stolonifera – Juncus effusus* grassland / marsh group

b. *Holcus lanatus – Anthoxanthum odoratum* vegetation type

Description

This very frequent vegetation type contains species-poor wet grassy swards with the dominant species mainly being *Holcus lanatus*. *Agrostis stolonifera* and *Juncus effusus* are also constant and typically abundant, although it should be noted that *J. effusus* does not dominate here. These swards largely occur on gleyed soils on level ground, although they may also occur on well-drained mineral or basin peat soils. The indicator species for this vegetation type highlight that fields of this nature are more likely to have undergone some agricultural improvement than the other wet grassland types in this group, with *Trifolium repens, Cerastium fontanum* and *Lolium perenne* all listed. Other frequent species are *Anthoxanthum odoratum*, *Festuca rubra, Rumex acetosa* and *Ranunculus repens*. Although bryophyte cover is typically fairly low, *Rhytidiadelphus squarrosus* is also an indicator species for this group.

Example sites

Castlebarrett, Cork (Site 519); Lough Gara, Roscommon (Site 25); Beihy, Leitrim (Site 881); Glen Lough, Longford (Site 999).

Affinities

Fossitt: GS4 62%; GA1 19%; GS2 8%; GS1 6%; GS3 4%; GM1 1%

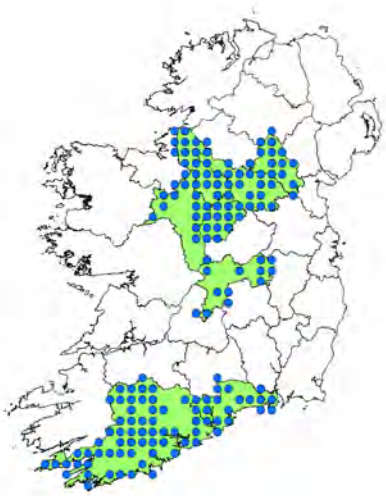
Annex I: No major correspondence

CEP: Centaureo-Cynosuretum typical sub-association

NVC:

MG10a *Holcus lanatus – Juncus effusus* rush-pasture typical sub-community		(68%)
MG10 *Holcus lanatus – Juncus effusus* rush-pasture		(63%)
MG6a *Lolium perenne – Cynosurus cristatus* grassland typical sub-community		(67%)

Corine: C37.241 Tall rush pastures



Distribution

This sward type occurs frequently throughout most of the survey area, although with only scattered occurrences in Roscommon and Offaly.

Wet grassland sward dominated by *Holcus lanatus*, *Agrostis stolonifera*, *Ranunculus repens*, *Cerastium fontanum* and *Glyceria fluitans*, Moneen, Cavan.

Species-poor rough pasture dominated by *Holcus lanatus.* There is also *Anthoxanthum odoratum*, *Juncus effusus* and *Cirsium palustre*, Corriga, Leitrim.

3. *Agrostis stolonifera – Juncus effusus* grassland / marsh group

c. *Agrostis stolonifera – Myosotis laxa* vegetation type

Description

This vegetation type includes species-poor swards from gleyed or occasionally well-drained mineral soils or basin peats in the lowlands that are dominated by *Agrostis stolonifera*. This grass is accompanied by the other constant species *Holcus lanatus* and *Juncus effusus*, although these represent much lower covers. The only other indicator for this group is *Myosotis laxa*, which occurs at a low level. Other relatively frequent species include *Ranunculus repens, Anthoxanthum odoratum* and *Trifolium repens*, although all occur in fairly low amounts.

Example sites

Tallowbridge, Waterford (Site 359); Dunworly, Cork (Site 613); Carrickanoran, Monaghan (Site 725); Rivory, Cavan (Site 1032).

Affinities

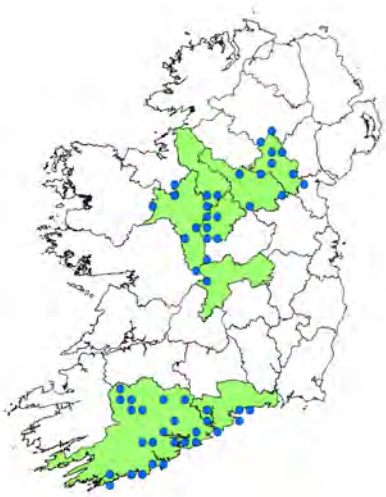
Fossitt: GS4 47%; GM1 17%; GS1 13%; GS2 13%

Annex I: No major correspondence

CEP: Senecioni-Juncetum acutiflori association

NVC:	MG10a *Holcus lanatus – Juncus effusus* rush-pasture typical sub-community	(72%)
	MG10 *Holcus lanatus – Juncus effusus* rush-pasture	(66%)
	MG10c *Holcus lanatus – Juncus effusus* rush-pasture *Iris pseudacorus* sub-community	(61%)

Corine: C37.241 Tall rush pastures



Distribution

This sward type occurs throughout the southern counties, Monaghan and Longford, with a sparse distribution in the remainder of the survey area.

Sward dominated by *Agrostis stolonifera, Holcus lanatus and Ranunculus repens.* Also present are *Anthoxanthum odoratum* and *Rumex acetosa,* Mossgrove, Cork.

Rough pasture dominated by *Agrostis stolonifera* and *Anthoxanthum odoratum*. *Juncus acutiflorus*, *Iris pseudacorus*, *Filipendula ulmaria* and *Holcus lanatus* are also frequent, Lissagernal, Longford.

3. *Agrostis stolonifera – Juncus effusus* grassland / marsh group

d. *Juncus effusus – Calliergonella cuspidata* vegetation type

Description

This sward type comprises fairly species-poor samples from flat, rushy pastures on poorly-drained, gleyed soils. *Juncus effusus* is the overwhelming dominant in these fields, giving the vegetation a tall, tussocky character. *Juncus acutiflorus* is fairly frequent but typically only at low abundances, and where this species is a significant sward component, the vegetation may be referable to vegetation type 4a. The other constants and the main grass species are *Agrostis stolonifera* and *Holcus lanatus*, which tend to dominate cover beneath the rushy tussocks. *Deschampsia cespitosa* also occurs occasionally. Indicator species include the herbs *Cardamine pratensis*, *Ranunculus flammula, Epilobium obscurum, Stellaria uliginosa* and *Lotus pedunculatus*, as well as the bryophyte *Calliergonella cuspidata,* all species typical of fairly wet habitats. *Ranunculus repens* is also fairly frequent.

Example sites

Gracedieu, Waterford (Site 319); Urraghilmore, Cork (Site 631); Killyvaghan, Cavan (Site 1045); Behy, Cavan (Site 1074).

Affinities

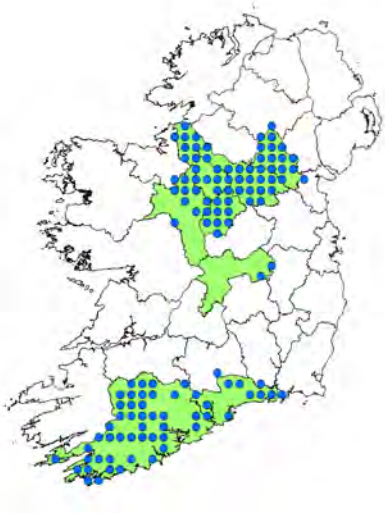
Fossitt: GS4 95%; GA1 2%; GM1 2%

Annex I: No major correspondence

CEP: Junco acutiflori-Molinietum association

NVC: M23b *Juncus effusus/acutiflorus – Galium palustre* rush-pasture *Juncus effusus* sub-community (69%)
M23 *Juncus effusus/acutiflorus – Galium palustre* rush-pasture (66%)
MG10 *Holcus lanatus – Juncus effusus* rush-pasture (65%)

Corine: C37.217 *Juncus effusus* meadow



Distribution

This sward type was recorded fairly frequently across most of the survey area, although with only a few scattered sites in Roscommon and Offaly.

Wet grassland sward dominated by *Agrostis stolonifera, Juncus effusus* and *Carex nigra*, accompanied by *Cardamine pratensis*, *Filipendula ulmaria*, *Ranunculus flammula* and *Potentilla palustris,* Coolnalitteragh, Cavan.

A *Juncus effusus*-dominated rush pasture on the shores of Lough Eglish, Tusker, Monaghan. *Holcus lanatus* and *Agrostis stolonifera* are also abundant.

Synoptic table for *Agrostis stolonifera - Juncus effusus* grassland group

	a	b	c	d	Group
Constants					
Agrostis stolonifera	12.3 V	16.4 V	47.6 V •••	17.5 V	18.4 V
Holcus lanatus	11.2 IV	22.8 V •••	5.7 III	12.8 V	16.1 V
Juncus effusus	2.9 II	9.0 III	1.9 II	41.0 V ••••	15.0 IV
a) *Filipendula - Carex* vegetation type indicators					
Filipendula ulmaria	11.9 III ••	2.2 II	4.1 II	3.0 II	4.8 II
Carex disticha	5.6 II ••	0.3 I	0.8 I	0.3 I	1.6 I
Poa trivialis	4.4 II •	1.8 II	0.9 II	1.1 II	2.1 II
Mentha aquatica	1.6 II •	0.1 I	1.3 II	0.3 I	0.6 I
Equisetum fluviatile	2.5 II •	0.1 I	1.2 II	0.7 I	0.9 I
Vicia cracca	0.7 I •	0.1 I	0.1 I	0.0 I	0.2 I
Phleum pratensis	2.6 I •	0.5 I	0.9 I	0.3 I	1.0 I
Carex nigra	3.2 II •	0.7 I	0.6 I	1.2 I	1.4 I
Lathyrus pratensis	1.0 II •	0.5 I	0.3 I	0.3 I	0.5 I
Festuca pratensis	1.5 I •	0.5 I	0.2 I	0.1 I	0.6 I
b) *Holcus - Anthoxanthum* vegetation type indicators					
Anthoxanthum odoratum	2.3 II	8.9 IV ••	3.5 II	3.5 III	5.5 III
Trifolium repens	1.2 II	5.3 IV ••	2.1 III	1.5 II	3.1 III
Rhytidiadelphus squarrosus	0.4 I	2.8 II ••	0.2 I	1.3 II	1.6 II
Festuca rubra	3.3 II	6.0 III ••	1.5 I	2.2 II	4.0 II
Rumex acetosa	1.0 II	2.4 III ••	1.0 II	2.1 III	1.9 III
Cynosurus cristatus	0.2 I	1.5 II •	0.1 I	0.4 I	0.8 I
Cerastium fontanum	0.3 II	0.6 III •	0.4 II	0.2 II	0.4 II
Cirsium palustre	0.3 I	0.8 II •	<0.05 I	0.5 II	0.5 II
Lolium perenne	1.4 I	2.7 II •	1.9 II	0.3 I	1.7 II
c) *Agrostis - Myosotis* vegetation type indicators					
Myosotis laxa	0.1 I	<0.05 I	0.4 I •	<0.05 I	0.1 I
d) *Juncus - Calliergonella* vegetation type indicators					
Calliergonella cuspidata	2.0 II	1.7 II	0.6 I	3.9 III ••	2.2 II
Cardamine pratensis	0.4 II	0.5 II	0.4 II	1.1 III ••	0.6 II
Kindbergia praelonga	0.1 I	0.3 I	<0.05 I	0.7 II •	0.3 I
Ranunculus flammula	0.4 I	0.4 I	0.4 I	1.0 II •	0.6 I
Epilobium obscurum	0.1 I	0.1 I	<0.05 I	0.3 II •	0.2 I
Stellaria uliginosa	0.1 I	0.1 I	<0.05 I	0.2 II •	0.1 I
Lotus pedunculatus	1.1 I	2.9 I	0.7 I	2.9 II •	2.3 II
Other broadleaved forbs					
Ranunculus repens	4.5 III	7.0 IV	5.3 IV	3.6 III	5.4 III
Ranunculus acris	1.4 II	1.8 III	0.6 I	1.4 II	1.5 II
Galium palustre	1.2 III	0.3 I	0.9 II	1.2 II	0.8 II
Plantago lanceolata	0.8 I	1.3 II	1.3 II	0.1 I	0.9 I
Taraxacum agg.	0.7 I	0.4 II	0.3 I	0.1 I	0.4 I
Potentilla anserina	3.6 II	1.0 I	2.8 II	0.6 I	1.6 I
Senecio aquaticus	0.5 I	0.4 I	0.4 I	0.6 II	0.5 I
Potentilla erecta	0.2 I	1.0 I	0.1 I	0.3 I	0.6 I

	a	b	c	d	Group
Stellaria graminea	0.2 I	0.2 I	0.1 I	0.1 I	0.2 I
Trifolium pratense	0.5 I	0.9 I	<0.05 I	0.1 I	0.5 I
Prunella vulgaris	0.1 I	0.3 I	0.1 I	0.1 I	0.2 I
Iris pseudacorus	2.8 I	0.2 I	1.3 I	0.5 I	1.0 I
Epilobium palustre	0.2 I	0.1 I	0.1 I	0.1 I	0.1 I
Carex panicea	0.4 I	0.4 I	0.4 I	0.1 I	0.3 I
Potentilla palustris	1.4 I	0.1 I	0.3 I	0.6 I	0.6 I
Caltha palustris	0.7 I	<0.05 I	0.4 I	0.1 I	0.2 I
Hydrocotyle vulgaris	0.6 I	0.2 I	0.3 I	0.5 I	0.4 I
Rumex obtusifolius	0.1 I	0.1 I	0.2 I	0.1 I	0.1 I
Leontodon autumnalis	0.1 I	0.1 I	0.3 I	<0.05 I	0.1 I
Rumex crispa	0.2 I	<0.05 I	0.2 I	<0.05 I	0.1 I
Hypochaeris radicata	<0.05 I	0.2 I	0.4 I	<0.05 I	0.1 I
Cirsium arvense	0.4 I	0.2 I	0.3 I		0.2 I
Lychnis flos-cuculi	0.1 I	<0.05 I	<0.05 I	0.1 I	0.1 I
Other grasses, sedges and rushes					
Juncus acutiflorus	4.8 II	2.9 II	0.8 I	2.7 III	3.1 II
Agrostis capillaris	0.7 I	2.5 II	0.3 I	1.1 I	1.5 I
Alopecurus pratensis	0.9 I	3.1 I	1.1 I	0.4 I	1.7 I
Deschampsia cespitosa	0.9 I	1.5 I	1.3 I	1.9 II	1.4 I
Agrostis canina	0.6 I	2.0 I	<0.05 I	1.7 I	1.4 I
Poa pratensis	0.4 I	0.5 I	0.4 I	0.5 I	0.5 I
Glyceria fluitans	2.7 I	0.4 I	0.2 I	1.2 I	1.1 I
Carex hirta	0.6 I	0.5 I	0.3 I	0.2 I	0.5 I
Dactylis glomerata	3.4 I	0.5 I	1.8 I	<0.05 I	1.2 I
Carex ovalis	0.2 I	0.5 I	0.1 I	0.2 I	0.3 I
Carex flacca	0.5 I	0.6 I	<0.05 I	0.2 I	0.4 I
Molinia caerulea	1.4 I	0.9 I	0.1 I	0.3 I	0.8 I
Alopecurus geniculatus	0.7 I	0.7 I	0.3 I	0.3 I	0.6 I
Arrhenatherum elatius	1.6 I	0.5 I	0.2 I	0.2 I	0.7 I
Other bryophytes					
Brachythecium rutabulum	0.3 I	0.8 II	0.2 I	0.7 II	0.6 II
Calliergon cordifolium	0.3 I	0.1 I	0.1 I	1.2 I	0.4 I
Pseudoscleropodium purum	<0.05 I	0.2 I	0.4 I	<0.05 I	0.1 I
Lophocolea bidentata	<0.05 I	0.1 I	<0.05 I	0.2 I	0.1 I
Number of relevés	205	370	75	220	870
Number of species	15.5	17.1	13.1	15.8	16.0
Altitude (m)	50	80	50	90	70
Slope (°)	0	0	0	0	0
Forb height (cm)	30.0	18.0	20.0	30.0	25.0
Grass/sedge/rush height (cm)	40.0	30.0	28.0	60.0	40.0
Forb proportion (%)	33.0	25.0	22.0	15.0	24.0

	a	b	c	d	Group
Soil pH	6.0	5.5	5.8	5.3	5.6
n =	186	342	71	210	809
Soil LOI (%)	20.4	16.0	15.0	22.0	18.35
n =	173	291	63	165	692
Soil Total P	1.22	1.00	1.08	1.09	1.05
n =	119	245	54	154	572
Soil types					
Well-drained mineral soils	18.7	19.9	31.9	6.1	17.1
Gleys	56.0	64.7	54.2	77.6	65.1
Basin peats	19.7	11.3	12.5	12.1	13.6
Podzols	0.0	1.2	0.0	0.5	0.6
Upland peats	0.0	1.7	0.0	0.9	1.0
Other	5.7	1.2	1.4	2.8	2.7
n =	193	346	72	214	825

4. *Juncus acutiflorus – Calliergonella cuspidata* grassland group

a. *Juncus acutiflorus – Holcus lanatus* vegetation type

Description

Within this common vegetation type are included mesotrophic rushy grasslands on flat land and hillsides with gley soils which are characterised by a high abundance of *Juncus acutiflorus*. *Juncus effusus* is a frequent associate in these tall swards but should not dominate. The most abundant other species here are *Holcus lanatus, Anthoxanthum odoratum, Calliergonella cuspidata* and *Agrostis stolonifera.* Also frequent are *Rumex acetosa, Lotus pedunculatus, Rhytidiadelphus squarrosus, Juncus effusus, Festuca rubra, Ranunculus repens, Ranunculus acris* and *Ranunculus flammula.*

Example sites

Moneensauran, Cavan (Site 1008); Coolowen, Cork (Site 415); Bengour West, Cork (Site 590); Garrison, Cork (Site 627); Derrynaseer, Leitrim (Site 803).

Affinities

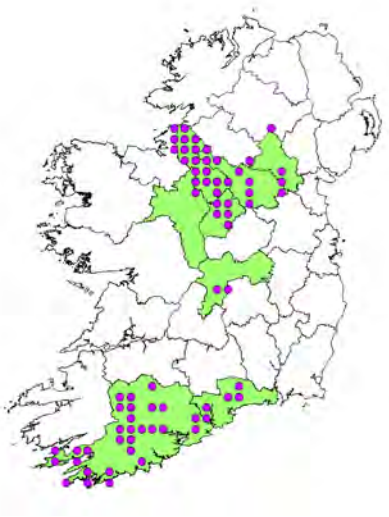
Fossitt: GS4 91%; GM1 6%; GS1 1%, GS2 1%; GS3 1%; GA1 1%

***Annex I*:** 6410 *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) (14%)

CEP: Junco acutiflori-Molinietum association

NVC: M23a *Juncus effusus/acutiflorus – Galium palustre* rush-pasture *Juncus acutiflorus* sub-community (68%)
M23 *Juncus effusus/acutiflorus – Galium palustre* rush-pasture (65%)
M23b J*uncus effusus/acutiflorus – Galium palustre* rush-pasture *Juncus effusus* sub-community (64%)

Corine: C37.217 *Juncus effusus* meadow



Distribution

This sward type is very frequent in Leitrim, absent from much of Roscommon and Offaly and scattered across the remaining surveyed counties.

Species-rich sward at Moneensauran, Cavan, with *Juncus acutiflorus*, *Holcus lanatus, Ranunculus repens, Ranunculus acris* and *Ranunculus flammula*.

Grassland with *Juncus acutiflorus*, *Holcus lanatus*, *Ranunculus flammula* and *Ranunculus repens* at Derrynaseer, Leitrim.

4. *Juncus acutiflorus – Calliergonella cuspidata* grassland group

b. *Molinia caerulea – Filipendula ulmaria* vegetation type

Description

This vegetation type primarily consists of species-rich pastures and meadows on flat ground with gleyed soils and basin peats, or occasionally well-drained mineral soils, in which *Molinia caerulea* is a constant feature. Broadleaved herb cover is generally relatively high, but graminoid species are more abundant. *Calliergonella cuspidata*, *Filipendula ulmaria*, *Carex panicea*, *Potentilla erecta* and *Succisa pratensis* are abundant, as are *Anthoxanthum odoratum* and *Agrostis stolonifera*. Frequent species include *Mentha aquatica*, *Carex flacca*, *Plantago lanceolata*, *Festuca rubra* and *Trifolium repens*. This sward is related to the sward type 2a, but differs in the lower dominance of *Molinia caerulea* and *Potentilla erecta*. It also occurs at lower altitudes on rather more base-rich soils.

Example sites

Clonmacnoise, Offaly (Site 107); Drumlosh, Roscommon (Site113); Corry, Leitrim (Site 837); Drumnee, Longford (Site 949); Glen Lough, Longford (Site 999).

Affinities

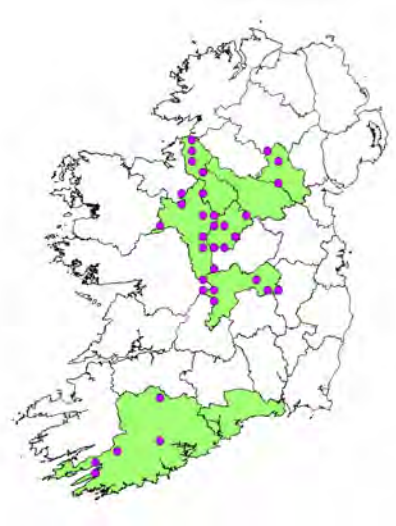
Fossitt: GS4 81%; GS1 7%; GM1 7%; GS2 5%

Annex I: 6410 *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) (60%)

CEP: Cirsio-Molinietum / Junco acutiflori-Molinietum associations

NVC: M24 *Molinia caerulea – Cirsium dissectum* fen-meadow (62%)
M23a *Juncus effusus/acutiflorus – Galium palustre* rush-pasture
Juncus acutiflorus sub-community (61%)
M24c *Molinia caerulea – Cirsium dissectum* fen-meadow
Juncus acutiflorus – Erica tetralix sub-community (61%)

Corine: C37.312 Acid *Molinia* grassland



Distribution

This sward type is rather infrequent and is scattered through most counties, but notably unrecorded in Waterford and Cavan.

Molinia caerulea, *Filipendula ulmaria*, *Succisa pratensis*, *Plantago lanceolata*, *Carex panicea* and *Agrostis stolonifera* in a sward at Drumlosh, Roscommon.

Species-rich sward with *Molinia caerulea*, *Cirsium dissectum*, *Carex flacca* and *Succisa pratensis*, Corry, Leitrim.

4. *Juncus acutiflorus – Calliergonella cuspidata* grassland group

c. *Calliergonella cuspidata – Cardamine pratensis* vegetation type

Description

This marshy vegetation type occurs on basin peats and gley soils, primarily on flat land in the lowlands that is periodically inundated. It is a variant of species-rich *Juncus acutiflorus*-dominated swards in which *Calliergonella cuspidata* is particularly prolific. The other chief species are *Holcus lanatus*, *Anthoxanthum odoratum*, *Agrostis stolonifera*, *Cardamine pratensis*, *Galium palustre*, *Ranunculus acris* and *Ranunculus repens*. *Carex nigra*, *Ranunculus flammula*, *Cirsium palustre*, *Juncus effusus* and *Lychnis flos-cuculi* are frequent.

Example sites

Moneen, Cavan (Site 1004); Rinnacurreen, Leitrim (Site 873); Drumsna, Leitrim (875); Cloondara, Longford (947); Pollagh, Longford (948).

Affinities

Fossitt: GS4 77%; GM1 20%; FS2 1%; GS1 1%; GA1 1%

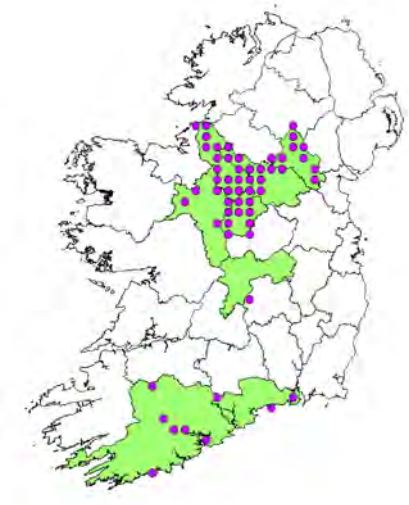
Annex I: No major correspondence

CEP: Junco acutiflori-Molinietum association

NVC:

M23a *Juncus effusus/acutiflorus – Galium palustre* rush-pasture		
	Juncus acutiflorus sub-community	(64%)
SD17c *Potentilla anserina – Carex nigra* dune-slack community		
	Caltha palustris sub-community	(59%)
M23 *Juncus effusus/acutiflorus – Galium palustre* rush-pasture		(58%)

Corine: C37.217 *Juncus effusus* meadow



Distribution

This sward type is very frequent in the north midlands, especially Leitrim and Longford. It is rare in Roscommon, Cork and Waterford, and only present in one site in Offaly.

Herb-rich sward with *Holcus lanatus*, *Cardamine pratensis*, *Anthoxanthum odoratum*, *Carex nigra* and *Ranunculus acris* at Pollagh, Longford.

Grassland with *Cardamine pratensis*, *Ranunculus flammula*, *Ranunculus repens*, *Carex nigra* and abundant *Juncus acutiflorus*, Moneen, Cavan.

4. *Juncus acutiflorus – Calliergonella cuspidata* grassland group

d. *Potentilla erecta – Succisa pratensis* vegetation type

Description

This sward type is transitional to those of group 2, being an upland *Juncus acutiflorus* sward characterised by species of acidic soils such as *Potentilla erecta* and *Succisa pratensis*. It occurs primarily on gley soils on hillsides but also occurs on flat land. Broadleaved herb cover is high, but generally less than 50%. Abundant species include the bryophytes *Rhytidiadelphus squarrosus*, *Pseudoscleropodium purum* and *Calliergonella cuspidata*, as well *as Anthoxanthum odoratum*, *Juncus acutiflorus*, *Carex panicea* and *Trifolium repens*. *Agrostis stolonifera*, *Carex flacca*, *Carex nigra*, *Hylocomium splendens*, *Nardus stricta*, *Carex pulicaris* and *Luzula multiflora* are frequent.

Example sites

Barratitoppy Upper, Monaghan (Site 717); Gubalaun, Leitrim (Site 804); Legnagrow, Cavan (Site 1007); Shanacastle, Cork (Site 558); Dawstown, Cork (Site 601).

Affinities

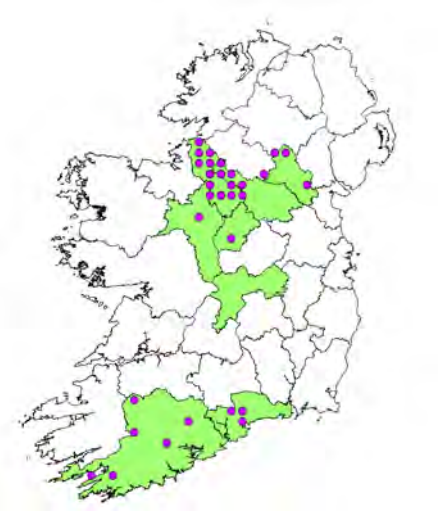
Fossitt: GS4 87%; GS3 12%; GS1 1%

Annex I: 6410 *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) (35%)

CEP: Nardo-Caricetum binervis association

NVC: U5c *Nardus stricta – Galium saxatile* grassland
Carex panicea – Viola riviniana sub-community (52%)
M25b *Molinia caerulea – Potentilla erecta* mire
Anthoxanthum odoratum sub-community (52%)
M24c *Molinia caerulea – Cirsium dissectum* fen-meadow
Juncus acutiflorus – Erica tetralix sub-community (52%)

Corine: C35.11 Nardo-Galion acid grassland / C37.312 Acid *Molinia* grassland



Distribution

This sward type is found mostly in Leitrim with scattered occurrences across the other counties, except for Offaly from which it is unrecorded.

Species-rich sward with *Succisa pratensis*, *Potentilla erecta*, *Anthoxanthum odoratum* and *Carex* spp. Gubalaun, Leitrim.

Grassland at Barratitoppy Upper, Monaghan, with *Lotus corniculatus*, *Potentilla erecta*, *Anthoxanthum odoratum*, *Agrostis canina* and *Juncus acutiflorus*.

4. *Juncus acutiflorus – Calliergonella cuspidata* grassland group

e. *Rhytidiadelphus squarrosus – Agrostis canina* vegetation type

Description

Found occasionally on flat land but more frequently on gentle hillsides, this grassland type occurs on acidic gleys, basin peats and sometimes on well-drained mineral soils. It is more upland in occurrence than any of the other vegetation types in this group. The most notable feature is the carpet of *Rhytidiadelphus squarrosus* beneath a sward of *Anthoxanthum odoratum, Agrostis canina, Juncus acutiflorus* and *Holcus lanatus*. Also plentiful are *Potentilla erecta* and *Trifolium repens*. *Hypochaeris radicata, Agrostis capillaris*, *Juncus effusus, Carex echinata*, *Carex nigra*, *Agrostis stolonifera* and *Pseudoscleropodium purum* are frequent.

Example sites

Sradrinagh, Leitrim (Site 845); Glenmore, Longford (Site 936); Gubrawully, Cavan (Site 1013); Knockacullion, Leitrim (Site 842).

Affinities

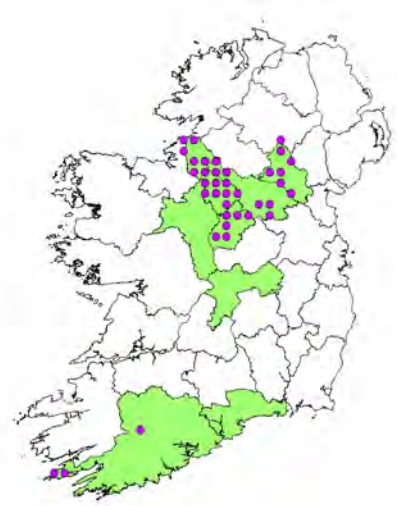
Fossitt: GS4 72%; GS3 16%; GA1 8%; GS1 3%; GM1 1%

Annex I: No major correspondence

CEP: Centaureo-Cynosuretum juncetosum sub-association

NVC: M25b *Molinia caerulea – Potentilla erecta* mire
Anthoxanthum odoratum sub-community (59%)
M23a *Juncus effusus/acutiflorus – Galium palustre* rush-pasture
Juncus acutiflorus sub-community (55%)
M23a *Juncus effusus/acutiflorus – Galium palustre* rush-pasture (52%)

Corine: C37.312 Acid *Molinia* grassland



Distribution

This sward type has a distinctive distribution, being most abundant in the north midland counties, unrecorded in Roscommon, Offaly and Waterford and rare in Cork.

A grassy sward with *Agrostis canina*, *Holcus lanatus*, *Anthoxanthum odoratum*, *Hypochaeris radicata* and *Carex nigra* at Sradrinagh, Leitrim.

Grassland with *Agrostis canina*, *Anthoxanthum odoratum*, *Carex echinata* and *Juncus acutiflorus* at Knockacullion, Leitrim.

Synoptic table for *Juncus acutiflorus - Calliergonella cuspidata* grassland group

	a		b		c		d		e		Group
Constants											
Holcus lanatus	12.3 V	•••	2.6 III		6.0 IV		7.7 V		9.5 V		8.4 V
Anthoxanthum odoratum	11.7 V		5.0 IV		4.9 IV		14.3 V		20.2 V	••	11.1 V
Juncus acutiflorus	36.4 V	•••	11.0 III		14.5 V		14.3 V		13.2 IV		20.8 V
Calliergonella cuspidata	3.5 IV		7.3 V		31.5 V		6.5 IV		1.4 III		10.6 IV
Rhytidiadelphus squarrosus	5.9 III		1.9 II		3.0 III		11.5 V		55.8 V	••••	13.8 IV
Agrostis stolonifera	6.5 IV		6.5 IV		10.1 IV		4.4 III		4.3 III		6.6 IV
Trifolium repens	3.0 III		1.1 III		3.1 IV		2.3 IV		7.1 IV	••	3.4 IV
a) *Juncus* - *Holcus* vegetation type indicators											
Rumex acetosa	1.9 III	••	0.3 I		0.8 II		0.5 I		0.8 II		1.0 II
Lotus pedunculatus	4.0 III	•	0.7 I		2.1 II		0.9 I		1.0 I		2.1 II
Epilobium obscurum	0.2 I	•	0.1 I		0.1 II		<0.05 I		<0.05 I		0.1 I
b) *Molinia* - *Filipendula* vegetation type indicators											
Molinia caerulea	1.4 I		17.7 V	••••	0.8 I		6.2 III		<0.05 I		3.9 II
Filipendula ulmaria	2.9 II		7.3 IV	••	3.4 IV		0.5 I		0.7 I		2.9 II
Vicia cracca	<0.05 I		0.7 II	••	0.2 I						0.1 I
Carex flacca	1.0 II		8.0 III	••	2.9 II		2.2 III		0.9 I		2.5 II
Plantago lanceolata	1.1 II		4.1 III	••	0.9 II		1.4 III		0.7 II		1.4 II
Carex panicea	1.3 I		10.4 IV	••	4.0 III		6.7 IV		1.9 II		4.0 III
Briza media			1.8 II	••	<0.05 I		0.4 I				0.3 I
Hydrocotyle vulgaris	0.6 I		3.2 II	••	1.1 I		0.1 I				0.9 I
Mentha aquatica	0.7 I		1.7 III	•	1.7 II		0.5 I				0.9 II
Cirsium dissectum	0.1 I		4.5 II	•	<0.05 I		2.6 II		0.1 I		1.0 I
c) *Calliergonella* - *Cardamine* vegetation type indicators											
Cardamine pratensis	0.7 II		0.5 II		1.4 IV	••	0.3 I		0.2 I		0.7 II
Galium palustre	0.7 III		0.9 III		1.6 IV	••	0.2 I		0.1 I		0.8 III
Ranunculus repens	2.3 III		1.8 III		5.8 IV	••	1.4 II		1.7 II		2.8 III
Carex nigra	1.1 II		2.1 II		7.9 III	••	2.2 III		3.1 III		3.3 III
Ranunculus flammula	0.9 III		0.4 II		2.0 III	••	1.1 III		0.3 II		1.0 III

	a	b	c	d	e	Group
Lychnis flos-cuculi	0.2 I	0.2 I	0.9 III ••	0.1 I	0.2 I	0.3 I
Equisetum palustre	0.1 I	0.1 I	1.9 II •	0.2 I		0.5 I
Caltha palustris	0.1 I	0.1 I	1.5 I •			0.4 I
d) *Potentilla - Succisa* vegetation type indicators						
Potentilla erecta	1.8 II	1.7 IV	0.4 I	12.1 V •••	3.4 IV	3.3 III
Succisa pratensis	1.0 II	6.7 IV	1.4 II	12.4 V •••	2.2 II	3.8 III
Hylocomium splendens	0.3 I	0.7 I	0.3 I	7.6 III •••	1.4 II	1.7 II
Nardus stricta	0.1 I	<0.05 I	<0.05 I	2.6 III ••	0.8 I	0.6 I
Pseudoscleropodium purum	0.4 I	1.0 II	0.7 II	2.6 IV ••	2.7 III	1.3 II
Danthonia decumbens	<0.05 I	0.2 I	<0.05 I	0.9 II ••	0.1 I	0.2 I
Prunella vulgaris	0.6 II	0.7 III	0.7 II	1.6 III ••	0.3 II	0.8 II
Thuidium tamariscinum	0.1 I	0.2 I	0.1 I	0.7 II •	0.2 I	0.2 I
Carex pulicaris	0.1 I	1.7 II	0.2 I	1.5 III •	<0.05 I	0.5 I
Luzula multiflora	0.3 I	0.1 I	0.1 I	0.9 III •	0.8 II	0.4 II
e) *Rhytidiadelphus - Agrostis* vegetation type indicators						
Agrostis canina	4.2 II	2.2 II	3.1 II	5.7 III	16.7 IV ••	6.0 III
Hypochaeris radicata	0.2 I	0.1 I	0.1 I	0.9 II	2.4 III ••	0.6 I
Agrostis capillaris	3.0 II	0.8 I	0.6 I	1.5 II	4.5 III ••	2.2 II
Carex echinata	0.6 II	0.8 I	0.6 I	1.7 III	2.5 III •	1.1 II
Carex ovalis	0.5 I	<0.05 I	0.3 I	0.1 I	1.2 II •	0.5 I
Luzula campestris	0.2 I	<0.05 I	0.1 I	0.9 II	1.5 II •	0.5 I
Pedicularis sylvestris	0.1 I	0.1 I	<0.05 I	0.5 II	0.7 II •	0.2 I
Other broadleaved forbs						
Ranunculus acris	3.0 III	1.5 III	2.2 IV	2.3 III	2.1 II	2.4 III
Cirsium palustre	1.1 II	0.6 II	0.7 III	0.8 III	0.9 II	0.8 II
Cerastium fontanum	0.3 II	0.1 II	0.3 II	0.3 II	0.1 I	0.2 II
Senecio aquaticus	0.4 II	0.2 I	0.9 II	0.8 II	<0.05 I	0.5 II
Trifolium pratense	0.5 I	1.5 III	0.4 I	0.8 II	0.6 I	0.7 II
Taraxacum agg.	0.4 I	0.1 I	0.2 II	0.5 II	0.4 I	0.3 II
Lathyrus pratensis	0.8 I	0.8 II	0.3 II	0.8 I	0.2 I	0.6 I
Epilobium palustris	0.3 II	0.1 I	0.2 I	<0.05 I	<0.05 I	0.2 I

	a	b	c	d	e	Group
Leontodon autumnalis	0.2 I	0.1 I	0.3 II	0.1 I	0.2 I	0.2 I
Centaurea nigra	0.4 I	1.6 II	<0.05 I	0.6 I	0.4 I	0.5 I
Potentilla palustris	0.5 I	0.7 I	1.3 I	0.2 I	0.3 I	0.6 I
Angelica sylvestris	0.3 I	0.6 II	0.3 I	0.1 I	0.1 I	0.3 I
Potentilla anglica	0.4 I	0.3 I	0.1 I	0.2 I	0.4 I	0.3 I
Potentilla anserina	0.2 I	0.8 I	0.9 I	<0.05 I	0.1 I	0.4 I
Stellaria uliginosus	0.2 I	<0.05 I	0.1 I	<0.05 I	<0.05 I	0.1 I
Hypericum tetrapterum	<0.05 I	0.2 I	0.2 I	0.3 I		0.1 I
Bellis perennis	<0.05 I	<0.05 I	0.2 I	0.3 I	<0.05 I	0.1 I
Stellaria graminea	0.1 I	0.1 I	0.1 I	<0.05 I	<0.05 I	0.1 I
Lotus corniculatus	0.1 I	1.3 II	0.1 I	0.3 I	<0.05 I	0.2 I
Galium saxatile	0.2 I	<0.05 I		0.2 I	0.5 I	0.2 I
Lythrum salicaria	0.1 I	0.7 I	0.2 I	<0.05 I		0.2 I
Other grasses, sedges and rushes						
Festuca rubra	4.3 III	7.8 III	4.2 III	4.7 III	3.7 III	4.7 III
Juncus effusus	6.4 III	0.9 II	3.8 III	2.1 II	6.3 III	4.4 III
Cynosurus cristatus	2.5 II	0.8 II	1.4 II	1.4 II	0.8 II	1.6 II
Poa trivialis	0.7 II	0.2 I	1.0 II	<0.05 I	0.6 I	0.6 I
Carex viridula	0.1 I	1.4 II	0.6 II	1.6 III	0.1 I	0.6 I
Juncus conglomeratus	0.6 I	0.8 I	0.3 I	0.7 II	0.2 I	0.5 I
Poa pratense	0.3 I	0.1 I	0.5 I	0.1 I	0.2 I	0.3 I
Carex disticha	1.2 I	1.7 I	1.2 I	0.1 I	0.1 I	0.9 I
Juncus articulatus	<0.05 I	0.3 I	0.5 I	2.0 I	0.8 I	0.6 I
Festuca pratensis	0.3 I	0.3 I	0.2 I			0.2 I
Juncus bulbosus	0.2 I	0.1 I	0.4 I	0.5 I	<0.05 I	0.3 I
Festuca arundinacea	0.1 I	0.9 I	0.3 I		0.1 I	0.2 I
Lolium perenne	0.1 I		0.4 I	0.1 I	0.5 I	0.2 I
Other bryophytes						
Brachythecium rutabulum	0.7 II	0.3 II	1.3 II	0.3 I	0.3 II	0.6 II
Lophocolea bidentata	0.1 I	0.3 II	0.2 I	0.5 III	0.6 II	0.3 II
Plagiomnium undulatum	0.1 I	0.1 I	0.2 I	0.3 II	0.2 I	0.2 I
Kindbergia praelonga	0.3 I	<0.05 I	<0.05 I	0.1 I	0.1 I	0.1 I
Climacium dendroides	0.1 I	0.3 I	1.0 II	0.4 I	<0.05 I	0.3 I
Calliergon cordifolium	0.3 I	0.2 I	0.7 I		<0.05 I	0.3 I

	a	b	c	d	e	Group
Other woody species, ferns and horsetails						
Equisetum fluviatile	0.3 I	0.1 I	0.8 II	<0.05 I	0.1 I	0.3 I
Fraxinus excelsior	<0.05 I	0.1 I	<0.05 I	0.1 I	<0.05 I	<0.05 I
Number of relevés	142	58	105	69	74	448
Number of species	20.9	27.1	26.2	27.7	20.6	23.9
Altitude (m)	90	45	60	100	100	80
Slope (°)	0	0	0	6	3	0
Forb height (cm)	25.0	20.0	10.0	15.0	8.0	15.0
Grass/sedge/rush height (cm)	50.0	35.0	25.0	35.0	25.0	35.0
Forb proportion (%)	25.0	35.0	30.0	33.5	23.5	30.0
Soil pH	5.3	6.0	5.8	4.9	4.7	5.3
n =	122	37	99	54	66	378
Soil LOI (%)	26.0	29.9	35.5	17.0	27.0	27
n =	91	32	76	39	55	293
Soil Total P	0.94	0.99	1.10	0.60	0.90	0.90
n =	89	18	73	39	55	274
Soil types						
Well-drained mineral soils	7.1	16.7	3.0	1.8	8.3	6.5
Gleys	79.5	47.6	61.0	87.5	68.1	70.5
Basin peats	8.7	28.6	30.0	10.7	11.1	16.9
Podzols	0.8	0.0	0.0	0.0	1.4	0.5
Upland peats	1.6	0.0	1.0	0.0	4.2	1.5
Other	2.4	7.1	5.0	0.0	6.9	4.0
n =	127	42	100	56	72	397

5: DISCUSSION

5.1 Summary data and the ranking of all surveyed sites

In this discussion the data collected in counties Cavan, Leitrim, Longford and Monaghan during 2009 will be compared with the 2008 data collected in the first year of the Irish Semi-natural Grasslands Survey (ISGS) in Cork and Waterford and with the 2007 data recorded in Roscommon and Offaly in the pilot study. Data from the NPWS Grasslands Monitoring Project (Dwyer *et. al.* 2007) are also incorporated.

Table 5.1 gives a summary of counties surveyed over the three years of the ISGS 2007-2009. In 2009, 239 sites were surveyed and a total of 1053 relevés recorded. In 2008, 250 sites and 785 relevés were surveyed. While 11 fewer sites were surveyed in 2009 than the 250 originally planned, the number of relevés was higher: a total of 1053 relevés were recorded, 163 more than the estimate of 890. In addition, the median site area increased from 7.2 ha in 2008 to 24.1 ha in 2009 (this was also higher than the median of 20.1 ha recorded in 2007 in Roscommon and Offaly), the area surveyed in 2009 totalling 7965.6 ha, compared to 2574.8 ha in 2008, a more than three-fold increase in area surveyed. This does not take into account areas surveyed and found not to be semi-natural grassland habitat, in particular wetland habitats such as wet heath, poor fen and flush and swamp habitats, which were often difficult to distinguish from grassland habitat on aerial photographs during the site selection process. In 2009, just 22 sites (9.2% of sites surveyed) were less than 5 ha in size, comparing favourably with 2008, when 36.8% of sites were below this threshold; however, this is a slightly higher proportion of small sites than in the pilot study in 2007 (5.5% of sites).

Table 5.1 Summary of sites surveyed to date during ISGS 2007-2009.

County	Year	Hectares surveyed	No. of sites	No. of relevés	Sites in SAC	Sites in NHA/pNHA	Areas of Annex I grassland
Roscommon	2007	1,431.9	51	183	10	19	22
Offaly	2007	1,289.7	40	122	9	20	16
Cork	2008	1,866.9	192	600	42	43	34
Waterford	2008	708.0	58	185	18	22	13
Cavan	2009	1,841.5	66	278	18	21	19
Leitrim	2009	3,924.9	77	391	19	29	22
Longford	2009	1,305.8	49	193	12	16	3
Monaghan	2009	893.4	47	191	1	12	5
TOTAL		*13,262.1*	*580*	*2143*	*129*	*182*	*134*

The increase in average site area in 2009 is largely due to the difference in quality of the semi-natural grassland habitats available for survey. Sites surveyed in 2009 generally showed fewer signs of agricultural improvement than those in Cork and Waterford in 2008. Of the counties surveyed to date, based on maps of agriculture in Ireland (Lafferty *et al*. 1999), Leitrim, Roscommon and the extreme northwest of Cavan have the lowest productivity, measured by economic farm returns per unit of labour, followed by Longford, southeast

Cavan and Monaghan. Offaly is slightly more productive, particularly the southern half, while Waterford and Cork, apart from the extreme southwest of Cork, are the most productive. This north/west – south/east division in terms of productivity is borne out by other agricultural data such as farm size, with Border (Cavan, Leitrim and Monaghan), Midland (Longford and Offaly) and West (Roscommon) counties generally ranking less favourably in economic terms than those in the South-East (Waterford) and South-West (Cork) regions. This was taken into account during the 2009 site selection process, with more sites selected and greater sampling effort concentrated in less agriculturally productive areas likely to yield higher quality semi-natural grassland.

The intensive style of farming noted in the 2008 survey in Cork and Waterford is in sharp contrast to the more extensive farming style encountered in the 2009 survey area of Cavan, Leitrim, Longford and Monaghan, and in Roscommon and Offaly, surveyed in the pilot study in 2007. The contrast between the two regions is evidenced by differences in the semi-natural grassland within the context of the greater landscape. In 2008, improved agricultural grassland/cultivated land was the top adjacent habitat, occurring next to over 80% of sites in Cork and Waterford, whereas in 2009 this was only the third most frequent adjacent habitat, after treelines/hedgerows and built land (both adjacent to 77% of sites). The high figure for built land in 2009, which was higher than the 2008 figure of 49%, may be due to the larger site size in 2009, which greatly increased the probability of roads adjoining or intersecting the site. Somewhat surprisingly, the proportion of sites recorded as being adjacent to improved agricultural land in 2009 and 2007 (74% and 74.7%) is not dissimilar from the 80% recorded in 2008; however, what may be of more significance is the greater percentage of sites in 2009 that occurred adjacent to further unsurveyed areas of semi-natural grassland and marsh: 68% of sites, compared to just over 30% of sites in 2008. Therefore, the majority of sites in 2009 were part of a larger complex of semi-natural grassland, whereas in 2008, most semi-natural grassland sites occurred as isolated pockets within a more agriculturally improved landscape.

The extensive nature of farming systems in the areas surveyed in 2009 bodes well for the conservation of the high-quality grassland surveyed. Of the 35 top-ranked sites from 2007-2009 (Table 5.2), 26 were surveyed in 2009: 17 in Leitrim, six in Cavan, two in Longford and one in Monaghan. The last two counties generally showed more signs of agricultural improvement, and tended overall to have less good quality semi-natural grassland than either Leitrim or Cavan; this largely explains why so few Annex I grassland habitats were found in Monaghan and Longford. The remaining nine top-ranked sites were surveyed in 2007: three in Offaly and one in Roscommon. Eighteen of the best sites are at least partially in an SAC, with a further one in an NHA and seven in proposed NHAs. The remaining nine sites are in undesignated areas, including the only Monaghan site to be highly ranked, Coolberrin (site 712). Notably, none of the top 35 sites were located in the more intensively farmed Cork or Waterford.

Table 5.2 Top 35 sites ranked by conservation score, surveyed during ISGS 2007-2009. For Conservation score criteria see Table 2.2.

Site no.	Site name	County	Area (ha)	SAC	NHA	pNHA	Annex I grassland habitat	Conservn. Score (%)
109	Moystown Demesne and Island	Offaly	194.0	216	-	216	6410/6510	67.37
811	Larganavaddoge	Leitrim	76.3	623	-	623	6230	66.32
1067	Manragh Upper	Cavan	87.9	-	-	-	6210/6230	63.16
850	Letterfine	Leitrim	121.1	-	-	-	6510	60.00
18	Little Brosna Callows	Offaly	332.1	216/566	564	216/566	6410	58.95
815	Sheemore	Leitrim	131.9	-	-	1421	6210	55.79
1004	Moneen	Cavan	208.0	2032	-	-	6410	54.74
813	Aghalateeve	Leitrim	69.8	623/1919	-	623/1919	-	53.68
825	Ballynaboll	Leitrim	178.8	-	-	-	6210	52.63
808	Keeloges	Leitrim	115.7	1403		1403	-	51.58
818	Lugnafaughery	Leitrim	95.7	623	2435	-	-	50.53
210	Portnacrinnaght	Roscommon	40.6	-	-	-	6410	49.47
807	Aghadunvane	Leitrim	130.9	1403	-	1403	6430	49.47
1008	Moneensauran	Cavan	51.5	584	-	584	6230/6410	48.42
712	Coolberrin	Monaghan	95.9	-	-	-	-	47.37
999	Glen Lough	Longford	51.3	-	-	1687	6410	47.37
110	Clooncraff	Offaly	46.3	216	-	216	6430/6510	46.32
802	Gubacreeny	Leitrim	36.1	428	-	428	6410	46.32
890	Kilroosk	Leitrim	51.9	-	-	-	6230	46.32
949	Drumnee	Longford	45.2	440	-	440	6410	46.32
823	Fawnlion	Leitrim	122.7	-	2435	-	-	45.26
107	Clonmacnoise	Offaly	56.7	216	-	216	6410/6510	44.21
108	Leitra Callow	Offaly	89.2	216	-	216	6510	44.21
837	Corry	Leitrim	29.8	-	-	426	6410	44.21
1016	Gubnafarna	Cavan	55.9	584	-	584	6230/6410	44.21
1051	Drumcrow	Cavan	18.4	-	-	-	6510	44.21
812	Cloontyprughlish	Leitrim	61.1	623	-	623	-	43.16
849	Corderry	Leitrim	103.8	-	-	1920	6510	43.16
30	Kilglas and Grange Lough	Roscommon	8.8	-	-	608	6410/6430	42.11
114	Cappaleitrim	Roscommon	137.8	216	-	216	6510	42.11
872	Gort	Leitrim	35.6	-	-	-	6510	42.11
874	Hartley	Leitrim	69.3	-	-	1643	6410	42.11
1009	Bellavalley	Cavan	118.3	584	-	584	6410	42.11
25	Lough Gara	Roscommon	24.1	-	-	587	6410/6430	41.05
826	Gortermone	Leitrim	45.9	-	-	-	6210	41.05

Looking at the sites surveyed since the ISGS began in 2007, 26 of the top 35 sites ranked by conservation score (Table 5.2) are in an NPWS conservation site, including the top-ranked site (site 109, Moystown Demesne and Island, Offaly); this is a good indication that national

conservation efforts are being concentrated on many of the more important sites within the region. However, steps should be taken to rectify the situation for those sites with a high conservation score that are not located within an NPWS conservation site. In particular, sites that are ranked highly and that also contain primary areas of Annex I grassland habitat (see section 3.2, page 42) should be prioritised for conservation efforts, as their exclusion from the network of SACs and NHAs may hamper efforts to conserve or monitor their habitats. This is discussed further below in relation to the 47 primary areas of Annex I grassland habitat identified.

Sites that score highly in both conservation and threat scores are likely to be in need of management to reduce threats, such as Aghalateeve, Leitrim (site 813) and Manragh Upper, Cavan (site 1067). Manragh Upper is of greater concern as it is ranked third overall out of all sites surveyed between 2007 and 2009, is not within an NPWS conservation site, and in addition contains primary examples of both *Molinia* meadows (6410) and *Nardus* grassland (6230) Annex I grassland habitats. It is within the boundary of the Marble Arch Caves Global Geopark that extends across Cavan and Fermanagh.

The wet summers of recent years, and particularly the widespread flooding of November 2009, present farmers with a further challenge in the face of already lower incomes. Conversations with landowners during the 2009 field season suggest that many farmers in the disadvantaged northwest region will leave their farms to seek jobs elsewhere, and there is ample evidence that many farmers within this region have already relegated farming to a subsidiary occupation, with more sites in 2009 showing signs of abandonment such as scrub encroachment (70% of sites in 2009, compared to just over 50% in 2008) and rank sward caused by undergrazing/lack of mowing (50% in 2009, compared to just over 30% in 2008). Abandonment is a significant threat to the diversity of semi-natural grasslands. As well as the threat of succession of grassland to scrub or heath, abandonment allows more aggressive competitors, such as tussocky grasses, to become dominant at the expense of others in the sward; this usually results in the accumulation of litter, which through shade effects and nutrient enrichment reduces botanical diversity by inhibiting the germination of slow-growing, poor competitors that are more likely to develop in nutrient-poor conditions (Ausden & Treweek 1995). The result is a species-poor sward that has lost much of its botanical interest. The negative effects of abandonment can be tackled successfully by suitable mowing or grazing regimes, provided nutrient inputs are minimised (Ausden & Treweek, 1995). Future REPS schemes should aim to encourage farmers back to appropriate active management practices to help alleviate some of the problems caused by the abandonment of land. In a number of instances, it appeared that REPS planners advised non-interventionist management for areas of grassland set aside for nature conservation. While this may increase cover for certain fauna species (e.g., birds) it is not recommended for grassland as it

leads to rankness and ultimately to a decrease in the diversity of grassland species and habitats.

Within the 2009 survey area additional problems may arise through developments such as pylon construction by Eirgrid in east Monaghan. As permission to survey these areas was denied by landowners, no data could be obtained on what grasslands would potentially be lost because of this development; however, the areas earmarked for construction are in rocky terrain which might have been expected to yield semi-natural grassland of conservation value.

5.2 Assessment of Annex I grassland

As stated in the methods in section 2.4 (p. 16), a change to the Annex I grassland habitat assessment criteria used during 2009 was implemented to divide the positive indicator species into high quality indicators (species only found in high quality grassland habitats) and non-high quality indicators. In addition, a number of other criteria, including a minimum area of 1 ha, were used to extract a list of ***primary areas*** of Annex I grassland habitat which are of high conservation value (see p. 42). These criteria were retrospectively applied to all Annex I grassland habitat assessed since 2007 and a list of 47 primary areas of Annex I grassland habitat was obtained. These primary areas represent the highest quality Annex I grassland habitat so far recorded during ISGS 2007-2009, and should provide a focus for conservation and monitoring efforts into the future. As the ISGS continues over the next number of years, the aim should be to add to this so that a comprehensive nationwide list of primary Annex I grassland habitat sites is compiled. This discussion of Annex I grassland habitat assessment will first address sites surveyed in 2009. The 47 primary areas of Annex I grassland habitat will be discussed at the end of this section.

A smaller area of Annex I grassland habitat was recorded in 2009 (110.9 ha), compared to 2008 (270.6 ha) and 2007 (379 ha). However, figures from previous years included large areas of Annex I habitat located within, for example, the Shannon Callows SAC (000216) and Lyre Mountain (site 316) in Co. Waterford. Notwithstanding this fact, the percentage of monitoring stops that passed on structure and functions greatly increased in 2009 compared to previous years, as shown in Table 5.3 below. This may indicate that higher quality Annex I grassland habitat was assessed in 2009; the increased familiarity of the field ecologists with the Annex I habitats being assessed could be an additional factor. Also in 2009, other assessment criteria, especially the forb : graminoid ratio, were used in conjunction with the positive indicator species list to help determine whether or not the habitat as a whole was Annex I quality before carrying out assessments. This is likely to have led to less areas being chosen for a survey and a higher pass rate for those areas that were surveyed.

As Table 5.3 shows, pass rates were higher in 2009, when compared to all monitoring stops (2007 to 2009), for each of the ten criteria and in terms of overall pass rate. The recalculated structure and functions scores for each individual monitoring stop within all the areas of Annex I grassland habitats surveyed between 2007 and 2009 can be viewed in Appendix 6.

Table 5.3 Pass rate for criteria used to assess the structure and functions for all Annex I grassland habitats surveyed in 2009 only (*n* = 152) and between 2007 and 2009 (*n* = 441).

Assessment Criteria	% of monitoring stops that passed – 2009 only	% of monitoring stops that passed – 2007 to 2009
Overall positive indicator species	80	61
Positive indicator species (H.Q.*)	91	78
Positive indicator species (Non-H.Q.)	88	76
Negative indicator species	91	91
Forb : graminoid ratio	80	59
Litter cover	91	84
Encroachment	99	97
Bare ground cover	99	98
Sward height	100	98
Grazing & disturbance	99	99
Overall assessment for relevé	**55**	**34**

*H.Q. = High Quality

The introduction of a more stringent positive indicator species criterion, incorporating high quality (H.Q.) species and non-H.Q. species (see p. 16), to the structure and functions assessment criteria did not result in a lower pass rate for the positive indicator species criterion for Festuco-Brometalia (6210) or Lowland hay meadows (6510) when compared with assessments made using the old criteria, which suggests that the assessed areas of these habitats were already of a high standard. There was also very little difference between the pass rates for *Molinia* meadows (6410) (3% more failed using H.Q. species). However, applying this amended criterion to *Nardus* grassland (6230) resulted in a 12% higher failure rate in the positive species indicator criterion, despite the addition of three positive indicator species for this Annex I habitat: *Carex binervis, Festuca vivipara* and *Veronica officinalis*, suggesting that some assessed areas may have been good quality dry-humid acid grassland (GS3) rather than Annex I quality 6230 habitat. The fact that many of the species on the positive indicator list for 6230 are listed in Fossitt (2000) for GS3 grassland supports this. Thus, while the introduction of H.Q. species for 6230 may apparently cause a higher failure rate for assessments of this Annex I grassland habitat, it has clarified the distinction between *Nardus* grassland 6230 and non-Annex I quality acid grassland.

Indicator species for Calaminarian grassland (6130) were already divided into H.Q. and non-H.Q. lists in previous years (referred to in previous reports as primary and secondary species), and were refined further by Martin *et al.* (2008) based on data in Holyoak (2008). Calaminarian grassland was only recorded in 2008. Assessment of this Annex I grassland

habitat is dependent on being able to identify the metalliferous bryophytes that make up most of the primary positive indicator species for the habitat; many of these can only be identified successfully when fertile.

The other structure and functions assessment criteria, particularly litter cover, encroachment, bare ground cover, sward height and grazing disturbance, depend to a large extent on the degree to which the habitat is managed. In general, the pass rates of these criteria were all very high in 2009, with perhaps litter cover for *Molinia* meadows (6410) and Lowland hay meadows (6510) the only exceptions. As litter cover is directly linked with management such as mowing for hay, the failure of this criterion in meadow sites is cause for some concern as it may indicate a tendency to rankness. While many landowners may be aware of the importance of regular mowing, a number of meadow sites in Cavan, Leitrim, Longford and Monaghan could not be mown during the last three or four years due to recent wet summers, and there was at least one case in Cavan (site 1090) of a dry meadow showing signs of succession to a wet meadow due to persistent wet weather. Like litter cover, encroachment and sward height are also affected by the mowing and grazing regime. While the introduction of grazing may keep these criteria within acceptable limits, care should be taken that stocking rates are appropriate lest bare ground cover and grazing disturbance exceed acceptable limits in their place. Determining optimum stocking rates should take into account the hydrological condition of the site, as even low numbers of cattle can cause poaching in wet pastures. Finally, nutrient inputs in the form of dung or topped/cut plant material should be kept at a low level to maintain a good diversity of broadleaved herbs. A total of 35% of 6410 monitoring stops failed on insufficient broadleaf cover. This could be due to infrequent cutting leading to a proliferation of tussocky species.

For assessing the future prospects of Annex I grassland habitats surveyed during ISGS 2007-2009, negative impact data collected in the field were reorganised into seven categories to adhere more closely to the structure of new EU guidelines available through the CIRCA website (CIRCA 2009), and based on a recent report on the pressures, threats and impacts on Annex I habitats (Ssymank in press). The full extended list of impacts and pressures (CIRCA 2009), both positive and negative, will be used in 2010 to score future prospects so as to adhere more closely to the new guidelines.

Of the six negative impacts recorded, undergrazing/encroachment (treated under one EU threat code) were the most significant (Table 3.16), affecting more than half of the Annex I grassland habitat areas surveyed in 2009, and impacting on a higher proportion of the primary Annex I grassland sites. Management at these sites should be investigated further with a view to introducing appropriate measures to reduce the effects of abandonment. As noted above, the problem of losing areas of Annex I grassland habitat due to agricultural abandonment is extremely serious and should be tackled at source. Agricultural

improvements and adjacent afforestation were the next most frequent impacts noted on Annex I grassland habitats.

Table 5.4 lists the Annex I grassland habitats surveyed in 2009 that are associated with SACs. The nine SACs in this table were chosen for a field visit as they are listed by NPWS as containing Annex I grassland habitat. As Table 5.4 shows, some of the Annex I grassland habitats listed by NPWS as present within the SAC were not found during the survey, while in other cases the 2009 survey located additional Annex I grassland habitats. Where Annex I grassland habitats listed by NPWS were not relocated during the 2009 survey, this is probably due to the fact that they are either small areas or, due to changes in land management, the Annex I grassland habitat no longer exists.

Table 5.4 List of the Annex I grassland habitats associated with SACs. The Annex I grassland habitats listed are Festuco-Brometalia (6210), *Nardus* grassland (6230), *Molinia* meadows (6410), Hydrophilous tall herb communities (6430) and Lowland hay meadows (6510).

SAC	ISGS Site no.*	Annex I grassland habitat**	County	Recorded by NPWS or ISGS 2009
7	1032	6430	Cavan	NPWS & ISGS
428	802, 804	6410	Leitrim	NPWS & ISGS
428	-	6510 & 6430	Leitrim	NPWS
440	949	6410	Longford	ISGS
440	-	6210**	Longford	NPWS
584	1008, 1011	6230**	Cavan	NPWS & ISGS
584	-	6410	Cavan	NPWS
623	811	6230	Leitrim	NPWS & ISGS
623	894	6210	Leitrim	ISGS
623	-	6410	Leitrim	NPWS
625	-	6210** & 6430	Leitrim	NPWS
1818		6410	Longford	NPWS
2032	-	6410**	Leitrim	NPWS
2299	-	6410	Cavan	NPWS

*ISGS site number only listed when Annex I habitat recorded during 2009. When site number is not listed part of the SAC was surveyed but no Annex I grassland habitats were located.
**denotes that the Annex I grassland habitat is listed as a qualifying interest for the SAC.

Primary areas of Annex I grassland habitat 2007-2009

Of the 47 primary areas of Annex I grassland habitats surveyed, *Molinia* meadows (6410) was the most frequent, with 14 sites identified in six counties (Table 3.19). High quality 6410, however, was only recorded in the northern and midland counties, and was absent from Cork and Waterford. Leitrim recorded the highest incidence of the habitat, with five sites, followed by Offaly with 4 sites. In Monaghan and Longford, 6410 was the only primary Annex I grassland habitat recorded. The 6410 recorded in Monaghan (Barratitoppy, site 717) was located entirely within an NHA, and that in Longford (Drumnee, site 949) was located partially

within an SAC. Five sites, including one in Leitrim (site 881, Beihy) that had a *Favourable* structure and functions assessment, are not located within an NPWS conservation site.

Nardus grassland (6230) was recorded as having the largest area of primary Annex I grassland habitat by virtue of one site, 316 (Lyre Mountain, Waterford) having over 99 ha of high quality 6230. It was also the joint second most frequent (with Festuco-Brometalia (6210)), being recorded at nine sites: three in Cork and two each in Waterford, Cavan and Leitrim. Three of these nine areas of primary Annex I grassland habitat are not located within an NPWS conservation area, including two sites that had a *Favourable* structure and functions assessment.

In total, nine areas of primary Festuco-Brometalia (6210) habitat, covering an area of 58.6 ha, were identified in four counties in ISGS 2007-2009: five in Roscommon, two in Leitrim and one each in Cavan and Offaly. An additional seven sites located in SACs in Roscommon and Offaly and surveyed in 2006 by Dwyer *et al*. (2007) may be added to this list to bring the total number of primary 6210 sites to 16, and total area to 123.3 ha (Table 5.5). Of the seven additional sites, four are in Offaly and include some of the best examples of the habitat on eskers; the remaining three are wholly or partly in Roscommon, including the largest area of the habitat, 47 ha recorded at Killeglan Grassland SAC (002214). All 16 sites are located in the northern half of the country, with none identified in Cork or Waterford. Significantly, five of these primary sites (four in Roscommon) are not located within an NPWS conservation site, and one is barely (<1%) in an SAC. This is some cause for concern, and may indicate insufficient or inadequate conservation sites identified for this Annex I grassland habitat, particularly in Co. Roscommon.

Of the primary areas of Annex I grassland habitat surveyed in ISGS 2007-2009, Lowland hay meadows (6510) is the fourth most frequent and is ranked fourth in terms of area covered. Offaly is the county with the highest number (three) of primary areas of this Annex I habitat, and also contains the largest examples. Two primary areas of 6510 were also identified in Leitrim and one each in Cavan and Roscommon. The largest area, at site 68 (Slate River, Offaly) is not located within an NPWS conservation site. The two smallest areas identified, one each in Leitrim and Cavan (the latter, site 1051, having a *Favourable* assessment on structure and functions), are also outside the confines of an NPWS conservation site.

Hydrophilous tall herb communities (6430) is one of the least frequently encountered Annex I grassland habitats surveyed in ISGS 2007-2009. As noted in Martin *et al*. (2008), due to the remit of the ISGS to survey grassland areas, only the subset of this habitat that occurs adjacent to grassland habitats, such as lakeshores, is likely to be sampled, as the other main habitat where this habitat is known to occur – fringes of wet woodlands – is beyond the remit of the survey. For this reason, only four sites (7.6 ha) of 6430 Annex I grassland habitat

make it into the primary list, two in Roscommon and one each in Offaly and Cork. All of these sites are wholly or partially within NPWS conservation sites.

Calaminarian grassland (6130) is one of the rarest Annex I grassland habitats in the country because of its restricted occurrence in old mining areas. The only 6130 sites surveyed so far during ISGS 2007-2009 have been in Cork and Waterford. Two of these sites are not located within NPWS conservation sites, while the other two are wholly, or almost so, within an SAC or pNHA. The total area of the primary examples of this Annex I habitat is very low, 0.38 ha, and as such it is imperative that all examples should be afforded some protection. Structure and functions for all four primary areas of 6130 identified received an *Unfavourable – Bad* assessment (Table 5.5). It is possible that a more favourable assessment may be attained by the rechecking of the collected moss and liverwort samples by a specialist in metalliferous bryophytes.

Table 5.5 The overall quality of each of the six Annex I grassland habitats within the 54 primary areas of habitat recorded between 2006* and 2009. Any criteria where more than 25% of sites were scored as *Unfavourable – Bad* were assigned an overall score of *Unfavourable – Bad*; for a criterion to be scored as *Favourable* all sites had to be in a *Favourable* condition, all other combinations were scored as *Unfavourable – Inadequate*.

Annex I habitat	No. of areas	Total area (ha)	Area	Structure & functions	Future prospects	Overall
Calaminarian grassland (6130)	4	0.4	Favourable	Unfavourable – Bad	Unfavourable – Bad	*Unfavourable – Bad*
Festuco-Brometalia (6210)	16*	123.3	Unfavourable – Bad	Unfavourable – Bad	Unfavourable – Bad	*Unfavourable – Bad*
Nardus grassland (6230)	9	126.4	Unfavourable – Inadequate	Unfavourable – Bad	Unfavourable – Bad	*Unfavourable – Bad*
Molinia meadows (6410)	14	124.8	Unfavourable – Inadequate	Unfavourable – Bad	Unfavourable – Bad	*Unfavourable – Bad*
Hydrophilous tall herb communities (6430)	4	7.6	Favourable	Unfavourable – Bad	Unfavourable – Inadequate	*Unfavourable – Bad*
Lowland hay meadows (6510)	7	55.6	Unfavourable – Inadequate	Unfavourable – Bad	Unfavourable – Inadequate	*Unfavourable – Bad*

*Data from Dwyer *et al*. (2007) incorporated with ISGS 2007-2009.

Each of the Annex I grassland habitats has an overall assessment of *Unfavourable – Bad*, with none of the six habitat types having adequate structure and functions. The overall surveyed area of the three most common Annex I grassland habitats is similar but it should be noted that 99 ha of the *Nardus* grassland (6230) was from one site. With the addition of the seven Festuco-Brometalia (6210) sites from Dwyer *et al.* (2007) this Annex I habitat has become the most frequent within the survey area, followed by *Molinia* meadows (6410).

Calaminarian grassland (6130) and Hydrophilous tall herb communities (6430) occur much less frequently within the study area than the other four Annex I grassland habitats.

The 47 primary areas of Annex I grassland habitat should form part of a network of monitored sites that are surveyed on a regular basis to assess the status of the habitats. As Table 3.19 shows, 19 of these Annex I grassland areas are associated with SACs. For those that are only partially within the SAC it would be advisable to bring all of the area of the Annex I grassland habitat within the boundary of the SAC. In addition to the 19 sites associated with SACs, one site is located within an NHA and seven are located within pNHAs. For those sites not located within an NPWS conservation site, steps should be taken to rectify this situation as otherwise the habitat will lack protection and may disappear.

When assessing Annex I grassland habitats, determining the correct number of monitoring stops to record can be difficult, particularly as the habitat may not cover one continuous area. To ensure that an adequate number of monitoring stops is recorded, a sampling scale as outlined in Table 5.6 is proposed. It may not always be possible to implement this sampling scale during the initial assessment and many of the larger areas (> 4 ha) of Annex I grassland habitat assessed during ISGS 2007-2009 were not appropriately monitored according to the scheme proposed in Table 5.6. However it should be utilised when monitoring each of the primary Annex I grassland habitat sites in the future.

Table 5.6 Monitoring scale for Annex I grassland habitats.

Area (ha)	No. of monitoring stops
<0.04	0
0.04 – <0.25	2
0.25 – 4	4
>4 – 8	6
>8 – 16	8
>16 – 32	10
>32 – 64	12
>64	14+

5.3 Vegetation classification

The vegetation classification placed the 2114 relevés analysed into one of four vegetation groups; these were further divided into 21 vegetation types. Two of the groups within the vegetation classification, the *Plantago lanceolata – Festuca rubra* and *Potentilla erecta – Galium saxatile* groups, represent plant communities located in drier habitats, although the latter includes a slightly more humid type that has affinities with *Molinia* meadows (6410).

The *Plantago lanceolata – Festuca rubra* group was the more frequently recorded of the drier vegetation groups, representing 28% of all ISGS relevés analysed (599 of 2114 relevés) (Tables 3.20 and 3.21). The remaining two groups within the classification, *Agrostis stolonifera – Juncus effusus* and *Juncus acutiflorus – Calliergonella cuspidata*, represent plant communities recorded in wetter habitats. The *Agrostis stolonifera – Juncus effusus* group was the most frequently recorded overall, representing 41.1% of all ISGS relevés analysed (870 of 2114 relevés).

Relationship of Vegetation Classification to Fossitt (2000) Habitat Classification

Within the four vegetation groups, the two wet groups, *Agrostis stolonifera – Juncus effusus* and *Juncus acutiflorus – Calliergonella cuspidata*, between them account for 87% of all wet grassland (GS4) relevés recorded. In total, 82.6% of relevés within the latter, smaller group were recorded as GS4, while within the larger group the figure was almost 68% for GS4 relevés. Relevés recorded in marsh (GM1), the least common of the Fossitt (2000) grassland habitats, also had a high affinity for these two groups, with a slightly higher proportion (61.5%) of all GM1 relevés placed in the *Agrostis stolonifera – Juncus effusus* group, most of them in the *Filipendula ulmaria – Carex disticha* vegetation type (vegetation type 3a on Table 3.24). Interestingly, the tall herb swamp relevés (FS2), although small in number (only seven were recorded) were almost all, except one, also placed in this vegetation type. GM1 relevés classified within the *Juncus acutiflorus – Calliergonella cuspidata* group were mostly placed in the *Calliergonella cuspidata – Cardamine pratensis* vegetation type (4c). The remaining FS2 relevé was also placed in this type.

The affinity between the vegetation groups and the Fossitt (2000) classification is less clear-cut in the drier groups. While the majority of dry calcareous and neutral grassland (GS1) relevés (83% of all GS1 relevés recorded) were classified into the *Plantago lanceolata – Festuca rubra* group, they nonetheless made up only 40% of the habitats recorded for this group, the remaining 60% being made up of dry meadows and grassy verges (GS2), dry-humid acid grassland (GS3) and wet grassland (GS4) relevés, as well as semi-improved variants of each of these. A total of 75% of all semi-improved GS1 (GSi1) relevés were placed in this group, most in the *Lolium perenne – Trifolium repens* vegetation type (1c). The *Trifolium pratense – Plantago lanceolata* vegetation type (1b) holds the greatest number of GS2 relevés, 49 (28% of all GS2 relevés recorded). Among the drier groups, the clearest correspondence is between the *Potentilla erecta – Galium saxatile* group and the Fossitt (2000) habitat dry-humid acid grassland (GS3), with 121 of the 226 GS3 relevés allocated to this group. A smaller number of GS3 relevés (69) were placed in the *Plantago lanceolata – Festuca rubra* group, particularly in the *Agrostis capillaris – Anthoxanthum odoratum* vegetation type (1e), which is more acidic in nature. The highest proportion (26%) of GS3 relevés were placed in the *Anthoxanthum odoratum – Hylocomium splendens* vegetation type (2b).

Martin *et al*. (2008) noted that one of the vegetation types within the *Plantago lanceolata – Festuca rubra* group is a maritime cliff-top grassland community, the *Armeria maritima – Plantago coronopus* type (1g), which does not have a comparable habitat type listed in Fossitt (2000). The majority of maritime cliff-top grassland surveyed during 2008 was a natural vegetation type, whereas most of all other Irish grassland types are anthropogenic in origin. An additional arctic-alpine heath grassland vegetation association identified in White & Doyle (1982) from Ben Bulben, the Breutelio-Seslerietum, was not conclusively identified during this survey due to insufficient data: only one relevé with the diagnostic species *Euphrasia salisburgensis, Saxifraga aizoides* and *Breutelia chrysocoma* was recorded during 2009 from the Ben Bulben area of northwest Leitrim, and this was placed in the *Succisa pratensis – Carex flacca* vegetation type (1a) of the *Plantago lanceolata – Festuca rubra* group.

Relationship of Vegetation Classification to EU Annex I grassland habitats

The following comparison of Annex I grassland habitats and the vegetation types identified in this report is made in the context of where Annex I grassland habitats fit into these vegetation types, rather than further defining the Annex I habitats in an Irish context. It is expected that future years of the ISGS will result in the recording of more data on Annex I grasslands in Ireland, allowing a better characterisation of these habitats as they exist in this country.

All but two of the relevés recorded in the Annex I grassland habitat Festuco-Brometalia (6210) were placed in the *Plantago lanceolata – Festuca rubra* group, mostly in the first two vegetation types, Succisa *pratensis – Carex flacca* (1a) and *Trifolium pratense – Plantago lanceolata* (1b; 42% and 44% respectively of all 6210 relevés recorded).

The *Trifolium pratense – Plantago lanceolata* type (1b) also had a high proportion (53%) of all Lowland hay meadows (6510) relevés recorded. The two vegetation types 1a and 1b are therefore of particular importance in conservation, and should provide a focus for conservation efforts.

The *Plantago lanceolata – Festuca rubra* group also contained 61.5% of all Calaminarian grassland (6130) relevés, specifically in the *Armeria maritima – Plantago coronopus* vegetation type (1g).

Most of the *Nardus* grassland (6230) Annex I habitat was placed in the *Potentilla erecta – Galium saxatile* group, particularly in the *Anthoxanthum odoratum – Hylocomium splendens* vegetation type (2b; 42%), with a further 23% of 6230 relevés classified within the *Agrostis capillaris – Galium saxatile* vegetation type (2d).

Molinia meadows (6410) relevés, despite a somewhat more even distribution throughout the vegetation types identified, was recorded predominantly in vegetation classified within the *Juncus acutiflorus – Calliergonella cuspidata* group (51%), with 20% of 6410 relevés placed in

the *Molinia caerulea – Filipendula ulmaria* vegetation type (4b). However, a high incidence of 6410 relevés was also found in the *Molinia caerulea – Juncus acutiflorus* vegetation type (2a) of the *Potentilla erecta – Galium saxatile* group, indicating 6410 habitat in more upland situations.

Hydrophilous tall herb communities (6430) Annex I grassland habitat was restricted to only 11 relevés, and these were all placed in the *Agrostis stolonifera – Juncus effusus* group, over half of them in the *Filipendula ulmaria – Carex disticha* vegetation type (3a), more than one-third in the *Agrostis stolonifera – Myosotis laxa* vegetation type (3c), and the remaining one relevé in the *Holcus lanatus – Anthoxanthum odoratum* vegetation type (3b).

The only vegetation type that does not contain any Annex I grassland habitat is the *Lolium perenne – Trifolium repens* vegetation type (1c), which contains the highest proportion of semi-improved grassland relevés.

Relationship of Vegetation Classification to White & Doyle (1982) Phytosociological Classification

When comparing the grassland vegetation classification produced during this survey with the previous vegetation classification for Ireland published by White & Doyle (1982), it is evident that almost all of the relevés recorded from 2007 to 2009 correspond to the two phytosociological classes Molinio-Arrhenatheretea and Nardetea, with the majority of relevés corresponding to associations within the former (Table 5.7). Four other classes listed in White & Doyle (1982), the Festuco-Brometea, Carici rupestris-Kobresietea bellardii, Violetea calaminariae and Asteretea tripolii, also contain associations that correspond to some of the vegetation types recorded during this survey. However, within these four classes the number of corresponding relevés is low, particularly for the Breutelio-Seslerietum association within the Carici rupestris-Kobresietea bellardii, where there is only one corresponding relevé within the *Succisa pratensis – Carex flacca* vegetation type (1a). Table 5.7 shows the main relationships between the vegetation types listed in this report and each of the relevant 17 associations and three sub-associations listed by White & Doyle (1982). The relationship between the Breutelio-Seslerietum association and the *Succisa pratensis – Carex flacca* vegetation type (1a) is not shown as it is only based on one relevé.

When comparing the vegetation types listed in this report with the associations and sub-associations listed in White & Doyle (1982), for a relationship to be noted a similarity was needed between the diagnostic species listed for the association or sub-association and the indicator species listed for the vegetation type. The character and diagnostic species listed in White & Doyle (1982) for class, order and alliance were also considered when reviewing each association. If several relationships were noted, the percentage cover and frequency of

Table 5.7 Correspondence between the 21 grassland vegetation types and the associations listed in White & Doyle (1982). To simplify the relationship between the two classifications generally only the best similarities are shown based on the diagnostic species listed for the association and the indicator species listed for the vegetation type. The character and diagnostic species listed in White & Doyle (1982) for class, order and alliance were considered when reviewing each association.

White & Doyle (1982)			Vegetation type*	Comments
Class	**Association**	**Sub-association**		
Festuco-Brometea	Antennarietum hibernicae	-	1a & 1b	Esker grasslands
Festuco-Brometea	Camptothecio-Asperuletum	-	None	Grassland associated with dunes in west of Ireland
Festuco-Brometea	Asperulo-Seslerietum	-	None	Located in the Burren
Violetea calaminariae	Sileno-Armerietum maritimae metallicolae	-	1g	-
Violetea calaminariae	Minuartio-Thlaspietum alpestris	-	None	Located in the Burren
Asteretea tripolii	Plantago-Caricetum distantis	-	None	Sea cliffs in the Burren
Asteretea tripolii	Festuco-Armerietum rupestris	-	1g	-
Molinio-Arrhenatheretea	Junco acutiflori-Molinietum	-	2a, 3d, 4a, 4c	Indicator spp. for 3d & 4a place them in order Molinietalia. This is most likely association as it is the most common in Ireland
Molinio-Arrhenatheretea	Cirsio-Molinietum	-	4b	-
Molinio-Arrhenatheretea	Senecioni-Juncetum acutiflori	-	3c	A poorly defined association (White & Doyle, 1982)
Molinio-Arrhenatheretea	Valeriano-Filipenduletum	-	None	Grassland association recorded along woodland margins
Molinio-Arrhenatheretea	Filipendulo-Iridetum pseudacori	-	3a	-
Molinio-Arrhenatheretea	Centaureo-Cynosuretum	galietosum	1a & 1b	-
Molinio-Arrhenatheretea	Centaureo-Cynosuretum	juncetosum	1e, 4e	Grades into communities in Molinietalia
Molinio-Arrhenatheretea	Centaureo-Cynosuretum	typical	1d, 1f & 3b	None
Molinio-Arrhenatheretea	Lolio-Cynosuretum	-	1c	3b has high *Trifolium repens* cover, but not species poor so in previous association
Nardetea	Achilleo-Festucetum	-	2d, 2e	-
Nardetea	Nardo-Caricetum binervis	-	2b, 2c, 4d	*Carex binervis* is an indicator for 2d but within this type *Agrostis capillaris* is a better indicator
Nardetea	Hylocomio-Centaureetum nigrae	-	None	-

* See Table 3.24 for full titles of vegetation types

indicator species were taken into account to make the best match. Generally, each vegetation type was only listed once in Table 5.7. However, this is not the case for the *Succisa pratensis – Carex flacca* (1a) and *Trifolium pratense – Plantago lanceolata* (1b) vegetation types. Based on the similarity between diagnostic and indicator species, these two vegetation types are placed in the Centaureo-Cynosuretum association; however, both of these vegetation types contain a number of relevés recorded on eskers, and for this reason a relationship is also indicated to the Antennarietum hibernicae which White & Doyle (1982) list as the association for grassland vegetation of calcareous eskers. A similar situation occurs with the *Armeria maritima – Plantago coronopus* vegetation type (1g). Based on the similarity between diagnostic and indicator species, it is most closely linked with the Festuco-Armerietum rupestris association within the Asteretea tripolii class, but as eight of the 13 Calaminarian grassland relevés occur within this vegetation type, a relationship with the Sileno-Armerietum maritimae metallicolae association within the Violetea calaminariae is also indicated.

After applying the criteria to find the best relationships between our vegetation classification and White & Doyle (1982), two associations that were present within the geographic range of the survey between 2007 and 2009 had no obviously related vegetation type. These were the Valeriano-Filipenduletum of the Molinio-Arrhenatheretea class and the Hylocomio-Centaureetum nigrae of the Nardetea class.

The main conclusions from the comparisons in Table 5.7 are:

- The Irish Semi-natural Grassland Survey is yet to visit some of the regions of the country where White & Doyle (1982) noted important examples of certain phytosociological associations found within grasslands;
- The vegetation types *Succisa pratensis – Carex flacca* (1a), *Trifolium pratense – Plantago lanceolata* (1b), and *Armeria maritima – Plantago coronopus* (1g) contain examples of a few different phytosociological associations. At this stage of the study, esker grasslands and Calaminarian grasslands do not seem to have the unique floral composition needed to separate them from other similar plant communities using the analysis techniques currently employed;
- Some of the associations presented in White & Doyle (1982) are too broad, in particular the Junco acutiflori-Molinietum that covers four of the 21 vegetation types and 25% of the relevés recorded so far during the grassland survey.

At this stage of the survey there do not appear to be any semi-natural grassland vegetation types within Ireland that have not been previously described by White & Doyle (1982), although relevés recorded during this survey confirm the presence in Ireland of the tall grassland vegetation of the Filipendulo-Iridetum.

Correspondence with the vegetation classification proposed by Martin* et al*. (2008)

The classification, based on the analysis of data from three years of the ISGS from 2007 to 2009, has produced six extra vegetation groups compared to that presented in Martin *et al*. (2008). While exact comparisons are not possible, due to the dynamic nature of the clustering process used to analyse the data, three vegetation types in the *Juncus acutiflorus – Calliergonella cuspidata* group are largely confined to the 2009 study area. These vegetation types are: *Calliergonella cuspidata – Cardamine pratense* (4c), *Potentilla erecta – Succisa pratensis* (4d) and *Rhytidiadelphus squarrosus – Agrostis canina* (4e) vegetation types. All three types are characterised by high bryophyte cover, especially *Calliergonella cuspidata* and *Rhytidiadelphus squarrosus*. The last type in particular is, apart from three relevés surveyed in 2008, restricted to Cavan, Leitrim, Longford and Monaghan. Exactly why this vegetation type is so localised is not clear, but the increased frequency and abundance of *Agrostis canina* in the 2009 study area, compared to previous years, may be a significant factor, as this is the most important indicator species for the type.

The remaining three additional vegetation types occur within the dry acidic *Potentilla erecta – Galium saxatile* group (corresponds approximately to the *Agrostis capillaris – Galium saxatile* group described in Martin *et al.* 2008). None of the five vegetation types within the *Potentilla erecta – Galium saxatile* group corresponds exactly with any vegetation type presented in Martin *et al.* (2008), and all are distributed relatively evenly throughout the entire study area for 2007-2009. New dry-acidic relevés recorded in 2009 (particularly in north Leitrim and northwest Cavan) were added to the dataset for the group, resulting in the redistribution of relevés within the vegetation group during the clustering process such that further subdivisions within the group were required. This is the reason for the higher number of vegetation types in the *Potentilla erecta – Galium saxatile* group in 2009. Additional relevé data to be obtained in subsequent years of the ISGS will refine the vegetation groups still further, and may result in further vegetation types being classified.

Environmental data

Environmental data for the groups reflect differences in altitude, soil type and soil reaction. The *Potentilla erecta – Galium saxatile* group in particular occurs at higher altitudes (median of 210 m), and on more acidic soils (median pH 4.64) with most upland peats and podzols recorded in relevés within this group. The *Potentilla erecta – Galium saxatile* group also contains the highest proportion of relevés with basin peat recorded as the soil type, and this group together with the wetter *Juncus acutiflorus – Calliergonella cuspidata* group had soils with the highest median % LOI (loss on ignition).

Almost 63% of relevés with well-drained mineral soil occur in the *Plantago lanceolata – Festuca rubra* group. In total, 65% of relevés in *the Agrostis stolonifera – Juncus effusus* group and over 70% of relevés in the *Juncus acutiflorus – Calliergonella cuspidata* group were recorded as having gleyed soils, as would be expected for these wetter habitats.

In general, the drier vegetation groups have shorter sward heights, with the wetter groups recording higher median sward height across all vegetation types. The exceptions are the *Festuca rubra – Agrostis stolonifera* vegetation type within the *Plantago lanceolata – Festuca rubra* group, which has a median sward height of 25 cm, which is equal to the shortest median sward height within the two wetter groups; and the *Molinia caerulea – Juncus acutiflorus* vegetation type within the *Potentilla erecta – Galium saxatile* group, which has a median sward height of 55 cm, which is higher than all but one of the wet group vegetation types due to the frequent presence of *Molinia caerulea*. Median total soil Phosporous for each of the vegetation groups was very similar.

5.4 Utilisation of the dataset

The GIS package which accompanies this report contains the habitat map for each of the 239 sites surveyed in 2009. To this has been added a data layer entitled 'Relevé'. This contains the co-ordinates of all 1053 relevés, together with the classification (made by the survey team in the field) of each relevé according to Fossitt (2000) and the vegetation type assigned by the analysis presented in this report. Any information collected at the relevé scale can be added to this data layer.

The GIS component of this project will assist semi-natural grassland conservation at a regional level by providing spatial information on the occurrence of the different grassland habitats within the landscape. In particular, it could assist environmental managers in the establishment of extensive networks of high conservation value semi-natural grassland, or in the monitoring of a particular Annex I grassland habitat within a county or region. The vegetation classification methodology used can contribute to a more accurate classification of Ireland's semi-natural grassland habitats. The conservation and threat evaluation criteria provide a baseline for monitoring semi-natural grassland sites, and the Annex I grassland habitats assessment relevé data provide important baseline information, especially for refining the positive indicator species lists for certain Annex I grassland habitats.

5.5 Concluding remarks

This survey of 239 semi-natural grassland sites in Cavan, Leitrim, Longford and Monaghan, representing Year 2 of the second phase of the Irish Semi-natural Grasslands Survey, has further refined the methodology that will be used to study the range of different semi-natural grassland habitats within a region, to identify and assess Annex I grassland habitats, and to accurately map and store all survey data using a combination of GIS and a database.

This report has presented a hierarchical vegetation classification for semi-natural grasslands in eight counties: Cavan, Cork, Leitrim, Longford, Monaghan, Offaly, Roscommon and

Waterford. Four main grassland groups were identified, namely *Plantago lanceolata – Festuca rubra*, *Potentilla erecta – Galium saxatile*, *Agrostis stolonifera – Juncus effusus* and *Juncus acutiflorus – Calliergonella cuspidata,* and 21 vegetation types, including three new types identified based on data obtained in 2009 and three additional types created by the further sub-division of the *Potentilla erecta – Galium saxatile* group.

The data showed that semi-natural grassland sites in Cavan, Leitrim, Longford and Monaghan tended to be significantly larger than sites in Cork and Waterford, and slightly larger than sites in Roscommon and Offaly. Most of the sites surveyed in 2009 that were ranked as having a high conservation value were found in Leitrim and Cavan, and most were associated with an NPWS conservation site, including 15 of the primary areas of Annex I grassland habitat identified. On this evidence, the Leitrim and Cavan uplands, such as the Cuilcagh-Anierin uplands on the Leitrim-Cavan border, and Tievebaun Mountain and Truskmore in northwest Leitrim, deserve recognition for their high conservation quality grasslands, and may be regarded as being of equal importance to the callows and esker grasslands of the midlands.

While the large size of the grassland sites surveyed in 2009 is encouraging, and a high proportion of high conservation value grasslands are within NPWS conservation sites, the problem of abandonment of farms in the northwest and north-midlands, as noted in 2009 by signs such as scrub encroachment and undergrazing, may increase into the future and needs to be monitored. This contrasts with the problem of increased agricultural improvement, which was a greater threat in areas surveyed in Cork and Waterford in 2008.

A detailed habitat map has been produced for each site, showing the Fossitt (2000) and Annex I grassland habitats, the position of all relevés and the location of any associated NPWS conservation sites (NHAs/pNHAs and SACs).

The criteria for the evaluation of the conservation status of grassland sites have been refined. For assessment of Annex I grassland habitats, a reworking of the positive indicator species list places emphasis on certain high-quality indicator species. A list of primary areas of Annex I grassland habitat has been compiled, representing the best quality Annex I grassland habitat so far recorded during the two phases of ISGS between 2007 and 2009. In future years of the ISGS this will be added to until a comprehensive list of the best examples of Annex I grassland habitat in the country is available, which in turn will provide the basis for monitoring the condition of these habitats within Ireland.

6: REFERENCES

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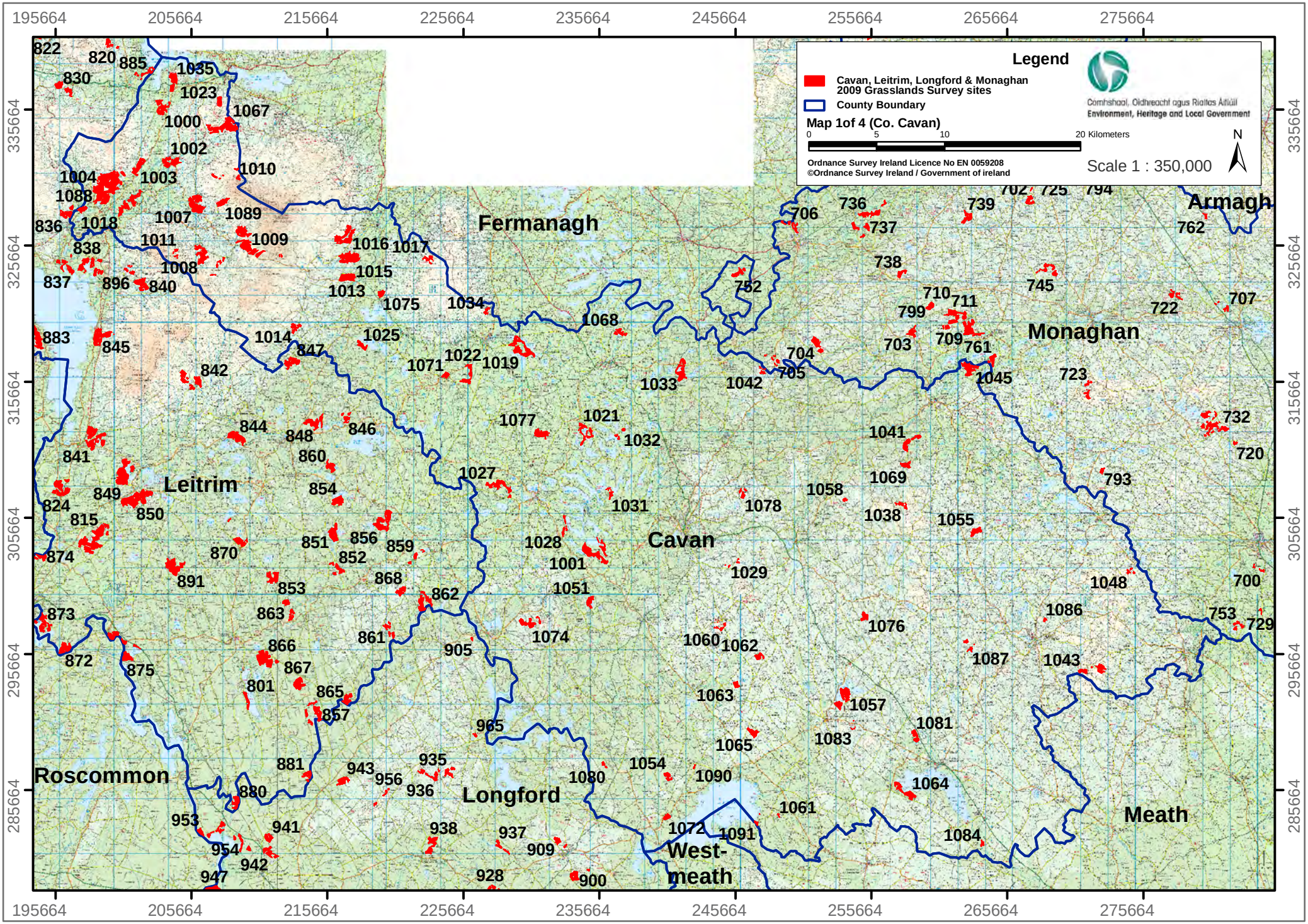
Appendix 1: Maps showing the location of the 239 sites surveyed in 2009

Map 1: Location of sites in Cavan (scale 1:350 000)

Map 2: Location of sites in Leitrim (scale 1:300 000)

Map 3: Location of sites in Longford (scale 1:250 000)

Map 4: Location of sites in Monaghan (scale 1:300 000)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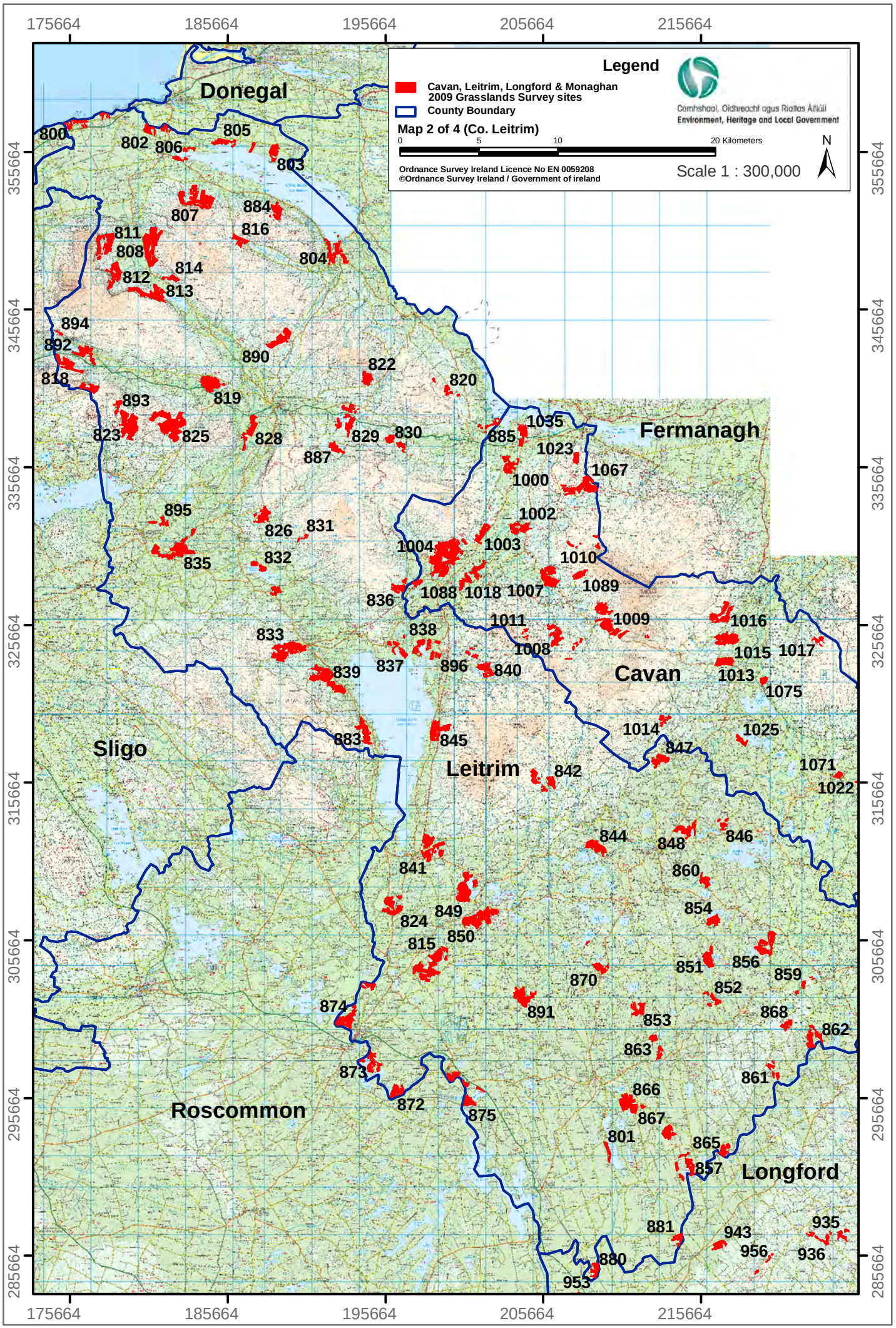
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Cavan, Leitrim, Longford & Monaghan 2009 Grasslands Survey sites
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Map 2 of 4 (Co. Leitrim)
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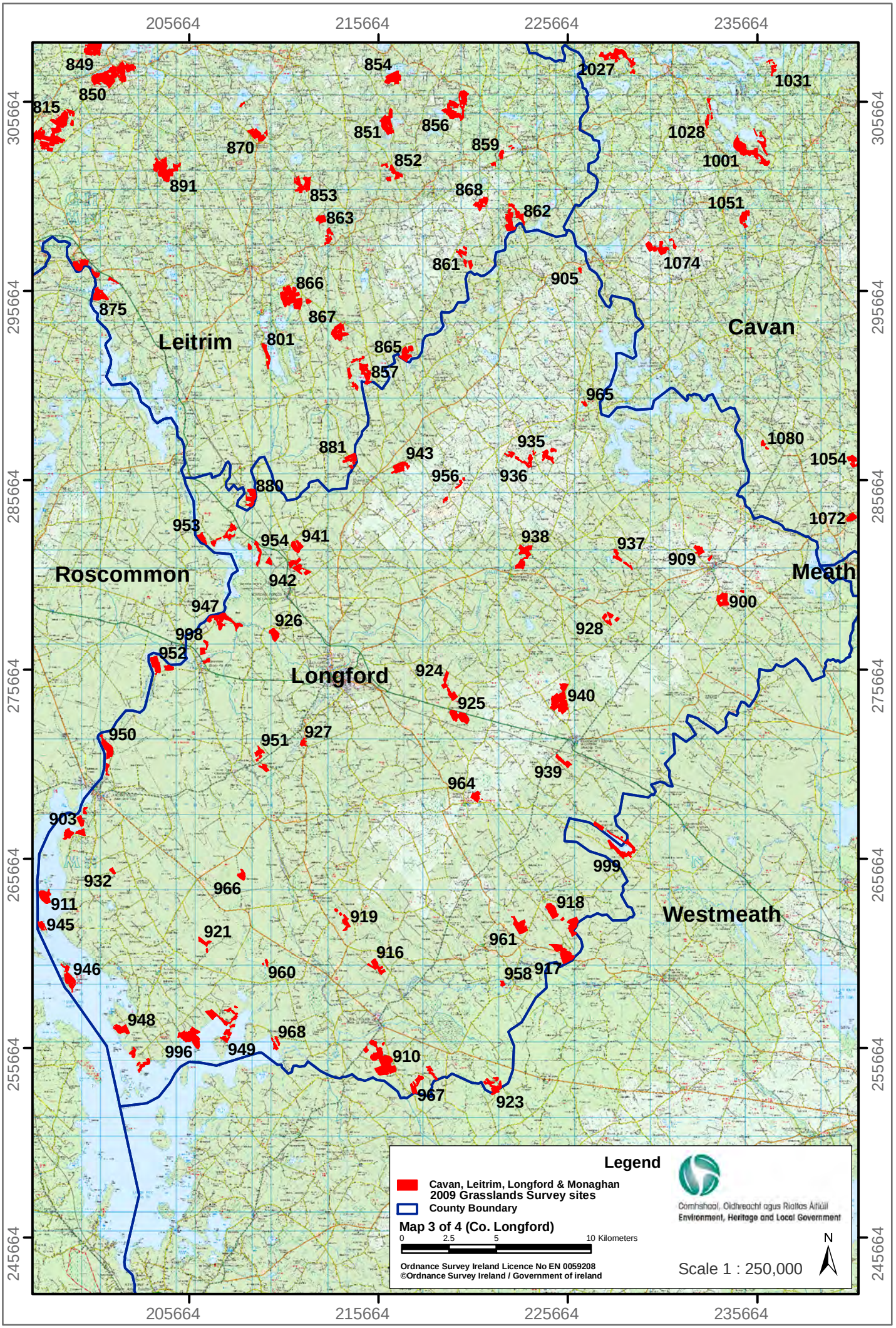
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Cavan, Leitrim, Longford & Monaghan 2009 Grasslands Survey sites
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Map 3 of 4 (Co. Longford)
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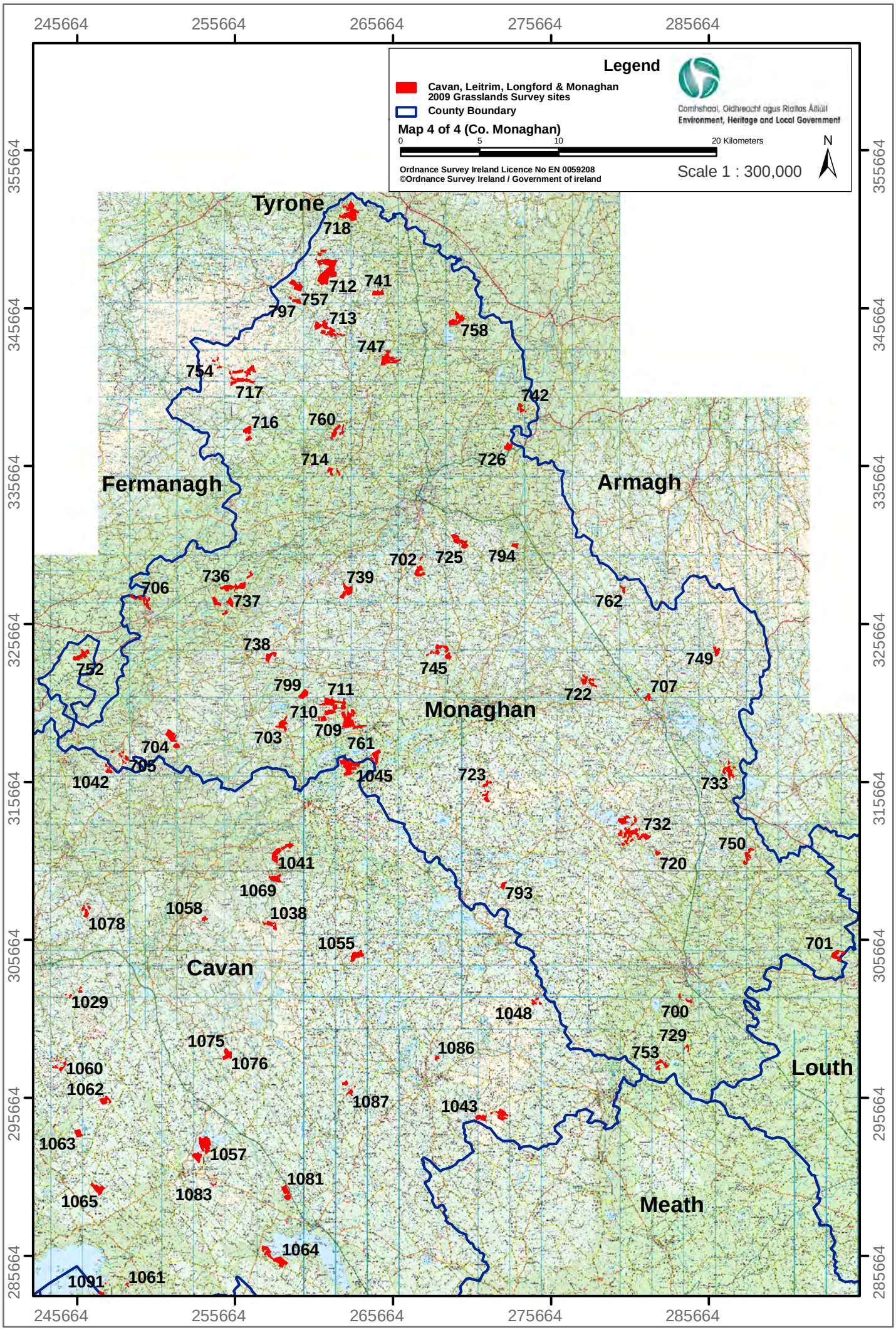
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Cavan, Leitrim, Longford & Monaghan 2009 Grasslands Survey sites
County Boundary
Map 4 of 4 (Co. Monaghan)
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Appendix 2: Summary information for each of the 239 sites surveyed in 2009

This appendix contains the following information on each site:

- Site ID
- Site Name
- Townland Name
- County
- Site Area (ha)
- Grid Reference
- NHA (Natural Heritage Area) / pNHA (proposed Natural Heritage Area)
- SAC (Special Area of Conservation)
- Parent material
- Soil ID
- Conservation score
- Threat score

Site ID	Site Name	Townland Name	County	Site Area (ha)	Grid Ref.	NHA/ pNHA	SAC	Parent material	Soil ID	Conservation score	Threat score
700	Magheraboy	Magheraboy; Tullynaskeagh West	Monaghan	3.8	H 84401 01792	560		Cutover peat; Bedrock at surface-Calcareous; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Renzinas/Lithosols; Basin Peats/Blanket Peats	25.3%	33.3%
701	Drumirril Deer Park	Aghaglass; Chanonrock; Drumirril	Monaghan	15.2	H 93556 04688			Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	28.4%	38.9%
702	Lissaraw	Beagh (Kearns); Lissaraw; Mullyknock; Tullyleer	Monaghan	15.6	H 67317 29138			Alluvium undifferentiated; Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	31.6%	38.9%
703	Drumgole	Drumgole; Drumhay; Kilmore West (Dartree By)	Monaghan	17.4	H 58646 19349	1601		Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	20.0%	50.0%
704	Briscarnagh	Briscarnagh; Cavany; Corrinary (Dartree By); Drumgrone; Drumurcher	Monaghan	29.4	H 51594 18581			Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	20.0%	27.8%
705	Callowhill	Callowhill; Corrackan; Drumavan; Knocks West; Skerrick West	Monaghan	3.7	H 48756 17258	1841		Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	18.9%	44.4%
706	Kilroosky Lough Cluster	Clonkeen (Cole); Largy; Liseggerton; Lisnaroe Near; Tirnahinch Near	Monaghan	10.5	H 49982 27103	1786	1786	Alluvium undifferentiated; Cutover peat; Fen peat; Made ground; Limestone till (Carboniferous); Water	Mineral alluvium; Grey Brown Podzolics/Brown Earths; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats; Basin Peats	30.5%	38.9%
707	Lough Smiley	Corleadargan; Corracloghan; Corratanty; Drumillard Big	Monaghan	4.8	H 81789 21115	1607		Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	24.2%	22.2%
709	Glencorick	Boyher; Claraghy; Coolkill West (Dartree By); Cornawall (ED Dawsongrove); Drumloughlin; Drummulla; Glencorick; Tanmacnally	Monaghan	36.7	H 62781 19599			Alluvium undifferentiated; Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	20.0%	50.0%
710	Annaghybane	Annaghybane; Cornawall (ED Dawsongrove); Edergole	Monaghan	11.6	H 61595 20057			Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	15.8%	22.2%
711	Derrylosset	Annaghybane; Annaghyduff; Cornawall (ED Dawsongrove); Derrylosset; Drumacreeve (ED Aghabog); Milltown	Monaghan	30.5	H 61619 20732			Alluvium undifferentiated; Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	20.0%	27.8%
712	Coolberrin	Aghamackalinn; Coolberrin; Cornaheive; Dernadarriff; Drumfernasky; Glen More; Killanny; Luppan; Mullagh Otra	Monaghan	95.9	H 61543 47972			Alluvium undifferentiated; Blanket peat; Cutover peat; Bedrock at surface-Calcareous; Sandstone and shales till (Devonian/Carboniferous)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Blanket peats; Lithosols/Peats; Renzinas/Lithosols; Basin Peats/Blanket Peats	47.4%	27.8%
713	Derrykinnigh Beg	Crossnacaldoo; Derrykinnigh Beg; Golan	Monaghan	32.8	H 60913 44498			Alluvium undifferentiated; Acidic Esker sands and gravels; Cutover peat; Sandstone and shales till (Devonian/Carboniferous)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	24.2%	38.9%

Site ID	Site Name	Townland Name	County	Site Area (ha)	Grid Ref.	NHA/ pNHA	SAC	Parent material	Soil ID	Conservation score	Threat score
714	Killygrallan	Killygrallan; Killyleen; Kilmore East (Monaghan By); Mullaghmore West	Monaghan	3.4	H 61729 35268			Cutover peat; Sandstone sands and gravels (Devonian/Carboniferous); Sandstone till (Devonian/Carboniferous)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	25.3%	38.9%
716	Dundrumman	Dundrumman; Sheskin; Skeatry	Monaghan	13.0	H 56589 38056			Alluvium undifferentiated; Cutover peat; Sandstone and shales till (Devonian/Carboniferous)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	31.6%	50.0%
717	Barratitoppy Upper	Barratitoppy Upper; Eshacrin; Eshnaglogh; Islands	Monaghan	41.5	H 56125 41123	1603		Alluvium undifferentiated; Blanket peat; Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shales till (Devonian/Carboniferous)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Podzols (Peaty)/Lithosols/Peats; Lithosols/Regosols; Blanket peats; Basin Peats/Blanket Peats	40.0%	50.0%
718	Ardginny	Ardginny; Clonisboyle; Corgreenan; Creaghan; Derrygorry; Dromore (Trough By); Esker; Killyhoman	Monaghan	47.7	H 62887 51557	1782		Alluvium undifferentiated; Cutover peat; Bedrock at surface-Calcareous; Sandstone till (Devonian/Carboniferous)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Renzinas/Lithosols; Basin Peats/Blanket Peats	37.9%	61.1%
720	Cullentraghduff	Cullentraghbane; Cullentraghduff	Monaghan	4.2	H 82454 11155			Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys	12.6%	38.9%
722	Devlin	Brackagh (Cremorne By); Corlealackagh; Corrakeen; Devlin; Garradevlin	Monaghan	16.5	H 78259 21862			Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	21.1%	22.2%
723	Mullananalt	Carnaveagh; Carrickaveilty; Mullananalt	Monaghan	13.3	H 71538 15522			Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	29.5%	38.9%
725	Carrickanoran	Beagh (Monaghan By); Carrickanoran; Crosses (ED Rackwallace); Greaghglass	Monaghan	24.0	H 70152 30686			Cutover peat; Sandstone and shale sands and gravels (Lower Palaeozoic); Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	31.6%	44.4%
726	Leitrim	Drumagelvin (Monaghan By); Killeef; Leitrim (Monaghan By)	Monaghan	12.3	H 72878 36829			Cutover peat; Sandstone till (Devonian/Carboniferous)	Acid Brown Earths/Brown Podzolics; Basin Peats/Blanket Peats	17.9%	38.9%
729	Mokeeran	Carrickashedoge; Mokeeran	Monaghan	2.0	N 84284 98923			Cutover peat; Bedrock at surface-Calcareous	Renzinas/Lithosols; Basin Peats/Blanket Peats	20.0%	27.8%
732	Tusker	Coose; Cornacarrow (Cremorne By); Crossalare; Dooraa (Farney By); Dunaree Latin; Laragh (ED Laragh); Lurgangreen; Monyglen; Tusker	Monaghan	60.4	H 81459 12203	1605		Alluvium undifferentiated; Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic); Water	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Podzols (Peaty)/Lithosols/Peats; Lithosols/Regosols; Basin Peats/Blanket Peats	40.0%	66.7%
733	Drumgoose	Corragarry or Sruell; Drumgoose; Toome (Farney by)	Monaghan	15.3	H 86932 16366			Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Podzols (Peaty)/Lithosols/Peats; Lithosols/Regosols; Basin Peats/Blanket Peats	29.5%	61.1%
736	Gransha More	Cappagh (Kilgormly); Conaghy; Derryleggan; Gransha Beg; Gransha More; Kilgormly; Killycronaghan; Nook	Monaghan	36.0	H 55170 27986			Alluvium undifferentiated; Cutover peat; Limestone sands and gravels (Carboniferous); Lake sediments undifferentiated; Sandstone till (Devonian/Carboniferous)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Renzinas/Lithosols; Basin Peats/Blanket Peats; Lacustrine	17.9%	50.0%

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737	Boughill	Annamakiff; Boughill; Conaghy; Creevelea (Dartree By); Gransha Beg	Monaghan	19.3	H 55343 27056			Alluvium undifferentiated; Cutover peat; Sandstone till (Devonian/Carboniferous); Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	20.0%	50.0%
738	Drumshannon	Drumgristin (Dartree By); Drumshannon; Feagh; Genagh	Monaghan	13.8	H 57933 23748			Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	26.3%	38.9%
739	Blackraw	Blackraw; Corrataghart; Drumleny; Drumsheeny (Nonaghan By)	Monaghan	24.1	H 62817 27954			Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	26.3%	50.0%
741	Dernalosset	Dernalosset; Derryveagh	Monaghan	8.9	H 64684 46670			Bedrock at surface-Calcareous; Sandstone till (Devonian/Carboniferous); Sandstone and shales till (Devonian/Carboniferous)	Surface water Gleys/Ground water Gleys; Renzinas/Lithosols	22.1%	33.3%
742	Annareagh South	Annareagh South; Clanickny; Sillis	Monaghan	8.4	H 73752 39354			Alluvium undifferentiated; Cutover peat; Sandstone till (Devonian/Carboniferous)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Basin Peats/Blanket Peats	14.7%	44.4%
745	Dromore	Caddagh; Cordevlis South; Dromore (ED Caddagh); Losset (Monaghan By)	Monaghan	16.7	H 69142 23592			Alluvium undifferentiated; Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	27.4%	33.3%
747	Tonyfinnigan	Edenmore (ED Killylough); Rarutagh; Tonycoogan; Tonyfinnigan	Monaghan	31.5	H 65257 42511			Alluvium undifferentiated; Sandstone sands and gravels (Devonian/Carboniferous); Sandstone till (Devonian/Carboniferous)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow)	18.9%	44.4%
749	Liseenan	Liseenan	Monaghan	7.4	H 86093 23803			Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	20.0%	44.4%
750	Tray	Corrateemore;Drumdreeny; Tray	Monaghan	16.1	H 88142 11179			Alluvium undifferentiated; Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	17.9%	44.4%
752	Clonoula	Clonkeelan; Clonoula; Coleman; Corvaghan	Monaghan	11.5	H 45619 23483			Cutover peat; Limestone till (Carboniferous)	Grey Brown Podzolics/Brown Earths; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	29.5%	33.3%
753	Rahans	Derrynaglah; Descart (Farney By); Rahans (ED Lough Fea)	Monaghan	14.0	N 82515 97927			Alluvium undifferentiated; Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	14.7%	44.4%
754	Eshnaglogh	Eshnaglogh	Monaghan	2.8	H 54299 42325	1603		Blanket peat; Sandstone and shales till (Devonian/Carboniferous)	Surface water Gleys/Ground water Gleys; Peaty Gleys; Blanket peats	18.9%	27.8%
757	Drumfurrer	Drumfurrer; Greagh (Trough By); Killybern	Monaghan	23.7	H 59548 47086			Blanket peat; Cutover peat; Sandstone sands and gravels (Devonian/Carboniferous); Bedrock at surface-Calcareous; Sandstone and shales till (Devonian/Carboniferous)	Surface water Gleys/Ground water Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Blanket peats; Renzinas/Lithosols; Basin Peats/Blanket Peats	22.1%	55.6%
758	Killycooly	Dernahatten; Derrylea (Trough By); Emy; Killycooly; Knocknasave	Monaghan	29.8	H 69942 44938	558		Alluvium undifferentiated; Cutover peat; Sandstone till (Devonian/Carboniferous)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	23.2%	55.6%
760	Mullaghmore North	Drumbin; Drumdesco; Mullaghmore North	Monaghan	14.0	H 62075 37970	1785		Alluvium undifferentiated; Cutover peat; Sandstone till (Devonian/Carboniferous)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	11.6%	33.3%

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761	Clossagh More	Clossagh More; Killyvaghan	Monaghan	22.1	H 64588 17310	1		Alluvium undifferentiated; Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	22.1%	44.4%
762	Lemgare Rocks	Lemgare; Lisdrumgormly	Monaghan	2.7	H 80247 27736			Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	31.6%	50.0%
793	Fairtahy	Carrickadooey; Fairtahy	Monaghan	7.1	H 72696 09177			Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	23.2%	38.9%
794	Creeve	Creeve (Monaghan By)	Monaghan	6.1	H 73385 30640			Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys	18.9%	27.8%
797	Coyle's Bridge	Bragan; Drumfurrer	Monaghan	8.5	H 59549 46117			Alluvium undifferentiated; Cutover peat; Sandstone and shales till (Devonian/Carboniferous)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	14.7%	27.8%
799	Kilmore East	Corduff (Dartree By); Corranewy; Kilmore East (Dartree By); Tomany	Monaghan	7.8	H 59971 21301			Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	15.8%	22.2%
800	Wardhouse	Bunduff; Cloodrevagh; Corbeg; Knockbrack; Lisgool; Redbrae; Tawnytallan; Wardhouse	Leitrim	30.8	G 75590 57250	625	625	Cutover peat; Beach sand; Bedrock at surface-Non calcareous; Shales and sandstones till (Namurian/Carboniferous); Shales and sandstones till (Namurian); Blown sand	Aeolian undifferentiated; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Podzols (Peaty)/Lithosols/Peats; Lithosols/Regosols; Basin Peats/Blanket Peats; Beach sand and gravels	38.9%	38.9%
801	Tulcon	Tulcon (Mohill By)	Leitrim	15.4	N 09657 92655	1417		Cutover peat; Sandstone and shale till (Lower Palaeozoic); Water	Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	26.3%	27.8%
802	Gubacreeny	Edenvella; Gubacreeny	Leitrim	36.1	G 80659 57093	428	428	Alluvium undifferentiated; Cutover peat; Bedrock at surface-Non calcareous; Shales and sandstones till (Namurian/Carboniferous)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Basin Peats/Blanket Peats	46.3%	33.3%
803	Derrynaseer	Askill; Derrynaseer (Rosclogher By)	Leitrim	35.5	G 88587 55747	428	428	Cutover peat; Lake sediments undifferentiated; Shales and sandstones till (Namurian/Carboniferous)	Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats; Lacustrine	27.4%	16.7%
804	Gubalaun	Derrynahimmirk; Gubalaun; Gubnageer; Larganhugh; Sraud (Conolly); Sraud (Ferguson); Tawnaleck	Leitrim	70.2	G 92500 49164	428	428	Alluvium undifferentiated; Shales and sandstones till (Namurian/Carboniferous); Shales and sandstones till (Namurian); Water	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys	40.0%	38.9%
805	Derryherk	Derryherk; Lareen	Leitrim	30.8	G 85316 56306	428	428	Alluvium undifferentiated; Cutover peat; Lake sediments undifferentiated; Bedrock at surface-Non calcareous; Shales and sandstones till (Namurian/Carboniferous)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Podzols (Peaty)/Lithosols/Peats; Basin Peats/Blanket Peats; Lacustrine	29.5%	27.8%
806	Edenvella	Ballymore; Edenvella; Kinlough; Rosfriar	Leitrim	16.6	G 82558 55209	428	428	Cutover peat; Bedrock at surface-Non calcareous; Shales and sandstones till (Namurian/Carboniferous); Shales and sandstones till (Namurian); Water	Surface water Gleys/Ground water Gleys; Peaty Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Basin Peats/Blanket Peats	31.6%	33.3%

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807	Aghadunvane	Aghaderrard East; Aghaderrard West; Aghadunvane; Gorteendarragh; Gortnasillagh	Leitrim	130.9	G 83837 52547	1403	1403	Blanket peat; Cutover peat; Bedrock at surface-Calcareous; Scree; Shales and sandstones till (Namurian)	Surface water Gleys/Ground water Gleys; Peaty Gleys; Blanket peats; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Peaty Gleys (Shallow)Lithosols/Peats; Basin Peats/Blanket Peats; Scree	49.5%	27.8%
808	Keeloges	Aghalateeve; Keeloges; Largydonnell; Loughmuirran	Leitrim	115.7	G 80634 49896	1403	1403	Blanket peat; Bedrock at surface-Calcareous; Scree; Shales and sandstones till (Namurian)	Surface water Gleys/Ground water Gleys; Blanket peats; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Lithosols/Peats; Renzinas/Lithosols; Scree	51.6%	33.3%
811	Larganavaddoge	Cleighragh; Larganavaddoge; Shesknan	Leitrim	76.3	G 78221 50138	623	623	Blanket peat; Bedrock at surface-Calcareous; Scree; Shales and sandstones till (Namurian)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Blanket peats; Lithosols/Peats; Renzinas/Lithosols; Scree	66.3%	27.8%
812	Cloontyprughlish	Cleighragh; Cloontyprughlish; Crumpaun; Moneengaugagh	Leitrim	61.1	G 78569 48285	623	623	Alluvium undifferentiated; Bedrock at surface-Calcareous; Scree; Shales and sandstones till (Namurian)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Renzinas/Lithosols; Scree	43.2%	22.2%
813	Aghalateeve	Aghalateeve; Carrowduff; Creevelea (Rosclogher By); Largy; Magheramore; Moneengaugagh	Leitrim	69.8	G 81211 46851	623 & 1919	623 & 1919	Alluvium undifferentiated; Acidic Esker sands and gravels; Blanket peat; Cutover peat; Fen peat; Shales and sandstones sands and gravels (Namurian); Bedrock at surface-Calcareous; Scree; Shales and sandstones till (Namurian); Water	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Lithosols/Regosols; Blanket peats; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Lithosols/Peats; Renzinas/Lithosols; Basin Peats/Blanket Peats; Basin Peats; Scree	53.7%	61.1%
814	Erriff	Aghalateeve; Erriff	Leitrim	17.6	G 82226 47662	1403	1403	Cutover peat; Bedrock at surface-Calcareous; Scree; Shales and sandstones till (Namurian)	Surface water Gleys/Ground water Gleys; Peaty Gleys; Peaty Gleys (Shallow)Basin Peats/Blanket Peats; Scree	28.4%	16.7%
815	Sheemore	Ballinwing; Carrickslavan; Drumliffin Glebe; Fahymore; Gowel; Keonbrook; Kiltoghert; Mong; Sheemore	Leitrim	131.4	G 98973 04673	1421		Alluvium undifferentiated; Cutover peat; Lake sediments undifferentiated; Bedrock at surface-Calcareous; Limestone till (Carboniferous); Water	Mineral alluvium; Grey Brown Podzolics/Brown Earths; Surface water Gleys/Ground water Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Renzinas/Lithosols; Basin Peats/Blanket Peats; Lacustrine	55.8%	44.4%
816	Meenagraun	Conwal North; Meenagraun	Leitrim	26.5	G 86489 50004			Alluvium undifferentiated; Blanket peat; Bedrock at surface-Calcareous; Scree; Shales and sandstones till (Namurian)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Blanket peats; Peaty Gleys (Shallow)Lithosols/Peats; Scree	27.4%	22.2%
818	Lugnafaughery	Edenbaun; Gortnagrelly; Gortnagrogerny; Knocknaclassagh; Lugnafaughery; Meenaphuill; Sracreeghan	Leitrim	95.7	G 75560 42281	2435	623	Blanket peat; Bedrock at surface-Calcareous; Scree; Shales and sandstones till (Namurian)	Surface water Gleys/Ground water Gleys; Blanket peats; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Lithosols/Peats; Renzinas/Lithosols; Scree	50.5%	38.9%

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819	Nure	Fivepoundland; Killymeehin; Largantemple; Nure; Shanvaus; Tawnymoyle; Tullynasharragh (Rosclogher By); Twigspark	Leitrim	80.8	G 84598 40952			Alluvium undifferentiated; Cutover peat; Bedrock at surface-Calcareous; Shales and sandstones till (Namurian)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Lithosols/Peats; Renzinas/Lithosols; Basin Peats/Blanket Peats	38.9%	50.0%
820	Kiltyclogher	Kiltyclogher; Lacoon; Loughros	Leitrim	19.8	G 99564 40689			Blanket peat; Shales and sandstones till (Namurian)	Surface water Gleys/Ground water Gleys; Peaty Gleys; Blanket peats	21.1%	22.2%
822	Lissinagroagh	Lissinagroagh	Leitrim	31.8	G 94476 41297			Scree; Shales and sandstones till (Namurian)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Scree	27.4%	33.3%
823	Fawnlion	Fawnlion; Leean; Sramore	Leitrim	122.7	G 79439 38308			Blanket peat; Bedrock at surface-Calcareous; Shales and sandstones till (Namurian)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Blanket peats; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Lithosols/Peats; Renzinas/Lithosols	45.3%	27.8%
824	Cornaroy	Cornaroy; Drumgorman; Drumleague	Leitrim	51.7	G 96475 07595			Cutover peat; Sandstone till (Devonian); Shales and sandstones till (Namurian)	Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	33.7%	44.4%
825	Ballynaboll	Ballynaboll; Conray (Drumahaire By); Curraghan; Fawnarry; Killenna Glebe; Leean; Morerah	Leitrim	178.8	G 82159 38391			Blanket peat; Bedrock at surface-Calcareous; Shales and sandstones till (Namurian)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Blanket peats; Lithosols/Peats; Renzinas/Lithosols	52.6%	33.3%
826	Gortermone	Annaghboy; Cunnion; Gortermone (Drumahaire By); Lugnaskeehan; Shancarrick	Leitrim	45.9	G 87972 32483			Alluvium undifferentiated; Blanket peat; Bedrock at surface-Calcareous; Shales and sandstones till (Namurian)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Blanket peats; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Renzinas/Lithosols	41.1%	33.3%
828	Carrickleitrim	Carrickleitrim; Cloonaquin; Cloonlogher; Cornastauk; Srabrick	Leitrim	53.1	G 87152 38159		1976	Alluvium undifferentiated; Cutover peat; Bedrock at surface-Non calcareous; Metamorphic till	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Podzols (Peaty)/Lithosols/Peats; Lithosols/Regosols; Basin Peats/Blanket Peats	30.5%	61.1%
829	Munakill	Aghlacon; Carrigeengeare; Glenboy; Lissinagroagh; Loughaphonta; Munakill; Munnagashel	Leitrim	70.4	G 93356 38422			Alluvium undifferentiated; Cutover peat; Lake sediments undifferentiated; Bedrock at surface-Calcareous; Limestone till (Carboniferous); Shales and sandstones till (Namurian); Water	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Grey Brown Podzolics/Brown Earths; Surface water Gleys/Ground water Gleys; Peaty Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Renzinas/Lithosols; Basin Peats/Blanket Peats; Lacustrine	38.9%	61.1%
830	Barr of Farrow	Barr of Farrow; Camderry; Cornacloy (ED Munakill); Moneenlom	Leitrim	30.7	G 96014 37466			Alluvium undifferentiated; Shales and sandstones till (Namurian)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys	27.4%	16.7%
831	Tullinwannia	Tullinwannia; Tullynasharragh (Drumahaire By)	Leitrim	7.0	G 90563 31253		2032	Blanket peat; Shales and sandstones till (Namurian)	Surface water Gleys/Ground water Gleys; Peaty Gleys; Blanket peats	12.6%	22.2%
832	Belhavel Lough	Annagh (ED Belhavel); Cloonagh; Derrintawny; Drumduffy; Leamaskally; Shivdelagh	Leitrim	43.2	G 87861 29237			Alluvium undifferentiated; Cutover peat; Shales and sandstones till (Namurian); Water	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	33.7%	44.4%

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833	Letter	Camalt; Corloughcahill; Derrybofin; Derrycullinan; Greaghnadarragh; Letter; Sheena	Leitrim	96.0	G 89377 24187			Alluvium undifferentiated; Blanket peat; Cutover peat; Bedrock at surface-Non calcareous; Shales and sandstones till (Namurian)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Blanket peats; Basin Peats/Blanket Peats	35.8%	38.9%
835	Corcusconny	Ardvarney (ED Drumahaire); Cleen; Corcusconny; Drumlease; Killaleen; Killananima; Sranacrannaghy	Leitrim	118.4	G 82888 30508	1976	1976	Alluvium undifferentiated; Cutover peat; Shales and sandstones till (Namurian)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	37.9%	66.7%
836	Shass	Shass; Tullyclevaun	Leitrim	28.0	G 96545 28022			Blanket peat; Shales and sandstones till (Namurian)	Surface water Gleys/Ground water Gleys; Peaty Gleys; Blanket peats	35.8%	38.9%
837	Corry	Corry; Derrinwillin Glebe; Kiltyfeenaghty Glebe; Ross Beg Glebe; Ross More (Drumahaire By)	Leitrim	29.8	G 96836 23829	426		Alluvium undifferentiated; Blanket peat; Cutover peat; Fen peat; Bedrock at surface-Calcareous; Shales and sandstones till (Namurian); Water	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Blanket peats; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Lithosols/Peats; Basin Peats/Blanket Peats; Basin Peats	44.2%	44.4%
838	Kilgarriff	Annagh Lower; Cuiltia; Derrinwillin; Eden (Drumahaire By); Greaghnafarna (ED Yugan); Kilgarriff	Leitrim	40.6	G 97875 24524	426		Alluvium undifferentiated; Cutover peat; Fen peat; Shales and sandstones till (Namurian)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats; Basin Peats	35.8%	44.4%
839	Liscuillew Lower	Barragh More; Curraghs North; Drummanfaughnan; Drummangarvagh; Drummans Upper; Liscuillew Lower; Tullycorka	Leitrim	114.1	G 92190 22111			Alluvium undifferentiated; Blanket peat; Bedrock at surface-Calcareous; Shales and sandstones till (Namurian)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Blanket peats; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Lithosols/Peats	32.6%	27.8%
840	Sranagarvanagh	Aughrim (ED Drumreilly West); Carntullagh; Cortober; Sranagarvanagh; Urbal Barr	Leitrim	50.4	H 02210 22740			Alluvium undifferentiated; Blanket peat; Bedrock at surface-Calcareous; Shales and sandstones till (Namurian)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Blanket peats; Surface water Gleys (Shallow)/Ground water Gleys (Shallow)	33.7%	44.4%
841	Derryhallagh	Carrickbaun; Corlough (ED Drumshanbo); Derryhallagh; Dorrusawillin; Dristernaun; Drumshanbo; Murhaun; Roscunnish (Part of)	Leitrim	90.4	G 98511 11265			Alluvium undifferentiated; Blanket peat; Cutover peat; Shales and sandstones till (Namurian); Water	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Blanket peats; Basin Peats/Blanket Peats	37.9%	33.3%
842	Knockacullion	Knockacullion (Carrigallen By)	Leitrim	56.6	H 06168 15708	584	584	Blanket peat; Bedrock at surface-Calcareous; Shales and sandstones till (Namurian)	Surface water Gleys/Ground water Gleys; Peaty Gleys; Blanket peats; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Lithosols/Peats	33.7%	50.0%
844	Mayo	Kiltybardan; Mayo	Leitrim	53.0	H 09205 11513			Alluvium undifferentiated; Lake sediments undifferentiated; Bedrock at surface-Calcareous; Limestone till (Carboniferous)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Lithosols/Peats; Lacustrine	30.5%	44.4%
845	Sradrinagh	Cleighran More; Cornamucklagh South; Sradrinagh	Leitrim	67.0	G 99051 19143			Alluvium undifferentiated; Blanket peat; Shales and sandstones till (Namurian)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Blanket peats	33.7%	55.6%
846	Corduff	Corduff (Carrigallen By); Drumcullion; Garadice (Carrigallen By); Lisgruddy	Leitrim	13.8	H 17048 13016	1407		Cutover peat; Chert and Carboniferous sandstone till	Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	30.5%	44.4%

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847	Drumderg	Drumahira; Drumbrick (ED Clover Hill); Drumcroman (Carrigallen By); Drumderg (Carrigallen By)	Leitrim	30.4	H 13374 17163			Alluvium undifferentiated; Shales and sandstones till (Namurian)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys	25.3%	44.4%
848	Bolganard	Bolganard; Cleenaghoo; Cleendargan; Corgar(Carrigallen By); Glennan More; Kildorragh (Carrigallen By); Knockanroe (Carrigallen By)	Leitrim	48.9	H 14657 12526			Alluvium undifferentiated; Cutover peat; Chert and Carboniferous sandstone till; Water	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	35.8%	50.0%
849	Corderry	Aghnahoo (Leitrim By); Carrickaport; Corderry (Morton); Cornaleck; Drumbullog; Drumcong; Loughconway; Mullaghycullen	Leitrim	103.8	H 00621 08875	1920		Alluvium undifferentiated; Cutover peat; Lake sediments undifferentiated; Bedrock at surface-Calcareous; Bedrock at surface-Non calcareous; Sandstone till (Devonian); Shales and sandstones till (Namurian); Water	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Renzinas/Lithosols; Basin Peats/Blanket Peats; Lacustrine	43.2%	38.9%
850	Letterfine	Drumaleague; Drumparsons; Garvagh; Letterfine; Mullaghaneigh; Mullaghboy; Scrabbagh; Seltan (Mcdonald); Seltan (Moran); Sheebeg	Leitrim	121.1	H 01371 06950			Cutover peat; Fen peat; Bedrock at surface-Calcareous; Sandstone till (Devonian); Limestone till (Carboniferous)	Acid Brown Earths/Brown Podzolics; Grey Brown Podzolics/Brown Earths; Surface water Gleys/Ground water Gleys; Peaty Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Lithosols/Peats; Renzinas/Lithosols; Basin Peats/Blanket Peats; Basin Peats	60.0%	44.4%
851	Derrindrehid	Derrindrehid; Lavareen; Lisgillock Glebe	Leitrim	44.2	H 16148 04517			Alluvium undifferentiated; Cutover peat; Fen peat; Chert and Carboniferous sandstone till	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats; Basin Peats	26.3%	50.0%
852	Aghalough	Aghalough (ED Aghavas); Corraneary; Drumshanbo North; Lisgillock Glebe; Sunnaghconner	Leitrim	23.4	H 16459 02003			Alluvium undifferentiated; Cutover peat; Bedrock at surface-Calcareous; Chert and Carboniferous sandstone till	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Lithosols/Peats; Basin Peats/Blanket Peats	20.0%	38.9%
853	Drumboher	Adoon; Drumboher; Drumgowla (Mohill By); Gorteenoran; Gortnalougher	Leitrim	38.5	H 11674 01222			Alluvium undifferentiated; Chert and Carboniferous sandstone till	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys	20.0%	50.0%
854	Keenheen	Keenheen	Leitrim	36.1	H 16443 06909			Cutover peat; Chert and Carboniferous sandstone till; Water	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	25.3%	27.8%
856	Drumconlevan	Agharann; Corrala; Doochorran; Drumconlevan; Mullaghmore (Carrigallen By)	Leitrim	61.5	H 19555 05221			Alluvium undifferentiated; Cutover peat; Chert and Carboniferous sandstone till; Water	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	34.7%	50.0%
857	Annaghoney	Annaghoney; Anskert; Cloncowley; Drumshanbo South	Leitrim	44.6	N 15008 91116			Cutover peat; Sandstone and shale till (Lower Palaeozoic); Water	Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	37.9%	66.7%
859	Killahurk	Killahurk; Mullanadarragh	Leitrim	11.4	H 22152 02879			Alluvium undifferentiated; Cutover peat; Lake sediments undifferentiated; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic); Water	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats; Lacustrine	22.1%	50.0%
860	Derrygoan	Cuilmore (Carrigallen By); Derrygoan; Lisnatullagh	Leitrim	26.2	H 15909 09416			Alluvium undifferentiated; Cutover peat; Chert and Carboniferous sandstone till; Water	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	29.5%	61.1%

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861	Gorteen	Drummanbane; Gorteen (Carrigallen By); Gortermone (Carrigallen By)	Leitrim	19.9	N 20055 97675			Alluvium undifferentiated; Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	15.8%	44.4%
862	Beagh More	Beagh Beg; Beagh More; Cornaferst	Leitrim	49.2	N 23162 99587			Alluvium undifferentiated; Cutover peat; Sandstone and shale till (Lower Palaeozoic); Water	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	22.1%	38.9%
863	Drumharkan Glebe	Annaghmaconway; Drumboher; Drumharkan Glebe	Leitrim	25.3	N 12683 99524			Cutover peat; Shales and sandstones till (Namurian)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	24.2%	50.0%
865	Fearglass North	Fardrumman; Fearglass North	Leitrim	28.2	N 17122 92349			Alluvium undifferentiated; Cutover peat; Sandstone and shale sands and gravels (Lower Palaeozoic); Lake sediments undifferentiated; Sandstone and shale till (Lower Palaeozoic); Water	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats; Lacustrine	27.4%	44.4%
866	Breanross North	Aghamore (ED Rinn); Breanross North; Cloonlaughil (ED Mohill); Creenagh (Mohill By); Rinn; Trean	Leitrim	64.0	N 10876 95386	1808		Alluvium undifferentiated; Cutover peat; Bedrock at surface-Calcareous; Sandstone and shale till (Lower Palaeozoic); Shales and sandstones till (Namurian); Water	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Lithosols/Peats; Basin Peats/Blanket Peats	30.5%	44.4%
867	Annaghmore	Annaghmore; Lear; Muckanagh	Leitrim	31.8	N 13504 93728			Cutover peat; Sandstone and shale till (Lower Palaeozoic); Shales and sandstones till (Namurian)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	25.3%	38.9%
868	Corriga	Corriga; Drumderglin; Drumerkeane	Leitrim	22.3	H 21242 00424			Alluvium undifferentiated; Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	16.8%	33.3%
870	Garvagh	Annaghderg Lower; Corrabeagh (Mohill By); Garvagh (Mohill By); Laragh; Seltan (Mohill By)	Leitrim	32.3	H 09203 03921			Alluvium undifferentiated; Cutover peat; Chert and Carboniferous sandstone till; Limestone till (Carboniferous)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	21.1%	50.0%
872	Gort	Adereen; Coraughrim; Gort	Leitrim	35.6	M 96275 96069			Alluvium undifferentiated; Fen peat; Limestone till (Carboniferous); Water	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats	42.1%	22.2%
873	Rinnacurreen	Attirory; Ballynacleigh; Inishmucker; Rinnacurreen	Leitrim	40.8	M 94749 97924			Alluvium undifferentiated; Cutover peat; Bedrock at surface-Calcareous; Sandstone till (Devonian); Water	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Lithosols/Peats; Basin Peats/Blanket Peats	31.6%	33.3%
874	Hartley	Caldragh; Corryolus; Grove; Hartley; Lisnagat; Portaneoght; Townparks	Leitrim	69.3	G 94708 02776	1643		Alluvium undifferentiated; Cutover peat; Fen peat; Sandstone till (Devonian); Water	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats; Basin Peats	42.1%	33.3%
875	Drumsna	Annaduff; Derrylaur; Derryoughter; Drumsna; Gortinty	Leitrim	67.5	N 00929 95438			Alluvium undifferentiated; Cutover peat; Sandstone till (Devonian); Limestone till (Carboniferous); Water	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	31.6%	44.4%
880	Cloonmorris	Cloonmorris	Leitrim	26.7	N 08995 84860	691		Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	24.2%	38.9%
881	Beihy	Beihy	Leitrim	16.2	N 14028 86762			Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Peaty Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Basin Peats/Blanket Peats	34.7%	22.2%

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883	Larga	Aghamore (Drumahaire By); Ardlougher (Drumahaire By); Corglass (ED St Patrick'S); Falty; Knockateean; Larga; Tawnycorragh; Tents	Leitrim	57.9	G 94364 18768			Alluvium undifferentiated; Bedrock at surface-Calcareous; Bedrock at surface-Non calcareous; Shales and sandstones till (Namurian)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Lithosols/Regosols; Surface water Gleys (Shallow)/Ground water Gleys (Shallow)	31.6%	38.9%
884	Glack	Cloghan; Glack; Moher (Rosclogher By)	Leitrim	36.4	G 88777 51920	2430		Bedrock at surface-Calcareous; Scree; Shales and sandstones till (Namurian)	Surface water Gleys/Ground water Gleys; Peaty Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Peaty Gleys (Shallow)Lithosols/Peats; Scree	27.4%	33.3%
885	Annagh	Annagh (ED Cloonclare); Derrynaseer; Laghty; Moneyduff (ED Glenfarn)	Leitrim	15.8	H 02170 38272	986		Alluvium undifferentiated; Cutover peat; Bedrock at surface-Non calcareous; Shales and sandstones till (Namurian); Water	Mineral alluvium; Surface water Gleys/Ground water Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Basin Peats/Blanket Peats	23.2%	33.3%
887	Glenboy	Glenboy; Gortnalibbert; Munnagashel	Leitrim	30.2	G 92467 36887			Alluvium undifferentiated; Shales and sandstones till (Namurian)	Mineral alluvium; Surface water Gleys/Ground water Gleys	24.2%	33.3%
890	Kilroosk	Brackary Beg; Brackary More; Kilroosk	Leitrim	51.9	G 88469 43440			Blanket peat; Bedrock at surface-Calcareous; Bedrock at surface-Non calcareous; Shales and sandstones till (Namurian)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Podzols (Peaty)/Lithosols/Peats; Lithosols/Regosols; Blanket peats; Lithosols/Peats; Renzinas/Lithosols	46.3%	33.3%
891	Attimanus	Attimanus; Corlaskagh; Corracramph North; Curraghoaghry; Drumgownagh (ED Breandrum); Greenaun; Leitrim Lower	Leitrim	73.5	H 04484 02064			Alluvium undifferentiated; Cutover peat; Limestone till (Carboniferous)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	28.4%	61.1%
892	Corglass	Corglass (Rosclogher By); Glasdrumman (Rosclogher By); Knocknaclassagh; Lugnafaughery; Sracreeghan; Sranea	Leitrim	33.6	G 76276 42862	623	623	Alluvium undifferentiated; Bedrock at surface-Calcareous; Shales and sandstones till (Namurian); Water	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Lithosols/Peats; Renzinas/Lithosols	31.6%	44.4%
893	Gleneige	Gleneige; Sramore	Leitrim	15.7	G 78774 39681	2435		Blanket peat; Bedrock at surface-Calcareous; Shales and sandstones till (Namurian)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Blanket peats; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Lithosols/Peats; Renzinas/Lithosols	38.9%	27.8%
894	Treanakillew	Treanakillew	Leitrim	3.2	G 75039 44161	623	623	Bedrock at surface-Calcareous	Lithosols/Peats; Renzinas/Lithosols	28.4%	27.8%
895	Lake Nahoo	Fawn (Drumahaire By); Mullagh (Drumahaire By)	Leitrim	19.2	G 81499 32287			Alluvium undifferentiated; Cutover peat; Bedrock at surface-Calcareous; Bedrock at surface-Non calcareous; Metamorphic till; Shales and sandstones till (Namurian)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Podzols (Peaty)/Lithosols/Peats; Lithosols/Peats; Renzinas/Lithosols; Basin Peats/Blanket Peats	32.6%	44.4%
896	Derrynahona	Cuiltia; Derrynahona	Leitrim	13.6	G 99026 23725			Fen peat; Shales and sandstones till (Namurian)	Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats	33.7%	38.9%

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900	Ballymaurice	Ballymaurice; Cartron (Granard By); Greville; Higginstown; Kinkillew	Longford	24.4	N 33979 79459			Alluvium undifferentiated; Basic esker sands and gravels; Cutover peat; Lake sediments undifferentiated; Made ground; Bedrock at surface-Calcareous; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Renzinas/Lithosols; Basin Peats/Blanket Peats; Lacustrine	32.6%	38.9%
903	Commons North	Commons North; Curreen; Rathcline	Longford	43.1	M 99935 67673	440	440	Lake sediments undifferentiated; Bedrock at surface-Calcareous; Limestone till (Carboniferous); Water	Grey Brown Podzolics/Brown Earths; Surface water Gleys/Ground water Gleys; Renzinas/Lithosols; Lacustrine	34.7%	27.8%
905	Drumhalry	Drumhalry	Longford	2.6	N 26303 96763			Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	14.7%	27.8%
909	Mullingee	Balnagall; Grassyard; Mullingee; Tromra	Longford	16.6	N 32570 81980			Cutover peat; Bedrock at surface-Calcareous; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Renzinas/Lithosols; Basin Peats/Blanket Peats	28.4%	44.4%
910	Keel Deer Park	Carrickbeg; Cartron (Shrule By); Creevagh Beg; Keel (Shrule By); Rathmore (Shrule By)	Longford	109.0	N 15927 54911			Alluvium undifferentiated; Basic esker sands and gravels; Limestone sands and gravels (Carboniferous); Made ground; Bedrock at surface-Calcareous; Sandstone till (Devonian/Carboniferous)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Lithosols/Peats; Renzinas/Lithosols	40.0%	44.4%
911	Inchenagh	Inchenagh	Longford	27.4	M 98023 63656	440	440	Limestone till (Carboniferous)	Grey Brown Podzolics/Brown Earths	24.2%	22.2%
916	Barry	Barry (ED Ballymahon); Barry (ED Kilcommock); Knappoge (Shrule By); Lislom	Longford	16.8	N 15477 60104			Basic esker sands and gravels; Cutover peat; Bedrock at surface-Calcareous; Sandstone till (Devonian/Carboniferous)	Acid Brown Earths/Brown Podzolics; Renzinas/Lithosols; Basin Peats/Blanket Peats	21.1%	33.3%
917	Agharra	Agharra; Lissawarriff	Longford	40.6	N 25504 60401			Alluvium undifferentiated; Cutover peat; Bedrock at surface-Calcareous; Sandstone till (Devonian/Carboniferous)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Peaty Gleys; Renzinas/Lithosols; Basin Peats/Blanket Peats	26.3%	44.4%
918	Lissawarriff	Ardanragh; Emper; Foxhall; Furze; Kinard; Lissawarriff; Smithfield	Longford	61.0	N 24925 62815			Alluvium undifferentiated; Cutover peat; Sandstone till (Devonian/Carboniferous)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	26.3%	27.8%
919	Creagh	Cartronbrack; Clogh (Rathcline By); Creagh; Glenmore (Moydow By)	Longford	15.5	N 14014 62200			Basic esker sands and gravels; Cutover peat; Bedrock at surface-Calcareous; Sandstone till (Devonian/Carboniferous)	Acid Brown Earths/Brown Podzolics; Renzinas/Lithosols; Basin Peats/Blanket Peats	32.6%	33.3%
921	Derrynagran	Cormaglava; Derrynagran	Longford	11.1	N 06395 61265			Cutover peat; Limestone till (Carboniferous)	Peaty Gleys; Basin Peats/Blanket Peats	27.4%	38.9%
923	Ballyclamay	Ballyclamay; Shinglis	Longford	25.6	N 21823 53484			Cutover peat; Sandstone till (Devonian/Carboniferous)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	25.3%	44.4%
924	Ballygarve	Ballygarve; Cloonahussey; Corboy	Longford	28.0	N 19185 75084			Alluvium undifferentiated; Cutover peat; Chert till; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	28.4%	50.0%
925	Lisfarrell	Cloonahard; Cloonahussey; Lisfarrell	Longford	38.4	N 19910 73183			Cutover peat; Lake sediments undifferentiated; Made ground; Bedrock at surface-Calcareous; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Renzinas/Lithosols; Basin Peats/Blanket Peats; Lacustrine	26.3%	44.4%
926	Lisnabo	Ballykenny; Caldragh; Cleggill; Lisnabo	Longford	18.0	N 10097 77667			Alluvium undifferentiated; Cutover peat; Sandstone till (Devonian)	Mineral alluvium; Peaty Gleys; Basin Peats/Blanket Peats	26.3%	44.4%

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927	Cloonturk	Cloonturk; Gragh	Longford	7.0	N 11676 71793	2103		Cutover peat; Sandstone till (Devonian)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	25.3%	44.4%
928	Laughil	Coolagherty; Graffoge (Granard By); Laughil (Edgeworth); Prucklishtown	Longford	18.1	N 27674 78340			Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Basin Peats/Blanket Peats	26.3%	33.3%
932	Carrigeens	Carrigeens; Carrowstrawly; Lisrevagh	Longford	5.1	N 01615 65029			Lake sediments undifferentiated; Bedrock at surface-Calcareous; Limestone till (Carboniferous)	Grey Brown Podzolics/Brown Earths; Renzinas/Lithosols; Lacustrine	15.8%	27.8%
935	Aghamore Upper	Aghacordrinan; Aghamore Upper; Carrickadorrish	Longford	21.2	N 24565 86930			Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	20.0%	38.9%
936	Glenmore	Aghadowry; Aghamore Upper; Glenmore (Longford By)	Longford	23.5	N 23618 86478			Alluvium undifferentiated; Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Lithosols/Regosols; Basin Peats/Blanket Peats	24.2%	38.9%
937	Killeen	Ballinlough; Ballymore; Coolcor; Killeen (Granard By)	Longford	15.3	N 28213 81847			Alluvium undifferentiated; Cutover peat; Bedrock at surface-Calcareous; Sandstone and shale till (Lower Palaeozoic); Water	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Lithosols/Peats; Basin Peats/Blanket Peats	31.6%	33.3%
938	Aghnashannagh	Aghaward; Aghnashannagh; Ballinalee or Saintjohnstown; Drumnahara; Kilshruley; Leitrim (ED Ballinalee); School Land	Longford	26.0	N 23425 81931			Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Peaty Gleys; Basin Peats/Blanket Peats	26.3%	50.0%
939	Shantum	Ballindagny and Cullyvore; Shantum; Tinnynarr	Longford	15.5	N 25432 70803			Alluvium undifferentiated; Sandstone till (Lower Palaeozoic/Devonian)	Mineral alluvium; Acid Brown Earths/Brown Podzolics	20.0%	33.3%
940	Bracklon	Bracklon; Cartronreagh; Keelogenasause; Lisnageeragh	Longford	77.2	N 25254 73925			Cutover peat; Chert till; Sandstone till (Lower Palaeozoic/Devonian); Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	29.5%	44.4%
941	Ballagh	Ballagh (Longford By); Ballagh(Achmuty)	Longford	16.3	N 11480 82188			Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Basin Peats/Blanket Peats	21.1%	38.9%
942	Carrickmoyragh	Ballagh (Longford By); Carrickmoyragh; St. Anne'S Glebe	Longford	27.8	N 11402 80972			Alluvium undifferentiated; Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Podzols (Peaty)/Lithosols/Peats; Basin Peats/Blanket Peats	21.1%	61.1%
943	Derawley	Derawley	Longford	17.5	N 17015 86515			Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Lithosols/Regosols; Basin Peats/Blanket Peats	35.8%	55.6%
945	Clawinch	Clawinch	Longford	8.2	M 97868 62158	440	440	Limestone till (Carboniferous); Water	Grey Brown Podzolics/Brown Earths; Surface water Gleys/Ground water Gleys	20.0%	16.7%
946	Inchcleraun	Inchcleraun	Longford	27.0	M 99325 59305	440	440	Limestone till (Carboniferous); Water	Grey Brown Podzolics/Brown Earths; Surface water Gleys/Ground water Gleys	29.5%	27.8%
947	Cloondara	Cloondara	Longford	49.4	N 07325 78276	1818	1818	Alluvium undifferentiated; Fen peat; Sandstone till (Lower Palaeozoic/Devonian); Water	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Peaty Gleys; Basin Peats	34.7%	33.3%

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948	Pollagh	Collum; Pollagh	Longford	44.8	N 02148 56628	440	440	Cutover peat; Lake sediments undifferentiated; Limestone till (Carboniferous); Water	Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats; Lacustrine	40.0%	38.9%
949	Drumnee	Claras; Drumnee; Saints Island	Longford	45.2	N 07568 56150	440	440	Cutover peat; Lake sediments undifferentiated; Limestone till (Carboniferous); Water	Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats; Lacustrine	46.3%	44.4%
950	Kilnacarrow	Cloonbony; Kilnacarrow (Rathcline By)	Longford	37.9	N 01295 71623			Alluvium undifferentiated; Cutover peat	Mineral alluvium; Basin Peats/Blanket Peats	29.5%	22.2%
951	Gowlan	Aghantrah; Ballyclare(ED Moydow); Cloonsheerin; Gowlan; Sharvoge	Longford	23.1	N 09353 71311			Cutover peat; Sandstone till (Devonian)	Acid Brown Earths/Brown Podzolics; Peaty Gleys; Basin Peats/Blanket Peats	22.1%	50.0%
952	Knappoge	Knappoge (Longford By)	Longford	28.7	N 03898 75954			Alluvium undifferentiated; Cutover peat; Sandstone till (Lower Palaeozoic/Devonian); Water	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Peaty Gleys; Basin Peats/Blanket Peats	25.3%	22.2%
953	Cloonart South	Cloonart South; Clooneen(Cox); Clooneen(Kennedy)	Longford	29.5	N 06305 82651	1818	1818	Cutover peat; Sandstone and shale till (Lower Palaeozoic); Water	Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	33.7%	44.4%
954	Lissagernal	Castleforbes Demesne; Clooniher; Lissagernal	Longford	22.8	N 09309 81869	1818	1818	Cutover peat; Sandstone and shale till (Lower Palaeozoic); Water	Peaty Gleys; Basin Peats/Blanket Peats	27.4%	44.4%
956	Cornafunshin	Cornafunshin; Derrynacross; Dooroc; Lettergonnell	Longford	8.4	N 19945 85462			Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	15.8%	50.0%
958	Tennalick	Drumanure; Tennalick	Longford	4.6	N 22206 59070	2103		Alluvium undifferentiated; Sandstone till (Devonian/Carboniferous)	Mineral alluvium; Peaty Gleys	9.5%	27.8%
960	Ledwithstown	Derrylough; Ledwithstown	Longford	3.6	N 09755 60181	1444		Cutover peat; Limestone till (Carboniferous)	Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	22.1%	22.2%
961	Lisaquill	Deerpark (Shrule By); Killeenboy; Lisaquill; Ratharney; Rathsallagh; Sheeroe (Shrule By)	Longford	29.4	N 23106 62072			Cutover peat; Sandstone till (Devonian/Carboniferous)	Acid Brown Earths/Brown Podzolics; Basin Peats/Blanket Peats	18.9%	33.3%
964	Ardagh Demesne	Ardagh Demesne; Cross (Ardagh By)	Longford	16.2	N 20802 68964			Sandstone till (Lower Palaeozoic/Devonian)	Acid Brown Earths/Brown Podzolics	16.8%	33.3%
965	Dunbeggan	Cleenrah; Dunbeggan (Granard By)	Longford	3.4	N 26568 89684			Alluvium undifferentiated; Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Basin Peats/Blanket Peats	21.1%	27.8%
966	Derrynaskea	Derrynaskea	Longford	10.7	N 08449 64681			Cutover peat; Limestone till (Carboniferous)	Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	24.2%	22.2%
967	Clooncullen	Calliaghstown(Rathconrath By); Clooncullen; Keel (Shrule By)	Longford	28.9	N 17657 53726			Basic esker sands and gravels; Cutover peat; Limestone sands and gravels (Carboniferous); Lake sediments undifferentiated; Sandstone till (Devonian/Carboniferous)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Renzinas/Lithosols; Basin Peats/Blanket Peats; Lacustrine	23.2%	44.4%
968	Derrynabuntale	Derrynabuntale	Longford	9.1	N 10325 56046	440	440	Limestone sands and gravels (Carboniferous); Lake sediments undifferentiated; Limestone till (Carboniferous); Water	Surface water Gleys/Ground water Gleys; Peaty Gleys; Lithosols/Peats; Lacustrine	29.5%	33.3%
996	Corrool	Corrool (Fox); Corrool (Kenny); Portanure	Longford	57.9	N 05947 56180	440	440	Cutover peat; Lake sediments undifferentiated; Limestone till (Carboniferous); Water	Grey Brown Podzolics/Brown Earths; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats; Lacustrine	33.7%	27.8%

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998	Aghnagore	Aghnagore; Cloondara	Longford	17.3	N 06440 76782	1818	1818	Alluvium undifferentiated; Cutover peat; Fen peat; Sandstone till (Lower Palaeozoic/Devonian)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Basin Peats/Blanket Peats; Basin Peats	29.5%	33.3%
999	Glen Lough	Ballygarveybeg; Cornapark; Crumlin or Rockfield	Longford	51.3	N 28572 66301	1687		Cutover peat; Sandstone till (Lower Palaeozoic/Devonian); Water	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	47.4%	33.3%
1000	Barran	Barran; Monesk; Roo	Cavan	36.9	H 03478 35640			Alluvium undifferentiated; Cutover peat; Bedrock at surface-Calcareous; Shales and sandstones till (Namurian)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Renzinas/Lithosols; Basin Peats/Blanket Peats	25.3%	27.8%
1001	Killyvally	Drummora Great; Drummora Little; Drummurry; Killyvally; Marahill; Monnery Lower; Monnery Upper; Scotch Island; Slanore	Cavan	83.5	H 34814 03249	7	7	Alluvium undifferentiated; Cutover peat; Lake sediments undifferentiated; Bedrock at surface-Calcareous; Limestone till (Carboniferous); Shales and sandstones till (Namurian); Water	Mineral alluvium; Surface water Gleys/Ground water Gleys; Surface water Gleys/Ground water Gleys; Renzinas/Lithosols; Basin Peats/Blanket Peats; Lacustrine	36.8%	55.6%
1002	Carricknagrow	Carricknagrow; Cornahaw; Derrylahan (Tullyhaw By); Stranamart	Cavan	41.5	H 04471 31905			Cutover peat; Shales and sandstones till (Namurian)	Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	27.4%	38.9%
1003	Corlea	Corlea (Tullyhaw By); Corrakeeldrum; Gubaveeny; Tents	Cavan	35.4	H 01726 31438		2032	Cutover peat; Bedrock at surface-Calcareous; Bedrock at surface-Non calcareous; Shales and sandstones till (Namurian)	Surface water Gleys/Ground water Gleys; Podzols (Peaty)/Lithosols/Peats; Lithosols/Regosols; Renzinas/Lithosols; Basin Peats/Blanket Peats	27.4%	38.9%
1004	Moneen	Cordressogagh; Corrahoash; Corrakeeldrum; Corrard; Derrynalester; Moneen; Tullynamoyle	Cavan	208.0	G 99401 30150		2032	Alluvium undifferentiated; Cutover peat; Bedrock at surface-Non calcareous; Shales and sandstones till (Namurian)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	54.7%	55.6%
1007	Legnagrow	Corneenflynn; Creea; Legnagrow; Mully Lower	Cavan	71.3	H 06000 28523			Alluvium undifferentiated; Cutover peat; Lake sediments undifferentiated; Shales and sandstones till (Namurian); Water	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats; Lacustrine	40.0%	38.9%
1008	Moneensauran	Altshallan; Carnmaclean; Carrick West; Curraghglass; Knockgorm; Legatraghta; Moneensauran	Cavan	51.5	H 06496 24809	584	584	Alluvium undifferentiated; Blanket peat; Scree; Shales and sandstones till (Namurian)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Blanket peats; Scree	48.4%	44.4%
1009	Bellavalley	Bellavally Lower; Bellavally Upper; Bursan; Corracleigh; Dunmakeever; Legnaderk; Tullycrafton; Tullyminister	Cavan	118.3	H 09831 25555	584	584	Alluvium undifferentiated; Blanket peat; Bedrock at surface-Calcareous; Bedrock at surface-Non calcareous; Scree; Shales and sandstones till (Namurian)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Lithosols/Regosols; Blanket peats; Lithosols/Peats; Renzinas/Lithosols; Scree	42.1%	38.9%
1010	Edenmore	Edenmore; Garvagh	Cavan	15.8	H 09119 30654	584	584	Blanket peat; Bedrock at surface-Calcareous; Bedrock at surface-Non calcareous	Podzols (Peaty)/Lithosols/Peats; Blanket peats; Lithosols/Peats	15.8%	22.2%
1011	Altnasheen	Altnasheen; Mullaghlea Glen	Cavan	2.9	H 04631 24954	584	584	Blanket peat; Scree; Shales and sandstones till (Namurian)	Surface water Gleys/Ground water Gleys; Peaty Gleys; Blanket peats; Scree	18.9%	16.7%
1013	Gubrawully	Drumbeagh; Gubrawully	Cavan	40.7	H 17112 23333			Alluvium undifferentiated; Blanket peat; Cutover peat; Shales and sandstones till (Namurian)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Blanket peats; Basin Peats/Blanket Peats	33.7%	27.8%
1014	Corrachomera	Corrachomera; Owencam; Tullynaconspod; Tullyveela	Cavan	18.3	H 13263 19696			Blanket peat; Shales and sandstones till (Namurian)	Surface water Gleys/Ground water Gleys; Blanket peats	16.8%	38.9%
1015	Drumcask	Derryrealt; Drumcask; Knockranny; Knockroe (Tullyhaw By)	Cavan	71.5	H 17392 24726			Alluvium undifferentiated; Blanket peat; Bedrock at surface-Calcareous; Shales and sandstones till (Namurian)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Blanket peats; Renzinas/Lithosols	35.8%	44.4%

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1016	Gubnafarna	Aghaboy (Tullyhaw By); Binkeeragh; Gubnafarna; Monydoo or Tonycrom	Cavan	55.9	H 17215 26198	584	584	Alluvium undifferentiated; Blanket peat; Bedrock at surface-Calcareous; Shales and sandstones till (Namurian)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Blanket peats; Renzinas/Lithosols	44.2%	38.9%
1017	Aghnacally	Aghnacally	Cavan	12.5	H 22933 24730	9		Blanket peat; Bedrock at surface-Calcareous; Scree; Shales and sandstones till (Namurian)	Surface water Gleys/Ground water Gleys; Blanket peats; Lithosols/Peats; Renzinas/Lithosols; Scree	31.6%	27.8%
1018	Cashelbane	Carrickbrannan; Carricknagrow; Cashelbane; Meenaslieve; Stranagap; Tullanierin; Tullanteen; Tullynafreave	Cavan	58.1	H 00661 28377			Alluvium undifferentiated; Cutover peat; Shales and sandstones till (Namurian)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Basin Peats/Blanket Peats	31.6%	55.6%
1019	Killywilly	Annagh (Tullyhaw By); Ardue; Corranierna (ED Ballyconnell); Killywilly	Cavan	67.5	H 29747 17927	7 & 974	7	Cutover peat; Fen peat; Lake sediments undifferentiated; Bedrock at surface-Calcareous; Shales and sandstones till (Namurian); Water	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Renzinas/Lithosols; Basin Peats/Blanket Peats; Basin Peats; Lacustrine	40.0%	50.0%
1021	Derrybrick	Derrybrick; Derryvehil; Drumlane (Lower Loughtee By); Money	Cavan	13.7	H 34556 11488	7	7	Cutover peat; Lake sediments undifferentiated; Limestone till (Carboniferous); Shales and sandstones till (Namurian); Water	Surface water Gleys/Ground water Gleys; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats; Lacustrine	28.4%	44.4%
1022	Lecharrownahone	Agharaskilly; Cormeen (Tullyhunco By); Killarah; Lecharrownahone	Cavan	24.6	H 26082 16777			Alluvium undifferentiated; Cutover peat; Chert and Carboniferous sandstone till	Mineral alluvium; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	23.2%	38.9%
1023	Corratirrim	Corratirrim; Lanliss	Cavan	17.9	H 07737 36230	979	979	Bedrock at surface-Calcareous; Shales and sandstones till (Namurian)	Surface water Gleys/Ground water Gleys; Lithosols/Peats; Renzinas/Lithosols	28.4%	22.2%
1025	Teeboy	Teeboy	Cavan	16.1	H 18247 18326			Chert and Carboniferous sandstone till; Shales and sandstones till (Namurian); Water	Surface water Gleys/Ground water Gleys; Peaty Gleys	27.4%	38.9%
1027	Coragh (Tullyhunco)	Aghabane; Coragh (Tullyhunco By); Derrindrehid; Drumgoohy; Drummany (ED Diamond); Laheen; Makief	Cavan	35.7	H 28262 08221			Alluvium undifferentiated; Cutover peat; Lake sediments undifferentiated; Chert and Carboniferous sandstone till; Water	Mineral alluvium; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats; Lacustrine	36.8%	44.4%
1028	Derries Upper	Derries Lower; Derries Upper; Drumgoon (Tullyhunco By); Kinkeel; Scotch Island	Cavan	12.3	H 32984 04564	7	7	Cutover peat; Lake sediments undifferentiated; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats; Lacustrine	29.5%	44.4%
1029	Crubany	Aghalackan; Crubany	Cavan	1.1	H 45254 02159			Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Lithosols/Regosols	16.8%	22.2%
1031	Inishconnell	Corracanvy; Inishconnell; Scotch Island	Cavan	8.8	H 36500 07335	7	7	Lake sediments undifferentiated; Shales and sandstones till (Namurian); Water	Surface water Gleys/Ground water Gleys; Lacustrine	20.0%	33.3%
1032	Rivory	Ardan; Ashgrove; Rivory; Scotch Island	Cavan	5.7	H 37451 12145	7	7	Alluvium undifferentiated; Lake sediments undifferentiated; Bedrock at surface-Calcareous; Limestone till (Carboniferous); Shales and sandstones till (Namurian)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Surface water Gleys/Ground water Gleys; Renzinas/Lithosols; Lacustrine	32.6%	33.3%
1033	Coolnalitteragh	Coolnalitteragh; Corrarod; Drumgorry; Drummany (Tullygarvey By); Rahellistin	Cavan	30.2	H 41593 16360	7	7	Cutover peat; Lake sediments undifferentiated; Shales and sandstones till (Namurian); Water	Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats; Lacustrine	24.2%	38.9%
1034	Aughrim	Aughrim; Mucklagh	Cavan	6.9	H 27330 20745			Bedrock at surface-Calcareous; Shales and sandstones till (Namurian)	Surface water Gleys/Ground water Gleys; Lithosols/Peats; Renzinas/Lithosols	17.9%	33.3%

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1035	Mullaghahy	Gortaquill; Leck; Mullaghahy; Port (ED Esky); Teemore (Tullyhaw By); Thornhill Or Mullandreenagh	Cavan	41.2	H 04405 37993	986		Alluvium undifferentiated; Bedrock at surface-Calcareous; Shales and sandstones till (Namurian)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Peaty Gleys; Renzinas/Lithosols	30.5%	38.9%
1038	Drumnatread	Bindoo; Drumnatread	Cavan	10.9	H 57852 06697			Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Lithosols/Regosols	13.7%	44.4%
1041	Rakane	Cordoagh Glebe Upper; Drumhurt; Long; Rakane	Cavan	34.0	H 58255 11046			Alluvium undifferentiated; Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	30.5%	50.0%
1042	Drumcor	Callowhill; Drumavrack; Drumcor (Tullygarvey By)	Cavan	4.8	H 47763 16317	1841		Cutover peat; Lake sediments undifferentiated; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats; Lacustrine	22.1%	44.4%
1043	Coppanagh	Coppanagh (Clankee By); Corraweelis (Clankee By); Edennagully	Cavan	17.7	N 72588 94617			Alluvium undifferentiated; Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	22.1%	33.3%
1045	Killyvaghan	Bellamont Forest; Carolina; Killyvaghan	Cavan	42.5	H 63077 16711	1		Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	32.6%	33.3%
1048	Taghart North	Taghart North or Closnabraddan	Cavan	5.5	H 74576 01651			Lake sediments undifferentiated; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Lacustrine	17.9%	27.8%
1051	Drumcrow	Cloggy; Drumcrow (ED Drumcarban); Farranseer	Cavan	18.4	N 34999 99627			Alluvium undifferentiated; Granite till; Water	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys	44.2%	33.3%
1054	Tawlaght	Clonloaghan; Cortrasna; Tawlaght (Clanmahon By)	Cavan	17.5	N 40653 86802			Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	14.7%	33.3%
1055	Pottle	Killycloghan; Pottle (Clankee By); Roosky; Tullylorcan	Cavan	25.1	H 63259 04646			Alluvium undifferentiated; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Lithosols/Regosols	18.9%	38.9%
1057	Coragh (Castlerahan)	Coragh (Castlerahan By); Derryevin; Killyvally (Castlerahan By); Kilmore (ED Ballyjamesduff); Lismeen (Castlerahan By)	Cavan	28.3	N 53585 92829			Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic); Water	Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	16.8%	44.4%
1058	Calf Field	Aghadrumgowna or Calf Field; Artonagh (Tullygarvey By)	Cavan	3.8	H 53720 07035			Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Podzols (Peaty)/Lithosols/Peats; Lithosols/Regosols	17.9%	38.9%
1060	Carrickaboy Glebe	Ardkill Beg; Carrickaboy Glebe; Dennbane; Dennmore or Leggandenn	Cavan	7.8	N 44653 97510			Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	20.0%	50.0%
1061	Crossrah	Crossrah	Cavan	0.3	N 48822 83817			Bedrock at surface-Calcareous	Renzinas/Lithosols	21.1%	22.2%
1062	Drumegil	Corlateerin; Drumegil	Cavan	16.3	N 47379 95497			Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	17.9%	33.3%
1063	Sallaghill	Aghagegna; Sallaghill	Cavan	11.8	N 45708 93422			Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Basin Peats/Blanket Peats	15.8%	33.3%

Site ID	Site Name	Townland Name	County	Site Area (ha)	Grid Ref.	NHA/ pNHA	SAC	Parent material	Soil ID	Conservation score	Threat score
1064	Crossafehin	Carrick (Castlerahan By); Cormaddyduff (Castlerahan By); Corronagh; Croaghan; Crossafehin; Knockatemple	Cavan	24.1	N 58550 85358	8		Cutover peat; Silty; Sandstone and shale till (Lower Palaeozoic); Water	Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats; Lacustrine	23.2%	38.9%
1065	Drumroragh	Aghnahederny; Coolkill; Drumroragh	Cavan	21.6	N 46956 89939			Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	27.4%	38.9%
1067	Manragh Upper	Burren (ED Tuam); Duckfield; Legalough; Legeelan; Manragh Upper; Tawnymakelly	Cavan	87.9	H 08499 34605			Blanket peat; Cutover peat; Bedrock at surface-Calcareous; Shales and sandstones till (Namurian); Water	Surface water Gleys/Ground water Gleys; Blanket peats; Lithosols/Peats; Renzinas/Lithosols; Basin Peats/Blanket Peats	63.2%	55.6%
1068	Corleggy	Corleggy; Dernaglush; Shancorry	Cavan	19.1	H 37103 19421		7	Alluvium undifferentiated; Lake sediments undifferentiated; Shales and sandstones till (Namurian)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Lacustrine	26.3%	44.4%
1069	Cornabeagh	Cornabeagh; Cornamucklagh (Tullygarvey By); Drumhurt	Cavan	16.1	H 58300 09519			Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Lithosols/Regosols	16.8%	50.0%
1071	Tonyrevan	Crossmakelagher; Killycluggin; Tonyrevan	Cavan	12.9	H 24402 16160			Bedrock at surface-Calcareous; Chert and Carboniferous sandstone till	Surface water Gleys/Ground water Gleys; Renzinas/Lithosols	16.8%	38.9%
1072	Carrick	Carrick (Clanmahon By)	Cavan	12.9	N 40653 83662			Alluvium undifferentiated; Sandstone and shale sands and gravels (Lower Palaeozoic); Bedrock at surface-Calcareous; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Lithosols/Regosols; Renzinas/Lithosols	22.1%	33.3%
1074	Behy	Behy; Castlepoles; Corradownan; Corranea Glebe; Lackan	Cavan	38.6	N 30658 97842	2		Alluvium undifferentiated; Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Podzols (Peaty)/Lithosols/Peats; Lithosols/Regosols; Basin Peats/Blanket Peats	23.2%	55.6%
1075	Mullaghlea	Gortullaghan; Moherloob; Mullaghlea; Tirlahode Upper	Cavan	13.3	H 19594 22125			Alluvium undifferentiated; Cutover peat; Sandstone and shale till (Lower Palaeozoic); Shales and sandstones till (Namurian)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	20.0%	27.8%
1076	Tirlahode Upper	Drumnaveagh; Tirlahode Upper	Cavan	16.3	N 55194 98444			Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	14.7%	27.8%
1077	Drummullagh	Drummullagh; Drumquill; Killyfern	Cavan	30.1	H 31097 11917			Alluvium undifferentiated; Cutover peat; Shales and sandstones till (Namurian)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	18.9%	33.3%
1078	Shantemon	Fartan Upper; Shantemon	Cavan	10.6	H 46240 07315			Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Podzols (Peaty)/Lithosols/Peats; Lithosols/Regosols	24.2%	55.6%
1080	Dundavan	Cloncovet; Dundavan	Cavan	4.2	N 36161 87358			Alluvium undifferentiated; Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	15.8%	33.3%
1081	Cornaslieve	Cornaslieve	Cavan	23.3	N 58851 89835			Cutover peat; Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Podzols (Peaty)/Lithosols/Peats; Lithosols/Regosols; Basin Peats/Blanket Peats	25.3%	44.4%
1083	Crosserule	Crosserule; Gallonnambraher; Killyfinla	Cavan	1.1	N 54245 90157			Bedrock at surface-Non calcareous; Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys; Lithosols/Regosols	17.9%	38.9%

Site ID	Site Name	Townland Name	County	Site Area (ha)	Grid Ref.	NHA/ pNHA	SAC	Parent material	Soil ID	Conservation score	Threat score
1084	Ryefield	Edenburt; Ryefield	Cavan	6.4	N 63798 81662		2299	Alluvium undifferentiated; Sandstone and shale sands and gravels (Lower Palaeozoic); Clayey; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Acid Brown Earths/Brown Podzolics; Surface water Gleys/Ground water Gleys; Surface water Gleys (Shallow)/Ground water Gleys (Shallow); Lithosols/Regosols; Lacustrine	17.9%	44.4%
1086	Pottle Lower	Pottle Lower	Cavan	4.3	N 68463 98218			Sandstone and shale till (Lower Palaeozoic)	Surface water Gleys/Ground water Gleys	11.6%	38.9%
1087	Greaghclaugh	Dromore; Greaghclaugh; Monaghanoose	Cavan	11.2	N 62968 96012			Alluvium undifferentiated; Cutover peat; Sandstone and shale till (Lower Palaeozoic)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	31.6%	44.4%
1088	Ardlougher	Ardlougher (Tullyhaw By); Ross (ED Mahanagh); Tullynamoyle	Cavan	12.0	G 97737 28428			Alluvium undifferentiated; Cutover peat; Shales and sandstones till (Namurian)	Mineral alluvium; Surface water Gleys/Ground water Gleys; Basin Peats/Blanket Peats	29.5%	27.8%
1089	Legglass	Eshveagh; Legglass	Cavan	20.1	H 07976 28888	584	584	Blanket peat; Bedrock at surface-Calcareous; Shales and sandstones till (Namurian)	Surface water Gleys/Ground water Gleys; Peaty Gleys; Blanket peats; Renzinas/Lithosols	20.0%	33.3%
1090	Ballyheelan	Ballyheelan	Cavan	2.1	N 42668 87442			Alluvium undifferentiated; Sandstone and shale sands and gravels (Lower Palaeozoic)	Mineral alluvium; Lithosols/Regosols	25.3%	22.2%
1091	Tonagh	Ross; Tonagh (Clanmahon By)	Cavan	4.9	N 47259 83206	987		Alluvium undifferentiated; Lake sediments undifferentiated; Bedrock at surface-Calcareous; Limestone till (Carboniferous); Water	Mineral alluvium; Grey Brown Podzolics/Brown Earths; Surface water Gleys/Ground water Gleys; Renzinas/Lithosols; Lacustrine	18.9%	27.8%

Appendix 3: Field sheets

- General site survey sheet
- Site species sheet
- Relevé sheet
- EU Annex I grassland habitat assessment sheet

Site ID:		**Adjacent Habitats (✓)**				**Fossitt Grassland within Site**	✓	**Relevé No.**	**Description** (✓ box if relevé is also an assessment)	✓
Ecologist ID:		FL		WN		**GS1** Dry calcareous & neutral				
Date:		FW		WD		**GS2** Dry meadows & grass verges				
Site Area (ha):		FP		WS		**GS3** Dry-humid grassland				
		FS		WL		**GS4** Wet grassland				
Site Geography	✓	GA		BC		**GM1** Freshwater marsh				
Esker		GS		BL		**GSi:** ☐ 1 ☐ 2 ☐ 3 ☐ 4				
Drumlin		GM		ER						
Hill		HH		ED		**EU Annex I Habitats**	✓			
Valley		HD		Other		**6130** Calaminarian grasslands				
Lakeside		PB		Dry ditch		**6210** ***Festuco-Brometalia***				
Bogland		PF		Fence		**6230** Species-rich ***Nardus*** grassland				
Lowland plain		**Site Management**			✓	**6410** ***Molinion*** meadows				
Floodplain		Cattle pasture				**6430** Hydrophilous tall herb comm.				
Other:		Sheep pasture				**6510** Lowland hay meadows				
		Horse pasture				None				
Topographical Situation	✓	Hay meadow						**No. relevés**		
Flat		Org. fertilizer application				**Other Fossitt Habitats in site**	✓	**General Site Notes** (write 'limestone pavement' in other adjacent habitats if present)		
Summit		Non-org fertilizer app.				**FW2** Lowland river				
Upper slope		Unknown fertilizer app.				**FW4** Drainage ditches				
Mid-slope		Liming				**HD1** Dense bracken				
Lower slope		Topping				**PB4** Cutover bog				
		Mown: May-Jun				**WL1** Hedgerows				
Seasonal flooding (Y/N)		Mown: Jul-Oct				**WL2** Treelines				
		Spring grazing: May-Jun				**WS1** Scrub				
Damaging Operations	✓	Summer grazing: Jul-Aug				**ED3** Recolonising bare ground				
Drainage		Autumn grazing: Sep-Nov				**BL1** Stone walls				
Dumping		Winter grazing: Dec- Apr				**BL2** Earth banks				
Adjacent afforestation		Cut once or <1 per year				**BL3** Buildings & artificial surfaces				
Other:		Cut >1 per year				Other:				
None		Supplementary feeding								
		Burning				None				
Archaeological Features	✓	None								
Earthworks						**Grazing level**	✓			
Lazy beds		**Fauna**			✓	Undergrazing				
Ringforts		Rabbits				Appropriate grazing				
Other:		Hares				Overgrazing				
None		Deer					✓			
		Badgers				**Encroachment**				
Boundary Type	✓	Frogs				Bracken				
Abrupt		Anthills				Scrub				
Diffuse		Other:				Heath				
		None				None				

Woody		**Herbs**		**Herbs**		**Herbs**		**Sedges**		**Grasses**		**Mosses**		**Mosses**		
Acer pseu		Crep vesi		Odon vern		Succ prat		Care acui		Fest giga		Ambl serp		Spha cusp		**Site ID:**
Betu pube		Dact fuch		Orch masc		Tara agg.		Care bine		Fest ovin		Atri undu		Spha palu		
Betu pend		Dact macu		Orch mori		Teuc scor		Care cary		Fest prat		Brac riv		Tham alop		**Date:**
Call vulg		Dauc caro		Orig vulg		Thal flav		Care dist		Fest rubr		Brac rut		Thui tama		
Crat mono		Digi purp		Pedi sylv		Thym poly		Care echi		Glyc flui		Call cord		Tort tort		**Ecologist ID:**
Eric cine		Epil hirs		Pers amph		Tori japo		Care elat		Heli pube		Call cusp				
Eric tetr		Epil obsc		Pers macu		Trif camp		Care flac		Holc lana		Cirr pili		**Liverworts**		**Additional species notes:**
Fall japo		Epil palu		Peta hybr		Trif dubi		Care hirt		Holc moll		Clim den		Cono coni		
Frax exce		Epil parv		Pilo offi		Trif prat		Care laev		Koel macr		Cryp hete		Loph bide		
Hede heli		Euph offi		Pimp saxi		Trif repe		Care nigr		Loli pere		Cten moll		Marc mach		
Loni peri		Fili ulma		Plan lanc		Trig palu		Care oval		Meli unif		Dicr maju		Metz frut		
Myri gale		Gali apar		Plan majo		Tuss farf		Care pane		Moli caer		Dicr scop		Metz furc		
Prun spin		Gali palu		Poly vulg		Urti dioi		Care pnlt		Nard stri		Eurh stri		Pell endi		
Rosa arve		Gali saxa		Pote angl		Vale offi		Care pend		Phal arun		Fiss adia		Pell epip		
Rosa cani		Gali ulig		Pote anse		Vero becc		Care puli		Phle prat		Fiss bryo		Plag aspl		
Rubu frut		Gali veru		Pote erec		Vero cham		Care remo		Phra aust		Fiss taxi		Plag pore		
Sola dulc		Gent amar		Pote palu		Vero mont		Care rost		Poa annu		Font anti		Scap grac		
Ulex euro		Gera robe		Pote rept		Vero offi		Care stri		Poa nemo		Homa lute		Scap nemo		
Ulex gali		Gymn cono		Pote ster		Vero serp		Care sylv		Poa prat		Homa seri		Scap undu		
Vacc myrt		Hydr vulg		Prim veri		Vici crac		Care vesi		Poa triv		Hook luce				
		Hera spho		Prim vulg		Vici sepi		Care viri		Sesl caer		Hylo brev		**Other sp.** (write names in full)		**Other sp.**
		Hype perf		Prun vulg		Viol palu		Eleo palu		Tris flav		Hylo sple				
Herbs		Hype pulc		Ranu acris		Viol reic		Scho nigr				Hyoc armo				
Achi mill		Hype tetr		Ranu bulb		Viol rivi						Hypn cupr				
Achi ptar		Hypo radi		Ranu flam		Viol sp.						Hypn jutl				
Ajug rept		Iris pseu		Ranu repe				**Grasses**		**Horsetails**		Hypn lacu				
Anac pyra		Knau arve		Rhin mino				Agro cani		Equi arve		Isop eleg				
Anag arve		Laps comm		R. acetosa		**Rushes**		Agro capi		Equi fluv		Isot alop				
Ange sylv		Lath lini		R. acetose		Junc acut		Agro stol		Equi palu		Kind prae				
Anth sylv		Lath prat		Rume cris		Junc arti		Alop geni		Equi sylv		Leuc glau				
Anth vuln		Leon autu		Rume cong		Junc bufo		Alop prat		Equi telm		Mniu horn				
Bell pere		Leuc vulg		Rume obtu		Junc bulb		Anis ster				Oxyr hian				
Blac perf		Linu cath		Sagi proc		Junc cong		Anth odor				Pleu schr				
Calt palu		List ovat		Sang mino		Junc effu		Arrh elat		**Ferns**		Plth dent				
Camp rotu		Lotu corn		Scut gale		Junc infl		Brac pinn		Aspl tric		Plth undu				
Card flex		Lotu pedu		Sene aqua		Junc squa		Brac sylv		Athy fili		Pmni affi				
Card prat		Lych flos		Sene jaco		Luzu camp		Briz medi		Blec spic		Pmni elli				
Carl vulg		Lysi nemo		Sile dioi		Luzu pilo		Brom erec		Dryo aem		Pmni undu				
Cent nigr		Lysi numm		Sonc aspe		Luzu mult		Brom hord		Dryo affi		Poly comm				
Cera font		Lysi vulg		Sonc oler		Luzu sylv		Brom ramo		Dryo cart		Poly form				
Cirs arve		Lyth sali		Stac palu				Cyno cris		Dryo dila		Pseu puru				
Cirs diss		Medi lupu		Stac sylv				Dact glom		Dryo fili		Rhiz punc				
Cirs palu		Ment aqua		Stel gram				Dant decu		Ophi vulg		Rhyn ripa				
Cirs vulg		Meny trif		Stel holo				Desc cesp		Osmu rega		Rhyt lore				
Cono maju		Myos disc		Stel medi				Desc flex		Phly scol		Rhyt squa				
Crep capi		Myos laxa		Stel palu				Fest alti		Poly seti		Rhyt triq				
Crep palu		Myos scor		Stel ulig				Fest arun		Pter aqui		Spha capi				

Woody	**Herbs**	**Herbs**	**Herbs**	**Sedges**	**Grasses**	**Mosses**	**Mosses**	**Site ID:**
Acer pseu	Crep vesi	Odon vern	Succ prat	Care acui	Fest giga	Ambl serp	Spha cusp	**Relevé ID:**
Betu pube	Dact fuch	Orch masc	Tara agg.	Care bine	Fest ovin	Atri undu	Spha palu	**Ecologist ID:**
Betu pend	Dact macu	Orch mori	Teuc scor	Care cary	Fest prat	Brac riv	Tham alop	**Date:**
Call vulg	Dauc caro	Orig vulg	Thal flav	Care dist	Fest rubr	Brac rut	Thui tama	**Grid Ref:** ±
Crat mono	Digi purp	Pedi sylv	Thym poly	Care echi	Glyc flui	Call cord	Tort tort	**Fossitt habitat:**
Eric cine	Epil hirs	Pers amph	Tori japo	Care elat	Heli pube	Call cusp		**EU Annex I habitat:**
Eric tetr	Epil obsc	Pers macu	Trif camp	Care flac	Holc lana	Cirr pili	**Liverworts**	**Annex I assessment stop no:**
Fall japo	Epil palu	Peta hybr	Trif dubi	Care hirt	Holc moll	Clim den	Cono coni	**Topography:**
Frax exce	Epil parv	Pilo offi	Trif prat	Care laev	Koel macr	Cryp hete	Loph bide	**Altitude:**
Hede heli	Euph offi	Pimp saxi	Trif repe	Care nigr	Loli pere	Cten moll	Marc mach	**Aspect:**
Loni peri	Fili ulma	Plan lanc	Trig palu	Care oval	Meli unif	Dicr maju	Metz frut	**Slope:**
Myri gale	Gali apar	Plan majo	Tuss farf	Care pane	Moli caer	Dicr scop	Metz furc	**Soil ID:**
Prun spin	Gali palu	Poly vulg	Urti dioi	Care pnlt	Nard stri	Eurh stri	Pell endi	**Additional relevé notes:**
Rosa arve	Gali saxa	Pote angl	Vale offi	Care pend	Phal arun	Fiss adia	Pell epip	
Rosa cani	Gali ulig	Pote anse	Vero becc	Care puli	Phle prat	Fiss bryo	Plag aspl	
Rubu frut	Gali veru	Pote erec	Vero cham	Care remo	Phra aust	Fiss taxi	Plag pore	
Sola dulc	Gent amar	Pote palu	Vero mont	Care rost	Poa annu	Font anti	Scap grac	
Ulex euro	Gera robe	Pote rept	Vero offi	Care stri	Poa nemo	Homa lute	Scap nemo	
Ulex gali	Gymn cono	Pote ster	Vero serp	Care sylv	Poa prat	Homa seri	Scap undu	
Vacc myrt	Hydr vulg	Prim veri	Vici crac	Care vesi	Poa triv	Hook luce		
	Hera spho	Prim vulg	Vici sepi	Care viri	Sesl caer	Hylo brev	**Other sp.** (write names in full)	**Other relevé data**
	Hype perf	Prun vulg	Viol palu	Eleo palu	Tris flav	Hylo sple		Cover score (DOMIN)
Herbs	Hype pulc	Ranu acris	Viol reic	Scho nigr		Hyoc armo		Bare soil
Achi mill	Hype tetr	Ranu bulb	Viol rivi			Hypn cupr		Bare rock
Achi ptar	Hypo radi	Ranu flam	Viol sp.			Hypn jutl		Surface water
Ajug rept	Iris pseu	Ranu repe		**Grasses**	**Horsetails**	Hypn lacu		Litter: incl. dead grass stems
Anac pyra	Knau arve	Rhin mino		Agro cani	Equi arve	Isop eleg		Bryophyte layer
Anag arve	Laps comm	R. acetosa	**Rushes**	Agro capi	Equi fluv	Isot alop		Field layer
Ange sylv	Lath lini	R. acetose	Junc acut	Agro stol	Equi palu	Kind prae		Broadleaf herbs
Anth sylv	Lath prat	Rume cris	Junc arti	Alop geni	Equi sylv	Leuc glau		
Anth vuln	Leon autu	Rume cong	Junc bufo	Alop prat	Equi telm	Mniu horn		
Bell pere	Leuc vulg	Rume obtu	Junc bulb	Anis ster		Oxyr hian		Median grass height (cm)
Blac perf	Linu cath	Sagi proc	Junc cong	Anth odor		Pleu schr		Median herb height (cm)
Calt palu	List ovat	Sang mino	Junc effu	Arrh elat	**Ferns**	Plth dent		Broadleaf herb:grass etc (%)
Camp rotu	Lotu corn	Scut gale	Junc infl	Brac pinn	Aspl tric	Plth undu		
Card flex	Lotu pedu	Sene aqua	Junc squa	Brac sylv	Athy fili	Pmni affi		Soil pH
Card prat	Lych flos	Sene jaco	Luzu camp	Briz medi	Blec spic	Pmni elli		Sample 1
Carl vulg	Lysi nemo	Sile dioi	Luzu pilo	Brom erec	Dryo aem	Pmni undu		Sample 2
Cent nigr	Lysi numm	Sonc aspe	Luzu mult	Brom hord	Dryo affi	Poly comm		Mean
Cera font	Lysi vulg	Sonc oler	Luzu sylv	Brom ramo	Dryo cart	Poly form		
Cirs arve	Lyth sali	Stac palu		Cyno cris	Dryo dila	Pseu puru		
Cirs diss	Medi lupu	Stac sylv		Dact glom	Dryo fili	Rhiz punc		
Cirs palu	Ment aqua	Stel gram		Dant decu	Ophi vulg	Rhyn ripa		
Cirs vulg	Meny trif	Stel holo		Desc cesp	Osmu rega	Rhyt lore		
Cono maju	Myos disc	Stel medi		Desc flex	Phly scol	Rhyt squa		
Crep capi	Myos laxa	Stel palu		Fest alti	Poly seti	Rhyt triq		
Crep palu	Myos scor	Stel ulig		Fest arun	Pter aqui	Spha capi		

EU Annex I habitat assessment field sheet for semi-natural grassland

Relevé ID	Date	Recorder ID	EU Annex I habitat

Each stop (2m x 2m)	STOP	
STOP NUMBER		
	PASS	**FAIL**
HQ +ve indicator species (record numbers)		
Non-HQ +ve indicator species (record numbers)		
Overall +ve indicator species (record numbers)		
-ve indicator species (record numbers)		
Broadleaf herb : grass etc ratio (%)		
Scrub/bracken encroachment (%)		
Median sward height (cm)		
Litter cover (%)		
Extent of bare ground (%)		
Grazing and disturbance levels		
Note presence of distinctive features e.g. orchid-rich areas or rare plants		
General stop notes (include habitat loss)		

NB: Rather than ticking the correct box record the figure for each category e.g. 9 +ve indicator species or 15% litter cover, in either the pass or fail box
HQ: High Quality positive indicator species as defined in the Annex I grassland habitats assessment information sheets (Appendix 5).

Appendix 4: Summary grassland habitat information for each of the 239 sites surveyed in 2009

This appendix contains the following information on each site:

1) Site ID
2) Site Name
3) County
4) SAC code
5) The % of each site occupied by semi-natural grassland / marsh Fossitt (2000) habitat types:

- Dry calcareous and neutral grassland (GS1).
- Dry meadows and grassy verges (GS2).
- Dry-humid acid grassland (GS3).
- Wet grassland (GS4).
- Freshwater marsh (GM1).

NB: When semi-improved grassland habitats of potential conservation value were recorded, an 'i' was inserted into the Fossitt category of the habitat type that was deemed to have occurred prior to improvement.

6) The % of each site occupied by EU Annex I grassland habitats:

- Calaminarian grasslands of the Violetalia calaminariae (6130).
- Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (6210).
- Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (important orchid sites) (6211).
- Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and sub-mountain areas, in Continental Europe) (6230).
- *Molinia* meadows on calcareous, peaty or clayey-silt laden soils (*Molinion caerulea*) (6410).
- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels (6430).
- Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*) (6510).

7) The number of relevés within each site occupied by the four semi-natural grassland / marsh vegetation groups defined by this project:
Plantago lanceolata – Festuca rubra grassland group.
Potentilla erecta – Galium saxatile grassland group.
Agrostis stolonifera – Juncus effusus grassland / marsh group.
Juncus acutiflorus – Calliergonella cuspidata grassland group.

Site ID	Site Name	County	SAC	GS1	GS2	GS3	GS4	GM1	FS2	GSi	6130	6210	6230	6410	6430	6510	Plan Fest	Pote Gali	Agro Junc	Junc Call
700	Magheraboy	Monaghan			13%		82%			6% (GSi1)									1	1
701	Drumirril Deer Park	Monaghan		77%			23%										2	1	2	
702	Lissaraw	Monaghan		12%			39%	21%		28% (GSi4)							2		2	1
703	Drumgole	Monaghan			1%		51%			48% (GSi4)									3	
704	Briscarnagh	Monaghan			1%		99%										1		1	
705	Callowhill	Monaghan					59%			41% (GSi1, GSi4)							1		1	
706	Kilroosky Lough Cluster	Monaghan	001786	10%			90%												2	2
707	Lough Smiley	Monaghan			31%		69%										1		2	
709	Glencorick	Monaghan					59%			41% (GSi4)									2	1
710	Annaghybane	Monaghan					84%			16% (GSi4)							1		1	
711	Derrylosset	Monaghan					71%			29% (GSi4)							1		3	
712	Coolberrin	Monaghan				1%	93%	2%		5% (GSi1)							2	1	5	4
713	Derrykinnigh Beg	Monaghan					67%			33% (GSi1, GSi4)							1		4	1
714	Killygrallan	Monaghan					63%			37% (GSi4)									1	2
716	Dundrumman	Monaghan					67%			33% (GSi4)							2		2	
717	Barratitoppy Upper	Monaghan					100%							12%			1		1	6
718	Ardginny	Monaghan					77%			23% (GSi1, GSi4)				3%					3	6
720	Cullentraghduff	Monaghan					27%			73% (GSi1, GSi4)							1			1
722	Devlin	Monaghan					66%			34% (GSi1, GSi4)									5	1
723	Mullananalt	Monaghan				7%	49%			44% (GSi4)			1%				1		1	1
725	Carrickanoran	Monaghan				1%	69%	1%		30% (GSi4)							2		5	2
726	Leitrim	Monaghan		16%			69%			15% (GSi4)							1		3	
729	Mokeeran	Monaghan		100%								5%					2			
732	Tusker	Monaghan		16%	9%	2%	52%			22% (GSi1, GSi3, GSi4)							6	1	5	1
733	Drumgoose	Monaghan		1%			72%			27% (GSi4)							2		1	1
736	Gransha More	Monaghan					66%			34% (GSi4)							1		2	
737	Boughill	Monaghan					57%			43% (GSi4)							1			1
738	Drumshannon	Monaghan		1%	2%		64%			33% (GSi4)							2		1	2
739	Blackraw	Monaghan		18%			79%			3% (GSi4)								1	4	
741	Dernalosset	Monaghan			8%		92%												3	
742	Annareagh South	Monaghan					100%												2	1
745	Dromore	Monaghan			16%	9%	69%			7% (GSi4)							1		3	1
747	Tonyfinnigan	Monaghan					81%			19% (GSi4)							2		3	
749	Liseenan	Monaghan					49%			51% (GSi1, GSi4)							1		2	
750	Tray	Monaghan					58%			42% (GSi4)							1		1	
752	Clonoula	Monaghan			1%		73%			27% (GSi1, GSi4)							1		1	2
753	Rahans	Monaghan					100%												2	
754	Eshnaglogh	Monaghan					100%												2	1
757	Drumfurrer	Monaghan					96%			4% (GSi4)									3	
758	Killycooly	Monaghan					14%			86% (GSi1, GSi2, GSi4)									4	2
760	Mullaghmore North	Monaghan								100% (GSi1, GSi4)							1		1	
761	Clossagh More	Monaghan					75%			25% (GSi4)									2	
762	Lemgare Rocks	Monaghan				10%	50%			40% (GSi1)			10%					1	2	

Appendix 4: Summary grassland habitat information for each of the 239 sites surveyed in 2009

Site ID	Site Name	County	SAC	GS1	GS2	GS3	GS4	GM1	FS2	GSi	6130	6210	6230	6410	6430	6510	Plan Fest	Pote Gali	Agro Junc	Junc Call
793	Fairtahy	Monaghan		31%			52%			16% (GSi1, GSi4)							1		1	1
794	Creeve	Monaghan			7%		93%										1		2	
797	Coyle's Bridge	Monaghan					100%												1	
799	Kilmore East	Monaghan					23%			77% (GSi2, GSi4)							1		2	
800	Wardhouse	Leitrim	000625	18%	14%	11%	53%			3% (GSi1, GSi2)							5		1	2
801	Tulcon	Leitrim					97%	3%											3	
802	Gubacreeny	Leitrim	000428			3%	96%			2% (GSi4)				7%			1		1	8
803	Derrynaseer	Leitrim	000428				100%													3
804	Gubalaun	Leitrim	000428				100%							4%				1	1	4
805	Derryherk	Leitrim	000428				100%													3
806	Edenvella	Leitrim	000428				80%			20% (GSi4)				3%					3	1
807	Aghadunvane	Leitrim	001403	1%		60%	40%										1	2	2	1
808	Keeloges	Leitrim	001403			40%	60%											2		1
811	Larganavaddoge	Leitrim	000623	5%		44%	51%						2%				2	5		2
812	Cloontyprughlish	Leitrim	000623	1%		43%	57%										1	2	1	
813	Aghalateeve	Leitrim	000623 001919	4%		55%	41%										3	1	1	2
814	Erriff	Leitrim	001403			67%	33%												2	2
815	Sheemore	Leitrim		46%			48%			5% (GSi1)		2%					14		2	1
816	Meenagraun	Leitrim				25%	75%										4			1
818	Lugnafaughery	Leitrim	000623	8%		41%	44%			7% (GSi4)							2	1	2	1
819	Nure	Leitrim				1%	91%			9% (GSi3, GSi4)							1			2
820	Kiltyclogher	Leitrim					73%			27% (GSi3)								1	1	1
822	Lissinagroagh	Leitrim				11%	89%										1	1	1	
823	Fawnlion	Leitrim		65%		21%	14%										2	3	1	
824	Cornaroy	Leitrim				1%	84%			15% (GSi4)									2	5
825	Ballynaboll	Leitrim		52%		28%	13%			8% (GSi1, GSi4)		0%					10		1	
826	Gortermone	Leitrim		2%			13%			85% (GSi1, GSi4)		2%					5		1	2
828	Carrickleitrim	Leitrim	001976				81%			19% (GSi1, GSi4)							1		2	5
829	Munakill	Leitrim					63%	4%		33% (GSi1, GSi4)							1		5	2
830	Barr of Farrow	Leitrim				9%	91%												2	2
831	Tullinwannia	Leitrim	002032				100%													1
832	Belhavel Lough	Leitrim					100%												2	1
833	Letter	Leitrim					99%			1% (GSi4)										4
835	Corcusconny	Leitrim	001976				99%			1% (GSi4)									1	2
836	Shass	Leitrim				62%	38%						18%				1	1	1	3
837	Corry	Leitrim				1%	99%							9%					1	7
838	Kilgarriff	Leitrim					100%												1	3
839	Liscuillew Lower	Leitrim					100%												1	1
840	Sranagarvanagh	Leitrim				4%	77%			19% (GSi3, GSi4)								1		6
841	Derryhallagh	Leitrim					100%										1		1	3
842	Knockacullion	Leitrim	000584			12%	80%			9% (GSi4)							1			3
844	Mayo	Leitrim					90%			10% (GSi4)									1	1

Appendix 4: Summary grassland habitat information for each of the 239 sites surveyed in 2009

Site ID	Site Name	County	SAC	GS1	GS2	GS3	GS4	GM1	FS2	GSi	6130	6210	6230	6410	6430	6510	Plan Fest	Pote Gali	Agro Junc	Junc Call
845	Sradrinagh	Leitrim				8%	87%			5% (GSi4)									1	4
846	Corduff	Leitrim					55%	20%		25% (GSi4)									4	
847	Drumderg	Leitrim					95%			5% (GSi4)									1	1
848	Bolganard	Leitrim					72%	3%		25% (GSi1, GSi4)							2		4	2
849	Corderry	Leitrim			3%		97%									3%	3		2	3
850	Letterfine	Leitrim		6%	3%		67%	1%		22% (GSi1, GSi4)						3%	10		2	2
851	Derrindrehid	Leitrim					94%	2%		3% (GSi4)									4	1
852	Aghalough	Leitrim					42%			58% (GSi4)										2
853	Drumboher	Leitrim					96%			4% (GSi4)									1	1
854	Keenheen	Leitrim					100%												2	1
856	Drumconlevan	Leitrim					91%			9% (GSi4)									1	1
857	Annaghoney	Leitrim			2%		69%	2%		27% (GSi2, GSi4)									5	2
859	Killahurk	Leitrim					15%			85% (GSi4)										2
860	Derrygoan	Leitrim			3%		97%												2	2
861	Gorteen	Leitrim					92%			8% (GSi4)									1	
862	Beagh More	Leitrim					72%			28% (GSi4)									1	1
863	Drumharkan Glebe	Leitrim					85%			15% (GSi4)							1		2	1
865	Fearglass North	Leitrim					100%										2		1	
866	Breanross North	Leitrim					99%			1% (GSi1)							1		3	2
867	Annaghmore	Leitrim					67%			33% (GSi4)									3	1
868	Corriga	Leitrim					75%			25% (GSi4)									2	1
870	Garvagh	Leitrim					100%												1	1
872	Gort	Leitrim			12%		87%	1%								12%	4		4	
873	Rinnacurreen	Leitrim					93%	5%		1% (GSi4)							1		1	5
874	Hartley	Leitrim					100%							31%			1	1	1	5
875	Drumsna	Leitrim					88%			12% (GSi4)									1	4
880	Cloonmorris	Leitrim					100%												3	
881	Beihy	Leitrim					84%			16% (GSi4)				13%					4	2
883	Larga	Leitrim					100%												1	2
884	Glack	Leitrim		1%		1%	98%										4	1		
885	Annagh	Leitrim					100%													2
887	Glenboy	Leitrim					100%							2%						2
890	Kilroosk	Leitrim				41%	45%			13% (GSi3, GSi4)			4%				6		1	1
891	Attimanus	Leitrim					86%			14% (GSi4)							1			4
892	Corglass	Leitrim	000623				99%	1%											2	2
893	Gleneige	Leitrim		29%		24%	47%						4%				1	3		1
894	Treanakillew	Leitrim	000623	79%			21%					79%					4		1	
895	Lake Nahoo	Leitrim					96%	4%						1%			1		1	4
896	Derrynahona	Leitrim				8%	88%			4% (GSi4)				2%					1	4
900	Ballymaurice	Longford					28%			72% (GSi1, GSi2, GSi4)							2		2	
903	Commons North	Longford	000440				47%	50%		3% (GSi1)							1		3	1
905	Drumhalry	Longford					84%			16% (GSi4)									2	
909	Mullingee	Longford					78%			22% (GSi1)							1			1

Appendix 4: Summary grassland habitat information for each of the 239 sites surveyed in 2009

Site ID	Site Name	County	SAC	GS1	GS2	GS3	GS4	GM1	FS2	GSi	6130	6210	6230	6410	6430	6510	Plan Fest	Pote Gali	Agro Junc	Junc Call
910	Keel Deer Park	Longford					10%			90% (GSi1, GSi2)							3		2	
911	Inchenagh	Longford	000440		85%		12%			3% (GSi4)							1		1	
916	Barry	Longford					72%			28% (GSi4)									2	1
917	Agharra	Longford								100% (GSi1, GSi4)							1		2	
918	Lissawarriff	Longford					54%			46% (GSi4)							1		1	1
919	Creagh	Longford					64%	5%		31% (GSi1, GSi4)							1		2	1
921	Derrynagran	Longford		62%			38%										1	1	1	
923	Ballyclamay	Longford					65%			35% (GSi4)							2			1
924	Ballygarve	Longford					44%			56% (GSi4)									3	2
925	Lisfarrell	Longford					10%			90% (GSi1)							1		1	
926	Lisnabo	Longford		2%			80%			19% (GSi4)									2	2
927	Cloonturk	Longford					100%												2	1
928	Laughil	Longford					71%			29% (GSi4)									3	1
932	Carrigeens	Longford					100%												1	
935	Aghamore Upper	Longford					100%												2	
936	Glenmore	Longford		13%			33%			55% (GSi1, GSi4)									4	2
937	Killeen	Longford					50%	7%		43% (GSi1, GSi4)							1		1	2
938	Aghnashannagh	Longford					95%			5% (GSi4)								1	1	1
939	Shantum	Longford					100%												2	
940	Bracklon	Longford					87%	1%		12% (GSi1, GSi4)									2	3
941	Ballagh	Longford					7%			93% (GSi4)									3	
942	Carrickmoyragh	Longford					33%			67% (GSi4)									1	1
943	Derawley	Longford			51%		49%									10%	4			2
945	Clawinch	Longford	000440		95%		5%										1			
946	Inchcleraun	Longford	000440	60%			29%			11% (GSi1)							2		3	1
947	Cloondara	Longford	001818				93%	6%		1% (GSi1)							2		1	3
948	Pollagh	Longford	000440	4%			57%	22%		17% (GSi1)							3	1	1	3
949	Drumnee	Longford	000440				68%	17%		14% (GSi4)				11%					6	3
950	Kilnacarrow	Longford					76%	22%		2% (GSi4)							3		2	
951	Gowlan	Longford					32%			68% (GSi4)									4	
952	Knappoge	Longford					100%												4	
953	Cloonart South	Longford	001818		4%		78%	13%		5% (GSi4)							1		4	2
954	Lissagernal	Longford	001818				73%			27% (GSi4)									2	2
956	Cornafunshin	Longford					100%												2	
958	Tennalick	Longford					100%												1	
960	Ledwithstown	Longford					10%			90% (GSi4)									2	
961	Lisaquill	Longford					99%			1% (GSi4)									1	1
964	Ardagh Demesne	Longford					12%			88% (GSi4)							1		2	1
965	Dunbeggan	Longford					17%			83% (GSi1)							1		1	1
966	Derrynaskea	Longford					38%			62% (GSi1)							1			2
967	Clooncullen	Longford					89%			11% (GSi4)							1		5	
968	Derrynabuntale	Longford	000440	9%			64%		27%								2		2	1
996	Corrool	Longford	000440	31%			55%			14% (GSi1, GSi4)							1			3

Appendix 4: Summary grassland habitat information for each of the 239 sites surveyed in 2009

Site ID	Site Name	County	SAC	GS1	GS2	GS3	GS4	GM1	FS2	GSi	6130	6210	6230	6410	6430	6510	Plan Fest	Pote Gali	Agro Junc	Junc Call
998	Aghnagore	Longford	001818				100%										1		2	1
999	Glen Lough	Longford		1%			77%	1%		20% (GSi4)				1%					7	5
1000	Barran	Cavan					100%												1	2
1001	Killyvally	Cavan	000007				30%			70% (GSi4)							1		2	2
1002	Carricknagrow	Cavan					84%			16% (GSi4)										4
1003	Corlea	Cavan	002032				100%											1		3
1004	Moneen	Cavan	002032			1%	99%							5%			1		1	10
1007	Legnagrow	Cavan					93%			7% (GSi4)				4%					1	6
1008	Moneensauran	Cavan	000584			3%	91%			7% (GSi4)			3%	2%				4	3	5
1009	Bellavalley	Cavan	000584			3%	97%							1%				3		2
1010	Edenmore	Cavan	000584				100%										1		1	
1011	Altnasheen	Cavan	000584			100%							69%					1		
1013	Gubrawully	Cavan					100%							2%			1			4
1014	Corrachomera	Cavan				1%	87%			12% (GSi4)									1	1
1015	Drumcask	Cavan				3%	97%										1	2		1
1016	Gubnafarna	Cavan	000584			31%	69%						2%	1%			2	4		3
1017	Aghnacally	Cavan				25%	75%										2	1	1	
1018	Cashelbane	Cavan		4%			87%			9% (GSi4)							1		1	4
1019	Killywilly	Cavan	000007	1%		1%	88%	1%		9% (GSi1, GSi4)							2	1	4	2
1021	Derrybrick	Cavan	000007				48%	3%	10%	39% (GSi4)									3	2
1022	Lecharrownahone	Cavan					58%			42% (GSi4)							1		3	2
1023	Corratirrim	Cavan	000979	1%		78%	21%										3		1	
1025	Teeboy	Cavan					96%			4% (GSi4)									2	1
1027	Coragh (Tullyhunco)	Cavan		1%	4%	1%	71%	1%		23% (GSi4)							4		1	3
1028	Derries Upper	Cavan	000007	2%			71%			27% (GSi4)							1		3	
1029	Crubany	Cavan					100%													1
1031	Inishconnell	Cavan	000007		19%		61%			20% (GSi4)							1		2	
1032	Rivory	Cavan	000007	16%			17%		2%	65% (GSi4)					2%				3	
1033	Coolnalitteragh	Cavan	000007				79%	3%		18% (GSi4)							2		1	1
1034	Aughrim	Cavan		10%		2%	10%			79% (GSi1)							2		1	
1035	Mullaghahy	Cavan		2%			14%			84% (GSi1, GSi4)							2			2
1038	Drumnatread	Cavan					5%			95% (GSi4)									2	
1041	Rakane	Cavan		2%			94%	2%		3% (GSi1, GSi4)							2		3	2
1042	Drumcor	Cavan			5%		61%			34% (GSi4)							1		1	
1043	Coppanagh	Cavan		7%			38%			55% (GSi1, GSi4)							2		1	1
1045	Killyvaghan	Cavan					80%	1%		19% (GSi1, GSi4)									7	2
1048	Taghart North	Cavan					12%			88% (GSi1)							1			1
1051	Drumcrow	Cavan		5%	25%		70%									23%	5		3	1
1054	Tawlaght	Cavan			3%		8%			89% (GSi4)									2	
1055	Pottle	Cavan					77%			23% (GSi1, GSi4)							1		2	
1057	Coragh (Castlerahan)	Cavan					9%			91% (GSi4)									3	
1058	Calf Field	Cavan		12%			2%			85% (GSi4)							1		1	
1060	Carrickaboy Glebe	Cavan		1%			92%			7% (GSi4)							1		1	

Appendix 4: Summary grassland habitat information for each of the 239 sites surveyed in 2009

Site ID	Site Name	County	SAC	GS1	GS2	GS3	GS4	GM1	FS2	GSi	6130	6210	6230	6410	6430	6510	Plan Fest	Pote Gali	Agro Junc	Junc Call
1061	Crossrah	Cavan		100%								100%					1			
1062	Drumegil	Cavan					97%			3% (GSi4)							1		1	1
1063	Sallaghill	Cavan					100%													1
1064	Crossafehin	Cavan					71%			29% (GSi1, GSi4)							2		3	1
1065	Drumroragh	Cavan					99%			1% (GSi4)							1		2	
1067	Manragh Upper	Cavan		3%		24%	56%			16% (GSi1, GSi4)		2%	4%				10		1	
1068	Corleggy	Cavan	000007		12%		31%			58% (GSi4)									2	
1069	Cornabeagh	Cavan								100% (GSi1, GSi4)							1		1	
1071	Tonyrevan	Cavan					88%			12% (GSi4)							1		2	
1072	Carrick	Cavan		100%								22%					6		2	
1074	Behy	Cavan		9%			71%			20% (GSi4)							3		3	
1075	Mullaghlea	Cavan					87%			13% (GSi4)										1
1076	Tirlahode Upper	Cavan		2%			76%			22% (GSi4)									2	1
1077	Drummullagh	Cavan					94%			6% (GSi4)							1		1	3
1078	Shantemon	Cavan					9%			91% (GSi1, GSi4)							1		1	
1080	Dundavan	Cavan					54%			46% (GSi4)									1	1
1081	Cornaslieve	Cavan			4%	4%	1%			91% (GSi4)							1		4	
1083	Crosserule	Cavan			15%	13%	72%										1		1	
1084	Ryefield	Cavan	002299				33%			67% (GSi3, GSi4)							1	1	1	
1086	Pottle Lower	Cavan			59%					41% (GSi2)							1			
1087	Greaghclaugh	Cavan			16%		22%			62% (GSi4)						16%	4		1	
1088	Ardlougher	Cavan				4%	61%			34% (GSi4)			4%						2	1
1089	Legglass	Cavan	000584			2%	98%											1		1
1090	Ballyheelan	Cavan			85%		15%									6%	2			1
1091	Tonagh	Cavan		44%						56% (GSi1)		5%					2			

Appendix 4: Summary grassland habitat information for each of the 239 sites surveyed in 2009

Appendix 5: Annex I assessment indicator species and criteria

- Calaminarian grasslands of the Violetea calaminariae (6130)
- Semi-natural dry grasslands & scrub facies on calcareous substrates (6210)/ Semi-natural dry grasslands & scrub facies on calcareous substrates: important orchid sites (6211)
- Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and sub-mountain areas, in Continental Europe) (6230)
- *Molinia* meadows on calcareous, peaty or clayey-silt laden soils (Molinion caeruleae) (6410)
- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels (6430)
- Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*) (6510)

Calaminarian grasslands of the Violetalia calaminariae (6130)

Positive indicator species

Vascular:
Armeria maritima
Cochlearia pyrenaica ssp. *alpina*
Minuartia verna
Silene uniflora

Bryophyte:
Bryum pallescens
Cephaloziella integerrima
Cephaloziella massalongi
Cephaloziella nicholsonii
Cephaloziella stellulifera
Ditrichum cornubicum
Ditrichum plumbicola
Gymnocolea inflata
Pohlia andalusica
Scapania compacta
Scopelophila cataractae
Solenostoma gracillimum
Weissia controversa var. *densifolia*

Pass = 1 vascular and 1 bryophyte species

Negative indicator species

Anthriscus sylvestris
Arrhenatherum elatius
Cirsium arvense
Cirsium vulgare
Dactylis glomerata
Heracleum sphondylium
Holcus lanatus
Urtica dioica
Pass = Collective cover ≤5%

Lolium perenne
Trifolium repens
Pass = Collective cover ≤5%

Neophyte species
Pass = Collective cover ≤5%

Other assessment criteria

Broadleaf herb : grass ratio
Pass = Broadleaf herb component 20-90%

Scrub/Bracken/Heath encroachment
Pass = Cover of woody species plus *Pteridium* ≤5% cover.

Sward height
Pass = sward ≤5cm (No lower limit)

Litter cover
Pass = Total extent is ≤25% cover

Bare ground
Pass = Total extent 10-90% cover

Grazing and disturbance
Pass= No more than $20m^2$ in vicinity of monitoring stop showing signs of serious disturbance

Semi-natural dry grasslands & scrub facies on calcareous substrates (6210)
Semi-natural dry grasslands & scrub facies on calcareous substrates: orchid-rich sites (6211)

H.Q.* positive indicator species

Antennaria dioica
Anthyllis vulneraria
Briza media
Campanula rotundifolia
Carex caryophyllea
Carlina vulgaris
Centaurea scabiosa
Galium verum
Gentianella campestris
Knautia arvensis
Koeleria macrantha
Lotus corniculatus
Origanum vulgare
Primula veris
Sanguisorba minor
Orchid spp.

Positive indicator species

Blackstonia perfoliata
Bromus erectus
Carex flacca
Conopodium majus
Daucus carota
Helictotrichon pubescens
Homalothecium lutescens
Leontodon hispidus
Linum catharticum
Pilosella officinarum
Ranunculus bulbosus
Trisetum flavescens

Pass = Must have 2 H.Q. species present, within a total of ≥7 +ve species

*H.Q. – 'High Quality'

Negative indicator species

Arrhenatherum elatius
Dactylis glomerata

Cirsium arvense
Cirsium vulgare
Rumex crispus
Rumex obtusifolius
Senecio jacobea
Urtica dioica

Lolium perenne
Trifolium repens
Pass = Collective cover ≤20% and individual cover ≤10%

Neophyte species
Pass = Collective cover ≤10%

Other assessment criteria

Broadleaf herb : grass ratio
Pass = Broadleaf herb component 40-90%

Scrub/Bracken/Heath encroachment
Pass= Cover of woody species (except *Juniperus communis*) plus *Pteridium* ≤5% cover.

Sward height
Pass = 30-70% of the sward 5-40cm high

Litter cover
Pass = Total extent is ≤25% cover

Bare ground
Pass = Total extent is ≤10% cover

Grazing and disturbance
Pass= No more than $20m^2$ in vicinity of monitoring stops showing signs of serious disturbance

Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and sub-mountain areas, in Continental Europe) (6230)

H.Q.* positive indicator species

Carex binervis
Carex pilulifera
Danthonia decumbens
Lathyrus linifolius
Pseudorchis albida
Polygala serpyllifolia
Polygala vulgaris
Viola canina
Viola riviniana

Positive indicator species

Achillea millefolium
Agrostis capillaris
Anthoxanthum odoratum
Festuca ovina
Festuca vivipara
Galium saxatile
Hylocomium splendens
Hypericum maculatum
Juncus squarrosus
Luzula multiflora
Nardus stricta
Pedicularis sylvatica
Potentilla erecta
Rhytidiadelphus loreus
Rhytidiadelphus squarrosus
Succisa pratensis
Veronica officinalis

Pass = Must have 1 H.Q. species present, within a total of ≥7 +ve species

Negative indicator species

Arrhenatherum elatius
Dactylis glomerata
Bellis perennis
Cirsium arvense
Cirsium vulgare
Ranunculus repens
Rumex crispus
Rumex obtusifolius
Senecio jacobea
Urtica dioica

Eriophorum angustifolium
Eriophorum vaginatum
Narthecium ossifragum

Holcus lanatus
Juncus effusus

Lolium perenne
Trifolium repens

Pass = Collective cover ≤20% and individual cover ≤10%

Sphagnum spp. ≤10% cover
Polytrichum spp. ≤ 25% cover

Neophyte species
Pass = Collective cover ≤ 10%

Other assessment criteria

Broadleaf herb : grass ratio
Pass = Broadleaf herb component 20-90%

Scrub/Bracken/Heath encroachment
Pass = Cover of woody species plus *Pteridium* ≤5% cover

Sward height
Pass = ≥25% of the sward 5-50 cm

Litter cover
Pass = Litter, including 'thatching' should not cover >20% of ground area

Bare ground
Pass = Total extent is ≤10% cover

Grazing and disturbance
Pass = No more than 20m^2 in vicinity of monitoring stops showing signs of serious disturbance

*H.Q. – 'High Quality'

Molinia meadows on calcareous, peaty or clayey-silt laden soils (Molinion caeruleae) (6410)

H.Q.* positive indicator species

Achillea ptarmica
Caltha palustris
Cirsium dissectum
Crepis paludosa
Juncus conglomeratus
Lychnis flos-cuculi
Lythrum salicaria
Rhinanthus minor
Orchid sp.

Positive indicator species

Angelica sylvestris
Calliergonella cuspidata
Carex flacca
Carex panicea
Centaurea nigra
Cirsium palustre
Deschampsia caespitosa
Equisetum palustre
Filipendula ulmaria
Juncus acutiflorus
Lotus pedunculatus
Molinia caerulea
Myosotis laxa
Potentilla anglica
Potentilla erecta
Senecio aquaticus
Succisa pratensis
Trifolium pratense

Negative indicator species

Cirsium arvense
Cirsium vulgare
Rumex crispus
Rumex obtusifolius
Senecio jacobaea
Urtica dioica

Glyceria maxima
Phalaris arundinacea
Phragmites australis

Lolium perenne
Trifolium repens

Eriophorum angustifolium
Eriophorum vaginatum
Narthecium ossifragum

Pass = Collective cover ≤20%
and individual cover ≤10%

Sphagnum spp. ≤10% cover
Polytrichum spp. ≤ 25% cover

Neophyte species
Pass = Collective cover ≤ 10%

Pass = Must have 1 H.Q. species present, within a total of ≥7 +ve species
For an area to be considered as *Molinia* meadow it is preferable for some *Molinia* to be recorded within the habitat. Note the late leaf emergence of this species however (June onwards)

Other assessment criteria

Broadleaf herb : grass ratio
Pass = Broadleaf herb component 40-90%

Scrub/Bracken/Heath encroachment
Pass = Cover of woody species plus *Pteridium* ≤5% cover.

Sward height
Pass = 30-70% of the sward 10-80cm high

Litter cover
Pass = Total extent is ≤25% cover

Bare ground
Pass = Total extent is ≤10% cover

Grazing and disturbance
Pass = No more than $20m^2$ in vicinity of monitoring stop showing signs of serious disturbance

*H.Q. – 'High Quality'

Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels (6430)
These communities are thought to only occur on plains within Ireland, adjacent to areas of reed bed and wet woodland

H.Q.* positive indicator species

Crepis paludosa
Epilobium hirsutum
Eupatorium cannabinum
Lythrum salicaria
Trollius europaeus

Positive indicator species

Calystegia sepium
Epilobium parviflorum
Equisetum fluviatile
Filipendula ulmaria
Galium aparine
Galium palustre
Geum urbanum
Glechoma hederacea
Hypericum tetrapterum
Iris pseudacorus
Mentha aquatica
Moehringia trinervia
Solanum dulcamara
Stachys palustris
Symphytum officinale
Viola odorata

Pass = Must have 1 H.Q. species present, within a total of ≥5 +ve species

Negative indicator species

Glyceria maxima
Phalaris arundinacea
Phragmites australis
Pass = Collective cover ≤20%

Neophyte species
Pass = Collective cover ≤ 10%

Other assessment criteria

Broadleaf herb : grass ratio
Pass = Broadleaf herb component 40-90%

Scrub/Bracken/Heath encroachment
Pass= Cover of woody species plus *Pteridium* ≤5% cover.

Sward height
Pass= 30-70% of the sward 40-150cm high

Litter cover
Pass = No limit

Bare ground
Pass = Total extent is ≤10% cover

Grazing and disturbance
Pass = No more than $20m^2$ in vicinity of monitoring stop showing signs of serious disturbance

*H.Q. – 'High Quality'

Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*) (6510)

H.Q.* positive indicator species	**Negative indicator species**
Knautia arvensis	*Arrhenatherum elatius*
Leucanthemum vulgare	*Dactylis glomerata*
Lotus corniculatus	
Pimpinella major	
Rhinanthus minor	*Cirsium arvense*
Sanguisorba officinalis	*Cirsium vulgare*
Thalictrum flavum	*Rumex crispus*
Orchid species	*Rumex obtusifolius*
	Senecio jacobaea
Positive indicator species	*Urtica dioica*
Alopecurus pratensis	
Anthriscus sylvestris	*Lolium perenne*
Centaurea nigra	*Trifolium repens*
Crepis capillaris	
Daucus carota	Pass = Collective cover ≤20%
Festuca pratensis	and individual cover ≤10%
Filipendula ulmaria	
Heracleum sphondylium	Neophyte species
Leontodon hispidus	Pass = Collective cover ≤5%
Phleum pratense	
Plantago lanceolata	
Ranunculus acris	
Succisa pratensis	
Tragopogon pratensis	
Trifolium pratense	
Trisetum flavescens	*H.Q. – 'High Quality'

Pass = Must have 1 H.Q. species present, within a total of ≥7 +ve species

Other assessment criteria

Broadleaf herb : grass ratio
Pass = Broadleaf herb component 40-90%

Scrub/Bracken/Heath encroachment
Pass= Cover of woody species plus *Pteridium* ≤5% cover.

Sward height
Pass = >50% of the sward 10-50cm

Litter cover
Pass = Total extent is ≤25% cover

Bare ground
Pass = Total extent is ≤5% cover

Grazing and disturbance
Pass= No more than $20m^2$ in vicinity of monitoring stop showing signs of serious disturbance

Appendix 6: Structure and functions assessment scores for areas of Annex I grassland habitat surveyed from 2007 to 2009

This lists the results of the structure and functions assessments for each of the 441 monitoring stops recorded during ISGS between 2007 and 2009.

Abbreviations:

H.Q. = High Quality. Refer to Methods section 2.4, p. 16 for more details.

M.S. = Monitoring stop.

N.A. = Not applicable.

X = No data available.

Note 1: *FAIL - The score within this criterion was not seen as critical for the habitat, therefore the overall assessment for the relevé passed even though the criterion failed.
Note 2: Abbreviations - HQ = High Quality (refer to Methods section 2.4 for more details); N.A. = Not applicable; X = no data available; M.S. = Monitoring stop.
Note 3: The positive and negative indicator species criteria were updated in 2009, therefore the new adjusted figures for these two criteria are presented below for all years.

Releve ID	M.S.	Annex	County	Overall +ve indicator species	No. of overall +ve indicator species	HQ +ve species	No. of HQ +ve species	Non-HQ +ve species	No. of non-HQ +ve species	Overall -ve indicator species	No. of overall -ve indicator species	Forb : graminoid ratio	Encroachment	Sward height	Litter cover	Bare ground cover	Grazing disturbance	Overall assessment
1/01	1	6210	Offaly	PASS	8	PASS	4	PASS	4	PASS	2	PASS	PASS	PASS	*FAIL	PASS	PASS	PASS
1/02	3	6210	Offaly	FAIL	3	FAIL	1	FAIL	2	FAIL	1	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
1/04	2	6210	Offaly	PASS	X	X	X	X	X	PASS	X	PASS	PASS	PASS	*FAIL	PASS	PASS	PASS
1/05	4	6210	Offaly	FAIL	X	X	X	X	X	PASS	X	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
8/01	1	6210	Offaly	PASS	10	PASS	5	PASS	5	PASS	4	PASS	PASS	PASS	PASS	PASS	PASS	PASS
8/03	2	6210	Offaly	PASS	X	X	X	X	X	FAIL	X	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
8/04	3	6210	Offaly	FAIL	X	X	X	X	X	FAIL	X	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
8/05	4	6210	Offaly	FAIL	X	X	X	X	X	FAIL	X	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
18/08	1	6410	Offaly	FAIL	6	PASS	2	FAIL	4	PASS	2	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
20/01	1	6210	Offaly	FAIL	4	PASS	3	FAIL	1	FAIL	5	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
20/02	2	6210	Offaly	PASS	10	PASS	5	PASS	5	PASS	3	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
20/03	3	6210	Offaly	FAIL	X	X	X	X	X	FAIL	X	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
20/04	4	6210	Offaly	FAIL	X	X	X	X	X	FAIL	X	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
23/01	1	6410	Roscommon	PASS	12	PASS	2	PASS	10	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
23/02	2	6410	Roscommon	FAIL	5	FAIL	0	FAIL	5	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
23/03	3	6410	Roscommon	FAIL	7	FAIL	0	PASS	7	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
23/05	4	6410	Roscommon	FAIL	4	FAIL	0	FAIL	4	PASS	2	FAIL	PASS	PASS	PASS	PASS	FAIL	FAIL
25/04	1	6410	Roscommon	PASS	9	PASS	1	PASS	8	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
25/05	2	6410	Roscommon	FAIL	6	PASS	1	FAIL	5	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
25/06	3	6410	Roscommon	FAIL	2	PASS	1	FAIL	1	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
25/07	4	6410	Roscommon	PASS	11	PASS	1	PASS	10	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
30/01	1	6410	Roscommon	PASS	8	PASS	5	PASS	3	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
30/02	1	6430	Roscommon	FAIL	3	FAIL	0	FAIL	3	PASS	0	PASS	PASS	FAIL	PASS	PASS	PASS	FAIL
30/04	2	6410	Roscommon	FAIL	5	PASS	3	FAIL	2	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
30/05	3	6410	Roscommon	FAIL	4	PASS	1	FAIL	3	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
30/06	4	6410	Roscommon	PASS	7	PASS	3	PASS	4	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
68/01	1	6510	Offaly	PASS	7	PASS	2	PASS	5	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
68/02	1	6410	Offaly	FAIL	7	FAIL	0	PASS	7	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
68/03	2	6510	Offaly	PASS	8	PASS	1	PASS	7	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
68/04	2	6410	Offaly	PASS	9	PASS	1	PASS	8	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
81/02	1	6210	Offaly	FAIL	4	FAIL	0	FAIL	4	FAIL	4	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
81/03	2	6210	Offaly	FAIL	X	X	X	X	X	PASS	X	PASS	PASS	PASS	PASS	FAIL	PASS	FAIL
81/04	3	6210	Offaly	FAIL	X	X	X	X	X	FAIL	X	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
81/05	4	6210	Offaly	FAIL	X	X	X	X	X	PASS	X	PASS	PASS	PASS	PASS	PASS	PASS	FAIL

Releve ID	M.S.	Annex	County	Overall +ve indicator species	No. of overall +ve indicator species	HQ +ve species	No. of HQ +ve species	Non-HQ +ve species	No. of non-HQ +ve species	Overall -ve indicator species	No. of overall -ve indicator species	Forb : graminoid ratio	Encroachment	Sward height	Litter cover	Bare ground cover	Grazing disturbance	Overall assessment
82/01	1	6510	Offaly	FAIL	5	PASS	2	FAIL	3	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
101/03	1	6410	Offaly	FAIL	3	FAIL	0	FAIL	3	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
101/04	2	6410	Offaly	FAIL	8	FAIL	0	PASS	8	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
101/05	3	6410	Offaly	FAIL	3	FAIL	0	FAIL	3	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
101/06	4	6410	Offaly	FAIL	3	FAIL	0	FAIL	3	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
107/01	1	6410	Offaly	PASS	10	PASS	3	PASS	7	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
107/05	1	6510	Offaly	PASS	7	PASS	3	PASS	4	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
107/06	2	6410	Offaly	PASS	12	PASS	4	PASS	8	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
107/07	3	6410	Offaly	PASS	8	PASS	1	PASS	7	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
107/08	4	6410	Offaly	PASS	8	PASS	2	PASS	6	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
108/02	1	6510	Offaly	PASS	10	PASS	3	PASS	7	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
108/04	2	6510	Offaly	FAIL	5	PASS	3	FAIL	2	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
108/07	3	6510	Offaly	PASS	12	PASS	3	PASS	9	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
108/08	4	6510	Offaly	FAIL	6	PASS	1	FAIL	5	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
109/01	1	6410	Offaly	PASS	7	PASS	1	PASS	6	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
109/02	3	6410	Offaly	PASS	11	PASS	2	PASS	9	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
109/03	4	6410	Offaly	FAIL	4	FAIL	0	FAIL	4	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
109/07	1	6510	Offaly	PASS	9	PASS	2	PASS	7	FAIL	1	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
109/11	2	6410	Offaly	PASS	11	PASS	2	PASS	9	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
109/12	2	6510	Offaly	PASS	10	PASS	2	PASS	8	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
109/13	3	6510	Offaly	PASS	9	PASS	3	PASS	6	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
109/14	4	6510	Offaly	PASS	7	PASS	2	PASS	5	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
110/03	1	6510	Offaly	FAIL	5	PASS	1	FAIL	4	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
110/04	1	6430	Offaly	FAIL	4	PASS	1	FAIL	3	PASS	1	FAIL	PASS	FAIL	PASS	PASS	PASS	FAIL
113/04	1	6410	Roscommon	PASS	9	PASS	1	PASS	8	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
113/06	2	6410	Roscommon	PASS	9	PASS	2	PASS	7	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
113/07	3	6410	Roscommon	PASS	8	PASS	1	PASS	7	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
113/08	4	6410	Roscommon	FAIL	5	PASS	2	FAIL	3	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
114/02	1	6510	Roscommon	PASS	10	PASS	3	PASS	7	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
114/03	2	6510	Roscommon	FAIL	6	PASS	1	FAIL	5	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
114/04	3	6510	Roscommon	PASS	8	PASS	2	PASS	6	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS
114/05	4	6510	Roscommon	FAIL	4	PASS	2	FAIL	2	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
116/02	1	6210	Roscommon	PASS	12	PASS	5	PASS	7	PASS	2	PASS	PASS	PASS	PASS	*FAIL	PASS	PASS
116/03	2	6210	Roscommon	PASS	8	PASS	3	PASS	5	FAIL	2	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
116/04	4	6210	Roscommon	FAIL	3	FAIL	0	FAIL	3	FAIL	2	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
116/05	3	6210	Roscommon	PASS	8	PASS	3	PASS	5	PASS	4	PASS	PASS	PASS	PASS	PASS	PASS	PASS
205/01	1	6410	Roscommon	FAIL	6	PASS	1	FAIL	5	FAIL	1	FAIL	PASS	FAIL	PASS	PASS	PASS	FAIL
205/02	2	6410	Roscommon	FAIL	6	PASS	2	FAIL	4	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL

Appendix 6: Structure and functions assessment scores for areas of Annex I grassland habitat surveyed from 2007 to 2009

Releve ID	M.S.	Annex	County	Overall +ve indicator species	No. of overall +ve indicator species	HQ +ve species	No. of HQ +ve species	Non-HQ +ve species	No. of non-HQ +ve species	Overall -ve indicator species	No. of overall -ve indicator species	Forb : graminoid ratio	Encroachment	Sward height	Litter cover	Bare ground cover	Grazing disturbance	Overall assessment
205/03	3	6410	Roscommon	FAIL	5	PASS	2	FAIL	3	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
205/04	4	6410	Roscommon	FAIL	5	PASS	1	FAIL	4	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
210/01	1	6410	Roscommon	FAIL	8	FAIL	0	PASS	8	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
210/03	2	6410	Roscommon	PASS	13	PASS	1	PASS	12	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
210/05	3	6410	Roscommon	FAIL	9	FAIL	0	PASS	9	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
210/06	4	6410	Roscommon	PASS	10	PASS	1	PASS	9	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
210/07	1	6430	Roscommon	FAIL	4	PASS	1	FAIL	3	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
210/08	2	6430	Roscommon	PASS	6	PASS	2	PASS	4	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
210/09	3	6430	Roscommon	PASS	5	PASS	1	PASS	4	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
210/10	4	6430	Roscommon	PASS	5	PASS	1	PASS	4	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
215/01	1	6210	Roscommon	PASS	8	PASS	4	PASS	4	PASS	4	PASS	PASS	PASS	PASS	PASS	PASS	PASS
215/02	2	6210	Roscommon	PASS	8	PASS	5	PASS	3	PASS	4	PASS	PASS	PASS	PASS	PASS	PASS	PASS
215/03	3	6210	Roscommon	FAIL	5	PASS	2	FAIL	3	PASS	4	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
215/04	4	6210	Roscommon	PASS	8	PASS	4	PASS	4	PASS	4	PASS	PASS	PASS	PASS	PASS	PASS	PASS
216/02	1	6230	Roscommon	PASS	11	PASS	2	PASS	9	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS
224/01	1	6210	Roscommon	PASS	8	PASS	4	PASS	4	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
224/02	2	6210	Roscommon	PASS	8	PASS	3	PASS	5	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS
224/05	3	6210	Roscommon	FAIL	5	PASS	3	FAIL	2	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
224/07	4	6210	Roscommon	PASS	11	PASS	8	PASS	3	PASS	3	PASS	FAIL	PASS	PASS	PASS	PASS	FAIL
226/01	1	6210	Roscommon	PASS	8	PASS	3	PASS	5	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS
226/03	2	6210	Roscommon	FAIL	5	PASS	2	FAIL	3	PASS	3	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
226/04	3	6210	Roscommon	FAIL	2	FAIL	0	FAIL	2	PASS	4	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
226/05	4	6210	Roscommon	PASS	7	PASS	3	PASS	4	PASS	4	PASS	PASS	PASS	PASS	PASS	PASS	PASS
227/01	1	6210	Roscommon	FAIL	6	PASS	2	FAIL	4	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
227/04	2	6210	Roscommon	FAIL	5	PASS	4	FAIL	1	PASS	5	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
227/05	3	6210	Roscommon	FAIL	5	PASS	4	FAIL	1	FAIL	5	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
227/06	4	6210	Roscommon	FAIL	3	PASS	2	FAIL	1	FAIL	5	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
230/03	1	6210	Roscommon	FAIL	4	PASS	2	FAIL	2	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
230/04	2	6210	Roscommon	PASS	8	PASS	3	PASS	5	PASS	2	PASS	FAIL	PASS	PASS	FAIL	PASS	FAIL
230/05	3	6210	Roscommon	FAIL	5	PASS	3	FAIL	2	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
230/06	4	6210	Roscommon	PASS	9	PASS	5	PASS	4	PASS	2	PASS	PASS	PASS	PASS	*FAIL	PASS	PASS
236/01	1	6410	Roscommon	PASS	8	PASS	1	PASS	7	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
236/05	2	6410	Roscommon	PASS	7	PASS	2	PASS	5	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
236/06	3	6410	Roscommon	FAIL	7	FAIL	0	PASS	7	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
236/07	4	6410	Roscommon	FAIL	8	FAIL	0	PASS	8	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
246/01	1	6210	Roscommon	FAIL	5	PASS	3	FAIL	2	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
246/03	2	6210	Roscommon	FAIL	5	PASS	3	FAIL	2	PASS	2	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
246/04	3	6210	Roscommon	FAIL	6	PASS	2	FAIL	4	FAIL	2	PASS	PASS	PASS	PASS	PASS	PASS	FAIL

Appendix 6: Structure and functions assessment scores for areas of Annex I grassland habitat surveyed from 2007 to 2009

Releve ID	M.S.	Annex	County	Overall +ve indicator species	No. of overall +ve indicator species	HQ +ve species	No. of HQ +ve species	Non-HQ +ve species	No. of non-HQ +ve species	Overall -ve indicator species	No. of overall -ve indicator species	Forb : graminoid ratio	Encroachment	Sward height	Litter cover	Bare ground cover	Grazing disturbance	Overall assessment
246/05	4	6210	Roscommon	FAIL	5	FAIL	1	FAIL	4	PASS	3	PASS	PASS	PASS	PASS	FAIL	PASS	FAIL
254/01	1	6210	Roscommon	PASS	11	PASS	7	PASS	4	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
254/03	2	6210	Roscommon	PASS	12	PASS	7	PASS	5	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
254/04	3	6210	Roscommon	FAIL	6	PASS	4	FAIL	2	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
254/05	4	6210	Roscommon	PASS	9	PASS	5	PASS	4	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
256/02	1	6210	Roscommon	PASS	10	PASS	5	PASS	5	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
259/04	1	6210	Roscommon	PASS	9	PASS	5	PASS	4	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
263/01	1	6210	Roscommon	PASS	9	PASS	4	PASS	5	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
263/02	2	6210	Roscommon	FAIL	6	PASS	4	FAIL	2	PASS	3	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
263/03	3	6210	Roscommon	PASS	7	PASS	3	PASS	4	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
263/04	4	6210	Roscommon	PASS	9	PASS	3	PASS	6	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
307/01	1	6230	Waterford	FAIL	6	FAIL	0	PASS	76	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
307/02	2	6230	Waterford	FAIL	9	FAIL	0	PASS	9	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
307/03	3	6230	Waterford	PASS	11	PASS	1	PASS	10	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
307/04	4	6230	Waterford	PASS	12	PASS	1	PASS	11	PASS	1	FAIL	FAIL	PASS	PASS	PASS	PASS	FAIL
316/01	1	6230	Waterford	PASS	10	PASS	1	PASS	9	PASS	1	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
316/02	2	6230	Waterford	PASS	11	PASS	2	PASS	9	PASS	3	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
316/04	3	6230	Waterford	PASS	8	PASS	1	PASS	7	FAIL	2	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
316/05	4	6230	Waterford	PASS	9	PASS	1	PASS	8	FAIL	2	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
317/01	1	6230	Waterford	FAIL	8	FAIL	0	PASS	8	PASS	2	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
317/02	2	6230	Waterford	PASS	10	PASS	2	PASS	8	PASS	1	PASS	FAIL	FAIL	PASS	PASS	PASS	FAIL
317/03	3	6230	Waterford	PASS	12	PASS	3	PASS	9	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
317/04	4	6230	Waterford	PASS	11	PASS	2	PASS	9	PASS	3	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
320/01	1	6510	Waterford	FAIL	3	FAIL	0	FAIL	3	FAIL	2	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
320/03	2	6510	Waterford	FAIL	2	FAIL	0	FAIL	2	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
320/04	3	6510	Waterford	FAIL	3	PASS	1	FAIL	2	PASS	4	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
320/05	4	6510	Waterford	FAIL	3	FAIL	0	FAIL	3	PASS	3	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
326/01	1	6230	Waterford	PASS	11	PASS	2	PASS	9	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
326/02	2	6230	Waterford	FAIL	8	FAIL	0	PASS	8	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
326/03	3	6230	Waterford	FAIL	7	FAIL	0	PASS	7	PASS	1	PASS	FAIL	PASS	PASS	PASS	PASS	FAIL
326/04	4	6230	Waterford	PASS	9	PASS	1	PASS	8	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
344/03	1	6410	Waterford	PASS	10	PASS	1	PASS	9	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
344/04	2	6410	Waterford	PASS	9	PASS	1	PASS	8	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
344/05	3	6410	Waterford	PASS	10	PASS	2	PASS	8	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
344/06	4	6410	Waterford	FAIL	4	PASS	1	FAIL	3	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
354/04	1	6230	Waterford	PASS	9	PASS	2	PASS	7	PASS	0	PASS	PASS	*FAIL	PASS	PASS	PASS	PASS
354/05	2	6230	Waterford	PASS	9	PASS	2	PASS	7	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
354/06	3	6230	Waterford	PASS	10	PASS	2	PASS	8	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Releve ID	M.S.	Annex	County	Overall +ve indicator species	No. of overall +ve indicator species	HQ +ve species	No. of HQ +ve species	Non-HQ +ve species	No. of non-HQ +ve species	Overall -ve indicator species	No. of overall -ve indicator species	Forb : graminoid ratio	Encroachment	Sward height	Litter cover	Bare ground cover	Grazing disturbance	Overall assessment
354/07	4	6230	Waterford	PASS	9	PASS	2	PASS	7	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
356/01	1	6410	Waterford	FAIL	6	FAIL	0	PASS	6	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
356/02	2	6410	Waterford	FAIL	6	PASS	1	FAIL	5	FAIL	2	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
356/03	3	6410	Waterford	FAIL	6	PASS	1	FAIL	5	FAIL	1	FAIL	FAIL	PASS	FAIL	PASS	PASS	FAIL
356/05	4	6410	Waterford	FAIL	6	FAIL	0	PASS	6	PASS	1	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
357/05	1	6230	Waterford	PASS	12	PASS	2	PASS	10	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
357/06	2	6230	Waterford	FAIL	9	FAIL	0	PASS	9	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
357/07	3	6230	Waterford	PASS	11	PASS	2	PASS	9	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
357/08	4	6230	Waterford	PASS	12	PASS	2	PASS	10	FAIL	1	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
360/03	1	6230	Waterford	PASS	9	PASS	1	PASS	8	PASS	0	FAIL	FAIL	PASS	PASS	PASS	PASS	FAIL
360/04	2	6230	Waterford	PASS	9	PASS	1	PASS	8	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
360/05	3	6230	Waterford	PASS	11	PASS	2	PASS	9	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
360/06	4	6230	Waterford	PASS	11	PASS	1	PASS	10	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
366/01	1	6130	Waterford	FAIL	1	N.A.	N.A.	N.A.	N.A.	PASS	1	PASS	PASS	FAIL	PASS	FAIL	PASS	FAIL
366/03	2	6130	Waterford	FAIL	2	N.A.	N.A.	N.A.	N.A.	PASS	1	PASS	FAIL	PASS	PASS	FAIL	PASS	FAIL
366/04	3	6130	Waterford	PASS	3	N.A.	N.A.	N.A.	N.A.	PASS	0	PASS	FAIL	PASS	PASS	PASS	PASS	FAIL
366/05	4	6130	Waterford	FAIL	2	N.A.	N.A.	N.A.	N.A.	PASS	1	PASS	FAIL	FAIL	PASS	FAIL	PASS	FAIL
372/01	1	6230	Waterford	FAIL	7	FAIL	0	PASS	7	FAIL	3	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
372/03	2	6230	Waterford	PASS	7	PASS	1	PASS	6	PASS	2	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
372/04	3	6230	Waterford	PASS	10	PASS	2	PASS	8	PASS	2	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
372/05	4	6230	Waterford	PASS	10	PASS	1	PASS	9	PASS	2	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
379/05	2	6410	Waterford	FAIL	6	PASS	1	FAIL	5	PASS	1	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
379/07	4	6410	Waterford	FAIL	5	FAIL	0	FAIL	5	PASS	0	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
379/09	5	6410	Waterford	PASS	8	PASS	1	PASS	7	FAIL	1	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
379/10	6	6410	Waterford	PASS	8	PASS	1	PASS	7	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
402/01	1	6230	Cork	PASS	9	PASS	2	PASS	7	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
402/02	2	6230	Cork	PASS	10	PASS	2	PASS	8	PASS	2	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
402/03	3	6230	Cork	PASS	11	PASS	3	PASS	8	PASS	3	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
402/04	4	6230	Cork	PASS	12	PASS	2	PASS	10	PASS	2	PASS	PASS	*FAIL	PASS	PASS	PASS	PASS
407/01	1	6410	Cork	PASS	9	PASS	3	PASS	6	PASS	0	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
407/02	2	6410	Cork	FAIL	5	PASS	2	FAIL	3	PASS	0	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
407/03	3	6410	Cork	FAIL	4	PASS	2	FAIL	2	PASS	0	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
407/04	4	6410	Cork	PASS	8	PASS	1	PASS	7	PASS	0	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
410/02	1	6210	Cork	FAIL	3	FAIL	1	FAIL	2	PASS	1	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
415/02	1	6410	Cork	FAIL	7	FAIL	0	PASS	7	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
415/03	2	6410	Cork	FAIL	6	FAIL	0	PASS	6	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
415/04	3	6410	Cork	FAIL	6	FAIL	0	PASS	6	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
415/05	4	6410	Cork	FAIL	6	FAIL	0	PASS	6	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL

Appendix 6: Structure and functions assessment scores for areas of Annex I grassland habitat surveyed from 2007 to 2009

Releve ID	M.S.	Annex	County	Overall +ve indicator species	No. of overall +ve indicator species	HQ +ve species	No. of HQ +ve species	Non-HQ +ve species	No. of non-HQ +ve species	Overall -ve indicator species	No. of overall -ve indicator species	Forb : graminoid ratio	Encroachment	Sward height	Litter cover	Bare ground cover	Grazing disturbance	Overall assessment
415/06	1	6430	Cork	FAIL	2	FAIL	0	FAIL	2	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
418/02	1	6430	Cork	PASS	6	PASS	1	PASS	5	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
418/03	2	6430	Cork	FAIL	2	PASS	1	FAIL	1	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
418/04	3	6430	Cork	FAIL	3	PASS	1	FAIL	2	PASS	0	PASS	PASS	FAIL	PASS	PASS	PASS	FAIL
418/05	4	6430	Cork	FAIL	3	PASS	1	FAIL	2	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
462/02	1	6230	Cork	PASS	10	PASS	2	PASS	8	PASS	3	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
462/03	2	6230	Cork	PASS	9	PASS	2	PASS	7	PASS	3	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
462/05	3	6230	Cork	PASS	9	PASS	1	PASS	8	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
462/06	4	6230	Cork	PASS	8	PASS	3	PASS	5	FAIL	2	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
463/04	1	6130	Cork	FAIL	0	N.A.	N.A.	N.A.	N.A.	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
475/02	1	6230	Cork	FAIL	6	FAIL	0	PASS	6	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
475/03	2	6230	Cork	PASS	9	PASS	2	PASS	7	PASS	0	FAIL	PASS	PASS	PASS	PASS	FAIL	FAIL
485/01	1	6230	Cork	FAIL	8	FAIL	0	PASS	8	PASS	0	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
485/02	2	6230	Cork	PASS	12	PASS	3	PASS	9	PASS	2	PASS	PASS	PASS	*FAIL	PASS	PASS	PASS
485/03	3	6230	Cork	PASS	11	PASS	2	PASS	9	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
485/04	4	6230	Cork	PASS	10	PASS	2	PASS	8	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
488/01	1	6230	Cork	PASS	9	PASS	2	PASS	7	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
488/02	2	6230	Cork	PASS	10	PASS	1	PASS	9	FAIL	2	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
488/03	3	6230	Cork	PASS	8	PASS	1	PASS	7	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
488/04	4	6230	Cork	PASS	8	PASS	1	PASS	7	PASS	2	PASS	PASS	PASS	*FAIL	PASS	PASS	PASS
489/01	1	6230	Cork	PASS	8	PASS	2	PASS	6	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
489/02	2	6230	Cork	PASS	11	PASS	3	PASS	8	PASS	1	FAIL	FAIL	PASS	PASS	PASS	PASS	FAIL
489/03	3	6230	Cork	PASS	8	PASS	1	PASS	7	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
489/04	4	6230	Cork	PASS	10	PASS	2	PASS	8	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
492/01	1	6410	Cork	FAIL	4	FAIL	0	FAIL	4	PASS	1	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
492/02	2	6410	Cork	FAIL	4	FAIL	0	FAIL	4	PASS	1	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
492/03	3	6410	Cork	FAIL	6	FAIL	0	PASS	6	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
492/04	4	6410	Cork	FAIL	4	FAIL	0	FAIL	4	PASS	1	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
495/01	1	6410	Cork	FAIL	5	FAIL	0	FAIL	4	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
495/02	2	6410	Cork	FAIL	5	FAIL	0	FAIL	5	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
495/03	3	6410	Cork	FAIL	4	FAIL	0	FAIL	4	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
495/04	4	6410	Cork	FAIL	4	FAIL	0	FAIL	4	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
496/02	1	6230	Cork	FAIL	10	FAIL	0	PASS	10	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
496/03	2	6230	Cork	FAIL	7	FAIL	0	PASS	7	FAIL	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
496/04	3	6230	Cork	PASS	12	PASS	2	PASS	10	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS
496/05	4	6230	Cork	FAIL	7	FAIL	0	PASS	7	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
539/04	1	6410	Cork	PASS	9	PASS	1	PASS	8	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
553/02	1	6410	Cork	FAIL	7	FAIL	0	PASS	7	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL

Appendix 6: Structure and functions assessment scores for areas of Annex I grassland habitat surveyed from 2007 to 2009

Releve ID	M.S.	Annex	County	Overall +ve indicator species	No. of overall +ve indicator species	HQ +ve species	No. of HQ +ve species	Non-HQ +ve species	No. of non-HQ +ve species	Overall -ve indicator species	No. of overall -ve indicator species	Forb : graminoid ratio	Encroachment	Sward height	Litter cover	Bare ground cover	Grazing disturbance	Overall assessment
553/03	2	6410	Cork	FAIL	4	FAIL	0	FAIL	4	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
553/04	3	6410	Cork	FAIL	3	FAIL	0	FAIL	3	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
553/05	4	6410	Cork	FAIL	3	FAIL	0	FAIL	3	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
556/02	1	6410	Cork	FAIL	5	FAIL	0	FAIL	5	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
556/03	2	6410	Cork	FAIL	4	FAIL	0	FAIL	4	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
556/04	3	6410	Cork	FAIL	4	FAIL	0	FAIL	4	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
565/03	1	6410	Cork	FAIL	5	PASS	1	FAIL	4	PASS	0	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
566/02	1	6410	Cork	PASS	8	PASS	1	PASS	7	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
566/03	2	6410	Cork	PASS	9	PASS	1	PASS	8	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
566/04	3	6410	Cork	PASS	10	PASS	2	PASS	8	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
566/05	4	6410	Cork	FAIL	6	FAIL	0	PASS	6	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
568/01	1	6410	Cork	FAIL	8	FAIL	0	PASS	8	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
568/05	2	6410	Cork	FAIL	7	FAIL	0	PASS	7	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
568/06	3	6410	Cork	FAIL	7	FAIL	0	PASS	7	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
568/07	4	6410	Cork	FAIL	7	FAIL	0	PASS	7	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
569/04	1	6410	Cork	PASS	7	PASS	1	PASS	6	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
571/01	1	6230	Cork	PASS	8	PASS	1	PASS	7	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
571/02	2	6230	Cork	FAIL	8	FAIL	0	PASS	8	PASS	2	FAIL	FAIL	PASS	PASS	PASS	PASS	FAIL
571/03	3	6230	Cork	PASS	8	PASS	1	PASS	7	PASS	0	PASS	PASS	PASS	*FAIL	PASS	PASS	PASS
571/04	4	6230	Cork	PASS	9	PASS	2	PASS	7	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
582/01	1	6130	Cork	FAIL	0	N.A.	N.A.	N.A.	N.A.	PASS	1	FAIL	PASS	PASS	PASS	FAIL	PASS	FAIL
582/02	2	6130	Cork	FAIL	1	N.A.	N.A.	N.A.	N.A.	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
582/04	3	6130	Cork	FAIL	0	N.A.	N.A.	N.A.	N.A.	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
582/05	4	6130	Cork	FAIL	0	N.A.	N.A.	N.A.	N.A.	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
584/01	1	6130	Cork	FAIL	1	N.A.	N.A.	N.A.	N.A.	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
584/02	2	6130	Cork	FAIL	1	N.A.	N.A.	N.A.	N.A.	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
584/03	3	6130	Cork	PASS	2	N.A.	N.A.	N.A.	N.A.	PASS	0	PASS	PASS	PASS	PASS	FAIL	PASS	FAIL
584/05	4	6130	Cork	FAIL	2	N.A.	N.A.	N.A.	N.A.	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
584/06	1	6410	Cork	PASS	8	PASS	1	PASS	7	PASS	4	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
584/07	2	6410	Cork	PASS	7	PASS	1	PASS	6	FAIL	2	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
584/08	3	6410	Cork	PASS	9	PASS	2	PASS	7	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
584/10	4	6410	Cork	PASS	8	PASS	1	PASS	7	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
589/01	1	6230	Cork	PASS	8	PASS	2	PASS	6	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
589/02	2	6230	Cork	PASS	14	PASS	3	PASS	11	PASS	2	FAIL	FAIL	PASS	PASS	PASS	PASS	FAIL
590/03	1	6410	Cork	PASS	11	PASS	1	PASS	10	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
590/04	2	6410	Cork	FAIL	10	FAIL	0	PASS	10	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
590/07	3	6410	Cork	FAIL	8	FAIL	0	PASS	8	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
590/08	4	6410	Cork	FAIL	7	FAIL	0	PASS	7	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL

Appendix 6: Structure and functions assessment scores for areas of Annex I grassland habitat surveyed from 2007 to 2009

Releve ID	M.S.	Annex	County	Overall +ve indicator species	No. of overall +ve indicator species	HQ +ve species	No. of HQ +ve species	Non-HQ +ve species	No. of non-HQ +ve species	Overall -ve indicator species	No. of overall -ve indicator species	Forb : graminoid ratio	Encroachment	Sward height	Litter cover	Bare ground cover	Grazing disturbance	Overall assessment
601/05	1	6410	Cork	FAIL	5	FAIL	0	FAIL	5	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
601/06	2	6410	Cork	PASS	7	PASS	1	PASS	6	PASS	0	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
601/07	3	6410	Cork	FAIL	6	PASS	1	FAIL	5	PASS	0	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
601/08	4	6410	Cork	FAIL	9	FAIL	0	PASS	9	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
601/09	5	6410	Cork	FAIL	8	FAIL	0	PASS	8	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
601/10	6	6410	Cork	PASS	11	PASS	2	PASS	9	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
618/03	1	6410	Cork	FAIL	5	FAIL	0	FAIL	5	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
618/05	2	6410	Cork	PASS	11	PASS	3	PASS	8	PASS	0	PASS	PASS	PASS	*FAIL	PASS	PASS	PASS
618/07	3	6410	Cork	FAIL	7	FAIL	0	PASS	7	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
618/08	4	6410	Cork	FAIL	7	FAIL	0	PASS	7	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
627/01	1	6410	Cork	PASS	8	PASS	1	PASS	7	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
627/02	2	6410	Cork	FAIL	8	FAIL	0	PASS	8	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
627/04	3	6410	Cork	FAIL	9	FAIL	0	PASS	9	PASS	0	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
627/05	4	6410	Cork	PASS	11	PASS	1	PASS	10	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
631/04	1	6410	Cork	PASS	8	PASS	1	PASS	7	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
631/05	2	6410	Cork	FAIL	7	FAIL	0	PASS	7	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
631/06	3	6410	Cork	FAIL	2	FAIL	0	FAIL	2	PASS	0	FAIL	PASS	FAIL	FAIL	PASS	PASS	FAIL
631/07	4	6410	Cork	FAIL	6	FAIL	0	PASS	6	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
635/04	1	6410	Cork	FAIL	6	PASS	2	FAIL	4	PASS	0	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
642/01	1	6230	Cork	PASS	7	PASS	1	PASS	6	PASS	3	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
642/02	2	6230	Cork	PASS	8	PASS	1	PASS	7	PASS	2	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
642/03	3	6230	Cork	PASS	8	PASS	1	PASS	7	PASS	0	FAIL	FAIL	PASS	PASS	PASS	PASS	FAIL
642/04	4	6230	Cork	PASS	10	PASS	2	PASS	8	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
645/01	1	6230	Cork	PASS	10	PASS	1	PASS	9	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
645/02	2	6230	Cork	PASS	15	PASS	4	PASS	11	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
645/03	3	6230	Cork	PASS	10	PASS	1	PASS	9	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
645/04	4	6230	Cork	PASS	11	PASS	2	PASS	9	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
717/02	1	6410	Monaghan	PASS	10	PASS	1	PASS	9	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
717/03	2	6410	Monaghan	PASS	7	PASS	3	PASS	4	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
717/04	3	6410	Monaghan	PASS	10	PASS	4	PASS	6	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
717/05	4	6410	Monaghan	PASS	11	PASS	2	PASS	9	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
717/06	5	6410	Monaghan	PASS	8	PASS	3	PASS	5	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
717/07	6	6410	Monaghan	FAIL	5	PASS	1	FAIL	4	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
717/08	7	6410	Monaghan	PASS	11	PASS	3	PASS	8	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
718/02	1	6410	Monaghan	FAIL	7	FAIL	0	PASS	7	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
718/05	2	6410	Monaghan	FAIL	9	FAIL	0	PASS	9	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
718/06	3	6410	Monaghan	FAIL	10	FAIL	0	PASS	10	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
718/09	4	6410	Monaghan	PASS	12	PASS	2	PASS	10	PASS	0	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL

Appendix 6: Structure and functions assessment scores for areas of Annex I grassland habitat surveyed from 2007 to 2009

Releve ID	M.S.	Annex	County	Overall +ve indicator species	No. of overall +ve indicator species	HQ +ve species	No. of HQ +ve species	Non-HQ +ve species	No. of non-HQ +ve species	Overall -ve indicator species	No. of overall -ve indicator species	Forb : graminoid ratio	Encroachment	Sward height	Litter cover	Bare ground cover	Grazing disturbance	Overall assessment
723/02	1	6230	Monaghan	PASS	10	PASS	1	PASS	9	FAIL	4	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL
729/01	1	6210	Monaghan	PASS	8	PASS	4	PASS	4	PASS	5	PASS	PASS	PASS	PASS	PASS	PASS	PASS
762/01	1	6230	Monaghan	PASS	12	PASS	2	PASS	10	PASS	3	PASS	FAIL	PASS	PASS	PASS	PASS	FAIL
802/04	1	6410	Leitrim	PASS	12	PASS	5	PASS	7	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
802/08	2	6410	Leitrim	PASS	12	PASS	3	PASS	9	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
802/09	3	6410	Leitrim	PASS	12	PASS	4	PASS	8	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
802/10	4	6410	Leitrim	PASS	13	PASS	5	PASS	8	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
804/01	1	6410	Leitrim	FAIL	7	FAIL	0	PASS	7	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
804/02	2	6410	Leitrim	PASS	9	PASS	1	PASS	8	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
804/03	3	6410	Leitrim	PASS	8	PASS	1	PASS	7	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
804/04	4	6410	Leitrim	FAIL	5	FAIL	0	FAIL	5	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
804/06	5	6410	Leitrim	PASS	7	PASS	1	PASS	6	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
806/04	1	6410	Leitrim	PASS	9	PASS	3	PASS	6	PASS	0	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
811/04	1	6230	Leitrim	PASS	10	PASS	1	PASS	9	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
811/05	2	6230	Leitrim	PASS	13	PASS	3	PASS	10	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
811/06	3	6230	Leitrim	PASS	14	PASS	3	PASS	11	PASS	5	PASS	PASS	PASS	PASS	PASS	PASS	PASS
811/07	4	6230	Leitrim	PASS	10	PASS	2	PASS	8	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS
815/02	1	6210	Leitrim	PASS	10	PASS	4	PASS	6	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS
815/03	2	6210	Leitrim	PASS	9	PASS	3	PASS	6	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
815/04	3	6210	Leitrim	PASS	8	PASS	3	PASS	5	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
815/05	4	6210	Leitrim	PASS	10	PASS	5	PASS	5	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS
815/06	5	6210	Leitrim	PASS	8	PASS	3	PASS	5	PASS	4	PASS	PASS	PASS	PASS	PASS	PASS	PASS
815/07	6	6210	Leitrim	PASS	7	PASS	2	PASS	5	PASS	5	PASS	PASS	PASS	PASS	PASS	PASS	PASS
815/11	7	6210	Leitrim	PASS	8	PASS	2	PASS	6	PASS	4	PASS	PASS	PASS	PASS	PASS	PASS	PASS
815/12	8	6210	Leitrim	FAIL	6	PASS	2	FAIL	4	PASS	4	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
815/17	9	6210	Leitrim	PASS	12	PASS	5	PASS	7	PASS	4	PASS	PASS	PASS	PASS	PASS	PASS	PASS
822/01	1	6230	Leitrim	PASS	12	PASS	2	PASS	10	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
825/09	1	6210	Leitrim	PASS	10	PASS	6	PASS	4	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
825/10	2	6210	Leitrim	PASS	9	PASS	5	PASS	4	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
826/01	1	6210	Leitrim	PASS	7	PASS	3	PASS	4	PASS	4	PASS	PASS	PASS	PASS	PASS	PASS	PASS
826/06	2	6210	Leitrim	PASS	9	PASS	3	PASS	6	PASS	4	PASS	PASS	PASS	PASS	PASS	PASS	PASS
826/07	3	6210	Leitrim	PASS	8	PASS	2	PASS	6	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS
826/08	4	6210	Leitrim	PASS	9	PASS	3	PASS	6	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
836/01	1	6230	Leitrim	FAIL	8	FAIL	0	PASS	8	FAIL	3	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
836/02	2	6230	Leitrim	FAIL	9	FAIL	0	PASS	9	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
836/05	3	6230	Leitrim	PASS	11	PASS	3	PASS	8	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS
836/06	4	6230	Leitrim	PASS	10	PASS	1	PASS	9	PASS	4	PASS	PASS	PASS	PASS	PASS	PASS	PASS
837/05	1	6410	Leitrim	PASS	10	PASS	1	PASS	9	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Appendix 6: Structure and functions assessment scores for areas of Annex I grassland habitat surveyed from 2007 to 2009

Releve ID	M.S.	Annex	County	Overall +ve indicator species	No. of overall +ve indicator species	HQ +ve species	No. of HQ +ve species	Non-HQ +ve species	No. of non-HQ +ve species	Overall -ve indicator species	No. of overall -ve indicator species	Forb : graminoid ratio	Encroachment	Sward height	Litter cover	Bare ground cover	Grazing disturbance	Overall assessment
837/06	2	6410	Leitrim	FAIL	6	FAIL	0	PASS	6	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
837/07	3	6410	Leitrim	PASS	12	PASS	2	PASS	10	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
837/08	4	6410	Leitrim	FAIL	10	FAIL	0	PASS	10	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
849/05	1	6510	Leitrim	FAIL	6	PASS	1	FAIL	5	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
849/06	2	6510	Leitrim	FAIL	6	PASS	1	FAIL	5	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
850/01	1	6210	Leitrim	PASS	7	PASS	2	PASS	5	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS
850/04	1	6510	Leitrim	PASS	7	PASS	2	PASS	5	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
850/08	2	6210	Leitrim	PASS	9	PASS	4	PASS	5	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS
850/09	3	6210	Leitrim	PASS	8	PASS	4	PASS	4	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
850/10	4	6210	Leitrim	FAIL	6	PASS	2	FAIL	4	PASS	4	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
850/12	2	6510	Leitrim	PASS	9	PASS	3	PASS	6	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS
850/13	3	6510	Leitrim	PASS	7	PASS	2	PASS	5	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS
850/14	4	6510	Leitrim	PASS	9	PASS	2	PASS	7	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS
872/05	1	6510	Leitrim	PASS	7	PASS	1	PASS	6	PASS	1	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
872/06	2	6510	Leitrim	PASS	7	PASS	1	PASS	6	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
872/07	3	6510	Leitrim	FAIL	6	FAIL	0	PASS	6	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
872/08	4	6510	Leitrim	PASS	7	PASS	1	PASS	6	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
874/05	1	6410	Leitrim	PASS	9	PASS	2	PASS	7	PASS	0	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
874/06	2	6410	Leitrim	PASS	12	PASS	2	PASS	10	PASS	0	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
874/07	3	6410	Leitrim	PASS	9	PASS	1	PASS	8	PASS	0	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
874/08	4	6410	Leitrim	PASS	13	PASS	3	PASS	10	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
881/01	1	6410	Leitrim	PASS	9	PASS	2	PASS	7	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
881/02	2	6410	Leitrim	PASS	7	PASS	2	PASS	5	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
881/03	3	6410	Leitrim	PASS	10	PASS	1	PASS	9	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
881/04	4	6410	Leitrim	PASS	7	PASS	1	PASS	6	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
887/01	1	6410	Leitrim	FAIL	6	FAIL	0	PASS	6	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
890/05	1	6230	Leitrim	PASS	10	PASS	2	PASS	8	PASS	4	PASS	PASS	PASS	PASS	PASS	PASS	PASS
890/06	2	6230	Leitrim	PASS	9	PASS	3	PASS	6	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS
890/07	3	6230	Leitrim	PASS	9	PASS	3	PASS	6	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS
890/08	4	6230	Leitrim	PASS	7	PASS	1	PASS	6	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
893/01	1	6230	Leitrim	PASS	10	PASS	3	PASS	7	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
893/02	2	6230	Leitrim	PASS	12	PASS	2	PASS	10	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
894/01	1	6210	Leitrim	PASS	8	PASS	4	PASS	4	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS
894/02	2	6210	Leitrim	PASS	8	PASS	4	PASS	4	PASS	4	PASS	PASS	PASS	PASS	PASS	PASS	PASS
894/03	3	6210	Leitrim	FAIL	5	PASS	2	FAIL	3	FAIL	3	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
894/04	4	6210	Leitrim	FAIL	6	PASS	2	FAIL	4	FAIL	2	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
895/05	1	6410	Leitrim	PASS	14	PASS	3	PASS	11	PASS	0	PASS	PASS	PASS	PASS	PASS	PASS	PASS
896/03	1	6410	Leitrim	PASS	9	PASS	1	PASS	8	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL

Appendix 6: Structure and functions assessment scores for areas of Annex I grassland habitat surveyed from 2007 to 2009

Releve ID	M.S.	Annex	County	Overall +ve indicator species	No. of overall +ve indicator species	HQ +ve species	No. of HQ +ve species	Non-HQ +ve species	No. of non-HQ +ve species	Overall -ve indicator species	No. of overall -ve indicator species	Forb : graminoid ratio	Encroachment	Sward height	Litter cover	Bare ground cover	Grazing disturbance	Overall assessment
896/04	2	6410	Leitrim	PASS	11	PASS	1	PASS	10	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
943/02	1	6510	Longford	FAIL	5	PASS	1	FAIL	4	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
943/04	2	6510	Longford	PASS	7	PASS	2	PASS	5	FAIL	2	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
943/05	3	6510	Longford	PASS	7	PASS	2	PASS	5	FAIL	2	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
943/06	4	6510	Longford	PASS	7	PASS	2	PASS	5	FAIL	3	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
949/04	1	6410	Longford	PASS	11	PASS	3	PASS	8	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
949/05	2	6410	Longford	PASS	11	PASS	1	PASS	10	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
949/07	3	6410	Longford	PASS	12	PASS	3	PASS	9	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
949/09	4	6410	Longford	PASS	10	PASS	3	PASS	7	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
999/08	1	6410	Longford	PASS	13	PASS	3	PASS	10	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
999/09	2	6410	Longford	PASS	14	PASS	4	PASS	10	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1004/05	1	6410	Cavan	PASS	12	PASS	2	PASS	10	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1004/06	2	6410	Cavan	PASS	10	PASS	3	PASS	7	PASS	2	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
1004/08	3	6410	Cavan	PASS	8	PASS	2	PASS	6	PASS	1	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL
1004/09	4	6410	Cavan	PASS	10	PASS	1	PASS	9	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1004/13	5	6410	Cavan	PASS	9	PASS	2	PASS	7	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
1007/04	1	6410	Cavan	PASS	8	PASS	1	PASS	7	PASS	1	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
1007/05	2	6410	Cavan	PASS	11	PASS	3	PASS	8	PASS	1	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
1007/06	3	6410	Cavan	PASS	11	PASS	2	PASS	9	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
1007/07	4	6410	Cavan	PASS	7	PASS	1	PASS	6	PASS	1	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
1008/02	1	6410	Cavan	PASS	11	PASS	2	PASS	9	FAIL	1	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
1008/03	2	6410	Cavan	PASS	10	PASS	1	PASS	9	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1008/05	3	6410	Cavan	FAIL	6	PASS	2	FAIL	4	PASS	2	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
1008/08	4	6410	Cavan	FAIL	6	PASS	1	FAIL	5	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
1008/09	1	6230	Cavan	PASS	9	PASS	1	PASS	8	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1008/10	2	6230	Cavan	PASS	10	PASS	1	PASS	9	FAIL	3	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
1008/11	3	6230	Cavan	PASS	9	PASS	1	PASS	8	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1008/12	4	6230	Cavan	PASS	10	PASS	1	PASS	9	FAIL	3	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
1009/02	1	6410	Cavan	PASS	12	PASS	2	PASS	10	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
1009/05	2	6410	Cavan	PASS	9	PASS	1	PASS	8	PASS	2	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
1011/01	1	6230	Cavan	FAIL	9	FAIL	0	PASS	9	FAIL	2	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
1013/04	1	6410	Cavan	PASS	7	PASS	1	PASS	6	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1013/05	2	6410	Cavan	PASS	9	PASS	1	PASS	8	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
1016/03	1	6230	Cavan	PASS	15	PASS	4	PASS	11	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1016/05	1	6410	Cavan	PASS	14	PASS	4	PASS	10	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
1016/06	2	6230	Cavan	FAIL	9	FAIL	0	PASS	9	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
1016/08	2	6410	Cavan	PASS	7	PASS	2	PASS	5	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
1016/09	3	6230	Cavan	PASS	13	PASS	2	PASS	11	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Appendix 6: Structure and functions assessment scores for areas of Annex I grassland habitat surveyed from 2007 to 2009

Releve ID	M.S.	Annex	County	Overall +ve indicator species	No. of overall +ve indicator species	HQ +ve species	No. of HQ +ve species	Non-HQ +ve species	No. of non-HQ +ve species	Overall -ve indicator species	No. of overall -ve indicator species	Forb : graminoid ratio	Encroachment	Sward height	Litter cover	Bare ground cover	Grazing disturbance	Overall assessment
1016/10	4	6230	Cavan	PASS	9	PASS	1	PASS	8	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1032/01	1	6430	Cavan	FAIL	3	PASS	1	FAIL	2	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
1051/01	1	6510	Cavan	PASS	9	PASS	4	PASS	5	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1051/02	2	6510	Cavan	PASS	7	PASS	2	PASS	5	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1051/03	3	6510	Cavan	PASS	7	PASS	2	PASS	5	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1051/04	4	6510	Cavan	PASS	7	PASS	2	PASS	5	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1061/01	1	6210	Cavan	PASS	8	PASS	6	PASS	2	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1067/02	1	6210	Cavan	PASS	7	PASS	4	PASS	3	PASS	2	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1067/04	2	6210	Cavan	FAIL	6	PASS	4	FAIL	2	PASS	4	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
1067/05	3	6210	Cavan	PASS	7	PASS	4	PASS	3	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1067/06	4	6210	Cavan	PASS	7	PASS	4	PASS	3	PASS	3	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
1067/08	1	6230	Cavan	PASS	13	PASS	2	PASS	11	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1067/09	2	6230	Cavan	PASS	12	PASS	2	PASS	10	PASS	2	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
1067/10	3	6230	Cavan	PASS	12	PASS	3	PASS	9	PASS	4	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1067/11	4	6230	Cavan	PASS	10	PASS	3	PASS	7	PASS	3	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1072/01	1	6210	Cavan	PASS	7	PASS	2	PASS	5	PASS	3	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
1072/03	2	6210	Cavan	PASS	9	PASS	4	PASS	5	PASS	2	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
1072/04	3	6210	Cavan	FAIL	5	PASS	2	FAIL	3	FAIL	2	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
1072/06	4	6210	Cavan	PASS	7	PASS	3	PASS	4	PASS	2	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
1072/07	5	6210	Cavan	PASS	7	PASS	3	PASS	4	PASS	1	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
1087/02	1	6510	Cavan	FAIL	6	PASS	1	FAIL	5	PASS	3	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL
1087/03	2	6510	Cavan	PASS	7	PASS	1	PASS	6	PASS	2	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
1087/04	3	6510	Cavan	FAIL	6	PASS	1	FAIL	5	PASS	3	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL
1087/05	4	6510	Cavan	FAIL	5	PASS	1	FAIL	4	PASS	1	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
1088/01	1	6230	Cavan	PASS	9	PASS	2	PASS	7	PASS	4	PASS	PASS	PASS	PASS	PASS	PASS	PASS
1090/03	1	6510	Cavan	FAIL	6	PASS	1	FAIL	5	PASS	1	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL
1091/02	1	6210	Cavan	FAIL	6	PASS	5	FAIL	1	FAIL	3	PASS	PASS	PASS	PASS	PASS	PASS	FAIL

Appendix 6: Structure and functions assessment scores for areas of Annex I grassland habitat surveyed from 2007 to 2009

*Appendix 7: Future prospects categories**

Listed here are the seven EU impacts/pressures used to assess the future prospects of Annex I grassland habitats for sites surveyed from 2007 to 2009. The new codes for the threat categories (CIRCA 2009) have been applied.

Negative threat categories (7)

Drainage (code J02)
0 Not recorded.
-2 Recorded adjacent to Annex I habitat.
-3 Recorded within the Annex I habitat.

Dumping (code E03)
0 Not recorded.
-2 Recorded adjacent to Annex I habitat.
-3 Recorded within the Annex I habitat.

Active quarries (code C01)
0 Not recorded.
-1 Small to medium sized quarry used sporadically by landowners for infill or farm maintenance recorded adjacent to Annex I habitat.
-2 Large quarry actively used for commercial purposes recorded adjacent to the site.
-3 Quarry of any size recorded within a grassland site, or a quarry that has infringed on a grassland site in recent times (within the last 10 years).

Evidence of overgrazing (code A04.01)
0 Not recorded.
-2 Short sward recorded adjacent to the Annex I habitat.
-3 Short sward recorded within the Annex I habitat.

Afforestation (code B01)
0 Not recorded.
-2 Afforestation recorded adjacent to Annex I habitat.
-3 Afforestation recorded adjacent to Annex I habitat and plans for future forestry on the site.

Evidence of undergrazing and encroachment (code A04.03)
0 Not recorded.
-2 Recorded adjacent to the Annex I habitat.
-3 Recorded within the Annex I habitat.

Agricultural improvement (code A02.01)
This includes fertiliser application, topping, liming and supplementary feeders.
0 Not recorded.
-2 Recorded in close vicinity to Annex I habitat.
-3 Recorded within Annex I habitat.

Overall score
After scores from threat categories are totalled.

0 Favourable
-1 to -3 Unfavourable – Inadequate
< -3 Unfavourable – Bad

* It must be noted that the future prospects categories were adapted using a recent report on the pressures, threats and impacts on Annex I habitats (Ssymank in press). Ssymank (in press) was only available after the end of the 2009 field season therefore the 2008 methodology was utilised when scoring future prospects on the field sheets, while the adjusted assessments using the categories listed here were used in the data analysis. An extended list of categories will be used from 2010 and will include, amongst other negative categories, positive categories too. Refer to Section 2.4 for more details.

Appendix 8: Future prospects assessment scores for areas of Annex I grassland habitat surveyed from 2007 to 2009

This appendix contains the seven EU impacts/pressures scored as affecting the future prospects of the 133 areas of Annex I grassland habitats surveyed.

The scores equate to future prospects assessments as follows:
0 = Favourable; -1 to -3 = Unfavourable – Inadequate; <-3 = Unfavourable – Bad

The seven EU impacts/pressures scored as affecting the future prospects of the 133 areas of Annex I grassland habitats surveyed
0=Favourable, -1 to -3=Unfavourable-Inadequate, <-3=Unfavourable-Bad

Site ID	Annex I Habitat	J02 Drainage	E03 Dumping	C01 Active quarries	A04.01 Evidence of overgrazing	B01 Afforestation	A04.03 Undergrazing & encroachment	A02.01 Agricultural improvement	Total score
1	6210	0	0	-3	0	0	-2	-3	-8
8	6210	0	0	0	0	0	-3	0	-3
18	6410	0	0	0	0	0	0	0	0
20	6210	0	0	-2	0	0	0	0	-2
23	6410	-2	0	0	-3	0	0	0	-5
25	6410	-2	0	0	0	0	-2	0	-4
30	6410	0	0	0	0	0	0	0	0
30	6430	0	0	0	0	0	0	0	0
68	6410	0	0	0	0	0	0	-3	-3
68	6510	0	0	0	0	0	0	-3	-3
81	6210	0	0	0	-2	0	0	-3	-5
82	6510	0	0	0	0	0	0	-3	-3
101	6410	0	0	0	0	0	-2	0	-2
107	6410	0	0	0	0	0	0	0	0
107	6510	0	0	0	0	0	0	0	0
108	6510	0	0	0	0	0	0	0	0
109	6410	0	0	0	0	0	-2	-2	-4
109	6510	0	0	0	0	0	-2	-2	-4
110	6430	0	0	0	0	0	0	0	0
110	6510	0	0	0	0	0	0	0	0
113	6410	0	0	0	0	0	-2	0	-2
114	6510	0	0	0	0	0	0	0	0
116	6210	0	0	-2	0	0	0	0	-2
205	6410	0	0	0	0	0	0	0	0
210	6410	0	0	0	0	0	-2	0	-2
210	6430	0	0	0	0	0	0	0	0
215	6210	0	0	-2	0	0	-2	0	-4
216	6230	0	0	0	0	0	-2	-3	-5
224	6210	0	0	-3	0	0	-3	-3	-9
226	6210	0	0	0	0	0	-3	0	-3
227	6210	0	-3	0	0	0	-3	-2	-8
230	6210	0	0	0	0	0	-3	0	-3
236	6410	0	0	0	0	0	-2	-2	-4
246	6210	0	0	0	0	0	-3	-3	-6
254	6210	0	-3	-3	0	0	-3	0	-9

The seven EU impacts/pressures scored as affecting the future prospects of the 133 areas of Annex I grassland habitats surveyed
0=Favourable, -1 to -3=Unfavourable-Inadequate, <-3=Unfavourable-Bad

Site ID	Annex I Habitat	J02 Drainage	E03 Dumping	C01 Active quarries	A04.01 Evidence of overgrazing	B01 Afforestation	A04.03 Undergrazing & encroachment	A02.01 Agricultural improvement	Total score
256	6210	0	0	0	0	0	-3	0	-3
259	6210	0	0	0	0	0	-3	0	-3
263	6210	0	0	-2	0	0	-3	0	-5
307	6230	0	0	0	0	-2	-2	0	-4
316	6230	0	0	0	-3	0	0	-2	-5
317	6230	0	-3	0	-3	0	-2	0	-8
320	6510	0	0	0	0	0	0	0	0
326	6230	0	0	0	0	-2	-3	0	-5
344	6410	0	0	0	0	0	-2	0	-2
354	6230	0	0	0	0	0	0	0	0
356	6410	0	0	0	0	0	-2	-2	-4
357	6230	0	0	0	0	0	0	0	0
360	6230	0	0	0	0	0	-3	0	-3
366	6130	0	0	0	0	0	-3	0	-3
372	6230	0	0	0	0	0	-3	-3	-6
379	6410	0	0	0	0	0	-2	0	-2
402	6230	0	0	0	-3	0	-2	-3	-8
407	6410	0	0	0	0	0	-3	0	-3
410	6210	0	0	0	0	0	0	0	0
415	6410	0	0	0	0	0	0	0	0
415	6430	0	0	0	0	0	0	0	0
418	6430	-2	0	0	0	0	0	0	-2
462	6230	0	0	0	0	0	0	0	0
463	6130	0	0	0	0	0	0	0	0
475	6230	0	0	0	0	-2	-2	0	-4
485	6230	0	0	0	0	0	-3	0	-3
488	6230	0	0	0	0	0	0	0	0
489	6230	0	0	0	0	0	-3	0	-3
492	6410	-2	0	0	0	0	-3	0	-5
495	6410	-3	0	0	0	-2	0	0	-5
496	6230	0	0	0	0	0	-2	0	-2
539	6410	0	0	0	0	0	0	0	0
553	6410	0	0	0	0	0	-3	0	-3
556	6410	-3	0	0	0	0	-3	0	-6
565	6410	0	0	0	-3	0	0	0	-3

The seven EU impacts/pressures scored as affecting the future prospects of the 133 areas of Annex I grassland habitats surveyed
0=Favourable, -1 to -3=Unfavourable-Inadequate, <-3=Unfavourable-Bad

Site ID	Annex I Habitat	J02 Drainage	E03 Dumping	C01 Active quarries	A04.01 Evidence of overgrazing	B01 Afforestation	A04.03 Undergrazing & encroachment	A02.01 Agricultural improvement	Total score
566	6410	0	-2	0	0	0	0	-2	-4
568	6410	0	0	0	0	0	0	0	0
569	6410	0	0	0	0	0	0	0	0
571	6230	0	0	0	0	0	-3	-3	-6
582	6130	0	0	0	-3	0	-3	0	-6
584	6410	0	0	0	0	0	-2	0	-2
584	6130	0	-3	0	0	0	-3	0	-6
589	6230	0	0	0	0	0	-2	0	-2
590	6410	0	0	0	0	0	0	0	0
601	6410	0	0	0	0	0	-3	0	-3
618	6410	0	0	0	0	0	-3	0	-3
627	6410	0	0	0	0	0	0	0	0
631	6410	0	0	0	0	0	-3	0	-3
635	6410	0	0	0	0	0	0	0	0
642	6230	-3	0	0	0	0	-2	-3	-8
645	6230	-2	0	0	0	0	-2	0	-4
717	6410	-2	0	0	0	-2	-3	0	-7
718	6410	0	0	0	0	0	0	-2	-2
723	6230	-1	0	0	0	0	-2	-1	-4
729	6210	0	0	0	0	0	0	-2	-2
762	6230	0	0	0	0	0	-3	0	-3
802	6410	0	0	0	-3	0	-3	0	-6
804	6410	0	0	0	0	-2	-3	0	-5
806	6410	0	0	0	0	0	-3	0	-3
811	6230	0	0	0	0	0	0	0	0
815	6210	0	0	0	0	0	-3	0	-3
822	6230	0	0	0	0	-1	-1	0	-2
825	6210	0	0	0	0	0	0	0	0
826	6210	0	0	0	0	0	-2	0	-2
836	6230	0	0	0	0	-2	-2	0	-4
837	6410	0	0	0	0	0	-3	0	-3
849	6510	0	0	0	0	0	0	0	0
850	6210	0	0	0	0	0	-3	0	-3
850	6510	0	0	0	0	0	0	0	0
872	6510	0	0	0	0	0	0	0	0

The seven EU impacts/pressures scored as affecting the future prospects of the 133 areas of Annex I grassland habitats surveyed
0=Favourable, -1 to -3=Unfavourable-Inadequate, <-3=Unfavourable-Bad

Site ID	Annex I Habitat	J02 Drainage	E03 Dumping	C01 Active quarries	A04.01 Evidence of overgrazing	B01 Afforestation	A04.03 Undergrazing & encroachment	A02.01 Agricultural improvement	Total score
874	6410	0	0	0	0	0	-3	0	-3
881	6410	0	0	0	0	0	0	-2	-2
887	6410	0	0	0	0	-2	-2	0	-4
890	6230	0	0	0	0	0	-2	0	-2
893	6230	0	0	0	0	0	0	0	0
894	6210	0	0	0	0	0	-3	0	-3
895	6410	0	0	0	0	-2	-2	0	-4
896	6410	0	0	0	0	0	-3	0	-3
943	6510	0	0	0	0	0	0	0	0
949	6410	-3	0	0	0	0	0	0	-3
999	6410	0	0	0	0	0	0	0	0
1004	6410	-3	0	0	-3	0	-3	-3	-12
1007	6410	0	0	0	0	-2	-3	0	-5
1008	6230	0	0	0	0	0	-2	0	-2
1008	6410	0	0	0	0	0	-2	0	-2
1009	6410	0	0	0	0	0	0	-2	-2
1011	6230	0	0	0	0	0	-2	0	-2
1013	6410	-3	0	0	0	-2	0	0	-5
1016	6230	0	0	0	0	0	-3	0	-3
1016	6410	-2	0	0	0	0	0	0	-2
1032	6430	0	0	0	0	0	0	-2	-2
1051	6510	0	0	0	0	0	0	0	0
1061	6210	0	0	-2	0	0	-3	0	-5
1067	6230	0	0	0	0	-2	-3	0	-5
1067	6210	0	0	0	0	0	-3	0	-3
1072	6210	0	0	0	0	0	-2	-2	-4
1087	6510	0	0	0	0	0	0	-2	-2
1088	6230	-3	0	0	0	0	0	0	-3
1090	6510	0	0	0	0	0	0	0	0
1091	6210	0	0	-2	0	0	0	0	-2

Appendix 9: Annex I grassland habitat overall assessment scores for sites surveyed in 2009

This lists all sites in Cavan, Leitrim, Longford and Monaghan that had an area of Annex I grassland habitat assessed in 2009. Assessment scores are included for each of the three criteria – Area, Structure and functions, and Future prospects – as well as the Overall assessment for the area of Annex I habitat at the site.

Site ID	Annex I habitat	Area Assessment	Structure and Functions Assessment	Future Prospects Assessment	*Overall Assessment*
717	6410	Unfavourable – Inadequate	Unfavourable – Bad	Unfavourable – Bad	Unfavourable – Bad
718	6410	Favourable	Unfavourable – Bad	Unfavourable – Inadequate	Unfavourable – Bad
723	6230	Favourable	Unfavourable – Bad	Unfavourable – Bad	Unfavourable – Bad
729	6210	Favourable	Favourable	Unfavourable – Inadequate	Unfavourable – Inadequate
762	6230	Unfavourable – Bad	Unfavourable – Bad	Unfavourable – Inadequate	Unfavourable – Bad
802	6410	Favourable	Unfavourable – Inadequate	Unfavourable – Bad	Unfavourable – Bad
804	6410	Unfavourable – Inadequate	Unfavourable – Bad	Unfavourable – Bad	Unfavourable – Bad
806	6410	Favourable	Unfavourable – Bad	Unfavourable – Inadequate	Unfavourable – Bad
811	6230	Unfavourable – Inadequate	Favourable	Favourable	Unfavourable – Inadequate
815	6210	Unfavourable – Inadequate	Unfavourable – Inadequate	Unfavourable – Inadequate	Unfavourable – Inadequate
822	6230	Favourable	Favourable	Unfavourable – Inadequate	Unfavourable – Inadequate
825	6210	Favourable	Favourable	Favourable	Favourable
826	6210	Unfavourable – Bad	Favourable	Unfavourable – Inadequate	Unfavourable – Bad
836	6230	Unfavourable – Inadequate	Unfavourable – Bad	Unfavourable – Bad	Unfavourable – Bad
837	6410	Unfavourable – Inadequate	Unfavourable – Bad	Unfavourable – Inadequate	Unfavourable – Bad
849	6510	Favourable	Unfavourable – Bad	Favourable	Unfavourable – Bad
850	6510	Favourable	Favourable	Favourable	Favourable
850	6210	Favourable	Unfavourable – Inadequate	Unfavourable – Inadequate	Unfavourable – Inadequate
872	6510	Favourable	Unfavourable – Bad	Favourable	Unfavourable – Bad
874	6410	Unfavourable – Inadequate	Unfavourable – Bad	Unfavourable – Inadequate	Unfavourable – Bad
881	6410	Favourable	Favourable	Unfavourable – Inadequate	Unfavourable – Inadequate
887	6410	Favourable	Unfavourable – Bad	Unfavourable – Bad	Unfavourable – Bad
890	6230	Favourable	Favourable	Unfavourable – Inadequate	Unfavourable – Inadequate
893	6230	Favourable	Favourable	Favourable	Favourable
894	6210	Favourable	Unfavourable – Bad	Unfavourable – Inadequate	Unfavourable – Bad
895	6410	Favourable	Favourable	Unfavourable – Bad	Unfavourable – Bad
896	6410	Favourable	Unfavourable – Bad	Unfavourable – Inadequate	Unfavourable – Bad
943	6510	Favourable	Unfavourable – Bad	Favourable	Unfavourable – Bad
949	6410	Favourable	Unfavourable – Inadequate	Unfavourable – Inadequate	Unfavourable – Inadequate
999	6410	Favourable	Favourable	Favourable	Favourable
1004	6410	Favourable	Unfavourable – Bad	Unfavourable – Bad	Unfavourable – Bad
1007	6410	Favourable	Unfavourable – Bad	Unfavourable – Bad	Unfavourable – Bad

Site ID	Annex I habitat	Area Assessment	Structure and Functions Assessment	Future Prospects Assessment	*Overall Assessment*
1008	6230	Favourable	Unfavourable – Bad	Unfavourable – Inadequate	Unfavourable – Bad
1008	6410	Favourable	Unfavourable – Bad	Unfavourable – Inadequate	Unfavourable – Bad
1009	6410	Favourable	Unfavourable – Bad	Unfavourable – Inadequate	Unfavourable – Bad
1011	6230	Favourable	Unfavourable – Bad	Unfavourable – Inadequate	Unfavourable – Bad
1013	6410	Favourable	Unfavourable – Bad	Unfavourable – Bad	Unfavourable – Bad
1016	6410	Favourable	Unfavourable – Bad	Unfavourable – Inadequate	Unfavourable – Bad
1016	6230	Unfavourable – Inadequate	Unfavourable – Inadequate	Unfavourable – Inadequate	Unfavourable – Inadequate
1032	6430	Favourable	Unfavourable – Bad	Unfavourable – Inadequate	Unfavourable – Bad
1051	6510	Favourable	Favourable	Favourable	Favourable
1061	6210	Unfavourable – Inadequate	Favourable	Unfavourable – Bad	Unfavourable – Bad
1067	6210	Favourable	Unfavourable – Bad	Unfavourable – Inadequate	Unfavourable – Bad
1067	6230	Favourable	Unfavourable – Inadequate	Unfavourable – Bad	Unfavourable – Bad
1072	6210	Unfavourable – Inadequate	Unfavourable – Bad	Unfavourable – Bad	Unfavourable – Bad
1087	6510	Favourable	Unfavourable – Bad	Unfavourable – Inadequate	Unfavourable – Bad
1088	6230	Unfavourable – Inadequate	Favourable	Unfavourable – Inadequate	Unfavourable – Inadequate
1090	6510	Favourable	Unfavourable – Bad	Favourable	Unfavourable – Bad
1091	6210	Favourable	Unfavourable – Bad	Unfavourable – Inadequate	Unfavourable – Bad

Appendix 10: Overall assessment scores for the 47 primary areas of Annex I grassland habitat surveyed from 2007 to 2009

This lists details of the 47 primary areas of Annex I grassland habitat identified (see section 3.2, p. 42) from sites assessed during the ISGS from 2007 to 2009.

These 47 sites represent the best examples of Annex I grassland habitats so far identified during the three years of the ISGS.

The assessment scores for the three criteria – Area, Structure and functions, and Future prospects – are given, as well as the Overall assessment for the area of each Annex I habitat at the site.

The area in hectares of the Annex I habitat recorded is also listed; all areas of Annex I habitat on this list are at least 1 ha, with the exception of Calaminarian grassland (6130), a nationally rare Annex I grassland habitat.

Site ID	Annex I habitat	County	Area (ha)	Area assessment	Structure & functions	Future prospects	Overall score
1	6210	Offaly	1	Unfavourable-Bad	50% pass: Unfavourable-Bad	Unfavourable-Bad	Unfavourable-Bad
18	6410	Offaly	7.4	Favourable	0% pass: Unfavourable-Bad	Favourable	Unfavourable-Bad
25	6410	Roscommon	1.9	Favourable	50% pass: Unfavourable-Bad	Unfavourable-Bad	Unfavourable-Bad
30	6430	Roscommon	1.5	Favourable	0% pass: Unfavourable-Bad	Favourable	Unfavourable-Bad
68	6410	Offaly	4.7	Favourable	25% pass: Unfavourable-Bad	Unfavourable-Inadequate	Unfavourable-Bad
68	6510	Offaly	20.9	Favourable	50% pass: Unfavourable-Bad	Unfavourable-Inadequate	Unfavourable-Bad
107	6410	Offaly	33.7	Favourable	100% pass: Favourable	Favourable	Favourable
108	6510	Offaly	6.8	Favourable	50% pass: Unfavourable-Bad	Favourable	Unfavourable-Bad
109	6410	Offaly	11.2	Favourable	75% pass: Unfavourable-Inadequate	Unfavourable-Bad	Unfavourable-Bad
109	6510	Offaly	13.5	Favourable	75% pass: Unfavourable-Inadequate	Unfavourable-Bad	Unfavourable-Bad
110	6430	Offaly	3.2	Favourable	0% pass: Unfavourable-Bad	Favourable	Unfavourable-Bad
113	6410	Roscommon	13.6	Favourable	50% pass: Unfavourable-Bad	Unfavourable-Inadequate	Unfavourable-Bad
114	6510	Roscommon	1.9	Unfavourable-Bad	50% pass: Unfavourable-Bad	Favourable	Unfavourable-Bad
116	6210	Roscommon	1.2	Favourable	50% pass: Unfavourable-Bad	Unfavourable-Inadequate	Unfavourable-Bad
210	6430	Roscommon	1.2	Favourable	75% pass: Unfavourable-Inadequate	Favourable	Unfavourable-Inadequate
215	6210	Roscommon	22.3	Favourable	75% pass: Unfavourable-Inadequate	Unfavourable-Bad	Unfavourable-Bad
224	6210	Roscommon	8.2	Unfavourable-Inadequate	50% pass: Unfavourable-Bad	Unfavourable-Bad	Unfavourable-Bad
226	6210	Roscommon	10.5	Favourable	50% pass: Unfavourable-Bad	Unfavourable-Inadequate	Unfavourable-Bad
263	6210	Roscommon	8.3	Favourable	25% pass: Unfavourable-Bad	Unfavourable-Bad	Unfavourable-Bad
316	6230	Waterford	99.2	Favourable	0% pass: Unfavourable-Bad	Unfavourable-Bad	Unfavourable-Bad
354	6230	Waterford	7.7	Favourable	100% pass: Favourable	Favourable	Favourable
366	6130	Waterford	0.09	Favourable	0% pass: Unfavourable-Bad	Unfavourable-Inadequate	Unfavourable-Bad
402	6230	Cork	6.5	Favourable	50% pass: Unfavourable-Bad	Unfavourable-Bad	Unfavourable-Bad
418	6430	Cork	1.7	Favourable	0% pass: Unfavourable-Bad	Unfavourable-Inadequate	Unfavourable-Bad
463	6130	Cork	0.08	Favourable	0% pass: Unfavourable-Bad	Favourable	Unfavourable-Bad
488	6230	Cork	4	Favourable	75% pass: Unfavourable-Inadequate	Favourable	Unfavourable-Inadequate
489	6230	Cork	1	Favourable	75% pass: Unfavourable-Inadequate	Unfavourable-Inadequate	Unfavourable-Inadequate
582	6130	Cork	0.05	Favourable	0% pass: Unfavourable-Bad	Unfavourable-Bad	Unfavourable-Bad
584	6130	Cork	0.16	Favourable	25% pass: Unfavourable-Bad	Unfavourable-Bad	Unfavourable-Bad
717	6410	Monaghan	4.8	Unfavourable-Inadequate	70% pass: Unfavourable-Bad	Unfavourable-Bad	Unfavourable-Bad
802	6410	Leitrim	2.7	Favourable	75% pass: Unfavourable-Inadequate	Unfavourable-Bad	Unfavourable-Bad
804	6410	Leitrim	2.5	Unfavourable-Inadequate	60% pass: Unfavourable-Bad	Unfavourable-Bad	Unfavourable-Bad
811	6230	Leitrim	1.5	Unfavourable-Inadequate	100% pass: Favourable	Favourable	Unfavourable-Inadequate
815	6210	Leitrim	2.8	Unfavourable-Inadequate	89% pass: Unfavourable-Inadequate	Unfavourable-Inadequate	Unfavourable-Inadequate
837	6410	Leitrim	2.7	Unfavourable-Inadequate	50% pass: Unfavourable-Bad	Unfavourable-Inadequate	Unfavourable-Bad
850	6510	Leitrim	4.1	Favourable	100% pass: Favourable	Favourable	Favourable
872	6510	Leitrim	4.2	Favourable	50% pass: Unfavourable-Bad	Favourable	Unfavourable-Bad
874	6410	Leitrim	21.7	Unfavourable-Inadequate	25% pass: Unfavourable-Bad	Unfavourable-Inadequate	Unfavourable-Bad
881	6410	Leitrim	2.1	Favourable	100% pass: Favourable	Unfavourable-Inadequate	Unfavourable-Inadequate
890	6230	Leitrim	2.1	Favourable	100% pass: Favourable	Unfavourable-Inadequate	Unfavourable-Inadequate
894	6210	Leitrim	2.6	Favourable	50% pass: Unfavourable-Bad	Unfavourable-Inadequate	Unfavourable-Bad
949	6410	Longford	4.9	Favourable	75% pass: Unfavourable-Inadequate	Unfavourable-Inadequate	Unfavourable-Inadequate
1004	6410	Cavan	10.9	Favourable	40% pass: Unfavourable-Bad	Unfavourable-Bad	Unfavourable-Bad

Appendix 10: Overall assessment scores for the 47 primary areas of Annex I grassland habitat surveyed from 2007 to 2009

Site ID	Annex I habitat	County	Area (ha)	Area assessment	Structure & functions	Future prospects	Overall score
1008	6230	Cavan	1.3	Favourable	50% pass: Unfavourable-Bad	Unfavourable-Inadequate	Unfavourable-Bad
1051	6510	Cavan	4.2	Favourable	100% pass: Favourable	Favourable	Favourable
1067	6210	Cavan	1.7	Favourable	50% pass: Unfavourable-Bad	Unfavourable-Inadequate	Unfavourable-Bad
1067	6230	Cavan	3.1	Favourable	75% pass: Unfavourable-Inadequate	Unfavourable-Bad	Unfavourable-Bad

Appendix 10: Overall assessment scores for the 47 primary areas of Annex I grassland habitat surveyed from 2007 to 2009

Site ID	Site name	County	NHA	SAC	Semi-natural Grassland Habitats	Annex I grassland habitats	Adjacent semi-natural habitats	Area	Species richness	Notable species	High quality indicator species	Total	Conservation Score %	Conservation Ranking
					5	12	2.5	12	4	8	4	47.5	100.00	
1	All Saints Bog	Offaly	000566	000566	2	4	0.5	2	4	0	2	14.5	30.53	=115
3	Ridge Road	Offaly	000919	000919	1	0	0.5	2	3	0	2	8.5	17.89	=403
7	Derrykeel Meadows	Offaly	000897	-	2	0	1	1	4	0	2	10	21.05	=319
8	Drumakeenan, Eagles Hill and Perry's Mill	Offaly	000900	-	1	2	0.5	4	3	0	2	12.5	26.32	=184
15	Clonfinlough Esker	Offaly	-	-	2	0	0	1	4	0	1	8	16.84	=434
16	Lough Nanag Esker	Offaly	000910	-	1	0	1	3	3	0	3	11	23.16	=257
17	Dovegrove Callows	Offaly	000010	-	1	0	1	6	1	0	4	13	27.37	=165
18	Little Brosna Callows	Offaly	000564	000216	4	4	1	12	1	2	4	28	58.95	5
20	Ballyduff Esker	Offaly	000885	-	1	2	0.5	4	2	0	2	11.5	24.21	=233
21	Pallas Lough	Offaly	000916	-	2	0	1	1	4	0	1	9	18.95	=378
23	Lough Dromharlow	Roscommon	001643	-	2	2	2	6	2	0	4	18	37.89	=48
25	Lough Gara	Roscommon	000587	-	3	4	1.5	4	3	0	4	19.5	41.05	=34
27	Annaghmore Lough	Roscommon	001626	001626	2	0	1.5	2	4	0	4	13.5	28.42	=148
30	Kilglas and Grange Lough	Roscommon	000608	-	3	6	1	2	4	0	4	20	42.11	=29
34	Lough Glin	Roscommon	001644	-	2	0	1.5	4	3	0	3	13.5	28.42	=148
39	Drumbridge	Roscommon	001631	-	1	0	1.5	4	2	0	3	11.5	24.21	=233
40	Hundred Acres	Offaly	000412	000412	2	0	1.5	4	2	0	3	12.5	26.32	=184
41	Slieve Bloom	Offaly	000412	000412	1	0	0.5	2	3	0	2	8.5	17.89	=403
44	Croghan Hill	Offaly	-	-	3	0	1	6	1	0	0	11	23.16	=257
45	Kilcormac Esker	Offaly	000906	-	1	0	0.5	6	1	0	1	9.5	20.00	=348
53	Kilcolman	Offaly	-	-	1	0	1	3	3	0	3	11	23.16	=257
54	Pigeon Park	Offaly	-	-	1	0	0.5	4	1	0	0	6.5	13.68	=522
57	Clooncreen-Clonbulloge	Offaly	-	-	1.5	0	1	4	1	0	0	7.5	15.79	=466
60	Moanvane	Offaly	-	-	1	0	1	2	3	0	2	9	18.95	=378
61	Raheenakeeran	Offaly	-	-	1	0	1	2	1	0	0	5	10.53	=561
62	Roosk	Offaly	-	-	1	0	1	4	1	0	0	7	14.74	=495
67	Raheen Lough	Offaly	000917	-	1	0	1.5	2	1	0	0	5.5	11.58	=554
68	Slate River	Offaly	-	-	1	8	0.5	4	1	0	3	17.5	36.84	=53
73	Silver River	Offaly	-	-	2	0	1	2	4	0	2	11	23.16	=257
81	Mount St Joseph Esker	Offaly	000913	-	1	2	1	2	3	0	1	10	21.05	=319
82	Coolderry	Offaly	-	-	1	2	1	2	2	0	0	8	16.84	=434
83	Boveen	Offaly	-	-	1	0	1	3	2	0	3	10	21.05	=319
84	Island	Offaly	-	-	1	0	1	2	3	0	1	8	16.84	=434
86	Glasscloon	Offaly	-	-	1	0	1	3	1	0	1	7	14.74	=495
87	Bricknagh	Offaly	-	-	1.5	0	1	4	1	0	2	9.5	20.00	=348
90	Derrinlough	Offaly	000909	-	2	0	1	1	4	0	3	11	23.16	=257
92	Rathcobican	Offaly	002104	-	1	0	0.5	3	2	0	2	8.5	17.89	=403
93	Clonmore	Offaly	-	-	2	0	1	2	4	0	2	11	23.16	=257
97	Ballymullen	Offaly	-	-	2	0	1	2	4	0	4	13	27.37	=165
99	Cappancur	Offaly	-	-	3	0	2	3	2	0	1	11	23.16	=257
101	Clonminch	Offaly	-	-	1.5	2	1.5	4	2	0	3	14	29.47	=126
102	Drumcullen Church	Offaly	-	-	2	0	1.5	2	3	0	2	10.5	22.11	=290
107	Clonmacnoise	Offaly	000216	000216	2	6	1	6	2	0	4	21	44.21	=22
108	Leitra Callow	Offaly	000216	000216	2	4	1	9	1	0	4	21	44.21	=22
109	Moystown Demesne and Island	Offaly	000216	000216	2	8	1	12	1	4	4	32	67.37	1
110	Clooncraff	Offaly	000216	000216	2	6	2	6	2	0	4	22	46.32	=17
111	Long Island	Roscommon	000216	000216	1	0	1	6	1	0	2	11	23.16	=257
112	Callowbeg	Roscommon	000216	000216	1	0	1.5	6	1	0	2	11.5	24.21	=233
113	Drumlosh	Roscommon	000216	000216	2	4	1.5	6	1	0	4	18.5	38.95	=43
114	Cappaleitrim	Roscommon	000216	000216	2	4	1	9	1	0	3	20	42.11	=29
116	Culliaghmore	Roscommon	-	-	1	4	0.5	2	3	0	1	11.5	24.21	=233
117	Rathpeake	Roscommon	-	-	1	0	0.5	1	4	0	0	6.5	13.68	=522
200	Derryhanee	Roscommon	-	-	1	0	1	4	1	0	3	10	21.05	=319
201	Coggalbeg	Roscommon	-	-	1	0	1.5	3	2	0	2	9.5	20.00	=348
202	Cloonroughan	Roscommon	-	-	3	0	1.5	4	2	0	3	13.5	28.42	=148
203	Glenballythomas	Roscommon	-	-	2	0	1	3	2	0	1	9	18.95	=378
205	Cleaheen	Roscommon	001643	-	1	2	1.5	6	1	0	4	15.5	32.63	=84
206	Rathmoyle	Roscommon	-	-	1	0	1	6	1	0	0	9	18.95	=378
208	Cloonalough	Roscommon	001645	-	2	0	2	2	4	0	2	12	25.26	=208
210	Portnacrinnaght	Roscommon	000587	-	3	6	1.5	6	3	0	4	23.5	49.47	=12
212	Dromore	Roscommon	-	-	1	0	1.5	6	1	0	1	10.5	22.11	=290
214	Clerragh	Roscommon	-	-	3	0	1.5	3	3	0	2	12.5	26.32	=184
215	Carrickmore	Roscommon	-	-	1	4	1	4	2	0	2	14	29.47	=126

Site ID	Site name	County	NHA	SAC	Semi-natural Grassland Habitats	Annex I grassland habitats	Adjacent semi-natural habitats	Area	Species richness	Notable species	High quality indicator species	Total	Conservation Score %	Conservation Ranking
					5	12	2.5	12	4	8	4	47.5	100.00	
216	Mullaghmacormick	Roscommon	-	-	2	2	1	4	2	0	2	13	27.37	=165
218	Portruny Bay	Roscommon	002310	000440	3	0	2	4	3	0	4	16	33.68	=71
220	Crunaun Bridge	Roscommon	-	-	2	0	1.5	4	2	0	3	12.5	26.32	=184
221	Cartroncaran	Roscommon	-	-	3	0	0.5	3	2	0	1	9.5	20.00	=348
224	Cloonfineen	Roscommon	000218	000218	1	4	1	4	3	0	4	17	35.79	=57
225	Errit	Roscommon	000607	000607	2	0	1	2	2	0	1	8	16.84	=434
226	Coolteige	Roscommon	-	-	2	4	1	4	2	0	1	14	29.47	=126
227	Carrownalassan	Roscommon	-	-	2	2	1	4	3	0	2	14	29.47	=126
229	Reagh	Roscommon	-	-	2	0	0.5	2	3	0	1	8.5	17.89	=403
230	Kiltrustan	Roscommon	-	-	2	2	0.5	2	4	0	2	12.5	26.32	=184
233	Cloonfenbaun	Roscommon	-	-	2	0	0	2	2	0	0	6	12.63	=537
234	Peak	Roscommon	-	-	0.5	0	1.5	2	1	0	0	5	10.53	=561
236	Kilnanooan	Roscommon	-	-	2	2	1.5	4	3	0	4	16.5	34.74	=65
238	Cloonshanville	Roscommon	-	-	2	0	1	2	4	0	2	11	23.16	=257
239	Castlestrange	Roscommon	-	-	1	0	0	3	1	0	1	6	12.63	=537
241	Cloonaddra	Roscommon	002310	000440	1	0	1	4	2	0	4	12	25.26	=208
242	Roxborough	Roscommon	-	-	2	0	1.5	6	2	0	4	15.5	32.63	=84
243	Carraun South	Roscommon	-	-	1	0	1	3	1	0	1	7	14.74	=495
245	Ahagower	Roscommon	000222	-	3	0	1	6	1	0	4	15	31.58	=95
246	Skrine	Roscommon	-	-	1.5	2	1	4	2	0	1	11.5	24.21	=233
252	Ardmullen	Roscommon	-	-	1	0	1	4	1	0	0	7	14.74	=495
254	Pollalaher	Roscommon	-	-	1	2	1	2	4	0	2	12	25.26	=208
256	Turrock	Roscommon	-	-	1	2	1	4	1	0	2	11	23.16	=257
259	Carrowmurragh	Roscommon	002310	000440	1	2	1.5	3	4	0	4	15.5	32.63	=84
260	Mihanboy	Roscommon	-	-	2	0	1	4	2	0	3	12	25.26	=208
263	Curry	Roscommon	-	-	1	4	1.5	3	2	0	2	13.5	28.42	=148
264	Derreen Lough	Roscommon	-	-	1	0	2	2	3	0	1	9	18.95	=378
265	Cashel	Roscommon	-	-	1	0	1	2	3	0	0	7	14.74	=495
303	Ballygally	Waterford	000073	002170	2	0	1.5	2	2	0	0	7.5	15.79	=466
304	Ballyrafter Flats	Waterford	000072	002170	1	0	1.5	2	1	0	0	5.5	11.58	=554
305	Dunabrattin	Waterford	001693	-	1	0	1	1	4	0	1	8	16.84	=434
307	Knockaunabulloga	Waterford	-	-	2	2	1	2	3	0	1	11	23.16	=257
308	Helvick Head	Waterford	000665	000665	2	0	0.5	3	1	0	0	6.5	13.68	=522
309	Islandtarnsey	Waterford	-	-	1	0	1.5	3	1	0	0	6.5	13.68	=522
310	Annestown	Waterford	-	-	2.5	0	1.5	3	3	0	4	14	29.47	=126
311	Killongford	Waterford	000663	-	1	0	1	2	2	0	0	6	12.63	=537
312	Fennor Bog	Waterford	001697	-	1.5	0	1	2	4	0	2	10.5	22.11	=290
313	Creadan	Waterford	000787	002162	3	0	1.5	1	3	0	2	10.5	22.11	=290
314	Kildermody	Waterford	-	-	2	0	0.5	2	3	0	2	9.5	20.00	=348
315	Castlecraddock Bog	Waterford	001695	-	1	0	1.5	1	1	0	0	4.5	9.47	=573
316	Lyre Mountain	Waterford	001952	001952	2	4	1.5	9	1	0	0	17.5	36.84	=53
317	Knockanaffrin	Waterford	001952	001952	1	2	0.5	4	1	0	1	9.5	20.00	=348
318	Kilclooney	Waterford	-	-	1	0	2	1	4	0	0	8	16.84	=434
319	Gracedieu	Waterford	-	002137	4	0	1	1	4	4	1	15	31.58	=95
320	Ardmore Head	Waterford	002123	002123	1	2	1	2	3	0	1	10	21.05	=319
322	Kilbryan Upper	Waterford	-	-	2	0	0.5	1	4	0	1	8.5	17.89	=403
325	Knockyelan	Waterford	-	-	2	0	1	2	3	0	2	10	21.05	=319
326	Barnankile	Waterford	-	-	1	2	1	1	4	0	0	9	18.95	=378
327	Ballinlough	Waterford	001691	-	2	0	1	1	4	0	2	10	21.05	=319
331	Tinnascart	Waterford	-	-	3	0	1.5	3	1	0	0	8.5	17.89	=403
332	Carronbeg	Waterford	-	-	1	0	0	1	4	0	0	6	12.63	=537
333	Gliddane Beg	Waterford	-	-	1	0	1	2	2	0	1	7	14.74	=495
336	Millerstown	Waterford	-	-	2	0	1	3	3	0	2	11	23.16	=257
337	Lisellan	Waterford	000671	000671	1	0	2	4	1	0	2	10	21.05	=319
339	Keiloge	Waterford	-	-	1	0	1	1	3	0	1	7	14.74	=495
340	Killure	Waterford	-	-	3	0	1.5	2	3	0	3	12.5	26.32	=184
341	Kilfarrasy	Waterford	001693	-	1	0	1.5	2	2	0	1	7.5	15.79	=466
342	Rathmoylan	Waterford	-	-	3	0	1	4	3	0	4	15	31.58	=95
344	Ballynamona Lower	Waterford	-	-	3	2	2	4	1	0	2	14	29.47	=126
345	Clondonnell	Waterford	-	-	1	0	0.5	1	4	0	1	7.5	15.79	=466
346	Greenan	Waterford	-	002137	1.5	0	1	2	4	0	2	10.5	22.11	=290
347	Russellstown	Waterford	-	002137	2	0	0.5	1	4	0	0	7.5	15.79	=466
350	Stonehouse	Waterford	-	002137	1.5	0	1.5	3	1	0	2	9	18.95	=378
351	Ballinvella	Waterford	-	002170	2	0	1.5	4	1	0	0	8.5	17.89	=403
352	Bridane Lower	Waterford	000072	-	1	0	1	3	2	0	1	8	16.84	=434

Site ID	Site name	County	NHA	SAC	Semi-natural Grassland Habitats	Annex I grassland habitats	Adjacent semi-natural habitats	Area	Species richness	Notable species	High quality indicator species	Total	Conservation Score %	Conservation Ranking
					5	12	2.5	12	4	8	4	47.5	100.00	
353	Ballynatray Demesne	Waterford	000072	002170	1	0	0.5	2	1	0	0	4.5	9.47	=573
354	Glenpatrick	Waterford	-	-	2	6	1	4	1	0	1	15	31.58	=95
355	Stradbally Beg	Waterford	001693	-	1	0	0.5	4	2	0	1	8.5	17.89	=403
356	Lag Bridge	Waterford	-	-	1	2	1.5	1	4	0	2	11.5	24.21	=233
357	Meoul	Waterford	-	-	2	2	1.5	4	2	0	3	14.5	30.53	=115
358	Brownstown	Waterford	-	-	2	0	1.5	2	3	0	1	9.5	20.00	=348
359	Tallowbridge	Waterford	000072	002170	2	0	1.5	6	1	0	2	12.5	26.32	=184
360	Curraheen	Waterford	001952	001952	2	2	1	2	1	0	0	8	16.84	=434
361	Kilmurrin	Waterford	001693	-	2	0	2	1	4	0	2	11	23.16	=257
363	Coumtay Glen	Waterford	001952	001952	1	0	1	1	3	0	1	7	14.74	=495
365	Ballynatray Commons	Waterford	-	-	1	0	1	1	1	0	0	4	8.42	577
366	Knockmahon	Waterford	001693	-	2	6	1	1	4	0	2	16	33.68	=71
372	Glendalough	Waterford	-	-	2	2	1	2	1	0	0	8	16.84	=434
373	Glenary	Waterford	-	-	1	0	1.5	3	1	0	0	6.5	13.68	=522
376	Kilcloher	Waterford	-	-	0.5	0	1.5	2	2	0	0	6	12.63	=537
377	Knockgarraun(hely)	Waterford	-	002170	1	0	1	1	4	0	1	8	16.84	=434
379	Tobernahulla	Waterford	-	-	1.5	2	2	3	3	0	2	13.5	28.42	=148
381	Knocknaglogh Upper	Waterford	-	-	1	0	1	1	4	0	0	7	14.74	=495
382	Doon	Waterford	-	-	0.5	0	1	2	2	0	2	7.5	15.79	=466
398	Curragh North	Waterford	-	-	2	0	1	2	3	0	0	8	16.84	=434
399	Curragh	Waterford	-	-	1	0	0	1	4	0	0	6	12.63	=537
400	Cape Clear	Cork	000101	000101	3	0	1.5	2	3	0	1	10.5	22.11	=290
401	Sherkin Island	Cork	000101	000101	3	0	1	2	4	0	2	12	25.26	=208
402	Glanmore	Cork	001879	001879	1	6	2.5	2	3	0	1	15.5	32.63	=84
405	Garinish Point	Cork	001986	-	1	0	1.5	3	1	0	0	6.5	13.68	=522
406	Blarney Bog	Cork	001857	-	2	0	2	3	2	0	3	12	25.26	=208
407	Lough Allua Curraghy	Cork	001065	-	1	2	1.5	1	3	0	3	11.5	24.21	=233
408	Minane Bridge	Cork	001966	-	1	0	1	2	1	0	0	5	10.53	=561
410	Lisleecourt	Cork	-	-	1	2	1	1	4	0	1	10	21.05	=319
411	Shanakill	Cork	-	-	1	0	1	1	4	0	0	7	14.74	=495
412	Rostellan	Cork	001076	-	2	0	1	3	3	0	1	10	21.05	=319
413	Curraghbinny	Cork	-	-	1	0	1	1	2	0	0	5	10.53	=561
414	Coolymurraghue	Cork	000094	-	3	0	1	3	3	0	4	14	29.47	=126
415	Coolowen	Cork	-	-	2	4	1	2	4	0	2	15	31.58	=95
417	Clasharinka	Cork	001183	-	1	0	1	3	1	0	0	6	12.63	=537
418	Ballybraher	Cork	000076	-	2	4	0.5	4	1	0	1	12.5	26.32	=184
419	Inch	Cork	-	-	3	0	1	1	4	0	2	11	23.16	=257
420	Ballydaniel	Cork	-	-	2.5	0	1	3	2	0	2	10.5	22.11	=290
421	Rathdrum	Cork	-	-	2	0	0.5	4	1	0	1	8.5	17.89	=403
422	Kilfurrery	Cork	-	-	1	0	0.5	1	4	0	2	8.5	17.89	=403
423	Ballyderown	Cork	000073	002170	1.5	0	1	1	3	0	0	6.5	13.68	=522
424	Manning	Cork	-	-	2	0	1	6	1	2	2	14	29.47	=126
426	Curraghprevin	Cork	-	-	2	0	1	4	1	0	1	9	18.95	=378
428	Moneygorm	Cork	-	002170	1	0	1.5	0	4	0	2	8.5	17.89	=403
429	Castlesaffron	Cork	-	002170	2	0	1	1	3	0	1	8	16.84	=434
430	Ballygriggan	Cork	000074	002170	1	0	1	2	1	0	0	5	10.53	=561
431	Ballynabortagh	Cork	-	-	1	0	1	3	1	0	1	7	14.74	=495
432	Ballinaspig More	Cork	-	-	1	0	1	2	1	0	0	5	10.53	=561
433	Turnaspidogy	Cork	001065	-	1.5	0	1.5	2	3	0	3	11	23.16	=257
435	Oldfort	Cork	001060	-	1	0	1	2	1	0	0	5	10.53	=561
436	Garrettstown	Cork	001053	-	2	0	0.5	2	3	0	2	9.5	20.00	=348
437	Manch West	Cork	-	-	1	0	0.5	1	4	0	0	6.5	13.68	=522
439	Behagullane	Cork	-	-	0.5	0	1.5	1	3	0	0	6	12.63	=537
440	Tooms West	Cork	000108	000108	3	0	1.5	4	2	0	3	13.5	28.42	=148
441	Rathard	Cork	-	-	1	0	1.5	2	1	0	0	5.5	11.58	=554
442	Ballinaboy	Cork	-	-	1	0	1.5	4	1	0	0	7.5	15.79	=466
445	Kilrush	Cork	-	-	2	0	1	1	4	0	0	8	16.84	=434
446	Bilberry	Cork	-	-	1	0	1.5	1	4	0	2	9.5	20.00	=348
447	Killacloyne	Cork	001058	001058	1	0	1	1	4	0	0	7	14.74	=495
449	Castleredmond	Cork	-	-	1	0	1	2	3	0	0	7	14.74	=495
454	Lackenakea	Cork	001040	001040	1	0	1.5	1	4	0	3	10.5	22.11	=290
455	Maulnahorna	Cork	-	-	1	0	0.5	2	1	0	0	4.5	9.47	=573
456	Ballymacredmond	Cork	001077	-	1	0	1	1	2	0	1	6	12.63	=537
460	Gowlane	Cork	-	-	0.5	0	1	1	0	0	0	2.5	5.26	580
461	Ballynacarriga	Cork	-	002158	2	0	1	1	4	2	2	12	25.26	=208

Site ID	Site name	County	NHA	SAC	Semi-natural Grassland Habitats 5	Annex I grassland habitats 12	Adjacent semi-natural habitats 2.5	Area 12	Species richness 4	Notable species 8	High quality indicator species 4	Total 47.5	Conservation Score % 100.00	Conservation Ranking
462	Knockroe East	Cork	-	-	2	2	1	1	4	0	2	12	25.26	=208
463	Urhin	Cork	-	-	1	4	1.5	6	1	0	0	13.5	28.42	=148
464	Canalough	Cork	-	-	1	0	1.5	2	2	0	1	7.5	15.79	=466
465	Dursey Island	Cork	000086	-	2	0	2	4	1	0	1	10	21.05	=319
466	Eyeries	Cork	-	002158	2	0	1	1	4	0	1	9	18.95	=378
467	Cahermeeleboe	Cork	-	-	1	0	1	1	0	0	0	3	6.32	=578
468	Cloheen Marsh	Cork	000091	000091	2	0	2	3	2	0	3	12	25.26	=208
470	Ballyroon Mountain	Cork	000102	000102	2	0	1.5	3	2	0	2	10.5	22.11	=290
471	Mallavogue	Cork	001040	001040	3	0	2	2	3	0	1	11	23.16	=257
473	Gortnagrough	Cork	-	-	2.5	0	1.5	1	4	0	4	13	27.37	=165
474	Barnagowlane West	Cork	-	-	1	0	1.5	2	1	0	0	5.5	11.58	=554
475	Glandart	Cork	-	-	2	2	1	1	4	0	1	11	23.16	=257
479	Dundeady	Cork	-	-	1	0	1	2	1	0	0	5	10.53	=561
481	Glannafeen	Cork	-	-	4	0	1.5	2	4	0	3	14.5	30.53	=115
482	Hare Island	Cork	000101	000101	4	0	1.5	2	3	0	2	12.5	26.32	=184
483	Gubbeen	Cork	-	-	2	0	1	1	3	0	0	7	14.74	=495
484	Drisheen	Cork	-	-	2	0	2	1	3	0	2	10	21.05	=319
485	MountGabriel	Cork	-	-	2	2	1	3	3	0	0	11	23.16	=257
488	Rougham	Cork	000093	000093	2	4	2	2	2	0	2	14	29.47	=126
489	Kealagowlane	Cork	-	-	1	4	1.5	1	4	0	0	11.5	24.21	=233
490	Bear Island	Cork	-	-	1.5	0	1.5	2	3	0	2	10	21.05	=319
492	Cousane	Cork	-	-	1	2	2	2	2	0	1	10	21.05	=319
495	Cappaboy More	Cork	-	-	1	2	1.5	4	1	0	1	10.5	22.11	=290
496	Glengarriff	Cork	-	000090	2	2	0.5	1	4	0	3	12.5	26.32	=184
497	Tullig	Cork	-	002170	2	0	1	4	1	0	3	11	23.16	=257
498	Oughtihery	Cork	-	-	1	0	1	4	1	0	0	7	14.74	=495
500	Ballincollig Regional Park	Cork	000094	-	1	0	1.5	1	3	0	1	7.5	15.79	=466
502	Rockfield Farm	Cork	-	-	1	0	1.5	1	4	0	1	8.5	17.89	=403
503	Ballinvonear	Cork	002036	-	1	0	1	3	1	0	0	6	12.63	=537
505	Ballindangan Marsh	Cork	000899	-	2	0	1	2	2	2	1	10	21.05	=319
506	Garrylucas Marsh	Cork	000087	-	3	0	1	4	2	0	4	14	29.47	=126
507	Inchaleagh	Cork	001067	-	2	0	2	2	2	0	1	9	18.95	=378
508	Barrahaurin	Cork	-	-	0.5	0	1.5	2	1	0	0	5	10.53	=561
509	Gowlane North	Cork	-	-	2	0	1	3	1	0	1	8	16.84	=434
510	Kilcullen South	Cork	-	-	3.5	0	1.5	4	1	0	2	12	25.26	=208
511	Mountrivers	Cork	-	-	2	0	1.5	3	1	0	0	7.5	15.79	=466
512	Cloonteens	Cork	-	002170	1	0	1	2	2	0	0	6	12.63	=537
514	Shanavoher	Cork	-	-	1	0	1	1	4	0	2	9	18.95	=378
516	Esk South	Cork	-	-	2.5	0	1	2	3	0	2	10.5	22.11	=290
518	Monee West	Cork	-	-	1	0	1	3	1	0	1	7	14.74	=495
519	Castlebarrett	Cork	-	002170	2.5	0	1	3	1	0	0	7.5	15.79	=466
520	Glashaboy West	Cork	-	-	1	0	1	2	3	0	2	9	18.95	=378
521	Pluckanes East	Cork	-	-	1	0	1	1	3	0	1	7	14.74	=495
523	Castlelohort Demesne	Cork	-	-	2	0	1.5	6	1	0	0	10.5	22.11	=290
524	Subulter	Cork	-	-	1	0	1	1	4	0	1	8	16.84	=434
525	Lackaroe	Cork	-	-	1	0	1	3	1	0	0	6	12.63	=537
526	Creggane	Cork	-	002170	3	0	1.5	2	2	0	2	10.5	22.11	=290
527	Waterhouse Marsh	Cork	-	002170	0.5	0	1	1	4	0	1	7.5	15.79	=466
528	Baltydaniel	Cork	-	-	2	0	1	4	1	0	2	10	21.05	=319
530	Knockacullata	Cork	-	-	2	0	1	3	3	0	2	11	23.16	=257
534	Knockacullen	Cork	-	-	2	0	0.5	1	4	0	1	8.5	17.89	=403
535	Ballaghanure	Cork	-	-	1	0	1.5	2	3	0	3	10.5	22.11	=290
536	Kilnacranagh East	Cork	-	-	2	0	1	3	1	0	1	8	16.84	=434
538	Gouladoo	Cork	-	-	3	0	1.5	3	4	0	3	14.5	30.53	=115
539	Dunkelly West	Cork	-	-	4	2	2	1	4	0	2	15	31.58	=95
541	Derryleigh	Cork	-	-	1.5	0	1	3	2	0	2	9.5	20.00	=348
542	Derreendangan	Cork	-	-	2	0	1	3	2	0	0	8	16.84	=434
543	Coornishal	Cork	-	-	2	0	1.5	2	2	0	0	7.5	15.79	=466
544	Benduff	Cork	-	-	1	0	1	1	3	0	1	7	14.74	=495
545	Drom	Cork	-	-	1	0	1	1	4	0	0	7	14.74	=495
546	Cullane East	Cork	-	-	2	0	1.5	1	3	0	2	9.5	20.00	=348
547	Dromnea	Cork	000102	000102	3	0	2	2	3	0	1	11	23.16	=257
548	Charlesfield	Cork	-	-	1	0	1.5	3	1	0	0	6.5	13.68	=522
549	Carraraigue	Cork	-	-	1	0	1	1	4	0	1	8	16.84	=434
550	Drombeg	Cork	-	002170	1	0	1.5	1	4	0	0	7.5	15.79	=466

Site ID	Site name	County	NHA	SAC	Semi-natural Grassland Habitats	Annex I grassland habitats	Adjacent semi-natural habitats	Area	Species richness	Notable species	High quality indicator species	Total	Conservation Score %	Conservation Ranking
					5	12	2.5	12	4	8	4	47.5	100.00	
552	Dromcarra	Cork	-	-	1.5	0	1.5	1	4	0	2	10	21.05	=319
553	Reanacaragh	Cork	-	-	2	2	0.5	2	2	0	1	9.5	20.00	=348
554	Rossnashunsoge	Cork	001826	-	0.5	0	2	1	3	0	0	6.5	13.68	=522
555	Cooldaniel	Cork	-	-	2	0	1	3	1	0	0	7	14.74	=495
556	Moneycusker	Cork	-	-	1	2	1	1	4	0	2	11	23.16	=257
557	Teereeven	Cork	-	-	1	0	1	1	2	0	0	5	10.53	=561
558	Shanacashel	Cork	-	-	2	0	1.5	4	2	0	2	11.5	24.21	=233
559	Derryvane	Cork	-	-	1.5	0	1.5	1	3	0	1	8	16.84	=434
560	Gortroe	Cork	-	-	2.5	0	2	3	3	0	1	11.5	24.21	=233
563	Reenrour West	Cork	-	-	2	0	1	1	3	0	1	8	16.84	=434
564	Dromreagh	Cork	-	-	1	0	1	1	0	0	0	3	6.32	=578
565	Reenavanny	Cork	-	-	3	2	1	2	3	0	2	13	27.37	=165
566	Reenaknock	Cork	-	-	2	2	2	2	4	0	3	15	31.58	=95
567	Ballyourane	Cork	-	-	1	0	1.5	1	4	0	1	8.5	17.89	=403
568	Derrycarhoon	Cork	-	-	2	2	2	2	4	0	4	16	33.68	=71
569	Derreenagreanagh	Cork	-	-	2	2	1	2	3	0	2	12	25.26	=208
570	Inchibegga	Cork	-	-	2	0	1.5	2	2	0	0	7.5	15.79	=466
571	Ballynagree East	Cork	-	-	1	2	0.5	1	1	0	0	5.5	11.58	=554
573	Deelish	Cork	-	-	1.5	0	1	1	4	0	1	8.5	17.89	=403
580	Lisnacuddy	Cork	-	-	2	0	2	3	1	0	2	10	21.05	=319
581	Ballyshoneen	Cork	-	-	1	0	1	1	4	0	1	8	16.84	=434
582	Allihies Mountain Mine	Cork	-	002158	1	4	1	0	4	0	2	12	25.26	=208
584	Polleenateada	Cork	-	-	2	6	2	1	4	0	2	17	35.79	=57
585	Gokane	Cork	000097	000097	1	0	2	3	2	0	2	10	21.05	=319
586	Toehead	Cork	-	-	4	0	2	1	4	0	2	13	27.37	=165
587	Downeen	Cork	-	-	1	0	1	1	4	0	1	8	16.84	=434
588	Dunowen	Cork	-	-	1	0	1.5	1	3	0	0	6.5	13.68	=522
589	Derrynakilla	Cork	001873	001873	1	2	0.5	1	3	0	0	7.5	15.79	=466
590	Bengour West	Cork	-	-	2.5	2	1.5	2	4	0	4	16	33.68	=71
592	Lumnagh More	Cork	-	-	1	0	2	1	4	0	1	9	18.95	=378
593	Teeracurra	Cork	-	-	1	0	1	3	1	0	0	6	12.63	=537
594	Middle Calf Island	Cork	000101	000101	2	0	2	2	1	0	1	8	16.84	=434
595	East Calf Island	Cork	000101	000101	4	0	1.5	1	4	0	2	12.5	26.32	=184
596	Castle Island	Cork	000101	000101	2	0	2	3	2	0	2	11	23.16	=257
597	Glannaharee West	Cork	-	-	2	0	1.5	3	4	0	2	12.5	26.32	=184
599	Leckaneen	Cork	-	-	2	0	1.5	2	3	0	3	11.5	24.21	=233
600	Scarteen	Cork	-	-	2	0	2.5	3	1	0	0	8.5	17.89	=403
601	Dawstown	Cork	-	-	3.5	2	2	4	1	0	3	15.5	32.63	=84
603	Mossgrove	Cork	-	-	2	0	0.5	2	2	0	1	7.5	15.79	=466
604	Maglin	Cork	001249	-	3	0	1	1	4	0	2	11	23.16	=257
605	Coolatooder	Cork	-	-	1	0	1	3	1	0	2	8	16.84	=434
606	Coolkirky	Cork	-	-	1	0	1	2	1	0	0	5	10.53	=561
607	Coolcullitha	Cork	-	-	0.5	0	1.5	2	1	0	1	6	12.63	=537
608	Coolmoreen	Cork	-	-	3	0	1	1	4	0	0	9	18.95	=378
610	Dromderrig	Cork	-	-	1	0	0.5	1	4	0	0	6.5	13.68	=522
613	Dunworly	Cork	001077	-	3	0	1.5	3	3	0	1	11.5	24.21	=233
615	Aghmanister	Cork	-	-	3	0	1	2	4	0	2	12	25.26	=208
616	Carrigeen	Cork	-	-	3	0	1.5	3	3	0	3	13.5	28.42	=148
618	Kilcolman	Cork	000092	-	3	2	1.5	2	4	0	4	16.5	34.74	=65
619	Imogane Bridge	Cork	-	-	2	0	1	2	4	0	3	12	25.26	=208
621	Longacre	Cork	-	002170	3	0	1.5	3	2	0	2	11.5	24.21	=233
622	Croanrea	Cork	-	002170	2	0	1.5	2	2	0	1	8.5	17.89	=403
623	Knockduff Lower	Cork	-	002170	1	0	1.5	3	1	0	2	8.5	17.89	=403
626	Twomey's Bridge	Cork	-	-	1	0	2	3	1	0	1	8	16.84	=434
627	Garrison	Cork	-	002170	1	2	1.5	3	2	0	2	11.5	24.21	=233
628	Gooseberryhill	Cork	-	-	1	0	1.5	3	2	0	3	10.5	22.11	=290
629	Rossacon	Cork	-	002170	2	0	1.5	4	1	0	1	9.5	20.00	=348
630	Ballyduane	Cork	-	002170	1.5	0	1.5	4	1	0	2	10	21.05	=319
631	Urraghilmore	Cork	-	002170	2	2	2	3	1	0	1	11	23.16	=257
632	Clashykinleen	Cork	-	-	1	0	1.5	3	1	0	2	8.5	17.89	=403
633	Claraghatlea	Cork	-	002170	2	0	1.5	2	1	0	0	6.5	13.68	=522
634	Ahane Upper	Cork	-	002170	1	0	1	2	3	0	0	7	14.74	=495
635	Kilmacurrane	Cork	-	-	2	2	1.5	1	4	0	3	13.5	28.42	=148
636	Dromahoe	Cork	-	002170	1	0	1	1	2	0	0	5	10.53	=561
638	Gallanes	Cork	001052	-	3	0	1.5	2	4	0	2	12.5	26.32	=184

Site ID	Site name	County	NHA	SAC	Semi-natural Grassland Habitats	Annex I grassland habitats	Adjacent semi-natural habitats	Area	Species richness	Notable species	High quality indicator species	Total	Conservation Score %	Conservation Ranking
					5	12	2.5	12	4	8	4	47.5	100.00	
640	Ballydaly	Cork	-	-	2	0	1.5	4	1	0	0	8.5	17.89	=403
641	Geararoe	Cork	-	-	1	0	1.5	2	2	0	1	7.5	15.79	=466
642	Coomnagire	Cork	-	-	1	2	2.5	4	1	0	0	10.5	22.11	=290
644	Cahernacaha	Cork	-	-	1	0	1.5	3	1	0	0	6.5	13.68	=522
645	Inchamore	Cork	-	-	1	2	1.5	2	2	0	2	10.5	22.11	=290
646	Caherkereen	Cork	-	-	2	0	2.5	1	4	0	1	10.5	22.11	=290
648	Gortanimill	Cork	-	-	1	0	1.5	1	4	0	1	8.5	17.89	=403
649	Shanagarry South	Cork	000076	-	1	0	1.5	1	3	0	1	7.5	15.79	=466
650	Gortnagoul	Cork	-	-	2	0	1	4	1	0	2	10	21.05	=319
651	Shanaboola	Cork	-	-	2.5	0	1.5	2	2	0	1	9	18.95	=378
653	Furrow	Cork	-	-	2	0	1.5	4	1	0	2	10.5	22.11	=290
656	Crosshavenhill	Cork	-	-	1	0	1	1	4	0	2	9	18.95	=378
660	Skibbereen Marsh	Cork	-	-	2	0	0.5	2	4	0	1	9.5	20.00	=348
662	Killeagh West Verge	Cork	-	-	1	0	0.5	1	4	0	2	8.5	17.89	=403
664	Castlemartyr Verge	Cork	-	-	1	0	0	1	4	0	0	6	12.63	=537
666	Youghal Verge	Cork	-	-	1	0	0.5	1	4	0	1	7.5	15.79	=466
667	Knockaneglass	Cork	-	002170	1	0	1.5	1	3	0	1	7.5	15.79	=466
668	Killowen	Cork	-	-	2	0	2	3	2	0	2	11	23.16	=257
700	Magheraboy	Monaghan	000560	-	2.5	0	1.5	1	4	0	3	12	25.26	=208
701	Drumirril Deer Park	Monaghan	-	-	2	0	1.5	3	3	0	4	13.5	28.42	=148
702	Lissaraw	Monaghan	-	-	3	0	2	3	4	0	3	15	31.58	=95
703	Drumgole	Monaghan	001601	-	2	0	1.5	3	2	0	1	9.5	20.00	=348
704	Briscarnagh	Monaghan	-	-	2	0	1.5	4	1	0	1	9.5	20.00	=348
705	Callowhill	Monaghan	001841	-	1.5	0	1.5	1	4	0	1	9	18.95	=378
706	Kilroosky Lough Cluster	Monaghan	001786	001786	2	0	1.5	3	4	0	4	14.5	30.53	=115
707	Lough Smiley	Monaghan	001607	-	2	0	1.5	1	4	0	3	11.5	24.21	=233
709	Glencorick	Monaghan	-	-	1	0	1.5	4	1	0	2	9.5	20.00	=348
710	Annaghybane	Monaghan	-	-	1	0	1.5	3	1	0	1	7.5	15.79	=466
711	Derrylosset	Monaghan	-	-	1	0	1.5	4	1	0	2	9.5	20.00	=348
712	Coolberrin	Monaghan	-	-	4.5	0	2	9	3	0	4	22.5	47.37	=15
713	Derrykinnigh Beg	Monaghan	-	-	1.5	0	2	4	2	0	2	11.5	24.21	=233
714	Killygrallan	Monaghan	-	-	1	0	2	1	4	0	4	12	25.26	=208
716	Dundrumman	Monaghan	-	-	1	0	2	4	4	0	4	15	31.58	=95
717	Barratitoppy Upper	Monaghan	001603	-	1	4	2	6	2	0	4	19	40.00	=36
718	Ardginny	Monaghan	001782	-	1.5	2	1.5	6	3	0	4	18	37.89	=48
720	Cullentraghduff	Monaghan	-	-	1.5	0	0.5	1	3	0	0	6	12.63	=537
722	Devlin	Monaghan	-	-	1.5	0	1.5	3	2	0	2	10	21.05	=319
723	Mullananalt	Monaghan	-	-	2	2	2	3	2	0	3	14	29.47	=126
725	Carrickanoran	Monaghan	-	-	3	0	2	4	3	0	3	15	31.58	=95
726	Leitrim	Monaghan	-	-	2	0	1.5	3	1	0	1	8.5	17.89	=403
729	Mokeeran	Monaghan	-	-	1	2	0.5	1	4	0	1	9.5	20.00	=348
732	Tusker	Monaghan	001605	-	4	0	2	6	3	0	4	19	40.00	=36
733	Drumgoose	Monaghan	-	-	4	0	1	3	3	0	3	14	29.47	=126
736	Gransha More	Monaghan	-	-	1	0	1.5	4	1	0	1	8.5	17.89	=403
737	Boughill	Monaghan	-	-	1	0	1.5	3	2	0	2	9.5	20.00	=348
738	Drumshannon	Monaghan	-	-	3	0	1.5	3	3	0	2	12.5	26.32	=184
739	Blackraw	Monaghan	-	-	3	0	1.5	4	2	0	2	12.5	26.32	=184
741	Dernalosset	Monaghan	-	-	2	0	1.5	2	3	0	2	10.5	22.11	=290
742	Annareagh South	Monaghan	-	-	1	0	1	2	2	0	1	7	14.74	=495
745	Dromore	Monaghan	-	-	3	0	2	3	3	0	2	13	27.37	=165
747	Tonyfinnigan	Monaghan	-	-	1	0	1	4	1	0	2	9	18.95	=378
749	Liseenan	Monaghan	-	-	1.5	0	2	2	3	0	1	9.5	20.00	=348
750	Tray	Monaghan	-	-	1	0	1.5	3	2	0	1	8.5	17.89	=403
752	Clonoula	Monaghan	-	-	2.5	0	1.5	3	4	0	3	14	29.47	=126
753	Rahans	Monaghan	-	-	1	0	1	3	2	0	0	7	14.74	=495
754	Eshnaglogh	Monaghan	001603	-	1	0	1	1	4	0	2	9	18.95	=378
757	Drumfurrer	Monaghan	-	-	1	0	1.5	4	2	0	2	10.5	22.11	=290
758	Killycooly	Monaghan	000558	-	2	0	1	4	2	0	2	11	23.16	=257
760	Mullaghmore North	Monaghan	001785	-	1	0	0.5	3	1	0	0	5.5	11.58	=554
761	Clossagh More	Monaghan	000001	-	1	0	1.5	3	2	0	3	10.5	22.11	=290
762	Lemgare Rocks	Monaghan	-	-	2.5	2	1.5	1	4	0	4	15	31.58	=95
793	Fairtahy	Monaghan	-	-	2	0	1	2	3	0	3	11	23.16	=257
794	Creeve	Monaghan	-	-	2	0	1	2	3	0	1	9	18.95	=378
797	Coyle's Bridge	Monaghan	-	-	1	0	2	2	1	0	1	7	14.74	=495
799	Kilmore East	Monaghan	-	-	1.5	0	1	2	2	0	1	7.5	15.79	=466

Site ID	Site name	County	NHA	SAC	Semi-natural Grassland Habitats 5	Annex I grassland habitats 12	Adjacent semi-natural habitats 2.5	Area 12	Species richness 4	Notable species 8	High quality indicator species 4	Total 47.5	Conservation Score % 100.00	Conservation Ranking
800	Wardhouse	Leitrim	000625	000625	4	0	2.5	4	4	0	4	18.5	38.95	=43
801	Tulcon	Leitrim	001417	-	2	0	1.5	3	3	0	3	12.5	26.32	=184
802	Gubacreeny	Leitrim	000428	000428	2	6	2	4	4	0	4	22	46.32	=17
803	Derrynaseer	Leitrim	000428	000428	1	0	2	4	2	0	4	13	27.37	=165
804	Gubalaun	Leitrim	000428	000428	1	4	2	6	2	0	4	19	40.00	=36
805	Derryherk	Leitrim	000428	000428	1	0	2	4	3	0	4	14	29.47	=126
806	Edenvella	Leitrim	000428	000428	1	2	2	3	3	0	4	15	31.58	=95
807	Aghadunvane	Leitrim	001403	001403	3	0	2.5	9	3	2	4	23.5	49.47	=12
808	Keeloges	Leitrim	001403	001403	2	0	2.5	9	3	4	4	24.5	51.58	10
811	Larganavaddoge	Leitrim	000623	000623	3	6	2.5	6	4	6	4	31.5	66.32	2
812	Cloontyprughlish	Leitrim	000623	000623	3	0	2.5	6	3	2	4	20.5	43.16	=27
813	Aghalateeve	Leitrim	000623 001919	000623 001919	3	0	2.5	6	4	6	4	25.5	53.68	8
814	Erriff	Leitrim	001403	001403	2	0	2.5	3	3	0	3	13.5	28.42	=148
815	Sheemore	Leitrim	001421	-	2	4	1.5	9	4	2	4	26.5	55.79	6
816	Meenagraun	Leitrim	-	-	2	0	1	4	3	0	3	13	27.37	=165
818	Lugnafaughery	Leitrim	002435	000623	3	0	2	9	4	2	4	24	50.53	11
819	Nure	Leitrim	-	-	2	0	1.5	9	2	0	4	18.5	38.95	=43
820	Kiltyclogher	Leitrim	-	-	1.5	0	1.5	3	2	0	2	10	21.05	=319
822	Lissinagroagh	Leitrim	-	-	2	2	2	4	1	0	2	13	27.37	=165
823	Fawnlion	Leitrim	-	-	3	0	2.5	9	3	0	4	21.5	45.26	21
824	Cornaroy	Leitrim	-	-	2	0	2	6	2	0	4	16	33.68	=71
825	Ballynaboll	Leitrim	-	-	3	2	2	12	2	0	4	25	52.63	9
826	Gortermone	Leitrim	-	-	2	2	2.5	6	3	0	4	19.5	41.05	=34
828	Carrickleitrim	Leitrim	-	001976	1.5	0	2	6	2	0	3	14.5	30.53	=115
829	Munakill	Leitrim	-	-	2.5	0	2	6	4	0	4	18.5	38.95	=43
830	Barr of Farrow	Leitrim	-	-	2	0	2	4	2	0	3	13	27.37	=165
831	Tullinwannia	Leitrim	-	002032	1	0	1	2	1	0	1	6	12.63	=537
832	Belhavel Lough	Leitrim	-	-	1	0	2	6	3	0	4	16	33.68	=71
833	Letter	Leitrim	-	-	1	0	2	9	2	0	3	17	35.79	=57
835	Corcusconny	Leitrim	001976	001976	1	0	2	9	2	0	4	18	37.89	=48
836	Shass	Leitrim	-	-	2	2	2	4	3	0	4	17	35.79	=57
837	Corry	Leitrim	000426	-	2	6	2	4	3	0	4	21	44.21	=22
838	Kilgarriff	Leitrim	000426	-	1	0	2	6	4	0	4	17	35.79	=57
839	Liscuillew Lower	Leitrim	-	-	1	0	1.5	9	1	0	3	15.5	32.63	=84
840	Sranagarvanagh	Leitrim	-	-	2	0	2	6	2	0	4	16	33.68	=71
841	Derryhallagh	Leitrim	-	-	1	0	2	9	2	0	4	18	37.89	=48
842	Knockacullion	Leitrim	000584	000584	2	0	2	6	2	0	4	16	33.68	=71
844	Mayo	Leitrim	-	-	1	0	1.5	6	2	0	4	14.5	30.53	=115
845	Sradrinagh	Leitrim	-	-	2	0	2	6	2	0	4	16	33.68	=71
846	Corduff	Leitrim	001407	-	2	0	1.5	3	4	0	4	14.5	30.53	=115
847	Drumderg	Leitrim	-	-	1	0	1	4	2	0	4	12	25.26	=208
848	Bolganard	Leitrim	-	-	2.5	0	1.5	6	3	0	4	17	35.79	=57
849	Corderry	Leitrim	001920	-	2	2	1.5	9	2	0	4	20.5	43.16	=27
850	Letterfine	Leitrim	-	-	4	6	1.5	9	4	0	4	28.5	60.00	4
851	Derrindrehid	Leitrim	-	-	2	0	1.5	6	1	0	2	12.5	26.32	=184
852	Aghalough	Leitrim	-	-	1	0	1.5	4	1	0	2	9.5	20.00	=348
853	Drumboher	Leitrim	-	-	1	0	1.5	4	1	0	2	9.5	20.00	=348
854	Keenheen	Leitrim	-	-	1	0	1	4	2	0	4	12	25.26	=208
856	Drumconlevan	Leitrim	-	-	2	0	1.5	6	3	0	4	16.5	34.74	=65
857	Annaghoney	Leitrim	-	-	3	0	2	6	3	0	4	18	37.89	=48
859	Killahurk	Leitrim	-	-	1	0	1.5	3	3	0	2	10.5	22.11	=290
860	Derrygoan	Leitrim	-	-	2	0	2	4	3	0	3	14	29.47	=126
861	Gorteen	Leitrim	-	-	1	0	1.5	3	1	0	1	7.5	15.79	=466
862	Beagh More	Leitrim	-	-	1	0	1.5	6	1	0	1	10.5	22.11	=290
863	Drumharkan Glebe	Leitrim	-	-	1	0	1.5	4	2	0	3	11.5	24.21	=233
865	Fearglass North	Leitrim	-	-	1	0	1	4	3	0	4	13	27.37	=165
866	Breanross North	Leitrim	001808	-	1.5	0	2	6	2	0	3	14.5	30.53	=115
867	Annaghmore	Leitrim	-	-	1	0	2	4	2	0	3	12	25.26	=208
868	Corriga	Leitrim	-	-	1	0	1	4	1	0	1	8	16.84	=434
870	Garvagh	Leitrim	-	-	1	0	2	4	1	0	2	10	21.05	=319
872	Gort	Leitrim	-	-	3	4	2	4	3	0	4	20	42.11	=29
873	Rinnacurreen	Leitrim	-	-	2	0	2	6	2	0	3	15	31.58	=95
874	Hartley	Leitrim	001643	-	1	4	2	6	3	0	4	20	42.11	=29
875	Drumsna	Leitrim	-	-	1	0	1	6	3	0	4	15	31.58	=95

Site ID	Site name	County	NHA	SAC	Semi-natural Grassland Habitats	Annex I grassland habitats	Adjacent semi-natural habitats	Area	Species richness	Notable species	High quality indicator species	Total	Conservation Score %	Conservation Ranking
					5	12	2.5	12	4	8	4	47.5	100.00	
880	Cloonmorris	Leitrim	000691	-	1	0	1.5	4	3	0	2	11.5	24.21	=233
881	Beihy	Leitrim	-	-	1	4	1.5	3	3	0	4	16.5	34.74	=65
883	Larga	Leitrim	-	-	1	0	2	6	2	0	4	15	31.58	=95
884	Glack	Leitrim	002430	-	3	0	2	4	2	0	2	13	27.37	=165
885	Annagh	Leitrim	000986	-	1	0	2	3	2	0	3	11	23.16	=257
887	Glenboy	Leitrim	-	-	1	2	1.5	4	1	0	2	11.5	24.21	=233
890	Kilroosk	Leitrim	-	-	2	4	2	6	4	0	4	22	46.32	=17
891	Attimanus	Leitrim	-	-	1	0	1.5	6	2	0	3	13.5	28.42	=148
892	Corglass	Leitrim	000623	000623	2	0	2	4	3	0	4	15	31.58	=95
893	Gleneige	Leitrim	002435	-	3	2	2.5	3	4	0	4	18.5	38.95	=43
894	Treanakillew	Leitrim	000623	000623	2	4	1.5	1	4	0	1	13.5	28.42	=148
895	Lake Nahoo	Leitrim	-	-	2	2	1.5	3	3	0	4	15.5	32.63	=84
896	Derrynahona	Leitrim	-	-	2	2	2	3	3	0	4	16	33.68	=71
900	Ballymaurice	Longford	-	-	2	0	1.5	4	4	0	4	15.5	32.63	=84
903	Commons North	Longford	000440	000440	2.5	0	1	6	3	0	4	16.5	34.74	=65
905	Drumhalry	Longford	-	-	1	0	1	1	4	0	0	7	14.74	=495
909	Mullingee	Longford	-	-	1.5	0	1	3	4	0	4	13.5	28.42	=148
910	Keel Deer Park	Longford	-	-	2	0	1	9	3	0	4	19	40.00	=36
911	Inchenagh	Longford	000440	000440	2	0	1.5	4	1	0	3	11.5	24.21	=233
916	Barry	Longford	-	-	1	0	1	3	2	0	3	10	21.05	=319
917	Agharra	Longford	-	-	1	0	1.5	6	2	0	2	12.5	26.32	=184
918	Lissawarriff	Longford	-	-	1	0	1.5	6	1	0	3	12.5	26.32	=184
919	Creagh	Longford	-	-	2.5	0	2	3	4	0	4	15.5	32.63	=84
921	Derrynagran	Longford	-	-	2	0	2	3	3	0	3	13	27.37	=165
923	Ballyclamay	Longford	-	-	1	0	2	4	2	0	3	12	25.26	=208
924	Ballygarve	Longford	-	-	1	0	1.5	4	3	0	4	13.5	28.42	=148
925	Lisfarrell	Longford	-	-	1.5	0	2	4	2	0	3	12.5	26.32	=184
926	Lisnabo	Longford	-	-	2	0	1.5	3	3	0	3	12.5	26.32	=184
927	Cloonturk	Longford	002103	-	1	0	1	2	4	0	4	12	25.26	=208
928	Laughil	Longford	-	-	1	0	1.5	3	3	0	4	12.5	26.32	=184
932	Carrigeens	Longford	-	-	1	0	0.5	2	3	0	1	7.5	15.79	=466
935	Aghamore Upper	Longford	-	-	1	0	1.5	4	1	0	2	9.5	20.00	=348
936	Glenmore	Longford	-	-	2	0	1.5	4	2	0	2	11.5	24.21	=233
937	Killeen	Longford	-	-	2.5	0	1.5	3	4	0	4	15	31.58	=95
938	Aghnashannagh	Longford	-	-	1	0	1.5	4	3	0	3	12.5	26.32	=184
939	Shantum	Longford	-	-	1	0	1.5	3	3	0	1	9.5	20.00	=348
940	Bracklon	Longford	-	-	2.5	0	1.5	6	1	0	3	14	29.47	=126
941	Ballagh	Longford	-	-	1	0	2	3	2	0	2	10	21.05	=319
942	Carrickmoyragh	Longford	-	-	0.5	0	1.5	4	2	0	2	10	21.05	=319
943	Derawley	Longford	-	-	2	2	2	3	4	0	4	17	35.79	=57
945	Clawinch	Longford	000440	000440	2	0	1.5	2	2	0	2	9.5	20.00	=348
946	Inchcleraun	Longford	000440	000440	2	0	1	4	3	0	4	14	29.47	=126
947	Cloondara	Longford	001818	001818	2.5	0	2	6	2	0	4	16.5	34.74	=65
948	Pollagh	Longford	000440	000440	3	0	2	6	4	0	4	19	40.00	=36
949	Drumnee	Longford	000440	000440	2	4	2	6	4	0	4	22	46.32	=17
950	Kilnacarrow	Longford	-	-	2	0	1	4	3	0	4	14	29.47	=126
951	Gowlan	Longford	-	-	1	0	1.5	4	2	0	2	10.5	22.11	=290
952	Knappoge	Longford	-	-	1	0	1	4	2	0	4	12	25.26	=208
953	Cloonart South	Longford	001818	001818	3	0	2	4	3	0	4	16	33.68	=71
954	Lissagernal	Longford	001818	001818	1	0	1	4	3	0	4	13	27.37	=165
956	Cornafunshin	Longford	-	-	1	0	1.5	2	2	0	1	7.5	15.79	=466
958	Tennalick	Longford	002103	-	1	0	1.5	1	1	0	0	4.5	9.47	=573
960	Ledwithstown	Longford	001444	-	1	0	1.5	1	4	0	3	10.5	22.11	=290
961	Lisaquill	Longford	-	-	1	0	1	4	1	0	2	9	18.95	=378
964	Ardagh Demesne	Longford	-	-	1	0	1	3	2	0	1	8	16.84	=434
965	Dunbeggan	Longford	-	-	1.5	0	1.5	1	4	0	2	10	21.05	=319
966	Derrynaskea	Longford	-	-	1.5	0	1	3	3	0	3	11.5	24.21	=233
967	Clooncullen	Longford	-	-	1	0	1	4	2	0	3	11	23.16	=257
968	Derrynabuntale	Longford	000440	000440	3	0	1	2	4	0	4	14	29.47	=126
996	Corrool	Longford	000440	000440	2	0	2	6	2	0	4	16	33.68	=71
998	Aghnagore	Longford	001818	001818	1	0	2	3	4	0	4	14	29.47	=126
999	Glen Lough	Longford	001687	-	4	2	2.5	6	4	0	4	22.5	47.37	=15
1000	Barran	Cavan	-	-	1	0	2	4	2	0	3	12	25.26	=208
1001	Killyvally	Cavan	000007	000007	1	0	1.5	9	2	0	4	17.5	36.84	=53
1002	Carricknagrow	Cavan	-	-	1	0	2	6	1	0	3	13	27.37	=165

Site ID	Site name	County	NHA	SAC	Semi-natural Grassland Habitats 5	Annex I grassland habitats 12	Adjacent semi-natural habitats 2.5	Area 12	Species richness 4	Notable species 8	High quality indicator species 4	Total 47.5	Conservation Score % 100.00	Conservation Ranking
1003	Corlea	Cavan	-	002032	2	0	2	4	2	0	3	13	27.37	=165
1004	Moneen	Cavan	-	002032	2	4	2	12	2	0	4	26	54.74	7
1007	Legnagrow	Cavan	-	-	1	2	2	6	2	2	4	19	40.00	=36
1008	Moneensauran	Cavan	000584	000584	2	6	2	6	3	0	4	23	48.42	14
1009	Bellavalley	Cavan	000584	000584	2	2	2	9	1	0	4	20	42.11	=29
1010	Edenmore	Cavan	000584	000584	1	0	1.5	3	1	0	1	7.5	15.79	=466
1011	Altnasheen	Cavan	000584	000584	1	2	1	1	3	0	1	9	18.95	=378
1013	Gubrawully	Cavan	-	-	1	2	2	6	2	0	3	16	33.68	=71
1014	Corrachomera	Cavan	-	-	2	0	2	3	1	0	0	8	16.84	=434
1015	Drumcask	Cavan	-	-	2	0	2	6	3	0	4	17	35.79	=57
1016	Gubnafarna	Cavan	000584	000584	2	4	2	6	3	0	4	21	44.21	=22
1017	Aghnacally	Cavan	000009	-	2	0	2	3	4	0	4	15	31.58	=95
1018	Cashelbane	Cavan	-	-	2	0	2	6	2	0	3	15	31.58	=95
1019	Killywilly	Cavan	000007 000974	000007	4	0	2	6	3	0	4	19	40.00	=36
1021	Derrybrick	Cavan	000007	000007	3	0	1.5	3	3	0	3	13.5	28.42	=148
1022	Lecharrownahone	Cavan	-	-	1	0	2	4	2	0	2	11	23.16	=257
1023	Corratirrim	Cavan	000979	000979	3	0	1.5	3	3	0	3	13.5	28.42	=148
1025	Teeboy	Cavan	-	-	1	0	2	3	3	0	4	13	27.37	=165
1027	Coragh (Tullyhunco)	Cavan	-	-	5	0	1.5	4	3	0	4	17.5	36.84	=53
1028	Derries Upper	Cavan	000007	000007	2	0	1	3	4	0	4	14	29.47	=126
1029	Crubany	Cavan	-	-	1	0	1	1	4	0	1	8	16.84	=434
1031	Inishconnell	Cavan	000007	000007	2	0	1.5	2	3	0	1	9.5	20.00	=348
1032	Rivory	Cavan	000007	000007	3	2	1.5	2	4	0	3	15.5	32.63	=84
1033	Coolnalitteragh	Cavan	000007	000007	2	0	1.5	4	1	0	3	11.5	24.21	=233
1034	Aughrim	Cavan	-	-	3	0	0.5	2	2	0	1	8.5	17.89	=403
1035	Mullaghahy	Cavan	000986	-	2	0	1.5	6	2	0	3	14.5	30.53	=115
1038	Drumnatread	Cavan	-	-	1	0	1.5	3	1	0	0	6.5	13.68	=522
1041	Rakane	Cavan	-	-	3	0	1.5	4	2	0	4	14.5	30.53	=115
1042	Drumcor	Cavan	001841	-	2	0	1.5	1	4	0	2	10.5	22.11	=290
1043	Coppanagh	Cavan	-	-	2	0	1.5	3	2	0	2	10.5	22.11	=290
1045	Killyvaghan	Cavan	000001	-	2.5	0	1	6	2	0	4	15.5	32.63	=84
1048	Taghart North	Cavan	-	-	1.5	0	1	2	4	0	0	8.5	17.89	=403
1051	Drumcrow	Cavan	-	-	3	6	1	3	4	0	4	21	44.21	=22
1054	Tawlaght	Cavan	-	-	2	0	1	3	1	0	0	7	14.74	=495
1055	Pottle	Cavan	-	-	1.5	0	1.5	4	1	0	1	9	18.95	=378
1057	Coragh (Castlerahan)	Cavan	-	-	1	0	1	4	1	0	1	8	16.84	=434
1058	Calf Field	Cavan	-	-	2	0	0.5	1	4	0	1	8.5	17.89	=403
1060	Carrickaboy Glebe	Cavan	-	-	2	0	1.5	2	3	0	1	9.5	20.00	=348
1061	Crossrah	Cavan	-	-	1	2	1	0	4	0	2	10	21.05	=319
1062	Drumegil	Cavan	-	-	1	0	0.5	3	2	0	2	8.5	17.89	=403
1063	Sallaghill	Cavan	-	-	1	0	1.5	3	1	0	1	7.5	15.79	=466
1064	Crossafehin	Cavan	000008	-	1.5	0	1.5	4	2	0	2	11	23.16	=257
1065	Drumroragh	Cavan	-	-	1	0	2	4	3	0	3	13	27.37	=165
1067	Manragh Upper	Cavan	-	-	4	8	2	9	3	0	4	30	63.16	3
1068	Corleggy	Cavan	-	000007	2	0	1.5	3	3	0	3	12.5	26.32	=184
1069	Cornabeagh	Cavan	-	-	1	0	1	3	2	0	1	8	16.84	=434
1071	Tonyrevan	Cavan	-	-	1	0	1	3	2	0	1	8	16.84	=434
1072	Carrick	Cavan	-	-	1	2	0.5	3	3	0	1	10.5	22.11	=290
1074	Behy	Cavan	000002	-	2	0	1	4	1	0	3	11	23.16	=257
1075	Mullaghlea	Cavan	-	-	1	0	1.5	3	2	0	2	9.5	20.00	=348
1076	Tirlahode Upper	Cavan	-	-	2	0	1	3	1	0	0	7	14.74	=495
1077	Drummullagh	Cavan	-	-	1	0	1	4	1	0	2	9	18.95	=378
1078	Shantemon	Cavan	-	-	2	0	0.5	3	3	0	3	11.5	24.21	=233
1080	Dundavan	Cavan	-	-	1	0	1.5	1	3	0	1	7.5	15.79	=466
1081	Cornaslieve	Cavan	-	-	3	0	1	4	2	0	2	12	25.26	=208
1083	Crosserule	Cavan	-	-	3	0	0.5	1	4	0	0	8.5	17.89	=403
1084	Ryefield	Cavan	-	002299	1.5	0	1	2	3	0	1	8.5	17.89	=403
1086	Pottle Lower	Cavan	-	-	1	0	1.5	1	2	0	0	5.5	11.58	=554
1087	Greaghclaugh	Cavan	-	-	2	2	1	3	4	0	3	15	31.58	=95
1088	Ardlougher	Cavan	-	-	2	2	2	3	2	0	3	14	29.47	=126
1089	Legglass	Cavan	000584	000584	2	0	1.5	4	1	0	1	9.5	20.00	=348
1090	Ballyheelan	Cavan	-	-	2	2	1	1	4	0	2	12	25.26	=208
1091	Tonagh	Cavan	000987	-	1	0	1	1	4	0	2	9	18.95	=378

Site ID	Site name	County	Encroachment	Grazing	Adjacent habitats	Agricultural activity	Damaging operation	Agricultural weed species	Total	Threat Score %	Threat Ranking
			3	2	2	3	3	5	18	100.00	
1	All Saints Bog	Offaly	1	2	1	1	1	2	8	44.44	=59
3	Ridge Road	Offaly	1	2	1	0	0	2	6	33.33	=223
7	Derrykeel Meadows	Offaly	0	0	1	0	0	1	2	11.11	=570
8	Drumakeenan, Eagles Hill and Perry's Mill	Offaly	1	1	1	0	0	2	5	27.78	=336
15	Clonfinlough Esker	Offaly	0	1	1	0	0	2	4	22.22	=458
16	Lough Nanag Esker	Offaly	2	1	1	0	0	3	7	38.89	=123
17	Dovegrove Callows	Offaly	0	1	1	1	0	2	5	27.78	=336
18	Little Brosna Callows	Offaly	0	0	1	0	1	3	5	27.78	=336
20	Ballyduff Esker	Offaly	0	0	1	0	1	3	5	27.78	=336
21	Pallas Lough	Offaly	1	0	1	0	0	2	4	22.22	=458
23	Lough Dromharlow	Roscommon	0	1	1	0	1	2	5	27.78	=336
25	Lough Gara	Roscommon	1	0	0	1	1	3	6	33.33	=223
27	Annaghmore Lough	Roscommon	0	0	0	0	0	1	1	5.56	=577
30	Kilglas and Grange Lough	Roscommon	0	0	1	0	0	1	2	11.11	=570
34	Lough Glin	Roscommon	1	0	1	0	0	2	4	22.22	=458
39	Drumbridge	Roscommon	1	1	0	0	1	1	4	22.22	=458
40	Hundred Acres	Offaly	3	1	0	0	1	1	6	33.33	=223
41	Slieve Bloom	Offaly	0	0	0	0	0	1	1	5.56	=577
44	Croghan Hill	Offaly	1	0	1	0	0	1	3	16.67	=536
45	Kilcormac Esker	Offaly	1	0	0	1	1	2	5	27.78	=336
53	Kilcolman	Offaly	1	1	1	0	0	2	5	27.78	=336
54	Pigeon Park	Offaly	0	0	1	0	0	2	3	16.67	=536
57	Clooncreen-Clonbulloge	Offaly	0	0	1	0	1	3	5	27.78	=336
60	Moanvane	Offaly	0	0	0	0	0	2	2	11.11	=570
61	Raheenakeeran	Offaly	0	1	1	0	1	2	5	27.78	=336
62	Roosk	Offaly	0	0	1	0	1	2	4	22.22	=458
67	Raheen Lough	Offaly	0	0	1	0	0	2	3	16.67	=536
68	Slate River	Offaly	0	0	1	1	0	1	3	16.67	=536
73	Silver River	Offaly	1	0	1	2	0	4	8	44.44	=59
81	Mount St Joseph Esker	Offaly	0	1	1	2	0	2	6	33.33	=223
82	Coolderry	Offaly	0	0	0	0	0	2	2	11.11	=570
83	Boveen	Offaly	0	1	1	0	0	2	4	22.22	=458
84	Island	Offaly	0	0	1	0	1	2	4	22.22	=458
86	Glasscloon	Offaly	0	0	1	1	2	2	6	33.33	=223
87	Bricknagh	Offaly	1	1	1	2	0	4	9	50.00	=25
90	Derrinlough	Offaly	1	2	1	0	0	1	5	27.78	=336
92	Rathcobican	Offaly	0	0	1	0	0	2	3	16.67	=536
93	Clonmore	Offaly	1	1	1	0	0	3	6	33.33	=223
97	Ballymullen	Offaly	1	0	1	0	0	3	5	27.78	=336
99	Cappancur	Offaly	1	0	1	1	0	1	4	22.22	=458
101	Clonminch	Offaly	0	0	1	0	1	2	4	22.22	=458
102	Drumcullen Church	Offaly	1	0	1	0	0	2	4	22.22	=458
107	Clonmacnoise	Offaly	0	0	1	0	1	2	4	22.22	=458
108	Leitra Callow	Offaly	0	0	1	0	1	2	4	22.22	=458
109	Moystown Demesne and Island	Offaly	0	0	0	1	0	3	4	22.22	=458
110	Clooncraff	Offaly	0	0	0	0	1	2	3	16.67	=536
111	Long Island	Roscommon	0	0	0	0	0	3	3	16.67	=536
112	Callowbeg	Roscommon	0	0	0	0	1	1	2	11.11	=570
113	Drumlosh	Roscommon	1	0	0	0	1	2	4	22.22	=458
114	Cappaleitrim	Roscommon	0	0	1	0	1	3	5	27.78	=336
116	Culliaghmore	Roscommon	0	0	1	0	1	3	5	27.78	=336
117	Rathpeake	Roscommon	0	0	1	0	1	2	4	22.22	=458
200	Derryhanee	Roscommon	0	1	1	0	1	2	5	27.78	=336
201	Coggalbeg	Roscommon	0	1	1	1	0	1	4	22.22	=458
202	Cloonroughan	Roscommon	0	0	1	0	1	2	4	22.22	=458
203	Glenballythomas	Roscommon	1	0	1	2	0	2	6	33.33	=223
205	Cleaheen	Roscommon	0	0	0	2	1	1	4	22.22	=458
206	Rathmoyle	Roscommon	0	0	1	2	0	2	5	27.78	=336
208	Cloonalough	Roscommon	1	0	1	2	1	2	7	38.89	=123
210	Portnacrinnaght	Roscommon	1	0	0	0	1	3	5	27.78	=336
212	Dromore	Roscommon	0	0	1	2	1	1	5	27.78	=336
214	Clerragh	Roscommon	1	0	1	1	1	3	7	38.89	=123
215	Carrickmore	Roscommon	1	0	1	0	0	2	4	22.22	=458
216	Mullaghmacormick	Roscommon	0	1	0	2	1	2	6	33.33	=223
218	Portruny Bay	Roscommon	1	2	0	0	0	2	5	27.78	=336

Site ID	Site name	County	Encroachment	Grazing	Adjacent habitats	Agricultural activity	Damaging operation	Agricultural weed species	Total	Threat Score %	Threat Ranking
			3	2	2	3	3	5	18	100.00	
220	Crunaun Bridge	Roscommon	1	1	1	2	2	3	10	55.56	=12
221	Cartroncaran	Roscommon	0	2	1	1	0	2	6	33.33	=223
224	Cloonfineen	Roscommon	3	1	1	1	0	2	8	44.44	=59
225	Errit	Roscommon	0	0	0	0	0	1	1	5.56	=577
226	Coolteige	Roscommon	2	1	1	0	0	2	6	33.33	=223
227	Carrownalassan	Roscommon	0	1	1	0	2	2	6	33.33	=223
229	Reagh	Roscommon	1	0	0	0	1	2	4	22.22	=458
230	Kiltrustan	Roscommon	2	1	1	0	0	3	7	38.89	=123
233	Cloonfenbaun	Roscommon	0	1	1	0	0	3	5	27.78	=336
234	Peak	Roscommon	1	0	1	2	0	2	6	33.33	=223
236	Kilnanooan	Roscommon	0	1	1	1	1	2	6	33.33	=223
238	Cloonshanville	Roscommon	0	0	1	0	0	2	3	16.67	=536
239	Castlestrange	Roscommon	0	0	1	2	0	4	7	38.89	=123
241	Cloonaddra	Roscommon	1	1	1	0	0	2	5	27.78	=336
242	Roxborough	Roscommon	1	1	1	1	1	2	7	38.89	=123
243	Carraun South	Roscommon	0	1	1	0	1	2	5	27.78	=336
245	Ahagower	Roscommon	1	1	1	0	1	3	7	38.89	=123
246	Skrine	Roscommon	1	0	1	2	0	3	7	38.89	=123
252	Ardmullen	Roscommon	2	1	1	1	0	3	8	44.44	=59
254	Pollalaher	Roscommon	2	1	1	0	1	2	7	38.89	=123
256	Turrock	Roscommon	2	0	1	0	0	3	6	33.33	=223
259	Carrowmurragh	Roscommon	2	1	0	0	0	1	4	22.22	=458
260	Mihanboy	Roscommon	0	0	1	0	1	2	4	22.22	=458
263	Curry	Roscommon	2	1	0	0	1	1	5	27.78	=336
264	Derreen Lough	Roscommon	2	0	1	0	1	1	5	27.78	=336
265	Cashel	Roscommon	0	0	0	2	1	2	5	27.78	=336
303	Ballygally	Waterford	0	0	1	0	1	3	5	27.78	=336
304	Ballyrafter Flats	Waterford	0	0	1	1	1	2	5	27.78	=336
305	Dunabrattin	Waterford	2	1	1	0	2	2	8	44.44	=59
307	Knockaunabulloga	Waterford	2	1	0	0	1	1	5	27.78	=336
308	Helvick Head	Waterford	2	1	1	0	1	2	7	38.89	=123
309	Islandtarnsey	Waterford	1	1	1	0	2	2	7	38.89	=123
310	Annestown	Waterford	0	1	0	0	1	2	4	22.22	=458
311	Killongford	Waterford	1	1	1	0	1	2	6	33.33	=223
312	Fennor Bog	Waterford	2	0	1	0	1	2	6	33.33	=223
313	Creadan	Waterford	1	0	1	0	1	2	5	27.78	=336
314	Kildermody	Waterford	2	1	1	0	1	2	7	38.89	=123
315	Castlecraddock Bog	Waterford	0	1	1	0	1	1	4	22.22	=458
316	Lyre Mountain	Waterford	1	0	1	1	1	1	5	27.78	=336
317	Knockanaffrin	Waterford	0	0	0	1	1	1	3	16.67	=536
318	Kilclooney	Waterford	1	0	1	0	1	1	4	22.22	=458
319	Gracedieu	Waterford	0	1	1	0	1	2	5	27.78	=336
320	Ardmore Head	Waterford	2	0	2	0	1	2	7	38.89	=123
322	Kilbryan Upper	Waterford	2	1	1	1	1	1	7	38.89	=123
325	Knockyelan	Waterford	1	1	0	0	1	2	5	27.78	=336
326	Barnankile	Waterford	1	0	0	0	1	1	3	16.67	=536
327	Ballinlough	Waterford	2	0	1	0	1	2	6	33.33	=223
331	Tinnascart	Waterford	2	0	1	0	1	2	6	33.33	=223
332	Carronbeg	Waterford	0	0	1	0	1	2	4	22.22	=458
333	Gliddane Beg	Waterford	1	1	1	0	1	2	6	33.33	=223
336	Millerstown	Waterford	1	0	1	1	1	2	6	33.33	=223
337	Lisellan	Waterford	1	0	0	1	1	2	5	27.78	=336
339	Keiloge	Waterford	1	2	1	0	1	2	7	38.89	=123
340	Killure	Waterford	1	0	1	0	1	2	5	27.78	=336
341	Kilfarrasy	Waterford	1	0	1	0	1	2	5	27.78	=336
342	Rathmoylan	Waterford	1	0	2	0	1	2	6	33.33	=223
344	Ballynamona Lower	Waterford	1	0	1	2	1	2	7	38.89	=123
345	Clondonnell	Waterford	0	0	1	2	1	1	5	27.78	=336
346	Greenan	Waterford	0	0	2	1	1	2	6	33.33	=223
347	Russellstown	Waterford	1	1	1	1	1	2	7	38.89	=123
350	Stonehouse	Waterford	1	0	1	1	1	1	5	27.78	=336
351	Ballinvella	Waterford	0	0	0	0	1	2	3	16.67	=536
352	Bridane Lower	Waterford	1	1	1	1	1	2	7	38.89	=123
353	Ballynatray Demesne	Waterford	0	0	2	0	1	2	5	27.78	=336
354	Glenpatrick	Waterford	2	0	1	1	1	2	7	38.89	=123

			Encroachment	Grazing	Adjacent habitats	Agricultural activity	Damaging operation	Agricultural weed species	Total	Threat Score %	Threat Ranking
Site ID	**Site name**	**County**	**3**	**2**	**2**	**3**	**3**	**5**	**18**	**100.00**	
355	Stradbally Beg	Waterford	1	0	1	1	1	2	6	33.33	=223
356	Lag Bridge	Waterford	1	1	1	0	1	1	5	27.78	=336
357	Meoul	Waterford	2	0	1	0	1	1	5	27.78	=336
358	Brownstown	Waterford	0	0	1	1	1	2	5	27.78	=336
359	Tallowbridge	Waterford	1	1	2	2	1	2	9	50.00	=25
360	Curraheen	Waterford	2	1	0	0	1	1	5	27.78	=336
361	Kilmurrin	Waterford	2	1	1	0	1	1	6	33.33	=223
363	Coumtay Glen	Waterford	3	0	0	0	1	1	5	27.78	=336
365	Ballynatray Commons	Waterford	0	0	2	1	1	1	5	27.78	=336
366	Knockmahon	Waterford	2	1	1	0	1	2	7	38.89	=123
372	Glendalough	Waterford	1	0	0	1	1	1	4	22.22	=458
373	Glenary	Waterford	2	1	1	0	1	2	7	38.89	=123
376	Kilcloher	Waterford	1	1	2	1	1	2	8	44.44	=59
377	Knockgarraun(hely)	Waterford	0	0	2	2	1	2	7	38.89	=123
379	Tobernahulla	Waterford	1	1	1	0	1	1	5	27.78	=336
381	Knocknaglogh Upper	Waterford	1	0	1	1	1	1	5	27.78	=336
382	Doon	Waterford	0	0	1	1	1	1	4	22.22	=458
398	Curragh North	Waterford	2	0	2	0	1	2	7	38.89	=123
399	Curragh	Waterford	0	0	1	0	1	2	4	22.22	=458
400	Cape Clear	Cork	2	1	1	0	1	1	6	33.33	=223
401	Sherkin Island	Cork	1	0	2	0	1	2	6	33.33	=223
402	Glanmore	Cork	2	0	0	1	1	1	5	27.78	=336
405	Garinish Point	Cork	0	1	0	0	1	1	3	16.67	=536
406	Blarney Bog	Cork	1	0	1	0	2	2	6	33.33	=223
407	Lough Allua Curraghy	Cork	1	0	1	1	1	1	5	27.78	=336
408	Minane Bridge	Cork	0	0	2	1	1	1	5	27.78	=336
410	Lisleecourt	Cork	1	1	1	0	1	2	6	33.33	=223
411	Shanakill	Cork	0	0	1	0	1	1	3	16.67	=536
412	Rostellan	Cork	1	0	1	0	1	1	4	22.22	=458
413	Curraghbinny	Cork	1	0	0	0	0	2	3	16.67	=536
414	Coolymurraghue	Cork	0	1	2	0	1	2	6	33.33	=223
415	Coolowen	Cork	1	1	2	1	1	3	9	50.00	=25
417	Clasharinka	Cork	0	0	2	2	1	2	7	38.89	=123
418	Ballybraher	Cork	0	0	2	0	1	1	4	22.22	=458
419	Inch	Cork	1	0	2	0	1	1	5	27.78	=336
420	Ballydaniel	Cork	1	0	1	1	1	2	6	33.33	=223
421	Rathdrum	Cork	2	1	2	1	1	3	10	55.56	=12
422	Kilfurrery	Cork	0	1	0	0	1	2	4	22.22	=458
423	Ballyderown	Cork	0	0	2	0	1	2	5	27.78	=336
424	Manning	Cork	1	1	2	1	0	2	7	38.89	=123
426	Curraghprevin	Cork	0	0	2	0	1	2	5	27.78	=336
428	Moneygorm	Cork	0	0	1	0	1	2	4	22.22	=458
429	Castlesaffron	Cork	0	0	2	2	1	2	7	38.89	=123
430	Ballygriggan	Cork	1	0	1	1	1	2	6	33.33	=223
431	Ballynabortagh	Cork	0	0	1	1	1	1	4	22.22	=458
432	Ballinaspig More	Cork	1	1	1	0	1	2	6	33.33	=223
433	Turnaspidogy	Cork	2	0	1	1	1	2	7	38.89	=123
435	Oldfort	Cork	2	0	1	1	1	2	7	38.89	=123
436	Garrettstown	Cork	0	1	2	0	2	2	7	38.89	=123
437	Manch West	Cork	1	0	1	0	1	2	5	27.78	=336
439	Behagullane	Cork	1	0	1	1	1	2	6	33.33	=223
440	Tooms West	Cork	1	0	2	1	1	2	7	38.89	=123
441	Rathard	Cork	0	0	1	1	1	2	5	27.78	=336
442	Ballinaboy	Cork	0	0	2	1	1	2	6	33.33	=223
445	Kilrush	Cork	0	0	1	1	1	2	5	27.78	=336
446	Bilberry	Cork	1	0	1	1	1	2	6	33.33	=223
447	Killacloyne	Cork	0	1	1	0	1	2	5	27.78	=336
449	Castleredmond	Cork	1	0	1	1	1	4	8	44.44	=59
454	Lackenakea	Cork	1	0	1	1	1	2	6	33.33	=223
455	Maulnahorna	Cork	1	0	0	1	1	1	4	22.22	=458
456	Ballymacredmond	Cork	2	1	1	0	1	2	7	38.89	=123
460	Gowlane	Cork	0	1	0	0	1	1	3	16.67	=536
461	Ballynacarriga	Cork	1	1	0	0	1	1	4	22.22	=458
462	Knockroe East	Cork	0	0	0	1	0	2	3	16.67	=536
463	Urhin	Cork	1	0	0	0	1	1	3	16.67	=536

			Encroachment	Grazing	Adjacent habitats	Agricultural activity	Damaging operation	Agricultural weed species	Total	Threat Score %	Threat Ranking
Site ID	**Site name**	**County**	**3**	**2**	**2**	**3**	**3**	**5**	**18**	**100.00**	
464	Canalough	Cork	0	0	0	0	1	1	2	11.11	=570
465	Dursey Island	Cork	0	1	0	1	1	2	5	27.78	=336
466	Eyeries	Cork	1	0	1	0	1	3	6	33.33	=223
467	Cahermeeleboe	Cork	2	1	0	1	1	1	6	33.33	=223
468	Cloheen Marsh	Cork	0	0	0	0	1	1	2	11.11	=570
470	Ballyroon Mountain	Cork	3	1	0	0	1	1	6	33.33	=223
471	Mallavogue	Cork	2	1	1	0	1	2	7	38.89	=123
473	Gortnagrough	Cork	2	1	1	2	1	1	8	44.44	=59
474	Barnagowlane West	Cork	1	0	1	0	1	2	5	27.78	=336
475	Glandart	Cork	1	2	0	0	1	1	5	27.78	=336
479	Dundeady	Cork	1	0	1	0	0	2	4	22.22	=458
481	Glannafeen	Cork	3	1	0	0	0	3	7	38.89	=123
482	Hare Island	Cork	3	1	1	0	1	2	8	44.44	=59
483	Gubbeen	Cork	1	0	1	0	1	2	5	27.78	=336
484	Drisheen	Cork	2	1	2	0	0	1	6	33.33	=223
485	MountGabriel	Cork	2	1	1	0	1	1	6	33.33	=223
488	Rougham	Cork	2	0	0	1	1	1	5	27.78	=336
489	Kealagowlane	Cork	3	0	0	1	1	1	6	33.33	=223
490	Bear Island	Cork	3	1	0	1	1	2	8	44.44	=59
492	Cousane	Cork	2	0	1	2	1	1	7	38.89	=123
495	Cappaboy More	Cork	1	0	0	2	1	2	6	33.33	=223
496	Glengarriff	Cork	2	0	0	0	1	1	4	22.22	=458
497	Tullig	Cork	1	0	1	0	1	2	5	27.78	=336
498	Oughtihery	Cork	3	0	1	1	1	1	7	38.89	=123
500	Ballincollig Regional Park	Cork	2	0	1	0	1	1	5	27.78	=336
502	Rockfield Farm	Cork	0	0	0	0	0	1	1	5.56	=577
503	Ballinvonear	Cork	3	1	1	1	1	2	9	50.00	=25
505	Ballindangan Marsh	Cork	0	0	1	0	1	2	4	22.22	=458
506	Garrylucas Marsh	Cork	0	0	1	1	0	2	4	22.22	=458
507	Inchaleagh	Cork	0	0	0	0	1	3	4	22.22	=458
508	Barrahaurin	Cork	1	0	0	1	1	1	4	22.22	=458
509	Gowlane North	Cork	1	0	1	1	1	1	5	27.78	=336
510	Kilcullen South	Cork	1	0	1	1	1	2	6	33.33	=223
511	Mountrivers	Cork	1	0	0	1	1	2	5	27.78	=336
512	Cloonteens	Cork	0	0	1	0	1	1	3	16.67	=536
514	Shanavoher	Cork	0	1	1	0	1	2	5	27.78	=336
516	Esk South	Cork	2	0	2	0	2	2	8	44.44	=59
518	Monee West	Cork	2	1	1	0	1	2	7	38.89	=123
519	Castlebarrett	Cork	0	0	1	0	1	2	4	22.22	=458
520	Glashaboy West	Cork	0	1	1	0	1	1	4	22.22	=458
521	Pluckanes East	Cork	1	1	1	0	1	1	5	27.78	=336
523	Castlelohort Demesne	Cork	1	0	1	2	1	3	8	44.44	=59
524	Subulter	Cork	0	0	1	0	1	1	3	16.67	=536
525	Lackaroe	Cork	0	0	1	0	1	2	4	22.22	=458
526	Creggane	Cork	1	0	1	1	1	2	6	33.33	=223
527	Waterhouse Marsh	Cork	1	1	2	1	1	1	7	38.89	=123
528	Baltydaniel	Cork	1	0	2	1	1	1	6	33.33	=223
530	Knockacullata	Cork	1	0	1	1	1	1	5	27.78	=336
534	Knockacullen	Cork	2	0	1	1	1	2	7	38.89	=123
535	Ballaghanure	Cork	2	0	1	1	1	2	7	38.89	=123
536	Kilnacranagh East	Cork	2	0	1	1	1	2	7	38.89	=123
538	Gouladoo	Cork	2	0	1	1	1	2	7	38.89	=123
539	Dunkelly West	Cork	2	1	1	0	0	2	6	33.33	=223
541	Derryleigh	Cork	1	0	1	1	1	2	6	33.33	=223
542	Derreendangan	Cork	1	0	2	0	1	2	6	33.33	=223
543	Coornishal	Cork	1	0	1	0	1	2	5	27.78	=336
544	Benduff	Cork	0	1	1	0	1	2	5	27.78	=336
545	Drom	Cork	2	0	0	1	1	3	7	38.89	=123
546	Cullane East	Cork	2	1	1	1	1	2	8	44.44	=59
547	Dromnea	Cork	3	1	0	1	1	2	8	44.44	=59
548	Charlesfield	Cork	0	0	1	1	1	1	4	22.22	=458
549	Carraraigue	Cork	1	0	1	1	1	1	5	27.78	=336
550	Drombeg	Cork	1	1	1	1	1	2	7	38.89	=123
552	Dromcarra	Cork	2	0	1	2	1	2	8	44.44	=59
553	Reanacaragh	Cork	1	1	1	1	1	2	7	38.89	=123

Site ID	Site name	County	Encroachment	Grazing	Adjacent habitats	Agricultural activity	Damaging operation	Agricultural weed species	Total	Threat Score %	Threat Ranking
			3	2	2	3	3	5	18	100.00	
554	Rossnashunsoge	Cork	1	0	0	2	1	2	6	33.33	=223
555	Cooldaniel	Cork	1	1	1	1	1	2	7	38.89	=123
556	Moneycusker	Cork	1	1	1	1	1	1	6	33.33	=223
557	Teereeven	Cork	0	0	1	0	1	1	3	16.67	=536
558	Shanacashel	Cork	3	1	1	1	1	2	9	50.00	=25
559	Derryvane	Cork	1	0	1	0	1	1	4	22.22	=458
560	Gortroe	Cork	1	1	1	3	1	2	9	50.00	=25
563	Reenrour West	Cork	0	0	1	1	1	2	5	27.78	=336
564	Dromreagh	Cork	0	0	1	0	1	1	3	16.67	=536
565	Reenavanny	Cork	2	0	1	0	1	1	5	27.78	=336
566	Reenaknock	Cork	2	1	2	1	1	3	10	55.56	=12
567	Ballyourane	Cork	1	1	1	0	1	1	5	27.78	=336
568	Derrycarhoon	Cork	3	1	0	3	0	2	9	50.00	=25
569	Derreenagreanagh	Cork	2	0	1	2	1	3	9	50.00	=25
570	Inchibegga	Cork	2	1	1	1	1	1	7	38.89	=123
571	Ballynagree East	Cork	1	0	1	1	1	1	5	27.78	=336
573	Deelish	Cork	0	0	1	0	1	1	3	16.67	=536
580	Lisnacuddy	Cork	1	1	1	0	1	1	5	27.78	=336
581	Ballyshoneen	Cork	1	0	1	1	1	3	7	38.89	=123
582	Allihies Mountain Mine	Cork	1	0	0	0	1	1	3	16.67	=536
584	Polleenateada	Cork	3	0	1	0	1	1	6	33.33	=223
585	Gokane	Cork	1	0	1	1	1	2	6	33.33	=223
586	Toehead	Cork	3	1	1	0	1	3	9	50.00	=25
587	Downeen	Cork	0	1	1	1	1	1	5	27.78	=336
588	Dunowen	Cork	0	0	2	0	1	2	5	27.78	=336
589	Derrynakilla	Cork	1	0	1	0	1	1	4	22.22	=458
590	Bengour West	Cork	2	0	1	0	1	1	5	27.78	=336
592	Lumnagh More	Cork	3	1	0	0	1	1	6	33.33	=223
593	Teeracurra	Cork	0	0	1	0	0	2	3	16.67	=536
594	Middle Calf Island	Cork	2	1	0	0	1	2	6	33.33	=223
595	East Calf Island	Cork	1	0	0	0	1	1	3	16.67	=536
596	Castle Island	Cork	2	1	0	0	1	2	6	33.33	=223
597	Glannaharee West	Cork	2	0	1	0	1	2	6	33.33	=223
599	Leckaneen	Cork	2	1	1	0	1	1	6	33.33	=223
600	Scarteen	Cork	0	0	2	2	0	2	6	33.33	=223
601	Dawstown	Cork	1	1	1	0	1	1	5	27.78	=336
603	Mossgrove	Cork	1	1	2	0	1	2	7	38.89	=123
604	Maglin	Cork	1	1	1	0	2	2	7	38.89	=123
605	Coolatooder	Cork	1	1	1	0	1	2	6	33.33	=223
606	Coolkirky	Cork	1	1	2	0	2	2	8	44.44	=59
607	Coolcullitha	Cork	0	0	1	1	0	1	3	16.67	=536
608	Coolmoreen	Cork	2	0	2	0	0	2	6	33.33	=223
610	Dromderrig	Cork	1	0	2	0	1	1	5	27.78	=336
613	Dunworly	Cork	0	0	1	0	1	2	4	22.22	=458
615	Aghmanister	Cork	1	0	1	1	1	3	7	38.89	=123
616	Carrigeen	Cork	0	0	1	0	1	3	5	27.78	=336
618	Kilcolman	Cork	0	1	2	0	1	1	5	27.78	=336
619	Imogane Bridge	Cork	0	0	1	1	1	2	5	27.78	=336
621	Longacre	Cork	1	0	0	0	1	2	4	22.22	=458
622	Croanrea	Cork	2	0	1	0	1	2	6	33.33	=223
623	Knockduff Lower	Cork	1	0	1	2	1	1	6	33.33	=223
626	Twomey's Bridge	Cork	1	0	1	1	1	1	5	27.78	=336
627	Garrison	Cork	1	0	2	0	1	2	6	33.33	=223
628	Gooseberryhill	Cork	1	0	1	1	1	1	5	27.78	=336
629	Rossacon	Cork	1	1	1	0	1	3	7	38.89	=123
630	Ballyduane	Cork	1	0	1	0	1	2	5	27.78	=336
631	Urraghilmore	Cork	1	1	1	0	1	2	6	33.33	=223
632	Clashykinleen	Cork	0	0	1	1	1	1	4	22.22	=458
633	Claraghatlea	Cork	1	0	1	0	1	1	4	22.22	=458
634	Ahane Upper	Cork	1	0	1	0	1	2	5	27.78	=336
635	Kilmacurrane	Cork	1	2	1	0	1	2	7	38.89	=123
636	Dromahoe	Cork	0	0	1	0	1	2	4	22.22	=458
638	Gallanes	Cork	1	0	1	0	1	2	5	27.78	=336
640	Ballydaly	Cork	1	0	1	0	1	2	5	27.78	=336
641	Geararoe	Cork	0	0	1	1	1	1	4	22.22	=458

			Encroachment	Grazing	Adjacent habitats	Agricultural activity	Damaging operation	Agricultural weed species	Total	Threat Score %	Threat Ranking
Site ID	**Site name**	**County**	**3**	**2**	**2**	**3**	**3**	**5**	**18**	**100.00**	
642	Coomnagire	Cork	2	0	1	1	1	1	6	33.33	=223
644	Cahernacaha	Cork	1	0	1	3	0	1	6	33.33	=223
645	Inchamore	Cork	1	0	0	1	1	1	4	22.22	=458
646	Caherkereen	Cork	0	1	2	2	0	2	7	38.89	=123
648	Gortanimill	Cork	1	0	1	2	1	2	7	38.89	=123
649	Shanagarry South	Cork	1	0	0	0	1	1	3	16.67	=536
650	Gortnagoul	Cork	0	0	1	0	1	2	4	22.22	=458
651	Shanaboola	Cork	1	0	1	1	1	1	5	27.78	=336
653	Furrow	Cork	1	0	1	1	1	2	6	33.33	=223
656	Crosshavenhill	Cork	2	1	1	0	1	1	6	33.33	=223
660	Skibbereen Marsh	Cork	0	1	0	0	2	3	6	33.33	=223
662	Killeagh West Verge	Cork	0	0	1	0	1	2	4	22.22	=458
664	Castlemartyr Verge	Cork	0	0	0	0	1	2	3	16.67	=536
666	Youghal Verge	Cork	0	0	1	0	1	1	3	16.67	=536
667	Knockaneglass	Cork	1	1	0	0	1	1	4	22.22	=458
668	Killowen	Cork	1	1	2	0	1	2	7	38.89	=123
700	Magheraboy	Monaghan	1	0	1	1	1	2	6	33.33	=223
701	Drumirril Deer Park	Monaghan	2	0	2	1	1	1	7	38.89	=123
702	Lissaraw	Monaghan	1	1	1	0	1	3	7	38.89	=123
703	Drumgole	Monaghan	1	1	1	1	2	3	9	50.00	=25
704	Briscarnagh	Monaghan	1	1	1	0	1	1	5	27.78	=336
705	Callowhill	Monaghan	1	0	1	2	1	3	8	44.44	=59
706	Kilroosky Lough Cluster	Monaghan	1	1	1	1	1	2	7	38.89	=123
707	Lough Smiley	Monaghan	0	0	1	0	1	2	4	22.22	=458
709	Glencorick	Monaghan	1	1	1	1	2	3	9	50.00	=25
710	Annaghybane	Monaghan	1	0	1	0	1	1	4	22.22	=458
711	Derrylosset	Monaghan	1	0	1	0	1	2	5	27.78	=336
712	Coolberrin	Monaghan	1	1	1	0	1	1	5	27.78	=336
713	Derrykinnigh Beg	Monaghan	1	0	1	1	2	2	7	38.89	=123
714	Killygrallan	Monaghan	2	1	1	0	1	2	7	38.89	=123
716	Dundrumman	Monaghan	1	1	1	2	2	2	9	50.00	=25
717	Barratitoppy Upper	Monaghan	2	1	1	1	3	1	9	50.00	=25
718	Ardginny	Monaghan	1	1	1	3	3	2	11	61.11	=4
720	Cullentraghduff	Monaghan	1	0	2	1	1	2	7	38.89	=123
722	Devlin	Monaghan	0	0	1	0	1	2	4	22.22	=458
723	Mullananalt	Monaghan	2	0	1	2	1	1	7	38.89	=123
725	Carrickanoran	Monaghan	1	1	1	1	1	3	8	44.44	=59
726	Leitrim	Monaghan	0	1	1	2	1	2	7	38.89	=123
729	Mokeeran	Monaghan	0	0	1	1	1	2	5	27.78	=336
732	Tusker	Monaghan	2	1	1	2	3	3	12	66.67	=1
733	Drumgoose	Monaghan	1	2	1	2	2	3	11	61.11	=4
736	Gransha More	Monaghan	1	1	1	2	1	3	9	50.00	=25
737	Boughill	Monaghan	1	0	2	1	2	3	9	50.00	=25
738	Drumshannon	Monaghan	1	1	1	1	1	2	7	38.89	=123
739	Blackraw	Monaghan	2	1	1	2	1	2	9	50.00	=25
741	Dernalosset	Monaghan	1	1	1	0	1	2	6	33.33	=223
742	Annareagh South	Monaghan	1	1	2	0	2	2	8	44.44	=59
745	Dromore	Monaghan	1	1	1	0	1	2	6	33.33	=223
747	Tonyfinnigan	Monaghan	1	1	1	2	1	2	8	44.44	=59
749	Liseenan	Monaghan	1	1	1	2	1	2	8	44.44	=59
750	Tray	Monaghan	1	1	1	0	2	3	8	44.44	=59
752	Clonoula	Monaghan	0	1	1	1	1	2	6	33.33	=223
753	Rahans	Monaghan	1	2	1	0	1	3	8	44.44	=59
754	Eshnaglogh	Monaghan	2	1	0	0	1	1	5	27.78	=336
757	Drumfurrer	Monaghan	1	2	1	2	2	2	10	55.56	=12
758	Killycooly	Monaghan	1	0	2	2	1	4	10	55.56	=12
760	Mullaghmore North	Monaghan	0	0	2	1	1	2	6	33.33	=223
761	Clossagh More	Monaghan	1	2	1	1	1	2	8	44.44	=59
762	Lemgare Rocks	Monaghan	2	1	1	2	1	2	9	50.00	=25
793	Fairtahy	Monaghan	1	1	1	0	2	2	7	38.89	=123
794	Creeve	Monaghan	1	1	1	0	1	1	5	27.78	=336
797	Coyle's Bridge	Monaghan	1	1	1	0	1	1	5	27.78	=336
799	Kilmore East	Monaghan	1	0	1	0	1	1	4	22.22	=458
800	Wardhouse	Leitrim	2	1	1	0	1	2	7	38.89	=123
801	Tulcon	Leitrim	0	0	1	2	1	1	5	27.78	=336

Site ID	Site name	County	Encroachment	Grazing	Adjacent habitats	Agricultural activity	Damaging operation	Agricultural weed species	Total	Threat Score %	Threat Ranking
			3	2	2	3	3	5	18	100.00	
802	Gubacreeny	Leitrim	1	1	0	0	2	2	6	33.33	=223
803	Derrynaseer	Leitrim	1	0	0	0	1	1	3	16.67	=536
804	Gubalaun	Leitrim	2	1	1	0	2	1	7	38.89	=123
805	Derryherk	Leitrim	2	0	0	1	1	1	5	27.78	=336
806	Edenvella	Leitrim	1	2	0	0	2	1	6	33.33	=223
807	Aghadunvane	Leitrim	2	1	0	0	1	1	5	27.78	=336
808	Keeloges	Leitrim	2	1	0	0	1	2	6	33.33	=223
811	Larganavaddoge	Leitrim	1	0	0	1	1	2	5	27.78	=336
812	Cloontyprughlish	Leitrim	2	0	0	0	1	1	4	22.22	=458
813	Aghalateeve	Leitrim	3	0	0	3	3	2	11	61.11	=4
814	Erriff	Leitrim	1	0	0	0	1	1	3	16.67	=536
815	Sheemore	Leitrim	2	1	1	1	1	2	8	44.44	=59
816	Meenagraun	Leitrim	0	0	0	0	2	2	4	22.22	=458
818	Lugnafaughery	Leitrim	1	0	0	2	1	3	7	38.89	=123
819	Nure	Leitrim	1	1	1	2	2	2	9	50.00	=25
820	Kiltyclogher	Leitrim	0	1	0	1	1	1	4	22.22	=458
822	Lissinagroagh	Leitrim	2	1	0	1	1	1	6	33.33	=223
823	Fawnlion	Leitrim	1	0	1	0	1	2	5	27.78	=336
824	Cornaroy	Leitrim	1	1	0	3	1	2	8	44.44	=59
825	Ballynaboll	Leitrim	0	1	0	2	1	2	6	33.33	=223
826	Gortermone	Leitrim	1	0	1	0	2	2	6	33.33	=223
828	Carrickleitrim	Leitrim	1	2	1	3	1	3	11	61.11	=4
829	Munakill	Leitrim	1	2	1	2	2	3	11	61.11	=4
830	Barr of Farrow	Leitrim	1	0	0	0	1	1	3	16.67	=536
831	Tullinwannia	Leitrim	1	0	0	0	2	1	4	22.22	=458
832	Belhavel Lough	Leitrim	1	2	0	2	2	1	8	44.44	=59
833	Letter	Leitrim	2	1	0	1	2	1	7	38.89	=123
835	Corcusconny	Leitrim	1	2	1	2	2	4	12	66.67	=1
836	Shass	Leitrim	3	1	0	0	2	1	7	38.89	=123
837	Corry	Leitrim	2	0	1	1	3	1	8	44.44	=59
838	Kilgarriff	Leitrim	2	1	0	1	2	2	8	44.44	=59
839	Liscuillew Lower	Leitrim	1	1	0	1	1	1	5	27.78	=336
840	Sranagarvanagh	Leitrim	1	1	0	3	2	1	8	44.44	=59
841	Derryhallagh	Leitrim	1	1	1	0	2	1	6	33.33	=223
842	Knockacullion	Leitrim	0	2	1	3	2	1	9	50.00	=25
844	Mayo	Leitrim	1	1	0	2	2	2	8	44.44	=59
845	Sradrinagh	Leitrim	3	1	1	2	2	1	10	55.56	=12
846	Corduff	Leitrim	1	1	0	2	2	2	8	44.44	=59
847	Drumderg	Leitrim	1	1	1	1	2	2	8	44.44	=59
848	Bolganard	Leitrim	1	2	1	1	2	2	9	50.00	=25
849	Corderry	Leitrim	1	1	1	0	2	2	7	38.89	=123
850	Letterfine	Leitrim	1	1	1	1	1	3	8	44.44	=59
851	Derrindrehid	Leitrim	1	1	1	3	1	2	9	50.00	=25
852	Aghalough	Leitrim	1	1	1	0	2	2	7	38.89	=123
853	Drumboher	Leitrim	1	2	1	1	2	2	9	50.00	=25
854	Keenheen	Leitrim	0	0	1	1	2	1	5	27.78	=336
856	Drumconlevan	Leitrim	1	1	0	3	2	2	9	50.00	=25
857	Annaghoney	Leitrim	2	2	1	2	3	2	12	66.67	=1
859	Killahurk	Leitrim	1	1	1	2	2	2	9	50.00	=25
860	Derrygoan	Leitrim	2	2	1	2	2	2	11	61.11	=4
861	Gorteen	Leitrim	1	2	1	0	1	3	8	44.44	=59
862	Beagh More	Leitrim	1	0	1	2	1	2	7	38.89	=123
863	Drumharkan Glebe	Leitrim	1	1	1	3	2	1	9	50.00	=25
865	Fearglass North	Leitrim	1	1	1	2	1	2	8	44.44	=59
866	Breanross North	Leitrim	0	2	0	3	1	2	8	44.44	=59
867	Annaghmore	Leitrim	1	0	1	1	2	2	7	38.89	=123
868	Corriga	Leitrim	1	1	1	1	1	1	6	33.33	=223
870	Garvagh	Leitrim	1	1	0	3	3	1	9	50.00	=25
872	Gort	Leitrim	1	0	0	1	1	1	4	22.22	=458
873	Rinnacurreen	Leitrim	1	1	0	1	2	1	6	33.33	=223
874	Hartley	Leitrim	1	1	1	0	1	2	6	33.33	=223
875	Drumsna	Leitrim	0	1	0	3	1	3	8	44.44	=59
880	Cloonmorris	Leitrim	1	2	1	0	1	2	7	38.89	=123
881	Beihy	Leitrim	0	0	1	0	1	2	4	22.22	=458
883	Larga	Leitrim	2	0	0	2	1	2	7	38.89	=123

Site ID	Site name	County	Encroachment	Grazing	Adjacent habitats	Agricultural activity	Damaging operation	Agricultural weed species	Total	Threat Score %	Threat Ranking
			3	2	2	3	3	5	18	100.00	
884	Glack	Leitrim	2	1	0	0	2	1	6	33.33	=223
885	Annagh	Leitrim	2	1	0	1	1	1	6	33.33	=223
887	Glenboy	Leitrim	1	1	1	1	1	1	6	33.33	=223
890	Kilroosk	Leitrim	2	1	0	0	1	2	6	33.33	=223
891	Attimanus	Leitrim	1	2	1	2	3	2	11	61.11	=4
892	Corglass	Leitrim	0	1	1	3	1	2	8	44.44	=59
893	Gleneige	Leitrim	2	0	0	0	2	1	5	27.78	=336
894	Treanakillew	Leitrim	2	1	0	0	1	1	5	27.78	=336
895	Lake Nahoo	Leitrim	1	1	1	2	2	1	8	44.44	=59
896	Derrynahona	Leitrim	2	1	0	1	2	1	7	38.89	=123
900	Ballymaurice	Longford	0	1	1	1	1	3	7	38.89	=123
903	Commons North	Longford	0	1	1	0	1	2	5	27.78	=336
905	Drumhalry	Longford	0	1	1	0	1	2	5	27.78	=336
909	Mullingee	Longford	1	1	1	1	2	2	8	44.44	=59
910	Keel Deer Park	Longford	1	0	1	3	1	2	8	44.44	=59
911	Inchenagh	Longford	0	1	0	0	1	2	4	22.22	=458
916	Barry	Longford	0	2	1	0	1	2	6	33.33	=223
917	Agharra	Longford	0	0	1	2	2	3	8	44.44	=59
918	Lissawarriff	Longford	0	0	1	0	2	2	5	27.78	=336
919	Creagh	Longford	1	0	1	0	2	2	6	33.33	=223
921	Derrynagran	Longford	2	1	1	0	1	2	7	38.89	=123
923	Ballyclamay	Longford	2	0	1	1	2	2	8	44.44	=59
924	Ballygarve	Longford	1	2	1	1	2	2	9	50.00	=25
925	Lisfarrell	Longford	0	1	1	1	2	3	8	44.44	=59
926	Lisnabo	Longford	1	1	1	1	2	2	8	44.44	=59
927	Cloonturk	Longford	0	1	1	1	3	2	8	44.44	=59
928	Laughil	Longford	0	0	1	1	2	2	6	33.33	=223
932	Carrigeens	Longford	0	0	1	0	1	3	5	27.78	=336
935	Aghamore Upper	Longford	1	1	1	1	2	1	7	38.89	=123
936	Glenmore	Longford	0	0	1	2	2	2	7	38.89	=123
937	Killeen	Longford	0	1	1	1	1	2	6	33.33	=223
938	Aghnashannagh	Longford	1	1	1	1	2	3	9	50.00	=25
939	Shantum	Longford	0	1	2	0	1	2	6	33.33	=223
940	Bracklon	Longford	1	1	1	1	2	2	8	44.44	=59
941	Ballagh	Longford	1	0	1	1	1	3	7	38.89	=123
942	Carrickmoyragh	Longford	1	2	1	2	3	2	11	61.11	=4
943	Derawley	Longford	1	2	1	2	2	2	10	55.56	=12
945	Clawinch	Longford	1	0	0	0	1	1	3	16.67	=536
946	Inchcleraun	Longford	2	0	0	0	1	2	5	27.78	=336
947	Cloondara	Longford	0	1	1	1	1	2	6	33.33	=223
948	Pollagh	Longford	1	1	1	1	1	2	7	38.89	=123
949	Drumnee	Longford	1	1	1	1	1	3	8	44.44	=59
950	Kilnacarrow	Longford	0	1	1	0	1	1	4	22.22	=458
951	Gowlan	Longford	1	1	2	1	1	3	9	50.00	=25
952	Knappoge	Longford	0	1	1	0	1	1	4	22.22	=458
953	Cloonart South	Longford	1	1	1	3	1	1	8	44.44	=59
954	Lissagernal	Longford	0	0	1	2	2	3	8	44.44	=59
956	Cornafunshin	Longford	2	1	1	1	2	2	9	50.00	=25
958	Tennalick	Longford	0	1	1	1	1	1	5	27.78	=336
960	Ledwithstown	Longford	0	0	1	0	1	2	4	22.22	=458
961	Lisaquill	Longford	0	0	1	0	2	3	6	33.33	=223
964	Ardagh Demesne	Longford	0	1	1	0	2	2	6	33.33	=223
965	Dunbeggan	Longford	0	0	1	1	1	2	5	27.78	=336
966	Derrynaskea	Longford	0	0	1	1	1	1	4	22.22	=458
967	Clooncullen	Longford	1	2	1	1	1	2	8	44.44	=59
968	Derrynabuntale	Longford	1	0	1	0	2	2	6	33.33	=223
996	Corrool	Longford	1	0	1	0	1	2	5	27.78	=336
998	Aghnagore	Longford	0	1	1	0	2	2	6	33.33	=223
999	Glen Lough	Longford	1	0	0	0	2	3	6	33.33	=223
1000	Barran	Cavan	1	0	1	0	2	1	5	27.78	=336
1001	Killyvally	Cavan	1	1	1	2	3	2	10	55.56	=12
1002	Carricknagrow	Cavan	2	2	0	1	1	1	7	38.89	=123
1003	Corlea	Cavan	1	1	0	1	3	1	7	38.89	=123
1004	Moneen	Cavan	3	2	0	1	2	2	10	55.56	=12
1007	Legnagrow	Cavan	2	1	0	0	2	2	7	38.89	=123

Site ID	Site name	County	Encroachment	Grazing	Adjacent habitats	Agricultural activity	Damaging operation	Agricultural weed species	Total	Threat Score %	Threat Ranking
			3	2	2	3	3	5	18	100.00	
1008	Moneensauran	Cavan	0	1	0	3	2	2	8	44.44	=59
1009	Bellavalley	Cavan	1	1	0	2	2	1	7	38.89	=123
1010	Edenmore	Cavan	0	0	0	2	1	1	4	22.22	=458
1011	Altnasheen	Cavan	1	0	0	0	1	1	3	16.67	=536
1013	Gubrawully	Cavan	1	1	0	0	2	1	5	27.78	=336
1014	Corrachomera	Cavan	1	2	0	2	1	1	7	38.89	=123
1015	Drumcask	Cavan	1	1	0	3	2	1	8	44.44	=59
1016	Gubnafarna	Cavan	3	1	0	1	1	1	7	38.89	=123
1017	Aghnacally	Cavan	1	0	1	0	2	1	5	27.78	=336
1018	Cashelbane	Cavan	2	0	0	2	3	3	10	55.56	=12
1019	Killywilly	Cavan	1	1	1	2	1	3	9	50.00	=25
1021	Derrybrick	Cavan	1	1	1	1	1	3	8	44.44	=59
1022	Lecharrownahone	Cavan	0	0	1	3	1	2	7	38.89	=123
1023	Corratirrim	Cavan	1	0	0	0	1	2	4	22.22	=458
1025	Teeboy	Cavan	1	1	1	0	2	2	7	38.89	=123
1027	Coragh (Tullyhunco)	Cavan	1	1	1	1	2	2	8	44.44	=59
1028	Derries Upper	Cavan	1	1	1	2	1	2	8	44.44	=59
1029	Crubany	Cavan	1	0	1	1	0	1	4	22.22	=458
1031	Inishconnell	Cavan	0	1	1	0	2	2	6	33.33	=223
1032	Rivory	Cavan	1	0	1	0	1	3	6	33.33	=223
1033	Coolnalitteragh	Cavan	1	0	1	3	1	1	7	38.89	=123
1034	Aughrim	Cavan	0	1	1	1	1	2	6	33.33	=223
1035	Mullaghahy	Cavan	0	1	1	1	1	3	7	38.89	=123
1038	Drumnatread	Cavan	0	1	1	1	2	3	8	44.44	=59
1041	Rakane	Cavan	2	2	1	1	1	2	9	50.00	=25
1042	Drumcor	Cavan	2	1	1	1	1	2	8	44.44	=59
1043	Coppanagh	Cavan	1	0	1	0	1	3	6	33.33	=223
1045	Killyvaghan	Cavan	1	1	0	1	1	2	6	33.33	=223
1048	Taghart North	Cavan	0	1	1	0	1	2	5	27.78	=336
1051	Drumcrow	Cavan	0	0	1	1	1	3	6	33.33	=223
1054	Tawlaght	Cavan	1	0	1	1	1	2	6	33.33	=223
1055	Pottle	Cavan	0	2	1	0	1	3	7	38.89	=123
1057	Coragh (Castlerahan)	Cavan	1	1	1	1	2	2	8	44.44	=59
1058	Calf Field	Cavan	1	0	2	1	0	3	7	38.89	=123
1060	Carrickaboy Glebe	Cavan	2	1	1	2	1	2	9	50.00	=25
1061	Crossrah	Cavan	1	1	1	0	0	1	4	22.22	=458
1062	Drumegil	Cavan	0	0	1	2	1	2	6	33.33	=223
1063	Sallaghill	Cavan	1	0	1	1	2	1	6	33.33	=223
1064	Crossafehin	Cavan	0	2	1	1	1	2	7	38.89	=123
1065	Drumroragh	Cavan	0	1	1	1	1	3	7	38.89	=123
1067	Manragh Upper	Cavan	2	0	1	2	2	3	10	55.56	=12
1068	Corleggy	Cavan	0	1	1	2	1	3	8	44.44	=59
1069	Cornabeagh	Cavan	2	0	1	2	1	3	9	50.00	=25
1071	Tonyrevan	Cavan	1	1	1	0	1	3	7	38.89	=123
1072	Carrick	Cavan	1	0	1	1	1	2	6	33.33	=223
1074	Behy	Cavan	2	1	1	2	2	2	10	55.56	=12
1075	Mullaghlea	Cavan	1	1	0	1	1	1	5	27.78	=336
1076	Tirlahode Upper	Cavan	1	1	1	0	1	1	5	27.78	=336
1077	Drummullagh	Cavan	1	1	1	1	1	1	6	33.33	=223
1078	Shantemon	Cavan	1	2	1	2	2	2	10	55.56	=12
1080	Dundavan	Cavan	1	1	1	0	1	2	6	33.33	=223
1081	Cornaslieve	Cavan	2	1	1	1	1	2	8	44.44	=59
1083	Crosserule	Cavan	2	0	1	1	1	2	7	38.89	=123
1084	Ryefield	Cavan	1	1	1	1	2	2	8	44.44	=59
1086	Pottle Lower	Cavan	0	0	1	2	2	2	7	38.89	=123
1087	Greaghclaugh	Cavan	1	0	1	2	2	2	8	44.44	=59
1088	Ardlougher	Cavan	1	1	0	1	1	1	5	27.78	=336
1089	Legglass	Cavan	1	1	0	0	2	2	6	33.33	=223
1090	Ballyheelan	Cavan	0	0	1	1	1	1	4	22.22	=458
1091	Tonagh	Cavan	0	0	1	0	1	3	5	27.78	=336

Appendix 13: Top-ranked sites by County based on conservation score

This appendix lists the best quality ISGS sites in terms of their conservation score for each of the eight counties surveyed between 2007 and 2009. The top 15 sites from each county are shown (or more if 15th place is shared by more than one site). Overlap with an NHA/pNHA or SAC is indicated with the relevant NPWS site code.

The conservation score, expressed as a percentage of the maximum score possible, is shown.

All 580 sites surveyed were ranked by conservation score; this overall conservation ranking is shown for each site on the table. '=' indicates a ranking is shared by two or more sites.

The overall threat ranking is also included. A high ranking indicates a site experiencing more negative influences. Again, sites sharing a ranking are indicated with '='.

Sites are sorted by Conservation score within each county.

County	Site ID	Site name	NHA/ pNHA	SAC	Conservation Score (%)	Overall Conservation Ranking	Overall Threat Ranking
Cavan	1067	Manragh Upper	-	-	63.16	3	=12
	1004	Moneen	-	002032	54.74	7	=12
	1008	Moneensauran	000584	000584	48.42	14	=59
	1016	Gubnafarna	000584	000584	44.21	=22	=123
	1051	Drumcrow	-	-	44.21	=22	=223
	1009	Bellavalley	000584	000584	42.11	=29	=123
	1007	Legnagrow	-	-	40.00	=36	=123
	1019	Killywilly	000007 000974	000007	40.00	=36	=25
	1001	Killyvally	000007	000007	36.84	=53	=12
	1027	Coragh (Tullyhunco)	-	-	36.84	=53	=59
	1015	Drumcask	-	-	35.79	=57	=59
	1013	Gubrawully	-	-	33.68	=71	=336
	1032	Rivory	000007	000007	32.63	=84	=223
	1045	Killyvaghan	000001	-	32.63	=84	=223
	1017	Aghnacally	000009	-	31.58	=95	=336
	1018	Cashelbane	-	-	31.58	=95	=12
	1087	Greaghclaugh	-	-	31.58	=95	=59
Cork	584	Polleenateada	-	-	35.79	=57	=223
	618	Kilcolman	000092	-	34.74	=65	=336
	568	Derrycarhoon	-	-	33.68	=71	=25
	590	Bengour West	-	-	33.68	=71	=336
	402	Glanmore	001879	001879	32.63	=84	=336
	601	Dawstown	-	-	32.63	=84	=336
	415	Coolowen	-	-	31.58	=95	=25
	539	Dunkelly West	-	-	31.58	=95	=223
	566	Reenaknock	-	-	31.58	=95	=12
	481	Glannafeen	-	-	30.53	=115	=123
	538	Gouladoo	-	-	30.53	=115	=123
	414	Coolymurraghue	000094	-	29.47	=126	=223
	424	Manning	-	-	29.47	=126	=123
	488	Rougham	000093	000093	29.47	=126	=336
	506	Garrylucas Marsh	000087	-	29.47	=126	=458
Leitrim	811	Larganavaddoge	000623	000623	66.32	2	=336
	850	Letterfine	-	-	60.00	4	=59
	815	Sheemore	001421	-	55.79	6	=59
	813	Aghalateeve	000623 001919	000623 001919	53.68	8	=4
	825	Ballynaboll	-	-	52.63	9	=223
	808	Keeloges	001403	001403	51.58	10	=223
	818	Lugnafaughery	002435	000623	50.53	11	=123
	807	Aghadunvane	001403	001403	49.47	=12	=336
	802	Gubacreeny	000428	000428	46.32	=17	=223
	890	Kilroosk	-	-	46.32	=17	=223
	823	Fawnlion	-	-	45.26	21	=336
	837	Corry	000426	-	44.21	=22	=59
	812	Cloontyprughlish	000623	000623	43.16	=27	=458
	849	Corderry	001920	-	43.16	=27	=123
	872	Gort	-	-	42.11	=29	=458
	874	Hartley	001643	-	42.11	=29	=223

County	Site ID	Site name	NHA/ pNHA	SAC	Conservation Score (%)	Overall Conservation Ranking	Overall Threat Ranking
Longford	999	Glen Lough	001687	-	47.37	=15	=223
	949	Drumnee	000440	000440	46.32	=17	=59
	910	Keel Deer Park	-	-	40.00	=36	=59
	948	Pollagh	000440	000440	40.00	=36	=123
	943	Derawley	-	-	35.79	=57	=12
	903	Commons North	000440	000440	34.74	=65	=336
	947	Cloondara	001818	001818	34.74	=65	=223
	953	Cloonart South	001818	001818	33.68	=71	=59
	996	Corrool	000440	000440	33.68	=71	=336
	900	Ballymaurice	-	-	32.63	=84	=123
	919	Creagh	-	-	32.63	=84	=223
	937	Killeen	-	-	31.58	=95	=223
	940	Bracklon	-	-	29.47	=126	=59
	946	Inchcleraun	000440	000440	29.47	=126	=336
	950	Kilnacarrow	-	-	29.47	=126	=458
	968	Derrynabuntale	000440	000440	29.47	=126	=223
	998	Aghnagore	001818	001818	29.47	=126	=223
Monaghan	712	Coolberrin	-	-	47.37	=15	=336
	717	Barratitoppy Upper	001603	-	40.00	=36	=25
	732	Tusker	001605	-	40.00	=36	=1
	718	Ardginny	001782	-	37.89	=48	=4
	702	Lissaraw	-	-	31.58	=95	=123
	716	Dundrumman	-	-	31.58	=95	=25
	725	Carrickanoran	-	-	31.58	=95	=59
	762	Lemgare Rocks	-	-	31.58	=95	=25
	706	Kilroosky Lough Cluster	001786	001786	30.53	=115	=123
	723	Mullananalt	-	-	29.47	=126	=123
	733	Drumgoose	-	-	29.47	=126	=4
	752	Clonoula	-	-	29.47	=126	=223
	701	Drumirril Deer Park	-	-	28.42	=148	=123
	745	Dromore	-	-	27.37	=165	=223
	738	Drumshannon	-	-	26.32	=184	=123
	739	Blackraw	-	-	26.32	=184	=25
Offaly	109	Moystown Demesne and	000216	000216	67.37	1	=458
	18	Little Brosna Callows	000564	000216	58.95	5	=336
	110	Clooncraff	000216	000216	46.32	=17	=536
	107	Clonmacnoise	000216	000216	44.21	=22	=458
	108	Leitra Callow	000216	000216	44.21	=22	=458
	68	Slate River	-	-	36.84	=53	=536
	1	All Saints Bog	000566	000566	30.53	=115	=59
	101	Clonminch	-	-	29.47	=126	=458
	17	Dovegrove Callows	000010	-	27.37	=165	=336
	97	Ballymullen	-	-	27.37	=165	=336
	8	Drumakeenan, Eagles Hill and Perry's Mill	000900	-	26.32	=184	=336
	40	Hundred Acres	000412	000412	26.32	=184	=223
	20	Ballyduff Esker	000885	-	24.21	=233	=336
	16	Lough Nanag Esker	000910	-	23.16	=257	=123
	44	Croghan Hill	-	-	23.16	=257	=536
	53	Kilcolman	-	-	23.16	=257	=336
	73	Silver River	-	-	23.16	=257	=59
	90	Derrinlough	000909	-	23.16	=257	=336
	93	Clonmore	-	-	23.16	=257	=223
	99	Cappancur	-	-	23.16	=257	=458

County	Site ID	Site name	NHA/ pNHA	SAC	Conservation Score (%)	Overall Conservation Ranking	Overall Threat Ranking
Roscommon	210	Portnacrinnaght	000587	-	49.47	=12	=336
	30	Kilglas and Grange Lough	000608	-	42.11	=29	=570
	114	Cappaleitrim	000216	000216	42.11	=29	=336
	25	Lough Gara	000587	-	41.05	=34	=223
	113	Drumlosh	000216	000216	38.95	=43	=458
	23	Lough Dromharlow	001643	-	37.89	=48	=336
	224	Cloonfineen	000218	000218	35.79	=57	=59
	236	Kilnanooan	-	-	34.74	=65	=223
	218	Portruny Bay	002310	000440	33.68	=71	=336
	205	Cleaheen	001643	-	32.63	=84	=458
	242	Roxborough	-	-	32.63	=84	=123
	259	Carrowmurragh	002310	000440	32.63	=84	=458
	245	Ahagower	000222	-	31.58	=95	=123
	215	Carrickmore	-	-	29.47	=126	=458
	226	Coolteige	-	-	29.47	=126	=223
	227	Carrownalassan	-	-	29.47	=126	=223
Waterford	316	Lyre Mountain	001952	001952	36.84	=53	=336
	366	Knockmahon	001693	-	33.68	=71	=123
	319	Gracedieu	-	002137	31.58	=95	=336
	342	Rathmoylan	-	-	31.58	=95	=223
	354	Glenpatrick	-	-	31.58	=95	=123
	357	Meoul	-	-	30.53	=115	=336
	310	Annestown	-	-	29.47	=126	=458
	344	Ballynamona Lower	-	-	29.47	=126	=123
	379	Tobernahulla	-	-	28.42	=148	=336
	340	Killure	-	-	26.32	=184	=336
	359	Tallowbridge	000072	002170	26.32	=184	=25
	356	Lag Bridge	-	-	24.21	=233	=336
	307	Knockaunabulloga	-	-	23.16	=257	=336
	336	Millerstown	-	-	23.16	=257	=223
	361	Kilmurrin	001693	-	23.16	=257	=223

Appendix 13: Top-ranked sites by County based on conservation score