NATIONAL SURVEY

OF

NATIVE WOODLAND IN IRELAND

Second Phase Report





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Front Cover Photograph: Ballindoolin Bog Wood – Edwina Cole

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1. INTRODUCTION

1.1 Background

Ireland is one of the least forested countries in Europe with about 9% of its area under forest cover, the majority of which is composed of commercial conifer plantations (Gallagher *et al.* 2001). Only around 1.1% of the country is covered by native woodland, that is woodland dominated by native tree species, and much of this is highly fragmented and modified (Higgins *et al.* 2004). The National Biodiversity Plan has set a general target of increasing the broadleaf component of total annual afforestation to 30% by 2007 (Anon. 2002). It also sets a target for the recently launched Native Woodland Scheme of creating 15,000ha of new native woodland. Such significant changes in the country's landscape must be underpinned by a sound ecological knowledge base. This is also required if Ireland is to meet its obligations to conserve its Annex I Habitats under the EU Habitats Directive.

The formulation of a national native woodland strategy is, however, hindered by the lack of a detailed and extensive inventory of sites. Previous woodland surveys have concentrated on sites with commercial potential (O'Flanagan 1973, Purcell 1979) and sites of designation quality (Anon. 1981) resulting in a lack of knowledge of the smaller or less economically valuable woods which constitute the vast majority of the country's fragmented resource (Higgins *et al.* 2004). Similarly, ecological research projects have largely been concentrated in a handful of well-known, high conservation status sites, such as the woodlands of the Killarney National Park (e.g. Perrin 2002).

Classification of Irish woodlands has essentially followed the phytosociological work of Braun-Blanquet & Tüxen (1952), with subsequent studies each addressing specific woodland types (e.g. Kelly & Moore 1975, Kelly 1981, Kelly & Kirby 1982, Cross 1992, Kelly & Iremonger 1997). Fossitt (2000) developed a relatively simple classification encompassing the range of known woodland types, with an emphasis on ease of application in the field. This 'userfriendly' classification has found considerable favour and has subsequently been refined by Cross (2005). It is, however, largely and subjectively based on the datasets and results of the above phytosociological studies. Jörg (2003) provides an overview of the shortcomings of the phytosociological approach. Furthermore, Cross (2005) points out that in the absence of a complete detailed national woodland survey such classifications must be regarded as preliminary.

The need for these two key resources, an inventory and a detailed classification system, has been recognised by actions in the National Biodiversity Plan (Anon. 2002), and largely in response to this the National Survey of Native Woodlands (NSNW) was initiated in 2003.

1.2 Scope of report

The first phase of the NSNW was conducted in 2003 and is reported in Higgins *et al.* (2004). That document provides a summary of existing knowledge on native woodland in Ireland and an examination of the abundance and distribution of native woodland at the national scale by utilising the Forest Inventory Planning System (FIPS), a GIS dataset produced by the Forest Service (Gallagher *et al.* 2001). Higgins *et al.* (2004) also reports on the fieldwork conducted as part of the first phase of the survey, which comprises the full survey of 204 woodland sites in Cos. Carlow, Kilkenny, Laois and Wexford, and the western half of Co. Offaly.

This report documents the work completed during the second phase of the NSNW, conducted in 2004-2005. This includes the full survey of 531 woodland sites in Cos. Cavan, Dublin, Kildare, Leitrim, Louth, Longford, Meath, Monaghan, Roscommon, Westmeath and Wicklow. It also covers the incorporation of data from 101 woodland sites from external sources, including the pilot study to the NSNW conducted in the eastern half of Co. Offaly (van der Sleesen & Poole 2002) and a survey of woodland in three SACs by Browne et al. (2000). The methods section reports on how sites were selected and provides the field survey protocol. It also includes details of the external data sources which were incorporated and the analytical methods used. One of the main sections of the analysis was the formulation of a classification based on the complete relevé dataset. The procedure utilises hierarchical cluster analysis, an objective technique which has long been applied to a wide variety of ecological scenarios but has yet to be used extensively in the study of Irish vegetation (Perrin et al. in press). The second main section of the analysis is the assessment of the conservation and threat status of all 836 sites in the dataset. This assessment largely follows the procedure developed by Higgins et al. (2004) and Martin et al. (2005). It provides a means for comparing the conservation value of sites (such as designated and non-designated sites) and a baseline for the monitoring of sites over time. The results section focuses on reporting on these two main aspects. Finally, there is a discussion of the findings of this phase of the survey, including an evaluation of the methods used and suggesting additional analyses and uses for the dataset.

This report is accompanied by a Microsoft Access database which includes the up-to-date NSNW database and an ArcView GIS package which includes FIPS and woodland type distribution maps. Also associated with this report are a set of digital photographs of the surveyed sites and an updated EndNote reference library of literature references relevant to Irish native woodlands.

2. METHODS

2.1 Site selection

The Forest Inventory Planning System 1998 (FIPS) was used as the primary data source for the site selection process. FIPS is a GIS platform running in ArcView that that has digitally mapped all forested areas (parcels) \geq 0.2ha in Ireland (Gallagher *et al.* 2001). It was developed utilising a combination of satellite (Landsat Thematic Mapper) imagery taken between 1993 and 1997, and a series of ortho-corrected panchromatic aerial photographs taken in 1995 (Gallagher *et al.* 2001). To focus in on putative native woodland sites, a modification to FIPS was developed (Higgins *et al.* 2004). This comprised three main steps. Parcels labelled with non-relevant class categories (mainly *Conifer forest or Cleared*) were removed, leaving only parcels categorised as either *Broadleaf* or *Mixed forest*. For each of these class categories, contiguous parcels were joined using a conventional dissolve procedure. Finally, parcels falling below the minimum threshold for inclusion in this survey, 0.98ha in area and 40m in width, were removed.

From this modified version of FIPS a subset of sites was selected for field survey within each of the counties chosen for inclusion in this phase of the NSNW: Cavan, Dublin, Kildare, Leitrim, Louth, Longford, Meath, Monaghan, Roscommon, Westmeath and Wicklow. The overall target for the number of surveyed sites was 550, but additional sites were selected to allow for sites which could not be surveyed due to problems such as owners denying access or non-native status. The number of sites selected within each county was based on the proportion of the total area of native woodland within the survey remit that was present in that county as detailed by FIPS.

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 woodlands were included in the survey:

- sites already designated for conservation e.g. NHAs and SACs.
- large blocks of woodland for which little or no data were currently available.
- woodlands in largely unwooded landscapes .
- older woodlands (those with extant blocks marked on the 1st edition Ordnance Survey maps of the 1830s and 1840s).
- sites with different ownership status (privately-owned, state-owned or owned by Coillte) and therefore potentially under different levels of threat.
- sites that represented the geographical variation that existed in the study area, such as altitudinal range.
- each of the different woodland types located in the study area was well represented
- sites which FIPS classified as being predominantly oak
- site which occurred on different soil types

Planting information from the Coillte GIS database was used to supplement the selection process. Analysis of FIPS was also used to ensure that there was a good geographical spread of woods within the study area. A small number of non-FIPS sites were identified by manual inspection of year 2000 aerial photographs or in the field; this was to compensate for the degree of inaccuracy that is inherent in FIPS (Gallagher *et al.* 2001). All sites were checked on aerial photographs; for some it was apparent that they were unsuitable for survey and they were rejected at this stage

For each site selected a site pack was compiled which included a six inch map with an overlay from the FIPS or Coillte GIS, a blank six inch map, aerial photographs and copies of notes from previous surveys where available.

A subjective approach to site selection was adopted, primarily due to the practical restraints on the project and the need to acquire a critical mass of data for several subsets of site types. For example, woodlands of lowland river islands are a very rare woodland type in Ireland and it was therefore desirable to include all of these within the survey to ensure that a reasonable level of information about this habitat type was obtained. It was also desirable to include data from as many of the relatively few Nature Reserves as possible so that comparisons could be made with non-designated sites. Given that a limited number of sites could be surveyed within the financial and time limits of the project, a purely randomized approach based on FIPS parcels, 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 the need to identify non-FIPS sites also made a randomization approach to site selection unworkable.

2.2 General site survey

Fieldwork was conducted between July and September in 2004 and between April and September in 2005. For each selected site, a decision was made upon arrival in the field on the validity of surveying it based on the native component of the canopy, shrub and field layers, canopy height, actual size and the importance of the site in context of the locale; a proportion of sites were therefore rejected at this stage as unsuitable. Specific field sheets were used for recording the survey data (Appendix 1). For each site surveyed the following data were recorded.

Site species list: A comprehensive list of vascular plants was recorded for each site. For tree and shrub species, presence/absence in each of the canopy, shrub and field layers were recorded. Where a species was observed only in man-modified microhabitats within the woodland site (*e.g.* on gravel tracks, car-parks etc.) this was noted separately. Notable bryophytes were also recorded from the site in general. This 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 project followed Stace (1997) for vascular plants, Smith (2004) for mosses, Paton (1999) for liverworts and Dobson (2000) for lichens. As fieldwork was conducted over several months each year some seasonal variation in recording undoubtedly occurred, particularly for vernal species.

Site situation: The altitudinal range (in metres) for each site was recorded from the appropriate Discovery Map. The general slope (in degrees) for the woodland as a whole was recorded using a clinometer or estimated by eye. If there was not an obvious, single measurement relevant to the site as a whole, the situation was described in the site notes. The aspect was recorded for the site as a whole using cardinal and subcardinal points. Flat sites (*i.e.* with no aspect) were recorded as '0'. Where a site had more than one aspect this was indicated on the field card. The topographical position (*e.g.* upper slope, lower slope, depression) occupied by the woodland was noted. In many cases the woodland site extended over many topographical positions. Where the woodland site was associated with a particular geographical feature, for example, in a valley or on a drumlin, this was also recorded.

Area: Site area (in hectares) was derived from FIPS. If during the field survey the woodland boundary was found to differ from that given by FIPS, the new boundary was marked on the 6" map or aerial photograph provided and a revised site area was calculated.

Internal features: The predominant soil moisture regime observed at the site was recorded. In addition, any hydrological features *e.g.* streams, ditches and flushes observed were noted. All evidence of management, both previous and current, in the wood was noted. This included planting, felling, amenity use and coppicing.

Surface cover: The surface cover of various strata was assessed to give a general indication of the structure of the woodland. The DAFOR scale (dominant, abundant, frequent, occasional, rare or absent) was used to assess cover of: rock and boulders; stones and gravel; bare soil; litter; bryophytes; herbs; low woody species. Only the actual wooded area was assessed; gravel-covered forest tracks / roads, car-parks etc. were not included when assigning scores to the categories.

Vegetation communities: Vegetation communities were classified using the system of Fossitt (2000) and where more than a single type was present, the proportion of the woodland area (survey area) allotted to each type was noted. The distribution of vegetation types at each site was described in the site notes and marked on the 6 inch map where practical.

Dead wood: The abundance of dead wood was recorded. The AFOR scale was used to record the frequency of each category of dead wood present, as it is assumed that dead wood would never be dominant at a site. The categories are defined as follow.

- Standing dead
 Any tree, still rooted and seemingly entirely dead
- Standing damaged Trees with major branches lost or crown damage
- Uprooted trees With/without main stem still present
- Coarse woody debris Non-leafy litter on the ground, diameter >5cm
- Fine woody debris Non-leafy litter on the ground, diameter <5cm.
- Snags/snapped Trees which have broken part way up main stem

Site boundary: The type(s) of woodland boundary present were recorded and where a definite boundary, such as a wall or fence is lacking, the transition from woodland to non-woodland habitats were described as either abrupt or diffuse.

Adjacent landuse: The surrounding landuse observed during the field survey was recorded for each site using categories defined by Fossitt (2000).

Grazing regime: The general grazing level at each site was assessed using the criteria listed in Table 2.1, which is modified from Mitchell & Kirby (1990). In addition, the types of grazer(s) present were deduced where possible from available evidence, such as prints and droppings.

Evidence of Grazing	Value
No grazing apparent.	0
Low: Regeneration abundant, shrub layer dense, no obvious browse line.	1
Moderate: Saplings localised, shrub layer patchy, field layer > 30cm in general.	2
High: Shrub layer severely checked/lacking, ground vegetation generally <20 cm, tree	3
regeneration rare/confined to safe sites, some bare soil/poaching visible.	
Severe: Shrub layer and regeneration almost completely absent. Definite browse line	4
apparent, extensive bare soil present, ground flora confined to well bitten herbs	
grasses and bryophytes. Bark stripping at least occasional.	

Natural regeneration: The principal canopy and sub-canopy species were scored for regeneration during the general site survey. DAFOR was used to score each of the following classes: seedling (sd) \leq 25 cm tall, <7 cm dbh; sapling (sp) up to 200 cm tall, <7 cm dbh; pole (p) >200 cm tall and dbh <7 cm; mature (m) dbh \geq 7 cm.

Invasive shrubs: Given the potential damaging effects of introduced species on the woodland ecosystem, the presence and status of invasive shrub species were noted at each site. For *Rhododendron ponticum*, a species whose ecology in Ireland is relatively well-known, the classification system of Cross (1981, 1982) was used (Table 2.2). The level of infestation of other invasive shrub species (e.g. *Prunus laurocerasus* and *Symphoricarpos albus*) was assessed using the criteria in Table 2.3.

Table 2.2. Classification of	Rhododendron infestation	(Cross	1981,	1982).
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Description	Age (yrs)	Score
None present	N/A	1
Plants scattered, small, none having flowered	< 12	2
Plants frequent, but not clumping. Some flowering, many seedlings	< 24	3
Plants abundant forming clumps, many seedlings	< 30	4
Plants forming dense thickets with very little ground flora below	>30	5

Table 2.3. Classification of invasive shrubs (excluding *Rhododendron*).

Level of Infestation	Score
None present	1
Plants scattered, not dominating any area	2
Plants dominating small areas, <20% woodland area	3
Plants dominating larger areas, 20-50%woodland area	4
Plants forming dense thickets over more than half the site area	5

The presence and abundance of potentially invasive canopy species, such as *Acer pseudoplatanus*, was recorded in the same way as for native canopy species.

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. Included within this description were:

- a summary of the physical nature of the site
- a list of the vegetation types present at the site including the main tree species
- a summary of the woodland structure including the regeneration of tree species
- rare/protected species with 10 figure grid reference.

2.3 Relevé survey

A 10m x 10m relevé was taken from within each of the vegetation community types identified within surveyed sites. Cover in vertical projection for all vascular and bryophyte species was recorded on the Domin scale (Kent & Coker 1992), as were other general parameters (Appendix 1). Due to the highly specialised nature of lichen taxonomy and identification, field surveyors were not required to produce an exhaustive species list for this group. Instead, a checklist of notable lichen species was used, for which an identification booklet was provided. For each relevé a 10 figure grid reference was obtained using a GPS and altitude, slope, and aspect were recorded. Soil profiles were examined to a depth of at least 30cm and classified to Great Soil Group (Gardiner & Radford 1980) with the aid of the soil identification key in Trudgill (1989). Five soil samples were taken from each relevé (one from the centre and one from each quadrant) with an aluminium soil corer to a depth of 10cm, and bulked. Soil pH was measured in the field (or immediately on return from the field) using a glass electrode and a 1:1 soil / water paste. Soil samples were then air-dried and stored at 4°C for subsequent laboratory analyses of loss on ignition and total phosphorus. Loss on ignition was determined by heating samples to 500 °C for 5 hours. To estimate total phosphorus samples were digested using the Kjeldahl method and phosphorus determined using a molybdenum blue complex by spectrophotometer.

Within the 10m x 10m relevés, tree size, abundance and stem quality were measured. The species and number of all stems with a dbh <7 cm were recorded in each relevé using 5 height classes - a simplified version of Raunkier's scheme (Raunkier 1934). Differentiation was made between stems which were basal shoots of mature trees and those which were not (free regeneration). As the density of trees varies greatly between woodlands, the plot size for assessment of mature trees (dbh \geq 7 cm) was increased as required beyond the relevé to allow a statistically representative sample of *c*. 30 trees to be recorded; to account for variable plot size, density of trees was expressed in terms of trees per ha. Each mature stem was given a tree number with multiple stems from the same tree sharing the same tree number; this permitted account to be made for typically multi-stemmed species, such as hazel, in subsequent density calculations. For each stem the following information was recorded:

- Species
- Dbh
- Crown position relative to other trees was recorded in four classes: dominant (trees emerging from the general canopy level), co-dominant (trees forming the canopy), intermediate (trees in the lower canopy that receive some direct light from above), suppressed (trees completely overtopped by the canopy).
- Height (to the nearest metre)

For trees of minimum merchantable size (dbh \geq 40 cm; Joyce *et al.* 1998) the following additional data was recorded:

- Estimated log length total length, in meters, of the portion of the main stem that was suitable for veneer or sawtimber.
- The presence of the following stem defects: forks, heavy branches, stem galls/cankers, kinks/bends, damaged stem/bark, lean > 10%, fluted/buttressed bole, excessive taper, shelf fungi or other stem disease, excessive ivy, epicormic shoots.

Within the relevé, the stratification of the woodland was sketched and photographed and the height and percentage cover for each stratum (canopy, sub-canopy and shrub layer) recorded. All photographs were stored digitally in JPEG format.

For each of the vegetation community types identified at surveyed sites the suitability as a seed source was recorded. This information was requested by COFORD to assist with the Native Woodland Scheme. To meet the COFORD definition of "seed source identified" for a particular tree species at least one individual tree had to have dbh \geq 7cm and be generally free of defects and healthy. To meet the COFORD definition of "seed stand" for smaller tree species such as *Crataegus monogyna, Ilex aquifolium, Corylus avellana* or *Sorbus aucuparia,* a minimum of 20 individuals of that species had to be present with dbh \geq 10cm. To be suitable for selection as a seed stand for larger tree species such as *Quercus* spp., *Salix* spp., *Fraxinus excelsior* or *Betula pubescens,* a minimum of 30 individuals of that species had to be present with dbh \geq 20cm. In addition, there needed to be a degree of uniformity among the individuals of each species and each of the trees had to be generally free from defects and healthy.

2.4 Incorporation of external data

The main dataset was supplemented by the incorporation of woodland survey data from several external sources. This consisted primarily of the addition of a further 152 relevés from 101 sites. All of these were recorded using Domin or percentage cover. In addition, environmental relevé data, structural data and general site data were incorporated where possible. Due to differences in the survey methods this information, in some instances, was either not recorded or was recorded in a form that did not permit viable comparison. The following data sources were used:

1. Browne *et al.* (2000). A survey of broadleaf woodlands in three SACs: Barrow-Nore, River Unshin and Lough Forbes.

From this report 71 relevés, recorded from 40 sites in Cos. Kilkenny, Longford, Sligo and Wexford in 2000 were incorporated. The relevés were recorded using Domin, but the cover of tree species was recorded separately in canopy, shrub and field layers and the cover of the climbing species *Hedera helix* and *Lonicera periclymenum* was recorded separately as either ground cover or lianes. For each of these species the highest recorded Domin value was therefore used.

Structural data were recorded for the 10m x 10m relevés only. Diameter measurements were made for trees \geq 10cm dbh rather than \geq 7cm dbh as in the main survey. To compensate for this each regenerating stem which had been tallied in a juvenile class (height \geq 1.5m and \leq 10cm dbh) was assigned a dbh of 7cm. For some multistemmed trees diameter of the stool rather than dbh of individual stems was recorded. Soil samples were taken and analysed as for the main survey and basic environmental and general site data were recorded. Site species lists were recorded.

2. van der Sleesen & Poole (2002). Inventory of semi-natural woodlands in the eastern part of County Offaly: a pilot study for the national inventory of native woodlands.

From this report 70 relevés recorded from 55 sites in Co. Offaly in 2001 were incorporated. The relevés were recorded using a combination of Domin and percentage cover (which was converted to Domin). Structural data were recorded for the 10m x 10m relevés only but diameter measurements were made for all trees \geq 7cm dbh as in the main survey. Soil samples were taken and analysed as for the main survey except that 20cm deep cores were taken and a 1:2 soil to water paste was used. Basic environmental and general site data were recorded. Site species lists were recorded.

3. Valverde et al. (2005). Raised bog monitoring project 2004/2005.

Three relevés recorded from three active bog sites in Cos. Offaly and Roscommon in 2004 and 2005 were incorporated. The relevés were recorded using percentage cover which was converted to Domin. Structural data were recorded for the 10m x 10m relevé only but

diameter measurements were made for all trees ≥7cm dbh as in the main survey. Basic environmental and general site data was deduced from maps. Site species lists were recorded. No soil data available.

4. van der Sleesen, unpublished data.

Four relevés recorded from two sites near Ballykilcavan, Co. Laois in 2001 were incorporated. The 10m x 10m relevés were recorded using Domin. Basic environmental and general site data was deduced from maps. No structural or soil data were available.

5. Kelly & Fuller, unpublished data.

Four relevés recorded from one site, Park Hill, near Abbeyleix, Co. Laois in 1990 were incorporated. The 10m x 10m relevés were recorded using percentage cover which was converted to Domin. No structural data were available but soil pH was recorded.

2.5 Analysis methods

The analysis of results consisted of two main sections: the analysis of the vegetation data recorded in relevés by the formulation of a classification, and the conservation and threat assessment for each site based on range of observations. The methods used in each of these procedures are outlined here.

Vegetation analysis: The analysed dataset consisted of 1009 relevés (152 from the two pilot studies and 857 from the main survey). Outlier analysis had indicated that a small number of samples (~ 5 relevés) could be regarded as outliers. These all consisted of riparian or lakeshore sites containing unusual combinations of *Salix* spp. As these fell within the target population of the survey and the methodology includes measures to reduce their influence, they were retained within the dataset. A suite of complementary statistical techniques were used to analyse the dataset. Analysis was conducted using PC-ORD 4 (MjM Software, Oregon) with the aim of defining an objective classification and largely follows the procedure in Perrin *et al.* (in press)

The main method selected for grouping the data into vegetation types was hierarchical, polythetic, agglomerative cluster analysis. 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 Sørenson (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 β = -0.25 (Lance & Williams 1967). This option is compatible with Sørenson 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. Spacedistorting 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).

Hierarchical clustering was chosen over two other popular classification methods: TWINSPAN (Two Way Indicator Species Analysis) and K-means clustering. Serious weaknesses in the TWINSPAN method have previously been highlighted, not least its poor performance with heterogeneous datasets containing more than one important gradient and the loss of information from quantitative data inherent in the 'pseudospecies' concept (Belbin & McDonald 1993; Legendre & Legendre 1998). The lack of dimensionality in dendrograms resulting from hierarchical clustering is, conversely, an advantage when dealing with

heterogeneous datasets (McCune & Grace 2002). A more valid alternative is K-means clustering, a non-hierarchical cluster technique. The K-means method is not suitable for directly clustering most ecological datasets, however, as it employs the Euclidean distance measure (Legendre & Legendre 1998).

Indicator Species Analysis (ISA; Dufrene & Legendre 1997) was used as an objective tool to determine at what level the dendrogram resulting from the hierarchical clustering should be cut, i.e. what is the optimal number of final groups. 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. 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; the significance of this assignment is tested using Monte Carlo randomizations. Dufrene & Legendre (1997) concluded that ISA was more sensitive at identifying indicator species than TWINSPAN and also suggested that this method could be used as a stopping rule for clustering, as IndVals will be low when groups are too finely or too broadly defined, peaking at some intermediate, most informative level of clustering. ISA was run on the output from the hierarchical clustering cycles yielding 2-30 groups with 1000 randomizations used in the Monte Carlo tests. Number of significant indicators ($p \le 0.05$) and sum of IndVals for significant indicators were used as criteria (Dufrene & Legendre 1997; McCune & Grace 2002).

To test for significant differences between the groupings determined by the hierarchical clustering and ISA, multi-response permutation procedure (MRPP) was employed. This is essentially a non-parametric multivariate test and thus avoids the normality requirements of parametric multivariate tests such as discriminant analysis (McCune & Grace 2002). As it is statistically inappropriate to test for differences between groups using the same variables that define them, MRPP was run on a matrix of five environmental variables: pH, total P, % organic content, slope and altitude. In addition to a *p*-value, MRPP produces a statistic *A* which describes chance-corrected within-group heterogeneity. *A* = 1 when all samples within groups are identical, *A* = 0 when heterogeneity within groups equals expectation by chance and *A* < 0 when within-group heterogeneity is less than that expected by chance. Euclidean distance was used on a rank transformed matrix following relativization of columns to standard deviates (McCune & Grace 2002).

Non-metric multidimensional scaling (NMS) was used to illustrate the relationships between relevés and between relevés and environmental variables. This iterative ordination technique is particularly well suited for analysis of ecological community data as it works well with nonnormal datasets, allows the use of non-Euclidean distance measures, and does not assume that species have linear or unimodal responses to environmental gradients (McCune & Grace 2002). Being based on ranked distances, NMS is less prone to distortion due to outliers. For ecological analysis, NMS has been recommended over the more widely used Detrended Correspondence Analysis (DCA) method which has been seriously criticized by several authors (e.g. Minchin 1987; Legendre & Legendre 1998; McCune & Grace 2002). The 'slow and thorough' option in PC-ORD was used with Quantitative Sørenson (Bray-Curtis) distance and varimax rotation. The use of this distance measure permits ready comparison of the results with those of the hierarchical cluster analysis. For the NMS ordination, species occurring in less than five relevés were removed from the dataset to reduce noise. Hence, the ordination was run on a matrix of 1009 relevés and 336 species.

Conservation and threat assessment: 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 (management, history, rarity etc.). However, it is also useful to be able to evaluate sites in the context of others, and to make general comparisons regarding status. In the longer term, this is also important for monitoring individual sites, so that the effects of any management (conservation orientated or otherwise) may be objectively assessed. To this end, the site survey procedure collected data on a number of factors that are intrinsic parts of the woodland ecosystem, and which may be used to help to evaluate woodland condition. Separate assessments were made for the conservation value of each site and the intrinsic threats that were identified. Whilst extrinsic threats, such as clearance for development or agriculture are undoubtedly important factors, it was beyond the scope of this survey to quantify them.

The conservation value of each site was calculated using the scheme presented in Table 2.4. This is a modification of the scheme presented by Martin et al. (2005). A similar approach has been used previously by van der Sleesen & Poole (2002) and by the working group on biodiversity assessment in forests (Neville 2002). In addition the approaches taken by Ratcliffe (1977), Kirby (1988) and Cross (1990) were considered when developing this scheme. The scheme places emphasis on the naturalness of sites, with weighting of scores tending to features which are generally regarded as more natural woodland aspects, such as high native species diversity, occurrence of natural regeneration and high structural diversity. The term saplings refers here to the number of free regenerating stems >2m recorded in each relevé. Horizontal diversity refers to the standard deviation of stem dbh within each relevé. Native basal area is the percentage of total basal area for each relevé contributed by native species; the native and non-native status of trees was decided upon with reference to Meikle (1984), Webb et al. (1996) and Preston et al. (2002), and is given in Appendix 3. Notable species are listed in Table 2.5; these are rare species found in woodland, or species which are indicative of long established woodland and the list is based largely on that presented by van der Sleesen & Poole (2002). Amongst the other criteria, the area of woodland and the number of native woodland habitat types permit high scoring as these are also important factors. The remaining criteria make lesser contributions to the overall total, being regarded as not so crucial to the conservation value of the site. Both the number of native woodland habitat types and the number of adjacent semi-natural habitats are as defined by Fossitt (2000). Scores were calculated as percentages of the maximum possible score. This permitted the assessment of sites which could not be scored for some criteria due to lack of data. Where two or more relevés were recorded at a site the highest value was used for those criteria dependent on relevé data.

Criteria	Scoring			Max
Naturalness criteria	-			
Vascular plant diversity	1=<40 species 3= 60-80 species	2=40-59 specie 4=>80 species	S	4
Bryophyte diversity	1=<10 species	2=10-20 species	3=>20 species	3
Lichen diversity	0=< 3 species	1=4-5 species	2=≥ 6 species	2
Free regeneration of native species	0=no saplings	1=1-4 saplings	2=≥ 5 saplings	2
Horizontal diversity	0=σ of <7cm	2=σ of 7-14cm	3=σ of >14cm	2
% native basal area	0=<50% 2=76-90%	1=50-75% 3=91-100%		3
Notable species	0=0 species 2=2 species	1=1 species 3= <u>></u> 3 species		3
Other criteria				
Area	0=<5ha 3=20-49.9ha	1=5-9.9ha 4=50-99.9ha	2=10-19.9ha 5= <u>></u> 100ha	5
Native woodland habitats	1=1 habitat	2=2 habitats	3=≥3 habitats	3
Presence in the 1840s	0=some woodland i	0=some woodland indicated 1=no woodland indicated		
Adjacent semi-natural habitats	0=no adjacent semi-natural habitats 1= <u>></u> 1 adjacent semi-natural habitats			1
Natural hydrological features	0=no natural hydrological features 1=≥1 natural hydrological features			1
Standing dead wood	0=none of standing dead, standing damaging or snags/snapped recorded as frequent or abundant 1=≥1 of standing dead, standing damaged and snags/snapped recorded as frequent or abundant			1
Fallen dead wood	0=neither fine woody debris or coarse woody debris recorded as frequent or abundant 1=≥1 of fine woody debris and coarse woody debris recorded as frequent or abundant			1
Coppice/pollard	0=neither coppice of 1=coppice or pollar	or pollard recorded d recorded		1
Historical man-made features	0=no notable man r 1=≥ man-made feat	nade features recorded tures recorded		1
Maximum Score				34

Table 2.4. Criteria used in the calculation of the conservation score for each woodland. See text for explanation of criteria.

Table 2.5. Notable species used as part of the conservation assessment.

Anemone nemorosa	Melica uniflora
Bromus racemosus	Milium effusum
Campanula trachelium	Monotropa hypopitys
Carex depauperata	Neottia nidus-avis
Cephalanthera longifolia	Orobanche hederae
Dryopteris aemula	Primula veris
Festuca sylvatica	Prunus padus
Frangula alnus	Pyrola media
Galium odoratum	Pyrola minor
Gymnocarpium dryopteris	Rhamnus cathartica
Hordelymus europaeus	Stachys officinalis
Hypericum hirsutum	Trichomanes speciosum
Lamiastrum galeobdolon	

The assessment of threats to each site was based on the criteria detailed in Table 2.6. The following species constituted invasive shrub species: *Rhododendron ponticum, Prunus laurocerasus, Symphoricarpos albus, Fallopia japonica, Cotoneaster spp., Cornus sericea* and *Leycesteria formosa*. Saplings are here defined as the number of free regenerating stems >2m recorded in each relevé. Damaging activities consisted of recent native felling, recent non-native conifer planting, recent non-native broadleaf planting and dumping. The non-native canopy criteria refer to the general site survey.

Table 2.6.	Criteria used in the calculation of the threat score of each woodland. See text for			
explanation of criteria.				

Criteria	Scoring		Max
Invasive shrub	0=none recorded	1=low level infestation	2
species	2=high level infestation		
Grazing	0=low/moderate grazing	1=no grazing	3
	2=high grazing	3=severe grazing	
Free regeneration of	0=no saplings	1=1-4 saplings	2
non-native species	2=≥ 5 saplings		
Damaging activities	0=no damaging activities	1=1 damaging activity	3
	2=2 damaging activities	3=≥ 3 damaging activities	
Non-native canopy	0=no mature non-natives re	corded as abundant or dominant	1
	1=≥ 1 mature non-native ree	corded as abundant or dominant	
Maximum Score			11

For some of the sites incorporated from external sources it was not possible to produce a threat score due to lack of data. Conservation and threat scores 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.

3. RESULTS

3.1 Report on completion of field survey

During this phase of the NSNW a total of 830 woodland sites were selected for survey. Of these a full survey was completed of 531 sites. The breakdown of these sites by county is given in Table 3.1. A further 123 selected sites were not visited; this was due to reasons such as difficulties in contacting the owner of the site or having completed the survey quota for the relevant county. The remaining 177 selected sites were visited but rejected for various reasons shown in Table 3.2. Therefore, of the 708 sites visited, 25% were rejected which is markedly less than the 35% rejected during the 2003 survey.

County	Area of native woodland (ha)	Target number of sites	Number of site surveyed
Cavan	2614.9	66	69
Dublin	849.8	25	22
Kildare	1955.7	49	46
Leitrim	1776	45	42
Longford	1317.1	33	40
Louth	1112.2	28	26
Meath	1849.4	47	48
Monaghan	1657.3	42	43
Roscommon	1606.3	41	45
Westmeath	2247.7	57	62
Wicklow	4684	117	88
		550	531

Table 3.1. Number of sites surveyed in each county in the 2004-2005 phase of the NSNW.

Table 3.2. Reasons for the rejection of sites during the 2004-2005 phase of the NSNW.

Reason	Number of sites
Large non-native broadleaf element	62
Large conifer/non-native mixed element	42
Physical access to the site too difficult	9
Access to site not granted by owner	32
Other	32
Total	177

The survey of these sites, when added to the sites incorporated from external sources and the sites already surveyed as part of the 2003 phase of the NSNW, brings the total number of fully surveyed site in the database to 836 and the total number of relevés to 1009. The following results relate to analysis of this combined dataset. The first seven sections (3.2 to 3.8) report on the results of the classification procedure. The next twelve sections (3.9 to 3.20) each report on individual features of the woodlands surveyed. The final two sections (3.21 and 3.22) bring together these features in the conservation and threat assessments.

3.2 Clustering and ordination

ISA revealed that there were two key stages in the clustering process. These are indicated by local maxima in the two criteria examined: sum of significant IndVals and number of significant indicator species (Fig. 3.1). These two key stages occur between the 3-cluster and 5-cluster levels and the 14-cluster and 16-cluster levels. At these key stages, the criteria indicate that the clustering of relevés is at its most informative. After manual inspection of these clusters is was decided to proceed with 15 *vegetation types*, but to group these together into 4 main *woodland groups* as dictated by the cluster dendrogram.





MRPP tests found statistically significant differences in the environmental matrix at both the four cluster level (A = 0.214, p < 0.001) and the fifteen cluster level (A = 0.286, p < 0.001). McCune & Grace (2002) warn that statistically significant results (small p values) can be obtained even when the effect size (A) is small, if, as in this case, sample size is large. However, effect size or chance-corrected within-group agreement for both cluster levels is actually quite high, providing environmental support for cutting the cluster dendrogram at each of these levels.

The NMS ordination found a 2-dimensional solution (Fig. 3.2). Stress on this solution was 26.6, which is quite high according to the guidelines of McCune & Grace (2002), but given the large sample size, a fair degree of reliance can be put on interpretation of the plot. The two axes cumulatively represented over 70% of variance in the distance. Overall relevés within each of the four woodland groups identified by cluster analysis, grouped together in the ordination, provided validation of the cluster solution. For rationale behind naming the four groups see section 3.3.

Axis 1 primarily represents an acid-base gradient and also correlates strongly with organic content. Axis 2 correlates strongly with slope and, although soil moisture was not measured directly, it can be inferred that it also represents a wet-dry gradient.

Figure 3.2. NMS ordination plot of 1009 woodland relevés. Red points = *Quercus petraea* – *Luzula sylvatica* woodland, Green points = *Fraxinus excelsior* – *Hedera helix* woodland, Blue points = *Betula pubescens* – *Pseudoscleropodium purum* woodland, Gold points = *Alnus glutinosa* – *Filipendula ulmaria* woodland. Direction of red lines from origin shows correlation of environmental variables with axes. Length indicates strength of correlation. A = Loss on ignition, B = Total P, C = pH, D = Slope, E = Altitude. Axis 1 r² = 0.351, Axis 2 r² = 0.368



ISA results from the 4-cluster level were used to characterise differences between groups. ISA was then re-run for the subset of relevés within each group to characterise differences between vegetation types.

3.3 Presentation of the classification

The presentation of the results of the classification analysis broadly follows the style used in the NVC by Rodwell (1991). Results are presented for each of the four woodland groups in turn. For each woodland group the ten best indicators from the between group analysis are given in descending order with their IndVal scores in parentheses. It can be noted that in each case the woodland groups have been named after their top tree species indicator and their top non-tree species indicator. A brief description of the woodland group as a whole is given, including the main components of the vegetation and the situations in which it occurs. This is followed by more detailed descriptions of each of the vegetation types within the group. Each of the vegetation types has been named after their top indicator species as defined by the within group analysis for that woodland group. A small number of example sites which contain this vegetation are then listed together with their site codes. These have been selected to represent the range of variation within the vegetation type, but emphasis has been placed on providing some useful points of reference to the group rather than listing sites which are strictly the most typical of the vegetation. Therefore, the examples tend to consist of sites which are already designated or to which public access is possible. A short description of the structure of the vegetation is given, followed by an account of the distribution of each vegetation type which is shown on the relevant map at the end of the section. Finally, the affinities that each of the vegetation types has to previously described classifications are detailed. These classifications are the Heritage Council habitat categories of Fossitt (2000), the Irish Native Woodland Classification of Cross (2005), Irish phytosociological accounts of the Central European tradition presented in various papers, and the woodlands and scrub section of the British National Vegetation Classification (NVC) of Rodwell (1991). For comparison with the NVC, the TABLEFIT v 1.0 software utility (Institute of Terrestrial Ecology, Huntingdon) was employed to make systematic comparisons. This utility defines a measure of goodness-of-fit between samples of vegetation and the expected species composition of each NVC community. For each vegetation type, percentage cover and frequency data were used for all species with 5% or greater frequency within that vegetation type, with the exception of a small number of epiphytic bryophytes, hybrids and recent taxonomic changes which could not be inputted. For each vegetation type the top five matches with NVC communities / subcommunities are given, together with the goodness-of-fit score in percent. A full list of NVC codes and communities is given in Appendix 2. Reference is also made in this section to vegetation types which in part or as a whole correspond with Annex I habitats of the EU Habitats Directive as defined in Anon. (2003).

The synoptic tables (Tables 3.4, 3.6, 3.8 and 3.10) are presented in the following fashion. Species are included which have 5% or greater frequency in one or more of the vegetation types. Frequency and percentage cover data are given for the occurrence of each species in each vegetation type and in the woodland group as a whole. Frequency 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%. Mean percentage cover is given in figures and was calculated by converting the

Domin scores using mid-range values as follows: 10 = 95.5%, 9 = 83%, 8 = 63%, 7 = 42%, 6 = 29.5%, 5 = 18%, 4 = 7%, 3 = 2.5%, 2 = 0.75%, 1 = 0.25% and + = 0.1%. Significant indicators species are denoted by asterisks, with the magnitude of the IndVal score being indicated by the number of asterisks, such that: * = 0.1 - 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 woodland group of IV or V. Within this section species are ordered by their indicator status for each of the vegetation types. The following sections contain the indicator species for each of the vegetation types in turn. Within these sections species are ordered by IndVal scores. The final sections contain the remaining species which do not have any significant affinity for one of the vegetation types. These companion species have been divided in sections according to whether they are trees, other woody species, herbs or bryophytes, and within these sections they are ordered by frequency.

At the end of the synoptic table mean environmental data is presented for each vegetation type. Species richness simply indicates the mean number of species per relevé. Soil type data is presented for the main three or four soil types only. Mean canopy height is the mean height of stems designated as co-dominant rather than the mean height of all stems. Percent native basal area is an indication of the native status of each vegetation type (see section 2.4).

3.4 Quercus petraea – Luzula sylvatica woodland

Key indicator species: Quercus petraea (78), *Luzula sylvatica* (46), *Ilex aquifolium* (42), *Vaccinium myrtillus* (37), *Isothecium myosuroides* (35), *Lonicera periclymenum* (28), *Pseudotaxiphyllum elegans* (25), *Blechnum spicant* (24), *Mnium hornum* (23), *Polytrichastrum formosum* (22).

Description: This woodland group consists of vegetation invariably dominated by *Quercus* petraea or *Quercus robur x Q. petraea* (Table 3.3). The other constant species are *Thuidium* tamarascinum, Isothecium myosuroides, Hedera helix, Dryopteris dilatata, Rubus fruticosus, Ilex aquifolium and Lonicera periclymenum. Of these Rubus fruticosus and Ilex aquifolium are the most abundant. These oakwoods are high forest stands predominantly found on acidic, podzolised soils or brown earths of low fertility. They occur on sloping ground, largely in the uplands and are rather species-poor. Canopy height is generally 18-19m, and there is a relatively well-defined understorey. The maturity of the trees means that stand density is typically low and basal area is high. Within this group two vegetation types have been identified:

a) *Vaccinium myrtillus* type: This is a well-defined oakwood type with a strong association with acid podzols in the uplands. *Quercus petraea* dominates the canopy in all of these stands, with an understorey of *Ilex aquifolium, Sorbus aucuparia* and *Betula pubescens*. The field layer is dominated by a small number of calcifuge species, particularly *Vaccinium myrtillus, Blechnum spicant, Luzula sylvatica* and *Pteridium aquilinum*. Occasional species include *Deschampisa flexuosa, Agrostis capillaris, Oxalis acetosella, Polypodium vulgare* and *Teucrium scorodonia*. *Rubus fruticosus* and *Hedera helix* are frequent but rather sparse as sites at these altitudes are typically subject to high grazing pressure. The bryophyte cover is also rather patchy and consists primarily of *Thuidium tamarascinum, Isothecium myosuroides, Hypnum andoi, H. cupressiforme, Dicranum scoparium, Polytrichastrum formosum, Kindbergia praelonga, Rhytidiadelphus triquetrus and R. loreus.*

Example sites: Cloonaquin Wood, Co. Leitrim (Site 362); Tomnafinnoge, Co. Wicklow (Site 749); Glen of the Downs, Co. Wicklow (Site 777); Deputy's Pass, Co. Wicklow (Site 783).

b) *Hedera helix* type: This vegetation type occurs at lower altitudes than the *Vaccinium myrtillus* type. While it also often occurs on podzolised soils, acid brown earths are the most frequent substrate. *Quercus petraea* still usually dominates the canopy but it is sometimes replaced by the hybrid oak, *Quercus robur* x *Q. petraea*, and *Fagus sylvatica* is a constant component of this vegetation type. The understorey is still composed chiefly of *Ilex aquifolium* but is usually more diverse. *Sorbus aucuparia* and *Betula pubescens* are less frequent in this vegetation type, whilst *Fraxinus excelsior, Corylus avellana, Crataegus monogyna* and *Acer pseudoplatanus* are all now occasional. In the field layer, *Rubus fruticosus* and *Hedera helix*

are significantly more abundant, as is *Dryopteris dilatata*, but it typically has a marked paucity of species. All of the calcifuge species listed under the *Vaccinium myrtillus* vegetation type are scarcer and less abundant here, although *Luzula sylvatica* is still often present in plentiful amounts. The chief replacements are *Hyacinthoides non-scripta* and *Dryopteris affinis* which are both good indicator species for this type of stand. The ground layer is again sparse and consists mainly of *Thuidium tamarascinum*, *Isothecium myosuroides*, *Kindbergia praelonga* and *Mnium hornum*.

Example sites: Ballynabarny Wood, Co. Wexford (Site 1); Coolaphuca, Co. Carlow (Site 310); Shelton Abbey North, Co. Wicklow (Site 779); Avondale, Co. Wicklow (Site 952).

Distribution: Within the survey area, the *Vaccinium myrtillus* vegetation type is almost solely restricted to the acidic uplands of Co. Wicklow with a few occurrences further south in Cos. Kilkenny and Wexford, and two outlier sites in the Midlands and the northwest (Fig. 3.). The *Hedera helix* vegetation type is also found through Co. Wicklow but it is more widespread on the lowland brown earths of Cos. Kilkenny and Wexford and has several scattered occurrences up through the Midlands to the border.

Affinities: This is a well-defined group which has been the subject of considerable study in the past. Relatively clear comparisons can therefore be made with previous classifications. Both vegetation types correspond with the WN1 Oak-birch-holly woodland category of Fossitt (2000). The Vaccinium myrtillus vegetation type matches closely the A1 Species-poor oak woodland on drier sites defined by Cross (2005) which corresponds with the typicum subassociation of the Blechno-Quercetum petraeae described for Ireland by Kelly & Moore (1975). The Hedera helix vegetation type matches largely with the A3 Oak woodland with hazel and ash category of Cross (2005) and may be compared with the corylestosum subassociation of the Blechno-Quercetum petraeae, although it is notably species-poor in comparison. The Quercus petraea - Luzula sylvatica woodland group largely corresponds with the annexed habitat "old sessile oak woods with *llex* and *Blechnum* in the British Isles (91A0)", although it should be noted that these stands are not necessarily rich in ferns, mosses and lichen species as detailed in the annex habitat description (Anon. 2003). An abundance of these species is characteristic of the A2 Moss- and lichen-rich oak woodland of Cross (2005) and the scapanietosum subassociation of Kelly & Moore (1975). Stands of this nature are typically found in the more oceanic west of the country which has yet to be included in the survey.

In the comparison with NVC communities, the *Vaccinium myrtillus* vegetation type was found to compare favourably with the W17 *Quercus petraea - Betula pubescens - Dicranum majus* woodland which is characteristic on strongly leached soils in the upland fringes of western and northern Britain. The W17b typical sub-community was a better match than the W17a *Isothecium myosuroides – Diplophyllum albicans* sub-community of more extreme oceanic

areas. There is also an affinity with the W11a *Quercus petraea – Betula pubescens – Oxalis acetosella* woodland *Dryopteris dilatata* sub-community which occurs on less excessively leached brown soils in the same regions, and the W16b *Quercus* spp. – *Betula* spp. – *Deschampsia flexuosa* woodland *Vaccinium myrtillus – Dryopteris dilatata* sub-community which occurs on acidic and oligotrophic soils in the drier regions of the Pennines and the southern British lowlands.

The Hedera helix vegetation type fits best with the W10 Quercus robur – Pteridium aquilinum – Rubus fruticosus woodland (Table 3.4) which occurs on base-poor brown earth soils throughout the lowlands of southern Britain. The best matches are with the W10e Acer pseudoplatanus – Oxalis acetosella sub-community and the W10a typical sub-community, where Quercus petraea dominates the canopy rather than Q. robur. Corylus avellana is the most frequent shrub and Hyacinthoides non-scripta is a common vernal dominant. This vegetation type shares with the Vaccinium myrtillus vegetation type some affinity for the W11a sub-community.

a Vacciniun	n myrtillus	b Hedera	a helix
W17b	52%	W10e	45%
W11a	49%	W10	44%
W16b	45%	W10a	40%
W17a	45%	W11a	39%
W17	44%	W7c	36%

 Table 3.4. Goodness-of-fit comparisons between Quercus petraea - Luzula sylvatica woodland vegetation types and NVC communities.

		а		b	C	Group
Constants						
Quercus petraea	v	70.7 ***	IV	44.4	v	54.1
Thuidium tamarascinum	V	6.6 ***	IV	2.7	IV	4.2
Isothecium myosuroides	V	1.0 ***	IV	0.7	IV	0.8
Hedera helix	111	0.7	V	11.2 ****	IV	7.3
Dryopteris dilatata	IV	0.7	V	6.5 ****	IV	4.3
Rubus fruticosus	111	2.1	V	24.8 ****	IV	16.4
llex aquifolium	IV	12.3	V	22.6 ***	V	18.8
Lonicera periclymenum	IV	1.7	IV	2.4	IV	2.2
a Vaccinium myrtillus type indicator	ſS					
Vaccinium myrtillus	V	28.1 ****	II	1.9	111	11.6
Hypnum andoi	V	0.8 ***	II	0.2	111	0.4
Sorbus aucuparia	IV	4.0 ***	11	0.8		2.0
Dicranum scoparium	IV	0.2 ***	I	0.2	II	0.2
Frullania tamarascinum	III	0.1 ***	I	<0.1	II	0.1
Betula pubescens	IV	7.5 ***	I	2.6	II	4.4
Hypnum cupressiforme	IV	1.0 ***		0.4		0.7
Blechnum spicant	IV	1.6 ***	11	0.6		1.0
Luzula sylvatica	IV	20.8 ***		9.1		13.4
Polytrichastrum formosum	IV	0.5 ***	II	0.2		0.3
Rhytidiadelphus triquetrus		1.0 ***	I	0.1	II	0.4
Rhytidiadelphus loreus		2.7 ***	I	<0.1	I	1.0
Pteridium aquilinum	IV	3.8 ***	II	1.4	111	2.3
Ulota bruchii / crispa		0.1 **		<0.1		<0.1
Deschampsia flexuosa		1.1 **		<0.1		0.4
Frullania dilatata		0.1 **	I	<0.1		0.1
Agrostis capillaris		2.3 **				0.8
Plagiothecium undulatum		0.1 **	I	<0.1	 	0.1
Dicranum majus	I	<0.1 *			I	<0.1
Galium saxatile	1	0.1 *			1	<0.1
Campylopus flexuosus	1	<0.1 *			1	<0.1
Anthoxthanum odoratum	1	0.1 *			1	<0.1
Scapania gracilis	1	<0.1 *			1	<0.1
Deschampsia cespitosa	1	0.3 ^	I	<0.1	1	0.1
Agrostis canina	1	0.8 ^			1	0.3
Molinia caerulea	1	0.6 *			1	0.2
Potentilla erecta	1	<0.1 *			1	<0.1
Pleurozium schreberi	I	<0.1 *			I	<0.1
b Hedera helix type indicators						
Fagus sylvatica	I	2.4	IV	13.7 ***	III	9.5
Hyacinthoides non-scripta	I	0.1		4.5 ***	II	2.9
Coryus avellana	I	<0.1	11	9.5 **	11	6.0
Dryopteris affinis	I	0.1		1.1 **	II	0.7
Acer pseuplatanus			II	1.8 **	II	1.1
Fraxinus excelsior			II	3.5 **	II	2.2
Quercus robur x Q. petraea	I	0.6	II	12.4 **	I	8.1
Crataegus monogyna	I	<0.1	II	0.9 **	I	0.6
Other trees						
Pinus sylvatica	I	2.1	I	0.1	I	0.8
Picea sitchensis	I.	<0.1	I	0.2	I.	0.2
Sambucus nigra			I	0.4	I	0.2
Tsuga heterophylla	I	0.7			I	0.2

Table 3.3. Synoptic table for Quercus petraea - Luzula sylvatica woodland and vegetation types

		а		b	C	Group
Other woody species						
Calluna vulgaris	I	0.1	I	<0.1	I	<0.1
Myrica gale	I	0.1			1	<0.1
Other herbs						
Oxalis acetosella	11	0.5	111	0.9	111	0.7
Polypody vulgare	11	0.1	II	0.2	II	0.1
Agrostis stolonifera	I	5.0	I	0.3	I	2.0
Holcus lanatus		0.1	l	0.1	I	0.1
Teucrium scorodonia		0.1	l	0.2	I	0.1
Athyrium felix-femina	I .	<0.1	I	0.1	I	0.1
Dryopteris filix-mas	l	0.2	I	0.3	I	0.3
Polystichum setiferum			1	0.9	1	0.6
Geranium robertianum			I	0.1	1	0.1
Stellaria holostea	1	0.1	I	<0.1	1	0.1
Viola riviniana / reichenbachiana	1	<0.1	I	0.2	1	0.1
Juncus effusus	I	<0.1	I	<0.1	1	<0.1
Carex sylvatica			1	<0.1	1	<0.1
			1	0.1	1	0.1
			1	<0.1	1	<0.1
Anemone nemorosa			1	0.1	1	<0.1
Conopodium majus			1	<0.1	1	<0.1
Veronica chamaeorys			1	0.1	1	<0.1
		0.1	I	<0.1	1	<0.1
Festuca ovina Huporioum pulobrum	1	-0.1			1	<0.1
Hypericum pulchium	1	<0.1				<0.1
	1	<0.1				<0.1
Dryoplens aemula	I	<0.1			I	<0.1
Other bryophytes						
Kindbergia praelongum		1.0		1.1	111	1.1
Mnium hornum		0.2		0.5		0.4
Pseudotaxipnyllum elegans	111	0.1	II II	0.1		0.1
Lonhocolea hidentata	III	0.4	II II	1.2 ~0.1		0.9 ~0.1
Metzgeria furcata		<0.1		<0.1		<0.1
Neckera complanata	l	<0.1	I	0.1	I.	0.1
Hypnum jutlandicum	I	0.2	I	0.1	I	0.1
Hypnum resupinatum	I.	<0.1	I	<0.1	I	<0.1
Dicranum heteromalla	I	<0.1	I	<0.1	I	<0.1
Radula complanata	I	<0.1		<0.1		<0.1
Leucobryum glaucum	I	<0.1	1	0.1	1	0.1
Inamnooryum alopecurum		-0.1	1	0.6	1	0.4 -0.1
Atriabum undulatum	1	<0.1	1	<0.1		<0.1
Autonum undulatum Calupagoia muelloriana	1	<0.1	1	-0.1		-0.1
Hookeria lucens	1	<0.1	1	<0.1	1	<0.1
Brachythecium rutabulum	1	0.2	1	<0.1		0.1
Polytrichum commune	1	0.2	1	<0.1		0.1
l enidozia rentans	1	-0.0	1	<0.1		~0.1
Plagiothecium denticulatum	I	\U. 1	, I	<0.1		<0.1
Climacium dendroides			I	<0.1	I	<0.1
Loeskeobryum brevirostre	I	0.8	I	<0.1	I	0.3
Hetecladium heteropterum		<0.1	I	<0.1	I	<0.1
Racomitrium aquaticum		<0.1	I	<0.1	I	<0.1
Rhytidiadelphus squarrosus		<0.1	-		l	<0.1
Microlejeunea ulicina	I	<0.1			l	<0.1
Hylocomium splendens	Ì	0.3			l	0.1
Tetraphis pellucida	I	<0.1			I	<0.1
Hypnum sp.	I	0.1			I	<0.1

	а	b	Group
Number of samples	31	53	84
Species richness	25	20	22
Altitude (m)	158	80	109
Slope (°)	15	17	16
Soil pH	4.2	4.0	4.0
Soil organic content (%)	31	29	30
Soil P content (mg/g)	0.57	0.74	0.68
Soil types (%)			
Podzols	45	23	31
Brown Podzolics	13	13	13
Brown Earths	35	43	41
Canopy height (m)	18	19	19
Stand density (trees/ha)	800	787	792
Basal area density (m ² /ha)	41	56	50
Native basal area (%)	93	87	89





Quercus petraea – Luzula sylvatica woodland

b Hedera helix type



a Vaccinium myrtillus type



3.5 Fraxinus excelsior – Hedera helix woodland

Key indicator species: *Fraxinus excelsior* (46), *Crataegus monogyna* (38), *Hedera helix* (37), *Thamnobryum alopecurum* (37), *Quercus robur* (35), *Geum urbanum* (34), *Circaea lutetiana* (31), *Corylus avellana* (31), *Viola riviniana / reichenbachiana* (29), *Eurhynchium striatum* (27).

Description: This large woodland group consists of vegetation dominated by combinations of *Fraxinus excelsior*, *Quercus robur* and *Fagus sylvatica* (Table 3.5). The other constant species are *Hedera helix*, *Rubus fruticosus*, *Crataegus monogyna*, *Kindbergia praelonga*, *Dryopteris dilatata*, *Thuidium tamarascinum* and *Eurhynchium striatum*, of which *Hedera helix* and *Rubus fruticosus* are the most abundant. The diversity of this woodland group means that it includes both high forest and scrub woodland stands on moderately acidic to moderately base-rich substrates at a broad range of altitudes. The majority of stands occur on well-drained, moderately fertile mineral soils with brown earths and grey brown podzolics being the most frequent soil types. Many of these stands, particularly those of old estates and demesnes, have been modified by the planting or natural establishment of non-native tree species. Within this woodland group six vegetation types have been identified:

a) Lonicera periclymenum type: This is a species-poor vegetation type found predominantly on acidic brown earths and grey brown podzolics; it is the most base-poor vegetation type in this woodland group. The canopy is around 19m high and is dominated by Quercus robur with Fraxinus excelsior and Fagus sylvatica as constant associates. Basal area density is high although stand density is also rather high. The understorey is composed chiefly of *llex* aquifolium and Corylus avellana whilst Acer pseudoplatanus, Crataegus monogyna, Betula pubescens and Sorbus aucuparia are occasional. The field layer is dominated by Hedera helix and Rubus fruticosus. Expansive bramble thickets are indicative of this vegetation type. Other indicator species are llex aquifolium, Lonicera periclymenum, and Luzula sylvatica, although this latter species is very often absent. Dryopteris dilatata and Hyacinthoides nonscripta are frequent in the field layer, whilst Polystichum setiferum, Geum urbanum, Oxalis acetosella, Circaea lutetiana, Carex remota and Dryopteris affinis are occasional components. The bryophyte layer is rather nondescript and composed of Kindbergia praelonga, Eurhynchium striatum, Thuidium tamarascinum, Isothecium myosuriodes and Thamnobryum alopecurum. Stands in this vegetation type may be viewed as transitional to the Quercus petraea – Luzula sylvatica woodland Hedera helix vegetation type.

Examples sites: Clone Fox Covert, Co. Wexford (Site 2); Kyledohir Wood, Co. Kilkenny (Site 96); Garryricken Wood, Co. Kilkenny (Site 302); King William's Glen, Co. Louth (Site 631).

b) *Fagus sylvatica* type: This is a highly modified vegetation type found on brown earths and grey brown podzolics, often on sloping ground. The canopy is around 19m high and is strongly dominated by *Fagus sylvatica* which is accompanied by *Fraxinus excelsior, Acer*

pseudoplatanus and, occasionally, Quercus robur. Aesculus hippocastanum is rare but locally abundant. The understorey is fairly sparse and is most frequently composed of Crataegus monogyna with llex aquifolium, Ulmus glabra and Sambucus nigra occasional. These are high forest stands where the large stature of the beech results in low stand densities and high basal area densities. The general paucity of species in this vegetation type is reflected in the field layer. It is dominated by Hedera helix, with Rubus fruticosus and Dryopteris dilatata being constant but rather sparse. Hyacinthoides non-scripta is the only other species to achieve any significant level of cover and together with Ranunculus ficaria and Allium ursinum forms the vernal aspect of these stands. Once the beech canopy closes in late spring the considerable shade it casts strongly limits the growth of the field layer, which is reduced to occasional occurrences of Phyllitis scolopendrium, Circaea lutetiana, Geranium robertianum and Arum maculatum. The ground layer is similarly sparse and species impoverished, consisting chiefly of Kindbergia praelonga, Thuidium tamarascinum, Eurhynchium striatum and Thamnobryum alopecurum. The heavy litter cover created by beech canopies is likely to not only reduce ground layer cover but also to contribute to the moderately acidic nature of soil. This vegetation type is a modified version of others in this group, probably with highest affinities to the Lonicera periclymenum vegetation type.

Example sites: Thomastown, Co. Kilkenny (Site 17); Ballyduff Wood, Co. Offaly (Site 570); Ravensdale Park, Co. Louth (Site 639); Crooksling Glen, Co. Dublin (Site 925)

c) Quercus robur type: Stands within this vegetation type occur on moderately acidic brown earths and grey brown podzolics on gently sloping ground. These are mature high forest oak stands with a canopy averaging 22m and strongly dominated by Quercus robur, stand density is hence very low. Fraxinus excelsior is frequent but is much less abundant than in the other vegetation types in this group. Fagus sylvatica is also frequent, but again not plentiful, whilst Acer pseudoplatanus is occasional. The understorey is very sparse and consists of a few scattered specimens of Crataegus mongyna and Corylus avellana. The field layer is rather species poor and is dominated by Rubus fruticosus with Hyacinthoides non-scripta being occasionally abundant. The cover of *Hedera helix* is remarkably sparse. The field layer may have a distinctively grassy aspect with Holcus lanatus, H. mollis, Agrostis capillaris, Festuca gigantea, Dactylis glomerata, Lolium perenne and Arrhenatherum elatus all being indicator species, if rather weak ones, for this vegetation type. The occasional presence of Pteridium aquilinum also indicates that the high canopy and lack of understorey result in relatively high light levels. Other species in the field layer include: Geum urbanum, Geranium robertianum, Circaea lutetiana, Veronica montana, Agrostis stolonifera, Athyrium filix-femina and Urtica dioica. Bryophytes include Kindbergia praelonga, Thuidium tamarascinum, Thamnobryum alopecurum, Hypnum cupressiforme, Eurhynchium striatum and Atrichum undulatum, Brachythecium rutabulum.
Example sites: Fairfield Demesne, Co. Monaghan (Site 403); Park Hill (Abbeyleix Demesne), Co. Laois (Site 608); Donadea Forest Park, Co. Kildare (Site 927); Phoenix Park, Co. Dublin (Site 1151).

d) Thamnobryum alopecurum type: Nearly one-fifth of all stands included in the analysis fall within this broad vegetation type of high forest on mildly acidic brown earths and grey brown podzolics, typically on quite steeply sloping ground. The vegetation is moderately species-rich. The canopy is around 17m high and usually dominated by Fraxinus excelsior, which is at its most abundant in the vegetation type, with Crataegus monogyna a constant element of the understorey. Acer pseudoplatanus and Corylus avellana are frequent but the hazel component is not as great as in the Viola riviniana / reichenbachiana vegetation type. Quercus robur, Fagus sylvatica, Sambucus nigra and Ulmus glabra are occasional. The field layer is dominated by Hedera helix, here at its most abundant, and Rubus fruticosus. The other main field layer species are Lonicera periclymenum, Polystichum setiferum, Dryopteris dilatata, Phyllitis scolopendrium, Geum urbanum, Viola riviniana / reichenbachiana, Circaea lutetiana and Arum maculatum. The bryophyte layer is rather plentiful and consists chiefly of Eurhynchium Kindbergia praelonga. striatum, Thuidium tamarascinum, Hypnum cupressiforme and, in particular, Thamnobryum alopecurum. Overall, this vegetation type score rather poorly in terms of native basal area.

Example sites: Ballykeefe Wood, Co. Kilkenny (Site 18); Charleville North, Co. Offaly (Site 575); Collon, Co. Louth (Site 679); St. Catherine's Wood, Co. Dublin (Site 1237).

e) Viola riviniana / reichenbachiana type: This is a very species-rich vegetation type that occurs on moderately base-rich brown earths and grey brown podzolics, often on sloping ground. Soils are often rocky or shallow. Many of the esker woodland stands fall within this vegetation type which also has the highest native status within this woodland group. The canopy is typically formed by Fraxinus excelsior with Corylus avellana dominant beneath, but often stands have a low, continuous hazel canopy with Fraxinus excelsior occurring only as a scattered emergent. Crataegus monogyna is constant and often abundant and llex aquifolium is a frequent component. Quercus robur, Alnus glutinosa, Salix cinerea, Betula pubescens, Prunus spinosa, Aesculus hippocastanum, Acer pseudoplatanus and Fagus sylvatica occur occasionally. Canopy height is low on average at 15m, while stand density is high and basal area density low. As usual Hedera helix, Rubus fruticosus and Dryopteris dilatata are constant features of the field layer, but Rubus fruticosus rarely forms extensive thickets in these stands. The field layer is characterised by a diverse mix of low-growing, herbaceous indicator species including Viola riviniana / reichenbachiana, Geum urbanum, Geranium robertianum, Primula vulgaris, Potentilla sterilis, Carex sylvatica, Oxalis acetosella, Ranunculus repens, Circaea lutetiana, Veronica montana, V. chamaedrys, Prunella vulgaris, Lysimachia nemorum and Sanicula europaea. The main bryophyte species are Kindbergia praelonga, Thuidium tamarascinum, Eurhynchium striatum, Thamnobryum alopecurum,

Isothecium myosuroides, Fissidens taxifolius, Plagiomnium undulatum and *Hypnum cupressiforme*. Bryophyte cover in these stands is relatively high.

Example sites: Clorhane Wood, Co. Offaly (Site 35); Clonaslee Esker, Co. Laois (Site 252); St. John's Wood (Site 467); Longhill Esker, Co. Westmeath (Site 1103).

f) Betula pubescens type: This final vegetation type differs from the preceding ones in that a significant proportion of sites occur on basin peats (generally on the margins) in addition to brown earths and grey brown podzolics. As a result the soils, which are mildly acidic, have a fairly high organic content overall and typically occur on flat or almost flat sites. This vegetation type is a wetter variant of others in this woodland group. The canopy averages 17m in height and is generally dominated by Fraxinus excelsior and Betula pubescens. Crataegus monogyna and Ilex aquifolium are constant in the understorey and often abundant. Other woody indicator species are Viburnum opulus, Salix cinerea, Prunus spinosa and Rosa sp.. Corylus avellana, Alnus glutinosa, Quercus robur, Fagus sylvatica and Acer pseudoplatanus are occasionally plentiful. The field layer is again dominated by Hedera helix and Rubus fruticosus, with Lonicera periclymenum, Dryopteris dilatata, Viola riviniana / reichenbachiana, Geum urbanum, Geranium robertianum and Circaea lutetiana. The best indicator species in the field layer are Deschampsia cespitosa, Carex remota, and Brachythecium sylvaticum. Rhytidiadelphus triquetrus is a characteristic species of the ground layer which also includes Hypnum cupressiforme, Lophocolea bidentata and Calliergonella cuspidata in addition to the constant presence of the Kindbergia praelonga, Thuidium tamarascinum and Eurhynchium striatum. This rather ill-defined grouping may be viewed as transitional to the Betula pubescens - Pseudoscleropodium purum woodland Blechnum spicant vegetation type and to the Alnus glutinosa - Filipendula ulmaria woodland Fraxinus excelsior vegetation type.

Example sites: Cloneen, Co. Offaly (Site 86); Fortland, Co. Cavan (Site 644); Carbury Wood, Co. Kildare (Site 942); Lough Fea Lake, Co. Monaghan (Site 1177).

Distribution: The Lonicera periclymenum vegetation type has a distinctive distribution being present through southern Leinster and up into the Midlands, but absent from most of the remaining survey area (Fig. 3.4). The *Fagus sylvatica* vegetation type shows no clear pattern of distribution being scattered across the survey area; this is not surprising given that it is predominantly an anthropogenic assemblage. The *Quercus robur* vegetation type also has a scattered distribution but is notably absent from the southern counties. The *Thamnobryum alopecurum* vegetation type has a fairly continuous distribution through the survey area, being scarce only in the uplands of Wicklow and some of the border counties. The *Viola riviniana – reichenbachiana* vegetation type occurs across most of the central limestone plain, being generally absent from the more fertile soils of the south and east coast. Finally, the *Betula*

pubescens vegetation type has a rather scattered distribution, but appears to be centred on the raised bog zone of the Midlands.

Affinities: With the exception of the highly modified *Fagus sylvatica* vegetation type, which clearly corresponds to WD1 (Mixed) broadleaved woodland, most of the vegetation types in this woodland group are referable to the WN2 Oak-ash-hazel woodland category of Fossitt (2000). This corresponds with the Corlyo-Fraxinetum association described for Ireland by Kelly & Kirby (1982). When compared with the scheme of Cross (2005), most of the present stands are referable to the B1 Oak-ash-hazel woodland on relatively deep soils category. This incorporates both the veronicetosum and typicum subassociations of Kelly & Kirby (1982). It proved difficult to assign vegetation types between these two subassociations as the differential species and characters did not aggregate together. Similar inconsistencies were encountered by Cross (1992) in an analysis of esker woodlands. These difficulties may stem from the fact that most of the woodland samples of Kelly & Kirby (1982) were from the west of Ireland, whilst the present dataset is predominantly from the east.

A number of stands on shallow soils in the *Viola riviniana / reichenbachiana* vegetation type have hazel-dominated canopies which match the description presented by Cross (2005) for B2 Oak-ash-hazel woodland on shallow, often rocky, soils over limestone. However, the characteristic field layer species presented for the B2 category (*Sesleria caerulea, Hypericum pulchrum, Solidago virgurea* and *Teucrium scorodonia*) are scarce or rare in the present vegetation type. This B2 category was principally defined to account for the hazel scrub that occurs in conjunction with limestone pavement in the west of Ireland and corresponds with the neckeretosum subassociation of Kelly & Kirby (1982). It should also be noted that no recorded stands correlate with the B3 Yew woodland category of Cross (2005) which is identical to the WN3 Yew woodland category of Fossitt (2000). This is a highly specific woodland type found at a handful of site in the west of Ireland and is viewed as a facies of the Corylo-Fraxinetum neckerotosum subassociation (Kelly 1981).

There are some weak comparisons between the *Betula pubescens* vegetation type and the Corylo-Fraxinetum deschampsietosum subassociation of Kelly & Iremonger (1997), with *Deschampsia cespitosa* and *Carex remota* being indicator species for this vegetation type. The deschampsietosum subassociation broadly corresponds with the C1 Wet pedunculate oak-ash woodland rich in species of Cross (2005) and the WN4 Wet pedunculate oak-ash woodland of Fossitt (2000), although curiously Fossitt (2000) makes no mention of *Deschampsia cespitosa*. Stands within this vegetation type which occur on the margins of basin peats are particularly difficult to refer to other classifications. They are probably transitional between WN2 Oak-ash-hazel woodland and WN7 Bog woodland.

In the comparison with NVC communities (Table 3.6) the three vegetation types in which *Fraxinus excelsior* is most dominant (d-f), all corresponded with varying elements of W8 *Fraxinus excelsior – Acer campestre – Mercurialis perennis* woodland and W9 *Fraxinus*

excelsior - Sorbus aucuparia - Mercurialis perennis woodland. The Thamnobryum alopecurum vegetation type matches best with the W8e Geranium robertianum subcommunity which occurs on calcareous mull soils. The two groupings share a widespread distribution in their respective countries, although the W8e sub-community is uncommon in southeast Britain. They also share a preponderance of Acer pseudoplatanus in the canopy, of Sambucus nigra in the understorey, and of Hedera helix, Phyllitis scolopendrium and Polystichum setiferum in the field layer. The Viola riviniana / reichenbachiana and the Betula pubescens vegetation types match best with the W9a typical sub-community which occurs on calcareous moist brown soils, typically in the uplands of northern and western Britain, although the Betula pubescens vegetation type is rather hazel-poor in comparison. These groupings are also fairly similar in terms of species richness. The highly modified Fagus sylvatica vegetation type matches rather well with the more natural W12 Fagus sylvatica -Mercurialis perennis woodland that occurs on well-draining calcareous soils in southern England and southeast Wales. It corresponds best with the W12a Mercurialis perennis subcommunity of rather better soils, despite the absence of this non-native herb from most Irish stands. The Lonicera periclymenum vegetation type compares relatively strongly with W10 Quercus robur - Pteridium aquilinum - Rubus fruticosus woodland of base-poor brown soils in the southern lowlands of Britian. Its best match is with the W10c Hedera helix subcommunity which includes oak plantations with invading conifers. The W10 woodland community is also the best match for the Quercus robur vegetation type although the goodness-of-fit score is much lower. This vegetation type may also be compared with the W8e Geranium robertianum sub-community.

a Lonicera periclymenum	b Fagus sylvatica	c Quercus robur	d Thamnobryum alopecurum	e Viola riviniana / reichenbachiana	f Betula pubescens	
W10 61%	W12a 57%	W10 40%	W8e 54%	W9a 50%	W9a 49%	
W10c 53%	W12 48%	W8a 37%	W8 49%	W8 44%	W8e 42%	
W12a 47%	W8e 38%	W8 34%	W9a 47%	W8a 44%	W9 41%	
W8 45%	W12b 37%	W10b 33%	W8a 44%	W9 42%	W8 39%	
W10a 44%	W8b 35%	W10e 32%	W8c 42%	W8c 41%	W8c 38%	

Table 3.6. Goodness-of-fit comparisons between *Fraxinus excelsior – Hedera helix* woodland vegetation types and NVC communities.

	а	b	с	d	е	f	Group
Constants							
Hedera helix	V 22.5	IV 21.2	III 0.7	V 27.4 **	V 14.8	V 14.4	V 20.0
Rubus fruticosus	V 24.8 **	IV 4.6	V 18.1	V 15.3	V 8.5	V 17.5	V 14.6
Fraxinus excelsior	IV 15.5	V 19.3	III 8.0	V 43.8 **	V 27.8	V 33.0	V 30.9
Crataegus monogyna	II 0.9	III 2.3	III 1.6	IV 6.4	V 10.6	V 9.1 **	IV 6.5
Kindbergia praelonga	III 3.2	IV 1.1	V 1.3	IV 4.4	IV 3.4	V 5.8 *	IV 3.7
Dryopteris dilatata	IV 3.3	III 1.7	IV 1.0	III 1.7	IV 1.0	IV 2.1	IV 5.1
Thuidium tamarascinum	III 4.4	III 0.4	III 1.4	III 4.6	IV 5.2	V 12.1 **	IV 1.7
Eurhynchium striatum	II 0.8	III 1.0	II 0.5	IV 6.3	IV 5.6	V 9.2 **	IV 5.0
a Lonicera periclymenum type	e indicators						
Lonicera periclymenum	V 3.0 **	I 0.1	II 1.3	III 1.9	III 1.3	IV 2.0	III 1.8
llex aquifolium	IV 10.5 **	II 3.5	II 0.1	II 2.4	III 5.7	IV 6.6	III 4.8
Luzula sylvatica	I 6.0 *	l <0.1		I 0.1	I 0.3	IV 0.3	I 1.0
b Fagus sylvatica type indicat	tors						
Fagus sylvatica	III 10.7	V 53.4 ***	III 3.3	II 5.1	II 1.9	II 6.8	II 8.0
Hyacinthoides non-scripta	III 3.5	III 11.2 *	II 10.1	II 5.0	II 0.9	l <0.1	II 3.9
Ranunculus ficaria	I 0.3	II 2.7 *	l 0.6	ll 2.2	II 0.5	l <0.1	I 1.2
Ulmus glabra	l 1.9	II 4.3 *	I 0.1	ll 1.9	II 0.1	I 0.3	I 1.3
Allium ursinum	I 0.9	I 3.3 *		ll 1.2	II 0.1		I 0.8
Prunus laurocerasus	l <0.1	I 3.1 *	I 0.1	II 0.1		I 0.1	I 0.3
Aesculus hippocastanum	l <0.1	I 5.9 *		II 0.1	ll <0.1	I 0.1	I 0.4
Heracleum sphondylium	l <0.1	I 0.6 *	l <0.1	II 0.8	II 0.1		I 0.4
Brachythecium velutinum		l <0.1 *		l <0.1	ll <0.1	l <0.1	l <0.1
c Quercus robur type indicato	ors						
Quercus robur	V 44.4	II 9.8	V 60.5 **	II 10.0	II 11.1	II 7.5	III 17.8
Isothecium myosuroides	II 0.3	II 0.3	IV 0.5 *	II 0.2	III 0.5	II 0.4	II 0.4
Holcus lanatus	I 0.1	l 0.1	II 7.9 *	I 0.2	I 0.4	l <0.1	I 0.7
Urtica dioica	I 0.2	I 0.1	II 2.5 *	II 0.9	II 0.9	l <0.1	II 0.7
Atrichum undulatum	l <0.1	I 0.1	II 0.3 *	I 0.1	II 0.3	l <0.1	I 0.1
Agrostis capillaris	l <0.1		II 3.7 *	l 0.1	l 1.4	l <0.1	I 0.6

Table 3.5. Synoptic table for *Fraxinus excelsior – Hedera helix* woodland and vegetation types

		а		b		с		d		е		f	(Group
Drvopteris filix-mas	I	0.1	I.	0.1	Ш	0.6 *	П	0.7	Ш	0.3	Ш	0.2	П	0.4
Rumex sanguineus	I	0.1	I	0.1	Ш	0.5 *	I	0.1	П	0.3	1	<0.1	1	0.2
Pteridium aquilinum	I	2.1	I	0.1	II	2.6 *	I	0.1	I	0.1	I	0.1	1	0.5
Hypnum andoi	1	0.3	II	0.1	111	0.3 *	I	0.2	П	0.6	II	0.2	II	0.3
Festuca gigantea	1	<0.1			I	<0.1 *			I	<0.1			1	<0.1
Holcus mollis	1	<0.1			1	0.9 *	1	<0.1	1	<0.1			1	0.1
Dactylis glomerata	I	<0.1	I	<0.1	I.	0.8 *	1	0.1	I	0.1	П	<0.1	1	0.1
Cirsium palustre					I.	0.1 *			I	<0.1			1	<0.1
Lolium perenne					I	0.1 *							1	0.1
Polytrichum commune	1	<0.1			I	0.1 *	I	<0.1	I	0.1	II	<0.1	1	<0.1
Arrhenatherum elatius	1	<0.1			1	<0.1 *	1	0.1	1	<0.1	Ш	<0.1	1	<0.1
Rumex acetosa					I.	0.1 *			I	<0.1			1	<0.1
Rhododendron ponticum	I	0.4			I	4.7 *			I	0.7			I	0.5
d Thamnobryum alopecurum typ	oe indi	cators												
Thamnobryum alopecurum	П	1.7	Ш	1.7	П	0.1	IV	7.5 **	IV	5.8	Ш	2.5	111	4.9
Polystichum setiferum	II	2.5	I.	0.5	1	<0.1	III	3.2 *	II	1.4	II	0.4	II	2.0
Acer pseudoplatanus	II	3.6	III	11.5	II	2.5	III	11.0 *	II	1.3	II	2.6	III	6.0
Sambucus nigra	I	0.1	II	2.9	I	0.2	П	3.1 *	I	0.8	I	0.4	II	1.6
Phyllitis scolopendrium	I	0.0	II	0.3	I	<0.1	II	0.4 *	I	0.2	I	0.1	I	0.2
e Viola riviniana / reichenbachian	na typ	e indicato	ors											
Viola riviniana / reichenbachiana	I	0.1	I	0.7	I	0.1	Ш	0.4	V	1.6 **	IV	0.9	Ш	0.7
Corylus avellana	III	5.4	I	0.1	I	3.6	III	17.5	IV	33.2 **	II	4.2	111	16.5
Geum urbanum	II	0.2	I	0.1	II	0.3	IV	0.7	IV	1.5 **	III	0.7	111	0.8
Primula vulgaris	I	0.0	I	0.1			II	0.2	III	0.9 **	I	0.2	II	0.3
Geranium robertianum	I	0.9	II	0.2	II	0.4	II	1.1	IV	3.0 **	III	0.4		1.4
Potentilla sterilis	I	0.0			I	0.1	II	0.2	111	0.4 **	1	0.2	II	0.2
Fissidens taxifolius	I	0.0	I	0.1	I	<0.1	I	0.1	111	0.4 **	1	<0.1	I	0.1
Plagiomnium undulatum	I	0.0	II	0.2	I	<0.1	II	0.2	111	0.4 *	II	0.1	II	0.2
Frullania dilatata	I	0.0	I	<0.1	II	0.1	II	0.1	111	0.3 *	III	0.1	II	0.1
Hypnum cupressiforme	I	0.1	I	0.1	111	0.3	111	0.4	111	1.2 *	IV	0.5	III	0.6
Carex sylvatica	I	0.1	I	<0.1	I.	0.1	I	0.2	III	0.5 *	II	0.3	II	0.2
Oxalis acetosella	II	2.8	I	1.8	II	1.0	I	0.5	III	4.3 *	II	0.3	II	1.9
Ranunculus repens	I	0.0	I	<0.1	I.	0.3	I	0.1	II	0.8 *	I	<0.1	1	0.2
Circaea lutetiana	II	1.9	II	2.3	III	1.5	III	3.0	IV	3.0 *	III	1.3	III	2.5
Veronica montana		0.1		0.1	II	0.2	11	0.5	111	0.6 *	1	0.1	11	0.4

	а	b	С	d	е	f	Group
Prunella vulgaris				<0.1	I 0.2 *	I <0.1	I 0.1
Radula complanata	<0.1	I <0.1	<0.1	II 0.1	II 0.1 *	II 0.1	II 0.1
Veronica chamaedrys	l <0.1	l <0.1	l <0.1	II 0.2	II 0.3 *	I 0.1	II 0.2
Lysimachia nemorum	l <0.1		I 0.1	I 0.1	II 0.2 *	I 0.2	I 0.1
Sanicula europaea	I 0.1	I 0.1		I 0.2	II 0.7 *	I 0.2	I 0.3
Metzgeria furcata	l <0.1	II 0.1	l <0.1	II 0.1	II 0.1 *	II 0.1	II 0.1
Filipendula ulmaria	I 0.9	l <0.1	I 0.2	l 1.9	II 2.0 *	II 1.6	II 1.6
Lapsana communis				l <0.1	I 0.2 *	l <0.1	I 0.1
Alnus glutinosa	I 0.3			I 2.5	II 6.2 *	ll 4.1	I 3.0
Pellia epiphylla		l <0.1		l <0.1	I 0.2 *	l <0.1	I 0.1
Epilobium montanum	l <0.1		l <0.1	l <0.1	I 0.1 *	l <0.1	I 0.0
Agrostis stolonifera	I 1.4	I 0.6	II 2.3	I 0.2	ll 1.9 *	l <0.1	I 0.9
Fragaria vesca	l <0.1		l <0.1	I 0.1	I 0.2 *	I 0.1	I 0.1
Taraxacum agg.	l <0.1	l <0.1	l <0.1	l <0.1	II 0.1 *	l <0.1	I 0.0
Blechnum spicant	I 0.1	l <0.1	l <0.1	I 0.1	II 0.3 *	I 0.1	I 0.1
Cardamine flexuosa	l <0.1		l <0.1	l <0.1	I 0.2 *	I 0.2	I 0.1
Galium palustre	I 0.1				I 0.1 *	I 0.1	I 0.1
Mentha aquatica	l <0.1				I 0.1 *		l <0.1
Equisetum arvense	l <0.1				l <0.1 *		l <0.1
f Betula pubescens type indic	cators						
Betula pubescens	II 5.5	I 0.1	l <0.1	I 2.1	ll 4.5	IV 21.0 **	II 5.1
Viburnum opulus	l 0.1			I 0.1	I 0.2	II 1.0 **	I 0.2
Rhytidiadelphus triquetrus	I 0.3	l <0.1	I 0.1	II 1.6	ll 1.2	II 5.9 *	II 1.6
Lophocolea bidentata	l <0.1	l <0.1	l <0.1	II 0.1	l <0.1	II 0.1 *	I 0.1
Deschampsia cespitosa	I 0.4	l <0.1	I 0.3	I 0.2	II 0.6	II 0.8 *	I 0.4
Prunus spinosa	l 0.1			I 1.6	II 0.9	II 1.6 *	I 1.0
Calliergonella cuspidata				l <0.1	I 0.2	II 0.3 *	I 0.1
Ulota bruchii / crispa	l <0.1	l <0.1	l <0.1	l <0.1	II 0.1	II 0.1 *	I 0.1
Salix cinerea	l <0.1		I 0.6	I 0.8	II 4.2	ll 3.1 *	I 1.8
Sorbus aucuparia	ll 1.5		I 0.1	I 0.2	I 0.2	II 1.7 *	I 0.5
Brachythecium sylvaticum	I 0.1	I 0.3	I 0.2	I 0.2	II 1.1	II 0.5 *	I 0.5
Carex remota	II 1.0	l <0.1	I 0.1	I 0.2	ll 1.9	II 1.7 *	I 0.9
Vicia sepium	I 0.1		l <0.1	l <0.1	I 0.1	I 0.1 *	I 0.1
Hypnum lacunosum	l <0.1	l <0.1		l <0.1	0.0	I 0.1 *	I 0.2
Rosa sp.				l <0.1	0.3	I 0.1 *	I 0.5

	а	b	C	d	е	f	Group
Other trees							
Euonymus europaeus	I 0.1	I 0.4		I 0.5	I 0.4	II 0.7	I 0.4
Salix caprea	l <0.1	l 1.2		I 0.8	I 1.6	I 0.1	I 0.8
Ligustrum vulgare	I 0.3	I 1.0		I 0.3	l <0.1	I 0.1	I 0.2
Quercus petraea			I 0.2	I 1.3	I 0.7	I 0.5	I 0.8
Pinus sylvestris	I 0.3	I 0.1		I 0.1	l <0.1	I 0.5	I 0.1
Malus sylvestris	I 0.1			I 0.3	I 0.1	I 0.5	I 0.2
Prunus padus	I 0.5			l <0.1	I 0.3	I 1.2	I 0.3
Picea abies	I 0.7		I 0.7	I 0.2			I 0.2
Quercus robur x Q. petraea		I 0.3			I 0.2	l 1.5	I 0.2
Other woody species							
Rosa canina	I 0.9		l <0.1	I 0.1	I 0.4	I 0.1	I 0.3
Rubus ideaus	l <0.1	l <0.1	I 0.1	I 0.1	I 0.1	I 0.1	I 0.1
Rosa arvensis	I 0.1		l <0.1	I 0.1	l <0.1	I 0.1	l <0.1
Hypericum androsaemum		l <0.1		l <0.1	I 0.1	l <0.1	l <0.1
Vaccinium myrtillus	l 0.1				l <0.1	l <0.1	l <0.1
Other herbs							
Dryopteris affinis	II 0.7	II 0.2	l <0.1	II 1.1	II 0.7	II 0.4	II 0.8
Arum maculatum	I 0.1	II 0.4	l <0.1	III 0.3	II 0.1	I 0.1	II 0.2
Chrysosplenium oppositifolium	I 0.1	I 0.1	I 0.3	II 2.3	II 0.9	I 0.7	l 1.2
Athyrium felix-femina	I 0.1	I 0.1	II 0.2	I 0.2	II 0.4	I 0.3	I 0.3
Polypodium vulgare	I 0.1	l <0.1	l <0.1	I 0.2	I 0.2	II 0.1	I 0.1
Galium aparine	I 0.1	I 0.1	I 0.9	I 0.5	I 0.2	l <0.1	I 0.3
Ajuga reptans	I 0.1	I 0.1		I 0.2	I 0.5	I 0.3	I 0.2
Glechoma hederacea	l <0.1	l <0.1	I 0.7	I 0.7	I 0.4	l <0.1	I 0.4
Conopodium majus	l <0.1	I 0.3		I 0.2	I 0.3	l <0.1	I 0.2
Juncus effusus	I 0.4	l <0.1	l <0.1	l <0.1	I 0.2	I 0.1	I 0.1
Angelica sylvestris	l <0.1	I 0.6		I 0.4	I 0.1	I 0.1	I 0.2
Poa trivialis	l <0.1	l <0.1	I 0.1	l <0.1	I 0.7	l 0.1	I 0.2
Agrostis canina	l <0.1		I 1.2	l <0.1	I 0.7	I 0.2	I 0.3
Stellaria holostea	I 1.0	I 0.1	I 0.1	I 0.3	I 0.1	l <0.1	I 0.3
Anthriscus sylvestris		I 0.1		I 0.2	l <0.1		l <0.1
Anemone nemorosa				I 0.7	I 0.5	l <0.1	I 0.4
Poa annua		l <0.1	I 0.1	l <0.1	I 0.3		I 0.1

	а	b	С	d	е	f	Group
Ranunculus acris	l <0.1	l <0.1		l <0.1	l <0.1	l <0.1	l <0.1
Stellaria media			l <0.1	l <0.1	l <0.1		I 0.1
Carex flacca				l <0.1	I 0.1	l <0.1	l <0.1
Stachys sylvatica		I 0.1	l <0.1	l <0.1	l <0.1		l <0.1
Geum rivale			<0.1	<0.1	0.3	<0.1	1 0.3
Senecio aquaticus	<0.1		<0.1		<0.1	0.0	I <0.1
, Cerastium fontanum			<0.1	<0.1	<0.1		I <0.1
Rumex sp.		L <01	L <01	I <01	0.0	L <01	I <01
Veronica serpvllifolia	I <0.1		L <0.1		l <0.1		l <0.1
Valeriana officinalis	<0.1			<0.1	<0.1	<0.1	l <0.1
Cardamine sp.				l <0.1	0.0	l <0.1	l <0.1
Other bryophytes							
Neckera complanata	II 0.1	I 0.1	III 0.2	III 0.3	III 0.4	III 0.2	III 0.2
Brachythecium rutabulum	I 0.4	II 0.2	III 0.6	II 0.7	II 0.5	II 0.2	II 0.5
Isothecium alopecuroides	l <0.1	I 0.1	I 0.1	II 0.2	II 0.2	II 0.2	ll 0.1
Hypnum resupinatum	l <0.1	I 0.1	II 0.1	I 0.1	I 0.1	I 0.1	I 0.1
Mnium hornum	I 0.1	I 0.3	II 0.2	l <0.1	I 0.3	l <0.1	I 0.1
Homalothecium sericans	l <0.1		I 0.1	I 0.1	I 0.1	l <0.1	I 0.1
Polytrichastrum formosum	I 0.2	I 0.1	l <0.1	l <0.1	I 0.1	l <0.1	I 0.1
Plagiochila asplenoides	l <0.1	l <0.1	l <0.1	l <0.1	l <0.1	l <0.1	I 0.0
Hookeria lucens	l <0.1			I 0.1	I 0.2	l <0.1	I 0.1
Oxyrrhynchium hians			l <0.1	I 0.1	l <0.1	l <0.1	l <0.1
Hypnum jutlandicum	I 0.1	I 0.1	l <0.1	l <0.1	l <0.1	l 0.1	l <0.1
Frullania tamarasci	l <0.1		l <0.1				
Rhizomnium punctatum	l <0.1	I 0.2		l <0.1	l <0.1	l <0.1	l <0.1
Loeskeobryum brevirostre			l <0.1	I 0.1	I 0.3	l <0.1	I 0.1
Cryphaea heteromalla				l <0.1	l <0.1	l <0.1	l <0.1
Metzgeria fruticulosa	l <0.1			l <0.1	l <0.1	l <0.1	I 0.0
Orthotrichum affine		l <0.1	l <0.1	l <0.1	l <0.1	l <0.1	I 0.0
Pseudoscleropodium purum	I 0.1		l <0.1	l <0.1	I 0.1	l <0.1	I 0.0
Dicranum scoparium	l <0.1		I 0.1	l <0.1	l <0.1	l <0.1	l <0.1
Cirriphyllum piliferum				I 0.1	I 0.1	l <0.1	I 0.1
Plagiochila porelloides	l <0.1			l <0.1	l <0.1	l <0.1	l <0.1
Climacium dendroides		I 0.1		I 0.6	l <0.1	I 0.1	I 0.2
Rhytidiadelphus loreus	l <0.1	I 0.1	I 0.1	l <0.1	l <0.1	l <0.1	l <0.1
Dicranoweisia cirrata	l <0.1			l <0.1		l <0.1	l <0.1

	а	b	С	d	е	f	Group
Number of samples	70	30	31	187	132	58	508
Species richness	20	20	23	26	37	31	28
Altitude (m)	69	90	96	76	77	75	77.0
Slope (°)	8	11	6	12	9.8	2.2	9.0
Soil pH	4.5	4.7	4.7	5.1	5.7	4.8	4.9
Soil organic content (%)	24	15	19	18	21	43	22
Soil P content (mg/g)	0.70	0.98	0.83	0.90	0.76	0.75	0.81
Soil types (%)							
Brown Earths	33	27	39	32	38	17	32
Grey Brown Podzolics	43	47	39	49	36	26	41
Gleys	10	10	13	13	13	14	13
Basin Peats	7	0	3	2	7	34	7
Canopy height (m)	19	19	22	17	15	17	17
Stand density (trees/ha)	1107	918	591	1140	1235	1495	1159
Basal area density (m²/ha)	52	55	45	49	42	39	46
Native basal area (%)	84	42	88	82	96	88	85

Figure 3.4. Distribution map for *Fraxinus excelsior – Hedera helix* woodland using 10km squares.



- Fraxinus excelsior Hedera helix woodland
- a Lonicera periclymenum type



c Quercus robur type



d Thamnobryum alopecurum type



f Betula pubescens type



e Viola riviniana / reichenbachiana type



3.6 Alnus glutinosa – Filipendula ulmaria woodland

Key indicator species: Alnus glutinosa (59), Filipendula ulmaria (57), Salix cinerea (49), Phalaris arundinacea (44), Angelica sylvestris (43), Iris pseudacorus (41), Galium palustre (36), Ranunculus repens (35), Mentha aquatica (35), Urtica dioica (32).

Description: This woodland group consists of vegetation dominated by a varying mixture of *Alnus glutinosa*, *Salix cinerea* and, to a lesser degree, *Fraxinus excelsior*. Other constant species are *Hedera helix*, *Filipendula ulmaria*, *Kindbergia praelonga* and *Rubus fruticosus* (Table 3.7). These wet woodlands include riparian stands and carr, generally on gleys (including alluvial gleys) and basin peats on flat sites in the lowlands. Hence soils are mildly acidic to strongly basic and generally eutrophic in nature. Within this group three vegetation types have been identified:

a) Calystegia sepium type: This is a rare but distinct vegetation type almost always found on base-rich alluvial gleys in association with lowland rivers and is characterised by the occurrence of several non-native willow species. Such sites are often termed gallery woodland. The canopy is typically dominated by Salix cinerea, with S. alba and S. fragilis both common. Less frequently found are S. triandra, S. viminalis and S. purpurea. Alnus glutinosa is only occasional; this species is markedly less frequent in this vegetation type than in the others in this woodland group. Other occasional tree species are Acer pseudoplatanus and Sambucus nigra, whilst Fraxinus excelsior is rare. Willows tend to be sprawling, old, multistemmed trees resulting in a low canopy of about 9m and a low stand density, although individuals are often difficult to delimit. The high fertility of these periodically flooded and markedly eutrophic sites can result in an impressively dense and high field layer, consisting primarily of a tangle of Calystegia sepium, Urtica dioica, Galium aparine, Oenanthe crocata, Rumex sanguineus, Filipendula ulmaria, Rubus fruticosus, Phalaris arundinacea, Iris pseudacorus and Angelica sylvestris. Calystegia sepium and Urtica dioica are strong indicator species for this vegetation. There are a large number of occasional herbs including Carex pendula, Anthriscus sylvestris, Rorippa nasturtium-aquatica, Rumex obtusifolius, Ranunculus ficaria, Galium palustre, Chrysosplenium oppositifolium, Caltha palustris, Cardamine flexuosa, C. pratensis, Valeriana officinalis, Myosotis scorpiodes and Polystichum setiferum. The bryophyte cover is rather patchy and is dominated by Kindbergia praelonga, Rhizomnium punctatum and Brachythecium rutubulum with some scarce but indicative species such as Leskea polycarpa and Amblystegium serpens.

Example sites: Fiddown, Co. Kilkenny (Site 22); Grove Island, Co. Meath (Site 688); Yellow Island, Co. Meath (Site 752); Loughlinstown Wood, Co. Dublin (Site 918).

b) Fraxinus excelsior type: This is a rather diverse vegetation type that typically occurs along streams and rivers on gleys and brown earths, and next to lakes on gleys and fen peats, but is also found on poorly-drained soils elsewhere. Soils in general are less fertile and less base-rich than in the other vegetation types in this woodland group. The canopy is higher at around 13m and is dominated by a combination of Alnus glutinosa, Salix cinerea and Fraxinus excelsior, with this last species being at it most frequent and abundant in the group. Quercus robur, Betula pubescens and Acer pseudoplatanus are occasional whilst Crataegus monogyna is frequent in the understorey. This vegetation type is differentiated from the other two by an increase in the frequency of species associated with drier soils, or at least soils which are waterlogged rather than periodically inundated. The field layer therefore consists chiefly of Rubus fruticosus, Hedera helix, Dryopteris dilatata and Filipendula ulmaria together with Urtica dioica, Geranium robertianum, Circaea lutetiana, Galium palustre, Geum urbanum, Chrysosplenium oppositifolium, Cardamine flexuosa, Carex remota, Agrostis stolonifera and Ranunculus repens. The bryophyte layer is dominated by Kindbergia praelonga and Thuidium tamarascinum. Many stands within this vegetation type may be viewed as transitional to the wetter stands within the Fraxinus excelsior- Hedera helix woodland group.

Example sites: Dovegrove Callows, Co. Offaly (Site 27); Grantstown Wood, Co. Laois (Site 242); Fidwog, Co. Sligo (Site 534); Balrath, Co. Meath (Site 715).

c) Phalaris arundinacea type: Stands within this vegetation type are predominantly associated with lakes or lakes systems and occur largely on fen peats and alluvial gleys, and more rarely on rocky lakeshores. The canopy, which is around 10m in height, is dominated by *Salix cinerea* and *Alnus glutinosa* and many of these stands may be described as willow or alder carr. Old, collapsed willows, with multiple stems are a common feature of these stands. *Fraxinus excelsior* is a constant species but provides only sparse cover. *Betula pubescens, Crataegus monogyna* and *Viburnum opulus* are all occasional trees. The field layer is a diverse mix of species associated with periodically inundated sites. It is dominated by *Phalaris arundinacea,* with *Galium palustre, Mentha aquatica, Iris pseudacorus, Equisetum fluviatile, Agrostis stolonifera, Cardamine pratensis, Caltha palustris, Angelica sylvestris, Myosotis scorpiodes, Polypody vulgare and Lythrum salicaria* all at least frequent. *Carex elata, C. vesicaria* and *Phragmites australis* are occasional but locally abundant species. Bryophyte cover is dominated by *Kindbergia praelonga, Calliergonella cuspidata, Calliergon cordifolium, Climacium dendroides, Brachythecium rutabulum, Hypnum cupressiforme* and *Rhizomnium punctatum*. Non-native tree species have a minimal presence within this vegetation type.

Example sites: Ballyconnell Demesne, Co. Cavan (Site 345); Cormongan, Co. Leitrim (Site 425); Breakey, Co. Meath (Site 747); Island Bridge, Co Monaghan (Site 848).

Distribution: As the rare *Calystegia sepium* vegetation type is primarily restricted to broad lowland rivers, it is found only in the east and south of the current survey area (Fig. 3.5). In comparison, the *Fraxinus excelsior* vegetation type is found scattered throughout the area, although largely absent from Co. Dublin and the adjacent counties plus northern Co. Monaghan. The *Phalaris arundinacea* vegetation type displays a striking distribution pattern, occurring across the lakelands of the north Midlands, but being entirely unrecorded in the southern half of the survey area.

Affinities: The well-defined *Calystegia sepium* vegetation type corresponds very highly with the WN5 Riparian woodland category of Fossitt (2000), which was renamed in Cross (2005) as D Willow woodland alongside river channels (gallery or riparian woodland). These accounts are primarily based on the woodland community defined by Kelly & Iremonger (1997), which was classified in phytosociological terms as the Salicetum albae-fragilis association, although it was reclassified as Salicetum albae association by Cross & Kelly (2003).

The *Phalaris arundinacea* vegetation type clearly falls within the WN6 wet willow-alder-ash woodland category of Fossitt (2000). Within the scheme of Cross (2005) it broadly corresponds with E1 Willow-alder carr on fen peat, although not all of the stands within this vegetation type were recorded as occurring on basin peats. This stagnant carr vegetation has been classified as part of the Osmundo-Salicetum association by Kelly & Iremonger (1997). Cross (2005) also outlines another carr community: E2 Alder carr with tussock sedge (*Carex paniculata*). This was originally described by Kelly & Iremonger (1997) as a rare but distinctive woodland type occurring on fen peat in association with calcareous springs. In the present analysis, however, this community, if recorded, has not proved distinctive enough to form a vegetation type of it own.

The *Fraxinus excelsior* vegetation type also largely matches with part of the WN6 wet willowalder-ash woodland of Fossitt (2000). In the more detailed scheme of Cross (2005) this translates into rather poor correspondence with E3 Ash-alder-remote sedge woodland, as whilst all of the species mentioned in that account occur in this vegetation type and some are frequent, none of them are indicator species. This E3 woodland category is based on the grouping assigned to Carici remotae-Fraxinetum association by Kelly & Iremonger (1997). There is also some correspondence of this vegetation type with the WN4 wet pedunculate oak-ash woodland of Fossitt (2000), which corresponds with the grouping that Kelly & Iremonger (1997) defined as the Corylo-Fraxinetum deschampsietosum association. This WN4 category was essentially redefined by Cross (2005) as C Mixed alder-oak-ash woodland with willow and divided into two subcategories: C1 Wet pedunculate oak-ash woodland rich in species and C2 Woodlands of floodplains subject to intermittent flooding. Most relevant stands within this vegetation type are referable to the C1 subcategory. A few alluvial stands may be referable to the rare C2 subcategory although as Cross (2005) points out this is likely to be determined as much by physical situation as by vegetation composition.

Stands assigned to the C2 category would correspond with the priority annexed habitat "*alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno padion, Alnion incanae, Salicion albae) (91E0)". A few alluvial stands within the *Phalaris arundinacea* vegetation type may also correspond to this habitat. Although neither *Alnus glutinosa* nor *Fraxinus excelsior* are major components of the canopy in the *Calystegia sepium* vegetation type, these gallery woods have been deemed to fall within this annexed habitat due to being integral parts of European alluvial forests (Cross 2005).

There are affinities between the *Alnus glutinosa* – *Filipendula ulmaria* woodland group and several of the NVC communities of Rodwell (1991) as shown in Table 3.8. The *Calystegia sepium* vegetation type corresponds best with W6 *Alnus glutinosa* – *Urtica dioica* woodland which occurs on moist eutrophic soils and is characteristic of sites where there is substantial deposition of allochthonous mineral material. It includes sub-communities characterised by *Salix fragilis* and *S. viminalis.* The correlation is, however, very weak; this is likely to be due to the rather ill-defined nature of the W6 woodland community and the high non-native element within the *Calystegia sepium* vegetation type.

a Calysteg	ia sepium	b Fraxinus	excelsior	c Phalaris a	rundinacea
W6	29%	W7	49%	W5b	59%
W5	27%	W7b	47%	W5	56%
W5c	26%	W5b	47%	W7b	49%
W7a	25%	W5	46%	W5a	48%
W2a	24%	W7a	39%	W7	42%

 Table 3.8. Goodness-of-fit comparisons between Alnus glutinosa – Filipendula ulmaria woodland vegetation types and NVC communities.

The *Fraxinus excelsior* vegetation type corresponds with the W7 *Alnus glutinosa* – *Fraxinus excelsior* – *Lysimachia nemorum* woodland which occurs on moist to very wet, moderately base-rich, mineral soils mostly in the north and west of Britain. It matches best with the W7b *Carex remota* – *Cirsium palustre* sub-community which is associated with soligenous and minerotrophic flushes although *Rubus fruticosus* is reported as very infrequent in this sub-community by Rodwell (1991). There is also some correspondence between this vegetation type and the W5 *Alnus glutinosa* – *Carex paniculata* woodland and particularly the W5b *Lysimachia vulgaris* sub-community. This is essentially a carr community and also provides the best match for the *Phalaris arundinacea* vegetation type. The W5 community is

characteristic of wet to waterlogged, base-rich, moderately eutrophic organic soils in topogenous and soligenous mires. The W5b sub-community is distinguished by being a species-rich variant characteristic of the Broadlands.

		а		b		С	Gr	oup
Constants								
Fraxinus excelsior	I	1.4	V	21.2 ***	IV	5.3	IV	15.1
Hedera helix	III	2.6	IV	5.5 ***	I	0.2	IV	3.8
Salix cinerea	IV	25.8	IV	24.1	V	43.9 ***	V	29.6
Filipendula ulmaria	IV	8.3	IV	6.4	V	9.5	V	7.4
Alnus glutinosa		9.8	IV	27.8	V	26.1	IV	25.8
Kindbergia praelonga	IV	1.3	IV	3.4	IV	2.2	IV	2.9
RUDUS Truticosus	IV	5.5	IV	13.4	111	1.8	IV	9.5
a Calystegia sepium type indica	ators							
Calystegia sepium	IV	3.2 ***	I	0.1	I.	0.2	I	0.4
Urtica dioica	IV	8.4 ***	III	3.6	II	0.7	III	3.2
Salix alba	111	18.8 ***	I	0.1	I	0.0	I	1.7
Salix fragilis	111	10.5 ***	I	0.5	I	1.0	I	1.5
Galium aparine	IV	0.5 **	II	0.5	I	0.1	II	0.3
Rorippa nasturtium-aquatica	II	4.2 **	I	0.1			I	0.4
Oenanthe crocata	111	1.9 **	I	1.2	I	<0.1	I	1.0
Rumex sanguineus	111	2.6 **	II	0.3	I	0.1	II	0.5
Metzgeria fruticulosa	II	0.1 **	I	<0.1	I	<0.1	I	<0.1
Carex pendula	II	0.6 **	I	0.2	I	<0.1	I	0.2
Rumex obtusifolius	II	0.4 **	I	<0.1	I	<0.1	I	<0.1
Impatiens glandulifera	II	7.6 **	I	<0.1			I	0.9
Phyllitis scolopendrium	II	0.1 *	I	<0.1			I	<0.1
Anthriscus sylvestris	II	1.4 *	I	0.6	I	<0.1	I	0.5
Ranunculus ficaria	II	2.1 *	I	1.2			I	0.9
Brachythecium sylaticum	II	0.1 *	I	0.1	I	<0.1	I	0.1
Salix triandra	I	3.7 *	I	<0.1			I	0.3
Leskea polycarpa	I	0.1 *	I	<0.1	I	<0.1	I	<0.1
Cornus sericea	I	0.6 *	I	<0.1			I	<0.1
Heracleum sphondylium	I	1.4 *	I	0.1			I	0.2
Epilobium hirsutum	I	0.1 *	I	<0.1			I	<0.1
Amblystegium serpens	I	<0.1 *	I	<0.1			I	<0.1
b Fraxinus excelsior type indicated	ators							
Dryopteris dilatata	I	0.1	IV	2.4 ***	I.	0.1	III	1.5
Geranium robertianum			III	1.0 ***	I	<0.1	II	0.6
Thuidium tamarascinum			III	5.5 ***	I	0.4	II	3.6
Crataegus monogyna			III	2.3 ***	II	0.6	III	1.6
Circaea lutetiana			III	1.7 ***	I	<0.1	II	1.1
Geum urbanum	I	0.1	III	0.8 **	I	<0.1	II	0.5
Lonicera periclymenum			II	1.0 **	I	<0.1	II	0.6
Eurhynchium striatum	I	0.2	II	2.0 **	I	0.2	II	1.3
Plagiomnium undulatum	II	<0.1	II	0.2 **	I	0.1	II	0.1
Quercus robur			II	2.8 **	I	0.1	I	1.8
Viola riviniana / reichenbachiana			II	0.3 **	I	<0.1	I	0.2
Oxalis acetosella			I	0.9 *			I	0.6
llex aquifolium			II	1.6 *	I	<0.1	I	1.0
Metzgeria furcata	I	<0.1	II	<0.1 *	I	<0.1	I	0.0
Dryopteris affinis			I	0.1 *	I	<0.1	I	0.1
Pellia epiphylla			I	0.1 *			I	0.1
c Phalaris arundinacea type inc	dicators							
Phalaris arundinacea	Ш	1.5	П	2.7	V	19.6 ****	111	7.2
Equisetum fluviatile	I.	0.1	I	0.1	IV	0.4 ***	II	0.2
Calliergonella cuspidata	I.	<0.1	II	1.2	IV	3.6 ***	П	1.8
Calliergon cordifolium			I	<0.1	Ш	1.0 **	I	0.3
Climacium dendroides			I	0.1	III	0.7 **	I	0.3
Hypnum cupressiforme	П	0.2	III	0.4	IV	1.4 **	III	0.7

Table 3.7. Synoptic table for Alnus glutinosa - Filipendula ulmaria woodland and vegetation types

		а		b	C	Group
Galium nalustra	п	55	ш	05	V 06**	III 0.9
Potentilla palustris	11	5.5	1	-0.1	V 0.0	
Phraamites australis			1	<0.1 1 1		I 0.1
Carey elata			1	~0.1	II 35 **	I 1.0
Mentha aquatica	П	0.1	II	0.6	IV 0.6 **	III 0.5
Iris pseudacorus		0.8		2.2	IV 2.4 **	III 2.1
Lythrum salicaria	1	0.2		0.3	III 1.9 **	II 0.7
Scutellaria galericulata					II 0.2 **	I 0.1
Deschampsia cespitosa			I	0.7	ll 1.7 **	II 0.9
Radula complanata			I	<0.1	III 0.1 **	ll <0.1
Carex vesicaria			I	<0.1	II 4.3 **	l 1.2
Lycopus europaeus	I	0.1	I	0.1	II 0.3 **	l 0.2
Lysimachia vulgaris			I	0.2	II 0.4 **	I 0.2
Sanionia uncinata			I	<0.1	I 0.1 *	l <0.1
Stachys palustris			I	<0.1	I 0.1 *	l <0.1
Vicia cracca					I 0.1 *	l <0.1
Cinclidotus fontinaloides					I 0.1 *	l <0.1
Thalictrum flavum			I	<0.1	I <0.1 *	l <0.1
Other trees						
Potulo nuboccono			ш	5 1	11 47	11 46
Acer pseudoplatanus	п	07		0.1 0.0	II 4.7	II 4.0
Viburnum opulus	1	0.7	1	2.2		II 1.5
Corvius avellana	1	0.5 1 4	1	4.0		1 0.5
Sambucus nigra	II	0.3	1	4.0 0.4		1 0.3
Salix cinerea x S caprea		0.0	1	1.0	1 19	I 11
Prunus spinosa				0.4	l <0.1	1 0.3
Fagus sylvatica	I	0.1	I	0.8	1 0.1	0.5
Sorbus aucuparia	-		l I	0.1	1 0.1	I 0.1
Rhamnus cathartica			I	0.3	I 0.1	I 0.2
Rhododendron ponticum			I	1.8		I 1.1
Euonymus europaeus	I	0.5	I	0.2	I 0.1	I 0.2
Quercus petraea	I	4.8	I	<0.1		I 0.4
Aesculus hippocastanum			I	0.2		l <0.1
Salix caprea			I	1.2		l 0.7
Ulmus glabra			I	0.5		I 0.3
Alnus incana	I	<0.1	I	0.1	l <0.1	I 0.1
Salix viminalis	Ι	3.2			I 0.1	I 0.3
Acer campestre	Ι	0.1				l <0.1
Salix purpurea	Ι	1.4				I 0.1
Other woody species						
Salanum dulaamara		0.4		0.1	II 0.2	
Poco conino	1	0.4	1	0.1	1 -0.1	1 0.2
Rubus ideaus	1	0.0	l I	0.2	I 0.1	I 0.2
Other herbs						
Angelica sylvestris	IV	1.0	111	0.9	IV 0.5	III 0.8
Ranunculus repens	II 	0.2		1.8	II 0.3	III 1.3
Agrostis stolonifera		0.4	111	6.6	III 2.0	III 4.8
Carex remota		0.2		2.7	II 0.8	III 2.0
Chirysospienium oppositifolium		ა.4 1 ი		3.4	I U.8	11 2.7
Cardamina flavuaca	11	1.9	11	0.9		
Caruannine (lexuosa Polypody yydroro		0.2	111	0.4	I U.1	II 0.3
Folypouy vulgare		0.3 5.8	11	0.1		II 0.2
Juncus effuere	1	0.1		17	II 0.5	II 10
Senecio aquaticus		0.1	11	0.4	II 0.5	II 0.5
Athvrium felix-femina		<0.0		0.4 0.9	I 0.3	II 0.6
Valeriana officinalis	II	0.6		0.2	II 0.6	II 0.3
Poa trivialis	I	0.2	Ш	1.7	I 0.9	I 1.4

		а		b		С	Group
Mvosotis scorpiodes	Ш	2.7	1	0.2	ш	0.3	I 0.5
Veronica montana	I.	0.1	II	0.3		<0.1	1 0.2
Equisetum arvense	i	0.1		0.1	i	0.1	I 0.1
Holcus lanatus	I	0.3	I	1.5	I	0.2	I 1.1
Glyceria fluitans			I	2.1	I	<0.1	l 1.4
Polystichum setiferum	П	0.1	I	0.1	I	<0.1	l 0.1
Arrhenatherum elatius			I	0.1	I	<0.1	l 0.1
Epilobium montanum			I	0.1	I	0.1	l 0.1
Blechnum spicant			I	0.2	I	<0.1	l 0.1
Vicia sepium	I	<0.1	I	0.1			l 0.1
Homalothecium sericans	I	0.1	I	<0.1	I	<0.1	l <0.1
Ranunculus acris	I	<0.1	l	1.7	I	<0.1	l 1.1
Lysimachia nemorum			I	0.2	I	<0.1	I 0.1
Carex sylvatica			I	0.1	I	<0.1	I 0.1
Ranunculus flammula	1	0.5	1	0.1	1	<0.1	I 0.1
	I	1.4	1	0.5	1	<0.1	1 0.4
Ajuga replans		0.7	1	0.2	1	<0.1	
Rumey acetosa	1	0.7	1	0.2	1	0.1	I 0.2
Prunella vulgaris			1	0.2	1	0.1	1 0.1
Taraxacum agg				<0.1		-0.1	I <0.1
Cirsium palustre			I	<0.1	i	<0.1	1 0.0
Apium nodiflorum	I	0.6	I	0.2	I	<0.1	1 0.2
Plagiomnium cuspidatum	Ì	<0.1	Ì	<0.1	Í	0.2	I 0.1
Carex nigra			I	0.2	I	0.1	I 0.2
Geum rivale			I	0.1	I	<0.1	l 0.1
Hyacinthoides non-scripta			I	0.4			I 0.3
Epilobium obscurum	I	<0.1	I	<0.1	I	<0.1	l <0.1
Lemna minor			I	<0.1	I	0.1	l 0.1
Carex sp.			I	<0.1	I	0.2	I 0.1
Myoslotis laxa			I	<0.1	I	<0.1	l <0.1
Lychnis flos-cuculi			I	<0.1	I	<0.1	l <0.1
Dactylis glomerata			1	0.1			I 0.1
Luzula sylvatica			I	0.3			I 0.2
Primula vulgaris			I	<0.1			I <0.1
veronica chamaedrys		0.1	1	0.1			I <0.1
	I	<0.1	1	<0.1		0.2	I <0.1
Enilobium palustre			I	<0.1	1	-0.1	
Viola palustris			1	<0.1	1	<0.1	
Sanicula europaea				0.1	•	NO.1	L <0.1
Chamaerion angustifolium	I.	0.5	I	<0.1	1	< 0.1	L 0.1
Crepis paludosa	i	<0.1	I	0.1			I 0.1
Carex riparia	Ì	6.2	Ì	0.1	I	2.6	I 1.3
Potentilla erecta			I	<0.1	I	<0.1	l <0.1
Ranunculus lingua			I	<0.1	I	<0.1	l <0.1
Arum maculatum			I	<0.1			l <0.1
Digitalis purpurea			I	<0.1			l <0.1
Equisetum telmeteia			I	0.6			I 0.4
Poa sp.	I	0.1	I	<0.1			l <0.1
Molinia caerulea			l	<0.1	I	0.5	I 0.1
Carex elongata			I	0.1	I	0.1	I 0.1
Menyanthes trifoliata		0.0	I	<0.1	I	0.1	I <0.1
Scrophularia auriculata	1	-0.1	1	<0.1			I <0.1
Potositos hybridus	1	<0.1 2.2	I	0.2 -0.1			I 0.1
Torilis ianonica	1	2.3 0.2	I	<0.1			I U.2
Rorinna nalustris	1	<u>_0.2</u>	'	\U.1			I _0.1
Aarostis gigantea	I	0.1					<0.1
Stachys palustris x S. sylvatica	I	0.1					l <0.1
Tussilgo farfara	I	<0.1					l <0.1
Campanula latifolia	I	0.5					l <0.1
Campanula trachelium	I	<0.1					l <0.1

		а		b		С	Group	
Narcissus agg.	I	<0.1					I	<0.1
Pimpinella saxillaga	I	2.3					I	0.2
Other bryophytes								
Brachythecium rutabulum	IV	1.6	II	1.1	IV	0.5	Ш	1.0
Ulota bruchii / crispa			П	0.1	111	0.1	II	0.1
Frullania dilatata	I.	<0.1	II	0.1	II	0.1	II	0.1
Lophocolea bidentata	II	<0.1	II	0.1	II	0.1	II	0.1
Rhizomnium punctatum	II	3.3	II	1.4	III	0.3	II	1.3
Isothecium myosuroides	I	<0.1	II	0.2	II	0.2	II	0.2
Thamnobryum alopecurum	II	<0.1	II	0.6	II	0.2	11	0.4
Neckera complanata	I	<0.1	II	0.1	II	0.1	II	0.1
Hypnum andoi	I	0.2	I	0.1	I	0.1	I	0.1
Hypnum resupinatum	I	<0.1	I	0.1	I	0.3	I	0.1
Conocephalum conicum	II	<0.1	I	0.2			I	0.1
Mnium hornum			I	0.2	I	0.1	I	0.1
Hypnum jutlandicum			I	0.1	I	0.1	I	0.1
Brachythecium rivulare	I	<0.1	I	0.2	I	0.2	I	0.2
Chiloscyphus pallescens			I	0.1	I	0.1	I	0.1
Hookeria lucens			l	0.1			I	0.1
Fissidens taxifolius	I	<0.1	l	<0.1	I	<0.1	I	<0.1
Rhytidiadelphus squarrosus			l	<0.1	I	0.1	I	<0.1
Isothecium alopecuroides			l	0.1	I	<0.1	I	<0.1
Ulota phyllantha			l	<0.1	I	<0.1	I	<0.1
Polytrichastrum formosum			I	0.1	I	<0.1	I	0.1
Ribes nigrum			l	0.4	I	0.3	I	0.4
Atrichum undulatum			I	<0.1			I	0.0
Plagiothecium succulentum	I	<0.1	I	<0.1				<0.1
Neckera pumila			I	<0.1	1	<0.1	I	<0.1
Rhytidiadelphus triquetrus			I	0.7		0.2		<0.1
Oxyrrhynchium speciosum	1	<0.1	I	<0.1	I	<0.1	1	<0.1
Cryphaea heteromalia	1	<0.1	I	0.1				<0.1
Fontinalis antipyretica	1	0.2	I	<0.1	1	<0.1	1	<0.1
Orthotrichum affine	1	<0.1	I	<0.1		<0.1	1	<0.1
Ambiystegium varium	I	<0.1	1	0.1		<0.1	1	0.1
Carex rostratum			1	<0.1		0.3	1	0.1
Plania lamarasci		0.1	1	<0.1		<0.1	1	<0.1
Loptodictvum riparia	1	0.1	1	<0.1	1	-0.1	1	0.1
Plagiompium affino	1	<0.1	I I	<0.1	i i	<0.1	1	<0.1
Pseudotavinhvllum elecans	1	0.5	1	<0.1	1	<0.1		-0.1
Plagiochila asplenoides			1	<0.1				<0.1
Pellia endiviifolia	1	<0 1	1	<0.1	1	<01		<0.1
Fissidens adianthoides	•	20.1	·	<0.1	i	<0.1	i	<0.1
Didymodon fallax	1	<0.1			•			< 0.1
Orthotrichum sp.	i	<0.1					i	<0.1
Number of samples		13		96		41		150
Species nonness		21		33		34		33
Altitude (m)		31		63		70		62
Slope (°)		1		2		0		1
Soil pH		7.1		5.4		5.8		5.5
Soil organic content (%)		23		39		50		40
Soil P content (mg/g)		1.37		1.03		1.23		1.12
Soil types (%)								
Brown Earths		8		16		5		12
Gleys		85		41		39		44
Basin Peats		0		20		46		26
Canopy height (m)		10		13		9		12
Stand density (trees/ha)		784		1304		1268		1261
Basal area density (m²/ha)		34		46		30		41
Native basal area (%)		61		96		99		95

Figure 3.5. Distribution map for *Alnus glutinosa – Filipendula ulmaria* woodland using 10km squares.



Alnus glutinosa – Filipendula ulmaria woodland

a Calystegia sepium type



c Phalaris arundinacea type





3.7 Betula pubescens – Pseudoscleropodium purum woodland

Key indicators species: Betula pubescens (65), Pseudoscleropodium purum (54), Molinia caerulea (50), Thuidium tamarascinum (33), Rubus fruticosus (31), Lophocolea bidentata (30), Hypnum jutlandicum (26), Dryopteris dilatata (26), Kindbergia praelonga (23), Potentilla erecta (23).

Description: This woodland group consists of vegetation almost invariably dominated by *Betula pubescens* (Table 3.9). The other constant species are *Thuidium tamarascinum*, *Dryopteris dilatata*, *Rubus fruticosus*, *Kindbergia praelonga* and *Hedera helix*. These birchwoods occur predominantly on raised bog sites in the lowlands, but also included here are successional stands on acidic soils in the uplands and stands on hillside gleys. All of these vegetation types are characterised by high tree densities and low basal area densities reflecting the young age of many of the stands. Canopies tend to be fairly low at around 12m in height. Four woodland types are described for this group, all of which have a high native status:

a) Blechnum spicant type: This is a rather heterogeneous vegetation type which differs primarily from others in this group in that it is not predominantly associated with lowland basin peats. It includes stands of stream and river valleys in the uplands and developing scrub woodland on more mineral-rich acidic soils, often on gleved sloping ground. Betula pubescens is the most frequent and dominant tree species, but the canopy is significantly more diverse here than in the other Betula pubescens - Pseudoscleropodium purum types, with Ilex aquifolium, Corlyus avellana, Fraxinus excelsior, Alnus glutinosa, Sorbus aucuparia and Salix cinerea all frequent. Corylus avellana in particular is a good indicator species for this woodland type which includes a number of hazel coppice stands mixed with birch. Quercus petraea and Fagus sylvatica are only occasional. Rubus fruticosus is constant and dominant in the field layer which may be distinguished from the other vegetation types of this group by several indicator species associated with less organic soils. These include Oxalis acetosella, Athyrium felix-femina, Hyacinthoides non-scripta, Ranunculus repens, R. flammula, Lysimachia nemorum and Carex remota. The ground layer is dominated by Thuidium tamarascinum. Pellia epiphylla is far less abundant but is a good indicator for this vegetation type.

Example sites: Killoughrum Forest, Co. Wexford (Site 4); Raheendonore, Co. Kilkenny (Site 205); Ballard Bridge, Co. Wicklow (Site 341); Glassalt Wood, Co. Leitrim (Site 386).

b) *Pteridium aquilinum* type: This is by far the most frequent of the birchwood types and is the vegetation found on large areas of degraded raised bog in the Midlands, particularly those which have been machine cut. *Betula pubescens* dominates the canopy. *Sorbus aucuparia*

and *Salix cinerea* are frequent alongside the birch with *llex aquifolium* being common in the understorey. *Crataegus monogyna* and *Quercus robur* are occasional. This vegetation type can be markedly species poor and has only three indicator species, *Pteridium aquilinum*, *Rubus fruticosus* and *Dryopteris dilatata*. *Rubus fruticosus* often dominates large swathes of the field layer whilst *Molinia caerulea* and *Pteridium aquilinum* are prevalent in areas where the canopy is thinner. *Vaccinium myrtillus* is occasional. The ground layer is composed chiefly of *Thuidium tamarascinum*, *Kindbergia praelonga*, *Pseudoscleropodium purum*, *Hypnum jutlandicum*, *H. cupressiforme*, *Eurhynchium striatum* and *Lophocolea bidentata*. *Sphagnum* spp. are scarce as the soil, which is naturally acidic and with a high organic content, is generally far better drained that that of the following two birchwood types.

Example sites: Cangort Bog, Co. Offaly & Co. Tipperary (Site 34); Rinn Lough Woods, Co. Leitrim (Site 330); Vale of Clara, Co. Wicklow (Site 338); Lough Ennell Wood, Co. Westmeath (Site 1081).

c) Filipendula ulmaria type: This vegetation type also occurs largely on degraded raised bog sites in the lowlands, but differs in occurring in markedly wetter situations. It tends to be found on smaller bogs sites which have been cut by hand rather than by machine, and therefore probably includes many older sites. On larger bog sites it usually occurs around the margins of the basin. Species richness is high and indicator species include a large number of herbaceous plants indicative of waterlogged conditions. The canopy is dominated by a mixture of Betula pubescens and Salix cinerea. Fraxinus excelsior and Crataegus monogyna are frequent, whilst Alnus glutinosa and llex aquifolium are only occasional. Important components of the field layer are Rubus fruticosus, Dryopteris dilatata, Hedera helix, Filipendula ulmaria, Galium palustre, Molinia caerulea, Juncus effusus and Holcus lanatus. Surface water in the form of waterfilled peat workings are a characteristic feature of these oligotrophic wet woodlands. As in the Pteridium aquilinum type the ground layer includes Thuidium tamarascinum, Kindbergia praelonga, Pseudoscleropodium purum, Hypnum jutlandicum, H. cupressiforme, Eurhynchium striatum and Lophocolea bidentata, but here Calliergonella cuspidata is a constant species and indeed a strong indicator for this vegetation type. Also included here are a small number of grassy birch stands of wet hillsides which appear to be referred to this type by the presence of key grass and bryophyte species.

Example sites: Thomastown Bog, Co. Meath (Site 687); Glenasmole Valley, Co. Dublin (Site 884); Ballynafid, Co. Westmeath (Site 1079); Reduff, Co. Monaghan (Site 860).

d) *Polytrichum commune* type: This vegetation type includes stands on intact and degraded lowland raised bogs, and stands in boggy valleys and hollows in the uplands. It is characterised by a number of heathland plants and *Sphagnum* spp. *Betula pubescens* is again dominant, *Salix cinerea* and *Salix aurita* x *S. cinerea* are frequent, and *llex aquifolium* is occasional. The field layer is composed largely of *Molinia caerulea* and *Rubus fruticosus*.

Dryopteris dilatata is still constant but *Hedera helix* is much less prevalent here than in the other types in this group. Other frequent species in the field layer are *Blechnum spicant*, *Potentilla erecta*, *Calluna vulgaris*, *Agrostis canina* and *Holcus lanatus*. The ground layer is generally abundant and composed chiefly of *Polytrichum commune*, *Sphagnum palustre*, *Sphagnum fimbriatum*, *Rhytidiadelphus squarrosus*, *Pseudoscleropodium purum*, *Hypnum jutlandicum*, *H. cupressiforme* and *Lophocolea bidentata*. *Thuidium tamarascinum* is much less abundant here than in the other types in this group.

Examples sites: All Saint's Bog, Co. Offaly (Site 605); Red Bog, Co. Louth (Site 640); The Giant's Cut & Lugduff, Co. Wicklow (Site 786).

Distribution: The Blechnum spicant vegetation type is concentrated largely in the upland areas of the southeast, in Cos. Wexford, Carlow and Wicklow, with a more scattered distribution in the Midlands and through the border counties (Fig. 3.6). The *Pteridium aquilinum* vegetation type is more widely distributed, being found across the Midlands and through Co. Wicklow into Co. Carlow, but is scarce or absent in the agricultural areas of the south and east. The *Filipendula ulmaria* and *Polytrichum commune* vegetation types have similar ranges being absent from most of the southern part of the survey area and occurring through the Midlands, the border counties and in Co. Wicklow. The *Polytrichum commune* vegetation type is, however, far more sparsely distributed.

Affinities: Most stands within this woodland group are comparable to the WN7 Bog woodland category of Fossitt (2000). Stands which are not on bogs and which are in the early stages of succeeding towards the *Quercus petraea – Luzula sylvatica* woodland group, which include several within the *Blechnum spicant* vegetation type, are accounted for under WN1 Oakbirch-holly woodland. Wetter stands within the *Blechnum spicant* vegetation type, are accounted for under WN1 Oakbirch-holly woodland. Wetter stands within the *Blechnum spicant* vegetation type which occur along watercourses are likely to be referable to WN4 Wet pedunculate oak-ash woodland or WN6 Wet willow-alder-ash woodland, due to the presence of *Alnus glutinosa* and *Fraxinus excelsior*, although little mention of birch is made under those category descriptions.

Cross (2005) recognises two categories of birch woodland. The F1 Dry birch woodland category is comparable to the *Pteridium aquilinum* vegetation type described here, but would also include successional stands found in the other vegetation types. The F2 Wet birch woodland with *Sphagnum* category matches closely with the *Polytrichum commune* vegetation type described here; stands of this nature which occur on intact raised bog correspond with the priority Annex I habitat '*bog woodland (91D0)'. The classification of Cross (2005) does not describe the *Filipendula ulmaria* vegetation type detailed here which is too wet and species diverse for the F1 category and lacks the heathland and bryophyte species required for referral to the F2 category. The nearest comparison that can be made is to E1 Willow-alder carr on fen peat, but that category description does not mention *Betula pubescens*. The heterogeneous *Blechnum spicant* vegetation type also fits rather poorly with

this scheme. Drier stands may be assigned to the F1 category as mentioned above, whilst wetter stands are probably referable to E3 Ash-alder-remote sedge woodland, or to C1 Wet pedunculate oak-ash woodland rich in species.

In Kelly & Iremonger (1997), two woodland types on oligotrophic soils are described. The first is found on well-drained deep peats and is corresponded with the Betuletum pubescentis phytosociological association. This community, which is renamed as the Vaccinio uliginosi-Betuletum pubescentis in Cross & Kelly (2003), is readily comparable with the *Pteridium aquilinum* vegetation type. The second woodland type of waterlogged acid peat is corresponded with the *Sphagnum palustre - Betula pubescens* community described in Scotland by Birse (1982) and this is readily comparable with *Polytrichum commune* vegetation type. Birch woodland on intact raised bog which was also assigned by the present analysis to the *Polytrichum commune* vegetation type has been described by Cross & Kelly (2003) as belonging to the Salicetum auritae association.

The *Betula pubescens* - *Pseudoscleropodium purum* woodland group presented here may naturally be compared with the W4 *Betula pubescens* – *Molinia caerulea* woodland community of the NVC (Rodwell 1991). These occur on moist, moderately acidic peaty soils in a variety of mire (bog) types. The W4a *Dryopteris dilatata* – *Pteridium aquilinum* subcommunity (Table 3.10) was the top match for each of the vegetation types; it corresponds particularly well with the species-poor *Pteridium aquilinum* vegetation type, and is similarly found on better drained peats.

Table 3.10. Goodness-of-fit comparisons between Betula pubescens – Pseudoscleropodium
purum woodland vegetation types and NVC communities.

a Blechnum spicant		b Pteridium	aquilinum	c Filipendu	la ulmaria	d Polytrichum commune			
W4a	39%	W4a	62%	W4a	41%	W4a	57%		
W7c	39%	W6e	50%	W2	36%	W4	53%		
W7	36%	W4	42%	W4	36%	W4c	52%		
W6e	31%	W11a	31%	W6e	33%	W4b	39%		
W11a	29%	W6d	29%	W4b	31%	W2b	38%		

The *Polytrichum commune* vegetation type displays some affinity to the W4c *Sphagnum spp*. subcommunity with these two units sharing several preferential / indicator species; Rodwell (1991) notes that the W4c sub-community also includes stands on the centre of intact raised bogs. However, for the *Filipendula ulmaria* vegetation type there is greater correspondence with W2 *Salix cinerea – Betula pubescens – Phragmites australis* woodland than the remaining sub-community of W4 woodland, the W4b *Juncus effusus* sub-community from

which it differs with regards to several herbaceous indicators. The W2 woodland is typically a community of topogenous fen peats, but is, rarely, found in basin mires.

For the *Blechnum spicant* group, W7 *Alnus glutinosa* – *Fraxinus excelsior* – *Lysimachia nemorum* woodland *Deschampsia cespitosa* sub-community was equal top match and there is some correspondence in habitat, with W7 woodland occurring on moist to very wet mineral soils which are usually moderately base-rich and mesotrophic, and often in association with streams and rivers.

Table 3.9. Synoptic table for *Betula pubescens* –*Pseudoscleropodium purum* woodland and vegetation types

	а			b		С		d		Group	
Constants											
Thuidium tamarascinum	v	15.6 **	V	13.5	V	9.2	IV	2.3	V	11.7	
Dryopteris dilatata	V	3.4	V	6.2 **	Ш	4.2	IV	1.3	IV	4.8	
Rubus fruticosus	V	20.0	V	26.1 **	V	15.6	V	14.4	V	21.5	
Kindbergia praelonga		1.7	IV	5.1	IV	4.2 **	IV	1.7	IV	4.0	
Retula pubescens	v	31.3	v	59.6	v	47 7	v	62 1 **	v	52.7	
Hedera helix	IV	2.5	IV	6.1	IV	5.4	, II	1.7	īv	4.9	
a Blechnum spicant type indica	ators										
Blechnum spicant	v	16 ***	I	0.1	I	0 1	ш	02	Ш	04	
Oxalis acetosella		1 4 ***	i	0.6	i	<01		0.2		0.6	
Corvlus avellana		14.8 ***		0.0		0.8				27	
Pellia eninhylla		05 **		0.0	i i	∠0.1		-0 1		0.1	
I opicora poricivmonum		1.1 **		1 /		0.6		0.1		1.0	
llov oquifolium		1.1 5 4 **		5.0		0.0		0.1		1.0	
	11	5.4 5.0 **		0.1		0.4		0.5		3.7	
		D.U		0.1		3.3		<0.1		1.0	
Ainus giutinosa		10.3 **		0.1		4.5		<0.1	1	2.7	
Athyrium felix-femina	111	0.4 **	1	<0.1	1	0.1	1	0.1	1	0.1	
Isothecium myosuroides	111	0.5 **	I	0.2	11	0.2	I	<0.1	II	0.2	
Mnium hornum	II	0.3 **	II	0.1	I	0.1	I	0.1	I	0.1	
Viola palustre	II	0.3 **	I	<0.1	I	<0.1			I	<0.1	
Rhizomnium punctatum	II	0.7 **	I.	<0.1	I	0.5			I	0.2	
Ranunculus repens	II	0.4 **	1	<0.1	1	0.1			I.	0.1	
Hyacinthoides non-scripta	II	1.6 **	I	<0.1					I	0.3	
Lysimachia nemorum	II	0.1 *			1	<0.1			I	<0.1	
Sorbus aucuparia	111	3.8 *	111	4.5	1	1.0	1	0.4	11	3.2	
, Ranunculus flammula	Ш	0.1 *	1	<0.1	1	0.1			Ш	<0.1	
Carex remota	II	3.4 *	i	<0.1	II.	1.1				0.8	
Hookeria lucens		0.2 *	I	<0.1						<0.1	
Frullania tamarasci		0.1 *		<0.1	1	0 1	1	~01		0.1	
		26*	÷	0.5		0.1		<0.1	÷	0.1	
Augus sylvalica		3.0 1 0 *		1.5		0.1		<0.1	1	1.6	
Quercus pellaea		4.0		1.5		0.1	'	<0.1		1.0	
Olympicitis annis		0.3	1	<0.1		0.2			1	0.1	
Cnrysospienium opposititoiium		0.2 *			I	<0.1				<0.1	
Luzula sylvatica		1.6 ^		1.1				0.3	1	0.8	
Polypodium vulgare	I	0.2 *	I	0.1	I	<0.1	I	0.1	I	0.1	
Cardamine flexuosa	I	0.2 *	I	<0.1	I	0.1			I	<0.1	
Plagiochila asplenoides	I	0.1 *	1	<0.1	1	<0.1			I	<0.1	
Digitalis purpurea	I	0.0 *	I	<0.1					I	<0.1	
Poa trivialis	I	1.6 *	I.	<0.1	I	0.1	I.	<0.1	I	0.3	
Senecio aquatica	I	0.1 *			I	<0.1	I	<0.1	I	<0.1	
Sanicula europaea	I	0.1 *	1	<0.1					I	<0.1	
Ajuga reptans	1	0.1 *							I	<0.1	
Primula vulgaris	I	0.1 *							I	<0.1	
Carex svlvatica	1	0.1 *	1	<0.1	1	<0.1			1	<0.1	
Thamnobryum alopecurum	I	0.5 *	Ī	0.1	I	<0.1			I	0.1	
b Pteridium aquilinum type ind	licators										
Pteridium aquilinum	I	<0.1	III	2.2 **	I	0.7	I	0.7	Ш	1.4	
c Filipendula ulmaria type indic	cators										
Filinendula ulmaria		~0 1	I	0.1	ш	4 2 ***			I	10	
Callieronella cuenidata	1	0.5	1	0.1	11/	<u>-</u> 5.7 ***	I	~01		1.0	
Salix sinoros	1	10.0		0.2 2 E	11	0.7 20 5 **		∇0.1		1.0	
Salix Ullerea	IV	12.0	111	3.5	v	20.5	111	5.1	111	9.0	

		а		b		С		d	Gro	up
Galium palustre	Ш	0.3	1	<0.1	IV	0.6 **	1	0.1	П	0.2
Ulota bruchii / crispa	II	0.1	II.	0.1	IV	0.2 **	IV	0.1	III	0.1
Angelica sylvatica	1	< 0.1	1	< 0.1		0.4 **	1	<0.1	1	0.1
Crataeous monogyna	i	0.4	II.	0.9	III	3.0 **	Í	<0.1	II.	1.2
Equisetum fluviatile		-	1	< 0.1	П	0.6 **	1	< 0.1	1	0.1
Brachythecium rutabulum	I	<0.1	II	0.1		0.2 **	I	<0.1		0.1
Potentilla erecta	II.	0.2	1	< 0.1	III	0.5 *	III	0.4		0.2
Neckera complanata		< 0.1		< 0.1		0.2 *		< 0.1		0.1
Anthoxanthum odoratum	i	0.4		0.1		1.4 *	II	0.2		0.5
Viola riviniana / reichenbachiana	II.	0.2	1	0.1	II	0.3 *	1	< 0.1	1	0.1
Potentilla palustris	1	< 0.1	1	< 0.1	II	0.2 *	Í	<0.1	, i	0.1
Radula complanata	i	< 0.1	1	< 0.1	II	0.1 *	II.	<0.1	, i	<0.1
Cardamine pratensis			1	<0.1	1	0.1 *	1	< 0.1	1	< 0.1
Agrostis stolonifera	Ш	1.4	1	0.4	II.	2.7 *	II.	1.1	II.	1.1
Holcus lanatus	Ш	1.7	1	0.1	Ш	1.8 *	Ш	0.8	Ш	0.8
Plagiomnium undulatum	1	0.1	1	< 0.1		0.1 *	1	< 0.1		0.1
Festuca rubra	i	0.1	i	<0.1	1	0.3 *			1	0.1
Rubus ideaus		-	1	0.2	П	0.2 *	1	0.1	1	0.2
Urtica dioica			1	<0.1	1	0.2 *		-	1	<0.1
Mentha aquatica	1	0.2			1	0.3 *			1	0.1
Valeriana officinalis	Ì	0.1	1	< 0.1	i.	0.5 *			. I	0.1
Geranium robertianum	i	0.2		0.1	II	0.3 *	1	< 0.1	I	0.1
Climacium dendroides	i	< 0.1		< 0.1		0.7 *	·		I	0.2
Deschampsia cespitosa		2.6		0.1	II	1.4 *	1	0.1	I	0.8
Cirsium palustre		<0.1	I	<0.1		0.1 *	I	<0.1	I	< 0.1
Brachythecium sylvaticum	i	<0.1				0.8 *	·		I	0.2
Homalothecium sericans	•		1	< 0.1		0.1 *	1	< 0.1	I	0.2
Juncus acutiflorus	1	<01				0.1 *	·		I	<01
Taraxacum agg.	i	<0.1	1	<01		<0.1 *			I	<0.1
Isothecium alopecuroides	i	<0.1		<0.1		0.1 *	1	<01	I	<0.1
l uzula multiflora	i	<0.1	I	<0.1		<0.1 *		20.1	I	< 0.1
Calliergon cordifolium	i	<0.1				07*	1	<01	I	0.2
Succisa pratensis	i	0.1	1	< 0.1		0.2 *	I	0.1	I	0.1
Carex sp.	•	011		< 0.1		0.4 *	I	< 0.1	I	0.1
Carex nigra				< 0.1		0.6 *	I	0.1	I	0.2
l vthrum salicaria			1	< 0.1	i.	0.1 *	-	••••	. I	< 0.1
Phalaris arundinacea						0.5 *			I	0.1
Dactylorhiza sp.						<0.1 *			I	< 0.1
Brachythecium rivulare			1	<0.1		<0.1 *			I	< 0.1
Vicia sepium	I.	<0.1		< 0.1		0.1 *			I	<0.1
Carex flacca	i	0.1	1	< 0.1	i i	0.3 *			, i	0.1
Carex paniculata	i	0.1		0.1		0.4 *			I	0.1
Salix caprea	i	0.3		0.1		1.6 *			I	0.5
l vchnis flos-cuculi	•	0.0	·	••••		0.1 *				< 0.1
Banunculus acris						0.1 *			I	<0.1
Menvanthes trifoliata	I.	<0.1				0.1 *			I	< 0.1
Iris pseudacorus	I	<0.1	I	<0.1	i	<0.1 *			I	<0.1
d Polytrichum commune type in	ndicator	's								
	aloutor	5								
Polytrichum commune	II	0.6	I	0.2	Ш	0.5	V	8.3 ***	Ш	1.1
Sphagnum palustre	II	0.7	l. I	0.4	I	1.5	IV	9.6 ***	I	1.6
Molinia caerulea	Ш	4.9	III	2.9	IV	10.5	V	30.1 ***	III	7.7
Sphagnum fimbriatum							II	1.8 **	I	0.2
Calluna vulgaris			I	0.2	I	0.1	111	1.3 **	I	0.2
Rhytidiadelphus squarrosus	I	<0.1	I	<0.1	II	0.6	III	0.8 **	I	0.3
Agrostis canina	II	1.8	I	0.1	II	1.7	111	3.1 **	I	1.0
Juncus effusus	111	1.7	I	<0.1	111	1.0	IV	1.1 **	II	0.6
Salix aurita x S. cinerea	I	0.4	I	0.5	I	1.9	111	6.5 **	I	1.4
Pseudoscleropodium purum	I.	0.3	IV	1.6	IV	3.0	IV	1.5 **	III	1.7
Erica tetralix					1	<0.1	II	0.2 **	1	<0.1

		а		b		С		d	Gro	up
Hypnum jutlandicum	I	0.1	111	0.7	111	0.9		1.4 *	Ш	0.7
Aulocomnium palustre			1	<0.1			1	1.6 *	I	0.2
Dryopteris carthusiana	۱ .	<0.1	I.	0.1	1	0.2	П	0.4 *	I	0.1
Sphagnum capillifolium	I	0.3					II	1.3 *	1	0.2
Carex rostrata			I	<0.1	I	0.8	II	0.7 *	1	0.3
Plagiothecium undulatum	I	0.1	I	<0.1			I	0.1 *	I	<0.1
Hylocomium splendens	•	<0.1	I	0.1	1	0.3	II	0.3 *	I.	0.2
Pleurozium schreberi	•	<0.1	I	<0.1	1	0.1	I	0.8 *	I	0.1
Sphagnum subnitens	I	0.2	I	0.2	1	0.1	I	1.2 *	I	0.3
Eriophorum vaginatum							I	0.2 *	I	<0.1
Pinus sylvestris	I	0.2	I	0.5	I	0.5	I	2.4 *	I	0.7
Sphagnum cuspidatum	•	<0.1	I	<0.1	 	0.1	I	0.2 *	 	0.1
Rumex acetosa	•	<0.1			I	<0.1	 	0.1 *	I	<0.1
Myrica gale				<0.1	I	0.4	I	2.7 *	I	0.4
Sphagnum angustifolium			I	0.1		0.1	1	0.9 ^	1	0.1
Spnagnum raliax					I	0.1	I	2.4	I	0.3
Other trees										
Quercus robur	I	0.5	П	1.9	I	0.4	I	<0.1	I	1.1
Acer pseudoplatanus	I	0.1	I.	0.1	1	0.2	I	<0.1	I	0.1
Picea sitchensis	I	0.1	I	0.4	I	0.2	I	0.1	1	0.3
Salix aurita	I	0.2	I	0.4	1	1.9			I	0.7
Viburnum opulus	I	0.2	I	<0.1	I	0.1			I	0.1
Other woody species										
Vaccinium mvrtillus	П	0.4	П	4.9	1	0.3	Ш	2.2	П	2.8
Ulex europaeus	1	0.3	1	0.4	l I	0.3	I.	<0.1	1	0.3
Rhododendron ponticum	T	1.5	I	1.4	I	<0.1			I	1.0
Other herbs										
Agrostis capillaris	П	1.7	I	0.4	I	1.9	I	1.8	I	1.1
Carex echinata	I	0.2	I	0.1	1	0.2	I	0.1	I	0.1
Glyceria fluitans	I	1.3	I	0.1	1	1.5	I	<0.1	I	0.6
Hypericum pulchrum	•	<0.1	I	0.6	1	<0.1	I	<0.1	I	0.3
Circaea lutetiana	•	<0.1	I	<0.1	I	0.1			I	<0.1
Holcus mollis	I	0.1	I	<0.1	I	0.4	I	<0.1	I	0.1
Juncus bulbosus	I	0.3				<0.1	I	0.1	I	0.1
Polystichum setiferum	1	0.1	1	0.1	I	0.1			I	0.1
Deschampsia flexuosa	•	<0.1	I	<0.1	I	<0.1	1	0.2	1	0.8
Equisetum sylvaticum	1	0.1		0.1	1	0.1	I	0.3	1	0.1
Dryopieris illix-mas	•	<0.1		<0.1	1	0.1			1	<0.1
Epilobium obsourum	1 •	<u. i<="" td=""><td></td><td><0.1</td><td>1</td><td><0.1</td><td></td><td>-0.1</td><td>1</td><td><0.1</td></u.>		<0.1	1	<0.1		-0.1	1	<0.1
Veronica chamaedrys		-0 1		<0.1	1	-0.1		<0.1	1	<0.1
Osmunda regalis	1	0.1		<0.1	1	0.1	1	<01	1	<0.1
Dactylis domerata		0.1	i	<0.1		0.1		<0.1	1	<0.1
Arrhenatherum elatius		<0.1				0.1	I	<0.1	I	<0.1
Equisetum arvense		<0.1			I	<0.1	İ	<0.1	I	<0.1
Phragmites australis			1	<0.1	1	0.5			Í	<0.1
Fragaria vesca	I	0.1	I	<0.1	1	0.1			1	<0.1
Caltha palustris	•	<0.1			1	<0.1			I	<0.1
Juncus articulatus			I	<0.1	I	<0.1	I	<0.1	I	<0.1
Other bryophytes										
Hypnum cupressiforme	Ш	0.4	Ш	0.7	Ш	0.6	Ш	1.1	Ш	0.7
Lophocolea bidentata	II	0.1	III	0.3	IV	0.5	IV	0.5	III	0.3
Eurhynchium striatum	II	2.7	111	2.8	111	1.0	I	<0.1	111	2.1

		а		b		С		d	Gro	oup
Frullania dilatata	П	0.1	Ш	0.1	Ш	0.1	П	<0.1	П	0.1
Hypnum andoi	III	0.5	II	0.2	II	0.3	II	0.2	II	0.3
Polytrichastrum formosum	II	0.3	II	0.3	1	0.1	II	0.3	II	0.3
Dicranum scoparium	I	<0.1	I	0.1	II	0.1	II	0.1	II	0.1
Rhytidiadelphus triquetrus	1	0.3	1	0.9	II	1.7			I	0.9
Rhytidiadelphus loreus	1	0.5	1	0.3	1	<0.1	I	<0.1	I	0.2
Hypnum resupinatum			1	0.1	1	0.1	I	<0.1	I	<0.1
Metzgeria furcata	1	0.1	1	<0.1	1	0.1	I	<0.1	I	<0.1
Polytrichastrum longisetum	I	<0.1	I	1.1	1	0.3	I	0.3	I	0.7
Sphagnum squarrosus			1	0.1	1	1.2	I	0.9	I	0.4
Campylopus introflexus	I	<0.1	I	<0.1	1	<0.1	I	0.1	I	<0.1
Calypogeia muelleriana	I	<0.1	I	<0.1	1	<0.1	1	<0.1	I	<0.1
Hypnum lacunosum	1	<0.1	1	<0.1	1	<0.1	1	<0.1	1	<0.1
Dicranoweissia cirrata	I	<0.1	I	<0.1	1	<0.1	1	<0.1	I.	<0.1
Loeskeobryum brevirostre	1	0.1	1	0.1	1	0.5			I	0.2
Atrichum undulatum	1	0.1	1	<0.1	1	<0.1			1	<0.1
Diplophyllum albicans	I	<0.1	I	<0.1			1	<0.1	I.	<0.1
Pseudotaxiphyllum elegans	1	<0.1	1	<0.1			I	<0.1	I	<0.1
Calypogeia fissa	I	<0.1	I	<0.1	1	<0.1			I	<0.1
Metzgeria fruticulosa			I	<0.1	1	<0.1	I	<0.1	I	<0.1
Sphagnum recurvum							I	0.6	I	0.1
Microlejeunea ulicina	I	<0.1	I	<0.1	1	<0.1	I	<0.1	I	<0.1
Scapania gracilis	I	<0.1	I	<0.1	1	<0.1	I	<0.1	I	<0.1
Dicranella heteromalla			I	<0.1			I	<0.1	I	<0.1
Polytrichum juniperum			I	<0.1			I	<0.1	T	<0.1
Number of samples		42		137		61		27		267
Species richness		31		21		35		26		26
Altitude (m)		117		80		78		107		88
Slope (°)		10		2		1		0		3
Soil pH		4.8		4.0		4.6		4.2		4.2
Soil organic content (%)		39		85		74		81		75
Soil P content (mg/g)		0.76		0.68		0.82		0.81		0.73
Soil types (%)										
Brown Earths		24		4		3		0		7
Gleys		29		2		12		11		9
Basin Peats		14		85		80		85		73
Canopy height (m)		13		13		12		11		12
Stand density (trees/ha)		1452		1594		1477		1502		1536
Basal area density (m²/ha)		32		31		28		23		30
Native basal area (%)		96		96		99		91		96

Figure 3.6. Distribution map for *Betula pubescens – Pseudoscleropodium purum* woodland using 10km squares.



Betula pubescens – Pseudoscleropodium purum woodland

a Blechnum spicant type



c Filipendula ulmaria type





d Polytrichum commune type



3.8 Stand structure

Crown position and height were recorded for adult stems measured during the main survey. These data were used to examine the different species composition of the various strata in each of the main woodland groups identified by the vegetation analysis. The descriptions given here supplement those given in the main vegetation accounts.

Quercus petraea – Luzula sylvatica woodland: The main canopy is relatively high and is composed of co-dominant trees which are chiefly *Quercus petraea* and *Quercus robur x Q. petraea* with some *Betula pubescens* and *Fagus sylvatica* (Fig. 3.7). As may be expected over half of the measured stems fall into this class. The few taller stems which emerge from the canopy, and which are designated as dominants, are largely of these same species, although the proportion of *Fraxinus excelsior* is slightly higher in this stratum. There is generally a well-defined understorey with 40% of stems being intermediate or suppressed. This is typically dominated by *Ilex aquifolium* with *Corylus avellana*. Other components in the understorey are younger stems of *Quercus petraea*, *Betula pubescens* and *Fagus sylvatica*. *Sorbus aucuparia* is also fairly frequent as an intermediate.

Figure 3.7. The proportion of stems in each of the four crown position categories divided by species for stands assigned to the *Quercus petraea – Luzula sylvatica* woodland group. Also shown is mean stem height. D = Dominant, CD = Co-dominant, I = Intermediate and S = Suppressed.



Fraxinus excelsior – Hedera helix woodland: The main co-dominant species in this woodland group are *Fraxinus excelsior*, *Corylus avellana* and *Quercus robur* (Fig. 3.8). Less frequent canopy species are *Betula pubescens*, *Fagus sylvatica*, *Alnus glutinosa* and *Acer pseudoplatanus*. The dominant trees reach nearly 19m in height and are predominantly *Fraxinus excelsior*, *Quercus robur* and, more occasionally, *Alnus glutinosa*. There is again a reasonable understorey with 43% of stems classed intermediate or suppressed. *Corylus avellana*, *Crataegus monogyna* and *Ilex aquifolium* form a large proportion of these strata, with *Fraxinus excelsior* and *Quercus robur* being much less important components. The nonnative species *Fagus sylvatica* and *Acer pseudoplatanus* occur in fairly constant proportions in each of the strata.

Figure 3.8. The proportion of stems in each of the four crown position categories divided by species for stands assigned to the *Fraxinus excelsior* – *Hedera helix* woodland group. Also shown is mean stem height. D = Dominant, CD = Co-dominant, I = Intermediate and S = Suppressed.



Alnus glutinosa – Filipendula ulmaria woodland: This classification has a fairly low canopy with co-dominant trees averaging 10.9m in height (Fig. 3.9). The main species are *Salix cinerea*, *Alnus glutinosa* and *Fraxinus excelsior*, with a lower frequency of *Betula pubescens*. However, amongst the dominant stems, *Salix cinerea* is much less frequent and there are increased proportions of the other three species. The understorey is less well-defined with only 26% being designated as intermediate or suppressed and a difference of only 3.2m in the average height of intermediate and co-dominant trees. There is little change in species composition in the lower two strata, although *Corylus avellana* and *Crataegus monogyna* are more frequent.

Figure 3.9. The proportion of stems in each of the four crown position categories divided by species for stands assigned to the *Alnus glutinosa* – *Filipendula ulmaria* woodland group. Also shown is mean stem height. D = Dominant, CD = Co-dominant, I = Intermediate and S = Suppressed.



Betula pubescens – **Pseudoscleropodium purum woodland:** The main canopy of this woodland is very strongly dominated by *Betula pubescens* with over 70% of co-dominant stems being of this species (Fig. 3.10). The only other frequent species is *Salix cinerea*. Amongst the few dominant stems *Betula pubescens* is again overwhelmingly dominant, but here is more likely to be accompanied by *Alnus glutinosa* than *Salix cinerea*. There is little in the way of a defined understorey in these stands with only 19% of stems being designated as intermediate or suppressed and little difference in the average heights between the strata. In the lower two strata, the proportion of stems that are *Betula pubescens* is greatly reduced with *Salix cinerea*, *Ilex aquifolium, Corylus avellana* and *Sorbus aucuparia* becoming important components. *Fraxinus excelsior* and *Quercus* spp. can be present in any strata but are rather rare.
Figure 3.10. The proportion of stems in each of the four crown position categories divided by species for stands assigned to the *Betula pubescens* – *Pseudoscleropodium purum* woodland group. Also shown is mean stem height. D = Dominant, CD = Co-dominant, I = Intermediate and S = Suppressed.



3.9 Merchantable timber

Data on merchantable timber was collected for all adult stems recorded in the main survey with a dbh \geq 40cm. Of the 36,633 adult stems measured during the main survey, only 1,434 (3.9%) were of merchantable size (Table 3.11). Of these stems, oaks (*Quercus robur*, *Q. petraea* and *Q. robur* x *Q. petraea*) contributed over 60% with 20-28% of stems of these taxa being of merchantable size. Although only 2.7% of ash stems were of sufficient dbh, the high abundance of this species meant that it contributed 11.6% of stems of merchantable size. The non-native broadleaves, *Acer pseudoplatanus* and *Fagus sylvatica* rated more highly than all the remaining native species.

	No. of recorded stems	No. of stems dbh ≥40cm	% of each species with dbh ≥40cm	% of all stems dbh ≥40cm
Quercus robur	1869	434	23.2	30.3
Quercus petraea	1314	361	27.5	25.2
Fraxinus excelsior	6248	167	2.7	11.6
Fagus sylvatica	1171	105	9.0	7.3
Acer pseudoplatanus	795	71	8.9	5.0
Betula pubescens	8376	68	0.8	4.7
Quercus robur x Q. petraea	325	66	20.3	4.6
Alnus glutinosa	2810	49	1.7	3.4
Pinus sylvatica	158	27	17.1	1.9
Other	13567	86	0.6	6.0
Total	36633	1434	3.9	100

Table 3.11.	Frequency	of stems	of mercha	intable siz	e by species.
					4 1

Of the 1,434 stems of merchantable size, log length was recorded for only 1,020 stems (71.1%) as shown in Table 3.12. This was primarily due to the high frequency of stem defects with 59.6% of stems of merchantable size having one defect and 23.2% having two or more defects. In some cases, these defects will have reduced or invalidated merchantable log length, whilst in others they will have reduced the quality of the timber. For example, over 90% of stems of *Betula pubescens* had one or more defects, resulting in log length being recorded for only 45.6% of stems of merchantable size. In contrast, whilst nearly 90% of stems of *Quercus petraea* possessed one or more defects, there was still a valid log length for 80.3% of the stems of merchantable size. Overall, *Fraxinus excelsior, Acer pseudoplatanus, Betula pubescens* and *Alnus glutinosa* were the most severely effected by stem defects, and in general these species had shorter mean log lengths. Oaks, *Fagus*

sylvatica and *Pinus sylvestris* were the least severely effected by defects and as a result had longer mean log lengths. The most frequently recorded faults were forks (24% of all defects), heavy branches (22%), kink bends (18%) and heavy ivy (15%).

	No. of stems with log length	% of stems dbh ≥40cm with log length	Mean log length	% of stems dbh ≥40cm with 1 defect	% of stems dbh ≥40cm with 2+ defects
Quercus robur	332	76.5	7.5	52.3	28.6
Quercus petraea	290	80.3	6.4	70.9	17.7
Fraxinus excelsior	100	59.9	5.6	60.5	25.7
Fagus sylvatica	79	75.2	6.9	62.9	17.1
Acer pseudoplatanus	45	63.4	6.4	53.5	23.9
Betula pubescens	31	45.6	5.0	66.2	26.5
Quercus robur x Q. petraea	65	98.5	8.0	54.5	18.2
Alnus glutinosa	16	32.7	5.4	67.3	30.6
Pinus sylvatica	24	88.9	12.4	44.4	22.2
Other	38	44.2	9.2	47.7	18.6
Total	1020	71.1	7.0	59.6	23.2

Table 3.12. Frequency of viable log length and stem defects by species.

3.10 Natural regeneration

Data on regenerating stems (dbh < 7cm) was collected from each 10m x 10m relevé recorded within the main survey. To account for the varying abundance between species of adult trees and therefore the potential for natural regeneration to be occurring, ratios of regenerating stems : adult stems were calculated for each freely regenerating size class.

Data for the seventeen most abundantly regenerating species are given in Table 3.13. Regeneration of *Fraxinus excelsior* was by far the most abundant, partly reflecting the dominance in the dataset of sites on relatively dry calcareous soils. The vast majority of this regeneration consisted of freely regenerating seedlings <25cm in height which often carpet the woodland floor. However, high mortality means that only a small proportion of these seedlings persist through to the larger size classes.

Corylus avellana and *Alnus glutinosa* differ from the other species in that the majority of regenerating stems were basal stems attached to adult trees rather than free regeneration. Basal regeneration was also an important feature for both *Salix cinerea* and *Ulmus glabra*. For all these species seedlings were rare and there were significantly more stems in the larger sizes classes; this partly reflects the growth form of these species which often develop into multi-stemmed individuals.

Regeneration for both oak species was relatively poor. Although high numbers of seedlings were occasionally recorded, survival through to the larger size classes was very low for both *Quercus petraea* and *Quercus robur*. These species had the lowest ratios for stems > 4m. In contrast, *Fagus sylvatica* displays a much lower mortality rate with approximately a third as many stems in the >4m class as in the seedling class. Mortality for seedlings of *Acer pseudoplatanus* appears to be higher, but regeneration of this species is still better than that of the native oaks.

Prunus spinosa and *Euonymus europaeus* have some of the highest ratios. These are small stature species which rarely attain dbh sizes > 7cm. These results therefore undoubtedly reflect that these species are capable of fertile seed production before they reach the adult size class rather than being markedly more successful at natural regeneration than the other species. In addition, *Prunus spinosa* regularly produces new stems through suckering.

The level of natural regeneration of native species forms part of the conservation assessment presented in section 3.21.

Table 3.13. The most frequently regenerating tree species. % free indicates the percentage of
total stems classed as free regeneration. All classes indicates the number of freely
regenerating stems per adult stems for all size classes combined.

	No. of freely regenerating stems per adult stem							
	Total no.	%		25cm-				All
	stems	free	<25cm	1m	1-2m	2-4m	>4m	classes
Fraxinus excelsior	198265	99.5	100.8	1.2	0.6	0.6	0.7	103.9
Betula pubescens	12860	83.0	2.8	0.2	0.1	0.3	0.7	4.2
Corylus avellana	9953	37.2	0.1	0.2	0.4	0.8	1.1	2.6
llex aquifolium	8046	91.7	5.5	8.9	3.8	2.0	0.8	20.9
Quercus petraea	6408	98.4	15.4	0.1	0.1	0.1	0.1	15.8
Acer pseudoplatanus	5936	97.3	19.9	2.4	0.8	0.5	0.4	23.9
Crataegus monogyna	3214	89.6	1.0	1.3	1.3	1.3	0.8	5.6
Alnus glutinosa	2559	29.3	0.1	0.2	0.2	0.2	0.2	0.9
Prunus spinosa	1586	94.1	21.5	46.8	17.5	8.4	2.1	96.3
Salix cinerea	1477	70.3	0.0	0.0	0.1	0.3	0.4	0.9
Quercus robur	1295	93.7	1.8	0.1	0.0	0.1	0.1	2.1
Sorbus aucuparia	1264	88.7	1.4	1.2	1.2	1.4	2.4	7.8
Fagus sylvatica	689	96.8	0.9	0.3	0.2	0.2	0.3	1.9
Salix aurita x S. cinerea	646	90.9	0.1	0.8	3.3	5.2	2.5	11.8
Ulmus glabra	623	73.5	0.5	1.9	2.6	2.2	1.9	9.1
Euonymus europaeus	609	94.7	21.6	47.9	16.4	9.3	4.5	99.9
Sambucus nigra	415	81.7	0.3	1.2	1.9	1.2	0.3	4.8

3.11 Area and ownership

Data on woodland area was available for all 836 surveyed sites. Area was primarily derived from FIPS but the area of many sites was re-evaluated following field survey when it became apparent that part of the targeted site was unsuitable. The extent of woodland is evidently of key importance to the conservation value of a site as larger sites are likely to harbour more species, larger populations and a greater range of woodland vegetation types. In addition, as size increases, the perimeter : area ratio tends to decrease and so does the relative influence of edge effects, resulting in a greater proportion of internal woodland environment.

The majority of surveyed woodlands were small or very small in extent with 70.5% of sites being less than 10ha in extent, and nearly 46.9% of sites being less than 5ha (Fig. 3.11). Despite prioritization of larger areas of woodland for field survey only 2.5% of sites surveyed were over 50ha. This reflects the highly fragmented nature of the Irish woodland resource. The largest sites include: Vale of Clara, Co. Wicklow; Borris, Co. Carlow; St. John's Wood, Co. Roscommon; Charleville South, Co. Offaly; and Baltyanima, Co. Wicklow.





A number of the larger sites are designated as Nature Reserves and this is partly reflected in Fig. 3.12, which is based on data from the 735 site in the main survey. Despite owning only 7.5% of sites, the State owns 18.3% of the total woodland area in the regions surveyed. The majority of woodland sites (67.9%) are in private ownership, but these sites tend to be small representing only 53.3% of the total woodland area. A substantial proportion of the native woodland resource is in the hands of Coillte, the semi-state forestry body, who own 24.6% of sites surveyed.



Figure 3.12. Ownership status of surveyed woodlands site.

The size of each woodland site is part of the conservation assessment presented in section 3.21.

3.12 Landscape features

Data on landscape features associated with woodlands was collected for the 735 sites surveyed during the main survey. The frequency of the most commonly recorded features is shown in Fig. 3.13.

Valley (25.6% of sites) was the most frequently recorded feature. A large number of the sites surveyed occurred along streams and rivers, or on valley sides. Woodland has probably been allowed to persist or establish in these situations as slope or poor drainage makes the sites less attractive for other land uses. Bog (16.7%) was also a common feature. In the Midlands, many woods are associated with the expanses of degraded raised bog which have been machine cut for peat, although woodland was also found on smaller, formerly hand-cut sites. Woodlands associated with lakeshores (11.8%) were generally either long, narrow strips on well-drained but frequently flooded ground or more extensive sites on wetter soils. Lakeshores were a feature found regularly through Cos. Leitrim, Cavan, Monaghan and northern Roscommon. Drumlins, which were associated with 5.2% of sites, also occurred predominantly in these counties. Eskers were a rare feature, occurring in association with only 2.9% of sites, largely in Cos. Westmeath, Meath and Kildare. Only 3 sites on islands were surveyed, representing 0.4% of sites. These were river islands in the Boyne and the Suir.

At 20.2% of sites no particular landscape features were recorded. These woodlands typically occurred in the context of plains or undulating lowlands.



Figure 3.13. The frequency of the most common landscape features associated with woodlands.

3.13 Adjacent land use

Data on adjacent land use was recorded using the categories of Fossitt (2000) for the 735 sites surveyed during the main survey. The presence of semi-natural habitats next to a woodland can increase the value of that site as it forms part of a larger mosaic of semi-natural vegetation. It can also indicate that the woodland has the possibility of natural expansion by colonising the adjacent land. The presence of man-made habitats, such as tilled or built land or quarries may indicate that the site is under some degree of external threat. A summary of the data on adjacent land use is shown in Table 3.14.

The most notable feature of the data is that the majority of woodlands were associated with man-made habitats with improved grassland (75.5% of sites) and highly modified / non-native woodland (42.2%) being the most frequently recorded adjacent land use. This reflects the high number of woodlands which occur within the agricultural landscape, but also the number of sites which occur in conjunction with commercial forestry plantations. Built land was also an important feature, being adjacent to 13.6% of sites; this represents urban locations and woods next to motorways, farmyards and rural dwellings.

Habitat groups	Habitat subgroups	Code	% sites
Freshwater	Lakes and ponds	FL	17.1
	Watercourses	FW	11.6
	Springs	FP	0.1
	Swamps	FS	3.0
Grassland and marsh	Improved grassland	GA	75.5
	Semi-natural grassland	GS	26.9
	Freshwater marsh	GM	1.8
Heath and dense bracken	Heath	HH	1.1
	Dense bracken	HD	2.6
Peatlands	Bogs	PB	13.2
	Fens and flushes	PF	3.0
Exposed rock and disturbed ground	Exposed rock	ER	1.0
	Disturbed ground	ED	3.9
Cultivated and built land	Cultivated land	BC	9.7
	Built land	BL	13.6
Coastland	Sand dune systems	CD	0.5
Woodland and scrub	Semi-natural woodland	WN	1.8
	Highly modified / non-native woodland	WD	42.2
	Scrub/transitional woodland	WS	15.0
	Linear woodland/scrub	WL	3.3
Marine water body	Estuaries	MW	0.1

Table 3.14.	The frequency of recording of adjacent land use classes using the
	categories of Fossitt (2000).

The semi-natural habitats encountered most often were semi-natural grassland (26.9%), lakes and ponds (17.1%), scrub (15.0%) and bogs (13.2%). The frequency of scrub is a good indicator that woodland is expanding at a number of the sites surveyed. These include many of the sites bordered by bogs, the vast majority of which are birch-dominated woodlands developing on degraded bog themselves. There are several points of feature within the less frequently recorded habitats. Swamps tended to be tall beds of *Phragmites australis* which formed a transition between wet woodlands on lakeshores and the open water. Exposed rock and disturbed ground were categories recorded for a number of woodlands next to abandoned and active quarries, which were particularly frequent features of esker woodlands. Sand dunes were encountered next to woods along the coasts of Cos. Wexford and Wicklow. One of the more unusual sites was Cornamucklagh in Co. Louth which occurs adjacent to the estuary of the Newry River.

The presence of adjacent semi-natural habitats forms part of the conservation assessment presented in section 3.21.

Data on management and use of woodland was collected for the 735 sites in the main survey. Some of the management types recorded are related to the history of the sites and can be informative about how the woodlands have developed. Other management types are indicative of potential intrinsic threats that sites may face. The most frequently recorded management features are shown in Fig. 3.14.



Figure 3.14. The frequency of observed management and use in surveyed woodlands.

The modified nature of much of the woodland within the survey area is evidenced by the high frequency of old planting of non-native broadleaves (36.7% of sites) and non-native conifers (33.3%). Sites with non-native broadleaves were often demesne woodlands, either parts of existing estates or remnants of old estates which have often now been converted into forestry plantations. Old non-native conifer planting included old commercial underplanting, failed conifer plantations, and ornamental plantings. The anthropogenic nature of even the more semi-natural woodlands is indicated by the observance of old native planting at 32.0% of sites.

Use for amenity was a common occurrence (19.3%). The most frequent activities were shooting, fishing, walking or horse-riding and these sometimes involved some active management such as the creation and maintenance of paths. Mature coppice was observed

at 17.8% of sites, and this was almost always hazel coppice. Recently cut coppice was encountered far less frequently (1.1%). Recent native planting (11.3%) was recorded more frequently than either recently planted non-native broadleaves (6.3%) or non-native conifers (6.0%), but this was almost matched by the incidence of recent native felling (11.0%). In Cos. Kilkenny, Westmeath and Carlow, there were several instances of illegal felling of ash trees for the production of hurling sticks. Dumping, generally of domestic rubbish or farm machinery, was noted at 3.9% of sites. This activity is almost certainly under-recorded, however, as dumping was often highly localised within a site, occurring at one or two points, typically along roads. Dumping of this nature was particularly prevalent in woodlands on degraded bog.

No apparent management was recorded at 18.6% of sites. A large number of these would be wet woodlands and woodlands developing on degraded bogs, which would be too difficult to access or would have little economic value. These younger sites have probably never been managed as woodland. There is probably little or no old woodland in the country that hasn't been managed at some time, but many of these sites have since been abandoned and have reverted to a condition where such practices are no longer clearly evident.

The incidence of potentially deleterious activities forms part of the threat assessment presented in section 3.22.

3.15 Hydrological and man-made features

Data on hydrological and internal man-made features was available for the 735 sites of the main survey. Even if they are not large enough to effectively change the overall vegetation type, features such as pools, streams and areas of seasonal flooding can add ecological interest to a site by providing localised niches for plant and animal species which favour wetter conditions. Similarly the presence of banks, ditches and walls increases the range of niches and substrates available, and can also constitute an important historical aspect of a site.

The most commonly recorded hydrological features (Fig. 3.15) were rivers or streams (36.6% of sites) and seasonal flooding (37.8%), although no hydrological features were recorded at nearly as many sites (33.9%). Damp clefts or ravines and springs were rare features occurring at only 5.4% and 3.9% of sites respectively. Ditches and banks were common features of the woodlands surveyed each being found at over half the sites. No man-made features were found at only 23.3% of sites, an indication of the generally modified nature of the woodlands. Walls were found at 21.0% of sites, whilst exclosures, ruined buildings and cultivation ridges were all rare features.





The presence of these features forms part of the conservation assessment presented in section 3.21.

3.16 Grazing levels

Data on grazing levels was recorded for the 735 sites in the main survey. Grazing is a natural feature of woodland ecosystems, but high levels of grazing can be detrimental as they preclude natural regeneration and impact on the diversity and species composition of the field layer. Conversely, a complete lack of grazing can also be undesirable as strong competitors, such as *Rubus fruticosus*, can dominant the field layer, again effecting diversity and species composition.

Overall heavy grazing was not a feature of the woods surveyed. High and severe grazing levels were infrequently encountered, occurring at only 8.0% and 2.6% of sites respectively (Fig. 3.16), whilst at 42.0% of sites no grazing was apparent. These woods may have been ungrazed because they were enclosed by walls, ditches or fences, on particularly wet and boggy ground, or in arable or urban landscapes. Cattle (24.6% of sites) and deer (20.8%) were the most frequently identified grazers (Fig. 3.17). Cattle were, unsurprisingly recorded largely at lowland sites but deer were recorded from sites at a range of altitudes. Sheep, rabbits, horses, goats, and hares were recorded much less frequently. At a number of the sites although grazing was apparent, the animals responsible could not be identified.

The occurrence of undesirable levels of grazing forms part of the threat assessment presented in section 3.22.









3.17 Invasive shrubs

Data on invasive alien shrub species was recorded from the 735 sites in the main survey. Invasive shrubs are a major threat to native woodland. They are characterised by being highly competitive, typically being quick growing and highly fecund and are often unpalatable to browsing animals. Invasive shrubs can dominate the understorey, out-competing native herbs and impacting on the natural regeneration of native trees.

There were seven frequently recorded invasive shrub species (Fig. 3.18). Of these, *Prunus laurocerasus* (cherry laurel), *Rhododendron ponticum*, and *Symphoricarpos albus* (snowberry) were the most frequently encountered. *Prunus laurocerasus* occurred at 22.9% of sites and *Rhododendron ponticum* at 20.0%. Furthermore, in at least half of these sites, infestation levels were classified as high. In contrast, *Symphoricarpos albus*, in common with the four less frequently recorded species, occurred at low infestation levels at the majority of site where it was recorded. Many of the sites where invasive shrubs were recorded were woodlands associated with demesnes and estates. In interpreting these results it is important to bear in mind that potential survey sites may have been rejected due to high infestation of one or more invasive shrub species, where it was viewed that infestation, possibly in conjunction with other criteria, had sufficiently impacted on the native status of the site. These figures should therefore be viewed as minimal estimates of occurrence of these species in Irish woodland.

The presence and infestation level of invasive shrubs forms part of the threat assessment presented in section 3.22.



Figure 3.18. Frequency of invasive shrub species. Low indicates an invasive level of 2. High indicates an invasive level of 3, 4 or 5.

3.18 Lichens

Data on lichens was recorded from the 735 sites in the main survey. Lichens are an underrecorded group and the check-list approach used in this survey represents an attempt to produce some baseline information on the frequency of these species in woodland habitats. The check-list is shown in Appendix 1. A total of thirty different species were recorded (Table 3.15). By far the most frequently recorded species were *Graphis scripta* (62.4% of sites) and *Lepraria incana* agg. (54.4%). Also frequently recorded were *Parmelia perlata*, *P.caperata*, *Ramalina farinacea* and *Usnea subfloridana*. The most frequent host species were *Fraxinus excelsior, Betula pubescens* and *Salix cinerea*; this may partly reflect the abundance of these trees. Most species were associated with the trunk of trees and occurred on bark; records on lignin were very rare. A few species were more often associated with twigs. These were *Ramalina farinacea*, *R. fraxinea*, *Xanthoria parietina* and *Physica aipolia*. Lichen records form part of the conservation score presented in section 3.21.

Table 3.15. The frequency of	lichens listed on the checklist,	excluding species never

		%	Most	Main
Species	No. relevés	relevés	frequent host species	location
Graphis scripta	459	62.4	Fraxinus excelsior	Trunk
<i>Lepraria incana</i> agg.	400	54.4	Betula pubescens	Trunk
Parmelia perlata	233	31.7	Betula pubescens	Trunk
Parmelia caperata	114	15.5	Salix cinerea	Trunk
Ramalina farinacea	82	11.2	Salix cinerea	Twig
Usnea subfloridana	60	8.2	Salix cinerea	Trunk
Enterographa crassa	40	5.4	Fraxinus excelsior	Trunk
Lecanora chlarotera	40	5.4	Fraxinus excelsior	Trunk
Evernia prunastri	38	5.2	Betula pubescens	Trunk
Xanthoria parietina	38	5.2	Fraxinus excelsior	Twig
Cladonia coniocraea	35	4.8	Betula pubescens	Trunk
Pyrenula macrospora	30	4.1	Fraxinus excelsior	Trunk
Thelotrema lepadinum	30	4.1	Fraxinus excelsior	Trunk
Ramalina fastigiata	25	3.4	Salix cinerea	Trunk
Lecidella elaeochroma	23	3.1	Fraxinus excelsior	Trunk
Cladonia chlorophaea	17	2.3	Betula pubescens	Trunk
Parmelia sulcata	16	2.2	various	Trunk
Arthonia cinnabarina	15	2.0	Fraxinus excelsior	Trunk
Chrysothrix candelaris	12	1.6	various	Trunk
Normandina pulchella	7	1.0	various	Trunk
Dimerella lutea	6	0.8	various	Trunk
Ramalina fraxinea	6	0.8	various	Twig
Peltigera horizontalis	4	0.5	Salix cinerea	Trunk
Physcia aipolia	4	0.5	Fraxinus excelsior	Twig
Lecanactis abietina	2	0.3	various	Trunk
Peltigera praetextdata	2	0.3	various	Trunk
Physcia tenella	2	0.3	various	Trunk
Psoroma hypnorum	1	0.1	Fraxinus excelsior	Trunk
Lobaria cf. pulmonaria	1	0.1	Fraxinus excelsior	Trunk
Lobaria virens	1	0.1	Salix cinerea	Trunk

recorded.

3.19 Dead wood

Data on the abundance of dead wood was recorded from the 735 sites in the main survey. Dead wood increases the range of substrates available to lichens and bryophytes and provides important niches and resources for other taxa, most notably invertebrates. The accumulation of a range of dead wood type takes time and is indicative of older woodlands. The removal of large stature dead wood from intensively managed sites can reduce their conservation status. The recorded abundance of dead wood in six categories is given in Fig. 3.19.

Fine woody debris and coarse woody debris were the most abundant types of dead wood being frequent or occasional at the vast majority of sites. Standing dead and standing damaged were predominantly recorded as frequent or occasional, whilst uprooted trees, root plates, snags and snapped trees were largely rare or absent. Such a pattern is unsurprising given the nature of the different categories: fine woody debris may be generated by most trees in most years, whereas uprooted trees are a rarer chance occurrence. When fine woody debris is excluded, only 20% of sites scored as frequent or abundant in two or more categories. This may be indicative of the young nature of many of the surveyed sites.

The abundance of dead wood forms part of the conservation assessment presented in section 3.21.





3.20 Species diversity

Site species lists were available for 833 sites. As bryophyte surveying was concentrated primarily within the relevés, only data for vascular plant data is referred to here. Vascular plant richness tends to increase with site area, with the relationship being most strongly fitting a logarithmic model (Fig. 3.20; F=140.7, p < 0.001). This fits with the trend of diminishing returns generally found in a biological sampling.





Vascular species richness was also found to be significantly higher for sites which had some woodland present on the 1st edition Ordnance Survey maps of the 1840s than those which had no woodland present (Fig. 3.21; F=0.968, p < 0.001, n = 759). Woodland presence in the 1840s forms part of the conservation assessment presented in section 3.21.





3.21 Conservation assessment

The full conservation assessment for each site is presented in Appendix 4. The top 24 sites ranked by conservation assessment score for which a full assessment was possible are given in Table 3.16. The site with the highest score was Baltyanima, an extensive area of woodland to the south of Lough Dan, Co. Wicklow which has a range of vegetation types. Nine of the sites in this table are from Co. Wicklow, which is one of the most wooded counties in the country. The remaining sites were distributed fairly evenly across the survey region, although four of these sites are in Westmeath. The majority of sites are designated as NHAs or as both NHAs and SACs, and five Nature Reserves, all from Co. Wicklow are included. It is notable that five of the sites have no designations, and a further two, Ballyconnell Demesne and Coosan Point Hazel Wood are only partially designated.

Table 3.16. The top 24 site ranked by conservation assessment score. NHA = NaturalHeritage Area, SAC = Special Areas for Conservation, NR= Nature Reserve, NP = NationalPark.

Rank	Site no.	Woodland name	County	Designation	Score %
1	746	Baltynanima	Wicklow	NHA/SAC	82
=2	15	Borris	Carlow	NHA/SAC	79
=2	467	St John's Wood	Roscommon	NHA/SAC	79
=2	951	Kilcarra West	Wicklow	NHA	79
=5	345	Ballyconnell Demesne	Cavan	NHA	76
=5	777	Glen of the Downs	Wicklow	NR/NHA/SAC	76
=5	884	Glenasmole Valley	Dublin	NHA/SAC	76
=8	338	Vale of Clara	Wicklow	NR/NHA/SAC	74
=8	699	Flemingstown	Meath	NHA	74
=8	727	Culnagore Wood	Longford	NHA/SAC	74
=8	781	The Devil's Glen	Wicklow	NHA	74
=8	783	Deputy's Pass	Wicklow	NR/NHA/SAC	74
=8	789	Knocksink	Wicklow	NR/NHA/SAC	74
=8	1042	Barrymore North	Roscommon	NHA/SAC	74
=8	1088	Whinning Wood	Westmeath	NHA/SAC	74
=8	1110	Cavestown	Westmeath	-	74
=17	4	Killoughrum Forest	Wexford	NHA	71
=17	154	Ballyboggan Lower	Wexford	-	71
=17	388	Derrycarne Demesne South	Leitrim	NHA	71
=17	776	Castlehoward	Wicklow	-	71
=17	786	The Giants Cut & Lugduff	Wicklow	NR/NP/NHA/SAC	71
=17	1106	Bracklin Wood	Westmeath	-	71
=17	1177	Lough Fea Lake	Monaghan	-	71
=17	1234	Coosan Point Hazel Wood	Westmeath	NHA/SAC	71

Of the sites for which only a partially assessment was possible, the following were of particular note: Charleville South, Co. Offaly, site no. 574 (86% of available points); Charleville North, Co. Offaly, site no. 575, (76%), Charleville Killeska, Co. Offaly, site no. 577 (71%) and Kylecorragh, Co. Kilkenny, site no. 515 (70%).

3.22 Threat assessment

The full threat assessment for each site is presented in Appendix 5. The top 12 sites ranked by threat assessment are shown in Table 3.17. The list contains some sites which are highly threatened but are of poor conservation value, for example Brackenstown Wood, Co. Dublin (conservation score of 26%) and Cornamucklagh, Co. Louth (24%). It also contains highly threatened sites of high conservation status. Borris, Co. Carlow came equal second in the conservation assessment (79%), due to its large size, diversity of species and range of vegetation types. However, several damaging operations were recorded and the site has problems with *Rhododendron ponticum* and non-native canopy species. Indeed part of the original site was excluded as it was deemed non-native. Lough Slevin's Wood, Co. Westmeath (68%) and Balrath, Co. Meath (59%) are also examples of good quality woodlands under threat. A smaller proportion of sites in this list are under some kind of designation and there are no Nature Reserves. Notably it also contains no sites from Co. Wicklow.

Table 3.17. The top 12 sites ranked by threat assessment score. NHA = Natural Heritage
Area,
SAC = Special Areas for Conservation

Rank	Site no.	Woodland Name	County	Designation	% Score
=1	15	Borris	Carlow	NHA/SAC	64
=1	184	Lisnevagh	Carlow	-	64
=3	30	Woodville	Offaly	NHA	55
=3	131	Greatwood	Kilkenny	-	55
=3	346	Deerpark	Cavan	NHA	55
=3	613	Cornamucklagh	Louth	NHA/SAC	55
=3	715	Balrath	Meath	NHA	55
=3	921	Brackenstown Wood	Dublin	-	55
=3	966	Ballymore Eustace	Kildare	NHA	55
=3	1111	Lough Slevin's Wood	Westmeath	NHA	55
=3	1200	Leopardstown Woods	Dublin	-	55
=3	1210	Kilcleagh	Westmeath	-	55

4. DISCUSSION

4.1 Classification

This phase of the NSNW has expanded the range of woodland types present in the dataset and provided a greater depth of information on those already encountered in the first phase of the project. In particular, a far greater number of wet woodlands have been surveyed, such as those associated with lakeshores which occur almost solely in the northern half of the surveyed area. Also, with the inclusion of Co. Wicklow in this phase, there has been a marked increase in the number of upland oakwoods surveyed. Nevertheless, lowland woodland on base rich or mildly acidic soils and birch woodland on degraded bog remain the dominant proportion of the dataset. A few categories of previously defined Irish woodland have yet to be included in the NSNW as they are all western in location. These consist of yew woodland, Atlantic oakwoods and hazel scrub on limestone pavement.

ISA offers a quantitative method for choosing the optimum number of end groups from cluster analysis (Dufrene & Legendre 1997; McCune & Grace 2002). It does not always yield clear unimodal results, however. Furthermore, there does not as yet appear to be any consensus on which is the best criterion to employ (McCune & Grace 2002; Lookingbill & Urban 2005). Whilst some degree of judgement is required to interpret ISA results it cannot be regarded as a wholly objective approach. Rodwell (1991) emphasised the need for the 'ecological integrity' of defined vegetation communities, rather than slavishly following statistical results. It is important, therefore, that the methodology presented is viewed as the first step in a two step process, that of accurately and objectively defining and describing the diversity of Ireland's woodland vegetation communities. The second step is the translation of this into a classification which is readily applicable in the field; this is a procedure which awaits the completion of the survey and could involve either the definition of a new scheme or refinement of an existing one. A two-tier classification, such as produced by the current approach, would permit recording to be conducted at different levels depending on the practical and / or scientific purposes of any given study.

The NSNW is seeking to survey a large number of woodland sites across the country. For practical considerations, subjectively placed relevés rather than randomly located plots have been used, as the latter approach would require much greater replication at each site. It is important that the limitations of relevé data are acknowledged in interpreting the results. Jörg (2003) points out that subjective sampling tends to overemphasize what is regarded by the surveyors as typical vegetation, at the expense of less well characterized transitional vegetation. As a result it is improper to draw conclusions about continuity or discreteness of vegetation communities from such datasets (McCune & Grace 2002) and there is again a danger of simply reaffirming existing ideas. This problem of subjectivity may in some degree be mitigated, however, by the initial selection of survey sites, which may be described as

"arbitrary but without preconceived bias" (McCune & Grace 2002). An interesting concept is that due to the highly fragmented nature of woodland in Ireland, remaining sites may in themselves be regarded as samples of previous vegetation and indicators of potential vegetation (Cross 1998).

Comparison with existing Irish classifications produced several interesting points. These included the confirmation of some existing vegetation types and the definition of some previously undescribed vegetation types. For example, the *Quercus petraea – Luzula sylvatica* woodland group and its two subdivisions (*Vaccinium myrtillus* type and *Hedera helix* type) confirm the occurrence of two of the subassociations of the Blechno – Quercetum association (Kelly & Moore 1975) and the acid oakwood categories of Fossitt (2000) and Cross (2005). However, the *Betula pubescens – Pseudoscleropodium purum* woodland *Filipendula ulmaria* type represents a clearly defined and relatively frequent, but as yet undescribed woodland vegetation assemblage for Ireland. Similarly, within the *Fraxinus excelsior – Hedera helix* woodland group six vegetation types were defined. Whilst one of these was highly modified, it demonstrates that there is considerably more diversity within the relatively dry lowland woodlands than presented in previous classifications. It proved difficult to relate these groups to the subassociations defined for the Corylo-Fraxinetum association by Kelly & Kirby (1982).

Some existing woodland categories were shown to have poor support from the statistical methods used here. No support was found for the definition of an *Alnus glutinosa – Carex paniculata* community (Kelly & Iremonger 1997) at the level of resolution in the present scheme; it was almost certainly not sampled. The WN4 category of Fossitt (2000) corresponded partially with various vegetation types in different woodland groups. WN4 woodland appears to lack a distinctive suite of species of its own being apparently intermediate in nature between better defined assemblages, which also made it difficult to identify with consistency in the field. Cross (2005) makes the point that some stands of this nature are defined by their physical situation rather than the vegetation and this raises an important point. The scheme presented in this report, in a similar vein to NVC, is a *vegetation classification*, and is purely based on the vegetation data recorded, with environmental variables and landscape location being used *post hoc* to explain the ecological meaning of the groupings. Fossitt (2000), and to some extent Cross (2005), are better described as *habitat classifications*, where groupings are based on both vegetation and environmental variables.

Some of the vegetation types outlined here, namely the *Betula pubescens* – *Pseudoscleropodium purum* woodland *Blechnum spicant* vegetation type, the *Fraxinus excelsior* – *Hedera helix* woodland *Betula pubescens* vegetation type, and the *Alnus glutinosa* – *Filipendula ulmaria woodland Fraxinus excelsior* vegetation types, may be described, at least in part as transitional types, being less well-defined than others in their respective

groups. There is a certain degree of overlap between their species assemblages and they each occur in a relatively varied range of situations. Poor definition may in part be due to the disturbed nature of some of the stands.

The use of TABLEFIT provided an accurate way to make objective comparisons with the NVC communities of Rodwell (1991), although possibly more statistically advanced techniques are available (e.g. SIMIL developed by Lancaster University). The goodness-of-fit scores with NVC communities were overall rather low, being classed as "very poor" to "fair" by the TABLEFIT program. This is probably not surprising given that not all British woodland species occur in Ireland, and some which do occur are much rarer (e.g. *Lamiastrum galeobdolon*) or typically occur only where introduced (e.g. *Mercurialis perennis, Acer campestre*). This need not be of great concern, the purpose of the comparison being to see where affinities lay with British woodland, rather than suggesting that Irish woodlands actually belonged to certain NVC communities.

The interpretation of the classification could be improved by the application of Ellenberg indicator values. In a series of publications (Ellenberg 1979, 1988, Ellenberg et al. 1991) indicator values for vascular plants in central Europe were defined for various environmental factors, according to the ecological niches in which the species occur. These values have recently been recalibrated for the occurrence of plants in Britain by Hill et al. (1999) and most of these values can probably be validly applied to the occurrence of plants in Ireland. Hill et al. (1999) provided indicator values for light, moisture, acidity, salt, pH and nitrogen. Whilst the current dataset already has soil pH information, proxy measures for the other five environmental factors which were not measured directly, would help elucidate the vegetation types. This approach was used extensively in the British Countryside Vegetation System (CVS) classification (Bunce et al. 1999) to characterise the vegetation classes. It is also particularly suited to monitoring procedures. The CVS also utilised the C-S-R plant strategy theory of Grimes et al. (1988) to characterise its vegetation classes. This scheme classifies species into functional types based on their strategy as competitors, stress-tolerators or ruderals. This approach may be less useful to the present dataset, as most woodland communities are likely to be dominated by competitive species, although it may help to highlight particularly disturbed sites or environmentally stressed sites.

The use of the contemporary suite of statistical techniques employed here represents an innovative approach to producing a national-scale vegetation classification system in Ireland. It should be emphasised, however, that the classification detailed here is still preliminary at this stage and will undoubtedly be refined as the dataset expands during the course of the NSNW.

4.2 Conservation and threat assessments

The conservation assessment used in this report is a modification of that used in Higgins *et al.* (2004) and Martin *et al.* (2005). This is partly due to a shift in the balance of the dataset with the addition of over 600 new sites. The scoring system has thus been amended to permit sites of high conservation status to be rewarded and sites of low conservation status to be penalised. The addition of the percentage native basal area criteria is a significant improvement permitting the native stand structure to be accurately assessed. It is also a technique which could be easily applied by foresters and environmental managers who wish to assess their woodlands.

In the results, all woodlands were ranked together by conservation score providing an overall view of woodland at the national scale. The conservation scores highlight the unbalanced distribution of sites within the rankings with many of the top sites being from Co. Wicklow. Most of these sites were primarily *Quercus petraea – Luzula sylvatica* woodland. A more useful approach may be to rank only sites within a particular region or county. This would identify the best sites on a local basis and could be used to ensure that there was a good geographical spread of conserved woodland. This approach would be particularly useful for the identification of local biodiversity areas under the county heritage plans, and is similar to that used by An Foras Forbartha to identify Areas of Scientific Interest (Anon. 1981). Similarly by ranking only sites at which certain vegetation types occur, the best examples of the whole range of native woodland types could be identified.

Following the identification of the best sites, it could be determined whether or not they are currently protected by any designation and whether they face a high degree of threat. As exemplified by the case of Borris, Co. Carlow in section 3.22, conservation and threat scores must be considered in view of each other.

Not only are many of Ireland's woodlands small in extent, but the analysis of adjacent land use showed that many woodlands are isolated from other semi-natural habitats, by forestry or by agricultural grassland. The conservation value of sites could be improved by linking them with other woodlands by the restoration of hedgerows and woodland re-creation or by creating mosaics of semi-natural habitats by favourable management of adjacent land (e.g. Newbridge Demesne, Co. Dublin).

Rhododendron infestation and high levels of grazing have been highlighted as major threats to Irish woodland in certain areas, (e.g. the Killarney National Park; Kelly 1981, Cross 1981). These problems have sometimes been extrapolated to the rest of the country (Neff 1974). However, the results of this survey suggest that high grazing levels are only an issue at the localised level (e.g. Derrybawn Woods, Co. Wicklow), with moderate, low or no grazing being

predominant across most of the survey area. Similarly, *Prunus laurocerasus* rather than *Rhododendron ponticum* was found to be the most frequent invasive shrub at the sites surveyed, with *Symphoricarpos albus* also fairly frequent. Rhododendron is undoubtedly an aggressive invader of semi-natural habitats (Cross 1982), but it is most problematic on acidic soils in oceanic regions, which have not been encountered in the survey to date. The most frequent negative aspects of the woodlands surveyed was certainly the occurrence of *Fagus sylvatica* and *Acer pseudoplatanus*. Many of the selected sites were rejected in the field, or reduced in extent due to occurrence of these species, including sites designated as NHAs for woodland (e.g. Ardee Woods, Co. Louth; Barmeath Castle, Co. Louth).

4.3 Utilisation of the dataset

The GIS package which accompanies this report contains the original FIPS dataset, the Coillte GIS dataset and the modification of FIPS detailed in Higgins *et al.* (2004). All surveyed FIPS parcels have been labelled with the appropriate site number. To this has been added a data layer entitled 'Relevé'. This contains the co-ordinates of all 1009 relevés together with the classification of each relevé according to Fossitt (2000). It also contains the woodland group and vegetation type to which each relevé was assigned by the classification in this report. To this data layer could be added any information collected at the relevé scale. This signifies a move from using the GIS platform to aid in the selection of sites, to using it to present spatial results.

Uses for the NSNW dataset have already been found beyond its primary remit of providing an inventory, a classification and an assessment protocol for Irish native woodlands. Information on stand structure has been utilised to provide a list of suitable seed sources and seed stands for the native tree species for COFORD. The data on woodland lichens has contributed to the LichenIreland project which is being co-ordinated by the Ulster Museum.

The possibility of extrapolating woodland type from surveyed sites to unsurveyed FIPS parcels on the basis of environmental datasets was examined, but was found unfeasible at the present time. This is primarily due to the lack of availability of high resolution environmental datasets in GIS format. Availability of such datasets may make this approach possible, but it is likely to be hampered by the widespread anthropogenic effects on woodland vegetation.

The GIS component of the project could assist in regional woodland creation schemes by providing spatial information on the existing occurrence of woodland and woodland types in the landscape. This could assist environmental managers who wish to link up existing sites or create new woodland in largely unwooded landscapes. Reference to extant sites could provide managers with information on the typical tree species composition of local sites for particular soil types, as well as providing a seed source of local provenance, as mentioned above. A more technical application of the structural data would be the creation of modeling software which could be used to predict the long-term effects of management decisions and to investigate how natural woodland ecosystems may have functioned, an area which is poorly understood in Ireland. The classification approach used in this report would be readily applicable to other vegetation types and habitats in Ireland for which similar data is available. The further application of this contemporary technique could therefore be used to standardise the classification of Ireland's semi-natural habitats. The conservation and threat assessments provide a baseline for monitoring of woodlands, which may be particularly important with reference to maintenance of Annex I woodland habitats at favourable status.

4.4 Concluding remarks

The second phase of the National Survey of Native Woodlands has significantly enlarged the dataset initiated in the first phase, bringing the total of fully surveyed sites to 836 and the total number of relevés to 1009. This has involved the incorporation of data from several external sources and field surveys of 531 sites in 11 counties in the north and east of Ireland during 2004 and 2005. An objective and statistically rigorous classification procedure has been developed, which has classified the current dataset into four main woodland groups and fifteen vegetation types. Indicator species, mean environmental variables and distributions for these groupings have been defined, and stand structure has been described. This provides a blueprint for the development of a national classification of woodland vegetation.

The conservation and threat assessment procedure for sites developed during the first phase of the survey has been refined. This supplies a baseline of data against which future changes can be monitored as well as permitting objective comparisons between sites for the purposes of selecting the best or most threatened sites.

The completion of the NSNW awaits the surveying of the remaining 10 counties in the south and west of the country. It is vital that the field survey procedures developed during the first two phases are retained so that there is comparability of data, although there is still scope for further refinement of the classification and assessment procedures. Upon completion the NSNW will have provided a detailed account of the full breadth of Irish woodlands, which will provide a much needed resource for environmental managers, ecological researchers and policy makers.

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Appendix 1: Field sheets

- Sheet A General site survey
- Sheet B Site species list
- Sheet C1 Relevé survey
- Sheet C2 Lichen check list
- Sheet D1 Regeneration data
- Sheet D2 Vertical stratigraphy

Sheet A General site survey

Site ID		Management		Veg. comm		%	Evidence of grazers		Regeneration (incl. exotic spp) dafor				r	
Team		Old native planting	1	WN1 oak birch holly			Deer			Sp.	Sd	Sp	Ρ	М
Date		Recent native planting		WN2 oak ash hazel			Cattle							
Releves:		Recently felled natives	1	WN3 yev	w woodland		Sheep							
General		Old b/l exotics planting	1	WN4 wet oak ash			Rabbits							
Altitude range <i>m</i>		New b/l exotic planting		WN5 riparian			Hares							
Slope		Old conifer planting	'	WN6 willo	w alder ash		Goats							
Aspect		New conifer planting	1	WN7 Во	g		Invertebrate							
Site area (ha)		Recent exotic felling		WD1 m	ixed b/l		Other:							
		Mature coppice	'	WD2 mix	xed b/l + co		Grazing Level							
Topographical sit	uation	Recently cut coppice	1	WS1 sc	rub									
Flat		Pollards		Other			Invasive shrubs							
Summit (angular)		Amenity					Species	L	evel					
Summit (rounded)				Adj. Land Use										
Upper slope		Other		FL	CW									
Mid-slope		Banks		FW	CS									
Terraced slope		Ditches		FP	WN									
Lower slope		Cultivation ridges		FS	WD									
Depression		Ruined buildings		GA	WS									
Other		Walls		GS	WL									
		Exclosures		GM	BC									
Geography				HH	BL									
Esker		Dead Wood (afor)		HD	ER						•			
Drumlin		Standing dead		PB	EU									
Plateau		Standing damaged		PF	ED									
Valley		Uprooted/root plate		CD										
Other		Coarse wood/debris		CC										
		Fine Woody debris		CB										
Soil moisture regi	me	Snags/snapped												
Freely draining				Boundary										
Moderately free				River/St	tream									
Impeded		Surface Cover (dafor)		Canal										
Strongly impeded		Rock & Boulders		Rail										
		Stones & gravel		Lake/Pond										
Hydrological features		Bare soil		Road/Track										
Seasonal flooding		Litter	'	Wall										
Springs		Bryophyte		Ditch										
Lakes/pools		Herb		Bank										
Rivers/streams		Low woody sp.		Fence										
Damp Clefts/ravines				None –	Abrupt									
Other				None -	Diffuse									

Trees	F	SC	Low woody	Herbs	Herbs	Herbs	Sedges	Ferns	Mosses			
Abie alba			Buxu semp	Cirs arve	Lysi vulg	Succ prat	Care vesi	Poly vulg	Poly form		Tea	Site
Abie proc			Call vulg	Cirs diss	Lyth sali	Tara agg.	Care viri	Pols seti	Pseu puru		m e	
Acer pseu			Corn sang	Cirs palu	Mela prat	Teuc scor		Pter aqui	Rhiz punc			2
Aesc hipp			Cyti scop	Cirs vulg	Ment aqua	Tori japo	Grasses		Rhyn ripa			
Alnu glut			Eric tetr	Cono maju	Meny trif	Trif repe	Agro cani	Mosses	Rhyt lore			
Betu pub			Hede heli	Crep palu	Myos laxa	Trif prat	Agro capi	Ambl serp	Rhyt squa			
Betu pend			Leyc form	Dact fuch	Myos scor	Tuss farf	Agro stol	Atri undu	Rhyt triq			
Carp betu			Ligu vulg	Digi purp	Oena croc	Urti dioi	Anth odor	Brac riv	Spha capi			
Cast sati			Loni peri	Epil hirs	Orch masc	Umbe rupe	Arrh elat	Brac rut	Spha cusp			
Cory avel			Myri gale	Epil mont	Oxal acet	Vale offi	Brach sylv	Call cord	Spha fimb			
Crat mono			Rhod pont	Epil obsc	Pers hydr	Vero becc	Brom ramo	Call cusp	Spha palu			
Euon euro			Ribe nigr	Epil palu	Pers macu	Vero cham	Cyno cris	Cinc font	Spha recu			
Fagu sylv			Ribe rubr	Epil parv	Peta frag	Vero mont	Dact glom	Cirr pili	Spha squa			
Frax exce			Rosa arv	Epip hell	Plan lanc	Vero offi	Desc cesp	Clim den	Spha subn			
llex aqui			Rosa can	Eupa cann	Plan majo	Vero serp	Desc flex	Cryp hete	Tham alop			
Lari deci			Rubu idea	Fall japo	Pote anse	Vivi crac	Fest rubr	Cten moll	Thui tama			
Lari kaem			Rubu frut	Fili ulma	Pote erect	Vici sepi	Fest gigi	Dicr maju	Ulot crisp			
Malu sylv			Symp albu	Frag vesc	Pote palu	Viol palu	Glyc flui	Dicr scop	Ulot norv			
Pice abie			Ulex euro	Gali apar	Pote rept	Viol reic	Holc lana	Eurh prae	Ulot phyl			
Picea sitc			Ulex gali	Gali odor	Pote ster	Viol rivi	Holc moll	Eurh stri	Zygo viri			
Pinu sylv			Vacc myrt	Gali palu	Prim vulg	Viol sp.	Loli pere	Eurh swar				
Popu nigr				Gali saxa	Prune vulg		Meli unif	Fiss adia	Liverworts			
Popu trem			Herbs	Gera robe	Ranu acris	Rushes	Moli caer	Fiss bryo	Caly fissa			
Prun aviu			Aego poda	Geum urba	Ranu fica	Junc acut	Phal arun	Fiss taxi	Caly muel			
Prun laur			Ajug rept	Glec hede	Ranu flam	Junc arti	Phle prat	Font anti	Chil poly			
Prun padu			Alis plan	Hera spon	Ranu repe	Junc bufo	Phra aust	Homa seri	Cono coni			
Prun spin			Alli pete	Hyac nons	Rori nast	Junc bulb	Poa annu	Hook luce	Dipl albi			
Pseu menz			Alli urs	Hydr vulg	R. acetosa	Junc cong	Poa triv	Hylo brevi	Frul dila			
Quer xros			Anag arve	Hype andr	Rume cong	Junc effu		Hylo splen	Frul tama			
Quer petr			Anem nem	Hype perf	Rume obtu	Junc infl	Horsetails	Hyoc armo	Leje ulic			
Quer robu			Ange syl	Hype pulc	Rume san	Luzu camp	Equi arve	Hypn ando	Lepi rept			
Rham cath			Anth sylv	Hype masc	Sani euro	Luzu pilo	Equi fluv	Hypn cupr	Loph bid			
Sali alba			Apiu nodi	Hype tetr	Scro nod	Luzu mult	Equi palu	Hypn jutl	Lunu cruc			
Sali auri			Arct minu	Hypo radi	Scut gale	Luzu sylv	Equi sylv	Hypn resu	Marc mach			
Sali cine			Arum macu	Impa glan	Sene aqua		Equi telm	Isop eleg	Metz frut			
Sali capr			Bell pere	Iris pseu	Sene jaco	Sedges		Isot myos	Metz furc			
Sali frag			Call stag	Laps comm	Sile dioi	Care echi	Ferns	Isot alop	Pell endi			
Sali xmul			Calt palu	Lath mont	Sola dulc	Care elat	Aspl tric	Leuc glau	Pell epip			
Samb nigr			Caly sepi	Lath prat	Soli virg	Care flac	Athy f-f	Mniu horn	Plag aspl			
Sorb auc			Card flex	Lemn mino	Sonc aspe	Care laev	Blec spic	Neck comp	Plag pore			
Tili cord			Card hirs	Leon autu	Sonc oler	Care nigr	Dryo aem	Neck crisp	Radu comp			
Tili xeur			Card prat	List ovat	Stac palu	Care pani	Dryo affi	Orth affi	Ricc mult			
Taxu bacc			Cent nigr	Lotu corn	Stac sylv	Care pend	Dryo cart	Pleu schr	Sacc viti			
Tsug hete			Cera font	Lych fl-c	Stel gram	Care remo	Dryo dila	Plth dent	Scap grac			
Ulmu glab			Cham angu	Lyco euro	Stel holo	Care rost	Dryo f-m	Plth undu	Scap nemo			
Ulmu pro			Chry opp	Lysi nemo	Stel medi	Care stri	Osmu rega	Pmni undu	Scap undu			
Vibu opul			Circ lute	Lysi numm	Stel ulig	Care sylv	Phly scolo	Poly comm	Trich tome			

Abie albaBuxu sempCirs arveLysi vulgSucc pratCare vesiPoly vulgPoly formMMM
Abie procCall vulgCirs dissLyth saliTara agg.Care viriPols setiPeu puruCare viriPeu puruSeti </td
Acer pseuCorn sangCirs paluMela pratTeuc scorImagePter aquiRhiz puncMehiz puncImageMehiz puncImageMehiz puncImage <th< td=""></th<>
Aesc hippCyti scopCirs vulgMent aquaTori japoGrassesGrassesMent appringRhyn ripaMent appringMent appring
Alnu glutEric tetrCono majuMeny trifTrif repeAgro caniMossesRhy loreImage: Cono majuMeny trifMeny trifMeny trifMeny trifMossesRhy loreMeny trifImage: Cono majuMeny trifMeny trifMeny trifMeny trifMeny trifAgro capiAgro capiMossesRhy loreImage: Cono majuImage: Cono majuMeny trifMeny trifMeny trifImage: Cono majuMeny trifMeny trifAgro capiAgro capiAmbl serpRhy loreRhy loreImage: Cono majuImage:
Betu pubHede heliCrep paluMyos laxaTrif pratAgro capiAmbl serpRhyt squaInterpret<
Betu pendLeyc formImage: Carp betuDact fuchMyos scorImage: Tuss farfAgro stolAgro stolAtri unduRhyt triqImage: Carp betuImage: Carp betuDigi purpImage: Carp betuDigi purpImage: Carp betuOne a crocImage: Carp betuAnth odorImage: Carp betuBrac rivSpha capiImage: Carp betuImage: Carp betuIma
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Cast satiLoni periEpil hirsOrch mascUmbe rupeArrh elatBrac rutSpha cuspImage<
Cory avelMyri galeEpil montOxal acetVale offiBrach sylvCall cordSpha fimbImage
Crat monoRhod pontEpil obscPers hydrVero beccBrom ramoCall cuspSpha paluImage: Call cuspImage: Call cuspImage: Call cuspSpha paluImage: Call cuspImage: Call cusp<
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Fagu sylvRibe rubrEpil parvPeta fragVero montDact glomCirr piliSpha squaSpha squaFrax exceRosa arvEpip hellPlan lancVero offiDesc cespClim denSpha subnIlex aquiRosa canEupa cannPlan majoVero serpDesc flexCryp heteTham alop
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Ilex aqui Rosa can Eupa cann Plan majo Vero serp Desc flex Cryp hete Tham alop
Lari deci 🛛 🛛 Rubu idea 🔄 Fall japo 🔄 Pote anse 🔄 Vivi crac 🔄 Fest rubr 🔄 Cten moll 🔄 Thui tama 🔄 👘 🔗 🧛
Lari kaem Rubu frut Fili ulma Pote erect Vici sepi Fest gigi Dicr maju Ulot crisp 🛛 🛱 🚊
Malu sylv Symp albu Frag vesc Pote palu Viol palu Glyc flui Dicr scop Ulot norv
Pice abie Ulex euro Gali apar Pote rept Viol reic Holc Iana Eurh prae Ulot phyl
Picea sitc Ulex gali Gali odor Pote ster Viol rivi Holc moll Eurh stri Zygo viri
Pinu sylv Vacc myrt Gali palu Prim vulg Viol sp. Loli pere Eurh swar
Popu nigr Gali saxa Prune vulg Meli unif Fiss adia Liverworts of or
Popu trem Herbs Gera robe Ranu acris Rushes Moli caer Fiss bryo Caly fissa Gera de Gera de Gera de Caly fissa
Prun aviu Aego poda Geum urba Ranu fica Junc acut Phal arun Fiss taxi Caly muel .
Prun laur Ajug rept Glec hede Ranu flam Junc arti Phle prat Font anti Chil poly
Prun padu Alis plan Hera spon Ranu repe Junc bufo Phra aust Homa seri Cono coni
Prun spin Alli pete Hyac nons Rori nast Junc bulb Poa annu Hook luce Dipl albi
Pseu menz Alli urs Hydr vulg R. acetosa Junc cong Poa triv Hylo brevi Frul dila
Quer xros Anag arve Hype andr Rume cong Junc effu Hylo splen Frul tama
Quer petr Anem nem Hype perf Rume obtu Junc infl Horsetails Hyoc armo Leje ulic
Quer robu Ange syl Hype pulc Rume san Luzu camp Equi arve Hypn ando Lepi rept Bare soil
Rham cath Anth sylv Hype masc Sani euro Luzu pilo Equi fluv Hypn cupr Loph bid Rocks
Sali alba Apiu nodi Hype tetr Scro nod Luzu mult Equi palu Hypn jutl Lunu cruc Litter
Sali auri Arct minu Hypo radi Scut gale Luzu sylv Equi sylv Hypn resu Marc mach Dead wood
Sali cine Arum macu Impa glan Sene aqua Equi telm Isop eleg Metz frut Surface water
Sali capr Bell pere Iris pseu Sene jaco Sedges Isot myos Metz furc
Sali frag Call stag Laps Sile dioi Care echi Ferns Isot alop Pell endi Ground layer
Sali xmul Calt palu Lath mont Sola dulc Care elat Aspl tric Leuc glau Pell epip Field layer
Samb nigr Caly sepi Lath prat Soli virg Care flac Athy f-f Mniu horn Plag aspl Shrub layer
Sorb auc Card flex Lemn mino Sonc aspe Care laev Blec spic Neck comp Plag pore Canopy
Tili cord Card hirs Leon autu Sonc oler Care nigr Dryo aem Neck crisp Radu comp Each
Tili xeur Card prat List ovat Stac palu Care pani Dryo affi Orth affi Ricc mult Soil pH 1
Taxu bacc Cent nigr Lotu corn Stac sylv Care pend Dryo cart Pleu schr Sacc viti Soil pH 2
Tsug hete Cera font Lych fl-c Stel gram Care remo Dryo dila Plth dent Scap grac Mean pH
Ulmu glab Cham angu Lyco euro Stel holo Care rost Dryo f-m Plth undu Scap nemo
Ulmu pro Chry opp Lysi nemo Stel medi Care stri Osmu rega Pmni undu Scap undu
Vibu opul Circ lute Lysi numm Stel ulig Care sylv Phly scolo Poly comm Trich tome

Sheet C1

Sheet C2 - Lichen Check List.

Site Name:		Releve:	Date:	Team:		
Species	Host spp.	Substrate	Associated spp.	DAFOR		
Arthonia cinnabarina						
Chrysothrix candelaris						
Cladonia coniocraea						
Cladonia chlorophaea						
Degelia spp.* Ŧ						
Dimerella lutea						
Diploicia canescensŦ						
Enterographa crassa						
Evernia prunastri						
Graphis scripta						
Lecanactis abietina						
Lecanora chlarotera						
Lecidella elaeochroma						
Lepraria incana agg.						
Leptogium spp.*						
Lobaria spp.* Ŧ						
Normandina pulchella						
Pannaria spp.*						
Parmeliella parvula T						
Parmelia caperata						
Parmelia perlata						
Parmelia sulcata						
Phaeophysica orbicularis						
Physcia aipolia						
Physcia tenella						
Physconia distorta						
Peltigera praetextdata						
Peltigera horizontalis						
Psoroma hvpnorum T						
Pvrenula macrospora						
Ramalina farinacea						
Ramalina fastigiata						
Ramalina fraxinea						
Sticta spp.* Ŧ						
Thelotrema lepadinum						
Usnea subfloridana						
Xanthoria parietina						
Other Spp.						
	+ +					
	+ +					
	+ +					
	+ +					
Total Plot Size:_____

No.	Species	dbh	CP	Ht	Log L	Stem Q	No.	Species	dbh	CP	Ht.	Log L	Stem Q
<u> </u>													

			FREE					BASAL		
Species	<25cm	26-100cm	101-200cm	201-400cm	>400cm	<25cm	26-100cm	101-200cm	201-400cm	>400cm
		1					1			

Vertical Stratigraphy Site Name:	Releve:	Date: Team:	
			Photo Details

Strata Ht Dominants % Cover

Native Woodland Scheme Information

Suitable as a seed source identified?	YES	NO	(please circle)
Suitable for selection as seed stand?	YES	NO	(please circle)

Suitable species (5 most abundant):

Appendix 2: NVC codes and communities

W2 Salix cinerea – Betula pubescens – Phragmites australis woodland
W2a <i>Alnus glutinosa – Filipendula ulmaria</i> sub-community
W2b Sphagnum spp. sub-community
W4 Betula pubescens – Molinia caerulea woodland
W4a <i>Dryopteris dilatata – Rubus fruticosus</i> sub-community
W4b Juncus effusus sub-community
W4c Sphagnum spp. sub-community
W5 Alnus glutinosa – Carex paniculata woodland
W5a Phragmites australis sub-community
W5b Lysimachia vulgaris sub-community
W5c Chrysosplenium oppositifolium sub-community
W6 Alnus glutinosa – Urtica dioica woodland
W6d Sambucus nigra sub-community
W6e Betula pubescens sub-community
W7 Alnus glutinosa – Fraxinus excelsior – Lysimachia nemorum woodland
W7a Urtica dioica sub-community
W7b Carex remota – Cirsium palustre sub-community
W7c Deschampsia cespitosa sub-community
W8 Fraxinus excelsior – Acer campestre – Mercurialis perennis woodland
W8a <i>Primula –vulgaris – Glechoma hederacea</i> sub-community
W8b Anemone nemorosa sub-community
W8c Deschampsia cespitosa sub-community
W8d Hedera helix sub-community
W8e Geranium robertianum sub-community
W9 Fraxinus excelsior – Sorbus aucuparia – Mercurialis perennis woodland
W9a Typical sub-community
W10 Quercus robur – Pteridium aquilinum – Rubus fruticosus woodland
W10a Typical sub-community
W10b Anemone nemorosa sub-community
W10c Hedera helix sub-community
W10e Acer pseudoplatanus – Oxalis acetosella sub-community
W11 Quercus petraea – Betula pubescens – Oxalis acetosella woodand
W11a Dryopteris dilatata sub-community
W12 Fagus sylvatica – Mercurialis perennis woodland
W12a Mercurialis perennis sub-community
W12b Sanicula europaea sub-community
W16 Quercus spp. – Betula spp. – Deschampsia flexuosa woodland
W16b Vaccinium myrtillus – Dryopteris dilatata sub-community
W17 Quercus petraea – Betula pubescens – Dicranum majus woodland
W17a Isothecium myosuroides – Diplophyllum albicans sub-community
W17b Typical sub-community

Native species	Common Name	Non-native species	Common Name
Alnus glutinosa	Alder	Abies alba	European silver-fir
Betula pendula	Silver birch	Abies nordmanniana	Caucasian fir
Betula pubescens	Downy birch	Abies procera	Noble fir
Corylus avellana	Hazel	Acer campestre	Field maple
Crataegus monogyna	Hawthorn	Acer platanoides	Norway maple
Euonymus europaeus	Spindle-tree	Acer pseudoplatanus	Sycamore
Frangula alnus	Alder buckthorn	Aesculus hippocastanum	Horse-chestnut
Fraxinus excelsior	Ash	Alnus incana	Grey alder
llex aquifolium	Holly	Buxus sempervirens	Box
Juniperus communis	Juniper	Carpinus betulus	Hornbeam
Malus sylvestris	Crab apple	Castanea sativa	Sweet chestnut
Pinus sylvestris	Scots pine	Chamaecyparis lawsoniana	Lawson's cypress
Populus nigra	Black poplar	<i>Eucalyptus</i> spp.	Eucalyptus
Populus tremula	Aspen	Fagus sylvatica	Beech
Prunus avium	Wild cherry	Larix decidua	European larch
Prunus padus	Bird cherry	Larix kaempferi	Japanese larch
Quercus petraea	Sessile oak	Ligustrum vulgare	Wild privet
Quercus petraea x Q. robur	-	Picea abies	Norway spruce
Quercus robur	Pedunculate oak	Picea sitchensis	Sitka spruce
Rhamnus cathartica	Buckthorn	Pinus contorta	Lodgepole pine
Salix aurita	Eared willow	Pinus sylvestris	Scots pine
Salix aurita x S. cinerea	-	Populus deltoides x P. nigra	Hybrid black poplar
Salix caprea	Goat willow	Prunus laurocerasus	Cherry laurel
Salix cinerea	Grey willow	Pseudotsuga menziesii	Douglas fir
Salix pentandra	Bay willow	Quercus cerris	Turkey oak
Salix purpurea	Purple osier	Quercus ilex	Evergreen oak
Sambucus nigra	Elder	Quercus rubra	Red oak
Sorbus aucuparia	Rowan	Rhododendron ponticum	Rhododendron
Sorbus devoniensis	French hales	Salix alba	White willow
Sorbus hibernica	Irish whitebeam	Salix fragilis	Crack willow
Taxus baccata	Yew	Salix triandra	Almond-leaved willow
Ulex europaeus	Gorse	Salix viminalis	Osier
Ulmus glabra	Wych elm	Sequoia sempervirens	Coastal redwood
Viburnum opulus	Guelder-rose	Tilia cordata	Small-leaved lime
		Tilia cordata x T. platyphyllos	Lime
		Tsuga heterophylla	Western hemlock
		Ulmus procera	English elm
		Ulmus x hollandica	Dutch elm

Appendix 4 shows the conservation score for each of the 836 sites included in the native woodland dataset. However, data was not available in all assessment categories for each of the sites. Where data was not available this is denoted with an 'x'. The final column in the appendix table indicates how many data values are missing for a particular site. When sites had been incorporated from previous studies as many as 12 of the 16 assessment categories were missing data. A percentage score was only calculated where there was enough available data (at least 17 of the 34 points assessed) for a site. For sites that had some missing data, but enough to calculate a percentage score, the maximum number of available points was adjusted to compensate for the missing data.

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Site No.	Woodland Name	County	135°	BUN	VICI	4eg	Hor	Mati	Nor	Ares	Wats	1842	Sil	440	Star	NOC	Cor.	HIST	SCO	MIS	°/°
1	Ballynabarny Wood	Wexford	3	2	0	2	0	3	1	1	3	1	1	1	0	1	0	1	20	0	59
2	Clone Fox Covert	Wexford	1	1	0	2	1	3	1	1	1	1	0	1	0	1	0	1	15	0	44
3	Courtown Dunes and Glen	Wexford	3	1	0	0	2	3	0	4	0	1	1	1	0	0	0	1	17	0	50
4	Killoughrum Forest	Wexford	4	2	1	2	0	3	1	3	3	1	0	1	0	1	1	1	24	0	71
5	Oaklands	Wexford	3	1	0	2	0	3	2	3	0	1	0	1	0	0	0	1	17	0	50
7	Camolin	Wexford	2	1	0	1	1	2	0	3	2	1	0	1	0	0	0	1	15	0	44
8	Baggot's Wood	Carlow	2	1	0	1	1	2	1	0	1	1	0	1	0	1	0	0	12	0	35
9	Bahana	Carlow	2	1	0	1	0	2	1	2	3	1	1	1	0	0	0	1	16	0	47
10	Clogheristick Wood	Carlow	2	1	0	2	2	2	0	2	1	1	1	1	0	0	0	0	15	0	44
12	Oakpark	Carlow	2	2	1	0	1	3	0	3	1	1	1	1	1	1	1	1	20	0	59
14	Drummond Wood	Carlow	3	1	0	2	0	1	1	2	1	1	1	1	0	0	0	1	15	0	44
15	Borris	Carlow	4	1	0	2	2	3	1	5	3	1	1	1	1	1	0	1	27	0	79
17	Thomastown	Kilkenny	2	2	0	2	0	3	2	2	3	1	1	1	0	1	1	1	22	0	65
18	Ballykeefe Wood	Kilkenny	3	2	0	2	0	3	0	4	1	1	0	0	0	1	0	0	17	0	50
19	Ballyhighland	Wexford	2	1	1	1	1	0	0	3	0	х	0	0	1	1	0	1	12	1	36
20	Brownstown Wood	Kilkenny	2	2	0	0	1	3	0	2	1	1	1	1	0	0	1	0	15	0	44
22	Fiddown	Kilkenny	2	1	0	2	1	0	0	2	1	0	1	1	0	1	1	1	14	0	41
26	Carrickduff Wood	Carlow	2	1	0	0	2	1	1	3	0	1	1	1	1	0	0	0	14	0	41
27	Dovegrove Callows	Offaly	2	1	2	2	0	3	1	1	1	0	1	1	1	1	1	0	18	0	53
28	Clonfinlough Esker	Offaly	3	2	1	2	0	3	0	0	1	1	1	0	1	0	1	1	17	0	50
30	Woodville	Offaly	2	1	1	1	1	1	1	4	1	1	0	0	0	0	1	1	16	0	47
31	Cloghan Demesne Bog and Wood	Offaly	3	1	2	2	2	3	0	2	3	1	1	0	0	0	0	1	21	0	62
33	Camcor Wood / Glinsk	Offaly	3	2	1	2	1	3	1	3	1	0	1	1	0	0	0	0	19	0	56
34	Cangort Bog	Offaly	1	1	0	2	1	3	0	2	1	0	1	1	0	1	0	0	14	0	41
35	Clorhane Wood	Offaly	3	1	0	2	0	2	2	3	1	0	1	1	1	0	0	0	17	0	50
36	Lough Coura	Offaly	2	1	0	2	0	3	1	2	2	1	1	1	0	0	1	1	18	0	53
37	Curraduff	Wexford	2	1	0	2	0	3	0	1	1	0	1	1	0	1	0	0	13	0	38
38	Graiguebeg	Wexford	1	1	0	2	0	3	0	0	1	0	1	0	0	0	1	0	10	0	29
48	Jerpoint Abbey	Kilkenny	4	1	0	2	0	3	0	1	1	0	0	0	0	0	1	1	14	0	41
49	Grenan Wood	Kilkenny	3	1	0	2	2	2	1	3	0	1	1	0	0	1	0	0	17	0	50
51	Kilfane House	Kilkenny	3	1	0	2	0	3	0	0	1	1	0	1	0	1	0	0	13	0	38

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53	Kilcullen	Kilkenny	2	V ¹	<u>v</u>	v	x .	3	7	<u>•</u>	<u> </u>	<u>^</u>	9	1	1	<u> </u>	0	X •	11	0	32
58	Cullentrach	Kilkenny	2	י 2	1	2	1	2	0	2	י 2	1	1	1	0	1	1	1	20	0	50
50 61	Cullaun	Kilkenny	2	1	0	2	1	2	0	2 1	2 1	1	1	1	0	1	1	1	17	0	59
65	Bohermore	Carlow	2	1	0	2	1	2	0	0	1	1	0	1	0	1	0	1	12	0	38
69	Toberbride	Carlow	2	1	1	2	0	2	1	2	י 2	0	0	1	0	1	0	0	16	0	30 17
73	Tinnahinch	Carlow	2	1	0	0	1	1	0	0	0	1	1	0	1	0	1	0	۵ ۵	0	26
73	Knockeen	Carlow	2	1	1	2	2	י 2	0	0	1	0	0	0	0	0	0	1	14	0	20 41
74 75	Knockduff	Carlow	1	1	0	2	0	3	0	0	1	0	1	1	1	0	0	0	11	0	32
76	Ballybeg	Carlow	1	1	1	2	0	3	0	0	1	0	1	1	0	0	0	1	12	0	35
78	Ballintemple	Carlow	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	4	0	12
79	Doon Demesne	Offalv	2	2	1	2	2	0	0	0	0	1	0	0	0	1	0	0	11	0	32
80	Doon Demesne 2	Offalv	2	2	0	2	1	2	1	1	1	1	1	0	0	1	0	1	16	0	47
81	Clonascra	Offalv	2	2	0	2	0	3	0	0	2	0	1	1	0	0	0	1	14	0	41
82	Clongawny More	Offalv	3	2	0	2	0	3	1	0	2	0	1	0	0	1	0	1	16	0	47
83	Taylors Cross	Offalv	2	2	1	2	2	3	0	0	1	0	0	1	1	0	1	1	17	0	50
84	Boolinario	Offalv	3	2	0	2	0	3	0	2	1	0	1	0	0	1	0	0	15	0	44
85	Ballyhealy (Offaly)	Offalv	2	1	0	2	0	3	1	1	1	1	0	0	0	1	1	0	14	0	41
86	Clooneen	Offalv	3	3	2	2	1	3	1	2	2	1	1	0	0	1	0	1	23	0	68
89	Ballincor Demesne Bogwood	Offaly	1	1	1	2	2	3	0	2	2	1	1	1	0	0	1	0	18	0	53
91	Big Wood (West Offalv)	Offaly	1	2	0	х	х	x	1	3	1	0	0	1	0	0	1	1	11	3	41
95	Drummin (Red Bog)	Carlow	1	1	0	2	0	3	0	0	1	0	0	0	0	1	0	1	10	0	29
96	Kyleadohir Wood	Kilkenny	3	1	0	2	1	3	0	4	1	1	0	1	0	1	0	1	19	0	56
100	Tomnafunshogue	Wexford	3	2	0	0	0	3	0	0	2	1	0	1	0	1	1	0	14	0	41
102	Ballycrystal	Wexford	2	1	0	2	1	3	0	2	2	1	0	1	0	0	1	1	17	0	50
103	Bolamore	Wexford	2	1	0	2	0	2	0	1	1	1	0	1	0	1	0	0	12	0	35
106	Tombrick Lower	Wexford	1	1	0	1	1	3	0	0	1	1	0	0	0	1	1	1	12	0	35
108	Troyswood	Kilkenny	3	1	0	1	1	3	0	1	1	1	0	1	0	1	0	1	15	0	44
109	Jenkinstown Park	Kilkenny	3	1	0	2	2	3	0	3	1	1	0	0	0	1	0	1	18	0	53
110	Ballyrafton	Kilkenny	3	1	0	2	2	2	1	2	0	0	0	0	0	0	0	0	13	0	38
112	Maddockstown / Nore Cottage	Kilkenny	3	1	0	2	2	1	1	2	1	1	0	1	0	1	0	1	17	0	50
113	High Rath	Kilkenny	2	1	0	2	0	3	0	0	1	0	1	0	0	0	1	0	11	0	32

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Site No.	Woodland Name	County	V250	BRYD	Vich	Reg	Houn	Wall	Noto	Arec	Wait	1840	SINT	440.	Stati	NOU	cob,	HIST	SCO	NIS!	o/o Se
114	Gowran	Kilkenny	3	1	0	2	0	3	0	1	1	1	0	1	0	0	0	0	13	0	38
116	Fanningstown Wood	Kilkenny	2	1	0	2	1	3	0	1	1	1	0	1	0	1	0	0	14	0	41
117	Mountain Grove	Kilkenny	3	1	0	1	1	0	0	3	0	0	0	1	0	0	0	1	11	0	32
122	Creakan Lower	Wexford	1	1	0	2	1	2	0	0	1	0	1	1	1	1	0	1	13	0	38
123	Stokestown Bridge (Dunganstown)	Wexford	2	2	0	1	1	3	0	0	2	0	1	0	0	0	0	1	13	0	38
124	Ballyleigh	Wexford	2	2	0	2	1	3	0	0	3	0	0	1	0	0	1	0	15	0	44
125	Ballynacoolagh	Wexford	1	1	0	2	1	2	0	1	1	1	1	0	0	1	0	0	12	0	35
126	Curraun	Wexford	2	1	0	2	0	3	0	0	1	0	0	1	0	1	0	0	11	0	32
127	Archersgrove	Kilkenny	3	1	0	2	1	2	2	0	1	1	0	1	0	1	0	1	16	0	47
128	Brown's Wood	Kilkenny	2	1	0	1	1	3	0	2	2	1	0	1	0	1	1	1	17	0	50
130	Monarche Commons 2	Kilkenny	2	1	0	2	1	1	0	1	0	0	0	1	1	1	0	1	12	0	35
131	Greatwood	Kilkenny	2	1	0	1	1	3	0	0	1	1	0	1	1	1	1	0	14	0	41
135	Coill na Fhaltaigh	Kilkenny	1	1	0	1	2	3	0	2	0	1	1	0	1	1	0	1	15	0	44
136	Rossenarra	Kilkenny	3	1	0	2	2	3	0	0	1	1	1	1	0	1	0	1	17	0	50
137	Knockadrina	Kilkenny	3	2	0	2	2	3	0	3	2	х	0	1	0	0	0	1	19	1	58
138	Castlemorris Demesne	Kilkenny	2	2	0	2	1	3	0	3	0	1	0	1	1	1	0	0	17	0	50
139	Twenty Acres	Wexford	2	1	0	1	0	2	0	0	0	0	1	1	0	1	0	1	10	0	29
141	Johnstown Castle	Wexford	1	1	0	2	1	3	0	0	1	1	1	1	1	1	0	0	14	0	41
145	Ballybrennan House	Wexford	3	1	0	2	1	3	0	0	1	1	1	1	1	1	0	1	17	0	50
147	Ballycross Apple Farm	Wexford	2	1	0	1	2	2	0	0	0	1	0	1	0	0	0	1	11	0	32
148	Ballyfad	Wexford	1	1	1	2	2	3	0	3	2	1	0	1	0	0	0	1	18	0	53
151	Bricketstown House	Wexford	4	2	0	2	1	3	0	3	2	1	0	1	1	1	1	1	23	0	68
153	Ballyvalogue	Wexford	2	1	0	2	0	3	0	0	1	0	0	1	1	1	0	0	12	0	35
154	Ballyboggan Lower	Wexford	4	2	0	2	1	3	1	3	2	1	1	1	1	1	0	1	24	0	71
155	Soldier's Hole	Wexford	2	2	0	2	1	2	0	0	1	1	0	1	0	0	0	1	13	0	38
156	Garryricken North	Kilkenny	4	2	0	2	1	3	0	2	1	1	0	0	0	1	0	0	17	0	50
157	Ballynoe	Carlow	1	1	0	х	х	х	0	0	2	1	1	1	0	1	1	0	9	3	33
158	Altamont	Carlow	2	1	0	2	2	3	0	1	1	0	1	1	0	0	0	0	14	0	41
160	Ballywilliam	Offaly	2	2	0	2	0	3	0	2	1	0	1	0	0	1	0	1	15	0	44
162	Guernal	Offaly	3	1	0	2	0	3	1	0	1	1	0	0	0	1	0	0	13	0	38
163	Tombrick Wood	Wexford	2	1	0	2	0	3	0	0	1	1	0	0	0	0	0	0	10	0	29

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			Ĵ	a ^{t V} . o	We of	SP ne	Nat. of	tai e	oas ble	SY		no	.8	ace of	ogle di	¹⁰ N	der de	⁹ 0'	ical.	o	ing ve ores
Site No.	Woodland Name	County	V250	BINOT	Liche	Rede	Horit	Nativ	Notar	Area	Natur	1840-	Sino	Hydre	Stant	WOOL	COBA	HISTO	SCO	, Nise	o'o 50"
166	Wilton North	Wexford	2	1	0	2	2	3	1	0	1	1	1	1	0	1	0	0	16	0	47
167	Wilton South	Wexford	3	1	0	0	2	3	0	0	2	1	0	0	0	1	0	1	14	0	41
168	Ballinvally Wood	Carlow	2	1	0	2	0	3	0	0	1	0	0	1	1	1	0	0	12	0	35
169	Coonogue Wood	Carlow	1	1	0	2	0	3	0	0	1	1	0	0	1	1	1	0	12	0	35
170	Coolpuck Wood	Wexford	2	1	0	1	1	0	1	3	0	1	0	0	0	1	0	1	12	0	35
172	Ballingarry Wood	Wexford	1	1	0	2	0	2	0	2	1	1	0	1	0	1	0	0	12	0	35
173	Golden Grove	Offaly	3	2	0	0	1	0	0	3	0	1	0	0	0	0	0	1	11	0	32
174	Drumakeenan School	Offaly	2	1	0	2	1	3	0	1	1	1	0	0	0	0	0	1	13	0	38
175	Townparks	Offaly	2	1	2	2	0	3	1	0	1	1	1	1	0	1	0	1	17	0	50
176	Cushcallow	Offaly	4	2	1	2	0	3	1	2	1	1	1	1	1	1	1	1	23	0	68
177	Corclogh	Offaly	1	1	0	2	0	3	0	0	2	1	1	0	1	1	1	0	14	0	41
178	Orchard	Carlow	2	2	0	2	1	3	0	1	2	0	0	1	0	1	1	1	17	0	50
179	Clonogan Wood	Carlow	2	2	0	2	0	3	0	1	1	1	0	1	0	0	1	0	14	0	41
180	Glandoran Upper / Carthy's Wood	Wexford	3	2	0	2	1	3	0	1	1	1	0	1	0	0	1	1	17	0	50
183	Clogrenan Wood	Carlow	3	1	0	0	0	0	0	2	0	1	0	1	0	0	0	0	8	0	24
184	Lisnevagh	Carlow	1	1	0	0	2	1	0	1	1	0	0	0	0	0	0	1	8	0	24
186	Drumgoogle	Kilkenny	2	1	0	0	2	1	0	0	0	1	0	1	0	0	0	0	8	0	24
187	Ballymore Demesne	Wexford	2	1	1	1	0	3	0	0	2	1	1	1	0	1	1	1	16	0	47
189	Wells East	Wexford	1	1	0	1	1	1	0	2	0	1	1	0	0	1	0	1	11	0	32
190	Wells West	Wexford	2	1	0	2	1	1	0	0	0	1	0	1	1	1	0	0	11	0	32
191	Island House	Wexford	2	1	0	1	0	3	0	1	1	1	0	1	1	1	1	1	15	0	44
192	Litterbeg	Wexford	2	1	0	1	1	2	0	1	1	1	0	1	0	1	0	0	12	0	35
197	Milltown	Offaly	2	2	0	1	2	0	0	0	1	1	1	1	0	1	0	1	13	0	38
198	Castletown House (Building Wood)	Kilkenny	1	1	0	1	2	1	0	1	0	1	0	1	0	0	0	0	9	0	26
199	Kilmacow	Kilkenny	2	1	0	2	0	2	0	3	2	х	1	1	0	0	0	0	14	1	42
200	Ballytobin / Ballaghtobin	Kilkenny	3	1	0	2	2	3	0	2	1	1	0	1	0	0	0	1	17	0	50
201	Foulkscourt	Kilkenny	3	1	0	1	1	3	0	2	1	0	0	1	0	0	0	0	13	0	38
203	Coolroebeg	Kilkenny	2	2	0	2	0	3	0	2	1	0	1	1	0	1	1	0	16	0	47
204	Shankill	Kilkenny	4	1	0	2	0	3	0	1	2	1	0	1	0	1	1	1	18	0	53
205	Raheendonore	Kilkenny	2	1	0	1	1	3	0	2	1	0	0	1	0	1	0	0	13	0	38
206	Ballinrush	Carlow	2	1	0	2	0	3	0	1	1	0	0	0	1	0	0	0	11	0	32

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Site No.	Woodland Name	County	V250	BINE	VICI	Reg	Hou	Matt	Note	Arec	Wate	18 ⁴⁰	Sint	440.	Stall	NOU	Cob,	HIST	Sc0	NIST	°/° 2°
208	Crane Bridge	Wexford	2	1	0	1	1	3	0	0	1	1	0	1	1	1	1	1	15	0	44
209	Mackmine Wood	Wexford	3	1	0	2	0	3	0	1	2	х	0	1	1	1	0	1	16	1	48
210	Ballynahillen	Wexford	1	1	0	1	0	3	0	0	1	1	0	0	1	0	1	0	10	0	29
211	Newtown Lower	Wexford	4	2	0	2	2	3	0	2	2	1	1	1	1	1	0	1	23	0	68
213	Seskinamadra	Carlow	2	1	0	1	1	3	1	1	1	0	0	1	0	1	0	0	13	0	38
219	Ballypierce	Carlow	3	1	0	2	0	3	0	2	2	0	0	1	0	1	0	1	16	0	47
221	Kilmacoliver	Kilkenny	2	1	0	2	2	3	0	1	1	0	0	1	0	1	0	0	14	0	41
223	Johnswell	Kilkenny	2	1	0	2	0	3	0	1	2	1	0	1	1	1	0	0	15	0	44
225	Newrath	Kilkenny	3	1	0	2	1	3	0	1	2	1	0	1	1	1	0	1	18	0	53
226	Skehana	Kilkenny	2	2	0	2	0	2	0	1	1	1	0	1	0	0	0	0	12	0	35
227	Lisdowney Wood	Kilkenny	1	1	1	1	1	3	1	2	1	1	0	1	1	1	0	0	16	0	47
228	Crumlin / Tulla	Offaly	2	1	0	0	1	3	0	0	1	0	0	0	0	0	1	0	9	0	26
229	Castle Bernard Demense	Offaly	3	2	0	1	2	2	0	3	0	1	0	1	0	1	0	1	17	0	50
230	Ballymack	Kilkenny	2	1	0	2	1	3	0	1	1	0	0	1	0	0	1	1	14	0	41
234	Monassa	Kilkenny	3	1	0	2	2	3	0	0	1	0	0	0	0	1	0	0	13	0	38
236	Flagmount North	Kilkenny	2	1	0	2	1	3	0	0	1	0	1	0	0	0	0	1	12	0	35
237	Broughal	Offaly	1	1	0	2	0	3	1	2	1	1	1	0	0	1	0	1	15	0	44
238	Barnaboy	Offaly	1	1	0	2	0	3	0	2	1	0	1	0	0	1	0	0	12	0	35
240	Clonmacnoise	Offaly	1	1	0	2	0	3	1	0	1	0	1	1	0	0	0	1	12	0	35
241	Clonassy Wood	Kilkenny	1	1	0	2	0	3	0	2	1	1	0	0	0	0	0	1	12	0	35
242	Grantstown Wood	Laois	4	2	0	1	1	2	1	3	1	0	1	1	1	1	0	0	19	0	56
245	Dunamase Woods	Laois	2	1	0	1	2	1	2	2	1	1	0	0	0	1	0	1	15	0	44
246	Rock of Dunamase	Laois	2	1	0	2	0	3	1	0	2	1	1	0	1	1	1	0	16	0	47
249	Clopook Wood	Laois	2	1	0	2	1	0	1	0	2	1	0	0	0	1	1	0	12	0	35
250	Clopook Valley	Laois	3	2	2	1	1	3	0	0	2	1	1	1	0	1	0	1	19	0	56
251	Timahoe Eskers	Laois	2	2	0	2	0	3	0	2	1	1	0	0	1	1	0	0	15	0	44
252	Clonaslee Eskers	Laois	1	1	0	0	1	3	0	2	1	1	0	0	0	1	1	1	13	0	38
253	Kilteale Hill	Laois	2	1	0	2	0	3	1	2	1	1	0	0	0	1	1	0	15	0	44
254	Knockbawn	Laois	4	3	0	2	0	3	0	2	3	0	1	1	1	1	1	1	23	0	68
255	Morton's Grove	Laois	3	2	0	2	1	3	1	3	2	1	1	1	0	1	0	1	22	0	65
256	Coolnamony	Laois	3	2	1	2	2	3	1	2	1	0	1	1	1	1	0	1	22	0	65

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			الارج	st , ₀ 01	Numer	st ene	10 ¹	ive ive	o'a dle	,	, Na	n. 05	adil	Vol Kolf	19. din	10 at	ou soice	,* .0	ICS.	e i	ing cores
Site No.	Woodland Name	County	V255	BINE	Vich	Reg	Holi	Matti	Note	Arec	Watt	18 ⁴⁰	Sint	440.	Stall	NOU	Cob.	HIST	Sc0	MIST	0/050
257	Capard	Laois	2	2	0	2	0	3	0	0	1	1	1	1	1	1	0	1	16	0	47
258	Brittas	Laois	2	2	0	1	1	1	0	0	1	1	1	1	0	1	0	0	12	0	35
259	Garryhinch Demesne	Laois	4	2	0	1	1	1	2	0	1	1	1	1	0	1	0	1	17	0	50
260	Ballyfin Demesne	Laois	3	2	0	2	2	3	0	2	2	1	1	1	0	1	0	1	21	0	62
262	Rathcoffey	Laois	4	2	0	2	0	3	1	2	1	0	1	1	0	1	0	1	19	0	56
263	Vicarstown	Laois	3	2	1	1	1	3	0	1	2	1	1	1	0	1	1	1	20	0	59
265	Ballhuppahane	Laois	3	2	1	2	1	3	0	1	3	0	1	1	1	0	0	1	20	0	59
266	Cush Upper	Laois	3	1	0	2	0	3	0	1	2	0	1	1	1	1	1	0	17	0	50
268	Cappagh North	Laois	3	1	0	2	0	3	0	1	1	0	1	1	0	1	0	1	15	0	44
269	Glenmalyre Demesne	Laois	2	2	1	2	1	3	0	0	2	1	0	1	0	1	1	1	18	0	53
270	Ballybeg Mill	Wexford	2	2	0	2	0	3	0	0	2	0	1	1	1	1	0	1	16	0	47
273	Barkmill	Laois	3	1	1	2	0	3	0	0	1	0	0	1	0	1	0	1	14	0	41
274	Bughorn	Laois	2	1	0	2	0	3	0	1	2	0	1	1	1	1	0	0	15	0	44
275	Ballina	Laois	1	1	0	2	1	2	0	1	2	0	1	1	0	1	1	1	15	0	44
276	Maidenhead	Laois	3	1	0	2	1	3	0	1	1	1	0	1	0	1	1	1	17	0	50
277	Ashfield	Laois	2	2	1	2	1	1	0	1	2	х	0	1	0	1	0	0	14	1	42
278	Derrykearn	Laois	3	1	1	2	1	3	0	1	1	0	1	1	0	1	0	1	17	0	50
280	Kilcruise	Laois	3	1	0	2	1	3	0	1	1	1	0	1	0	0	1	1	16	0	47
281	Kilkoke	Laois	3	1	0	2	0	3	1	1	1	1	0	1	0	1	1	1	17	0	50
282	Castledurrow Demesne	Laois	3	1	0	2	2	3	1	0	1	1	0	1	0	0	1	0	16	0	47
283	Dunmore Demesne	Laois	2	1	0	2	0	2	0	4	0	1	1	1	0	1	0	0	15	0	44
284	Course Wood	Laois	3	1	0	2	2	1	2	0	1	1	1	1	0	1	1	0	17	0	50
286	Knocknatrina Wood	Laois	3	2	0	2	1	0	1	3	0	1	1	1	0	0	0	0	15	0	44
287	Knockbeg College	Laois	2	1	0	2	1	3	0	0	1	0	0	1	0	1	0	0	12	0	35
289	Crush Wood	Laois	1	1	0	2	0	3	0	0	1	0	0	0	1	1	0	0	10	0	29
290	Warren Hill	Laois	3	1	0	0	2	1	0	2	0	1	0	1	0	0	0	0	11	0	32
294	Scotchrath House	Laois	2	1	0	1	1	1	0	0	0	1	0	0	0	1	0	0	8	0	24
296	Corbally	Laois	2	2	2	2	1	3	0	1	2	1	1	1	0	1	0	1	20	0	59
297	Killeany	Laois	1	2	0	2	1	3	0	1	1	0	1	0	0	1	1	0	14	0	41
300	Ballaghmore Upper	Laois	2	1	0	2	0	2	0	0	1	1	0	1	0	0	0	1	11	0	32
302	Garryricken South	Kilkenny	3	1	0	2	1	3	0	2	2	1	0	0	0	1	0	0	16	0	47

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Site No. Woodland Name County Method 1 0 2 2 3 0 1 1 0 0 1 0 0 1 0 0 1 0 1 0 0 1 0 0 1 0 0 1 0 0 1 <th< th=""><th></th><th></th><th></th><th></th><th>ant</th><th>in jehr</th><th>it dies</th><th>- An</th><th>diver</th><th>are</th><th>cie</th><th>,</th><th>vitats</th><th></th><th>at ha</th><th>, ter</th><th>a sadio</th><th>is</th><th>lat</th><th>o al</th><th>N.</th><th>wes</th></th<>					ant	in jehr	it dies	- An	diver	are	cie	,	vitats		at ha	, ter	a sadio	is	lat	o al	N.	wes
Site No. Woodland Name County yee ^{fer}					at plu,	vie.	sper .	atil	tal .	0 ²⁵⁰	ુકુષ્ટ		hab		acett	ogice	19 ⁶	9ep.	³ /60.	calle		d values
Site AC. Workford 1 1 0 2 2 3 0 1 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 1 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 1 1 0 1	o N		a .	USSCH!	. Nob	i. cher	, "dell	, otizo	, ative	, otabl	100	atura	anos	~ 17 30T	, nglo	andli	· 10004	- oppic	. sto	,	e ise	Scol
Harperstown Wexlord 1 1 0 2 2 2 3 0 0 1 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 0 1 1 0	Site No.	Woodland Name	County	<u></u>	<u>&</u>	<u>v</u>	<u> </u>	***	40	40	<u>8</u>	40	<u></u>	S	<u> </u>	<u>S</u>	~	<u>0</u>	*	<u> </u>	bu.	0/0
304 Gamylough Cower Wexford 2 1 0 2 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 1 1 <td>303</td> <td>Harperstown</td> <td>Wexford</td> <td>1</td> <td>1</td> <td>0</td> <td>2</td> <td>2</td> <td>3</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>15</td> <td>0</td> <td>44</td>	303	Harperstown	Wexford	1	1	0	2	2	3	0	0	1	1	1	1	0	1	0	1	15	0	44
305 Politure Brage Wood WexPord 2 1 0 2 2 3 0 0 1 x 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 0 1 0 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 1 1 0 1 1 0 1 1 0 1 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1<	304	Garrylough Lower	wextord	2	1	0	2	0	3	0	1	1	0	0	1	1	1	0	0	13	0	38
30/ Donore House Wood Laisis 2 1 0 1 1 0 1 1 0 1 1 0 1 1 0 0 1 1 1 0 0 1 1 1 0 1 0 1 1 1 0 1 0 1 1 1 0 1 1 </td <td>305</td> <td>Pollfur Bridge Wood</td> <td>wextord</td> <td>2</td> <td>1</td> <td>0</td> <td>2</td> <td>2</td> <td>3</td> <td>0</td> <td>0</td> <td>1</td> <td>X</td> <td>1</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td>14</td> <td>1</td> <td>42</td>	305	Pollfur Bridge Wood	wextord	2	1	0	2	2	3	0	0	1	X	1	1	0	1	0	0	14	1	42
308 Barleagh Wood Mikenny 1 1 0 2 0 2 0 2 1 1 0 1 1 0 0 13 0 38 309 Emmel West Offaly Carlow 3 1 0 2 2 3 1 1 1 1 1 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 1 0 0 1 0 1 0 1 0 0 1 0 0 1 <t< td=""><td>307</td><td>Donore House Wood</td><td>Laois</td><td>2</td><td>1</td><td>0</td><td>1</td><td>1</td><td>3</td><td>1</td><td>0</td><td>1</td><td>1</td><td>0</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>12</td><td>0</td><td>35</td></t<>	307	Donore House Wood	Laois	2	1	0	1	1	3	1	0	1	1	0	1	0	0	0	0	12	0	35
309 Emmel Mest Oflaly 1 1 0 2 0 0 1 1 0 0 0 0 0 2 26 310 Coolaphuca Carlow 3 1 0 2 0 2 0 0 1 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 1 0 0 1 1 0 2 0 3 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 0 1 0 1 0 0 0 1 0 1 0 0 0 1 0 0	308	Barleagh Wood	Kilkenny	1	1	0	2	0	2	0	2	1	1	0	1	1	1	0	0	13	0	38
310 Coolaphuca Carlow 3 1 0 1	309	Emmel West	Offaly	1	1	0	2	0	2	0	0	1	0	1	1	0	0	0	0	9	0	26
311 Barnadow Wood Wexford 2 2 0 2 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 2 2 2 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 1 0 1 0 1 0 1 0 1 1	310	Coolaphuca	Carlow	3	1	0	2	2	3	1	3	1	1	1	1	0	0	1	1	21	0	62
313 Kilballyskea Bog Offaly 1 1 0 1 0 1 x 1 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 1 0 1 0 1 1 0 1 1 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 0 1 0 0 0 0 0 0 1 0 0 1 0 0 0 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 <td>311</td> <td>Barnadown Wood</td> <td>Wexford</td> <td>2</td> <td>2</td> <td>0</td> <td>2</td> <td>0</td> <td>2</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td>10</td> <td>0</td> <td>29</td>	311	Barnadown Wood	Wexford	2	2	0	2	0	2	0	0	0	1	0	0	0	1	0	0	10	0	29
316 Ballynattin Carlow 3 2 0 2 0 3 0 1 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 0 1 0 1 0 1 0 0 1 0 0 1 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 2 0 0 1 0 1 0 0 1 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1	313	Kilballyskea Bog	Offaly	1	1	0	1	0	3	0	0	1	Х	1	0	0	1	0	1	10	1	30
320 Big Wood (Wexford) Wexford 1 1 0 2 1 2 0 0 1 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 1 0 1 0 1 0 1 0 1 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 0 1 0 0 1 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 1 0 1 0 1 1 0 1 1 0 1 1 0 1 1	316	Ballynattin	Carlow	3	2	0	2	0	3	0	1	1	1	0	1	0	1	1	0	16	0	47
321BrownstownOffaly41020322110110121062322North BrowLaois220203002101011011015044324CloghscreggKilkenny2102031010101111041326Brownstown EastOffaly1102031010000100101103232327Carrhill WoodWexford1100203110100000001001001001001001001011011011011011011011011010101010101101101101111011011011	320	Big Wood (Wexford)	Wexford	1	1	0	2	1	2	0	0	1	1	0	0	0	1	0	0	10	0	29
322 North Brow Laois 2 2 0 3 0 0 2 1 0 1 1 0 15 0 44 324 Cloghscregg Kilkenny 2 1 0 2 0 3 1 0 1 0 1 1 1 14 0 41 326 Brownstown East Offaly 1 1 0 2 0 3 1 0 1 0 1 0 1 0 1 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 1 0 1 0 1 0 1 1 0 1 0 1 0 1 0 1 0 1 1	321	Brownstown	Offaly	4	1	0	2	0	3	2	2	2	1	1	0	1	1	0	1	21	0	62
324 Cloghscregg Kilkenny 2 1 0 2 0 3 1 0 1 0 1 1 1 1 1 0 3 1 0 1 0 1 1 1 1 1 0 2 0 3 1 0 1 0 0 1 0 1 0 1 0 1 0 1 0 1	322	North Brow	Laois	2	2	0	2	0	3	0	0	2	1	0	1	0	1	1	0	15	0	44
326 Brownstown East Offaly 1 1 0 2 0 3 1 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 0 0 0 1 0 0 1 0 0 0 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 1 1 1 0 1 1 <td>324</td> <td>Cloghscregg</td> <td>Kilkenny</td> <td>2</td> <td>1</td> <td>0</td> <td>2</td> <td>0</td> <td>3</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>14</td> <td>0</td> <td>41</td>	324	Cloghscregg	Kilkenny	2	1	0	2	0	3	1	0	1	0	0	1	0	1	1	1	14	0	41
327 Carrhill Wood Wexford 1 1 0 0 1 0 0 0 0 0 0 1 7 0 21 328 Lisheen Offaly 1 1 0 2 0 3 1 1 2 0 1 1 0 0 1 1 0 1 0 1 0 1 1 0 1 1 0 1 0 1 0 1 1 0 1 1 1 0 1 1 1 0 1	326	Brownstown East	Offaly	1	1	0	2	0	3	1	0	1	0	1	0	0	1	0	0	11	0	32
328 Lisheen Offaly 1 1 0 2 0 3 1 1 2 0 1 1 0 0 1 0 1 0 1 0 1 0 14 0 41 329 Clondallow Offaly 2 1 0 2 0 1 1 0 0 1 0 14 0 41 330 Rinn Lough Woods Leitrim 2 3 1 2 1 3 0 3 2 1 1 1 0 1 0 1 0 41 0 41 330 Rinn Lough Woods Leitrim 2 2 0 1 1 1 1 1 1 0 1 1 0 53 331 Ardagh Leitrim 2 2 0 2 1 3 0 2 1 1 1 1 1 1 1 1 1 1 1 1 1	327	Carrhill Wood	Wexford	1	1	0	0	2	0	0	1	0	1	0	0	0	0	0	1	7	0	21
329 Clondallow Offaly 2 1 0 2 0 1 1 0 0 1 0 14 0 41 330 Rinn Lough Woods Leitrim 2 3 1 2 1 3 0 3 2 1 1 0 1 0 14 0 41 330 Ardagh Leitrim 2 2 0 0 2 1 1 1 1 0 1 0 1 17 0 50 332 Buckode Leitrim 2 2 0 1 <td< td=""><td>328</td><td>Lisheen</td><td>Offaly</td><td>1</td><td>1</td><td>0</td><td>2</td><td>0</td><td>3</td><td>1</td><td>1</td><td>2</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>0</td><td>14</td><td>0</td><td>41</td></td<>	328	Lisheen	Offaly	1	1	0	2	0	3	1	1	2	0	1	1	0	0	1	0	14	0	41
330 Rinn Lough Woods Leitrim 2 3 1 2 1 3 0 3 2 1 1 0 1 0 0 21 0 62 331 Ardagh Leitrim 2 2 0 0 2 3 0 2 1 1 1 0 1 0 1 17 0 50 332 Buckode Leitrim 2 2 0 1 1 3 0 2 1 0 1 1 1 18 0 53 333 Stonepark Leitrim 2 2 0 2 1 3 0 2 1 <td< td=""><td>329</td><td>Clondallow</td><td>Offaly</td><td>2</td><td>1</td><td>0</td><td>2</td><td>1</td><td>3</td><td>0</td><td>0</td><td>2</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>0</td><td>14</td><td>0</td><td>41</td></td<>	329	Clondallow	Offaly	2	1	0	2	1	3	0	0	2	0	1	1	0	0	1	0	14	0	41
331ArdaghLeitrim22002302111010117050332BuckodeLeitrim220113021011<	330	Rinn Lough Woods	Leitrim	2	3	1	2	1	3	0	3	2	1	1	1	0	1	0	0	21	0	62
332 Buckode Leitrim 2 2 0 1 1 3 0 2 1 0 1	331	Ardagh	Leitrim	2	2	0	0	2	3	0	2	1	1	1	1	0	1	0	1	17	0	50
333 Stonepark Leitrim 2 2 0 2 1 3 0 2 1 1 1 1 1 0 0 18 0 53 334 Garadice Lough Peninsula Leitrim 4 2 0 2 2 3 1 1 1 1 1 0 0 18 0 62 335 Faslowart Leitrim 2 2 0 2 3 1	332	Buckode	Leitrim	2	2	0	1	1	3	0	2	1	0	1	1	1	1	1	1	18	0	53
334 Garadice Lough Peninsula Leitrim 4 2 0 2 2 3 1	333	Stonepark	Leitrim	2	2	0	2	1	3	0	2	1	1	1	1	1	1	0	0	18	0	53
335 Faslowart Leitrim 2 2 0 2 0 3 2 3 1 1 1 0 1	334	Garadice Lough Peninsula	Leitrim	4	2	0	2	2	3	1	1	1	1	1	1	1	0	0	1	21	0	62
336 Ballard Hill Wicklow 1 2 0 1 2 3 1 2 1 1 1 0 0 0 1 16 0 47 337 Massy's Wood Dublin 2 2 0 0 1 1 0 1 0 1 0 1 0 1 0 1 10 1 0 1 10 1 0 1 10 1 0 1 10 10	335	Faslowart	Leitrim	2	2	0	2	0	3	2	3	1	1	1	0	1	1	1	1	21	0	62
337 Massy's Wood Dublin 2 2 0 1 1 0 3 0 1 1 0 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 1 0 1 1 1 0 1 1 1 0 1 1 1 1 0 1 1 1 0 1 1 1 0 1 1 1 0 1 1 1 1 0 1 1 1 1 1	336	Ballard Hill	Wicklow	1	2	0	1	2	3	1	2	1	1	1	0	0	0	0	1	16	0	47
338 Vale of Clara Wicklow 4 3 0 2 1 3 2 5 2 1 0 0 0 1 25 74 339 O' Deppell's Book Wood Leitrim 2 2 0 2 1 3 1 1 1 0 0 0 1 70 50	337	Massy's Wood	Dublin	2	2	0	0	1	1	0	3	0	1	0	1	0	1	0	1	13	0	38
	338	Vale of Clara	Wicklow	4	3	0	2	1	3	2	5	2	1	0	1	0	0	0	1	25	0	74
	339	O' Donnell's Rock Wood	Leitrim	2	2	0	2	1	3	1	3	1	1	1	0	0	0	0	0	17	0	50
340 Killvgar House Leitrim 4 2 0 1 1 0 1 3 1 1 1 1 0 0 0 1 17 0 50	340	Killvgar House	Leitrim	4	2	0	1	1	0	1	3	1	1	1	1	0	0	0	1	17	0	50
341 Ballard Bridge Wicklow 3 2 0 2 0 3 1 0 1 1 1 1 0 0 0 0 15 0 44	341	Ballard Bridge	Wicklow	3	2	0	2	0	3	1	0	1	1	1	1	0	0	0	0	15	0	44
344 Cappog Cavan 2 2 0 2 1 3 0 2 1 0 0 1 1 1 0 1 17 0 50	344	Cappog	Cavan	2	2	0	2	1	3	0	2	1	0	0	1	1	1	0	1	17	0	50

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Site No	Woodland Name	County	Nasch	aryop	icher	aeget.	Joil	Native	Notab.	Nea	Nature	1840S	C'N 80	. who	citano.	NOOO	Cobbin	Jisto	L cot	e Mise	all' gcu
345	Ballyconnell Demesne	Cavan	4	2	• 0	2	2	3	1	4	3	1	1	1	1	1	0	0	26	0	76
346	Deerpark (Cavan)	Cavan	4	2	1	2	1	3	0	4	1	0	1	1	0	1	0	1	22	0	65
347	Annaghduff	Cavan	2	2	0	0	0	3	0	2	1	0	1	1	1	1	0	0	14	0	41
348	Lismore Demesne	Cavan	1	2	0	2	0	3	0	0	1	0	0	0	1	1	0	0	11	0	32
349	Bellamont Forest	Cavan	4	3	0	1	0	3	0	2	1	1	1	1	0	0	0	1	18	0	53
350	Mullaghahy	Cavan	1	2	0	2	0	3	2	0	1	0	1	0	1	1	0	0	14	0	41
351	Kingscourt Forest Park	Cavan	3	2	0	1	1	2	1	3	0	1	0	1	0	1	0	1	17	0	50
353	Greenaun North	Leitrim	2	2	0	1	0	3	1	2	1	1	1	0	1	1	1	0	17	0	50
355	Treankillew Wood	Leitrim	2	2	0	2	1	3	0	0	1	1	1	1	1	1	0	0	16	0	47
356	Mount Campbell Woods South	Leitrim	2	2	2	2	1	2	0	0	2	0	1	1	1	1	0	1	18	0	53
360	Woodford	Leitrim	1	2	0	1	2	3	0	0	0	1	1	0	0	1	0	0	12	0	35
361	Carrickataeane	Leitrim	3	2	0	2	1	3	1	0	1	0	1	1	1	1	0	1	18	0	53
362	Cloonaquin Wood	Leitrim	1	2	0	2	0	3	0	0	1	1	1	0	0	1	0	0	12	0	35
364	Keelrin	Leitrim	2	2	0	2	1	3	0	2	1	0	1	1	1	1	0	1	18	0	53
365	Mullaghboy South	Leitrim	2	2	0	1	2	3	1	0	2	0	1	1	0	1	1	0	17	0	50
366	Mullaghboy	Leitrim	3	2	0	2	1	3	0	0	1	0	1	1	1	1	0	0	16	0	47
367	Keelrin East	Leitrim	4	2	0	2	1	2	2	1	1	0	1	1	1	1	0	0	19	0	56
371	Conaghil	Leitrim	3	1	1	0	0	0	0	0	1	1	1	1	0	1	0	0	10	0	29
373	Corleck / Derrydamph	Cavan	2	2	0	2	0	3	0	2	1	х	1	1	0	1	1	0	16	1	48
374	Srabraggan	Roscommon	3	1	0	2	0	3	0	0	2	х	1	1	1	1	0	0	15	1	45
379	Roosky Hill	Leitrim	3	3	0	1	1	3	0	1	1	1	1	1	1	1	0	1	19	0	56
381	Killavoggy Wood	Leitrim	3	1	0	0	0	3	0	0	1	0	1	1	0	0	0	0	10	0	29
382	Lavagh Wood	Leitrim	3	2	0	2	0	3	1	0	1	0	1	1	0	0	0	0	14	0	41
386	Glassalt Wood	Leitrim	3	2	0	1	0	3	0	0	1	0	0	1	0	1	0	0	12	0	35
387	Camalt Wood	Leitrim	2	2	0	2	0	3	1	0	1	0	1	1	0	0	1	0	14	0	41
388	Derrycarne Demesne South	Leitrim	4	2	0	2	0	3	2	3	2	1	1	1	1	1	0	1	24	0	71
389	Lough MacHugh Wood	Leitrim	2	2	0	2	0	3	0	0	1	0	1	1	0	1	0	0	13	0	38
390	Aghadrumcarn Wood	Leitrim	1	3	0	1	0	3	0	0	1	0	1	1	0	1	0	0	12	0	35
392	Clooncahir Wood	Leitrim	3	2	0	2	1	2	0	1	1	0	1	0	0	1	1	1	16	0	47
394	Corraleskin Wood	Leitrim	2	2	0	2	0	3	0	1	1	0	1	0	0	0	0	1	13	0	38
396	Summerhouse Wood	Leitrim	2	2	0	2	0	3	0	2	1	1	1	1	1	0	0	0	16	0	47

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Site No.	Woodland Name	County	Vasc	Bryor	Liche	Rede	HOTIL	Nativ	Notar	Area	Natur	18401	SINIO	HYDI	Stant	NOOL	COBA	HISTO	SCO	MISS	s sc
397	Cloone Lough Woods	Leitrim	2	2	0	2	0	3	0	2	1	0	1	1	0	0	0	1	15	0	44
399	Stracummer Woods	Leitrim	2	2	0	2	1	3	0	2	1	0	1	1	1	1	0	1	18	0	53
400	Derrycarne North	Leitrim	1	1	0	2	1	3	0	2	1	1	0	0	0	0	0	0	12	0	35
401	Lough Fea Demense	Monaghan	3	2	0	2	2	2	0	4	0	1	0	0	0	0	0	0	16	0	47
402	Black Lough & Lough Bawn Woods	Monaghan	2	2	1	0	1	3	0	0	1	1	1	1	1	1	0	0	15	0	44
403	Fairfield Demense	Monaghan	4	2	0	1	2	3	0	3	2	1	1	1	1	0	0	1	22	0	65
404	Old Wood	Monaghan	3	1	0	1	1	3	1	1	1	1	1	0	0	1	0	0	15	0	44
406	Nut Wood	Monaghan	3	2	0	2	1	3	0	2	0	1	0	1	0	0	0	1	16	0	47
407	Derryveen Wood	Monaghan	3	3	0	2	0	3	1	2	1	0	0	1	0	1	1	1	19	0	56
408	Drumever Woods	Monaghan	3	2	0	1	1	1	0	2	0	1	0	1	1	1	0	1	15	0	44
409	Drummully	Monaghan	3	1	0	1	0	3	0	2	1	1	0	0	1	1	1	1	16	0	47
410	Derrynashallog	Monaghan	3	2	0	2	1	2	1	1	1	1	0	1	0	1	1	1	18	0	53
411	Dromore West	Monaghan	4	2	0	2	0	3	1	1	1	1	0	1	1	1	1	0	19	0	56
412	Hollywood Lake Wood	Monaghan	4	3	0	2	0	3	0	2	1	1	1	1	0	1	1	1	21	0	62
414	Derrygorry Wood	Monaghan	2	2	0	2	2	3	1	1	1	1	0	0	1	1	0	0	17	0	50
416	Castleshane Demense Woods	Monaghan	2	2	0	1	1	3	2	2	1	1	0	0	1	1	0	0	17	0	50
417	Tully Wood	Longford	3	3	0	2	0	3	0	1	1	0	1	0	0	1	0	0	15	0	44
418	Carrickglass Demense Woods	Longford	4	2	0	1	2	3	0	3	1	1	0	1	0	1	0	1	20	0	59
419	Carrickglass Demense Woods West	Longford	3	3	0	1	2	3	1	3	1	1	0	1	1	1	0	1	22	0	65
421	Derryglogher Wood	Longford	2	2	0	1	1	3	2	2	1	1	1	0	0	1	0	1	18	0	53
422	Kiltyreher Wood	Longford	3	3	0	2	1	3	0	0	1	1	0	1	0	1	0	0	16	0	47
423	Inisfale Wood	Roscommon	4	1	0	0	0	3	0	1	1	1	1	1	1	0	0	0	14	0	41
425	Cormongan	Leitrim	2	1	0	2	0	3	0	0	1	х	1	1	0	0	0	0	11	1	33
426	Derrycarne Shoreline	Leitrim	4	1	0	2	0	3	1	2	1	х	1	1	0	1	0	0	17	1	52
427	Carrickarinn	Leitrim	4	2	0	2	1	3	1	2	2	х	1	1	0	1	0	1	21	1	64
428	Esker North	Leitrim	3	2	0	2	0	3	1	0	1	х	0	0	1	1	0	1	15	1	45
430	Lugmore Glen	Dublin	2	2	0	2	0	3	1	0	1	0	0	1	1	0	1	1	15	0	44
432	Largydonnell Wood	Leitrim	2	2	0	0	1	3	0	1	1	1	1	1	0	0	0	1	14	0	41
438	Black River Woods	Cavan	3	2	0	1	2	3	1	0	2	1	1	1	0	1	1	0	19	0	56
439	Gartbrattan Wood	Cavan	2	2	1	2	1	3	0	2	1	0	1	1	1	1	0	0	18	0	53
443	Knocktemple	Cavan	2	2	0	2	0	3	0	0	1	0	1	1	0	1	0	1	14	0	41

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				olant.	rich	ecies	tion	dive	, calait	oecie.		obitati		onthis	. calle	dead	bris	ollar	, teat	2.	alles
			.3	at v of	Whe at	SP. Ne	Not Lot	ita	bas ble	255	10	nio	6	accul	ogit dif	¹⁰ 84	de dic	уv А	ilcal .	.e. :	ing v ores
Site No.	Woodland Name	County	Vasc	BINOT	Liche	Rede	HOTIL	Watin	Notar	Area	Natur	18405	S.N.O	HNOR	Stand	WOOL	COBA	HISTO	Sco	NISE NISE	o'o Co"
446	Trinity Island Wood	Cavan	4	2	0	2	1	3	1	2	2	0	1	1	0	0	1	0	20	0	59
448	Kilnaglare Lower Wood	Cavan	3	2	1	2	0	3	0	2	1	0	1	1	1	1	1	1	20	0	59
453	Drumgoa Wood	Cavan	2	2	0	2	0	3	0	2	1	0	1	1	0	1	0	0	15	0	44
454	Redhill Demense Wood	Cavan	3	2	0	1	2	2	1	1	0	1	0	1	1	1	0	1	17	0	50
455	Lavey	Cavan	2	2	2	2	0	3	0	0	1	1	1	1	0	0	0	0	15	0	44
456	Crocknahattin	Cavan	1	1	1	1	1	3	0	0	0	1	0	0	0	1	0	0	10	0	29
457	Drumbannan	Cavan	1	1	0	2	0	3	0	0	0	1	0	0	0	0	0	0	8	0	24
458	Lear	Cavan	1	2	0	0	0	3	0	0	0	1	0	0	0	1	0	0	8	0	24
459	Drummora Great Wood	Cavan	1	2	0	2	0	3	0	0	1	0	1	1	1	1	0	1	14	0	41
460	Gortnanoul Wood	Cavan	1	1	0	1	0	1	0	0	0	0	0	0	1	1	0	1	7	0	21
461	Makeif Wood	Cavan	2	2	0	2	0	3	0	0	1	0	1	1	1	1	0	0	14	0	41
463	Derinish More Wood	Cavan	3	1	0	2	1	3	1	0	1	0	1	1	0	1	0	0	15	0	44
465	Annagh Wood West	Cavan	3	3	1	2	0	3	0	1	2	0	0	1	0	1	0	0	17	0	50
466	Stonepark Wood	Cavan	1	1	0	2	1	2	0	1	0	1	0	0	0	1	0	1	11	0	32
467	St John's Wood	Roscommon	4	3	0	2	1	3	3	5	2	1	1	0	0	1	0	1	27	0	79
468	Black Island Wood	Leitrim	4	2	0	2	0	3	1	1	1	1	1	1	0	1	0	1	19	0	56
469	Meenagh Wood	Leitrim	3	2	0	2	1	3	1	1	1	1	1	1	0	1	0	1	19	0	56
470	Mantua House	Roscommon	2	2	0	2	0	2	0	1	0	1	1	1	0	1	0	1	14	0	41
471	Warren Point	Roscommon	2	3	0	2	2	3	0	2	1	1	1	0	0	0	0	0	17	0	50
472	Hughestown Wood	Roscommon	2	2	1	2	2	3	1	2	1	1	1	1	1	1	0	0	21	0	62
474	Danesfort	Roscommon	2	3	2	2	0	3	0	1	1	1	1	1	1	1	0	1	20	0	59
475	Drumcormick Wood	Roscommon	2	2	0	2	1	3	0	2	1	1	1	1	1	1	0	1	19	0	56
476	Drummans Island	Roscommon	1	3	0	2	2	3	0	2	1	1	1	0	1	1	0	0	18	0	53
477	The Quarters	Roscommon	1	2	0	2	0	2	0	2	1	1	1	0	0	0	0	0	12	0	35
478	Cloontykilla Wood	Roscommon	1	2	2	1	2	3	0	1	1	1	1	1	0	1	0	0	17	0	50
479	Knockvicker	Roscommon	3	3	1	1	1	3	0	2	2	0	1	1	1	1	0	1	21	0	62
480	Dooneen	Roscommon	2	2	0	2	0	3	0	2	1	1	1	1	1	1	0	1	18	0	53
481	Caslans Wood	Roscommon	2	2	0	2	2	0	1	2	0	1	0	0	0	0	1	0	13	0	38
482	Kilcloghan	Roscommon	3	3	0	2	0	3	0	1	1	0	1	1	0	1	0	1	17	0	50
483	Cloonsillagh	Roscommon	2	3	1	1	0	3	0	2	2	0	1	1	1	1	0	0	18	0	53
484	Derrymacstur	Roscommon	3	2	0	2	0	3	1	1	1	1	1	1	1	1	0	1	19	0	56

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			J.	atto	Web	SP. ne	10 ¹ .10	1 ¹⁰ . 10	085 1018	2 ⁵¹	10	no	di	acc	ogr. dir	19 . dy	de de	2/Y	il cal	e :	ing v cores
Site No.	Woodland Name	County	V250	Bryor	Viene	Rede	HOTIL	Wally	Noto	Areia	Natur	18AU	SIND	4HQ1	Stan	W001	CODE	HIST	ંદુઈ	N MIS	°/°20
485	Knockranny	Roscommon	2	2	2	2	1	3	0	2	1	1	1	1	0	1	0	0	19	0	56
486	Doon Wood	Roscommon	1	2	2	0	1	3	1	0	1	1	1	1	0	0	0	1	15	0	44
488	Owengallees	Cavan	3	3	0	2	0	3	0	0	1	0	1	0	0	1	0	1	15	0	44
490	Gortnacargy	Cavan	2	3	0	2	0	3	0	0	1	1	1	1	0	0	0	1	15	0	44
493	Clontycarnaghan	Cavan	4	3	0	1	1	2	1	0	1	0	0	1	0	1	0	0	15	0	44
495	Moherreagh	Cavan	3	1	0	2	0	3	0	1	1	х	1	1	0	1	1	0	15	1	45
496	Tonyhamigan	Monaghan	1	1	0	0	2	2	0	0	0	х	0	0	0	0	0	0	6	1	18
497	Newtown Wood	Cavan	2	2	0	2	0	3	0	0	1	х	0	0	1	1	0	0	12	1	36
498	Erne Head	Longford	3	1	0	0	1	2	0	3	1	х	1	0	0	1	0	1	14	1	42
499	Glenfarne Wood	Leitrim	3	2	0	2	0	3	2	1	1	х	1	0	1	1	0	0	17	1	52
500	Tullyguide Lough	Cavan	2	1	0	0	0	3	1	0	1	х	1	1	1	0	0	0	11	1	33
501	Doogarymore	Roscommon	3	2	0	2	0	3	0	0	2	х	0	0	0	1	0	0	13	1	39
502	Killycarney	Cavan	2	2	0	2	0	3	0	0	1	х	1	0	0	0	1	0	12	1	36
503	Doogarymore Bog	Roscommon	1	1	0	2	0	3	0	1	1	х	1	0	0	0	0	0	10	1	30
504	Derrycassin	Longford	3	2	0	2	1	3	0	0	1	х	1	1	0	0	0	0	14	1	42
505	Corry Strand	Leitrim	4	1	0	2	0	3	0	0	1	х	1	1	0	0	0	0	13	1	39
506	Drumdowney	Kilkenny	1	1	х	х	2	3	1	2	х	х	х	х	х	х	х	х	10	10	50
507	Forestaltown	Kilkenny	2	1	х	х	1	3	1	0	х	х	х	х	х	х	х	х	8	10	40
508	Dunganstown	Wexford	2	2	х	х	0	2	0	0	х	х	х	х	х	х	х	х	6	10	30
509	Kearney's Bay	Kilkenny	1	1	х	х	2	1	0	0	х	х	х	х	х	х	х	х	5	10	25
510	Stokestown	Wexford	1	1	х	х	1	1	0	0	х	х	х	х	х	х	х	х	4	10	20
511	Ballyvarney / Fishertown	Wexford	2	1	х	х	2	3	0	0	х	х	х	х	х	х	х	х	8	10	40
512	Poulmaloe	Kilkenny	2	1	х	х	2	0	0	2	х	х	х	х	х	х	х	х	7	10	35
513	Buttermilk Point	Wexford	1	1	х	х	2	2	1	0	х	х	х	х	х	х	х	х	7	10	35
514	Mountgarrett	Wexford	1	1	х	х	2	3	1	1	х	х	х	х	х	х	х	х	9	10	45
515	Kylecorragh	Kilkenny	2	2	х	х	2	3	2	3	х	х	х	х	х	х	х	х	14	10	70
516	Island on the Nore	Kilkenny	1	1	х	х	х	х	2	0	х	х	х	х	х	х	х	х	4	12	
517	Opposite Murphy's of the River	Kilkenny	1	1	х	х	х	х	1	0	х	х	х	х	х	х	х	х	3	12	
518	Murphy's of the River	Kilkenny	2	2	х	х	2	2	0	0	х	х	х	х	х	х	х	х	8	10	40
519	Coolnamuck	Kilkenny	1	1	х	х	2	1	0	0	х	х	х	х	х	х	х	х	5	10	25
520	Coolnamuck 2	Kilkenny	1	1	х	х	х	х	2	0	х	х	х	х	х	х	х	х	4	12	

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Site No.	Woodland Name	County	Vascul	Bryopt	N licher	Regen	HOITO	n Native	Notabl	e drea	Natura	18405	s.nač	Har Hydrolf	standir	Woody	coppic	HISTO	i ^{icu} G ^{ci}	ore Mise	ang score
521	Dysart / Newgrove	Kilkenny	2	2	×	x	2	2	1	0	x	x	x	x	x	x	x	x	9	10	45
522	Woodview	Sligo	1	1	х	х	1	0	0	0	х	х	х	х	х	х	х	х	3	10	15
523	Woodview Gate (Markree)	Sligo	2	1	х	х	2	3	0	0	х	х	х	х	х	х	х	х	8	10	40
524	Gobbadagh (Markree)	Sligo	2	2	х	х	2	3	0	2	х	х	х	х	х	х	х	х	11	10	55
525	Markree Castle (Markree)	Sligo	2	2	х	х	2	3	0	3	х	х	х	х	х	х	х	х	12	10	60
526	Toberscanavan I, (Markree)	Sligo	1	2	х	х	2	3	0	1	х	х	х	х	х	х	х	х	9	10	45
528	Toberscanavan III (Markree)	Sligo	1	1	х	х	1	3	0	0	х	х	х	х	х	х	х	х	6	10	30
529	Coopershill	Sligo	3	2	х	х	2	0	0	0	х	х	х	х	х	х	х	х	7	10	35
530	Bridge (Coopershill)	Sligo	1	1	х	х	2	0	0	0	х	х	х	х	х	х	х	х	4	10	20
531	Ardneeskan (Coopershill)	Sligo	1	1	х	х	2	3	0	0	х	х	х	х	х	х	х	х	7	10	35
532	Isolated Woodland (Coopershill)	Sligo	1	1	х	х	2	0	0	0	х	х	х	х	х	х	х	х	4	10	20
533	Coolbock Bridge	Sligo	1	1	х	х	1	3	0	1	х	х	х	х	х	х	х	х	7	10	35
534	Fidwog	Sligo	3	2	х	х	2	3	0	1	х	х	х	х	х	х	х	х	11	10	55
535	Knocknacross	Sligo	2	2	х	х	2	3	1	0	х	х	х	х	х	х	х	х	10	10	50
536	Ardkeeran	Sligo	2	2	х	х	1	3	0	0	х	х	х	х	х	х	х	х	8	10	40
537	Closkeybridge	Sligo	1	1	х	х	х	х	0	0	х	х	х	х	х	х	х	х	2	12	
538	Doonsheheen	Sligo	1	1	х	х	1	3	0	0	х	х	х	х	х	х	х	х	6	10	18
539	Annagh (Sligo)	Sligo	1	2	х	х	2	3	0	0	х	х	х	х	х	х	х	х	8	10	24
540	Clonguish (Castle Forbes)	Longford	2	2	х	х	2	3	1	3	х	х	х	х	х	х	х	х	13	10	38
541	Ballykenny Wood, (Castle Forbes)	Longford	1	1	х	х	2	3	0	0	х	х	х	х	х	х	х	х	7	10	21
542	Annagh (Castle Forbes)	Longford	2	2	х	х	1	3	1	4	х	х	х	х	х	х	х	х	13	10	38
543	Lissagernal (Castle Forbes)	Longford	1	1	х	х	2	3	0	2	х	х	х	х	х	х	х	х	9	10	26
544	Gubroe (Castle Forbes)	Longford	3	2	х	х	2	3	2	3	х	х	х	х	х	х	х	х	15	10	44
546	Corlehan (Castle Forbes)	Longford	2	1	х	х	2	3	0	1	х	х	х	х	х	х	х	х	9	10	26
547	Cornollen	Longford	1	1	х	х	1	3	0	2	х	х	х	х	х	х	х	х	8	10	24
548	Big Wood (Laois)	Laois	1	1	х	х	х	х	0	0	х	х	х	х	х	х	х	х	2	12	
549	Kylebeg	Laois	1	1	х	х	х	х	0	2	х	х	х	х	х	х	х	х	4	12	
550	Coolcor North	Offaly	2	2	х	х	0	3	0	0	х	0	х	х	х	х	х	х	7	9	33
551	Srah	Offaly	2	2	х	х	0	3	0	0	х	0	х	х	х	х	х	х	7	9	33
552	Woodfield House	Offaly	2	3	х	х	1	3	1	1	х	1	х	х	х	х	х	х	12	9	57
553	Woodfield Bog South	Offaly	1	2	х	х	0	3	0	0	х	1	х	х	х	х	х	х	7	9	33

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				plant	retici	-oecile-	ation	. aldine	2531 3.	gpecte		nabita		centli	dicalit	deat	<i>lebris</i>	polla	altea	-	value- 5
			eculi	ai Job	N. ner	, Si deut	ile ile	nu ive	or sole	ນ້ ເຈົ	TUNO	1, 105	201	at drole	ndir	¹¹⁹ 004	opic	e	NCO.	و چ	ing scores
Site No.	Woodland Name	County	183	80	VIC	663	40.	43.	40.	Pro	HS.	~ ⁶ ″	SN	44	Sto	140	°0`	His	SC	Mis	0/0
554	Toberdaly	Offaly	1	2	х	х	0	2	0	0	х	0	х	х	х	х	х	х	5	9	24
555	Tara	Offaly	2	1	х	х	0	3	0	0	х	0	х	х	х	х	х	х	6	9	29
556	Balleek Beg	Offaly	2	2	х	х	1	3	3	0	х	1	х	х	х	х	х	х	12	9	57
557	Ballynamona	Offaly	1	2	х	х	0	3	2	1	х	0	х	х	х	х	х	х	9	9	43
558	Clonearl Demesne	Offaly	3	2	х	х	0	3	0	0	х	1	х	х	х	х	х	х	9	9	43
559	Killesh	Offaly	2	2	х	х	1	1	1	3	х	1	х	х	х	х	х	х	11	9	52
560	Coole East	Offaly	1	2	х	х	0	3	1	0	х	0	х	х	х	х	х	х	7	9	33
561	Clonlack	Offaly	3	3	х	х	0	3	0	0	х	0	х	х	х	х	х	х	9	9	43
562	Doory NW	Offaly	2	2	х	х	0	3	1	0	х	0	х	х	х	х	х	х	8	9	38
563	Clara Bog (Margin)	Offaly	2	2	х	х	0	3	1	0	х	1	х	х	х	х	х	х	9	9	43
564	Bracklin Big	Offaly	3	3	х	х	0	3	2	0	х	1	х	х	х	х	х	х	12	9	57
565	Fairfield	Offaly	1	2	х	х	0	3	0	0	х	0	х	х	х	х	х	х	6	9	29
566	Derrygrogan Little	Offaly	1	3	х	х	0	3	0	0	х	0	х	х	х	х	х	х	7	9	33
567	Rathdrum	Offaly	2	2	х	х	0	3	0	0	х	0	х	х	х	х	х	х	7	9	33
568	Cavemount	Offaly	1	3	х	х	0	3	0	0	х	0	х	х	х	х	х	х	7	9	33
569	Derryesker / Boley Beg Callows	Offaly	2	3	х	х	0	3	1	0	х	0	х	х	х	х	х	х	9	9	43
570	Ballyduff Wood	Offaly	1	2	х	х	1	3	0	2	х	1	х	х	х	х	х	х	10	9	48
571	Moleen	Offaly	2	2	х	х	0	3	0	0	х	1	х	х	х	х	х	х	8	9	38
572	Tipperary Peat Bog	Offaly	2	2	х	х	0	3	0	0	х	0	х	х	х	х	х	х	7	9	33
573	Ballycommon Grand Canal	Offaly	1	2	х	х	0	3	0	1	х	0	х	х	х	х	х	х	7	9	33
574	Charleville South	Offaly	4	3	х	х	2	3	1	4	х	1	х	х	х	х	х	х	18	9	86
575	Charleville North	Offaly	3	3	х	х	2	3	0	4	х	1	х	х	х	х	х	х	16	9	76
576	Charleville Brookfield	Offaly	2	3	х	х	1	3	0	2	х	1	х	х	х	х	х	х	12	9	57
577	Charleville Killeska	Offaly	3	3	х	х	2	3	1	2	х	1	х	х	х	х	х	х	15	9	71
578	Hand's Wood	Offaly	3	2	х	х	1	3	1	3	х	1	х	х	х	х	х	х	14	9	67
579	Big Wood (East Offalv)	Offaly	3	2	х	х	1	3	1	0	х	1	х	х	х	х	х	х	11	9	52
580	Annagharvey Central	Offaly	2	2	х	х	0	3	0	1	х	0	х	х	х	х	х	х	8	9	38
581	Meelaghans	Offaly	1	2	х	х	0	3	1	1	х	0	х	х	х	х	х	х	8	9	38
582	Hara's Hill	Offaly	1	2	х	х	1	3	1	0	х	1	х	х	х	х	х	х	9	9	43
583	Derrvgolan North	Offaly	1	2	х	х	0	3	1	0	х	0	х	х	х	х	х	х	7	9	33
584	Cloncon	Offaly	2	2	х	х	2	2	1	0	х	0	х	х	х	х	х	х	9	9	43

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				plant	retici	-oecie-	ation	aldine	2531 3.	e pecite		nabitat		cently	dicalit	deau	<i>lebris</i>	polla	a tea		values
			cul	al jop	N' ner	st dene	10 j10	nu ive	oc able	,°'	, ura	11. 105	30	at Hold	ndir	¹⁹ 04	o pic	2\`	ilcia d	N ^e cé	ing cores
Site No.	Woodland Name	County	185	BUN	Vici	4e5	HOI	Mar	Hor	Ares	Mar	18 ¹⁴¹	Sil	440	Star	Nor	COAL	HIST	Scr	Mis	0/05
585	Ballaun Stone	Offaly	1	2	х	х	1	3	1	0	х	0	х	х	х	х	х	х	8	9	38
586	Shanvally	Offaly	1	2	х	х	0	3	1	0	х	0	х	х	х	х	х	х	7	9	33
587	Ross / Shanvally	Offaly	1	3	х	х	0	3	0	0	х	1	х	х	х	х	х	х	8	9	38
588	Derrygolan East	Offaly	3	2	х	х	0	3	0	0	х	0	х	х	х	х	х	х	8	9	38
589	Coolagary	Offaly	1	2	х	х	0	3	0	1	х	0	х	х	х	х	х	х	7	9	33
590	Garbally	Offaly	1	3	х	х	1	0	0	0	х	0	х	х	х	х	х	х	5	9	24
591	Pallas Lough	Offaly	2	2	х	х	0	3	1	0	х	1	х	х	х	х	х	х	9	9	43
592	Killeigh Townland	Offaly	З	3	х	х	0	3	3	0	х	0	х	х	х	х	х	х	12	9	57
593	Graigue North	Offaly	З	3	х	х	0	3	2	0	х	0	х	х	х	х	х	х	11	9	52
594	Graigue South	Offaly	3	2	х	х	0	2	2	0	х	1	х	х	х	х	х	х	10	9	48
595	Derryad South	Offaly	1	2	х	х	0	3	2	0	х	0	х	х	х	х	х	х	8	9	38
596	Derryad NE	Offaly	2	1	х	х	0	3	0	0	х	1	х	х	х	х	х	х	7	9	33
597	Lugamarla South	Offaly	2	2	х	х	0	3	1	0	х	1	х	х	х	х	х	х	9	9	43
598	Annaghmore West	Offaly	1	2	х	х	0	0	0	0	х	1	х	х	х	х	х	х	4	9	19
599	Mount Bolus South	Offaly	1	2	х	х	2	3	0	0	х	0	х	х	х	х	х	х	8	9	38
600	Annaghbrack Glebe	Offaly	1	2	х	х	1	1	0	0	х	0	х	х	х	х	х	х	5	9	24
601	Annaghmore House	Offaly	2	1	х	х	2	0	0	0	х	1	х	х	х	х	х	х	6	9	29
602	Cush Upper NW	Offaly	1	2	х	х	0	3	0	0	х	0	х	х	х	х	х	х	6	9	29
603	Annaghmore / Lough Fen East	Offaly	1	2	х	х	0	3	0	0	х	0	х	х	х	х	х	х	6	9	29
604	Woodenbridge	Offaly	2	2	х	х	0	3	0	0	х	0	х	х	х	х	х	х	7	9	33
605	All Saint's Bog	Offaly	1	2	х	х	1	0	0	2	х	х	х	х	х	х	х	х	6	10	30
606	Clara Bog (Central)	Offaly	1	1	х	х	0	3	0	0	х	х	х	х	х	х	х	х	5	10	25
607	Cloonshanville	Roscommon	1	3	х	х	1	3	0	0	х	х	х	х	х	х	х	х	8	10	40
608	Park Hill	Laois	1	1	х	х	х	х	0	3	х	х	х	х	х	х	х	х	5	12	
610	Tipping Hill	Louth	4	2	0	1	1	2	1	4	0	1	0	1	0	1	0	1	19	0	56
612	Rathscar Lake	Louth	3	1	0	2	2	2	1	2	1	1	0	1	0	1	0	1	18	0	53
613	Cornamucklagh (Louth)	Louth	1	1	0	0	0	1	0	2	0	1	1	0	0	1	0	0	8	0	24
614	Corratober	Cavan	3	2	0	2	0	3	0	2	1	0	1	1	1	1	0	1	18	0	53
617	Garthylough	Cavan	2	2	1	2	0	3	0	0	1	1	1	1	0	1	0	0	15	0	44
618	Enaghan	Longford	3	3	0	2	0	3	0	1	2	0	1	1	0	1	0	1	18	0	53
619	Lisraherty	Longford	3	2	0	2	0	3	0	0	1	0	1	1	0	1	0	0	14	0	41

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Site No.		County	~	<u><u>بې</u></u>	<u> </u>	<u> </u>	**	40	42	<u>P:</u>	42	~~	<u>s</u>	<u>رب</u>	<u></u>	1	<u>0</u>	<u> </u>	<u>5</u>	Un.	0/0 50
620	Skeagn	Louth	2	3 1	1	2	0	3	0	1	2	1	1	1	0	1	0	1	18	0	53
022	Anaverna Cruiestown Wood	Moath	1	1	1	1	2	3	0	0	1	1	1	1	1	1	0	1	10	0	24 50
620		Louth	3	2	1	1	1	3	0	1	0	1	1	1	0	1	0	1	10	0	ວວ 20
629	Fuckslown King William's Glon	Louth	2	1 2	0	2	2	ו ס	0	0	1	1	0	1	0	1	0	1	15	0	30
630		Louth	ა ი	2 1	0	2 1	2	2	0	0	1	1	1	1	0	1	0	1	10	0	44
620	Bevonedalo Bark	Louth	3 0	י ר	0	0	1		0	2	0	1	0	1	0	1	0	0	0	0	47
640	Raverisuale Faik	Louth	2	2	0	2	0	2	0	2	1	0	1	1	0	1	0	1	9 10	0	20 52
642	Weedpele Fox Covert	Meath	2	2	0	ے 1	0	0	0	0	0	0	0	0	0	1	0	0	6	0	19
643	Fortland	Cavan	2	2	0	י 2	1	3	0	0	0	1	1	0	0	1	0	0	13	0	38
645	Crover	Cavan	2	2	1	2	י 1	3	0	0	1	1	1	0	0	1	0	1	17	0	50
647	Garrysallagh	Cavan	3	2	1	2	0	3	1	1	1	0	1	1	0	1	0	0	17	0	50
648	Mulrick	Cavan	4	2	1	2	0	3	1	0	1	0	1	1	0	1	0	0	17	0	50
649	Cornamucklagh (Cayan)	Cavan	т 3	2	0	2	0	3	0	1	1	0	1	1	0	1	0	1	16	0	47
650	Carricknaveddan	Cavan	2	3	1	2	0	1	0	0	1	0	0	1	0	1	0	1	13	0	38
652	Duncollog	Cavan	4	2	0	2	1	3	0	0	1	1	0	1	0	1	0	1	17	0	50
654	Shinan	Cavan	3	2	0	1	1	3	0	1	1	1	1	1	0	1	0	0	16	0	47
655	Darkley	Cavan	3	3	0	1	1	0	0	0	1	1	1	1	1	1	1	0	15	0	44
656	Lisdoagh	Cavan	1	2	0	2	0	3	0	0	1	0	1	1	0	1	0	0	12	0	35
657	Drumlumman	Cavan	2	2	0	2	0	3	0	0	1	0	1	1	0	1	0	0	13	0	38
658	Knockbride	Cavan	2	2	1	0	2	3	0	0	1	0	1	1	1	1	0	0	15	0	44
660	Cullies	Cavan	3	3	1	1	0	3	0	1	2	0	1	1	0	1	0	0	17	0	50
661	Derrynure	Cavan	2	2	1	2	0	3	0	1	1	0	1	0	0	1	0	0	14	0	41
664	Townley Hall	Louth	1	2	1	1	2	2	0	0	0	1	1	1	0	1	0	0	13	0	38
668	Louth Hall	Louth	3	2	1	2	0	2	0	1	1	1	1	1	0	1	0	0	16	0	47
670	Clondalee More	Meath	4	3	0	2	1	3	0	2	3	0	1	1	0	1	0	0	21	0	62
671	Crossantown	Meath	2	2	0	2	1	2	0	1	0	1	0	0	0	1	0	1	13	0	38
672	Castletowncooly	Louth	3	2	0	1	0	3	0	0	1	0	1	1	0	1	0	0	13	0	38
675	Coragh	Cavan	2	2	2	2	0	3	1	1	1	0	1	1	0	1	0	0	17	0	50
676	Cornagee	Cavan	2	1	0	0	0	3	0	0	1	1	0	1	0	1	0	0	10	0	29
678	Carracloghan	Louth	1	2	1	2	0	3	0	0	1	0	0	1	1	1	0	0	13	0	38

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Site No. Woodland Name County Sector Sec				×	at plu .	ye'.	GPE ^E	atile	kal v	2 ²⁵⁰ .e	₆ Q ⁸		hab		aceti ,	dice	19 ⁶	dep. e	80.	calle		d values
Site No. Woodaind Name County V <th>o N</th> <th></th> <th>a .</th> <th>ascul</th> <th>. Nob</th> <th>, cher</th> <th>egen</th> <th>voti20</th> <th>ative</th> <th>votable</th> <th>. Jeo</th> <th>atura</th> <th>ADS</th> <th>~ (1³⁰¹</th> <th>, "quoi</th> <th>andli</th> <th>100014</th> <th>- oppic</th> <th>. Sto</th> <th>Nº cot</th> <th>e isi</th> <th>ing scor</th>	o N		a .	ascul	. Nob	, cher	egen	voti20	ative	votable	. Jeo	atura	ADS	~ (1 ³⁰¹	, "quoi	andli	100014	- oppic	. Sto	Nº cot	e isi	ing scor
679 Collon Louth 3 2 2 1 0 1 1 0 1 0 1 20 0 39 680 Toomes Louth 3 2 1 2 1 0 1 0 1 0 1 0	Site No.	Woodland Name	County	10	<u> </u>	<u>V</u>	Q ⁴⁰	40	40	40	P	LAC.	~~	5	47	S	14	<u>0</u>	411	<u> </u>	<i>bu</i> .	0/0
beside formes Loutin 3 2 1 2 0 3 0 0 1 1 0 1 1 0 1 1 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0	679	Collon	Louth	3	2	2	1	0	3	0	2	2	1	1	1	0	1	0	1	20	0	59
bit Multi M	680	loomes	Louth	3	2	1	2	0	3	0	0	1	0	1	1	0	1	0	0	15	0	44
Bits Philipitorium Dot M D <thd< th=""> <thd< th=""> D</thd<></thd<>	681	Mutt	Louth	2	2	0	2	0	3	0	0	1	0	0	1	1	1	0	0	13	0	38
685 Annagh (Meath) Meath 3 2 0 2 0 0 1 1 0 0 0 1 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 1 0 0 1 0 0 1 0 0	683	Phillipstown	Louth	3	2	0	2	1	0	1	0	0	1	0	1	0	0	0	0	11	0	32
686 Rock Wood Meath 1 3 0 2 0 3 0 0 1 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0	685	Annagh (Meath)	Meath	3	2	0	2	0	0	1	3	1	1	0	0	0	1	0	0	14	0	41
687 Thomastown Bog Meath 2 3 2 2 1 3 0 3 1	686	Rock Wood	Meath	1	3	0	2	0	3	0	0	1	1	0	0	0	1	0	0	12	0	35
688 Grove Island Meath 4 3 2 1 1 1 2 0 1 1 1 1 1 0 0 21 0 62 691 Billis Cavan 3 2 0 1 0 0 1 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 1 1 0 1 1 0 1 1 0 1	687	Thomastown Bog	Meath	2	3	2	2	1	3	0	3	1	1	1	1	1	1	0	0	22	0	65
631 Billis Cavan 3 2 0 2 1 2 0 1 0 1 0 <t< td=""><td>688</td><td>Grove Island</td><td>Meath</td><td>4</td><td>3</td><td>2</td><td>1</td><td>1</td><td>3</td><td>0</td><td>1</td><td>2</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td><td>21</td><td>0</td><td>62</td></t<>	688	Grove Island	Meath	4	3	2	1	1	3	0	1	2	0	1	1	1	1	0	0	21	0	62
633 Beagh Blebe Cavan 2 2 0 1 0 0 1 1 0 1 1 0 1 0 1 1 0 0 1 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 0	691	Billis	Cavan	3	2	0	2	1	2	0	0	1	0	1	0	0	0	0	1	13	0	38
694 Carricknaveagh Cavan 3 3 0 2 0 3 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 <th1< th=""> <th1< th=""> 1</th1<></th1<>	693	Beagh Blebe	Cavan	2	2	0	1	0	3	0	0	1	0	0	1	0	1	0	0	11	0	32
695AnnagharnetCavan2202130010101001001001001001001001001001001001001001100110011001100110011001100110011001100110011100111001110011100111001110011100111001101100110011001100110011001100110011001100110011001100110011001 <td>694</td> <td>Carricknaveagh</td> <td>Cavan</td> <td>3</td> <td>3</td> <td>0</td> <td>2</td> <td>0</td> <td>3</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td>16</td> <td>0</td> <td>47</td>	694	Carricknaveagh	Cavan	3	3	0	2	0	3	1	0	1	0	1	1	0	1	0	0	16	0	47
696 Kill Cavan 1 2 0 2 0 3 0 0 1 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0 1 1 1 1 1 0 1 1 1 1 0 0 1 1 1 1 0 0 1 1 0 1 1 1 0 0 1 1 0 0 1 1 1 0 1 1 1 1 0 1 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1	695	Annagharnet	Cavan	2	2	0	2	1	3	0	0	1	0	1	1	0	1	0	0	14	0	41
698CarriganCavan12020300101010113038699FlemingstownMeath321223232101011 <td< td=""><td>696</td><td>Kill</td><td>Cavan</td><td>1</td><td>2</td><td>0</td><td>2</td><td>0</td><td>3</td><td>0</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>0</td><td>1</td><td>12</td><td>0</td><td>35</td></td<>	696	Kill	Cavan	1	2	0	2	0	3	0	0	1	0	1	0	0	1	0	1	12	0	35
699 Flemingstown Meath 3 2 1 2 2 3 2 1 0 1 0 1 1 1 25 0 74 701 Greenan North Meath 2 3 0 2 1 3 1 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 1 1 0 1 1 0 1 1 0 1 1 0 1 <td>698</td> <td>Carrigan</td> <td>Cavan</td> <td>1</td> <td>2</td> <td>0</td> <td>2</td> <td>0</td> <td>3</td> <td>0</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>13</td> <td>0</td> <td>38</td>	698	Carrigan	Cavan	1	2	0	2	0	3	0	0	1	0	1	1	0	1	0	1	13	0	38
701Greenan NorthMeath23021311100110017050702RahinstownMeath12001302011110017050703Glenmore Fox CovertMeath4102130201110010010017050704Bog WoodsMeath13021302011100100100100140041041705BurtonstownMeath1202030011001001100140014041705BurtonstownMeath330210110110110115044711DerrysheridanMeath21020310110101010101010101010101	699	Flemingstown	Meath	3	2	1	2	2	3	2	3	2	1	0	1	0	1	1	1	25	0	74
702 Rahinstown Meath 1 2 0 1 3 0 2 0 1 1 1 0 0 13 0 38 703 Glenmore Fox Covert Meath 4 1 0 2 1 3 0 2 0 1 1 0 1 0 0 17 0 50 704 Bog Woods Meath 1 2 0 2 0 3 0 1 1 1 0 1 0 0 14 0 41 705 Burtonstown Meath 1 2 0 2 1 0 1 1 0 1 0 1 0 12 0 35 707 Ardsallagh Meath 3 3 0 2 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1	701	Greenan North	Meath	2	3	0	2	1	3	1	1	1	1	0	0	1	1	0	0	17	0	50
703 Glenmore Fox Covert Meath 4 1 0 2 1 3 0 2 0 1 1 0 1 0 0 17 0 50 704 Bog Woods Meath 1 3 0 2 0 3 0 0 1 1 1 0 1 0 14 0 41 705 Burtonstown Meath 1 2 0 2 0 3 0 0 1 1 0 1 0 0 12 0 35 707 Ardsallagh Meath 3 3 0 2 1 0 1 1 0 0 1 1 0 0 1 15 0 44 711 Derrysheridan Meath 2 1 0 2 1 0 1 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1	702	Rahinstown	Meath	1	2	0	0	1	3	0	2	0	1	0	1	1	1	0	0	13	0	38
704 Bog Woods Meath 1 3 0 2 0 3 0 0 1 1 0 1 0 0 14 0 41 705 Burtonstown Meath 1 2 0 2 0 3 0 0 1 1 0 1 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1	703	Glenmore Fox Covert	Meath	4	1	0	2	1	3	0	2	0	1	1	1	0	1	0	0	17	0	50
705 Burtonstown Meath 1 2 0 2 0 3 0 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 0	704	Bog Woods	Meath	1	3	0	2	0	3	0	0	1	1	1	1	0	1	0	0	14	0	41
707 Ardsallagh Meath 3 3 0 2 1 0 1 1 1 0 1 15 0 44 711 Derrysheridan Meath 3 1 0 2 0 3 1 0 2 1 1 1 0 1 15 0 44 711 Derrysheridan Meath 3 1 0 2 0 3 1 0 2 1 1 0 1 0 0 16 0 47 713 Drive Wood Meath 2 1 0 2 0 3 0 0 0 1 0 1 0 10 0 10 0 29 715 Balrath Meath 2 2 0 2 2 1 0 1 1 0 1 10 1 10 1 10 1 10 1 16 0 47 718 Brittas (Meath) Meath <td>705</td> <td>Burtonstown</td> <td>Meath</td> <td>1</td> <td>2</td> <td>0</td> <td>2</td> <td>0</td> <td>3</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td>12</td> <td>0</td> <td>35</td>	705	Burtonstown	Meath	1	2	0	2	0	3	0	0	1	1	0	1	0	1	0	0	12	0	35
711 Derrysheridan Meath 3 1 0 2 0 3 1 0 2 1 1 1 0 1 0 0 16 0 47 713 Drive Wood Meath 2 1 0 2 0 3 0 0 0 0 0 1 0 0 16 0 47 713 Drive Wood Meath 2 1 0 2 0 3 0 0 0 1 0 0 10 0 29 715 Balrath Meath 2 2 0 2 2 1 0 1 1 0 1 20 0 59 718 Birdhill Meath 2 2 0 2 1 1 1 0 1 0 1 16 0 47 724 Britas (Meath) Meath 2 2 0 2 0 1 1 1 0 1 <td< td=""><td>707</td><td>Ardsallagh</td><td>Meath</td><td>3</td><td>3</td><td>0</td><td>2</td><td>1</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>0</td><td>1</td><td>15</td><td>0</td><td>44</td></td<>	707	Ardsallagh	Meath	3	3	0	2	1	0	1	1	0	0	0	1	1	1	0	1	15	0	44
713 Drive Wood Meath 2 1 0 2 0 3 0 0 1 0 0 1 0 0 10 0 29 715 Balrath Meath 2 2 0 2 2 3 0 2 2 1 0 1 1 0 1 20 0 59 718 Birdhill Meath 3 2 0 1 1 1 0 1 16 0 47 724 Brittas (Meath) Meath 2 2 0 2 1 1 1 0 1 16 0 47 724 Brittas (Meath) Meath 2 2 0 2 1 1 1 0 1 0 15 0 44 726 Knightstown Meath 3 3 2 2 1 3 0 1 0 1 0 0 15 0 59 707 Outpex	711	Derrysheridan	Meath	3	1	0	2	0	3	1	0	2	1	1	1	0	1	0	0	16	0	47
715 Balrath Meath 2 2 0 2 2 3 0 2 2 1 0 1 1 0 1 20 0 59 718 Birdhill Meath 3 2 0 1 1 3 0 1 1 0 1 20 0 59 724 Brittas (Meath) Meath 2 2 0 2 1 1 1 0 1 0 1 16 0 47 724 Brittas (Meath) Meath 2 2 0 2 1 1 1 1 0 1 0 1 0 15 0 44 726 Knightstown Meath 3 3 2 2 1 3 0 1 2 1 0 1 0 0 0 59 707 Outpetstown Meath 3 3 2 2 1 3 0 1 2 1 0	713	Drive Wood	Meath	2	1	0	2	0	3	0	0	0	1	0	0	0	1	0	0	10	0	29
718 Birdhill Meath 3 2 0 1 1 3 0 1 1 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 1 0 1 0 1 1 0 1 0 1 1 0 1 0 1 1 0 1 0 1 1 0 1 0 1 1 0	715	Balrath	Meath	2	2	0	2	2	3	0	2	2	1	0	1	1	1	0	1	20	0	59
724 Brittas (Meath) Meath 2 2 0 2 1 2 0 2 1 1 0 1 0 1 0 15 0 44 726 Knightstown Meath 3 3 2 2 1 3 0 1 2 1 0 1 0 0 15 0 44 726 Knightstown Meath 3 3 2 2 1 3 0 1 2 1 0 1 0 0 20 0 59 707 Outcomer Wand Longford 0 0 0 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 0 20 0 59 1	718	Birdhill	Meath	3	2	0	1	1	3	0	1	1	1	0	1	0	1	0	1	16	0	47
726 Knightstown Meath 3 3 2 2 1 3 0 1 2 1 0 1 0 0 20 0 59 707 Outperson Wood Longford 0 0 1 0 1 0 1 0 0 20 0 59	724	Brittas (Meath)	Meath	2	2	0	2	1	2	0	2	0	1	1	1	0	1	0	0	15	0	44
	726	Knightstown	Meath	3	3	2	2	1	3	0	1	2	1	0	1	0	1	0	0	20	0	59
727 Guinagore wood Longiora 3 3 1 2 2 3 0 3 1 1 1 1 1 1 1 25 0 74	727	Culnagore Wood	Longford	3	3	1	2	2	3	0	3	1	1	1	1	1	1	1	1	25	0	74
728 Coolamber Longford 2 2 0 1 2 3 0 1 1 0 1 1 0 0 0 1 15 0 44	728	Coolamber	Longford	2	2	0	1	2	3	0	1	1	0	1	1	0	0	0	1	15	0	44
729 White Sand Wood Longford 2 3 0 2 0 3 2 2 1 0 1 0 1 1 0 1 19 0 56	729	White Sand Wood	Longford	2	3	0	2	0	3	2	2	1	0	1	0	1	1	0	1	19	0	56
730 Clonbroney Longford 2 3 1 2 0 3 0 0 1 0 1 1 1 1 0 1 17 0 50	730	Clonbroney	Longford	2	3	1	2	0	3	0	0	1	0	1	1	1	1	0	1	17	0	50

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Site No.	Woodland Name	County	Vasc	BINOT	Liche	Rede	Horit	Nativ	Notar	Area	Natur	18405	S.Nº	Hydre	Stand	WOOL	COBA	HISTO	SCO	MISE	s
731	Windmill Wood	Longford	3	3	1	2	1	3	1	1	1	0	1	1	1	1	0	1	21	0	62
732	Abbeyderg	Longford	3	3	0	2	0	3	2	2	2	0	1	0	0	0	0	0	18	0	53
733	Corrabola	Longford	3	3	0	2	1	3	0	2	2	1	0	1	0	0	1	1	20	0	59
734	Lislea	Longford	3	3	0	0	0	3	0	1	1	0	1	1	0	0	0	1	14	0	41
735	Larkfield	Longford	4	3	0	2	0	3	0	1	1	1	1	1	0	0	0	0	17	0	50
736	Cleraun	Longford	4	3	2	2	1	0	0	1	2	0	1	1	1	1	0	1	20	0	59
737	Newcastle West	Longford	1	2	0	0	1	1	0	1	0	1	1	0	0	1	0	0	9	0	26
738	Greenan South	Meath	2	3	0	2	0	3	1	0	2	1	0	1	1	1	0	0	17	0	50
742	Isaacstown North	Meath	2	2	1	2	0	3	0	0	1	0	0	1	0	1	0	0	13	0	38
743	Isaacstown South	Meath	2	2	0	2	2	1	0	1	1	0	0	0	0	1	0	1	13	0	38
745	Jamestown	Meath	2	3	0	1	0	3	0	1	1	0	1	1	1	1	0	0	15	0	44
746	Baltynanima	Wicklow	4	3	2	1	2	3	0	4	3	1	1	1	1	1	0	1	28	0	82
747	Breakey	Meath	2	3	1	2	0	3	0	2	1	0	1	1	0	1	0	0	17	0	50
748	Molerick	Meath	3	2	0	2	1	3	0	1	2	0	1	1	0	1	0	1	18	0	53
749	Tomnafinnoge	Wicklow	4	2	0	1	2	3	0	4	1	1	1	1	0	0	1	1	22	0	65
750	Newcastle East	Longford	1	2	0	2	1	2	0	1	0	1	1	0	0	1	0	0	12	0	35
751	Newcastle South	Longford	1	2	0	2	1	1	0	1	0	1	0	0	0	0	0	0	9	0	26
752	Yellow Island	Meath	3	1	1	2	0	0	0	2	1	0	1	1	0	1	0	0	13	0	38
753	Tree Island	Meath	2	2	2	1	0	3	0	0	1	1	1	1	0	1	0	0	15	0	44
756	Summerhill Demesne	Meath	1	2	0	1	1	1	0	0	1	1	0	0	0	1	1	1	11	0	32
757	Ballymurphy	Meath	1	1	2	2	1	3	0	0	0	0	0	0	0	0	0	1	11	0	32
760	Harristown (Meath)	Meath	1	1	0	2	1	3	0	0	1	0	0	0	1	1	0	0	11	0	32
762	Summerhill Lower	Meath	2	2	0	2	1	3	0	0	1	0	0	0	0	1	0	1	13	0	38
763	Milltown Glen	Meath	3	2	0	1	0	3	2	1	1	1	0	1	1	1	0	0	17	0	50
765	Newcastle	Meath	3	2	2	1	0	3	0	0	1	0	1	1	0	1	0	0	15	0	44
766	Drumard	Longford	2	3	0	2	0	3	0	1	1	0	1	1	0	1	0	1	16	0	47
767	Kiltyclogh	Longford	2	3	0	0	2	2	1	1	1	1	1	1	1	1	0	0	17	0	50
768	Forgney	Longford	2	2	0	1	1	3	0	1	1	0	1	1	0	1	0	0	14	0	41
769	Kilcommock Glebe	Longford	2	2	0	2	1	3	1	1	1	1	0	0	0	0	0	0	14	0	41
770	Glenmore	Longford	2	2	0	2	0	3	0	1	1	0	1	0	0	1	0	0	13	0	38
771	Golaroe	Longford	4	3	2	2	0	3	1	1	2	1	1	1	0	1	0	0	22	0	65

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Site No.	Woodland Name	County	10	<u> </u>	<u>v</u>	<u> </u>	***	40	40	4	40	~~	<u>S</u>	<u> </u>	<u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>	4	<u> </u>	*	<u> </u>	Un.	0/0
773	Kiltyrener North	Longford	3	2	0	2	0	3	0	0	1	1	1	0	0	1	1	1	16	0	47
774	Cornanoo	Longiora	2	3	0	2	0	3	0	0	1	0	1	0	0	1	0	1	14	0	41
775	Derrybawn	Wicklow	2	2	1	1	2	3	0	4	1	1	1	1	0	0	0	1	20	0	59
//6	Castlehoward	VVICKIOW	3	3	1	2	2	2	3	3	1	1	1	1	0	0	0	1	24	0	71
777	Glen of the Downs	WICKIOW	4	3	0	2	1	3	2	4	2	1	1	1	1	0	0	1	26	0	76
779	Shelton Abbey North	WICKIOW	4	3	0	0	2	3	0	3	2	1	1	1	1	0	0	0	21	0	62
780	Luggala Lodge	Wicklow	2	3	1	0	1	3	0	3	1	1	1	1	1	0	0	1	19	0	56
781	The Devil's Glen	Wicklow	4	3	0	2	1	3	3	3	2	1	1	1	0	0	0	1	25	0	74
783	Deputy's Pass	Wicklow	4	3	0	2	1	3	3	3	1	1	1	1	0	1	0	1	25	0	74
784	Oldboleys	Wicklow	2	3	0	1	0	3	0	3	1	1	1	1	0	1	1	1	19	0	56
785	Castlekevin	Wicklow	3	3	1	0	1	3	0	3	2	1	1	1	0	0	0	1	20	0	59
786	The Giants Cut & Lugduff	Wicklow	3	3	2	2	2	3	1	3	1	1	1	1	0	0	0	1	24	0	71
789	Knocksink	Wicklow	4	3	0	2	2	3	3	3	2	1	1	1	0	0	0	0	25	0	74
791	Kilmacrea Wood	Wicklow	2	3	0	1	0	3	3	2	1	1	1	0	0	0	0	1	18	0	53
792	Powerscourt Demesne North	Wicklow	2	2	0	1	1	1	0	1	0	1	0	1	0	1	0	1	12	0	35
793	Altidore Demesne	Wicklow	4	3	0	0	2	3	0	2	2	1	1	1	0	0	0	1	20	0	59
796	Ballyarthur	Wicklow	1	2	0	2	2	3	0	0	1	1	0	0	1	0	0	0	13	0	38
798	Kiltimon	Wicklow	3	2	0	0	1	3	1	1	0	1	0	1	0	0	0	0	13	0	38
799	Ballinagee Wood	Wicklow	1	2	0	0	1	3	0	0	1	0	1	1	0	1	0	0	11	0	32
800	Powerscourt Demense South	Wicklow	3	2	0	2	0	3	1	1	0	1	1	1	0	1	1	0	17	0	50
801	Brockagh	Wicklow	1	3	0	2	0	2	0	1	0	1	1	1	0	0	0	0	12	0	35
802	Ballinanty	Wicklow	4	3	1	2	0	3	1	2	3	1	1	1	0	0	0	1	23	0	68
805	Drumbaun	Longford	2	3	1	2	1	1	0	0	1	0	1	1	1	1	0	1	16	0	47
806	Kiltycreevagh	Longford	1	2	0	2	0	3	0	0	1	0	1	0	1	1	0	1	13	0	38
807	Cashel	Longford	2	3	2	1	1	2	1	0	1	1	1	0	0	1	1	0	17	0	50
808	Grillagh	Longford	4	2	2	2	0	3	1	0	2	1	1	1	1	0	1	0	21	0	62
809	Drumury	Longford	3	3	0	2	0	3	0	0	0	0	1	1	1	1	0	0	15	0	44
810	Lehery	Longford	1	2	0	1	1	3	0	0	1	0	1	0	1	1	0	0	12	0	35
811	Coolnahinch	Longford	4	2	0	2	0	3	2	0	2	0	1	1	0	1	1	1	20	0	59
814	Cronroe	Wicklow	4	3	1	1	2	3	1	1	2	1	0	1	0	0	1	1	22	0	65
815	Kilmacanoge South	Wicklow	4	2	0	1	0	3	0	1	1	0	1	1	1	1	0	0	16	0	47

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Site No.	Woodland Name	County	1.0	\$ `'	VIE .	₹ ₽	40	40	40	PI	40	^°	<i>S</i> .	479	St	14.	CO.	HI.	୫୦	Nu	0/0
818	Ballymacsimon	Wicklow	2	3	0	1	2	3	1	1	1	1	1	0	0	0	0	0	16	0	47
819	Brockagh South	Wicklow	2	3	1	2	2	3	0	1	1	1	1	0	0	1	0	0	18	0	53
820	Barnbawn	Wicklow	1	2	0	0	1	3	1	1	1	1	1	0	1	1	0	0	14	0	41
821	Ballyboy	Wicklow	2	3	2	2	1	3	0	3	1	1	1	1	0	0	0	0	20	0	59
822	Ballyross Wood	Wicklow	2	2	0	1	2	3	0	1	2	0	1	1	1	1	1	1	19	0	56
826	Newtownmountkennedy Demesne	Wicklow	2	2	0	0	1	3	0	0	1	1	0	1	0	0	0	1	12	0	35
827	Glenwood	Wicklow	2	3	0	0	1	2	1	0	1	1	1	1	1	0	0	0	14	0	41
828	Ballyman Glen	Wicklow	3	2	0	1	1	3	1	1	2	0	0	1	1	1	0	0	17	0	50
829	Ballycurragh	Wicklow	2	3	0	2	1	2	0	0	1	1	0	1	0	1	0	0	14	0	41
830	Coolballintaggart	Wicklow	2	3	1	0	1	3	0	0	1	1	0	0	0	1	1	1	15	0	44
831	Coolattin	Wicklow	1	3	0	1	0	3	0	0	1	0	0	0	0	0	0	0	9	0	26
833	Hollywood Demesne	Wicklow	2	2	0	0	2	1	0	0	0	1	1	0	0	0	0	0	9	0	26
834	Poulaphuca Bridge	Wicklow	2	2	0	2	1	1	0	1	1	1	1	1	0	1	1	0	15	0	44
835	Mount Jessop	Longford	2	3	0	1	0	3	0	0	1	0	1	1	1	1	0	1	15	0	44
837	Derrydaragh	Longford	3	2	1	2	0	0	0	0	1	0	1	1	1	1	0	1	14	0	41
838	Dunbeggan	Longford	3	2	2	2	0	3	0	0	1	0	1	1	0	1	0	0	16	0	47
840	Hazel Wood	Monaghan	2	2	0	2	1	3	1	2	1	1	0	1	1	1	0	1	19	0	56
842	Derrynanamph	Monaghan	2	2	0	2	0	3	0	1	1	0	1	1	0	1	0	1	15	0	44
846	Corlat	Monaghan	2	2	1	2	2	3	0	1	1	1	1	1	0	1	0	0	18	0	53
848	Island Bridge	Monaghan	2	2	1	1	1	3	0	0	1	1	1	1	1	1	0	0	16	0	47
849	Corrybrackan	Monaghan	3	2	1	2	0	3	0	1	1	0	0	0	1	1	1	1	17	0	50
852	Tullyglass	Monaghan	3	2	1	2	1	3	0	1	1	0	1	0	0	1	0	1	17	0	50
853	Annamarron	Monaghan	4	3	1	2	0	3	0	1	3	0	0	1	0	1	0	0	19	0	56
854	Kilmore West	Monaghan	3	2	0	2	0	3	0	1	1	0	1	1	1	1	0	1	17	0	50
856	Clohoge	Monaghan	3	2	1	1	1	3	0	1	2	0	1	1	0	1	0	1	18	0	53
858	Graffagh	Monaghan	3	3	1	2	1	3	1	1	2	1	0	1	0	1	0	0	20	0	59
860	Reduff	Monaghan	4	2	0	2	1	3	0	1	2	1	0	1	0	1	0	1	19	0	56
861	Killygally	Monaghan	2	2	0	2	0	3	2	0	2	0	1	0	0	1	0	0	15	0	44
862	Annahaia	Monaghan	2	2	0	2	1	3	1	0	1	0	0	0	0	1	1	0	14	0	41
864	Back Wood	Monaghan	3	2	0	0	2	1	1	0	1	1	0	0	0	1	0	1	13	0	38
865	Lutrellstown	Dublin	4	2	0	2	1	3	3	3	0	1	0	0	0	0	0	0	19	0	56

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Site No.	Woodland Name	County	Vasc	Bryor	Liche	Rege	Horit	Nativ	Notar	Area	Watun	18405	Sind	Hydre	Stand	WOOL	COPR	HISTO	່ _ເ ເດ	NIS NIS	o/o 50°
866	Brooklawn Wood	Dublin	2	1	0	1	1	2	2	0	0	1	1	0	0	0	0	0	11	0	32
868	Drumillard Big	Monaghan	2	2	1	0	0	3	0	0	1	0	1	1	1	1	0	0	13	0	38
870	Coolawinnia	Wicklow	3	2	0	1	0	3	0	0	1	0	1	1	1	1	0	0	14	0	41
871	Blackditch	Wicklow	4	2	0	2	0	3	0	2	1	1	1	1	1	1	0	1	20	0	59
872	Seabank	Wicklow	3	2	0	1	1	3	0	0	1	1	1	1	0	1	0	0	15	0	44
874	Hollywood Glen	Wicklow	2	2	0	2	1	3	2	0	1	0	0	1	0	1	1	0	16	0	47
875	Glennashouk	Wicklow	3	2	0	2	1	3	0	1	1	0	0	1	0	1	0	1	16	0	47
876	Roundwood	Wicklow	2	2	0	0	1	3	0	1	1	1	1	0	1	1	0	1	15	0	44
881	Howth Demesne	Dublin	2	1	0	1	2	0	0	2	1	1	1	1	0	0	0	1	13	0	38
883	Santry Demesne	Dublin	2	1	0	2	2	1	0	1	0	1	1	1	0	1	0	0	13	0	38
884	Glenasmole Valley	Dublin	4	3	0	2	1	3	3	3	3	0	1	1	1	1	0	0	26	0	76
888	Kilquade	Wicklow	3	3	0	2	0	3	0	1	1	0	0	1	0	0	0	1	15	0	44
892	Clonkeen	Wicklow	2	3	1	2	0	2	0	0	1	0	1	1	0	0	0	1	14	0	41
894	Ballyward	Wicklow	2	2	0	2	0	2	0	2	1	0	1	1	0	0	0	0	13	0	38
895	Deerpark (Wicklow)	Wicklow	1	2	0	2	0	1	0	2	0	1	0	0	0	1	1	0	11	0	32
896	Rathsallagh Demense	Wicklow	3	2	0	0	2	1	0	0	0	1	1	1	0	1	0	1	13	0	38
899	Askakeagh	Wicklow	3	3	2	2	1	3	0	2	2	1	1	1	0	1	0	1	23	0	68
902	Mungacullin	Wicklow	3	3	0	2	0	3	0	0	1	0	0	1	0	1	0	0	14	0	41
903	Laragh	Wicklow	2	2	0	2	1	3	0	1	1	0	1	1	0	1	0	0	15	0	44
904	Cronelea	Wicklow	3	2	0	2	1	3	0	0	1	0	0	1	0	0	0	1	14	0	41
906	Knockraheen	Wicklow	2	2	1	0	1	3	0	0	1	0	1	1	0	0	0	0	12	0	35
907	Coolkenna	Wicklow	2	2	0	2	0	3	0	0	1	0	0	1	0	0	0	0	11	0	32
908	Money Upper East	Wicklow	3	3	0	2	1	3	0	1	2	0	1	1	0	1	0	1	19	0	56
909	Money Upper West	Wicklow	1	2	0	2	1	3	0	0	1	1	0	0	0	1	0	0	12	0	35
910	Kilruddery Deerpark	Wicklow	2	2	1	1	1	3	0	1	1	1	0	1	0	0	0	1	15	0	44
914	Ballinagee	Wicklow	3	3	0	0	2	3	1	1	1	1	0	1	0	0	1	0	17	0	50
915	Malahide Demesne	Dublin	1	1	0	2	1	2	0	1	0	1	0	0	0	1	0	0	10	0	29
916	Newbridge Demesne	Dublin	1	1	0	2	2	3	0	2	0	1	0	0	0	1	0	1	14	0	41
917	Pumphouse Wood	Dublin	2	1	0	1	2	1	0	0	0	1	0	0	0	1	0	1	10	0	29
918	Loughlinstown Wood	Dublin	3	1	0	2	2	3	0	0	2	1	0	1	1	0	0	1	17	0	50
919	Fitzsimons Wood	Dublin	2	1	0	2	1	3	0	1	2	1	1	1	0	0	0	0	15	0	44

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			الان	³¹	Wr er	St ene	¹⁰ 10	ive we	o'an able	, 	. No	n. OS	adi	ac , rol	19. din	10 ay	ou oic	ہم م	ICS.	e i	ing cores
Site No.	Woodland Name	County	V250	BINE	VICI	Reg	Hou	Mall	Note	Arec	Natu	1840	SIN	440.	Stall	NOU	cob,	HIST	Sco	MIST	°/°
921	Brackenstown Wood	Dublin	2	1	0	1	1	1	0	0	0	1	0	1	0	1	0	0	9	0	26
922	Dunganstown West	Wicklow	4	3	0	2	1	3	1	2	2	1	0	1	0	1	0	1	22	0	65
923	Ballard Lower	Wicklow	2	2	0	1	2	3	0	0	1	1	0	1	0	0	0	1	14	0	41
924	Kelshabeg	Wicklow	2	2	0	1	2	3	0	1	1	0	1	0	0	0	1	1	15	0	44
925	Crooksling Glen	Dublin	2	2	0	1	1	1	0	1	0	1	1	1	0	1	0	0	12	0	35
927	Donadea Forest Park	Kildare	3	2	1	2	2	2	0	4	0	1	1	1	0	1	0	1	21	0	62
930	Blackwood	Dublin	2	1	0	1	2	1	0	0	0	1	0	0	1	1	0	0	10	0	29
931	Balcarrick	Dublin	2	1	0	2	1	0	0	0	0	1	0	0	0	1	0	0	8	0	24
934	Rush Demesne	Dublin	3	1	0	0	1	0	0	0	0	1	0	1	0	0	0	0	7	0	21
935	Bray Head Woodland	Wicklow	3	2	0	2	1	2	0	0	0	1	1	1	1	1	0	1	16	0	47
938	Carton Demense	Kildare	4	2	0	1	2	1	0	3	1	1	1	1	1	1	0	1	20	0	59
939	Kilteel Wood	Kildare	1	2	0	0	1	2	0	0	1	1	1	0	0	0	1	1	11	0	32
942	Carbury Wood	Kildare	3	3	0	2	1	3	0	1	1	0	1	0	1	1	0	1	18	0	53
943	Templelyon Lower	Wicklow	3	3	0	2	0	3	0	0	0	0	0	1	1	1	0	1	15	0	44
944	Templelyon Upper	Wicklow	2	2	0	2	2	3	0	0	1	1	0	0	0	0	0	0	13	0	38
947	Russellswood	Kildare	3	2	0	0	1	2	0	3	0	1	0	0	0	1	0	0	13	0	38
948	Rahin Wood (Kildare)	Kildare	3	2	0	2	1	3	0	2	0	1	1	1	0	0	0	1	17	0	50
951	Kilcarra West	Wicklow	3	3	2	2	2	3	1	3	3	1	1	1	0	1	0	1	27	0	79
952	Avondale	Wicklow	2	3	0	2	1	1	0	0	1	1	0	1	0	0	0	1	13	0	38
955	Graigue	Wicklow	2	2	0	2	0	3	0	0	1	0	0	1	0	1	0	1	13	0	38
956	Fiddancoyle	Wicklow	2	2	0	2	1	3	0	1	1	0	0	1	0	0	0	1	14	0	41
961	Knockloe	Wicklow	1	2	0	0	1	1	0	0	1	1	1	0	0	0	1	0	9	0	26
963	Killinthomas Wood	Kildare	3	2	0	0	0	3	0	3	0	1	1	0	0	1	0	1	15	0	44
966	Ballymore Eustace	Kildare	3	1	0	1	1	1	0	1	0	1	0	0	1	0	0	0	10	0	29
967	Mullaghreelan Wood	Kildare	2	2	0	1	0	2	0	1	0	0	1	0	0	0	0	0	9	0	26
968	Drehid Wood	Kildare	2	3	0	2	1	3	0	2	2	0	1	0	1	1	0	1	19	0	56
970	Pluckerstown	Kildare	1	2	0	2	0	3	0	0	1	0	0	0	1	1	0	0	11	0	32
971	Derryvullagh Island	Kildare	1	1	0	0	1	3	1	1	2	1	1	0	1	1	1	1	16	0	47
974	Moods	Kildare	1	2	0	0	1	3	0	0	1	0	1	1	1	1	0	0	12	0	35
975	Royal Oak	Kildare	2	2	0	2	0	3	0	1	1	0	1	0	0	1	1	1	15	0	44
978	Pollardstown Wood	Kildare	2	2	0	1	1	3	0	0	1	0	1	1	1	1	0	1	15	0	44

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				r plan.	ne ric.	apecile	ation at	aldin	8581°	spect		nabite		ent	dical	d dear	debrits	Pollo	alteat		Value es
			usculi	a yoph	chen	gene	, orizon	ative	, table	, "&	atural	ADS	adilo	udrol	andin	100044	oppict	. sto	Not	في الم	ng score
Site No.	Woodland Name	County	1.0	&``	V ^{IE}	€ 6.	40	40	40	P)	40	^°	9° -	~~	Su	14.	CO.	411.	S	P _U ,	<u>o/o</u>
981	Newbridge School Wood	Kildare	3	2	0	1	1	0	0	0	1	0	1	1	1	1	0	0	12	0	35
982	Greatconnell	Kildare	3	2	0	2	2	3	0	1	1	1	1	0	0	0	0	0	16	0	47
984	Coolbeg	WICKIOW	2	2	0	1	0	3	0	0	1	0	1	1	0	0	0	1	12	0	35
987	High Park Upper	WICKIOW	2	2	0	2	0	2	0	1	1	1	0	1	0	1	0	1	14	0	41
988	Manger Wood	WICKIOW	2	2	0	1	1	3	0	0	1	1	1	1	0	0	0	1	14	0	41
990	Kilmullin	WICKIOW	2	3	0	2	1	1	0	0	1	0	0	1	0	0	0	0	11	0	32
992	Money Big	Wicklow	3	2	0	1	0	3	0	0	2	0	0	1	0	1	0	1	14	0	41
994	Coolinarrig Lower	Wicklow	3	2	0	0	1	3	0	0	1	0	1	1	0	0	0	0	12	0	35
996	Carrigeenduff	Wicklow	3	3	1	1	1	3	0	0	1	х	1	1	1	0	0	0	16	1	48
999	Tithewer	Wicklow	2	3	1	1	1	3	0	0	1	1	1	1	0	0	0	1	16	0	47
1001	Glendarragh	Wicklow	3	3	0	2	1	2	0	0	1	1	1	1	0	0	0	1	16	0	47
1003	Castletown	Kildare	3	1	0	2	0	3	1	1	1	1	0	0	0	0	0	0	13	0	38
1004	Ballycullane	Kildare	2	2	0	2	1	1	0	0	0	0	0	1	0	0	0	0	9	0	26
1005	Foxhill	Kildare	2	2	0	2	0	3	0	0	1	0	0	1	0	0	0	1	12	0	35
1006	Kildangan	Kildare	2	2	0	2	0	3	0	1	1	1	0	0	0	1	0	0	13	0	38
1007	Mitchels Wood	Kildare	3	2	0	2	0	3	1	2	1	1	1	1	0	0	0	1	18	0	53
1008	Martinstown	Kildare	3	2	0	2	1	3	0	1	1	1	0	1	0	0	1	1	17	0	50
1010	Derrylea Large	Kildare	3	2	0	2	0	3	1	0	2	0	1	0	0	0	1	0	15	0	44
1011	Derrylea Small	Kildare	1	2	0	2	0	3	1	0	0	0	1	0	1	1	0	0	12	0	35
1014	Donode Big	Kildare	1	1	0	2	0	3	0	0	0	0	1	1	1	1	1	1	13	0	38
1017	Maguire's Wood	Kildare	1	2	0	2	2	3	0	0	1	0	0	0	0	1	0	0	12	0	35
1018	Laragh Demesne	Kildare	2	1	0	2	1	0	0	0	1	0	0	0	0	0	0	0	7	0	21
1020	Kilmore	Kildare	1	2	0	2	0	1	0	0	0	0	1	1	0	1	0	0	9	0	26
1021	Bertbridge	Kildare	2	2	0	1	0	2	0	0	0	0	1	0	0	1	0	0	9	0	26
1022	Knocknacree Wood	Kildare	3	3	0	2	0	3	0	0	1	1	0	1	0	1	0	0	15	0	44
1023	Burtonhall Demense	Kildare	3	3	1	2	0	3	0	0	1	1	0	1	0	0	0	0	15	0	44
1024	Moone Woodlands	Kildare	2	2	0	2	1	3	0	0	1	1	1	1	0	0	0	0	14	0	41
1025	Moone Park	Kildare	1	2	0	2	1	0	0	0	0	1	0	0	0	0	0	0	7	0	21
1026	Spratstown	Kildare	2	2	0	0	0	3	0	0	1	0	0	0	0	1	0	0	9	0	26
1028	Burton Little	Kildare	2	2	0	2	1	3	0	0	0	0	1	0	0	1	0	0	12	0	35
1033	Crappagh	Monaghan	1	2	0	2	0	3	0	0	1	0	0	1	0	1	0	0	11	0	32

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			3	ation	He of	Sh cue	×01.05	ito le	os, ole	5	10	ne	di	,	¹⁹¹ . dir	19 . 8 ⁴	de dice	NY O	ICSI.	0 5	ng v cores
Site No.	Woodland Name	County	V350	Bryo	Licht	Rede	Hour	Nativ	Noto	Areia	Watur	1840	Sino	4HQ1	Stan	W00'	CODE	HIST	SCO	Miss	° ~90
1037	Comertagh	Monaghan	3	2	0	2	1	2	0	0	1	0	1	1	0	1	0	0	14	0	41
1042	Barrymore North	Roscommon	4	3	2	2	1	3	2	0	2	1	1	1	1	1	1	0	25	0	74
1043	Barry More Shore	Roscommon	4	2	1	2	1	3	3	1	2	1	1	1	0	0	1	0	23	0	68
1046	Lugnashammer	Roscommon	2	3	2	2	0	3	0	0	1	0	1	0	1	1	0	1	17	0	50
1047	Harristown (Roscommon)	Roscommon	2	3	0	2	0	3	0	0	2	1	1	0	0	1	0	0	15	0	44
1048	Gray's Wood	Roscommon	2	2	0	2	0	3	0	0	1	1	1	0	1	1	0	1	15	0	44
1050	Willsgrove	Roscommon	3	3	0	2	2	3	0	1	1	1	1	0	0	1	0	1	19	0	56
1052	Cloonageeragh	Roscommon	3	3	1	2	1	3	0	1	1	1	0	0	1	1	1	1	20	0	59
1053	Mountdillon	Roscommon	3	3	1	1	0	3	0	0	1	1	1	1	0	1	0	0	16	0	47
1054	Carrowroe	Roscommon	3	3	2	2	0	2	0	1	1	1	1	1	1	1	0	1	20	0	59
1057	Faltia	Roscommon	3	2	0	2	1	3	0	1	1	0	1	0	0	1	0	0	15	0	44
1058	Johnstown Demesne	Roscommon	1	2	0	1	0	3	0	0	1	0	0	0	0	1	0	1	10	0	29
1059	Mount Talbot South	Roscommon	4	2	0	2	1	3	2	0	2	0	1	1	1	0	0	0	19	0	56
1060	Carrownalogh	Roscommon	3	2	0	2	1	3	0	0	2	0	1	0	1	1	1	0	17	0	50
1061	Cornaseer	Roscommon	4	3	1	2	0	3	1	1	2	0	1	1	1	1	0	0	21	0	62
1063	The Glen	Monaghan	3	2	0	1	1	3	2	0	1	1	1	1	0	1	0	0	17	0	50
1064	Capragh Lough	Monaghan	3	2	0	2	1	3	0	0	2	0	1	1	0	1	0	0	16	0	47
1076	Scragh Bog	Westmeath	4	3	0	2	0	3	0	1	1	0	1	1	0	1	0	0	17	0	50
1078	Lough Owel Wood	Westmeath	4	2	0	2	0	3	0	2	1	1	1	1	0	0	0	0	17	0	50
1079	Ballynafid	Westmeath	3	3	0	2	0	3	0	2	2	1	1	1	0	0	0	0	18	0	53
1081	Lough Ennell Wood	Westmeath	2	3	0	2	1	3	0	2	2	0	1	1	0	1	0	1	19	0	56
1084	Gaybrook Demense	Westmeath	4	3	0	2	0	3	0	2	1	1	0	1	0	0	0	0	17	0	50
1085	Clonsingle	Westmeath	3	2	0	2	1	3	0	2	1	0	1	1	0	1	0	0	17	0	50
1086	Meehan Wood	Westmeath	3	2	0	2	1	3	3	1	1	1	1	1	1	0	1	0	21	0	62
1087	Lissakillen North	Westmeath	4	2	0	1	0	2	0	2	1	0	1	1	1	1	0	0	16	0	47
1088	Whinning Wood	Westmeath	4	2	0	2	1	3	2	3	2	1	1	1	0	1	1	1	25	0	74
1090	Creaghduff	Westmeath	4	2	0	2	0	3	3	1	1	1	1	1	1	0	1	1	22	0	65
1093	Joanstown Wood	Westmeath	1	2	0	2	0	3	0	2	1	1	1	0	0	1	0	0	14	0	41
1094	Baronstown Demense	Westmeath	3	2	0	2	1	1	0	0	1	1	0	1	0	1	0	1	14	0	41
1095	Lough Iron Wood	Westmeath	3	3	0	2	0	3	1	1	2	0	1	1	0	1	0	0	18	0	53
1096	Tristernagh Demense	Westmeath	2	3	0	1	1	3	0	0	1	1	0	1	0	1	0	0	14	0	41

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				anti	icht	cies	70.	diver	alate	ecies	1	vitats		nt hav	alter	, ead o	vis	lar	e call	<u>, , , , , , , , , , , , , , , , , , , </u>	JUE5
				at 91 x	Me'	esp ^{er} et	atte of	Ral .	2 ²⁵⁰ 10	5 P	2	hat	ii.	Cer, No	u, ^{tol} lo	19 ⁰²	8 ⁶⁰	80	call		ad variates
Site No.	Woodlond Namo	County	12500	allop.	ichen	regen	. Joit20	Jative	Notabi	Neo	Jaturo	18A05	C'U BOY	wdro.	cianon	NOOON	COPPIE	Jisto	أن روا	e Nise	Nº Sco.
1007	Knockeyon Wood	Westmeath	1	v	<u>v</u>	v	X 1	<u>ح</u>	2	۲	1	1	م 1	0	<u>ده</u>	0	0	X .	9	0	62
1097	Gartlandstown Wood	Westmeath	4	3	0	2	1	3	2	2	1	1	1	0	0	0	0	0	20	0	50
1090	Kiltoom	Westmeath	4	3	0	1	0	3	1	0	1	0	1	1	0	1	0	0	16	0	47
1100	Donore	Westmeath	4	3	0	2	0	3	0	0	1	1	1	1	0	0	0	0	16	0	47
1101	Lackan Wood	Westmeath	2	3	0	2	0	3	0	2	1	0	1	1	0	1	0	1	17	0	50
1102	Kiltober Esker	Westmeath	3	2	0	2	0	3	3	2	1	1	1	0	1	1	1	0	21	0	62
1103	Longhill Esker	Westmeath	3	3	1	2	0	3	3	1	1	0	1	1	1	1	1	0	22	0	65
1104	Ballymacmorris Wood	Westmeath	3	3	1	2	1	3	0	2	1	0	1	0	1	1	0	0	19	0	56
1105	Higginstown Wood	Westmeath	3	2	0	2	0	3	0	1	1	0	1	1	0	1	0	1	16	0	47
1106	Bracklin Wood	Westmeath	4	3	0	2	1	3	0	3	2	1	1	1	1	1	0	1	24	0	71
1107	Ballyhealy (Westmeath)	Westmeath	2	2	0	2	0	3	0	3	1	0	1	0	0	1	1	1	17	0	50
1108	Tonlemony Wood	Westmeath	1	2	0	2	1	3	0	2	1	0	1	0	0	1	0	0	14	0	41
1109	Corr Wood	Westmeath	2	3	0	2	0	1	0	3	1	1	1	1	0	1	0	1	17	0	50
1110	Cavestown	Westmeath	4	3	0	2	0	3	1	3	2	1	1	1	1	1	1	1	25	0	74
1111	Lough Slevin's Wood	Westmeath	4	3	0	1	2	3	0	3	3	1	1	1	0	0	0	1	23	0	68
1112	Kinturk Demense	Westmeath	2	3	0	2	0	3	0	3	1	1	1	0	0	1	0	1	18	0	53
1114	Carnpark	Westmeath	2	2	0	2	0	3	0	2	3	1	1	1	0	1	0	1	19	0	56
1115	Caran Wood	Westmeath	1	2	0	2	0	1	0	1	1	0	0	0	0	1	0	0	9	0	26
1116	Cornacuask	Westmeath	1	2	0	1	0	3	0	2	1	1	1	1	0	1	0	0	14	0	41
1117	Ballykildevin	Westmeath	2	2	0	1	0	3	0	1	1	1	1	1	0	1	0	1	15	0	44
1118	Clothes Rock Wood	Roscommon	2	3	0	1	1	1	1	0	0	1	1	0	1	1	0	1	14	0	41
1119	Mount Talbot North	Roscommon	3	2	2	1	1	3	0	0	1	0	1	0	0	0	0	1	15	0	44
1120	Cloonmore	Roscommon	3	2	2	2	1	3	1	1	1	0	1	1	1	1	0	0	20	0	59
1121	Lecarrow	Roscommon	3	3	2	2	1	3	0	1	2	0	1	0	1	1	0	1	21	0	62
1124	Ardan Wood	Westmeath	2	2	0	2	2	3	1	0	1	1	0	0	0	0	0	0	14	0	41
1125	Barbavilla Demense	Westmeath	3	2	0	2	2	3	1	2	1	1	0	0	0	1	0	1	19	0	56
1127	Pakenhamhall	Westmeath	3	1	0	0	2	2	1	0	1	1	0	0	0	0	0	1	12	0	35
1128	Tullynally	Westmeath	2	1	0	0	2	3	0	0	0	1	0	0	0	0	0	0	9	0	26
1131	Reynella	Westmeath	2	2	0	2	0	2	0	0	1	1	0	0	0	0	0	0	10	0	29
1132	Reynella Lough	Westmeath	2	2	0	2	0	2	0	0	0	1	1	1	0	1	0	0	12	0	35
1133	Ballyowen	Westmeath	1	1	0	1	1	3	0	0	0	1	0	1	0	1	0	0	10	0	29

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			\$	31 91 X	N ^{re} ,	SPE _	atallin of	,tal .	Pase 18	^e S ²	à	hat	Ŕ	acen	ogici	n ⁹ 0'	der .c	2/PU	ical t		ad var des
Site No	Woodland Name	County	Nasch	, allob	icher	aeget!	JOIIZ	Native	Notab.	Nea	Jaturo	18405	C'N au	. woro	ctano.	NOOO	, cobbin	, Jisto	CO'	e Nis	Mr. Sco.
1141	Clonybane	Westmeath	2	2	<u> </u>	1	0	3	0	v .	<u>v</u> 1	0	1	0		N	0	<u>v</u>	10	0	29
1143	Knockasha Wood	Westmeath	1	2	1	1	2	3	0	0	1	0	1	0	1	1	0	1	15	0	23 44
1145	Gortnafada	Westmeath	2	2	0	2	0	3	0	0	1	0	1	0	1	1	0	0	13	0	38
1146	Bunanagh Wood	Westmeath	3	3	0	2	1	3	0	0	1	0	1	1	0	0	0	0	15	0	44
1147	Coolalough	Westmeath	3	2	0	2	0	1	0	1	1	1	0	0	1	1	1	0	14	0	41
1148	Glassavullaun	Dublin	2	2	0	0	0	3	0	0	1	0	1	1	1	1	1	0	13	0	38
1149	Lough Crew	Meath	1	3	0	2	0	3	1	0	1	1	0	0	0	1	0	0	13	0	38
1150	Collon North	Louth	3	2	1	0	1	3	1	3	2	1	0	1	0	1	0	1	20	0	59
1151	Phoenix Park	Dublin	1	1	0	0	2	3	0	2	1	1	0	0	0	0	0	0	11	0	32
1152	Abbotstown	Dublin	3	1	0	1	1	0	1	2	0	х	0	1	0	1	0	0	11	1	33
1153	Tankardstown South	Meath	1	2	1	1	1	3	0	0	0	1	0	0	0	1	0	0	11	0	32
1154	Gartinadress	Cavan	2	2	0	2	1	1	0	0	0	1	0	0	0	1	0	0	10	0	29
1155	Aghyrassy	Westmeath	3	2	0	2	1	3	3	1	1	1	1	0	1	1	1	1	22	0	65
1156	Flagpole Lough Shore	Monaghan	3	2	2	1	1	3	2	0	1	1	1	1	1	1	0	0	20	0	59
1157	Skeagh Headland	Cavan	2	2	1	2	2	3	0	0	1	1	1	1	0	1	0	0	17	0	50
1158	Killyconigan	Monaghan	2	2	0	2	0	3	2	1	1	0	0	0	0	1	0	0	14	0	41
1159	Barmeath Castle Hill	Louth	2	1	0	2	2	1	0	2	0	1	0	0	0	1	0	0	12	0	35
1160	Porteen Wood	Roscommon	3	2	0	2	0	3	1	0	2	0	1	1	0	0	0	0	15	0	44
1161	Derrycassan	Cavan	3	3	0	2	0	3	0	0	1	0	1	1	0	1	0	1	16	0	47
1162	Mullaghmacateer	Monaghan	1	1	1	0	0	2	0	0	1	0	0	0	0	1	1	0	8	0	24
1163	Killycramph Wood Shoreline	Cavan	3	3	2	2	0	3	0	0	1	1	1	1	0	1	0	0	18	0	53
1164	Newtown	Cavan	2	3	1	2	0	3	0	0	1	1	1	1	0	1	0	1	17	0	50
1166	Newtownlow Esker Woodland	Westmeath	3	3	0	2	1	3	3	2	1	1	1	0	0	1	1	1	23	0	68
1167	Tuckmill Hill	Wicklow	3	2	0	2	0	3	1	0	1	0	1	1	1	1	1	0	17	0	50
1168	Rathshane	Westmeath	2	2	0	2	0	3	0	0	0	0	0	0	0	0	0	1	10	0	29
1169	The Quill Woods	Wicklow	1	3	0	2	0	3	0	1	1	1	1	1	0	0	0	1	15	0	44
1170	Bellamont Forest Centre	Cavan	2	2	1	1	0	3	0	0	1	1	1	1	1	1	0	0	15	0	44
1171	Derrysheridan South Shore	Meath	3	2	2	2	0	3	0	0	1	0	1	1	0	1	0	0	16	0	47
1172	Derrysheridan North Shore	Meath	4	2	0	2	0	3	0	0	3	0	1	1	0	1	0	0	17	0	50
1173	Capragh Lough South	Monaghan	3	2	0	2	1	3	0	0	1	0	1	1	0	1	0	0	15	0	44
1174	Annies Bog	Monaghan	2	2	1	2	0	3	0	0	1	0	0	1	0	1	1	1	15	0	44

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Site No.	Woodland Name	County	Vascu	Bryok	Liche.	Aeger.	HOIIZ	Native	Notab	Area	Natur	18405	Gr au	white	stand	MOOD	Cobb.	HISTO	مرمع	NISE	olo Sco
1175	Coolnacarte Plantation	Monaghan	2	2	0	2	1	0	0	0	0	0	0	1	0	1	0	1	10	0	29
1176	The Downs Wood	Monaghan	3	2	0	2	1	3	1	2	0	1	0	1	0	1	0	0	17	0	50
1177	Lough Fea Lake	Monaghan	4	3	2	2	2	3	0	3	1	1	1	1	0	1	0	0	24	0	71
1178	Derrylavan	Monaghan	2	2	0	2	0	3	1	1	2	1	0	1	1	1	0	0	17	0	50
1179	Stickillin	Louth	1	1	0	2	1	3	0	1	1	0	0	0	1	1	1	0	13	0	38
1190	Shelton Abbey	Wicklow	1	2	0	2	0	3	0	1	1	х	1	0	0	0	0	0	11	1	33
1191	Allenwood North	Kildare	2	2	0	2	0	3	0	3	0	0	1	0	1	0	0	0	14	0	41
1193	Carrick	Kildare	1	2	0	2	1	3	0	0	1	0	1	0	0	1	0	0	12	0	35
1194	Kilcooney River Wood	Kildare	3	2	0	0	2	0	0	0	0	0	1	0	0	0	0	0	8	0	24
1196	Loughnacush	Kildare	2	2	0	2	0	3	0	2	3	0	1	1	0	1	1	1	19	0	56
1198	Heritage Park Wood	Kildare	2	2	0	2	0	3	0	0	2	1	1	0	0	0	0	1	14	0	41
1199	Ballindoolin	Kildare	3	2	0	1	2	1	0	1	0	1	0	1	0	1	0	0	13	0	38
1200	Leopardstown Woods	Dublin	3	1	0	0	2	0	0	0	0	1	0	0	0	0	0	0	7	0	21
1201	Clongowes College wood	Kildare	2	1	0	2	1	2	1	0	0	1	0	0	0	0	1	0	11	0	32
1205	Rickardstown North	Westmeath	1	2	0	2	0	3	0	0	1	0	1	0	0	1	0	0	11	0	32
1206	Rickardstown South	Westmeath	2	2	0	2	0	3	0	0	1	0	1	1	0	0	0	1	13	0	38
1207	Clonyn	Westmeath	2	2	0	1	2	3	0	3	1	0	0	0	0	0	0	0	14	0	41
1209	Cooksborough	Westmeath	2	3	0	2	0	2	0	2	1	1	1	0	0	0	0	0	14	0	41
1210	Kilcleagh	Westmeath	2	2	0	1	1	2	0	1	0	1	0	1	1	1	1	1	15	0	44
1211	Bolinarra Bog Wood	Westmeath	4	2	1	2	0	3	0	1	2	0	1	0	0	1	0	0	17	0	50
1212	Killachonna	Westmeath	2	2	0	2	1	3	0	0	1	0	1	0	0	1	0	0	13	0	38
1213	Auburn	Westmeath	3	2	0	2	0	3	0	2	1	1	1	1	0	1	0	0	17	0	50
1215	Allenwood Road Wood	Kildare	2	2	0	2	0	3	0	0	2	0	1	1	1	1	0	0	15	0	44
1216	Ballindoolin Bog Wood	Kildare	1	2	0	0	1	3	0	0	1	0	1	0	0	1	0	1	11	0	32
1217	Knockcor Wood	Kildare	3	3	0	2	0	3	0	1	1	0	1	1	0	1	0	1	17	0	50
1218	Plan Wood	Meath	3	1	0	2	0	3	0	1	0	1	0	0	0	1	0	0	12	0	35
1219	Knockagh	Louth	2	2	0	2	0	3	0	0	1	0	0	1	0	1	0	0	12	0	35
1220	Kilnahard	Cavan	3	2	1	2	0	3	0	0	1	0	1	1	0	0	0	0	14	0	41
1221	Sruveel	Monaghan	2	2	0	2	0	3	0	0	1	1	1	1	0	1	0	1	15	0	44
1222	Lannat	Louth	2	2	0	2	0	3	0	3	1	0	1	0	0	1	0	1	16	0	47
1224	Oghill	Cavan	1	2	0	2	0	3	0	0	1	0	0	1	0	1	0	1	12	0	35

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Site No.	Woodland Name	County	Vascu	Bryok	licher	Regen	HOTIZE	Native	Notab	Area	Nature	18405	S.Nau	1-HOLO	stano	WOOD,	Cobb	HISTO	` scot	NISS	``SCU
1227	Stormanstown Bog	Louth	2	2	0	2	0	3	0	0	1	x	1	0	0	1	0	0	12	1	36
1228	Carrickynaghtan	Roscommon	1	2	0	2	1	3	0	0	1	1	1	0	0	1	0	0	13	0	38
1229	Taylorstown	Roscommon	1	2	0	2	1	3	0	0	1	0	1	0	0	1	0	0	12	0	35
1230	Barrymore	Roscommon	2	2	0	2	1	3	0	0	1	0	1	1	0	0	0	0	13	0	38
1231	Thomastown Demense	Roscommon	4	2	0	2	0	3	0	1	1	1	1	0	0	1	0	0	16	0	47
1233	Drumalagagh	Roscommon	3	3	0	2	1	3	0	0	2	1	0	1	0	0	0	0	16	0	47
1234	Coosan Point Hazel Wood	Westmeath	3	3	0	2	2	3	3	0	1	1	1	1	1	1	1	1	24	0	71
1235	Killinure North	Westmeath	3	2	0	2	1	3	2	0	0	0	1	1	1	1	1	0	18	0	53
1237	St. Catherine's Wood	Dublin	3	2	0	2	1	1	3	2	1	1	1	1	0	0	0	1	19	0	56
1238	Money Lower	Wicklow	2	2	0	1	0	3	0	1	1	х	0	1	0	1	0	1	13	1	39
1239	Money East	Wicklow	2	2	0	2	1	2	0	0	1	х	0	0	0	1	0	1	12	1	36
1240	Ballymarroge	Wicklow	2	3	0	2	1	3	0	0	2	х	0	1	0	1	0	0	15	1	45
1241	Rosahane	Wicklow	1	3	0	0	1	3	0	0	1	0	0	1	0	1	1	0	12	0	35
1242	Carrickobreen River Wood	Westmeath	2	2	0	1	1	3	1	0	1	0	1	0	0	0	0	0	12	0	35
1243	Carrickobreen Bog Wood	Westmeath	1	2	0	2	0	3	0	0	1	0	1	0	0	1	0	1	12	0	35
1250	Shurock Wood	Westmeath	2	2	0	1	0	3	0	0	1	0	0	0	0	0	1	0	10	0	29
1251	Corduff East	Cavan	2	2	0	2	0	3	0	0	1	0	1	1	0	1	0	1	14	0	41
1252	Corduff West	Cavan	1	2	0	2	0	3	0	0	1	0	1	1	0	1	0	1	13	0	38
1253	Ongenstown	Meath	1	2	0	1	0	3	0	0	1	0	1	0	0	1	0	1	11	0	32
1254	Dowdstown	Meath	1	1	0	2	0	1	0	0	0	0	0	0	0	1	0	0	6	0	18
1255	Ongenstown West	Meath	2	2	0	2	0	3	0	1	1	0	1	0	0	1	0	0	13	0	38
1258	Lismullin	Meath	2	1	0	2	0	1	0	2	0	1	0	1	1	1	0	0	12	0	35
1259	Blackcastle Demesne	Meath	1	1	0	1	0	2	0	0	0	1	1	1	0	1	0	0	9	0	26
1260	Collon Northwest	Louth	2	2	0	1	1	3	0	1	1	1	0	0	1	1	0	1	15	0	44
1261	Farnham Loughshore	Cavan	3	2	1	2	1	3	2	1	2	1	1	1	0	1	0	0	21	0	62
1262	Ballinrink	Meath	1	1	0	2	1	1	0	0	0	1	0	0	0	1	0	1	9	0	26
1263	Tubbrid	Meath	3	2	0	2	0	3	0	2	0	0	1	0	0	1	0	0	14	0	41
1264	Halfcartron	Meath	1	2	0	2	0	2	0	2	0	1	0	0	0	1	0	1	12	0	35
1265	Collon Wood	Louth	2	2	2	1	1	3	0	0	0	1	0	0	0	0	0	1	13	0	38
1266	Bellews Hill	Louth	2	2	0	1	1	2	0	1	0	1	0	0	0	1	0	1	12	0	35

Appendix 5 shows the threat score for the 735 sites surveyed during the native woodland survey. The 101 additional sites incorporated from previous surveys were not assessed. Only two items of data are missing from this table. These are marked by an 'x' and the two relevant sites are indicated with an '*'.

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	Site	Woodland Name	County	Invasit	Gratin	Nonin	Nonine	Damat	Score	% Score
_	1	Ballynabarny Wood	Wexford	0	0	0	0	0	0	0
	2	Clone Fox Covert	Wexford	0	1	0	0	0	1	9
	3	Courtown Dunes and Glen	Wexford	2	0	0	1	1	4	36
	4	Killoughrum Forest	Wexford	0	0	0	0	1	1	9
	5	Oaklands	Wexford	2	0	0	1	0	3	27
	7	Camolin	Wexford	1	0	1	0	1	3	27
	8	Baggot's Wood	Carlow	0	2	0	0	1	3	27
	9	Bahana	Carlow	0	1	0	0	0	1	9
	10	Clogheristick Wood	Carlow	2	0	1	0	0	3	27
	12	Oakpark	Carlow	1	0	0	0	0	1	9
	14	Drummond Wood	Carlow	0	1	1	1	0	3	27
	15	Borris	Carlow	2	0	1	1	3	7	64
	17	Thomastown	Kilkenny	0	0	2	1	0	3	27
	18	Ballykeefe Wood	Kilkenny	1	0	1	0	1	3	27
	19	Ballyhighland	Wexford	0	1	1	1	1	4	36
	20	Brownstown Wood	Kilkenny	0	0	0	0	0	0	0
	22	Fiddown	Kilkenny	0	1	0	0	0	1	9
	26	Carrickduff Wood	Carlow	2	1	0	1	0	4	36
	27	Dovegrove Callows	Offaly	0	2	0	0	0	2	18
	28	Clonfinlough Esker	Offaly	0	0	0	0	0	0	0
	30	Woodville	Offaly	1	2	0	0	3	6	55
	31	Cloghan Demesne Bog and Wood	Offaly	0	0	2	0	1	3	27
	33	Camcor Wood / Glinsk	Offaly	0	0	0	0	0	0	0
	34	Cangort Bog	Offaly	2	0	1	0	0	3	27
	35	Clorhane Wood	Offaly	0	0	0	0	0	0	0
	36	Lough Coura	Offaly	0	0	0	0	0	0	0
	37	Curraduff	Wexford	0	1	0	0	0	1	9
	38	Graiguebeg	Wexford	0	3	0	0	0	3	27
	48	Jerpoint Abbey	Kilkenny	0	1	0	0	1	2	18
	49	Grenan Wood	Kilkenny	0	1	2	0	0	3	27
	51	Kilfane House	Kilkenny	2	0	0	0	0	2	18
	53	Kilcullen	Kilkenny	0	1	0	0	1	2	18
	58	Cullentragh	Kilkenny	1	2	0	0	0	3	27
	61	Cullaun	Kilkenny	1	0	0	1	0	2	18
	65	Bohermore	Carlow	0	1	0	0	0	1	9
	69	Toberbride	Carlow	0	0	1	1	0	2	18
	73	Tinnahinch	Carlow	0	1	2	1	0	4	36
	74	Knockeen	Carlow	0	1	0	0	0	1	9
	75	Knockduff	Carlow	0	1	0	0	0	1	9
	76	Ballybeg	Carlow	0	2	0	0	0	2	18
	78	Ballintemple	Carlow	2	0	0	1	0	3	27
	/9	Doon Demesne	Offaly	2	0	0	0	1	3	27
	80	Doon Demesne 2	Offaly	2	0	0	0	0	2	18
	81	Clonascra	Offaly	0	0	0	0	1	1	9
	82	Clongawny More	Offaly	0	0	0	0	0	0	0
	83	l aylors Cross	Offalv	0	3	0	0	1	4	36
	84 05	Boolinarig	Offalv	1	0	0	0	0	1	9
	85	Clearacan	Offalv	0	0	0	0	1	1	9
	80	Clooneen Bellinger Demogra Berward	Offalv	2	1	1	0	1	4	30
	03	Big Wood (West Offshult	Offely	0	0	2	0	0	3	21
	91	Drummin (Pod Bog)	Carlow	1	1	x	0	0	0	10
	90	Kyloadobir Wood	Kilkenny	1	0	0	0	0	∠ 1	١ð
	90		Wexford	0	2	0	0	1	1	<u>э</u>
	100	Ballycrystal	Wexford	0 2	0	1	0	۱ ۵	4 2	30 97
	102	Bolamore	Wexford	<u>د</u> 1	1	0	0	0	2	18
	100	Dolariolo		•		0	•	0	~	

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Site	Woodland Name	County	11125	Grati	Mon	Non	Dame	Score	% Score
 106	Tombrick Lower	Wexford	0	1	0	0	0	1	9
108	Troyswood	Kilkenny	0	0	0	0	0	0	0
109	Jenkinstown Park	Kilkenny	0	0	0	0	0	0	0
110	Ballyrafton	Kilkenny	1	0	1	0	1	3	27
112	Maddockstown / Nore Cottage	Kilkenny	1	2	0	1	1	5	45
113	High Rath	Kilkenny	2	0	0	0	0	2	18
114	Gowran	Kilkenny	1	0	0	0	0	1	9
116	Fanningstown Wood	Kilkenny	0	1	0	0	0	1	9
117	Mountain Grove	Kilkenny	1	0	1	1	0	3	27
122	Creakan Lower	Wexford	0	1	0	0	0	1	9
123	Stokestown Bridge (Dunganstown)	Wexford	0	0	0	0	0	0	0
124	Ballyleigh	Wexford	0	2	0	0	0	2	18
125	Ballynacoolagh	Wexford	0	1	1	0	0	2	18
126	Curraun	Wexford	0	1	0	0	0	1	9
127	Archersgrove	Kilkenny	0	1	0	1	0	2	18
128	Brown's Wood	Kilkenny	0	0	1	0	1	2	18
130	Monarche Commons 2	Kilkenny	2	0	1	0	0	3	27
131	Greatwood	Kilkenny	2	3	0	1	0	6	55
135	Coill na Fhaltaigh	Kilkenny	0	1	0	0	0	1	9
136	Rossenarra	Kilkenny	0	1	1	0	0	2	18
137	Knockadrina	Klikenny	0	0	1	1	0	2	18
138		Klikenny	0	1	0	0	0	1	9
139	I wenty Acres	Wexford	2	1	0	1	0	4	36
141	Johnstown Castle	Wexford	1	1	0	0	0	2	18
145	Ballyprennan House	Wexford	1	1	1	1	0	3	27
147	Ballycross Apple Farm	Wexford	1	0	0	0	1	3	2/ 10
140	Ballylau Briekototown House	Wexford	1 0	1	0	0	0	2	10
151	Ballwologuo	Wexford	2	1	0	0	1	3	2/ 10
153	Ballyboggan Lower	Wexford	2	1	0	1	0	2	36
154	Soldier's Hole	Wexford	2	1	0	0	1	4	36
156	Garnyricken North	Kilkenny	1	0	0	0	0	1	90 Q
157	Ballynoe*	Carlow	0	0	v	0	0	0	0
158	Altamont	Carlow	1	0	Ô	0	0	1	q
160	Ballywilliam	Offalv	0	0	0	0	0	0	Ő
162	Guernal	Offaly	0	1	0	0	0	1	q
163	Tombrick Wood	Wexford	0	1	0	0	1	2	18
166	Wilton North	Wexford	0	1	0	0	0	1	9
167	Wilton South	Wexford	0	1	0	0	2	3	27
168	Ballinvally Wood	Carlow	0	0	0	0	0	0	0
169	Coonogue Wood	Carlow	0	2	0	0	0	2	18
170	Coolpuck Wood	Wexford	0	1	0	1	0	2	18
172	Ballingarry Wood	Wexford	2	1	1	0	1	5	45
173	Golden Grove	Offaly	0	1	0	1	0	2	18
174	Drumakeenan School	Offaly	2	1	1	1	0	5	45
175	Townparks	Offaly	1	1	0	0	0	2	18
176	Cushcallow	Offaly	0	0	0	0	1	1	9
177	Corclogh	Offaly	0	3	0	0	0	3	27
178	Orchard	Carlow	0	0	0	0	1	1	9
179	Clonogan Wood	Carlow	1	0	0	0	0	1	9
180	Glandoran Upper / Carthy's Wood	Wexford	0	0	0	0	1	1	9
183	Clogrenan Wood	Carlow	1	1	0	1	0	3	27
184	Lisnevagh	Carlow	1	2	1	0	3	7	64
186	Drumgoogle	Kilkenny	2	1	0	1	1	5	45
187	Ballymore Demesne	Wexford	2	1	0	0	2	5	45
189	Wells East	Wexford	2	1	1	0	0	4	36

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Site	Woodland Name	County	Invas	Grath	Non	Non	Dame	Score	% Score
 190	Wells West	Wexford	2	1	0	0	0	3	27
191	Island House	Wexford	1	0	0	0	0	1	9
192	Litterbeg	Wexford	1	1	0	0	0	2	18
197	Milltown	Offaly	1	1	0	1	1	4	36
198	Castletown House (Building Wood)	Kilkenny	2	1	0	0	1	4	36
199	Kilmacow	Kilkenny	0	1	1	0	0	2	18
200	Ballytobin / Ballaghtobin	Kilkenny	0	1	0	0	1	2	18
201	Foulkscourt	Kilkenny	2	0	0	0	0	2	18
203	Coolroebeg	Kilkenny	0	0	0	0	0	0	0
204	Shankill	Kilkenny	0	0	0	0	1	1	9
205	Raheendonore	Kilkenny	0	1	0	0	0	1	9
206	Ballinrush	Carlow	0	1	0	0	0	1	9
208	Crane Bridge	Wexford	1	0	0	1	0	2	18
209	Mackmine Wood	Wexford	0	1	0	0	0	1	9
210	Ballynahillen	Wexford	0	2	0	0	0	2	18
211	Newtown Lower	Corlow	2	0	0	0	1	3	2/
213	Ballypioroo	Carlow	0	1	1	0	0	1 2	9 19
219	Kilmacoliver	Kilkonny	0	1	0	0	0	2 1	0
223	lobnswell	Kilkenny	0	1	0	0	0	1	9
225	Newrath	Kilkenny	1	1	1	0	1	4	36
226	Skehana	Kilkenny	0	0	0	0	0		0
227	Lisdowney Wood	Kilkenny	0	1	1	1	1	4	36
228	Crumlin / Tulla	Offaly	0	2	0	0	0	2	18
229	Castle Bernard Demense	Offaly	2	0	0	0	1	3	27
230	Ballymack	Kilkenny	0	0	0	0	1	1	9
234	Monassa	Kilkenny	0	1	2	0	0	3	27
236	Flagmount North	Kilkenny	0	0	0	0	0	0	0
237	Broughal	Offaly	0	1	1	0	0	2	18
238	Barnaboy	Offaly	0	1	0	0	0	1	9
240	Clonmacnoise	Offaly	0	2	0	0	0	2	18
241	Clonassy Wood	Kilkenny	0	1	0	0	0	1	9
242	Grantstown Wood	Laois	2	0	0	1	0	3	27
245	Dunamase Woods	Laois	0	0	0	0	0	0	0
246	Rock of Dunamase	Laois	0	0	0	0	0	0	0
249	Clopook Wood	Laois	0	0	0	0	0	0	0
250		Laois	0	0	0	1	0	1	9
251	limanoe Eskers	Laois	1	0	0	0	0	1	9
202	Kiltaala Hill	Laois	0	0	0	0	0	0	0
253		Laois	0	0	0	0	1	1	0
255	Morton's Grove	Laois	2	2	0	0	0	4	36
256	Coolnamony	Laois	1	0	0	0	0	1	9
257	Capard	Laois	0	0 0	1	0	0	1	9
258	Brittas	Laois	0	0	0	1	0	1	9
259	Garryhinch Demesne	Laois	0	1	1	0	0	2	18
260	Ballyfin Demesne	Laois	1	0	1	0	1	3	27
262	Rathcoffey	Laois	1	0	1	0	1	3	27
263	Vicarstown	Laois	0	0	0	0	1	1	9
265	Ballhuppahane	Laois	1	0	0	0	0	1	9
266	Cush Upper	Laois	0	0	0	0	1	1	9
268	Cappagh North	Laois	0	0	0	0	1	1	9
269	Glenmalyre Demesne	Laois	1	0	1	0	0	2	18
270	Ballybeg Mill	Wexford	0	0	0	0	0	0	0
273	Barkmill	Laois	1	1	0	1	0	3	27
274	Bughorn	Laois	0	0	0	0	0	0	0
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			o	Shrubs		ive regene	ive canop	ing activitie	
Site	Woodland Name	County	Invasin	Grating	Nonin	Noulus	Dama	Score	% Score
275	Ballina	Laois	0	1	0	0	0	1	9
276	Maidenhead	Laois	0	0	0	0	0	0	0
277	Ashfield	Laois	0	0	0	0	0	0	0
278	Derrykearn	Laois	0	0	0	0	0	0	0
280	Kilcruise	Laois	0	1	0	0	0	1	9
281	Kilkoke	Laois	0	1	0	0	1	2	18
282	Castledurrow Demesne	Laois	0	1	1	0	0	2	18
283	Dunmore Demesne	Laois	1	1	0	1	0	3	27
284	Course Wood	Laois	0	1	1	0	1	3	27
286	Knocknatrina Wood	Laois	0	1	0	1	0	2	18
287	Knockbeg College	Laois	1	0	0	0	0	1	9
289	Crush Wood	Laois	0	0	0	0	0 0	0	0
290	Warren Hill	Laois	1	1	2	1	0	5	45
294	Scotchrath House	Laois	0	1	0	1	Õ	2	18
296	Corbally	Laois	0	0	0	0	0	0	0
297	Killeany	Laois	0	1	0	0	0	1	Ğ
300	Ballaghmore Lipper	Laois	0	2	1	0	0	3	27
302	Garryricken South	Kilkenny	1	1	1	0	0	3	27
302	Harperstown	Wexford	0	0	0	0	0	0	0
304	Garrylough Lower	Wexford	0	1	1	0	0	2	18
305	Bollfur Bridge Wood	Wexford	0	1	2	0	0	3	27
305	Donore House Wood	Laois	0	י 2	2	0	1	3	21
202	Barloagh Wood	Kilkenny	0	2 1	2	0	0	3	21
300	Emmol Woot	Offalv	0	1	2	0	0	1	21
210		Carlow	1	0	0	0	1	י 2	9 19
211	Barnadown Wood	Wexford	0	0	0	0	0	2	10
212	Kilbellyekee Beg	Offalv	0	1	0	0	0	1	0
010		Carlow	0	1	0	0	0	1	9
310	Ballynallin Big Wood (Woyford)	Wayford	0	1	0	0	1	1	9 10
320	Big wood (wextord)	Offalv	0	1	1	0	1	2	18
321	Brownstown	Unaly	0	1	1	0	1	3	27
322	North Brow	Lauis	0	2	1	0	0	3	2/
324	Brownstown Foot	Offely	1	1	0	0	0	2	10
320	Brownstown East	Unaly	1	1	0	0	0	2	18
327		Offely	1	1	2	1	0	э 1	40
320	Clandellaw	Offalv	0	0	1	0	0	1	9
329	Ciondallow	Unaly	0	0	0	0	0	0	0
330	Andersh	Leitrim	2	1	0	0	0	3	21
331	Buakada	Leitrim	0	1	0	0	0	1	0
332	Buckode	Leitrim	0	1	0	0	0	1	9
333	Stonepark	Leitrim	0	1	0	0	0	1	9
334	Garadice Lough Peninsula	Leitrim	0	1	0	0	0	1	9
335		Leitinn	0	0	0	0	1	0	10
336	Ballard Hill	WICKIOW	0	0	1	0	1	2	18
337	Massy's Wood	Dublin	1	0	0	1	0	2	18
338	Vale of Clara	WICKIOW	1	0	1	0	0	2	18
339	O' Donnell's Rock Wood	Leitrim	0	0	0	0	0	0	0
340	Killygar House	Leitrim	2	1	1	0	0	4	36
341	Ballard Bridge	WICKIOW	1	1	0	0	0	2	18
344	Cappog	Cavan	0	1	0	0	1	2	18
345	Ballyconnell Demesne	Cavan	0	0	0	0	0	0	0
346	Deerpark (Cavan)	Cavan	2	1	1	1	1	6	55
347	Annaghduff	Cavan	0	1	0	0	0	1	9
348	Lismore Demesne	Cavan	0	1	0	0	0	1	9
349	Bellamont Forest	Cavan	0	1	0	0	0	1	9
350	Mullaghahy	Cavan	0	0	1	0	0	1	9
351	Kingscourt Forest Park	Cavan	2	1	1	0	1	5	45

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 Site	Woodland Name	County	HN42	Gran	Nor	Nor	D ₃₁ ,	Score	% Score
353	Greenaun North	Leitrim	0	0	0	0	0	0	0
355	Treankillew Wood	Leitrim	0	1	0	0	0	1	9
356	Mount Campbell Woods South	Leitrim	1	1	0	0	0	2	18
360	Woodford	Leitrim	0	0	0	0	0	0	0
361	Carrickataeane	Leitrim	0	0	0	0	0	0	0
362	Cloonaquin Wood	Leitrim	0	0	0	0	0	0	0
364	Keelrin	Leitrim	0	1	1	0	0	2	18
365	Mullaghboy South	Leitrim	0	0	0	0	0	0	0
366	Mullaghboy	Leitrim	0	0	0	0	0	0	10
367	Cenerchil	Leitrim	1	1	1	0	1	2	18
371	Corlock / Dorn/domph	Cavan	0	1	0	0	0	3	21
373	Scobroggon	Boscommon	0	0	0	0	0	0	9
374	Srabraggan Booolyy Hill	Loitrim	0	0	0	0	0	0	0
201	Killavagay Wood	Leitrim	0	0	0	0	0	0	19
382	Lavad Wood	Leitrim	1	2	1	0	0	2	36
386	Glassalt Wood	Leitrim	0	0	0	0	0	4 0	0
387	Camalt Wood	Leitrim	0	0	0	0	0	0	0 0
388	Derrycarne Demesne South	Leitrim	0	0	0	0	1	1	9
389	Lough MacHugh Wood	Leitrim	0	1	0	0	0	1	9
390	Aghadrumcarn Wood	Leitrim	Õ	1	Õ	0	0 0	1	9
392	Clooncahir Wood	Leitrim	Õ	0	õ	1	Õ	1	9
394	Corraleskin Wood	Leitrim	0	3	0	0	0	3	27
396	Summerhouse Wood	Leitrim	2	0	0	0	0	2	18
397	Cloone Lough Woods	Leitrim	0	1	0	0	0	1	9
399	Stracummer Woods	Leitrim	0	0	0	0	0	0	0
400	Derrycarne North	Leitrim	2	1	1	0	0	4	36
401	Lough Fea Demense	Monaghan	2	0	0	1	1	4	36
402	Black Lough & Lough Bawn Woods	Monaghan	1	1	0	0	0	2	18
403	Fairfield Demense	Monaghan	2	0	0	0	1	3	27
404	Old Wood	Monaghan	2	2	0	0	0	4	36
406	Nut Wood	Monaghan	1	0	2	0	0	3	27
407	Derryveen Wood	Monaghan	0	1	0	0	0	1	9
408	Drumever Woods	Monaghan	1	0	0	1	1	3	27
409	Drummully	Monaghan	0	1	0	0	0	1	9
410	Derrynashallog	Monaghan	1	1	0	0	0	2	18
411	Dromore West	Monaghan	1	1	0	0	1	3	27
412	Hollywood Lake Wood	Monaghan	0	1	0	0	1	2	18
414	Derrygorry Wood	Monaghan	0	1	0	0	0	1	9
416	Castleshane Demense Woods	Monaghan	2	1	0	0	0	3	27
417	Tully Wood	Longford	1	1	1	0	0	3	27
418	Carrickglass Demense Woods	Longford	2	0	0	0	0	2	18
419	Carrickglass Demense Woods West	Longford	2	0	0	1	0	3	27
421	Derryglogher Wood	Longford	0	1	0	0	1	2	18
422	Kiltyreher Wood	Longford	0	0	0	0	1	1	9
423	Inistale Wood	Roscommon	0	2	0	0	0	2	18
425	Cormongan	Leitrim	0	1	0	0	0	1	9
426	Derrycarne Shoreline	Leitrim	1	0	0	0	0	1	9
427		Leitrim	1	1	0	0	1	3	27
428	Esker North	Leitrim	0	0	0	0	0	0	0
430		Leitrim	1	1	0	0	0	0	U 10
432 120	Laryyuurinen Wooda Black River Wooda	Cavan	0	1 0	0	0	0	2	10 A
400 120	Garthrattan Wood	Cavan	0	1	0	0	0	1	0
443	Knocktemple	Cavan	0	1	0	0	1	2	18
446	Trinity Island Wood	Cavan	0	1	0	õ	1	2	18
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Site	Woodland Name	County	1025	Grati	Non	Non	Dame	Score	% Score
 448	Kilnaglare Lower Wood	Cavan	0	0	0	0	0	0	0
453	Drumgoa Wood	Cavan	0	0	0	0	0	0	0
454	Redhill Demense Wood	Cavan	2	1	0	0	0	3	27
455	Lavey	Cavan	0	0	1	0	1	2	18
456	Crocknahattin	Cavan	1	0	0	0	0	1	9
457	Drumbannan	Cavan	2	0	0	0	0	2	18
458	Lear	Cavan	0	0	1	0	0	1	9
459	Drummora Great Wood	Cavan	0	1	0	0	0	1	9
460	Gortnanoul Wood	Cavan	0	0	0	1	0	1	9
461	Makeif Wood	Cavan	0	1	0	0	0	1	9
463	Derinish More Wood	Cavan	0	1	0	1	0	2	18
465	Annagh Wood West	Cavan	0	1	0	0	0	1	9
466	Stonepark Wood	Cavan	0	1	1	1	1	4	36
467	St John's Wood	Roscommon	0	1	0	0	0	1	9
468	Black Island Wood	Leitrim	0	0	1	0	0	1	9
469	Meenagh Wood	Leitrim	2	2	0	0	1	5	45
470	Mantua House	Roscommon	2	0	2	0	0	4	36
471	Warren Point	Roscommon	0	0	0	0	0	0	0
472	Hughestown wood	Roscommon	0	1	0	0	0	1	9
474	Danesion Drumaarmiak Wood	Possommon	0	1	0	0	0	1	9
475	Drummana Jaland	Boscommon	0	1	0	0	0	۱ م	9 07
470	The Quartere	Boscommon	ے 1	1	0	0	0	3 2	10
477	Clooptykilla Wood	Roscommon	2	1	0	0	0	2	27
470	Knockvicker	Boscommon	0	0	0	0	0	0	0
475	Dooneen	Roscommon	0	1	0	0	1	2	18
481	Caslans Wood	Roscommon	0	0	0	1	0	1	9
482	Kilcloghan	Boscommon	0	1	0	0	0	1	9
483	Cloonsillagh	Roscommon	0	0	0	0	0	0	0
484	Derrymacstur	Roscommon	0	0	0	0	0	0	0
485	Knockranny	Roscommon	0	1	0	0	0	1	9
486	Doon Wood	Roscommon	1	2	0	0	0	3	27
488	Owengallees	Cavan	0	2	0	0	0	2	18
490	Gortnacargy	Cavan	0	1	0	0	0	1	9
493	Clontycarnaghan	Cavan	0	0	0	1	0	1	9
495	Moherreagh	Cavan	0	0	0	0	1	1	9
496	Tonyhamigan	Monaghan	0	0	0	0	0	0	0
497	Newtown Wood	Cavan	0	1	1	0	1	3	27
498	Erne Head	Longford	2	1	0	1	0	4	36
499	Glenfarne Wood	Leitrim	2	0	0	0	0	2	18
500	Tullyguide Lough	Cavan	0	1	0	0	0	1	9
501	Doogarymore	Roscommon	0	0	0	0	1	1	9
502	Killycarney	Cavan	0	3	0	0	0	3	27
503	Doogarymore Bog	Roscommon	0	1	0	0	1	2	18
504	Derrycassin	Longford	0	1	0	0	0	1	9
505	Corry Strand	Leitrim	0	0	0	0	0	0	0
610		Louth	2	0	1	1	1	5	45
612	Rathscar Lake	Louth	2	1	0	1	0	4	36
613	Cornamucklagh (Louth)	Louth	2	2	1	1	0	6	55
614	Corratober	Cavan	0	0	0	0	0	0	0
017	Gartriyiougn	Longford	0	1	0	0	U ₁	1	9
010 610	⊏nagnan Lisraborty	Longford	U 1	1	0	0	1	2	10 10
621	Skeed	Cavan	י 2	1	0	0	0	2	10 97
622	Anaverna	Louth	0	1	0	1	0	2	18
625	Cruicetown Wood	Meath	2	0	0	0	n	2	18
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				.0	shrub	Ň	N ^{ereus} x	Necar	ing acti	
	Site	Woodland Nama	County	W ^{25WC}	aratin	s Jon na	Nonina	ame	gi. Sooro	% Saara
-	629	Puckstown	Louth	0	0	<u> </u>	<u> </u>	1	3	27
	631	King William's Glen	Louth	0 0	0	0	1	0	1	9
	632	Beaulieu	Louth	2	1	0	1	0	4	36
	639	Ravensdale Park	Louth	0	2	1	1	0	4	36
	640	Red Bog	Louth	0	0	0	0	0	0	0
	643	Woodpole Fox Covert	Meath	0	0	0	0	0	0	0
	644	Fortland	Cavan	2	1	1	0	0	4	36
	645	Crover	Cavan	1	2	0	0	0	3	27
	647	Garrysallagh	Cavan	0	0	0	0	1	1	9
	648	Mulrick	Cavan	0	1	0	1	0	2	18
	649	Cornamucklagh (Cavan)	Cavan	0	1	0	0	0	1	9
	650	Carricknaveddan	Cavan	2	1	0	0	0	3	27
	652	Duncollog	Cavan	0	0	0	0	0	0	0
	654	Shinan	Cavan	0	1	0	0	0	1	9
	655	Darkley	Cavan	0	0	1	1	1	3	27
	656	Lisdoagh	Cavan	0	1	0	0	0	1	9
	657	Drumlumman	Cavan	0	1	0	0	1	2	18
	658	Knockbride	Cavan	2	1	0	0	0	3	27
	660	Cullies	Cavan	1	1	0	0	0	2	18
	661	Derrynure	Cavan	1	1	0	0	1	3	27
	664	Townley Hall	Louth	0	0	1	1	0	2	18
	668	Louth Hall	Louth	2	0	2	0	1	5	45
	670	Clondalee More	Meath	0	2	0	0	1	3	27
	671	Crossantown	Meath	0	0	0	0	0	0	0
	672	Castletowncooly	Louth	0	0	0	0	0	0	0
	675	Coragh	Cavan	0	1	0	0	0	1	9
	676	Cornagee	Cavan	0	2	0	0	0	2	18
	678	Carracloghan	Louth	0	1	1	0	0	2	18
	679	Collon	Louth	2	2	0	0	0	4	36
	680	Toomes	Louth	0	0	0	0	0	0	0
	681	Muff	Louth	0	1	0	0	0	1	9
	683	Phillipstown	Louth	0	0	0	1	1	2	18
	685	Annagh (Meath)	Meath	0	0	1	1	0	2	18
	686	Rock Wood	Meath	2	0	0	0	0	2	18
	687	Thomastown Bog	Meath	0	1	0	0	0	1	9
	688	Grove Island	Meath	1	1	1	1	0	4	36
	691	Billis	Cavan	0	1	1	0	0	2	18
	693	Beagh Blebe	Cavan	0	1	0	0	0	1	9
	694	Carricknaveagh	Cavan	0	2	0	0	0	2	18
	695	Annagharnet	Cavan	0	1	0	0	0	1	9
	696	KIII	Cavan	0	1	0	0	0	1	9
	698	Carrigan	Cavan	0	1	1	1	1	2	18
	699 701	Fiemingstown	Meath	2	0	1	1	0	4	30
	701	Bebiestown	Meath	2	1	0	0	0	2	10
	702	Clapmara Fax Covort	Meath	2	1	1	1	0	3	21
	703	Bog Woods	Meath	2 1	0	0	0	0	4	30
	704	Burtonstown	Meath	1	1	0	0	0	י 2	9 19
	703	Ardsalladb	Meath	1	0	1	0	0	2	10
	707	Derrysberidan	Meath	0	0	0	0	0	0	0
	713	Drive Wood	Meath	2	0	2	0	1	5	45
	715	Balrath	Meath	2	1	2	1	0	6	
	718	Birdhill	Meath	2	0	0	0	n	2	18
	724	Brittas (Meath)	Meath	2	n	1	n	n	3	.0 27
	726	Knightstown	Meath	0	0	2	0	ñ	2	18
	727	Culnagore Wood	Longford	Õ	0	0	0	0	0	0
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Site	Woodland Name	County	11125	Grati	Mour	Non	Dami	Score	% Score
 728	Coolamber	Longford	2	1	0	0	0	3	27
729	White Sand Wood	Longford	1	0	1	0	0	2	18
730	Clonbroney	Longford	0	1	0	0	0	1	9
731	Windmill Wood	Longford	2	0	0	0	0	2	18
732	Abbeyderg	Longford	0	0	0	0	0	0	0
733	Corrabola	Longford	0	0	0	0	1	1	9
734	Lislea	Longford	1	0	0	0	0	1	9
735	Larkfield	Longford	2	1	0	0	0	3	27
736	Cleraun	Longford	0	2	1	0	0	3	27
737	Newcastle West	Longford	0	2	1	1	0	4	36
738	Greenan South	Meath	1	0	0	0	0	1	9
742	Isaacstown North	Meath	0	0	1	0	0	1	9
743	Isaacstown South	Meath	0	1	2	0	0	3	27
745	Jamestown	Meath	0	0	1	0	0	1	9
746	Baltynanima	Wicklow	1	2	0	0	0	3	27
747	Breakey	Meath	0	1	0	0	0	1	9
748	Molerick	Meath	0	0	0	0	0	0	0
749	Tomnafinnoge	Wicklow	2	0	0	0	0	2	18
750	Newcastle East	Longford	1	0	0	1	0	2	18
751	Newcastle South	Longford	1	0	0	0	1	2	18
752	Yellow Island	Meath	0	1	2	1	1	5	45
753	Tree Island	Meath	0	0	0	0	0	0	0
756	Summerhill Demesne	Meath	1	1	0	0	0	2	18
757	Ballymurphy	Meath	2	1	0	0	0	3	27
760	Harristown (Meath)	Meath	1	1	0	0	0	2	18
762	Summerhill Lower	Meath	0	2	0	0	0	2	18
763	Milltown Glen	Meath	2	0	0	0	0	2	18
765	Newcastle	Meath	1	1	0	0	0	2	18
766	Drumard	Longford	0	1	0	0	1	2	18
767	Kiltyclogh	Longford	2	1	0	0	0	3	27
768	Forgney	Longford	0	0	0	0	1	1	9
769	Kilcommock Glebe	Longford	2	0	0	0	0	2	18
770	Glenmore	Longford	2	1	0	0	0	3	27
771	Golaroe	Longford	2	1	0	0	0	3	27
773	Kiltyreher North	Longford	0	1	0	0	0	1	9
774	Cornahoo	Longford	0	1	0	0	0	1	9
775	Derrybawn	Wicklow	1	0	0	0	0	1	9
776	Castlehoward	Wicklow	2	0	0	1	0	3	27
777	Glen of the Downs	Wicklow	1	0	0	0	0	1	9
779	Shelton Abbey North	Wicklow	1	0	0	0	0	1	9
780	Luggala Lodge	Wicklow	2	3	0	0	0	5	45
781	The Devil's Glen	Wicklow	1	0	0	0	0	1	9
783	Deputy's Pass	Wicklow	1	0	1	0	1	3	27
784	Oldboleys	Wicklow	0	3	0	0	1	4	36
785	Castlekevin	Wicklow	2	2	0	0	0	4	36
786	The Giants Cut & Lugduff	Wicklow	1	2	0	0	0	3	27
789	Knocksink	Wicklow	1	0	0	0	0	1	9
791	Kilmacrea Wood	Wicklow	0	0	0	0	0	0	0
792	Powerscourt Demesne North	Wicklow	2	2	1	0	0	5	45
793	Altidore Demesne	Wicklow	2	0	0	0	0	2	18
796	Ballyarthur	Wicklow	2	0	0	0	0	2	18
798	Kiltimon	Wicklow	2	0	0	0	0	2	18
799	Ballinagee Wood	Wicklow	0	0	0	0	0	0	0
800	Powerscourt Demense South	Wicklow	2	2	0	0	0	4	36
801	Brockagh	Wicklow	0	1	0	1	0	2	18
802	Ballinanty	Wicklow	1	0	0	0	0	1	9

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				wrups		reder	canov	activity	
				su.	and the second sec	Ne' a	N° .	mgs	
Cite	Weedland Name	Country	N ²⁵¹	aratin.	Jonne	Jonne	amat	, Seere	% Coore
 805		Longford	<u> </u>	1	<u>4</u>	<u>6</u>	<u>v</u>	Score	% Score
806	Kiltycreevagh	Lonaford	0	1	0	0	1	2	18
807	Cashel	Lonaford	0	2	1	0	2	5	45
808	Grillagh	Longford	0	0	0	0	0	0	0
809	Drumury	Longford	0	1	0	0	0	1	9
810	Lehery	Longford	0	3	0	0	0	3	27
811	Coolnahinch	Longford	0	0	0	0	1	1	9
814	Cronroe	Wicklow	2	0	0	0	0	2	18
815	Kilmacanoge South	Wicklow	0	0	0	0	1	1	9
818	Ballymacsimon	Wicklow	0	0	0	0	0	0	0
819	Brockagh South	Wicklow	1	0	0	0	0	1	9
820	Barnbawn	Wicklow	0	0	0	0	0	0	0
821	Ballyboy	Wicklow	0	2	2	0	0	4	36
822	Ballyross Wood	Wicklow	0	3	0	0	0	3	27
826	Newtownmountkennedy Demesne	Wicklow	0	2	0	0	0	2	18
827	Glenwood	Wicklow	0	0	0	0	0	0	0
828	Ballyman Glen	Wicklow	0	0	0	0	0	0	0
829	Ballycurragh	Wicklow	0	0	0	0	0	0	0
830	Coolballintaggart	Wicklow	0	0	0	0	0	0	0
831	Coolattin	Wicklow	0	0	1	0	1	2	18
833	Hollywood Demesne	Wicklow	0	0	0	0	0	0	0
834	Poulaphuca Bridge	WICKIOW	2	1	1	0	0	4	36
835	Mount Jessop	Longford	0	1	0	0	0	1	9
837	Durharagn	Longford	1	1	1	0	0	3	27
838	Dunbeggan	Longiora	0	1	0	0	0	1	9 10
040	Hazel Wood	Monaghan	0	2	0	0	0	2	10
042	Corlot	Monaghan	1	1	1	1	0	1	9
040 848	Island Bridge	Monaghan	0	1	0	0	0	4	30
840 840	Corrybrackan	Monaghan	0	0	1	0	0	1	9
852	Tullydlass	Monaghan	2	1	0	1	0	4	36
853	Annamarron	Monaghan	2	1	0	0	Õ	3	27
854	Kilmore West	Monaghan	0	0	0	0	0	0	0
856	Clohoge	Monaghan	0	0	0	0	0	0	0
858	Graffagh	Monaghan	0	0	0	0	0	0	0
860	Reduff	Monaghan	2	2	0	0	0	4	36
861	Killygally	Monaghan	0	0	0	0	1	1	9
862	Annahaia	Monaghan	0	0	1	1	1	3	27
864	Back Wood	Monaghan	0	2	0	1	0	3	27
865	Lutrellstown	Dublin	2	0	2	0	0	4	36
866	Brooklawn Wood	Dublin	2	0	1	1	1	5	45
868	Drumillard Big	Monaghan	0	1	0	0	0	1	9
870	Coolawinnia	Wicklow	0	0	0	0	0	0	0
871	Blackditch	Wicklow	0	0	0	0	1	1	9
872	Seabank	Wicklow	0	0	0	0	0	0	0
874	Hollywood Glen	Wicklow	0	0	0	0	0	0	0
875	Glennashouk	WICKIOW	0	0	0	0	0	0	0
8/6	Roundwood	WICKIOW	0	2	0	0	0	2	18
881	Howin Demesne	Dublin	2	0	0	1	0	3	27
003	Santry Demesne	Dublin	1	0	0	1	1	1	9 10
004	Kilguada	Wicklow	1 2	0	0	0	0	2	10
000	Clonkeen	Wicklow	ے ۱	0	1	0	0	2	10 19
801	Ballyward	Wicklow	0	0	1	0	1	2	18
895	Deerpark (Wicklow)	Wicklow	2	0	1	0	2	5	45
896	Rathsallagh Demense	Wicklow	2	0	1	0	1	4	36

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				shrubs		ve regene.	wecanop	og activitie	
Sit	e Woodland Name	County	Invasive	Grating	Nonna	Non-na	u Dama	Score	% Score
89	9 Askakeagh	Wicklow	0	0	0	0	0	0	0
90	2 Mungacullin	Wicklow	1	0	0	0	0	1	9
90	3 Laragh	Wicklow	0	0	0	0	0	0	0
90	4 Cronelea	Wicklow	0	0	0	0	0	0	0
90	6 Knockraheen	Wicklow	0	0	0	0	0	0	0
90	7 Coolkenna	Wicklow	0	1	0	0	0	1	9
90	8 Money Upper East	Wicklow	0	0	0	0	0	0	0
90	9 Money Upper West	Wicklow	0	0	0	0	0	0	0
91	0 Kilruddery Deerpark	Wicklow	1	0	0	0	0	1	9
91	4 Ballinagee	Wicklow	0	2	0	0	0	2	18
91	5 Malahide Demesne	Dublin	2	0	1	1	0	4	36
91	6 Newbridge Demesne	Dublin	2	1	2	0	0	5	45
91	7 Pumphouse Wood	Dublin	2	1	0	0	1	4	36
91	8 Loughlinstown Wood	Dublin	1	1	0	0	2	4	36
91	9 Fitzsimons Wood	Dublin	1	0	0	0	0	1	9
92	1 Brackenstown Wood	Dublin	2	1	1	1	1	6	55
92	2 Dunganstown West	Wicklow	2	2	0	0	1	5	45
92	3 Ballard Lower	Wicklow	0	3	0	1	0	4	36
92	4 Kelshabeg	Wicklow	0	0	0	0	1	1	9
92	5 Crooksling Glen	Dublin	1	0	2	1	0	4	36
92	7 Donadea Forest Park	Kildare	0	0	2	0	2	4	36
93	0 Blackwood	Dublin	2	1	1	1	0	5	45
93	1 Balcarrick	Dublin	1	1	0	1	0	3	27
93	4 Rush Demesne	Dublin	2	1	1	1	0	5	45
93	5 Bray Head Woodland	Wicklow	0	1	1	1	0	3	27
93	8 Carton Demense	Kildare	2	0	1	1	0	4	36
93	9 Kilteel Wood	Kildare	0	1	0	0	0	1	9
94	2 Carbury Wood	Kildare	2	0	0	0	0	2	18
94	3 Templelyon Lower	Wicklow	0	0	0	0	0	0	0
94	4 Templelyon Upper	Wicklow	0	0	0	0	0	0	0
94	7 Russellswood	Kildare	0	0	0	1	0	1	9
94	8 Rahin Wood (Kildare)	Kildare	0	0	0	0	1	1	9
95	1 Kilcarra West	Wicklow	1	0	0	0	2	3	27
95	2 Avondale	Wicklow	0	0	0	0	0	0	0
95	5 Graigue	WICKIOW	0	0	0	0	1	1	9
95	6 Fiddancoyle	WICKIOW	0	0	1	0	0	1	9
96		WICKIOW	0	2	0	1	0	3	27
96		Kildare	0	1	0	1	3	5	45
96	6 Ballymore Euslace	Kildaro	2	1	2	0	2	6	55 45
96	7 Mullaghreelan wood	Kildare	1	1	1	0	2	5	45
96		Kildaro	0	1	0	0	1	1	9 10
97	1 Dernaullagh Jolond	Kildaro	0	1	0	0	1	2	10
97	4 Moode	Kildare	0	1	0	0	0	1	9
97	4 Moods 5 Royal Oak	Kildare	1	1	0	0	1	2	9 07
97	8 Pollardstown Wood	Kildare	0	0	0	0	0	0	2/
97	1 Newbridge School Wood	Kildare	2	1	1	1	0	5	45
98	2 Greatconnell	Kildare	0	0	0	0	1	1	45 Q
98	4 Coolbeg	Wicklow	0	0	0	0	0	0	0
98	7 High Park Upper	Wicklow	2	0	0	0	1	3	27
98	8 Manger Wood	Wicklow	1	1	0	0	0	2	18
90	0 Kilmullin	Wicklow	1	0	1	õ	ñ	2	18
90	2 Money Big	Wicklow	0	õ	0	Ő	1	1	9
99	4 Coolinarrig Lower	Wicklow	1	õ	0 0	õ	1	2	18
99	6 Carrigeenduff	Wicklow	0	0	0	0	0	0	0
99	9 Tithewer	Wicklow	1	0	0	0	0	1	9

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				S		eners	, 00 ⁰	i wittle	9
				shrub		vereor	ue call	. d actil	
			asive	Ting	, nat	it ninat	nar	Ins	
Site	Woodland Name	County	INVE	Gron	Nor	Nor	Darr	Score	% Score
1001	Glendarragh	Wicklow	1	0	0	0	0	1	9
1003		Kildare	0	1	0	0	0	1	9
1004	Ballycullane	Kildare	0	1	2	0	1	4	36
1005	Foxnill	Kildara	0	1	0	0	0	1	9
1006	Kildangan Mitabala Maad	Kildara	1	1	0	0	0	2	18
1007	Martinatown	Kildaro	2	1	0	0	1	4	30
1008	Martinstown	Kildaro	1	0	0	0	1	2	18
1010	Derrylea Carge	Kildare	0	1	1	0	0	0	10
1011	Denylea Sinali Denode Big	Kildara	0	0	1	0	0	2	10
1014	Donode Big Maguiro'a Wood	Kildaro	0	1	0	0	1	0	26
1017	Larach Domosna	Kildaro	2	1	0	0	0	4	30
1010	Kilmoro	Kildare	2 1	1	2	0	0	5	40
1020	Riillole	Kildare	0	ו ס	0	0	1	2	10
1021	Knockpacroe Wood	Kildaro	0	3 2	0	0	0	4	10
1022	Rutonhall Domonso	Kildaro	0	2	0	0	0	2	10
1023	Moono Woodlands	Kildare	0	1	0	0	1	2	19
1024	Moone Park	Kildaro	0	0	1	0	0	2 1	0
1025	Spratstown	Kildaro	0	0	0	0	0	0	9
1020	Burton Little	Kildaro	1	1	1	0	0	3	0 27
1020	Crappagh	Monaghan	0	1	0	0	0	1	0
1033	Comertagh	Monaghan	0	0	1	0	0	1	9
1042	Barrymore North	Boscommon	0	0	0	0	0	0	0
1042	Barry More Shore	Boscommon	0	2	0	0	0	2	18
1045	Lugnashammer	Boscommon	0	1	0	0	1	2	18
1040	Harristown (Boscommon)	Boscommon	0	1	0	0	0	1	۱۵ ۵
1047	Grav's Wood	Boscommon	2	1	0	0	0	3	27
1050	Willsgrove	Roscommon	2	0	0	0	0	2	18
1052	Cloopageeragh	Roscommon	0	1	0	0	0	1	۵ ۵
1052	Mountdillon	Boscommon	0	0	0	0	0	0	0
1054	Carrowroe	Boscommon	1	0	0	0	0	1	q
1057	Faltia	Roscommon	0	0	1	0	Õ	1	9
1058	Johnstown Demesne	Roscommon	0	0	0	0	0	0	0
1059	Mount Talbot South	Roscommon	0	0	0	0	0	0	0
1060	Carrownalogh	Roscommon	0	0	0	0	0	0	0
1061	Cornaseer	Roscommon	0	1	0	0	0	1	9
1063	The Glen	Monaghan	0	0	0	0	0	0	0
1064	Capragh Lough	Monaghan	1	0	0	0	0	1	9
1076	Scragh Bog	Westmeath	2	1	0	0	1	4	36
1078	Lough Owel Wood	Westmeath	2	1	0	0	0	3	27
1079	Ballynafid	Westmeath	2	1	0	0	0	3	27
1081	Lough Ennell Wood	Westmeath	0	1	1	0	0	2	18
1084	Gaybrook Demense	Westmeath	2	0	1	0	0	3	27
1085	Clonsingle	Westmeath	2	1	0	0	0	3	27
1086	Meehan Wood	Westmeath	0	0	0	0	0	0	0
1087	Lissakillen North	Westmeath	1	1	0	0	1	3	27
1088	Whinning Wood	Westmeath	0	1	0	0	1	2	18
1090	Creaghduff	Westmeath	0	0	0	0	0	0	0
1093	Joanstown Wood	Westmeath	0	1	0	0	1	2	18
1094	Baronstown Demense	Westmeath	0	1	0	0	1	2	18
1095	Lough Iron Wood	Westmeath	1	1	0	0	0	2	18
1096	Tristernagh Demense	Westmeath	0	1	0	0	0	1	9
1097	Knockeyon Wood	Westmeath	0	0	0	0	0	0	0
1098	Gartlandstown Wood	Westmeath	0	1	0	0	0	1	9
1099	Kiltoom	Westmeath	1	1	0	0	0	2	18
1100	Donore	Westmeath	0	0	1	0	0	1	9

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			,e	shrun		iveres at	INe cia	ing act	
Site	Woodland Name	County	Invasiv	Grating	Non-ne	Noninio	Dama	Score	% Score
1101	Lackan Wood	Westmeath	0	1	0	0	1	2	18
1102	Kiltober Esker	Westmeath	0	1	0	0	0	1	9
1103	Longhill Esker	Westmeath	0	0	0	0	0	0	0
1104	Ballymacmorris Wood	Westmeath	1	1	0	0	0	2	18
1105	Higginstown Wood	Westmeath	0	0	0	0	0	0	0
1106	Bracklin Wood	Westmeath	2	1	0	0	0	3	27
1107	Ballyhealy (Westmeath)	Westmeath	0	1	1	0	1	3	27
1108	Tonlemony Wood	Westmeath	0	1	0	0	0	1	9
1109	Corr Wood	Westmeath	2	1	0	0	0	3	27
1110	Cavestown	Westmeath	1	2	0	0	2	5	45
1111	Lough Slevin's Wood	Westmeath	2	2	0	0	2	6	55
1112	Kinturk Demense	Westmeath	1	1	0	0	1	3	27
1114	Carnpark	Westmeath	1	1	1	0	1	4	36
1115	Caran Wood	Westmeath	0	1	1	0	1	3	27
1116	Cornacuask	Westmeath	2	1	0	0	0	3	27
1117	Ballykildevin	Westmeath	1	1	0	0	0	2	18
1118	Clothes Rock Wood	Roscommon	2	1	1	0	1	5	45
1119	Mount Talbot North	Roscommon	0	0	0	0	1	1	9
1120	Cloonmore	Roscommon	0	1	0	0	0	1	9
1121	Lecarrow	Roscommon	0	0	0	0	0	0	0
1124	Ardan Wood	Westmeath	0	1	0	0	0	1	9
1125	Barbavilla Demense	Westmeath	2	0	2	0	0	4	36
1127	Pakenhamhall	Westmeath	0	1	0	0	1	2	18
1128	Tullynally	Westmeath	0	0	0	0	0	0	0
1131	Reynella	Westmeath	1	0	0	0	0	1	9
1132	Reynella Lough	Westmeath	2	1	0	1	0	4	36
1133	Ballyowen	Westmeath	0	2	0	1	1	4	36
1141	Clonybane	Westmeath	1	0	0	0	0	1	9
1143	Knockasha Wood	Westmeath	0	1	0	0	0	1	9
1145	Gortnatada	Westmeath	0	0	0	0	1	1	9
1146	Bunanagh Wood	Westmeath	0	1	0	0	0	1	9
1147	Coolalough	Westmeath	0	0	1	0	0	1	9
1148	Glassavullaun	Dublin	0	1	0	0	0	1	9
1149	Lough Crew	Weath	0	0	0	0	0	0	0
1150	Collon North	Louin	2	2	1	0	0	5	45
1151	Phoenix Park	Dublin	0	3	0	0	0	3	27
1152	Abbolstown South	Meath	2	0	1	1	0	5 1	40
1153	Gartinadross	Cavan	0	1	1	0	0	ו ס	9 19
1154	Adhyraesy	Westmeath	0	י 2	0	0	0	2	10
1155	Flagpole Lough Shore	Monaghan	2	2	0	0	0	2	10
1150	Skeach Headland	Cavan	2	1	0	1	0	4	36
1158	Killyconigan	Monaghan	1	1	2	0	0	4	36
1159	Barmeath Castle Hill	Louth	2	1	0	1	0	4	36
1160	Porteen Wood	Boscommon	0	0	0	0	0	0	0
1161	Derrycassan	Cavan	0	0	0	0	0	0	Õ
1162	Mullaghmacateer	Monaghan	Õ	3	Õ	0	1	4	36
1163	Killycramph Wood Shoreline	Cavan	1	0	Õ	Õ	0	1	9
1164	Newtown	Cavan	0	0	0	0	0	0	0
1166	Newtownlow Esker Woodland	Westmeath	0	0	0	0	1	1	9
1167	Tuckmill Hill	Wicklow	0	3	0	0	1	4	36
1168	Rathshane	Westmeath	1	2	0	0	1	4	36
1169	The Quill Woods	Wicklow	0	0	0	0	0	0	0
1170	Bellamont Forest Centre	Cavan	2	0	0	0	0	2	18
1171	Derrysheridan South Shore	Meath	0	1	0	0	0	1	9
1172	Derrysheridan North Shore	Meath	0	0	0	0	0	0	0

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				5		denera	nopy	ivitie	b
				shrut	in	eres in	e ^{co.}	19 ^{3CL}	
0:44	Weedland Name	Ocumbu	N ^{25IVE}	crating.	Ionnat	Jonnat	amagi		0/ 0
 1173	Capragh Lough South	Monaghan	<u></u>	0	<u>6</u>	6	<u>v</u>	O	% Score
1174	Annies Bog	Monaghan	0	0	0	0	0	0	0 0
1175	Coolnacarte Plantation	Monaghan	2	0	0	Õ	1	3	27
1176	The Downs Wood	Monaghan	2	0	1	0	1	4	36
1177	Lough Fea Lake	Monaghan	2	1	0	0	0	3	27
1178	Derrylavan	Monaghan	2	0	0	0	0	2	18
1179	Stickillin	Louth	0	0	0	0	0	0	0
1190	Shelton Abbey	Wicklow	0	0	0	0	0	0	0
1191	Allenwood North	Kildare	1	1	0	0	1	3	27
1193	Carrick	Kildare	0	1	0	0	0	1	9
1194	Kilcooney River Wood	Kildare	1	0	0	0	1	2	18
1196	Loughnacush	Kildare	0	0	0	0	0	0	0
1198	Heritage Park Wood	Kildare	0	1	0	0	0	1	9
1199	Ballindoolin	Kildare	2	1	0	0	2	5	45
1200	Leopardstown Woods	Dublin	2	1	1	0	2	6	55
1201	Clongowes College wood	Kildare	0	0	1	1	0	2	18
1205	Rickardstown North	Westmeath	2	1	0	0	0	3	27
1206	Rickardstown South	Westmeath	0	1	0	0	1	2	18
1207	Clonyn	Westmeath	0	1	0	0	0	1	9
1209	Cooksborough	Westmeath	0	1	0	0	1	2	18
1210	Kilcleagh	Westmeath	2	1	1	1	1	6	55
1211	Bolinarra Bog Wood	Westmeath	0	0	0	0	0	0	0
1212	Killachonna	Westmeath	0	1	0	0	0	1	9
1213	Auburn	Westmeath	1	1	1	0	0	3	27
1215	Allenwood Road Wood	Kildare	1	0	0	0	0	1	9
1216	Ballindoolin Bog Wood	Kildare	0	1	0	0	0	1	9
1217		Kildare	2	1	0	0	0	3	27
1218	Plan Wood	weath	1	0	0	1	0	2	18
1219	Knockagn	Covan	0	0	0	0	0	0	0
1220	Sriwool	Monaghan	0	0	0	0	1	1	0
1221	Lannat	Louth	0	1	0	0	1	ו 2	9 18
1222	Oabill	Cavan	0	0	0	0	0	0	0
1227	Stormanstown Bog	Louth	0	1	1	0	0	2	18
1228	Carrickynaghtan	Roscommon	Õ	1	0	Õ	1	2	18
1229	Tavlorstown	Roscommon	0	1	0	0	1	2	18
1230	Barrymore	Roscommon	0	1	0	0	1	2	18
1231	Thomastown Demense	Roscommon	0	0	1	0	1	2	18
1233	Drumalagagh	Roscommon	0	2	0	0	1	3	27
1234	Coosan Point Hazel Wood	Westmeath	0	2	0	0	0	2	18
1235	Killinure North	Westmeath	0	1	0	0	0	1	9
1237	St. Catherine's Wood	Dublin	2	1	0	0	0	3	27
1238	Money Lower	Wicklow	0	0	0	0	0	0	0
1239	Money East	Wicklow	1	0	0	0	0	1	9
1240	Ballymarroge	Wicklow	1	0	0	0	1	2	18
1241	Rosahane	Wicklow	0	0	0	0	0	0	0
1242	Carrickobreen River Wood	Westmeath	0	0	0	0	0	0	0
1243	Carrickobreen Bog Wood	Westmeath	0	1	0	0	1	2	18
1250	Shurock Wood	Westmeath	0	0	0	0	1	1	9
1251	Corduff East	Cavan	0	1	0	0	0	1	9
1252	Corduft West	Cavan	U	1	U	U	U	1	9
1253	Ongenstown	Meath	0	0	0	0	0	0	0
1254		Meeth	U	3	1	U	U	4	36
1255	Ungenstown west	Moath	0	2	1	0	U	3	2/
1250	Lisifiuiiii Blackaastla Domoona	Moath	1 2	0	∠ 1	1	1	4	30 45
1200	Diacheastic Delliestic	moaill	<u> </u>	U	1	1	1	5	4J

Site	Woodland Name	County	Invest	e shubs	Nonit	Ative regeners	live canop	jing activities Score	≫ % Score
1260	Collon Northwest	Louth	0	3	0	0	0	3	27
1261	Farnham Loughshore	Cavan	0	0	0	0	0	0	0
1262	Ballinrink	Meath	0	0	0	1	0	1	9
1263	Tubbrid	Meath	0	0	0	0	0	0	0
1264	Halfcartron	Meath	2	0	0	0	1	3	27
1265	Collon Wood	Louth	1	3	0	0	1	5	45
1266	Bellews Hill	Louth	0	0	2	0	1	3	27