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BIOMAR SURVEY OF IRISH MACHAIR SITES 1996

Volume 1: Site Information

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VOLUME 1

SITE INFORMATION

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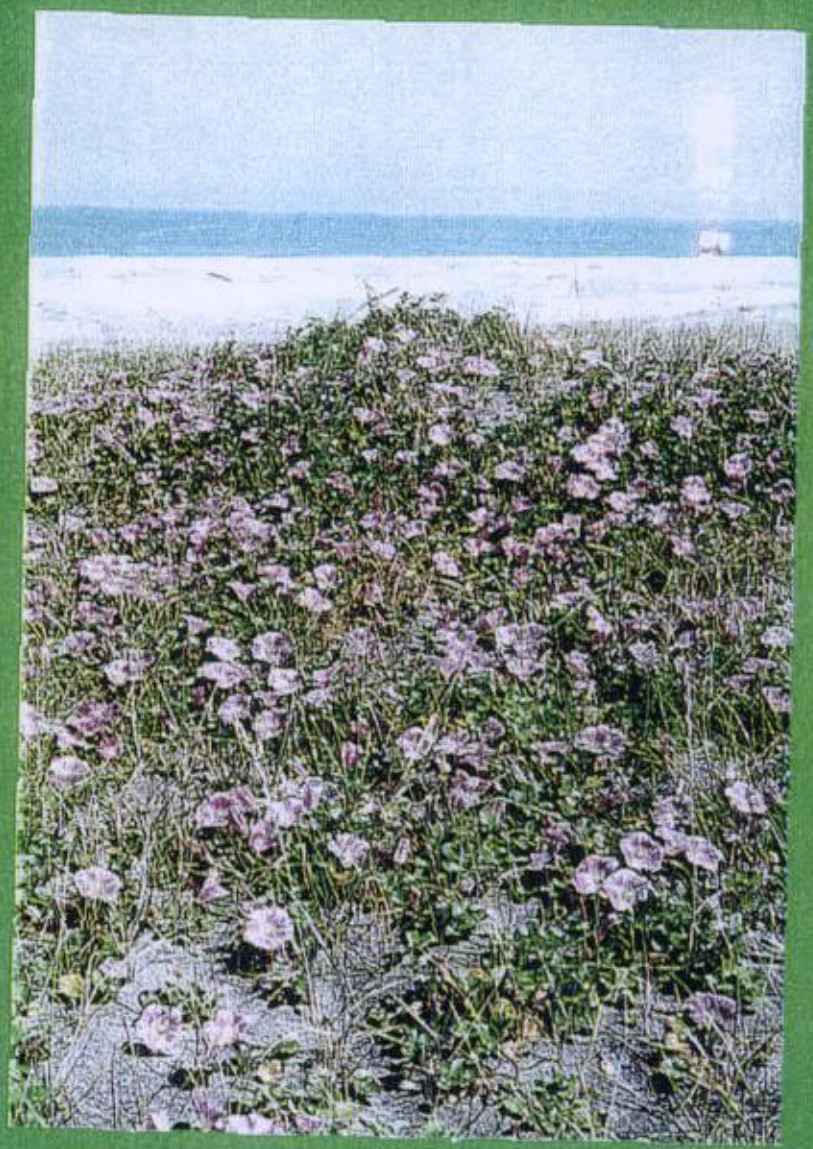

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1 INTRODUCTION

This survey commenced on 27th May 1996. A week was spent in Dublin collecting field equipment and photocopying maps and recording forms for the field. Relevant information was copied from the site files. 159 man-days were spent surveying the selected sites; this time does not include travel time or time lost to inclement weather

1.1 AIMS AND OBJECTIVES

The aims and objectives of this contract were to:

- To extend the type of intensive survey carried out at Dooaghtry to other machair sites selected by O.P.W.
- To assess these sites according to their potential suitability for selection as S.A.C.'s.
- To make an inventory of Annex I habitats and Annex II plant species recordred at each site.
- To make an inventory of the vegetation types occurring at each site.
- To describe the main geomorphological characteristics of each site.
- To comment on current management practices at each site and prescribe future management.

The distribution of sites included in this survey are indicated on the map on page 24 of this volume. Site selection criteria followed that summarised by Bassett and Curtis, which has been used to describe 'Machair' in the Habitats Directive. These sites exhibit the following characteristics:

1 A mature, level, coastal sand plain.
2 A substantial proportion of shell fragments in the sand composition producing a lime-rich soil.
3 Grassland vegetation with a low frequency of sand-binding species; basically a *Festuca-Galium* fixed dune grassland (SD8d and SD8e) in National Vegetation Classification terms. (Rodwell in prep)
4 Past and present human management, principally grazing.
5 A moist, cool, oceanic climate.

2 METHOD

In order to achieve the above objectives a season of intensive survey with a three man team was planned. The British National Vegetation Classification (Rodwell) approach was adopted as this has a standard procedure for the acquisition and analysis of botanical data and the production of vegetation maps. It has also been used to describe the Scottish machair sites (Crawford) and so enables a direct comparison to be made ignoring national frontiers. The Braun-Blanquet system of phytosociological recording, which has traditionally been used in Ireland (White and Doyle), is compatible with the National Vegetation Classification (NVC) and there are many direct synonomies. Overall it was thought that the NVC was the easier to use in the field . The Habitats Directive refers to NVC community types in the description of Annex I habitats expected in this survey.

2.1 FIELD TECHNIQUES

Each site was initially assessed and the vegetation divided, by the surveyor, into apparently homogeneous stands. Within each stand type typical sample areas were chosen and the vegetation recorded from within a 2m x 2m quadrat. In scrub and some strandline communities a 5m x 5m quadrat was used as this size gives a more representative array of species. The NVC field manual recommends that a minimum of 5 quadrats should be recorded from each stand type. Time constraints did not allow this recommendation to be followed in all cases but care was taken to ensure that at least one full quadrat record exists for each stand type in every site. As the survey was extensive and focussed on a particular habitat there was ample replication of the major communities for the final analysis. However, some of the rarer or marginal (to a coastal situation) communities do not have a full compliment of replicates. The number of qudrats representing any given community is therefore roughly proportional to that community's frequency and abundance within the whole survey.

Within the quadrats all vascular plants, bryophytes and lichens were identified and recorded using the Domin cover/abundance scale. This information was recorded on a standard field record card

along with information on soil type, aspect, slope, vegetation height and land management. A brief description of the quadrat and any other relevant information was also recorded on the card. A representative selection of soils were collected from each site for the determination of pH.

Target notes were taken to note particular features or to comment on land use. They were not used to describe vegetation as target notes are not comparable to a full quadrat record and cannot readily be used with them in a computer analysis.

2.2 DATA ANALYSIS

During a British survey, and depending on the experience of the surveyor, an initial NVC community allocation of vegetation stands can be made in the field. This enhances the speed of the survey and is an aid to mapping. However, as this survey was not taking place in Great Britain (although the NVC has been applied to a Northern Irish coastal survey (Cooper and Crawford) it was thought that any reference to NVC communities should await a final analysis.

Allocation of vegetation types was carried out solely by reference to quadrat records already taken from similar stand types on that particular site during this survey. In this way it was hoped that there would be no bias to previously described communities and no imposition of a vegetation classification system derived from a different geographic area. Sufficient quardats needed to be taken in order to reveal real similarities and real differences across geographic gradients and also to extend the range of plant communities described in a single classification system. Such a database is essential if objective assessments are to be made on a site's suitability for inclusion in conservation programmes. In this survey nearly 1500 quadrats were recorded.

A detailed analysis was carried out after field work completion and when all plant identification has been confirmed. Quadrat data was entered onto the computer using the VESPAN suite of programmes devised by Andrew Malloch of Lancaster University. An initial Twinspan analysis was performed on the total data set. This required the use of mainframe printing facilities. Subsets of data were further run through Twinspan again in order to achieve a finer separation of the vegetation. The end groups resulting from this analysis were compared with the keys, tables

and written descriptions provided in the various chapters of the National Vegetation Classification and previously described coastal vegetation from Ireland. In most cases these groups correspond to an NVC type, albeit sometimes with a distinct character, but in some cases non-NVC communities were encountered and described. This data is presented in table format and each community type is discussed fully in Volume 2 of this report. There was not time allocated to fully compare data from this survey with existing data from other surveys, so only cursory references have been made to the large body of botanical data that exist.

2.3 VEGETATION MAPPING

Areas of homogeneous vegetation, quadrat location and target note location were drawn onto 1:5,000 copies of O.S. maps. This scale is most suitable as the size is both manageable on clipboards in the field and yet large enough for the depiction of every NVC community types present on the site, even linear ditch and bank vegetation.

Field maps were inked over immediately the site survey was completed so any errors could be corrected or re-surveyed. Unfortunately facilities were not available to digitise the site maps. This would have enabled a comparative assessment of areas of particular vegetation types, a correlation of different aspects of this, and other, surveys and produced a more quantifiable data set. The maps were copied by hand.

2.4 AQUATIC SAMPLING

The aquatic vegetation of most of the waterbodies encountered during this survey was sampled using a custom-built drag (see photo. 96.926.32/33/34). Chara communities are not described in the NVC although they are in White and Doyles catalogue of Irish vegetation. Chara dominated communities encountered on this survey are described in Volume 2 of this report but these habitats and vegetation types would benefit from a full and systematic study in the future.

2.5 GEOMORPHOLOGY

A map overlay depicting geomorphological features has been produced for every site. These are simpler than the vegetation maps and can therefore often give a better impression of the salient characteristics of a site, such as drainage patterns and rock outcropping. If the maps are digitised it would be possible to correlate vegetation types with geomorphology. The occurrence of intertidal peat deposits has been recorded on this map. This is an important record as it has implications for coastal retreat and sea level rise and gives some indications of site dynamics. The distribution and occurrence of peat deposits is of interest to university departments involved in Holocene Research.

2.6 ARCHAEOLOGY

Archaeological deposits have been recorded on the vegetation map using Target notes; they usually have a photograph. Although this was not a remit of the contract the sites were covered so intensively it was easy to include this information. The organically enriched soil horizons were briefly checked for dateable artifacts; usually with negative results. The record of human settlement has implications for past management and therefore site dynamics and landscape development. Where relevant this information is discussed on the site specific page of this report (Volume 1).

2.7 PLACE NAMES

The site names used in this report conform to those used in the files at OPW, but it was difficult to maintain consistancy with the spelling of site names as sometimes there are variants even on different editions of the Ordnace Survey maps. Place names are not just of academic interest to a survey such as this as they tend to be descriptive and can be used in interpreting a landscape's geomorphological and management history. However, a detailed appraisal of place names both on the ground and in the existing literature, was outside the scope of this survey.

3 PHOTGRAPHIC CATALOGUE

A full photographic record has been compiled in addition to the site and botanical report. This includes both general photographs to give an overall impression of the site and context of the plant communities and close up shots to portray the structure and composition of the species assemblage and its relationship to neighbouring communities. Many features referred to by Target note have also been photographed. Every photographic print has a reference code which incorporates chronological information. (The first two digits -96, are the year of survey, the next three are the photographer -IC = 9.. and JC = 5.. - then the film number . The last two digits are the negative number.) This record was entered onto computer using Excel spreadsheet package, they have also been cross-referenced with their respective quadrat or target note.

The main body of the photographic record is stored, with the catalogue, in Volume 5. A copy of the catalogue is included in this Volume as Appendix 7. A number of prints have been extracted for illustration of appropriate plant communities in Volume 2. It was originally intended to illustrate more comprehensively, using most of the prints in a relevant site or community context, however time constrictions did not allow this.

4 RESULTS

4.1 PRESENTATION OF RESULTS

The large quantity and diverse nature of the survey data necessitated a rationalisation of the report into five separate volumes.

Volume 1: Contains the introduction to the survey, methodology, rationale and general discussion. Each site surveyed is briefly discussed with respect to habitat diversity, management and geomorphology. Target notes and all the plant communities pesent at time of survey are listed with their respective sites. There are eight Appendices summarising various aspects and assessments.

Appendix 1 Lists the OPW site number, number of quadrats and plant communities per site, date of survey and number of man-days surveying time.

Appendix 2 Lists the Ordnance Survey 1/2" and 6" reference for the sites.

Appendix 3 All sites have been ranked on a 1 to 10 scale, relative to each other, according to a range of management and abiotic criteria. This has been done for perceived 'threats' to the site (high score is high threat) and for an assessment of their conservation interest (high score is high interest). This was a subjective appraisal but it was an assessment in the field and in comparison with the other sites. To counter subjectivity, and to make it of use in justifying SAC status, the various factors have been detailed; so, for example, it is possible see that a site is threatened more from sediment depletion than overgrazing.

Appendix 4 *Lists all plant communities, by code and name, present in the survey. It also* records the number of samples taken for each vegetation type.

Appendix 5 Lists the plant communities and at what site they were found.

Appendix 6 Lists the quadrat numbers in ascending order and the allocated plant community. Photographic print number, if present, is also recorded.

Appendix 7 Lists all photographic prints with reference number and description.

Appendix 8 Lists Annex 1 habitat types present at each site.

Volume 2 (a/b): Contains the total, analysed vegetation data, presented in tables and catalogued according to the British National Vegetation Classification system. NVC nomenclature (and style of nomenclature for new communities) has been used. Each plant community is described and compared to the published NVC description. A brief reference is made to some of the comparative Irish data but a detailed study was impossible due to time limitations. It is hoped that this information will form a baseline database which can be supplemented in the future with further records from other habitats and other coastal sites.

Volume 3 (a/b/c): Contains the Quadrat record, 1,455 samples, as collected in the field.

Volume 4: Contains all the site 1:5,000 ordnance survey base maps, 27 in total, with vegetation and geomorphology overlays (stored separately in map cabinet).

Volume 5: Is the Photographic catalogue. Prints are in chronological order with a comprehensive list. Some prints have been extracted to illustrate the appropriate plant communities in Volume 2.

4.2 RARE AND SCARCE PLANTS

This survey was carried out in conjuction with a parallel survey for rare coastal plants. This meant that although the NVC methodology of quadrat selection was broadly followed, i.e. throwing a random quadrat within a selected stand of homogenous vegetation, particular attention was paid to recording the vegetation communities in which rare species occur. This might have led to slight over representation of rare species in the data set.

It is worth noting for future surveys that the comprehensive and systematic nature of the vegetation survey/mapping procedure led to the confirmation and discovery of many rare and threatened plant species, e.g. *Draba incana, Astragalus danica and Pseudorchis albida.* The rare plant survey was only necessary on the sites not already selected for the machair survey, or the unsurveyed area surrounding these selected sites.

5 DISCUSSION

5.1 VEGETATION TYPES

Most of the community types analysed corresponded well with the NVC communities previously described in Great Britain and could be allocated an NVC code with confidence. Even when the data justified the erection of a 'new' community it could still be allocated a group code (ie CG, SD etc.); where this was the case 'X' was used to denote an extra community. When it was felt that a group of samples needed a new sub-community rating the next letter in the NVC nomenclature was taken (eg SD8f).

The interpretation of plant communities found on this survey is open to review, not least as the time constraints prohibited an exhaustive analysis. Many of the 'new' communities, and extensions of existing ones, would benefit from the adddition of more Irish data to validate them. A broad view of what constitutes a 'site' was taken on this survey to enable machair and dune vegetation to be placed in context. This has meant that a percentage of the samples, mainly Mires and Bogs, Calcicolous grasslands, Heaths and Woodlands, may well not be representative samples of their type. These samples are likely to be marginal, transitional and oceanic and must await comprehensive surveys of these habitats before any community nomenclature can be established. Water bodies were not systematically sampled on this survey so the Chara dominated samples are only indicative of the aquatic vegetation. The Mire and Bog vegetation sampled would indicate a greater degree of variation than described in the NVC; but, based on other Irish and Scottish west coast surveys, this was to be expected.

The main corpus of the botanical samples are from dunes and their associated grasslands and wetlands and it is only these groups that can be said to have been comprehensively sampled from the study area of the north and west Irish coast. However, time constraints have not permitted a comparison with existing data and therefore a definitive analysis of the vegetation from these habitats awaits further funding.

In the west the oceanicity of the climate and the predominantly grazing management promote a great variety of mesotrophic grasslands and fen vegetation within a sand dune system. The spatial and floristic relationships between the wetter expressions of the *Festuca-Galium* dune grassland (SD8d and SD8e), the mesotrophic grasslands (MG5, MG11 and MGX1) and the *Carex nigra*-dominated communities (MX1 and SX3) are complex and are in need of rationalisation. This complexity led to the rejection of the NVC's SD17 as a valid community and the creation of a range of *Carex nigra* communities and sub-communities. Similar *Carex nigra* communities have been described from Scotland (Crawford) but have no English equivalents. The prevalence of *Agrostis stolonifera* in the vegetation of the north and west necessitated the expansion of the MG11 community. The tables of these communities (see Volume 2) show a great degree of overlap and cut off points for sample allocation was difficult. It would have been permissable to devise a 'rag-bag' community based on the computer analysis, however, despite the similarity of species composition, there were visual and map-able distinctions on the ground; the communities erected are valid. The micro-patterning of the *Carex nigra-Agrostis stolonifera* dominated communities may prove to be of ornothological significance as these areas are the most favoured by birds

The survey has also drawn attention to limitations in the classification of *Festuca-Galium* grassland communities (SD8). Four more sub-communities were needed to describe the data. Three of these are defined by the abundance of *Thymus praecox*, (produced when there is a relatively thin covering of sand over bedrock), *Pteridium aquilinum* and *Lolium perenne* (a factor of management and stock feeding). The fourth denotes destabilisation and coastal retreat. Provision has not been made for recording communities produced by destabilisation of sand dune systems. In the classification it has been assumed that the system is accreting and that there is a succession from embryo dune to grassland. All the systems encountered in the survey were retreating and eroding and there were extensive areas around blow-outs and behind foredunes of sand-inundated dune grassland (cf. SD8i). There is a different species composition depending on whether sand input is declining and there is increasing stabilisation or whether sand input is increasing and burying a significant proportion of grassland species. This distinction is important to record as it is indicative of the dynamics of the dune system and coastal geomorphology. If a dune system is becoming unstable it will have implications for both coastal and agricultural management.

Another community which was difficult to categorise was SDX1. The vegetation in this community belongs to the seepage zone along the base of cliffs and at the top of the beach. The species present are typical of both slow-moving fresh water and salt influenced strandline and salt marsh. Because of this mixture they distort the tables of both the aquatic and strandline communities, so they have been assigned a discrete community coding.

5.2 ANNEX 1 HABITAT TYPES

The occurrence of Annex 1 Habitat types from the surveyed sites is listed in Appendix 8 of this volume. The corresponding NVC plant communities are also listed where these have been cited in the 'Interpretation Manual of European Union Habitats' (Ver.EUR 15) . All sites supported at least three, and often as many as ten, of these listed habitats. This in itself justified the selection of sites.

In some cases the definition of these habitats was slight, and in fact constituted a description rather than a definition. In this survey the presence of the corresponding NVC communities was taken as sufficient to merit the listing of the Annex 1 Habitat, however, further comment is necessary for some types.

Fixed coastal dunes with herbaceous vegetation - Grey Dune. Confusion exists in Britain and Ireland as to the definition of 'Grey Dune'. Traditionally grey dune has referred only to the acid, lichen rich (hence 'grey') dune systems, usually, but not exclusively, found on the drier east coasts. Tansley insisted on the presence of *Peltigera* and/or *Cladonia* species. But there is another line of thinking which takes 'grey' to mean the colour of the partially organically enriched soils of a dune grassland. This seems to accord more to the looser definition adopted by the European Commission and hence the one used in this survey. All sites (except one sand spit) supported vegetated and stable dune grassland that could be classified as Grey Dune under the Habitats Directive.

Humid dune slacks. This is rather an amorphous type, characterised more by its dependancy on ground water levels than by any particular community. Three communities from this survey appear to be diagnostic of this habitat type: MGX1, *Juncus bufonius* dominated pioneer sward is assigned to Annex 1 Habitat code 16.32; MG11 is the natural successor to this community being a permanently damp *Festuca rubra-Agrostis stolonifera-Potentilla anserina* sward, code 16.34; and SX3, *Carex nigra* poor herb fen, is equivalent to code 16.35. These three community types have a spatial and successional relationship to each other in a west coast situation.

Lowland hay meadows. The definition of a species rich hay meadow with little or no fertiliser application and a late cutting regime is applicable to this surveys vegetation category MG5, the *Cynosurus cristatus-Centaurea nigra* grassland. The detailed description and species list in the Annex 1 habitats list does not accord closely and favours the NVC's MG4, *Alopercurus pratensis-Sanguisorba officinalis* grassland. It is suggested that this is regionally biased and that the equivalent in the north and west of Britain and Ireland is the MG5 type. The calcareous nature of the sand being blown onshore creates a mesotrophic grassland in an othewise more acid environment. These meadows are traditionally managed and are of vital importance to many bird species, most notable being the corncrake. In this survey the MG5 community has been assigned to the Annex 1 Lowland hay meadow.

Machair. This survey has used the criteria listed in the introduction to select machair sites. In the Interpretation Manual of European Union Habitats it is stated that there are twelve different NVC vegetation types associated with this habitat. These are not listed, but past work has shown that the damper aspects of the *Festuca rubra-Galium verum* grassland - SD8d and SD8e in NVC terms - are characteristic of Scotish machair. (Crawford), so where these plant communities occur machair has been listed as an Annex 1 Habitat type present. It is usually understood that it is the total machair *system* that is being referred to (hence twelve associated vegetation types) rather than just the machair proper, the level grassland that lies behind the foredunes.

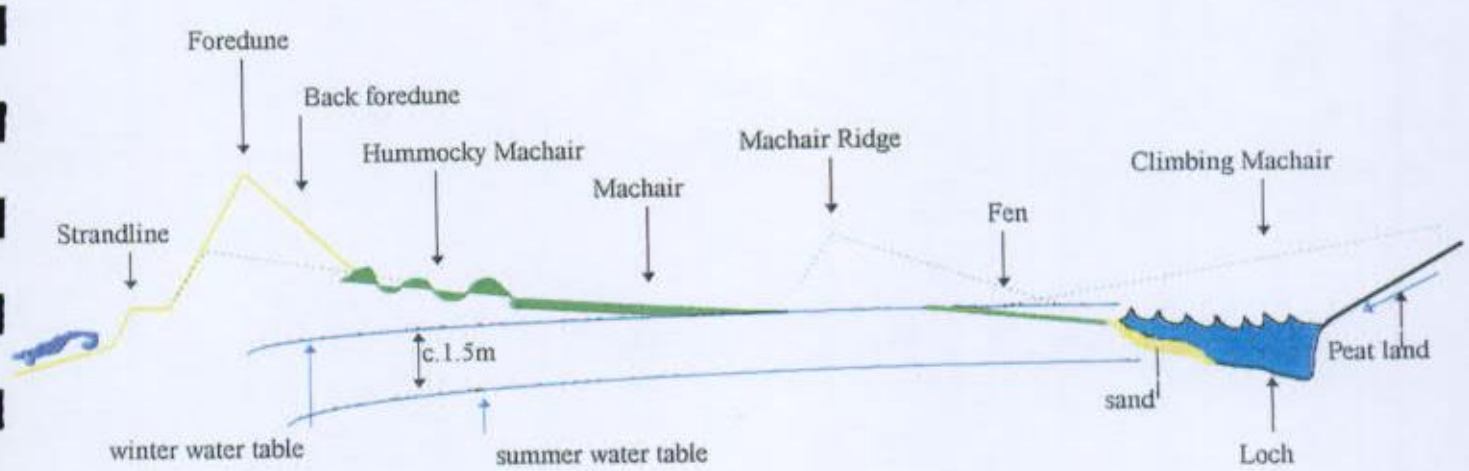
5.3 MACHAIR DEFINITION

Machair is Gaelic for a plain, inference fertile, not necessarily coastal. In Scotland colloquial usage has refined this to refer specifically to the shell-sand plains of the western seaboard. In Ireland 'machair' has retained its broader meaning and is not used on the coast by the indigenous Irish speakers as it is in Scotland. There is a more varied Irish nomenclature, including words such as 'murvey', 'ceide' and 'doagh', to describe flat, littoral grasslands. In scientific literature the word machair is used to describe the dunes and associated grasslands and fens of the west coasts of Scotland and Ireland. There are taxonomic pitfalls in adopting a word from a different language to be used as a generic term, especially when that word is still used with precision by native speakers in the region concerned. Care needs to be taken that a general word, conveying a general concept, does not obscure a landform's genesis and evolution and lead to a failure to fine tune management to specific needs. For research into the developmental history of the landform tighter definitions are required. However, from the broader conservation perspective all designated machair sites constitute an Atlantic coastal plain that is both rare and endangered.

Machair vegetation alone cannot be used to define machair. A *Festuca/Galium* grassland, *Agrostis stolonifera* inundation grasslands and *Carex nigra* poor fen are all communities to be expected on a calcareous substratum in a north-west European oceanic environment. There are no species or plant communities unique to machair, although their spatial organisation within the whole system may be characteristic. Climate, geographical location and management are all factors essential to a description of machair but they are not diagnostic.

Machair physiognomy has been described by both Crawford and Ritchie and the components of a typical machair system are illustrated below. Not all features are present at all sites; and every site has a unique history and combination of elements. The machair designated sites in Ireland have a more varied geomorphology than in Scotland and, except in County Galway, may have been significantly modified by the addition of glacial sand. The tightly dated landscape development chronology described from Scotland cannot be applied without taking this into account. An initial anlysis of sand samples from each site (and including some Scottish sites) would indicate a more varied composition from Donegal and Mayo than Galway and Scotland; but a full report awaits further work.

COMPONENTS OF THE MACHAIR SYSTEM



5.4 MANAGEMENT

All sites in the survey were used as a grazing resource, often intensively. Generally cattle grazing was beneficial for the maintenance of plant communities and the tramp around water bodies maintained diversity and opportunities for pioneering vegetation types. In a wet Atlantic climate there is no significant build up of nutrients as these are quickly leached out of the sandy soil. Grazing is essential for the maintenance of species richness and seasonal cattle grazing is compatible with conservation interests. Sheep, on the other hand, tend to be detrimental especially when there is over-stocking. The absence of arable agriculture on Irish machair sites (Scottish machair is usually cropped) means that there is unrelieved grazing all year round with no respite for the vegetation. Sheep severely cut back vegetation and their sharp hooves exacerbate erosion in existing blow outs.

General land improvement was usually at a low level, although there were sites where fertiliser had been applied to enclosed fields. Fencing on many sites has increased significantly in the last few years. Visually fencing has a marked impact on the hitherto unenclosed landscape and leads to a

fragmented management pattern as some plots are grazed more intensively than others. Improvement in the form of fertiliser application is not practical on commonage but as soon as land is packaged and enclosed individual initiative becomes more apparent and usually means some form of land improvemnet. The impact of fencing on birds is detrimental. In this case agricultural grants are operating in opposition to conservation considerations. It is suggested that a compromise would be to fence the township boundaries but not the plots within the township land.

Recreational use of the sites can be high but tends to be focussed at points of access, and of course only seasonally. In itself it is not a serious threat to the stability of these systems. Soccer and football sites have been indicated on the site maps but these have negligible impact on the vegetation.

Golf courses encountered on this survey tended to conform to the existing landscape rather than being landscaped with heavy machinery; although there were areas, notably around the club house which were landscaped. Even if the course adapts to the geomorphology the management of the course automatically imposes a restriction on the dynamic natural pocessess; a close cropped grassland with minimal sand movement is desired rather than a more mobile, *Ammophila* dominated habitat. The dominance of fairways also leads to the fragmentation of natural habitats. Apart from the Tee points most of the fairways in this survey were not completely re-sown, however the effects of even minor improvement could be detected in the species composition on the fairways. There was a reduction in dune plants and species richness and an increase in 'lawn' species, although not enough to entail a change in classification from a *Festuca-Galium* grassland. The fringe areas which were lightly mown a few times a year supported good quality *Festuca-Galium* grassland, but courses that were sheep grazed as well did not have this.

Most caravan parks in the survey also conformed to the existing landscape. The surrounding vegetation was compromised by tramp, although, again the lightly mown fringe areas could support a good quality natural grassland. The major threat from caravan parks is their unplanned expansion and their 'upgrading' to near housing estates. Water extraction from the dune system is also a potential threat.

At present the most consistent and significant destabilising factors on all sites surveyed are abiotic; wind erosion, sediment depletion and sea level rise. These powerful abiotic factors initially drive the spatial distribution of species and vegetation types which then determine, to some extent, the cultural, commercial and agricultural land use. Both historical and current land use also exert a modifying, fragmenting and sometimes controlling, influence on this distribution pattern which operates in a complex manner, at different scales, in both space and time. The wider issues of geomorphological events and socio-economic trends are not divorced from vegetation and conservation. Successful management of these complex coastal systems depends on an appreciation of the interactive nature of these forces on a site by site basis.

As an aid to designing appropriate site management plans Appendix 3 lists the significant modifying features against each site. The relative effect of these is assessed using a 1-10 score. It is obvious that natural events are of greater and more immediate concern, though exacerbated by intensive sheep grazing. Positive aspects of the sites, their attractiveness and potential for habitat diversity and rare plants, have also been listed. The relative quality of the sites can be assessed against their threats to enable a priority short list.

5.5 CONSTRAINTS AND PROBLEMS ENCOUNTERED

The field work part of this survey ran very smoothly and to the timetable. A 3 man team was ideal as this meant that everyone covered the ground in close proximity - 1 mapping and 2 sampling vegetation. A laptop computer also enabled data input in the evenings and wet days which certainly relieved the load of the writing up time. Time off was staggered so that there were always at least two people in the field for the whole survey time, and camping on site was always possible. This meant that more hours were worked than the man-day assessment might indicate; and those hours were needed to complete the field work on time.

The Ordnance Survey maps used were relatively old. This only proved difficult in cases where the shape of the beach and dune system had substantially altered, both through marine erosion and from a river altering course as it encountered a dune. The new formation was mapped but is only

as accurate as compass bearings allowed. Adjustments using GIS and aerial photographs need to be made for greater accuracy.

The large size of the data set and the short duration of the contract was the significant problem area. The initial analysis of nearly 1500 samples, using the Vespan package, was almost too large for the PC's available, and certainly a Mainframe printer was essential for the print outs. University College Galway was generous enough to make this available to the team, but making software compatible used valuable time. Consequently, some of the communities would benefit from further refinement. It is estimated that for this amount of data generated in the field twice as much time should be given to processing and report writing if the information is to be comprehensively written up.

Digitising the field maps would have taken the same time as copying them by hand, but with all the attendant advantages of correlation overlays and retrieval of site statistical data as well as improvng cartographic accuracy. When the facilities are available it is strongly recommended that these maps are digitised.

5.6 RECOMMENDATIONS

Although the sites were diverse management recommendations are generally applicable:

- On most sites sheep grazing was excessive. Stocking rates were too high and there was no period in the year when grazing was relaxed and vegetation could recover. This regime is detrimental to the quality of the vegetation and exacerbates erosion. It is not sustainable.

- For grassland to maintain its species richness a cutting or grazing regime is essential. Seasonal grazing by cattle is preferable as they graze unevenly and promote micro-habitat diversity and areas of broken ground necessary for pioneering species.

- Fencing is excessive on many sites. The intensive stripping of small plots is detrimental to conservation and landscape priorities. If these are essential to an agricultural policy then a compromise could be to fence the township boundaries but **not** the plots within the township land.

- Sand extraction is not sustainable during a period of increased erosion and sediment depletion.

- Golf courses and caravan sites are not compatible with conservation priorities. Pragmatism demands some form of compromise between conservation and socio-economic issues, but unplanned expansion should not be tolerated.

This was the first comprehensive survey in the Republic of Ireland to use the British National Vegetation Classification. The bias in this contract was towards site appraisal and description so there was no remit, or time, to review existing literature. It is suggested that a valuable project would be to assess in greater detail some of the more westerly variants of the vegetaion types and compare these to the ones described by other workers, especially those by White and Doyle and O'Criodain.

This survey has produced a potential Irish vegetation database. Whether it is developed, with the input of additional data from Ireland and Northern Ireland, is worth discussion. It is suggested that a workshop to explore the possibilities of such a database in this format would be worthwhile.

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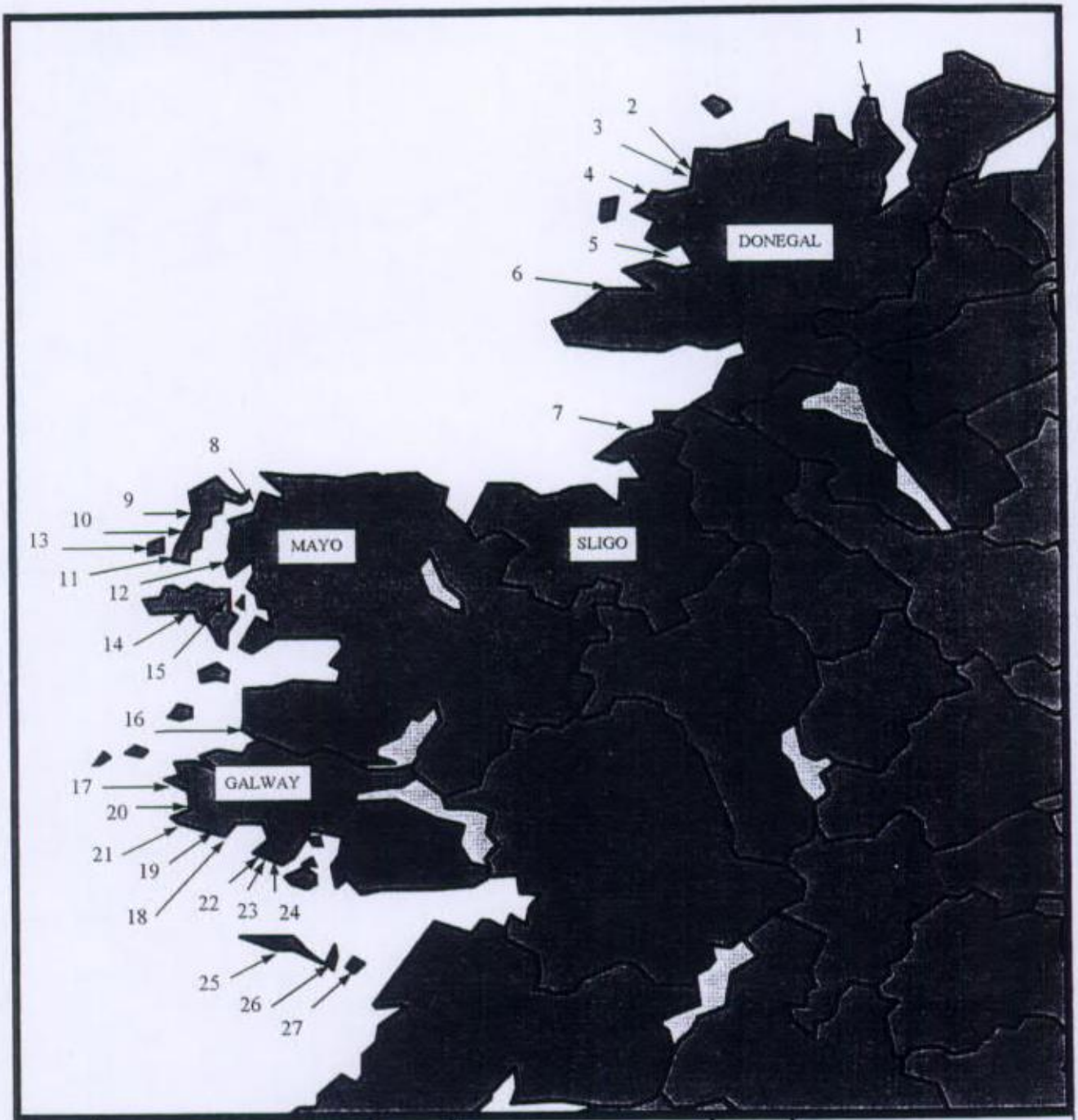
7 SITE DISTRIBUTION MAP

BIOMAR SURVEY OF IRISH MACHAIR SITES 1996



1	Melmore/Tranarossan	10	Cross Lough	19	Murvey
2	Lunniagh	11	Aghleam	20	Mannin Bay/Doonloughan
3	Gola Island	12	Kinrovar	21	Aillebrack
4	Keadue	13	Iniskea north	22	Mason Island
5	Lettermacaward	14	Keel Lough	23	Mweenish
6	Sheskinmore	15	Doo Lough	24	Finnish Island
7	Bunduff/Trawalua	16	Dooaghtry	25	Inis Mor
8	Garter Hill	17	Omey Island	26	Inis Meain
9	Termoncarragh/Emlybegs	18	Dogs Bay	27	Inis Oirr

8 SITE DESCRIPTIONS

MELMORE AND TRANAROSSAN

Location:

Melmore and Tranarossan are contiguous sites on a north facing peninsula in the north of County Donegal.

Description:

The headland is large with steep sea cliffs and an indented coastline. Geological faulting has created opportunities for two well delineated, sand filled plains that stretch across the peninsula and have an east and west facing beach. The sand type is different between east and west beaches, the east being much redder in colour and siliceous in content. These plains are separated by a rock massif. Melmore has three interesting water bodies of different character: a small 'lagoon' in the lee of the headland which has a shingle bar on its seaward side; a small fen on the north and east side of the machair plain; and a large and deep 'L' shaped loch seperating the south side of the machair plain from the more or less sheer cliffs of the massif. The sand plain at Tranarossan is lower lying and more exposed with virtually no foredune development. There has been negligible sand input to these systems for some time and both sides of the plains are eroding and retreating. Archaeological stratigraphy on older, higher surfaces on the south side of Tranarossan could be used to date sand movement in this system.

The whole headland supports a large range of plant communities. The central massif was walked but not mapped in detail. It consists of a *Calluna vulgaris-Erica cinerea* (H10) heath with many *Schoenus nigricans* (M13b) run-offs. The seaward fringes have a more maritime heath type, H7. The full range of sub-communities of the SD8 *Festuca rubra-Galium verum* grassland are represented, the most common being the typical sub-community and the *Thymus* dominated sand-over-rock type. Tranarossan machair, being lower and closer to the ground water level, supports the wetter grassland to fen end of the range with hints of salt marsh species.

Management:

Caravan parks are the dominant land use on both Melmore and Tranarossan. Melmore is less intensively used, the natural grassland around the caravans is only cut periodically and this type of

maintenance is beneficial. No sheep and low numbers of cattle also contribute to an ideal management for natural vegetation. By comparison there is a more aggressive establishment of caravan sites at Tranarossan which involve metalled roads and permanent buildings. Recreation is actively encouraged in the form of tennis courts cut into the hillside and a small golf course.

Assessment:

Melmore and Tranarossan are valuable sites and both contain rare species. The size and physiognomy of the headland supports a range of management regimes which add to the already diverse habitat and vegetation types. Recreational use in itself is focussed and has little impact, but the expansion of caravan sites is alarming. The difference needs to be made between a local farmer gaining revenue by turning over a field for caravans (as at Melmore), and a larger business enterprise with greater environmental impact (as at Tranarossan). There is significant coastal erosion on both the east and west shorelines, and Tranarossan machair especially, could flood and become a tidal strand in the forseeable future.

MELMORE AND TRANAROSSAN - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
AQUATIC COMMUNITIES			
A7a	Nymphaea alba community	Species poor sub-community	1
HEATHS			
H7a	Calluna vulgaris-Scilla verna community	Armeria maritima sub-community	1
H7e	Calluna vulgaris-Scilla verna community	Calluna vulgaris sub-community	5
H10	Calluna vulgaris-Erica cinerea community		1
MIRES			
M2b	Sphagnum cuspidatum-recurvum bog pool community	Sphagnum recurvum sub-community	3
M13b	Schoenus nigricans-Juncus subnodulosus community	Briza media-Pinguicula vulgaris sub-community	1
M24c	Molinea caerulea-Cirsium dissectum community	Juncus acutiflorus-Erica tetralix sub-community	1
M28a	Iris pseudacorus-Filipendula ulmaria community	Juncus effusus/acutiflorus sub-community	2
M29	Hypericum elodes-Potamogeton polygonifolius community		2
MX1	Carex nigra-Eriophorum angustifolium community		2
MARITIME CLIFF			
MC1a	Crithmum maritimum-Spergularia rupicola community	Typical sub-community	1
MC2	Armeria maritima-Ligusticum scoticum community		1
MC3	Rhodiola rosea-Armeria maritima community		1
MC8a	Festuca rubra-Armeria maritima community	Typical sub-community	1
MC9	Festuca rubra-Holcus lanatus community		1
MC9a	Festuca rubra-Holcus lanatus community	Plantago maritima sub-community	3
MESOTROPHIC GRASSLANDS			
MG5c	Cynosurus cristatus-Centaurea nigra community	Prunella vulgaris sub-community	3
MG5d	Cynosurus cristatus-Centaurea nigra community	Holcus lanatus-Trifolium pratense sub-community	1
MG11b	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Matricaria maritima sub-community	1
MG11d	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex nigra sub-community	9
FEN AND SWAMP			
S4c	Phragmites australis community	Menyanthes trifoliata sub-community	1
S19a	Eleocharis palustris community	Eleocharis palustris sub-community	1
S19c	Eleocharis palustris community	Agrostis stolonifera sub-community	1
S23a	Nasturtium officinale-Apium nodiflorum ditch community	Typical sub-community	1
S23b	Nasturtium officinale-Apium nodiflorum ditch community	Glyceria sub-community	3
SX3a	Carex nigra community	Potentilla anserina sub-community	8
SX3b	Carex nigra community	Holcus lanatus-Festuca rubra sub-community	5
SX3c	Carex nigra community	Galium palustre-Mentha aquatica sub-community	2
SAND DUNE AND STRANDLINE			
SD2b	Honkenya peploides-Cakile maritima community	Honkenya sub-community	1

SD4a	Elymus farctus spp. boreali-atlanticus community	Elymus farctus sub-community	1
SD4b	Elymus farctus spp. boreali-atlanticus community	Lotus corniculatus-Plantago lanceolata sub-community	1
SD6a	Ammophila arenaria mobile dune community	Elymus farctus sub-community	1
SD6c	Ammophila arenaria mobile dune community	Leymus arenarius sub-community	1
SD6d	Ammophila arenaria mobile dune community	Typical sub-community	2
SD7a	Ammophila arenaria-Festuca rubra fixed dune community	Typical sub-community	7
SD8a	Festuca rubra-Galium verum dune grassland community	Typical sub-community	11
SD8b	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	3
SD8c	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	2
SD8d	Festuca rubra-Galium verum dune grassland community	Ranunculus acris-Bellis perennis sub-community	6
SD8e	Festuca rubra-Galium verum dune grassland community	Prunella vulgaris sub-community	1
SD8f	Festuca rubra-Galium verum dune grassland community	Pteridium aquilinum sub-community	1
SD8g	Festuca rubra-Galium verum dune grassland community	Thymus praecox sub-community	10
SD8i	Festuca rubra-Galium verum dune grassland community	Carex arenaria-Elymus farctus sub-community	2
SD9c	Ammophila arenaria-Arrhenatherum elatius community	Geranium sanguineum sub-community	5
SD18a	Hippophae rhamnoides dune scrub community	Festuca rubra sub-community	1
SALT MARSH			
SM16c	Festuca rubra salt marsh community	Festuca rubra-Glaux maritima sub-community	1
UPLAND GRASSLANDS			
U4b	Festuca ovina-Agrostis capillaris-Galium saxatile community	Holcus-Trifolium sub-community	1
WOODLAND			
W22	Prunus spinosa-Rubus fruticosus scrub community		1
WX2	Populus tremula community		1
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MELMORE AND TRANAROSSAN TARGET NOTES

NUMBER	NOTES
T 1	Melmore Tower - 3 walls only, open to the north. Tumbled stone colonised by Stellaria media
T 2	Old cultivation still evident but vegetation reverted to Q4
T 3	Approx. 25 static caravans
T 4	Old field with a grassier, slightly drier version of Q23 and more Filipendula and Cirsium dissectum.
T 5	Erosion cliffs, c.30cm deep, enhanced by sheep tramp
T 6	Site of Silene dioica. **96.903.22**
T 7	Potato field and working farm
T 8	Approx. 17 caravans. Turf very closely cut.
T 9	Approx. 50 caravans. Turf very closely cut.
T 10	Stream (Q28) does not flow onto beach but obviously runs under as small stand of Eleocharis palustre and Agrostis stolonifera are maintained here.
T 11	Old blow out, vegetated at the slightly lower level except for bare sand tip.
T 12	c. 25m dune. see photo **96.500.**
T 13	Cattle sheltering area. Petasites, Stellaria media, Cirsium arvense and increased Cynosurus added to SD8 with Ammophila.
T 14	Cattle feeding area. Feeding carousels surrounded by bare ground and dense Cirsium arvense.
T 15	Sand extraction witnessed. Local and relatively small scale.
T 16	Concrete wall, now c.40cm showing above sand, but apparently built c. 1.5m high very recently by owner of adjacent caravan park. Planted behind with Lolium perenne.
T 17	Line of boulders, indigenous, for coastal defence.
T 18	Wooden sleepers for coastal defence. **96.904.15**
T 19	Scrap metal working area, compressing and 'boxing'. **96.904.18**

T 20	Very recent dumping of slurry. **96.904.19**
T 21	Level change, sand cliff c. 40cm high. vegetation changes from Q69 to Q74 **96.904.23/24**
T 22	Recent brassica cultivation and also stock feeding area.
T 23	Bare sand blow out, c. 4m high. Eroding occupation deposits within 20cm of present surface. (Eroding material:sea mammal, domestic mammal, worked bone, cockles, fish) No dateable item. Massive sand influx pre this settlement.
T 24	c. 20 caravans
T 25	c. 50 caravans in ordered ranks
T 26	5 scattered caravans
T 27	Caravan estate, recently constructed and carved into the hill with tarmac and hardcore roadways. Vegetation completely compromised. c. 120 caravans. This is the only site which is totally destructive to natural vegetation and undesirable. **96.904.33**
T 28	c. 50 caravans with tennis courts.
T 29	Golf course. Greens and drives not re-seeded but mown very short. Most of the course is under a mowing regime which is beneficial to maintaining species diversity in the sward.
T 30	Stream running through golf course, blocked by foredune before reaching beach. **96.904.34**
T 31	Trifolium striatum on rocky shore. Also in Q105
T 32	Drainage ditch, 25cm deep, machine excavated across Carex nigra fen (Q108). see **96.904.35**
T 33	Turf cut, 1m wide and 10 - 30cm deepalong fence line. Not drainage but function unclear. **96.904.36**
T 34	c.100 caravans clustered around rock outcrop out of flooded area.
T 35	Recently burnt Ammophila (SD6)
T 36	Road drainage ditches recently excavated, c. 30cm deep
T 37	Rock ledge, evidence of old fields and drainage ditches.
T 38	Ligusticum scoticum present

LUNNIAGH - north and south

Location:

Lunniagh is a west facing dune system in north west County Donegal.

Description:

Lunniagh is a large dune system in an area of drowned estuaries and shifting, offshore sand banks. There is a great deal of geomorphological diversity as a retreating coastal system meets the rock outcrops and bogs of the interior. The headland at the north end is sheltered from the influence of blown sand and supports a predominantly mire and heath vegetation. From here southwards the bedrock lies in steps running parallel to the shore; the sand has blown up these steps forming a landscape of sandy plateaus and rock outcrops. The tilt of the bedrock drops away to the south and there is a broad sandy plain, fronted by foredunes, on the north side of the large estuary. The estuary is typically short but has nevertheless given rise to extensive salt marsh development. The salt marsh is especially interesting as it has formed on the drowned remains of peat bog. Remnants of bog vegetation can be found between the landward encroaching dune system and the eroding estuary system.

Sand deposition is occuring on the north side of the river outlet where there are high accreting foredunes. The river is eroding southwards through glacial deposits with a thin covering of sand. The landscape on this side is gently undulating. The dune system, a series of foredune ridges, occurs on the north side of the Gweedore estuary where there is also deposition and new dune ridges forming at the south end.

This is a complex coastal area; Atlantic exposure and rising sea levels, as well as powerful river systems, are moulding the landscape. The plant communities reflect the diversity as this site supports a greater number of different communities than any other in the survey. The dune and dune grassland vegetation is all of the drier end of the spectrum, as is to be expected with snad blown over rock and glacial debris. The area of salt marsh is wide enough to have well defined transition zones and the mesotrophic grasslands and fen reflect the sand impeded drainage from the acid hinterland.

Management:

The whole area surveyed is used as a grazing resource, but with different intensities. In the north there only appeared to be goats, and further south a small flock of sheep grazing the sand plain. On the south side of the estuary sheep grazing was much more intensive.

Recreational use was high at the time of survey (a hot June) but focussed at the end of metalled roads that run across the site to the shore. The only long term impact from this use might be at the far south end, nearest the township of Bunbeg. There are permanent enclosures for football and informal, unenclosed soccer pitches. A large proportion of the south side is managed as a golf course. The grassland is very short, being both sheep grazed and mown and the Tees are resown. A golf club house has been built at the south end of the course with its back to the dune system.

Assessment:

This is an extremely attractive, large and diverse site. It is certainly being modified by natural processes but these do not pose a threat at present. The golf course is the main modifying management factor, but if this is confined to its present position presents no serious problem. However, there is a suggestion that the golf course be extended south into the dune ridges, which is a much more fragile habitat and contains unusual Chara dominated water bodies.

LUNNIAGH - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
AQUATIC COMMUNITIES			
AX1b	Chara community	Potamogeton natans sub-community	2
CALCICOLOUS GRASSLANDS			
CG10b	Festuca ovina-Hieracium pilosella-Thymus praecox community	Carex pulicaris-Carex panicea sub-community	1
HEATHS			
H7c	Calluna vulgaris-Scilla verna community	Erica tetralix sub-community	2
MIRES			
M24c	Molinea caerulea-Cirsium dissectum community	Juncus acutiflorus-Erica tetralix sub-community	2
MX1	Carex nigra-Eriophorum angustifolium community		7
MARITIME CLIFF			
MC8	Festuca rubra-Armeria maritima community		2
MC10a	Festuca rubra-Plantago spp. community	Armeria maritima sub-community	2
MC10b	Festuca rubra-Plantago spp. community	Carex panicea sub-community	1
MCX1	Hedera helix-Lonicera community		1
MESOTROPHIC GRASSLANDS			
MG5b	Cynosurus cristatus-Centaurea nigra community	Galium verum sub-community	1
MG5d	Cynosurus cristatus-Centaurea nigra community	Holcus lanatus-Trifolium pratense sub-community	4
MG5e	Cynosurus cristatus-Centaurea nigra community	Carex nigra sub-community	1
MG10a	Holcus lanatus-Juncus effusus community	Typical sub-community	1
MG11a	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Lolium perenne sub-community	1
MG11b	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Matricaria maritima sub-community	1
MG11c	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex arenaria sub-community	1
MG11d	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex nigra sub-community	9
FEN AND SWAMP			
S4a	Phragmites australis community	Phragmites australis sub-community	1
S4e	Phragmites australis community	Agrostis stolonifera-Hydrocotyle vulgaris sub-community	1
S14	Sparganium erectum community		1
S19a	Eleocharis palustris community	Eleocharis palustris sub-community	2
S19c	Eleocharis palustris community	Agrostis stolonifera sub-community	1
S19d	Eleocharis palustris community	Hydrocotyle vulgaris sub-community	2
S20a	Scirpus lacustris ssp. tabernaemontani community	Species poor sub-community	1
S21a	Scirpus maritimus community	Scirpus maritimus sub-community	1
S23a	Nasturtium officinale-Apium nodiflorum ditch community	Typical sub-community	2
S23b	Nasturtium officinale-Apium nodiflorum ditch community	Glyceria sub-community	3
S23c	Nasturtium officinale-Apium nodiflorum ditch community	Eleocharis palustris-Calliergon cuspidatum sub-community	1
SX3a	Carex nigra community	Potentilla anserina sub-community	5

SX3b	Carex nigra community	Holcus lanatus-Festuca rubra sub-community	3
SAND DUNE AND STRANDLINE			
SD2b	Honkenya peploides-Cakile maritima community	Honkenya sub-community	1
SD5a	Leymus arenarius community	Species poor sub-community	2
SD6c	Ammophila arenaria mobile dune community	Leymus arenarius sub-community	1
SD6d	Ammophila arenaria mobile dune community	Typical sub-community	5
SD7a	Ammophila arenaria-Festuca rubra fixed dune community	Typical sub-community	5
SD8a	Festuca rubra-Galium verum dune grassland community	Typical sub-community	9
SD8b	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	13
SD8c	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	9
SD8d	Festuca rubra-Galium verum dune grassland community	Ranunculus acris-Bellis perennis sub-community	4
SD8e	Festuca rubra-Galium verum dune grassland community	Prunella vulgaris sub-community	5
SD8g	Festuca rubra-Galium verum dune grassland community	Thymus praecox sub-community	10
SD9c	Ammophila arenaria-Arrhenatherum elatius community	Geranium sanguineum sub-community	2
SALT MARSH			
SM10	Puccinellia maritima-Salicornia spp.-Suaeda maritima community		1
SM13b	Puccinellia maritima salt marsh community	Glaux maritima sub-community	1
SM13d	Puccinellia maritima salt marsh community	Plantago maritima sub-community	2
SM16b	Festuca rubra salt marsh community	Juncus gerardii sub-community	3
SM16c	Festuca rubra salt marsh community	Festuca rubra-Glaux maritima sub-community	2
SM16e	Festuca rubra salt marsh community	Leontodon autumnalis sub-community	1
SM18	Juncus maritimus community		1
SM18a	Juncus maritimus community	Plantago maritima sub-community	2
SM19	Blysmus rufus community		1
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LUNNIAGH TARGET NOTES

NUMBER	NOTES
T 1	Old cultivation patchwork approx. 50m from shore
T 2	Pair of Ringed Plovers nesting in boulder field. Lapwings and Oyster catchers too.
T 3	Soccer pitch, unfenced
T 4	Cars dumped
T 5	Archaeological deposits. see photo **96.906**
T 6	Severe wind erosion of foredunes. lumps of Ammophila/Festuca grassland undercut and falling down face.
T 7	Outcrop now in middle of beach having been cut off by sea and wind erosion. Foredunes are retreating, leaving a wind tunnel between them and the outcrop.
T 8	Stream strarts here. Either a spring or outlet for accumulated water from the bedrock.
T 9	Sighting/navigation towers.
T 10	Townland boundary; a line of boulders.
T 11	Soccer pitch, with stand and changing rooms, surrounded by concrete wall.
T 12	Dactylis glomerata - sown, mono species stand.
T 13	Sand faces, approx. 40cm high, exacerbated by sheep tramp.
T 14	Small stand of Rosa pimpinellifolia infested with copper backed, green headed beetle that are so prolific on this site.
T 15	Picnic tables at end of tarmac road. High amenity use.
T 16	Pier
T 17	Stream blocked by foredune sand before it can get to the beach. Archaeological deposits present. **96.906.18**
T 18	Lambing pens
T 19	Heavy amenity use and picnic tables. Vehicles have eroded deep tracks, some peat put down as anti-erosion measure.
T 20	Golf Tee point
T 21	Golf green with flags. Sown with commercial grass mix.
T 22	Compound marked out by low boulder and turf mound approx. 30cm high.

T 23	Island a remnant, sea/river/wind have eroded around it. Point accreting on north side, but this is a local effect of sediment deposition, generally the system is eroding.
T 24	Gaelic Football stadium
T 25	Stepping stones
T 26	Peat, colonised by salt marsh species, eroding. see photo 96.906.
T 27	Enclosure, Urtica and Cirsium colonising.
T 28	Cemetry, new extension added to old cemetry and ruined church.
T 29	4 caravans and 2 mobile homes.
T 30	Feeding hollow. **96.907.1**
T 31	Unofficial camping and caravanning site.
T 32	6 Choughs observed
T 33	Soccer pitch, unfenced
T 34	Severe vehicle damage, track now a blow out area.
T 35	Eroding blanket bog, see Q14. Salt marsh species are colonising the peat creating an unusual juxtaposition of communities.
T 36	Soccer pitch, fenced
T 37	Sea wall.
T 38	Golf Club house with car park. Golf course, 9 holes, extends to north but there are plans to extend it behind the club house. Development and intensification is apparent on the existing course.
T 39	3 new houses, not modifying vegetation much except for immediately around house
T 40	This lake is now very dry and most of the reedswamp has been cut and has been messed about with.
T 41	Dumping of stone rubble in this flat sandy area.
T 42	Extensive blowout with a lot of bare sand.
T 43	There are sheep feeding troughs here. As a result the surrounding vegetation is heavily trampled and weedy.
T 44	There is an extensive area of Armeria saltmarsh with numerous, sometimes interconnecting, saline pools. These pools support large populations of shrimp.

GOLA ISLAND

Location:

Gola island is a substantial island lying off the mouth of Gweedore estuary in County Donegal.

Description:

The site is a sand spit on the south east side of the island. The dunes are held by rock outcrops. The spit is not large enough to have developed any other vegetation but *Ammophila arenaria* dominated communities.

Management:

The island is now uninhabited but still sheep grazed. Although sheep have access to the dunes there is no sign of their presence.

Assessment:

The sand spit of Gola island has minimal value from a vegetation perspective. However, it is relatively isolated and provides a good nesting area for sea birds.

GOLA - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
MARITIME CLIFF			
MCX1	Hedera helix-Lonicera community		1
MESOTROPHIC GRASSLANDS			
MG11a	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Lolium perenne sub-community	1
MG11b	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Matricaria maritima sub-community	1
SAND DUNE AND STRANDLINE			
SD2b	Honkenya peploides-Cakile maritima community	Honkenya sub-community	1
SD6d	Ammophila arenaria mobile dune community	Typical sub-community	1
SD7a	Ammophila arenaria-Festuca rubra fixed dune community	Typical sub-community	1
SD8a	Festuca rubra-Galium verum dune grassland community	Typical sub-community	2
SD8b	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	1
SD8c	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	2
WEED COMMUNITIES			
WD1	General weed communities in survey		1
			12

GOLA ISLAND TARGET NOTES

NUMBER	NOTES
T 1	Terns and gulls nesting area on SD2 strandline and pebbles

KEADUE

Location:

Keadue is a north facing headland and bay complex in County Donegal.

Description:

Keadue headland separates two sandy bays. The easternmost bay is lower lying and more sheltered with less sand input. The plant communities tend to be fragmentary with no very clear zonation; salt marsh, dune grassland and damp mesotrohic grassland lie in close proximity. The more exposed beach and bay on the west side have some low foredune development and grass plain behind. A cliff runs parallel to the shoreline about half a kilometre inland; between it and the foredunes is a grassland interspersed with rock outcropping. At the western end the cliff line turns south leaving an area large enough for a loch and fen development. The loch outlet runs to the beach, but at time of survey the water was lost in the sand before reaching the shore.

The vegetation showed tendencies towards a calcicolous grassland type, especially around the rock outcrops. The dune grassland was at the drier end of the spectrum as the rock was never far beneath the sand.

This is a retreating system, as evidenced by the substantial intertidal reed peat exposures. There appears to be a depletion of sand input into the system and the foredunes are eroding. There is evidence of wash over on the headland, possibly an indication of an increase in winter storms.

Management:

The site is fenced in strips perpendicular to the shore. Most of these are sheep grazed but not intensively. Summer recreation use is focussed on the beach and at points of access. There are old hay meadows but these do not seem to be actively managed.

Assessment:

For a small site there is a good diversity of habitats and plant communities, and the calcicolous grasslands are of note in a regional context. The dune system is senescent and probably has a limited life expectancy, so for this reason signs of active sand extraction is alarming. If the

foredunes at the west end are breached the loch and fen complex will become brackisk. Recreational use and sheep grazing are not unduly heavy, in fact it is probably a reduction in agricultural management that is more harmful to a vegetation interest as most of the grassland is fairly rank and the hay meadows uncut. The site appeared to be favourable to birds.

KEADUE - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY

			No.Samples
CALCICOLOUS GRASSLANDS			
CGX2	Sesleria albicans-Carex flacca community		1
HEATHS			
H7d	Calluna vulgaris-Scilla verna community	Empetrum nigrum sub-community	1
MIRES			
M28a	Iris pseudacorus-Filipendula ulmaria community	Juncus effusus/acutiflorus sub-community	2
MARITIME CLIFF			
MC10a	Festuca rubra-Plantago spp. community	Armeria maritima sub-community	1
MESOTROPHIC GRASSLANDS			
MG5e	Cynosurus cristatus-Centaurea nigra community	Carex nigra sub-community	1
MG11a	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Lolium perenne sub-community	1
MG11d	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex nigra sub-community	2
FEN AND SWAMP			
S23b	Nasturtium officinale-Apium nodiflorum ditch community	Glyceria sub-community	1
SX3a	Carex nigra community	Potentilla anserina sub-community	3
SX3c	Carex nigra community	Galium palustre-Mentha aquatica sub-community	2
SAND DUNE AND STRANDLINE			
SD2b	Honkenya peploides-Cakile maritima community	Honkenya sub-community	1
SD4b	Elymus farctus spp. boreali-atlanticus community	Lotus corniculatus-Plantago lanceolata sub-community	1
SD5b	Leymus arenarius community	Elymus farctus sub-community	1
SD5c	Leymus arenarius community	Festuca rubra sub-community	1
SD8a	Festuca rubra-Galium verum dune grassland community	Typical sub-community	4
SD8b	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	8
SD8c	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	3
SD8d	Festuca rubra-Galium verum dune grassland community	Ranunculus acris-Bellis perennis sub-community	1
SD8g	Festuca rubra-Galium verum dune grassland community	Thymus praecox sub-community	3
SD9	Ammophila arenaria-Arrhenatherum elatius community		1
SD9c	Ammophila arenaria-Arrhenatherum elatius community	Geranium sanguineum sub-community	2
SALT MARSH			
SM16b	Festuca rubra salt marsh community	Juncus gerardii sub-community	1
SM16c	Festuca rubra salt marsh community	Festuca rubra-Glaux maritima sub-community	1
			43

KEADUE TARGET NOTES

NUMBER	NOTES
T 1	Seepage zone with scattered tufts of SM16 type salt marsh. Peat exposure in hollows between rocks. **96.907.27**
T 2	Pebble storm beach/wash-over with high shell content.
T 3	Extensive peat beds eroding every high tide. Tree in lower beds and ?Bronze Age bone tools. **96.907.29/30**
T 4	Potato crop
T 5	Sand Martin colony in the face of an old sand extraction quarry.
T 6	Cemented working area for cars, farm machinery and general metal working.
T 7	Cultivated in 1995, now weed overgrown.
T 8	Sand extraction cutting.
T 9	Football pitch, small local with uneven ground and natural vegetation.
T 10	Old sand extraction hollow grassed over.
T 11	6 *Choughs spotted.*
T 12	Low, approx. 40cm, turf and boulder boundary.
T 13	Fence undercut and tumbling as foredune is eroded. **96.907.37**
T 14	Stream does not reach beach, cut off by sand. Lush Leymus growth at mouth.
T 15	Extensive reed peat beds eroding in intertidal zone. **96.908.6/7**
T 16	Small pier, used by lobster fishing boats.
T 17	Cement and boulder *causeway, part ruined.* **96.908.1**
T 18	Dumping gully, agricultural/domestic hardware/car waste.
T 19	Stream bed has been recently excavated through sand and shingle.
T 20	Old channel, dry, used as dump for compost and agricultural rubbish. Nettle growth.
T 21	4 caravans, unofficial.

LETTERMACAWARD AND CLOONEY

Location:

This is a large, west facing dune system on either side of the Owenree/Gweebarra estuary in south County Donegal.

Description:

On both sides of the estuary massive foredunes front a level plain. There has been at one stage an enormous input of sand to this system; the foredunes are some of the highest encountered on this survey. However, all the evidence suggests that it is a retreating system and that accreting zones around the estuary mouth are just the localised re-working of sediment. The northern limit of is a rock headland supporting heath and mire vegetation, south of this a single line of foredune front a low lying plain. At Clooney, on the south side of the estuary, the landscape is more undulating. The non-dune vegetation on both sides is determined by management. Letermacaward machair is agriculturally managed which has given rise to a patchwork of mesotrophic and improved grassland types and sheep grazed dune grassland. Clooney is lightly grazed or mown closely for golf.

Management:

Lettermacaward is fenced into small fields on the inland side. Many of these are resown and improved for a silage crop. The unenclosed dune grassland is sheep and cattle grazed. A single track road ends in a small car park behind the dunes at the north end, but recreational use is not great. There is a football pitch in the centre of the Lettermacaward machair. Clooney is managed as a golf course, has a caravan site and is more intensively used for recreation. It is much more accessible to the main road and centres of population than Lettermacaward.

Assessment:

The sites main value is in its size and the insights it offers into the dynamics of coastal processes. There is sufficient sand in the foredunes for many years of active life yet. The natural vegetation has been compromised by management for a long time, but this has given rise to many variations of the hay meadow type of mesotrophic grassland.

LETTERMACAWARD - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
AQUATIC COMMUNITIES			
A22a	Littorella uniflora-Lobelia dortmanna community	Littorella sub-community	1
CALCICOLOUS GRASSLANDS			
CG13b	Dryas octapetala-Carex flacca community	Salix repens-Empetrum nigrum sub-community	2
HEATHS			
H7d	Calluna vulgaris-Scilla verna community	Empetrum nigrum sub-community	2
H10	Calluna vulgaris-Erica cinerea community		1
MIRES			
M2b	Sphagnum cuspidatum-recurvum bog pool community	Sphagnum recurvum sub-community	1
M10a	Carex dioica-Pinguicula vulgaris community		1
M23b	Juncus effusus/acutiflorus-Galium palustre community	Juncus effusus sub-community	1
M24c	Molinea caerulea-Cirsium dissectum community	Juncus acutiflorus-Erica tetralix sub-community	4
MX1	Carex nigra-Eriophorum angustifolium community		1
MARITIME CLIFF			
MC10a	Festuca rubra-Plantago spp. community	Armeria maritima sub-community	1
MESOTROPHIC GRASSLANDS			
MG5a	Cynosurus cristatus-Centaurea nigra community	Lolium perenne sub-community	3
MG5b	Cynosurus cristatus-Centaurea nigra community	Galium verum sub-community	7
MG5c	Cynosurus cristatus-Centaurea nigra community	Prunella vulgaris sub-community	3
MG5d	Cynosurus cristatus-Centaurea nigra community	Holcus lanatus-Trifolium pratense sub-community	3
MG5e	Cynosurus cristatus-Centaurea nigra community	Carex nigra sub-community	1
MG7a	Lolium perenne ley community	Lolium perenne-Trifolium repens sub-community	2
MG7e	Lolium perenne ley community	Lolium perenne-Plantago lanceolata sub-community	3
MG11a	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Lolium perenne sub-community	1
MG11b	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Matricaria maritima sub-community	2
MG11c	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex arenaria sub-community	4
MG11d	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex nigra sub-community	5
FEN AND SWAMP			
S4d	Phragmites australis community	Atriplex prostrata sub-community	1
S4e	Phragmites australis community	Agrostis stolonifera-Hydrocotyle vulgaris sub-community	1
S9b	Carex rostrata community	Menyanthes trifoliata-Equisetum fluviatile sub-community	1
S14a	Sparganium erectum community	Sparganium erectum sub-community	1
S19c	Eleocharis palustris community	Agrostis stolonifera sub-community	2
S21	Scirpus maritimus community		1
SX2	Iris pseudacorus community		1
SX3a	Carex nigra community	Potentilla anserina sub-community	7

SX3b	Carex nigra community	Holcus lanatus-Festuca rubra sub-community	1
SX3c	Carex nigra community	Galium palustre-Mentha aquatica sub-community	7
SAND DUNE AND STRANDLINE			
SD2a	Honkenya peploides-Cakile maritima community	Cakile sub-community	3
SD2b	Honkenya peploides-Cakile maritima community	Honkenya sub-community	1
SD4a	Elymus farctus spp. boreali-atlanticus community	Elymus farctus sub-community	1
SD6a	Ammophila arenaria mobile dune community	Elymus farctus sub-community	1
SD6d	Ammophila arenaria mobile dune community	Typical sub-community	3
SD6e	Ammophila arenaria mobile dune community	Festuca rubra sub-community	1
SD7a	Ammophila arenaria-Festuca rubra fixed dune community	Typical sub-community	4
SD8a	Festuca rubra-Galium verum dune grassland community	Typical sub-community	5
SD8b	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	2
SD8c	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	3
SD8d	Festuca rubra-Galium verum dune grassland community	Ranunculus acris-Bellis perennis sub-community	1
SD8e	Festuca rubra-Galium verum dune grassland community	Prunella vulgaris sub-community	5
SD8g	Festuca rubra-Galium verum dune grassland community	Thymus praecox sub-community	6
SD8h	Festuca rubra-Galium verum dune grassland community	Lolium perenne sub-community	2
SD8i	Festuca rubra-Galium verum dune grassland community	Carex arenaria-Elymus farctus sub-community	1
SD9c	Ammophila arenaria-Arrhenatherum elatius community	Geranium sanguineum sub-community	2
SD18a	Hippophae rhamnoides dune scrub community	Festuca rubra sub-community	1
SALT MARSH			
SM13d	Puccinellia maritima salt marsh community	Plantago maritima sub-community	1
SM16	Festuca rubra salt marsh community		1
SM16b	Festuca rubra salt marsh community	Juncus gerardii sub-community	2
SM18a	Juncus maritimus community	Plantago maritima sub-community	2
UPLAND GRASSLANDS			
U4b	Festuca ovina-Agrostis capillaris-Galium saxatile community	Holcus-Trifolium sub-community	2
WOODLAND			
WX3	Corylus avellana community		1
WEED COMMUNITIES			
WD1	General weed communities in survey		1
			124

LETTERMACAWARD AND CLOONEY TARGET NOTES

T1	Drains have been cut through these fields in the recent past.
T2	At this point there are wooden steps to provide access from the dunes to the beach.
T3	Car wrecks are dumped at these points.
T4	Circular cattle feeders are present at these locations.
T5	These fields have been reseeded recently and now support a species-poor Lolium grassland.
T6	Sand is being extracted at this point by tractor and link-box.
T7	A lizard was noted at this point on the 18-6-1996. It was basking in short Festuca rubra grassland.
T8	A football pitch is located here.
T9	These areas are reseeded golf greens. Not all of these areas are shown.
T10	Changing rooms associated with football pitch.
T11	Two hares were seen in this area during the survey.
T12	These fields have been recently planted with oats.
T13	A golf course occupies a large area of this site.
T14	A fenced-off caravan park occupies this portion of the site, as a result the area is ungrazed.
T15	This area is a caravan/camping park which has been reseeded.
T16	This building is the golf club house.
T17	Dense, low scrubby vegetation dominated by Salix spp. and Corylus.
T18	Along this area of beach there has been an attempt to stabilize the foredune with round bales of straw.
T19	Large-scale sand extraction with a JCB occurs at this point.
T20	This hillside is covered with species-rich deciduous woodland (see releve 99).
T21	All along this stretch of dune, large sods of dune vegetation are slipping off the foredune due to erosion.
T22	At Roishin point there are large numbers (c. 50) of cattle grazing.
T23	These are fields recently cut for silage.
T24	The fields along this boundary are a mixture of Lolium swards and hay meadows.

SHESKINMORE

Location:

Sheskinmore is County Donegal's most westerly site in this survey.

Description:

This is a massive dune system on the north side of a drowned estuary. The main body of dunes lie as dissected ridges and sand 'moutains' bounded by two rocky headlands. Fronting them are two lines of embryo dune ridges and an extensive intertidal strand. In the lee of the dunes is a vast area of fen caused by impeded drainage. There is a loch at the far end whose outlet has been excavated to run due south to the river. It is bounded on its landward side by a steep sided cliff with bracken cover and small wooded valleys. To the south of the fen are further dune ridges, and beyond them the river. The movement of this river has substantially altered the coastline, there is now severe erosion at the west, seaward, end and sand deposition up river.

There is a wide range of habitats and plant communities at this site. The central rocky headland supports a variety of mire types with fringing maritime cliff vegetation. The high dunes are dominated by *Ammophila arenaria* but with an understorey of grassland species and *Rosa pimpinellifolia* which makes them quite stable. It is their height and steep angle of repose which can destabilise a face. At the base are areas of slack vegetation. The loch and fen complex is of exceptional variety and quality and there is a range of clearly delineated plant communities. Up river the river channel broadens and there is a wider intertidal area. This provides opportunities for some salt marsh development.

Management:

The northern portion of the site is dominated by a well established caravan park which is landscaped back into the dunes. While this compromises the conservation value of the dunes it nevertheless focuses recreational activities to the park and the fronting beach. Children do create erosion on the faces of the high dunes but the system is very stable and at present sediment is not in short supply. The fen system is lightly cattle grazed and there is some fencing across the vegetational transition boundaries to manage this regime. At the south end of the system the

grassland supports a greater number of cattle. There is also some active sand extraction from old dune ridges.

Assessment:

This is an extremely attractive and valuable site with a high potential for plant rarities. Present management of the fen by light cattle grazing appears to be entirely appropriate. The general physiognomy of the area ensures that water supply to this system can be maintained and it also limits access points. The sheer size of the dune system and the slack vegetation are relatively unusual. It is possible this area would benefit from slightly heavier grazing; the spread of bracken should be monitored. There are buried organic deposits and if these could be dated it would be possible assess the developmental history of the system. It is surprising, given that the caravan site is quite large, how little impact it makes. An important and well managed site, and also one with few obvious threats at present

SHESKINMORE - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
AQUATIC COMMUNITIES			
A7a	Nymphaea alba community	Species poor sub-community	1
AX1b	Chara community	Potamogeton natans sub-community	1
HEATHS			
H7c	Calluna vulgaris-Scilla verna community	Erica tetralix sub-community	4
MIRES			
M10b	Carex dioica-Pinguicula vulgaris community		1
M13b	Schoenus nigricans-Juncus subnodulosus community	Briza media-Pinguicula vulgaris sub-community	3
M24c	Molinea caerulea-Cirsium dissectum community	Juncus acutiflorus-Erica tetralix sub-community	3
MX1	Carex nigra-Eriophorum angustifolium community		9
MARITIME CLIFF			
MC3	Rhodiola rosea-Armeria maritima community		1
MC10a	Festuca rubra-Plantago spp. community	Armeria maritima sub-community	1
MESOTROPHIC GRASSLANDS			
MG5a	Cynosurus cristatus-Centaurea nigra community	Lolium perenne sub-community	2
MG5c	Cynosurus cristatus-Centaurea nigra community	Prunella vulgaris sub-community	3
MG5d	Cynosurus cristatus-Centaurea nigra community	Holcus lanatus-Trifolium pratense sub-community	4
MG11d	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex nigra sub-community	5
FEN AND SWAMP			
S4a	Phragmites australis community	Phragmites australis sub-community	1
S4c	Phragmites australis community	Menyanthes trifoliata sub-community	1
S8a	Scirpus lacustris ssp. lacustris community	Scirpus lacustris lacustris sub-community	1
S9a	Carex rostrata community	Carex rostrata sub-community	1
S9b	Carex rostrata community	Menyanthes trifoliata-Equisetum fluviatile sub-community	3
S19d	Eleocharis palustris community	Hydrocotyle vulgaris sub-community	2
S20	Scirpus lacustris ssp. tabernaemontani community		1
S23c	Nasturtium officinale-Apium nodiflorum ditch community	Eleocharis palustris-Calliergon cuspidatum sub-community	2
SX1b	Carex diandra-Menyanthes trifoliata community	Calliergon cuspidatum-Hydrocotyle vulgaris sub-community	1
SX2	Iris pseudacorus community		1
SX3a	Carex nigra community	Potentilla anserina sub-community	7
SX3b	Carex nigra community	Holcus lanatus-Festuca rubra sub-community	4
SX3c	Carex nigra community	Galium palustre-Mentha aquatica sub-community	8
SX4	Carex paniculata community		1
SAND DUNE AND STRANDLINE			
SD4a	Elymus farctus spp. boreali-atlanticus community	Elymus farctus sub-community	1
SD6a	Ammophila arenaria mobile dune community	Elymus farctus sub-community	1

SD6d	Ammophila arenaria mobile dune community	Typical sub-community	1
SD6e	Ammophila arenaria mobile dune community	Festuca rubra sub-community	1
SD7a	Ammophila arenaria-Festuca rubra fixed dune community	Typical sub-community	4
SD7d	Ammophila arenaria-Festuca rubra fixed dune community	Tortula ruraliformis sub-community	3
SD8a	Festuca rubra-Galium verum dune grassland community	Typical sub-community	9
SD8c	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	2
SD8e	Festuca rubra-Galium verum dune grassland community	Prunella vulgaris sub-community	9
SD8f	Festuca rubra-Galium verum dune grassland community	Pteridium aquilinum sub-community	2
SD8g	Festuca rubra-Galium verum dune grassland community	Thymus praecox sub-community	3
SD9c	Ammophila arenaria-Arrhenatherum elatius community	Geranium sanguineum sub-community	5
SD15	Salix repens-Calliergon cuspidatum dune slack community		1
SDX1	Catabrosa aquatica community		2
SALT MARSH			
SM16b	Festuca rubra salt marsh community	Juncus gerardii sub-community	1
SM19	Blysmus rufus community		1
WEED COMMUNITIES			
WD1	General weed communities in survey		1
			119

SHESKINMORE TARGET NOTES

NUMBER	GRID REF. 7 (G)	NOTES
T 1	6805 9584	Weedy Cattle feeding area
T 2	6806 9575	Drain, disturbed and much tramped salt marsh vegetation.
T 3	6827 9520	Burnt area. Accident in June '96
T 4	6818 9486 6835 9475	Old boundary wall c.0.5m high
T 5	681 956	Caravan and camp site
T 6	6837 9552 6853 522 6813 9488	Post and wire fence
T 7	6995 9535	Sluice gate
T 8	7026 9533	Occupation horizons with shell debris
T 9	7093 9476	Soccer pitch
T 10	7085 9495 7095 9485	Sand extraction site
T 11	7063 9504	Weedy Cattle feeding area
T 12	6915 9540	J.Hennigan orchid. to be identified -probably Ophrys apifera
T 13	7068 9498 6811 9631 6817 9634	Potato crop
T 14	6815 9630	First year fallow potato patch

TRAWALUA AND BUNDUFF

Location:

Bunduff and Trawalua are both sites on the north facing Mullaghmore headland in County Sligo.

Description:

Bunduff and Trawalua are contiguous dune systems; Trawalua faces west and Bunduff north. The road running north-south to Mullaghmore Head has been used as the boundary between, which is reinforced due to the estate woodland plantation at the backside of Trawalua.

Trawalua has a broad sweep of relatively high foredunes behind a steep beach. A machair, half kilometre wide, lies behind these, and this is backed in turn by fenced fields rising fairly sharply. A river terminates the south end of this system. Apart from a stream at the north end which cuts through the dunes to the beach, and patches of rush dominated vegetation at the foot of the inland fields, this is a dry system. There is a reef of eroding aeolianite behind the dunes in the centre, and behind this a line of old tree stumps. Both these indicate a history that is more complex than would appear at first sight. The vegetation is a range of *Ammophila arenaria* dominated dune types, *Festuca rubra-Galium verum* grassland varieties and mesotrophic grasslands. To the north, up the hill to the castle, the *Ammophila arenaria* dominated dunes are higher and deeper and extend back to the woodland. There are a few very large blow outs.

The Bunduff dune system lies in the lee of Mullaghmore headland and consequently its foredunes are not as high and impressive as those at Trawalua. They form a crescent, tailing into the edge of Mullaghmore in the west and up high cliffs in the east. In the west, adjacent to the road and woodland is an area of huge hummocks; these decline in size and number southwards. It is probable that these are a feature relating to the Trawalua system rather than the Bunduff one. There is only a relatively small area of machair between these hummocks and the lough outlet; it is nevertheless extremely species rich. A drain has been excavated to the sea and to the east of this the land rises. Foredunes continue but in their lee are gently sloping fields of a more mesotrophic grassland type rather than a *Festuca rubra-Galium verum* dune grassland. The other side of the east-west road is an extensive, calcareous fen and open water which supports most of the plant

community diversity. The flooded meadows around Bunduff lough are criss-crossed with old drainage ditches which give rise to a patchwork of different plant comunities. There is also a range of aquatic and emergent plant communities around the open water. The small traditional fields behind the dunes to the east show a tendency towards a calcicolous grassland type.

Management:

Trawalua plain is intensively grazed by sheep and cattle. The north dune area, part of the estate, is cattle grazed. This area has indications of recent agricultural improvement in the form of fences and a new cattle barn. Part of the woodland plantation has been clear felled. Apart from a football pitch and horse riding along the beach, this side does not suffer much recreational use. This is due to the steep, dangerous beach with undercurrents.

Bunduff is cattle lightly grazed. The beach and foredunes have significant recreational use in the summer months especially around Mullaghmore. This is also a favourite centre for scuba diving and other offshore activities.

Assessment:

Trawalua is a more exposed system and more intensively managed. There is significant erosion and sheep are exacerbating this around the blow outs. Less, or no, sheep would undoubtedly be beneficial to the vegetation. However, it is the less diverse system of the two and while it is more dynamic the coastal processes are simpler. There is obviously sufficient sand tied up in the system to maintain it for the forseeable future.

Bunduff is a site of high quality and the cattle grazing regime is appropriate to maintain it. Recreational use does not appear to have any lasting detrimental effects apart from the small area of beach adjacent to Mullaghmore. People do not travel far. There is foredune retreat evident but tis is a very sheltered system.

BUNDUFF AND TRAWALUA - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
AQUATIC COMMUNITIES			
A11	Potamogeton pectinatus-Myriophyllum spicatum community		1
AX1a	Chara community	Species poor sub-community	1
AX2	Hippurus vulgaris community		2
CALCICOLOUS GRASSLANDS			
CG10b	Festuca ovina-Hieracium pilosella-Thymus praecox community	Carex pulicaris-Carex panicea sub-community	1
CGX1	Blackstonia perfoliata-Carex flacca community		4
HEATHS			
H7c	Calluna vulgaris-Scilla verna community	Erica tetralix sub-community	1
MIRES			
M28b	Iris pseudacorus-Filipendula ulmaria community	Urtica dioica-Galium aparine	1
MX1	Carex nigra-Eriophorum angustifolium community		7
MESOTROPHIC GRASSLANDS			
MG5a	Cynosurus cristatus-Centaurea nigra community	Lolium perenne sub-community	1
MG5b	Cynosurus cristatus-Centaurea nigra community	Galium verum sub-community	1
MG5c	Cynosurus cristatus-Centaurea nigra community	Prunella vulgaris sub-community	4
MG5d	Cynosurus cristatus-Centaurea nigra community	Holcus lanatus-Trifolium pratense sub-community	3
MG5e	Cynosurus cristatus-Centaurea nigra community	Carex nigra sub-community	1
MG7a	Lolium perenne ley community	Lolium perenne-Trifolium repens sub-community	1
MG10a	Holcus lanatus-Juncus effusus community	Typical sub-community	1
MG11a	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Lolium perenne sub-community	1
MG11b	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Matricaria maritima sub-community	1
MG11d	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex nigra sub-community	5
MGX1	Juncus bufonius-Agrostis stolonifera community		2
FEN AND SWAMP			
S9a	Carex rostrata community	Carex rostrata sub-community	1
S9b	Carex rostrata community	Menyanthes trifoliata-Equisetum fluviatile sub-community	2
S12a	Typha latifolia community	Typha latifolia sub-community	1
S19a	Eleocharis palustris community	Eleocharis palustris sub-community	2
S19c	Eleocharis palustris community	Agrostis stolonifera sub-community	1
S20a	Scirpus lacustris ssp. tabernaemontani community	Species poor sub-community	1
S21	Scirpus maritimus community		1
S23a	Nasturtium officinale-Apium nodiflorum ditch community	Typical sub-community	1
S23b	Nasturtium officinale-Apium nodiflorum ditch community	Glyceria sub-community	3
SX1a	Carex diandra-Menyanthes trifoliata community	Typical sub-community	1
SX1b	Carex diandra-Menyanthes trifoliata community	Calliergon cuspidatum-Hydrocotyle vulgaris sub-community	2

SX3a	Carex nigra community	Potentilla anserina sub-community	5
SX3b	Carex nigra community	Holcus lanatus-Festuca rubra sub-community	3
SX3c	Carex nigra community	Galium palustre-Mentha aquatica sub-community	3
SAND DUNE AND STRANDLINE			
SD2b	Honkenya peploides-Cakile maritima community	Honkenya sub-community	1
SD4a	Elymus farctus spp. boreali-atlanticus community	Elymus farctus sub-community	1
SD6a	Ammophila arenaria mobile dune community	Elymus farctus sub-community	6
SD6d	Ammophila arenaria mobile dune community	Typical sub-community	3
SD6e	Ammophila arenaria mobile dune community	Festuca rubra sub-community	4
SD7a	Ammophila arenaria-Festuca rubra fixed dune community	Typical sub-community	2
SD8a	Festuca rubra-Galium verum dune grassland community	Typical sub-community	8
SD8b	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	3
SD8c	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	6
SD8d	Festuca rubra-Galium verum dune grassland community	Ranunculus acris-Bellis perennis sub-community	1
SD8e	Festuca rubra-Galium verum dune grassland community	Prunella vulgaris sub-community	7
SD8g	Festuca rubra-Galium verum dune grassland community	Thymus praecox sub-community	4
SD8h	Festuca rubra-Galium verum dune grassland community	Lolium perenne sub-community	4
SD9c	Ammophila arenaria-Arrhenatherum elatius community	Geranium sanguineum sub-community	1
SD10a	Carex arenaria dune community	Festuca rubra sub-community	3
WOODLAND			
W24	Rubus fruticosus-Holcus lanatus underscrub community		2
WX1	Pinus nigra community		1
WEED COMMUNITIES			
WD1	General weed communities in survey		1
			124

TRAWALUA AND BUNDUFF TARGET NOTES

NUMBER	GRID REF. 7 (G)	NOTES
T 1	6850 5283	Large concrete blocks and boulders used as coastal protection at stream mouth
T 2	6854 5290	Dense patches of Urtica and Cirsium around cattle feeding area and stable hay dumping
T 3	6844 5276	Stream does not flow across beach
T 4	6925 5355 7070 5564	Area of 'molehill' size hummocks, but vegetation between hummock and flat indistinguishable.
T 5	6945 5375	Scattered tree stumps **96.914.3/4**
T 6	6934 5385	Beds of aeoleanite eroding **96.914.7**
T 7	6955 5380	Sheep sheltering and rubbing under ledges and enhancing lateral erosion **96.914.13**
T 8	6965 5379	Dense Cirsium arvense on Q25 type vegetation
T 9	7005 5420	Football pitch
T 10	7060 5560	Hummocky machair, relict from Trawalua system. Hummocks c.40cm high, Q61/Q62 mosaic 30%/70%. Scattered Ulex bushes.
T 11	6987 5495	Alder regeneration. Small, c.50cm tall.
T 12	7155 5615	Dumps of dredged material
T 13	7175 5628	Intertidal peat **96.914.22**
T 14	7165 5626	Boulder clay promomtory, river runs around its base. **96.914.23**
T 15	7050 5680	Hummocky machair, giant hummocks c. 3m high

GARTER HILL

Location:

Garter Hill is on the north coast of County Mayo at the mouth of the Glenmoy estuary.

Description:

Garter Hill is the name of the hill that stands behind and overlooks this south-west facing dune system. North westerly winds have blown most of the sand up the hill side and there are only relict foredunes and badly eroded grassland left. There are a series of reed peat deposits appearing in the intertidal zone, especially at the north-western end. Underlying the sand covering are substantial boulder clay and glacial deposits; these are clearly visible in the banks of the streams which dissect the hillside and on the beach on the inland side of the small promomtory. Sediment depletion is severe and the wind is now scouring the hillside down to the earlier, pre-sand horizons leaving 3m high 'buttes' of *Ammophila* capped dune. There is very little habitat or plant community diversity. A vegetation anomaly is the scattering of *Ulex* bushes down one of the stream courses. The remains of settlement and a ruined chapel testify to the long human interest in the area, though it is pobable that most arcachaeologiocal interest has been washed away.

Management:

The site is held as unfenced commonage and is intensively sheep grazed and due to this the vegetation is excessively short and impoverished. There is a football pitch and some informal camping, but the impact from this is negligible.

Assessment:

The value of this site lies in the information it can reveal on dynamic coastal processes. The vegetational and landscape history can be read from the stratigraphy visible in the water eroded banks of the streams. Over grazed and badly eroded it has little of conservation interest.

GARTER HILL - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
MIRES			
MX1	Carex nigra-Eriophorum angustifolium community		1
MESOTROPHIC GRASSLANDS			
MG11d	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex nigra sub-community	4
MGX1	Juncus bufonius-Agrostis stolonifera community		1
FEN AND SWAMP			
S23a	Nasturtium officinale-Apium nodiflorum ditch community	Typical sub-community	4
S23c	Nasturtium officinale-Apium nodiflorum ditch community	Eleocharis palustris-Calliergon cuspidatum sub-community	2
SX3c	Carex nigra community	Galium palustre-Mentha aquatica sub-community	1
SAND DUNE AND STRANDLINE			
SD2c	Honkenya peploides-Cakile maritima community	Salsola sub-community	1
SD6a	Ammophila arenaria mobile dune community	Elymus farctus sub-community	2
SD6d	Ammophila arenaria mobile dune community	Typical sub-community	2
SD6e	Ammophila arenaria mobile dune community	Festuca rubra sub-community	1
SD8a	Festuca rubra-Galium verum dune grassland community	Typical sub-community	4
SD8c	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	8
SD8e	Festuca rubra-Galium verum dune grassland community	Prunella vulgaris sub-community	4
WEED COMMUNITIES			
WD1	General weed communities in survey		1
			36

GARTER HILL TARGET NOTES

NUMBER	GRID REF. 6 (F)	NOTES
T 1	8067 4074	River cut showing soil sequence, 4 samples. 4 Top, bands of sand, high quartz content (80cm) 3 Black and ochre clay bands with sand lenses (30cm) Shingle and sand overwash (20cm) 2 Black and ochre clay bands with sand lenses (30cm) 1 Very fine glacial sand (20cm) Boulder overwash (50cm+) **96.922.23**
T 2	8076 4085 8035 4105 8271 4045	Old cultivation rigs
T 3	8013 4103 8174 4067	Vertical erosion faces, 1-1.5m high, exacerbated by sheep. Bare sand accounts for c.30% of area, but unmappable at this scale **96.922.33/34**
T 4	8023 4068 8063 4061	Intertidal reed peat **96.923.3/4**
T 5	7987 4095 8011 4051	Cliffs topped with glacial sand and unsorted gravels **96.922.35**
T 6	8032 4067	Dune grassland edge very dissected, c.2m higher than beach. Sand Martins in face. Wet seepage zone at base then narrow shingle, both c.2m wide, then sandy beach. **96.923.1/2**
T 7	8045 4070	Kelp drying dykes, in use.
T 8	8057 4077	Football pitch
T 9	8067 4079	River carved faces, c.2-2.5m high, several course changes evident
T 10	8304 4069 8067 4076	Dumping, mostly metal
T 11	8094 4055 8103 4061	About 25 scattered Ulex bushes growing parallel to stream course
T 12	8177 3965	Boulder clay and gravel under dune. **96.923.5**
T 13	8254 4022 8216 3973	Boulder clay edge along river. **96.923.10**
T 14	8274 4088	Hillside mosaic of stream courses (dry and wet), lumps of vegetated sand, small scree slopes and bare hillside scoured by sand. **96.923.14**

T 15	8271 4101	Wind scoured and stripped suface down to rock and dried peat. Evidence of pre-sand cultivation rigs highlighted. Scattered, large tussocks of Ammophila covered sand **96.923.15**
T 16	8147 4039 8179 3973	Very precise hummocks, Q18 and Q20, 50:50 96.923.22/24/29
T 17	8233 4060	Ammophila dominated hummocks, Q35, on scoured bare sand surface **96.923.19/21/23/25/26/29**
T 18	8235 4034	Stream carved through boulder clay

TERMONCARRAGH/EMLYBEGS/CROSS LOUGH/AGHLEAM

Location:

These four sites lie on the west side of the Mullet peninsula in County Mayo.

Description:

All sites are west facing and exposed to the Atlantic. All sites are showing signs of sediment depletion, coastal retreat and erosion.

Termoncarragh is the most northerly of these sites. A sandy strand, with virtually no foredune development, stretches between low lying headlands. At the north end are extensive, intertidal, reed peat deposits. The fields are fenced parallel to the shoreline around the north side of the loch, but the large area of wet grassland and fen is unfenced. Old drainage ditches criss cross the fen, but drainage has been rationalised recently by a large excavated drain to the shore. The drier fields have been modified by management to a greater or lesser degree, some have been resown with commercial grasses; but the fen supports a wide range of different plant communities. The *Ammophila arenaria* dominated communities are fragmentary along this stretch, and it is only in the next bay, facing south west, that there is any real dune development. Sand is piled high in this corner but around the bay foredunes disappear and a large sand plain extends to the shore. It is all closely fenced perpendicular to the coastline. The fields are basically a *Festuca rubra-Galium verum* grassland but have each been modified by variations in individual management. A few stream courses cross the plain to drain onto the beach. There are high peat deposits eroding onto the beach at mid point, although around the rest of the bay it is glacial debris that is eroding underneath the sand capping.

Emlybegs is a continuation of this site. At the southern end of the plain there is a series of huge dunes and massive blow outs extending about a kilometre inland. The blow outs have reached the water table or bedrock in some cases so the full height of the dune can be appreciated. The landscape then becomes undulating and the high dunes less densly packed as it falls away southwards. At the southern end of the site there is only a relatively thin covering of sand over glacial debris and the hillier hinterland comes much closer to the shore. The site ends in another

low lying rock/boulder clay headland. The areas of dune are dominated by *Ammophila arenaria*, which is sustained by sand re-circulating within the eroding dune and glacial sand eroding from the shore. Much of Emlybegs is landscaped golf course, but *the Festuca rubra-Galium verum* natural grassland is maintained with different mowing regimes; cut very close on the fairways and less so around the edges. As the sand covering thins over the hill a more mesotrophic grassland becomes prevalent.

Around the headland is the site of Cross Lough. Cross Lough is a large piece of open water with several narrow bands of fringing plant communities. An excavated ditch about mid-site drains it to the beach. There is a sand plain, about 1 kilometre wide between the lough shore and the coast; it is on two levels with a drop of about 3m half way down. This area is very tightly fenced, and while all the fields are basically a *Festuca rubra-Galium verum* grassland most contain abundant *Lolium perenne*. The fields at the southern end near the lough support a very attractive hay meadow type of mesotrophic grassland. Apart from a high dune (already diminished by snd extraction) at the north end of the beach there is no foredune development. The machair is protected by a substantial shingle storm beach for most of its length. On its lee side there is permanent shingle vegetation, but the seaward side is too exposed to winter storms.

Much of the coastline southwards has a similar pattern, but at Agleam there is an inrease in sediment deposition and the fencing is laid out parallel to the coast rather than perpendicular. The north end of Aghleam has a large dune system with dunes extending inland. These drop off to a line of foredunes, then no foredune development at the southern end where the large stream drains across the beach. Inhibition of sediment movement south might be caused by the bedrock which lies in serried ranks, just below low tide, like groins. There is no real sand plain at Aghleam; the undulating, hillocky landscape indicates a past period of greater sand movement. Apart from the few eroding faces this is now stabilised by dune grassland vegetation.

Management:

There has been excessive fencing recently on all sites except the Emlybegs golf course. This has led to an intensification of agricultural activity such as the construction of barns and relatively heavy cattle grazing as stock are now concentrated in the fields rather than unenclosed machair. Sheep were only present at Termoncarragh. Recreation is minimal and focussed at road ends. The

golf course is relatively new and there are plans for extension. The present management of light, periodic mowing promotes some areas of good quality dune grassland, but, as in all well landscaped golf courses, the area of closely cut fairway is deceptively large.

Assessment:

The advantage of these sites is their combined size and the insights they offer to understanding the dynamic coastal processes of the whole Mullet peninsula. The soil sections that are visible in the eroding faces show a range of different sand types that have been the dominant matrix at different times. Glacial deposition has obviously been fundamental in shaping the present landscape, and this has supported a massive dune system on the western littoral. There have been large areas of fen and peat deposition in the past, presumably lying behind an old dune system, although now it is underneath the sand. The present dune system is now senescent and in decline; it is important to get some dating evidence to build up a picture of the developmental sequence since the last Ice Age.

The most interesting vegetation from a conservation perspective is the fen and wet grassland around Termoncarragh lough; this area is also the most important ornothologically. It is suggested that there is some degree of agricultural de-intensification, especially removing most of the fences.

THE MULLET - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
AQUATIC COMMUNITIES			
A13	Potamogeton perfoliatus-Myriophyllum alterniflorum community		3
AX1a	Chara community	Species poor sub-community	4
MARITIME CLIFF			
MC1a	Crithmum maritimum-Spergularia rupicola community	Typical sub-community	1
MC8	Festuca rubra-Armeria maritima community		1
MESOTROPHIC GRASSLANDS			
MG1e	Arrhenatherum elatius community	Centaurea nigra sub-community	1
MG5a	Cynosurus cristatus-Centaurea nigra community	Lolium perenne sub-community	1
MG5b	Cynosurus cristatus-Centaurea nigra community	Galium verum sub-community	4
MG5d	Cynosurus cristatus-Centaurea nigra community	Holcus lanatus-Trifolium pratense sub-community	11
MG5e	Cynosurus cristatus-Centaurea nigra community	Carex nigra sub-community	2
MG7a	Lolium perenne ley community	Lolium perenne-Trifolium repens sub-community	3
MG7e	Lolium perenne ley community	Lolium perenne-Plantago lanceolata sub-community	3
MG11b	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Matricaria maritima sub-community	1
MG11c	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex arenaria sub-community	6
MG11d	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex nigra sub-community	5
MGX1	Juncus bufonius-Agrostis stolonifera community		1
FEN AND SWAMP			
S4e	Phragmites australis community	Agrostis stolonifera-Hydrocotyle vulgaris sub-community	1
S14a	Sparganium erectum community	Sparganium erectum sub-community	1
S19c	Eleocharis palustris community	Agrostis stolonifera sub-community	3
S19d	Eleocharis palustris community	Hydrocotyle vulgaris sub-community	1
S20	Scirpus lacustris ssp. tabernaemontani community		2
S21	Scirpus maritimus community		1
S21a	Scirpus maritimus community	Scirpus maritimus sub-community	1
S23a	Nasturtium officinale-Apium nodiflorum ditch community	Typical sub-community	5
S23b	Nasturtium officinale-Apium nodiflorum ditch community	Glyceria sub-community	1
S23c	Nasturtium officinale-Apium nodiflorum ditch community	Eleocharis palustris-Calliergon cuspidatum sub-community	5
SX1b	Carex diandra-Menyanthes trifoliata community	Calliergon cuspidatum-Hydrocotyle vulgaris sub-community	1
SX2	Iris pseudacorus community		1
SX3a	Carex nigra community	Potentilla anserina sub-community	3
SX3b	Carex nigra community	Holcus lanatus-Festuca rubra sub-community	11
SX3c	Carex nigra community	Galium palustre-Mentha aquatica sub-community	6
SAND DUNE AND STRANDLINE			
SD3	Matricaria maritima-Galium aparine community		3

SD4a	Elymus farctus spp. boreali-atlanticus community	Elymus farctus sub-community	7
SD4b	Elymus farctus spp. boreali-atlanticus community	Lotus corniculatus-Plantago lanceolata sub-community	2
SD6a	Ammophila arenaria mobile dune community	Elymus farctus sub-community	7
SD6d	Ammophila arenaria mobile dune community	Typical sub-community	4
SD6g	Ammophila arenaria mobile dune community	Carex arenaria sub-community	1
SD7a	Ammophila arenaria-Festuca rubra fixed dune community	Typical sub-community	6
SD8a	Festuca rubra-Galium verum dune grassland community	Typical sub-community	21
SD8b	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	3
SD8c	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	21
SD8d	Festuca rubra-Galium verum dune grassland community	Ranunculus acris-Bellis perennis sub-community	14
SD8e	Festuca rubra-Galium verum dune grassland community	Prunella vulgaris sub-community	7
SD8g	Festuca rubra-Galium verum dune grassland community	Thymus praecox sub-community	15
SD8h	Festuca rubra-Galium verum dune grassland community	Lolium perenne sub-community	4
SD8i	Festuca rubra-Galium verum dune grassland community	Carex arenaria-Elymus farctus sub-community	8
SD10a	Carex arenaria dune community	Festuca rubra sub-community	2
SDX1	Catabrosa aquatica community		1
SALT MARSH			
SM13b	Puccinellia maritima salt marsh community	Glaux maritima sub-community	1
SM16e	Festuca rubra salt marsh community	Leontodon autumnalis sub-community	2
WEED COMMUNITIES			
WD1	General weed communities in survey		5
			224

MULLET TARGET NOTES

NUMBER	GRID REF. 6 (F)	NOTES
		TERMONCARRAGH
T 1	6485 3489	Whole beach is intertidal reed peat **96.919.1/2**
T 2	6490 3488	Byre muck out tipped down face **96.919.1**
T 3	6493 3511	Cattle feeding area with Cirsium, Urtica, Lolium abundant
T 4	6495 3477	Field Drain
T 5	6541 3504	Cemetery, ancient and modern
T 6	6505 3433	Eroding face, deep boulder clay and glacial till
T 7	6515 3414	New drainage channel to drain lough, excavated through shingle storm beach. **96.919.3**
T 8	6534 3370	Substantial channel but dry. Inland occassional pools of standing water
T 9	6535 3343	Very degraded and breached foredunes. Elymus and Ammophila growth ephemeral
T 10	6553 3307 6552 3310 6598 3274	Deep boulder clay deposit over rock and under sand. Severe erosion of face. **96.920.6/7**
T 11	6540 3315	Dumping, dead sheep, machinery, agricultural waste **96.920.10**
T 12	6578 3307 6595 3294	Peat - very black and hard/friable (?low organic content) eroding in sheets
T 13	6624 3294	Cattle feeding area. Lolium and Cirsium abundant
T 14	6590 3363	New cattle house, disturbance and weed vegetation surround
T 15	6619 3337	Silage bags stored
		EMLYBEGS
T 16	6723 3253	Sand face sprayed with slurry, marram planted and covered with netting **96.920.16**
T 17	6724 3246	Disturbance around club house and car park from recent building
T 18	6749 3265 6740 3296	New shelter dug into side of dune

T 19	6757 3262	Ulex bushes, small and scattered
T 20	6738 3317	Golf club maintenance hanger, weedy disturbed ground surrounds. Cinder tracks and sand paths throughout golf course, not recorded on map.
T 21	6741 3313 6635 3252	Areas stripped of turf for golf club. **96.920.19**
T 22	6685 3316	Old ground horizons, mobile sand on top, but same sediment type. **96.920.20**
T 23	6622 3280	Stream 'canalised' with wooden sleepers. No stream vegetation. **96.920.26**
T 24	6666 3264	Gneiss and quartzite bedrock exposed under large blowout. **96.920.27**
T 25	6603 3194	Non-vegetated, steep, 2m high shingle bank. Impediment to drainage, middle 'stream' now a pond. Gap in boulder clay deposition, embayment with extensive area of hummocky dunes behind. Shingle bar and cessation of sand input. **96.920.34 96.921.6**
T 26	6630 3194	Hummocks behind shingle beach. Mosaic, dry Q123=40%, Q114+Q115=60%. **96.920.31/32**
T 27	6648 3199	Stream emerges with good flow from bottom of 6m high sand face. Outlet for accumulation zone. **96.921.9/10/11**
		CROSS LOUGH
T 28	6398 3002	Potato crop
T 29	6403 3001 6415 3018	Small fank
T 30	6403 3003	Ditch with dredged sides, Q132
T 31	6413 3019	New concrete byre
T 32	6400 3004 6454 3033	Silage strore, bedded in, covered and 'moated'
T 33	6466 3056 6450 2971	Store of silage in black plastic bags
T 34	6464 3064	New concrete byre and foundations for another one
T 35	6435 3097 6416 3093	Several horizons of occupation levels and shell middens
T 36	6429 3079	Dumping, mostly metal

T 37	6427 3059	Sand extraction, recent
T 38	6444 3055 6420 3035	Cattle feeding area, Lolium perenne and Stellaria media abundant
T 39	6410 3048	Non- vegetated shingle bank, old, eroding dunes behind. Beach sand is all intertidal and not available for wind transportation.
T 40	6383 3019	Ditch piped through shingle bank
T 41	6337 2974	Steep, 2m high shingle storm beach lying as a skirt to dune grassland. **96.921.18**
T 42	6362 2978 6403 2847	Dung and straw spread down face to halt erosion. **96.921.26**
T 43	6345 2955	Pockets of blue Festuca rubra var. areanaria along this stretch
T 44	6370 2915	Pine branches laid across gap. Ineffectual as no sand to trap, beach sand is intertidal
T 45	6382 2900 6375 2898	Kelp drying dykes in use. **96.921.21/22**
T 46	6389 2887	Site of old track, broad depression
T 47	6392 2875	Wall, with fence on top in a curve to prevent encroachment of shingle storm beach. **96.921.23**
T 48	6396 2869	Car dump in damp area behind shingle bank. **96.921.24/25**
T 49	6447 2853	Arc of dry stone shelter wall and fenced and planted (Olerea) enclosure for silage bags
T 50	6469 2875	'Pier' of concrete sand bags built c.30m into lough
T 51	6418 2892 6441 2862	Dry stone angled walls, c.1.5m high, for feeding and shelter
		AGHLEAM
T 52	6238 2160 6244 2155	Utilities field and buildings.
T 53	6240 2153	Soil section,samples taken of orange sand above reed peat layer and greyer, waterlogged sand beneath peat . **96.921.35/36/37**
T 54	6187 2142	Agricultural building, construction in progress
T 55	6174 2115	Small area of this massive blow out has dung and straw spread down a bare sand face
T 56	6122 2117	Old, dry stream bed

T 57	6135 2130	Large stream emerging from bare sand face. **96.922.6/7**
T 58	6135 2066 6123 2096	Shingle storm beach, deeper, 2.5m high, at norh end and tapering in width and height
T 59	6123 2089	Vegetation, Q205, on slight dark layer and glacial deposits. **96.922.8**
T 60	6127 2082	Exposed, intertidal bed rock, lying perpendicular to shore creates natural groins. **96.922.12**
T 61	6230 2136	Excavated pool for cattle watering, full of Chara sp., Q213
T 62	6198 2209 6185 2170	Major blow out. **96.922.17**

KINROVAR

Location:

Kinrovar is a small, west facing dune system lying in the lee of the Mullet peninsula in County Mayo.

Description:

There is very little sand plain left at this site as the coast has retreated to the point where the sand is beginning to blow up the hillside. There are relict low, foredunes but these are very fragmented and have receded through the fence marking the bottom of the field. A shingle storm beach protects what is left of the dunes. The narrow fields, fenced perpendicular to the coast, are of a basic *Festuca rubra-Galium verum* grassland type, but have been modified by the feeding of cattle and spread of *Lolium perenne*. There are several areas of dense weeds. The south end is not grazed but reserved for football, so the grassland tends to be rank and dominated by *Festuca rubra*.

Management:

All fields are cattle grazed, there was no evidence of sheep. The whole area has been recently fenced apart from the southern allocation which supports a small car park and football pitch. Recreational use of the beach is minimal.

Assessment:

Severe coastal erosion and sediment depletion on the one hand and intensive fencing and cattle management on the other have reduced the conservation interest of this site. The protective presence of the storm beach is essential if it is to be maintained as an agricultural resource.

KINROVAR - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
MESOTROPHIC GRASSLANDS			
MG11c	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex arenaria sub-community	2
MGX1	Juncus bufonius-Agrostis stolonifera community		2
FEN AND SWAMP			
S23a	Nasturtium officinale-Apium nodiflorum ditch community	Typical sub-community	1
S23b	Nasturtium officinale-Apium nodiflorum ditch community	Glyceria sub-community	1
SAND DUNE AND STRANDLINE			
SD4a	Elymus farctus spp. boreali-atlanticus community	Elymus farctus sub-community	1
SD6a	Ammophila arenaria mobile dune community	Elymus farctus sub-community	2
SD8a	Festuca rubra-Galium verum dune grassland community	Typical sub-community	2
SD8c	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	3
SD8d	Festuca rubra-Galium verum dune grassland community	Ranunculus acris-Bellis perennis sub-community	1
SD8h	Festuca rubra-Galium verum dune grassland community	Lolium perenne sub-community	1
SD10a	Carex arenaria dune community	Festuca rubra sub-community	2
WEED COMMUNITIES			
WD1	General weed communities in survey		1
			19

KINROVAR ISLAND TARGET NOTES

NUMBER	GRID REF. 6 (F)	NOTES
T 1	7175 1520	Football and soccer pitches. Field (S.O'Mongain's share) set aside for recreation
T 2	7162 1538	Area used for car parking
T 3	7156 1544 7152 1595	Shingle storm beach, 2.5m high but tapering in width and height away from middle.
T 4	7163 1623	Dung and straw spread down face to halt erosion
T 5	7170 1564	Potato crop

INISKEA NORTH

Location:

Iniskea, north and south, are two sizeable islands off the Mullet peninsula in County Mayo.

Description:

Iniskea north is a low lying island where sand has blown over the gneiss ridges to form a machair. The west of the island presents a rocky shoreline and the present relict machair lies in its lee; it has an unusual northerly aspect. The north end of the island is interesting, there is a narrow channel with a powerful current separating the main body of the island with a piece separated by rising sea levels. Intertidal, reed peat deposits are becoming exposed under the sand in this north west corner. It is probable that the machair was once situated further west and was more extensive; the sand is now being blown up the gentle slope behind. A few stream courses dissect the hillside as they run down to the beach, but they are mostly dry in summer. The machair vegetation is fairly uniform and the main vegetation diversity is to be found around a small, receding lochan in the north west.

The past socio-economic importance of this island is reflected in the modern deserted settlement and the abundant Early Christian and earlier archaeological remains. Much of the hillside is striped with low, boulder boundary walls.

Management:

The island may be deserted but it is still used intensively as a grazing resource. There are a few cattle but a great many sheep who have grazed the turf uniformally very short. Boats run day trips from the Mullet in the summer months, but the effect on the island is negligible.

Assessment:

Coastal erosion, sediment depletion and sheep over-grazing are having a severe impact on the machair at Iniskea north. Its main conservation importance lies in the sanctuary it offers birds, seals and marine life generally, rather than in any intrinsic value in the vegetation. It is, of course, extremely important in the context of historical heritage, and from this perspective erosion is an issue that needs to be taken seriously.

Geomorphologically it is also important in conjunction with the sites on the Mullet peninsula. There is no, or negligible, glacial deposition here, as contrasted with the great depths a short distance eastwards. The sand on Iniskea is a typical machair sand, extremely high in marine shell content and unadulterated by glacial or fluvial sand.

INISKEA NORTH - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
AQUATIC COMMUNITIES			
AX1a	Chara community	Species poor sub-community	1
MESOTROPHIC GRASSLANDS			
MG5c	Cynosurus cristatus-Centaurea nigra community	Prunella vulgaris sub-community	1
MG11c	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex arenaria sub-community	1
MG11d	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex nigra sub-community	3
FEN AND SWAMP			
S4a	Phragmites australis community	Phragmites australis sub-community	1
S19c	Eleocharis palustris community	Agrostis stolonifera sub-community	1
S21a	Scirpus maritimus community	Scirpus maritimus sub-community	1
S23c	Nasturtium officinale-Apium nodiflorum ditch community	Eleocharis palustris-Calliergon cuspidatum sub-community	2
SX3a	Carex nigra community	Potentilla anserina sub-community	1
SX3b	Carex nigra community	Holcus lanatus-Festuca rubra sub-community	2
SAND DUNE AND STRANDLINE			
SD2b	Honkenya peploides-Cakile maritima community	Honkenya sub-community	1
SD8c	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	5
SD8e	Festuca rubra-Galium verum dune grassland community	Prunella vulgaris sub-community	6
			26

INISKEA NORTH TARGET NOTES

NUMBER	GRIDREF. 6 (F)	NOTES
T 1	5625/2352	Periods of sand accumulation interspersed with gravel/shingle overwash. See photo **96.919.19/20**
T 2	5628/2355 5653/2380	Intertidal reed peat **96.919.21/22/25**
T 3	5638/2325	Fields, all with rig cultivation and low boulder boundary walls
T 4	5675/2338 5682/2333	Stream (Q15) dry, cut off from beach by blown sand
T 5	5715/2297	Boulder boundary wall
T 6	5722/2232	Boulder storm beaches, not vegetated
T 7	5657/2251	Peat deposit on very thin boulder clay level showing in face. See photo 96.919.
T 8	5610/2630	4 Peregrines spotted at north end

KEEL LOUGH

Location:

Keel Lough is at the north end of Achill Island, County Mayo.

Description:

Keel Lough itself is a large body of open water adjacent to the township of Keel. Two excavated ditches, one at the west end and one at the east, drain the water to the beach. Between the lough and the coast is a low lying, level plain. The sand on this plain is compacted and organically enriched; it is seasonally flooded and has had no additional fresh sand input for a long time. It supports a *Festuca rubra-Galium verum* grassland of no great species richness. The most striking feature of this site is the magnificent shingle storm beach, about 50m wide and 7m high, which runs the curve of the whole bay. While it is affording the best coastal protection it also prevents any new sediment being added to the plain behind. However, it is worth noting that an aerial photograph in the caravan site office of 9 years ago shows no shingle bar, only a sandy strand. The road to Keel crosses the site near the lough; a pipeline has also been recently laid alonside the road.

Management:

The lough is used by a water sports centre. The plain is both intensively sheep grazed and used as a second rate golf course. It is a 9 hole course with greens and tees but no fairways as such. The north end is fenced off for a caravan and camping site which is protected from sea breezes by man-made foredunes with an imported rock core. This is the end nearest Keel and the shingle bar has been bulldozed and flattened for car parking and amenity use. In the summer months there is a very high recreational use of this area.

Assessment:

There is very little of conservation or botanical interest at this site as there has been so much modification due to human impact. Free ranging sheep also ensure there is no corner left ungrazed. The site has most interest at the south end beyond the stream that marks the edge of the golf course. The major interest of the site is geomorphological; this is a very fine example of a shingle bar, but a dune system no longer exists in any active sense.

KEEL LOUGH - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
AQUATIC COMMUNITIES			
A10	Polygonum amphibium community		1
AX1a	Chara community	Species poor sub-community	1
MESOTROPHIC GRASSLANDS			
MG5d	Cynosurus cristatus-Centaurea nigra community	Holcus lanatus-Trifolium pratense sub-community	1
MG11d	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex nigra sub-community	7
FEN AND SWAMP			
S19a	Eleocharis palustris community	Eleocharis palustris sub-community	2
S19d	Eleocharis palustris community	Hydrocotyle vulgaris sub-community	1
S23b	Nasturtium officinale-Apium nodiflorum ditch community	Glyceria sub-community	1
SX2	Iris pseudacorus community		1
SX3c	Carex nigra community	Galium palustre-Mentha aquatica sub-community	1
SAND DUNE AND STRANDLINE			
SD6a	Ammophila arenaria mobile dune community	Elymus farctus sub-community	1
SD6d	Ammophila arenaria mobile dune community	Typical sub-community	1
SD7a	Ammophila arenaria-Festuca rubra fixed dune community	Typical sub-community	1
SD7d	Ammophila arenaria-Festuca rubra fixed dune community	Tortula ruraliformis sub-community	1
SD8a	Festuca rubra-Galium verum dune grassland community	Typical sub-community	4
SD8b	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	2
SD8g	Festuca rubra-Galium verum dune grassland community	Thymus praecox sub-community	1
SD8i	Festuca rubra-Galium verum dune grassland community	Carex arenaria-Elymus farctus sub-community	1
			28

KEEL LOUGH TARGET NOTES

NUMBER	GRID REF. 6 (F)	NOTES
T 1	6514 0409	River cut soil profile, early period of shingle overwash, then peaty, then sand and now contemporary shingle. see photo **96.923.**
T 2	6448 0452 6502 0413	Shingle bar, c.50m wide and 7m high; lower towards Keel where it has been bulldozed flatter for amenity and car parking. Photograph of 9 years ago has no shingle bar, completely sandy shoreline.
T 3	6492 0424	Channel, damp and puddles but no flow
T 4	6416 0492	Golf caravan and car park for 9 greens played between here eastwards to main drainage channel. Greens and Tees (not mapped) but no Fairways and no re-seeding.
T 5	6507 0422	Soil profile at ford. Organic peaty layers alternating with fine sand, some iron panning.
T 6	6509 0419	Ford and stepping stones
T 7	6501 0467	Metal bridge
T 8	6552 0483	Juncus effusus clumps, increasing eastwards.
T 9	6489 0490	Narrow open drain recently excavated.
T 10	6487 0502	Vertical bare sand faces, 0.5m high, erosion exacerbated by sheep rubbing
T 11	6484 0499	Soil profile, 3 samples taken. 3 Very fine, greyish sand (30cm) 2 Organically enriched dark brown horizon (10cm) 1 Yellow sand streaked with black rock dust (30cm+) **96.924.3**
T 12	6487 0506 6377 0496	Recent disturbance and bare sand from laying of water pipeline and upgrading road. **96.924.4**
T 13	6411 0522	Water sport centre, sailboarding, sailing, canoeing
T 14	6415 0475	2 sets football posts
T 15	6437 0503	Sand hills flattened during pipelaying. **96.924.6**
T 16	6419 0477 6398 0474	Man made foredunes with imported rock core, marram planted, after arrival of shingle bar. Breached in a few places with shingle thrown through. **96.924.7**
T 17	6386 0485	Caravan and camp site

T 18	6337 0479	Amenity area, playground, soccer, tennis, pony rides and car parking

DOO LOUGH

Location:

Doo Lough and its fronting dune system is situated on the north-east coat of Achill, County Mayo.

Description:

The proximity of very different habitat types are unusual on this site. There are two north-west facing sandy bays with a low headland of thick glacial debris. On the east side of this headland are very deep Sphagnum peat deposits eroding out onto the beach. These deposits continue, running under the sand covering, to appear as substantial, commercially worked peat cuttings around Doo Lough itself. (Doo here is probably 'dubh', black, because of the peat rather than a corrupted 'doagh'). There are substantial archaeological remains eroding from the headland which, if dated, would be important in an analysis of landscape development.

Both beaches are being severely eroded, due both to a rise in sea level and depletion in sediment supply. The west beach is composed of fine gravel, presumably of glacial origen and graded by sea action. There are relict and badly damaged foredunes behind a wide, low beach. There is a substantial outflow from a river and loch system behind the dune system. The east beach is steeper and more exposed with a shingle storm beach around the curve. The sand is insufficient to build foredunes and sweeps up to form grassy banks abutting the inland peat exposure. Eroding sides of a higher ground level overlook the bay. A *Festuca rubra-Galium verum* grassland, extends down to the west beach, with a series of well defined sand hummocks on the crest. The slope north from the hummocks is dissected by several streams which have cut through the sand to underlying peat. The boggy areas on the crest are another indication of a thin sand covering over an impervious matrix.

Management:

The whole area is unenclosed and intensively sheep grazed. On the west beach there is a small caravan and camping site behind man-made 'foredunes' and it is this beach that supports recreational use through the summer. A floodlit football pitch lies on the only level piece of grassland near the small loch. The high energy, steep east beach has minimal recreation use but there is active shingle extraction from the bank, probably for use building tracks over the peat workings.

Assessment:

Sheep grazing compromise the quality of vegetation on this site. It is recommended that this be modified as it would be of interest to observe the effects on vegetation of decreasing sand over a peat matrix. The human impact, however, is negligible compared to the severe erosion and coastal retreat that is occurring. It is a former dune system that has all but blown out. To prolong its life it is important that shingle extraction and the taking of sand from the beach is stopped.

This is an unusual site and one that is very important for the information it could reveal on Holocene coastal development.

DOO LOUGH - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
AQUATIC COMMUNITIES			
AX1a	Chara community	Species poor sub-community	1
MESOTROPHIC GRASSLANDS			
MG5d	Cynosurus cristatus-Centaurea nigra community	Holcus lanatus-Trifolium pratense sub-community	1
MG11d	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex nigra sub-community	6
FEN AND SWAMP			
S19c	Eleocharis palustris community	Agrostis stolonifera sub-community	2
S23a	Nasturtium officinale-Apium nodiflorum ditch community	Typical sub-community	2
S23c	Nasturtium officinale-Apium nodiflorum ditch community	Eleocharis palustris-Calliergon cuspidatum sub-community	1
SX3a	Carex nigra community	Potentilla anserina sub-community	1
SX3c	Carex nigra community	Galium palustre-Mentha aquatica sub-community	1
SAND DUNE AND STRANDLINE			
SD2c	Honkenya peploides-Cakile maritima community	Salsola sub-community	1
SD4b	Elymus farctus spp. boreali-atlanticus community	Lotus corniculatus-Plantago lanceolata sub-community	2
SD6a	Ammophila arenaria mobile dune community	Elymus farctus sub-community	1
SD8b	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	1
SD8c	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	3
SD8e	Festuca rubra-Galium verum dune grassland community	Prunella vulgaris sub-community	1
SD10a	Carex arenaria dune community	Festuca rubra sub-community	1
			25

DOO LOUGH TARGET NOTES

NUMBER	GRID REF. 6 (F)	NOTES
T 1	6990 0895	Soccer pitch
T 2	7000 0897	Field with 4 floodlights
T 3	6955 0875	Caravan and camp site
T 4	6952 0877	Man made foredune around campsite, sand taken has denuded beach **96.924.12**
T 5	6979 0908	Shingle and sand upper beach
T 6	6936 0879	Embankment built out for car parking
T 7	6959 0914	Gravel bank to seaward side of river **96.924.14**
T 8	6991 0933 6978 0955	Vertical sand faces, 1-1.5m high, exposed rock and boulder clay at base
T 9	6972 0960 6987 0967	Shell midden, occupation horizons and walling
T 10	6971 0967	Archaeological slab and stone structures eroding out **96.924.25**
T 11	7010 0970 7003 0967	2m peat face, on top of 1m boulder clay, eroding. **96.924.26/27**
T 12	7040 0981 7046 1009	Shingle bank, unvegetated, 2m high and 30m deep at most but tapering towards north east end. Very exposed, high energy beach. Local shingle extraction.
T 13	7017 0946 7050 0969	Hummocky mosaic. Hummocks, Q16, c.60cm high, =40%, Matrix, Q15, = 60% **96.924.29**
T 14	7012 0927	Sand 'dyke', c. 1m high
T 15	7094 0989 7110 0997	Peat cuttings

DOOAGHTRY

Location:

Dooaghrtry lies on the exposed west coast of County Mayo.

Description:

This is a large and complex area with two distinct dune systems which contibute to an intricate landscape of rocky headlands, lakes, streams, tidal flats and machair. Geomorphologically it is very active with movement and re-working of sediment within the system and indications of a different configuration of the landscape in the past.

The northern system consists of a long sandy bay with a wide intertidal zone. There is some foredune development at the north end of the bay abutting to the boulder clay and rock headland. Behind them the sand is being blown up the hill and a *Festuca rubra-Galium verum* grassland gives way to a more mesotrophic grassland. The fenced fields of the hill extend down to the shore as the foredunes level out . The centre of the bay bears the brunt of erosion and coastal retreat; as the river outflows onto the beach there are depths of reed peat exposures and the graveyard is now a flattened pile of stones in the intertidal area. However the southern half of the bay seems to be receiving all the sand that has been eroded. The foredunes are high and deep with a machair behind. A fresh water outlet is being reconfigured to form an incipient loch and salt marsh. In this area there are very interesting transitional bands of vegetation, from *Ammophila arenaria* dominated dune, to increasingly damp *Festuca rubra-Galium verum* grassland, salt marsh and a range of different fen types of vegetation towards the lough. The foredunes end at a rock headland, which is part of a high rock massif. A small lough, Dooaghtry lough, lies at its foot.

The Quadrangular lough, which is decreasing in size as a piece of open water from the east end, and the rock massif separate the two sand plains. The southern system has been blown over rock ridges by the prevailing south westerly winds.. A salt marsh nestles at the head of the bay and there are some remnant foredunes, badly dissected, on the north side. There are also remains of a higher ground surface but these are now severely scoured and etched by the wind. The sand has blown over the ridges and accumulated on two stepped, rock platforms as sand plains. A few streams run north across to the Quadrangular lough. As on the seaward side of this lough, the

vegetation is an increasingly damp *Festuca rubra-Galium verum* grassland and fen communities as it approaches the open water. To the west of these sand filled hollows is a large, north facing slope of bare sand with the remains of tree stumps and patches of aeolianite. It is suggested that the trees pre-date sand inundation, and that erosion and sediment depletion is now responsible for their re-exposure. That the quantity of sand was once more plentiful is indicated by the relict higher ground horizons on the slope facing the beach and by the amount of sand plastered along the hillside on the inland edge of the corridor.

The graveyard and network of old cultivation over the rocky headland testify to a long term human use of this area, although any early settlement evidence has probably been lost due to marine erosion.

Management:

The whole site is held in commonage and intensively sheep grazed. This adversely effects the quality of the vegetation, which is a shame as it has the potential to be a remarkable site botanically. Recreational use of the beaches is seasonal and its effects are negligible. There has been some limited sand extraction from the north beach.

Assessment:

While erosion is severe in parts of the site, and there is undoubtedly a net loss of sediment overall, the size and configuration of the coast is enabling a significant amount of sediment re-working and accretion. Over grazing will not help this process. As well as its botanical and ornithological interest this site demonstrates the dynamics of coastal processes and at a speed that can be readily appreciated.

DOOAGHTRY - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
AQUATIC COMMUNITIES			
A7a	Nymphaea alba community	Species poor sub-community	1
AX1b	Chara community	Potamogeton natans sub-community	1
AX2	Hippurus vulgaris community		1
CALCICOLOUS GRASSLANDS			
CG10b	Festuca ovina-Hieracium pilosella-Thymus praecox community	Carex pulicaris-Carex panicea sub-community	1
MIRES			
M24c	Molinea caerulea-Cirsium dissectum community	Juncus acutiflorus-Erica tetralix sub-community	1
MESOTROPHIC GRASSLANDS			
MG5c	Cynosurus cristatus-Centaurea nigra community	Prunella vulgaris sub-community	3
MG5d	Cynosurus cristatus-Centaurea nigra community	Holcus lanatus-Trifolium pratense sub-community	1
MG10a	Holcus lanatus-Juncus effusus community	Typical sub-community	1
MG11d	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex nigra sub-community	16
MGX1	Juncus bufonius-Agrostis stolonifera community		2
FEN AND SWAMP			
S4a	Phragmites australis community	Phragmites australis sub-community	1
S9b	Carex rostrata community	Menyanthes trifoliata-Equisetum fluviatile sub-community	3
S12a	Typha latifolia community	Typha latifolia sub-community	1
S14	Sparganium erectum community		2
S19a	Eleocharis palustris community	Eleocharis palustris sub-community	3
S19c	Eleocharis palustris community	Agrostis stolonifera sub-community	1
S20a	Scirpus lacustris ssp. tabernaemontani community	Species poor sub-community	1
S21a	Scirpus maritimus community	Scirpus maritimus sub-community	2
S23a	Nasturtium officinale-Apium nodiflorum ditch community	Typical sub-community	2
S23c	Nasturtium officinale-Apium nodiflorum ditch community	Eleocharis palustris-Calliergon cuspidatum sub-community	5
SX1a	Carex diandra-Menyanthes trifoliata community	Typical sub-community	1
SX1b	Carex diandra-Menyanthes trifoliata community	Calliergon cuspidatum-Hydrocotyle vulgaris sub-community	3
SX2	Iris pseudacorus community		2
SX3a	Carex nigra community	Potentilla anserina sub-community	3
SX3b	Carex nigra community	Holcus lanatus-Festuca rubra sub-community	2
SX3c	Carex nigra community	Galium palustre-Mentha aquatica sub-community	8
SAND DUNE AND STRANDLINE			
SD2c	Honkenya peploides-Cakile maritima community	Salsola sub-community	1
SD6a	Ammophila arenaria mobile dune community	Elymus farctus sub-community	3
SD6d	Ammophila arenaria mobile dune community	Typical sub-community	1
SD6e	Ammophila arenaria mobile dune community	Festuca rubra sub-community	1

SD7d	Ammophila arenaria-Festuca rubra fixed dune community	Tortula ruraliformis sub-community	1
SD8a	Festuca rubra-Galium verum dune grassland community	Typical sub-community	4
SD8b	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	2
SD8c	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	5
SD8e	Festuca rubra-Galium verum dune grassland community	Prunella vulgaris sub-community	1
SD8f	Festuca rubra-Galium verum dune grassland community	Pteridium aquilinum sub-community	1
SD8g	Festuca rubra-Galium verum dune grassland community	Thymus praecox sub-community	2
SD8i	Festuca rubra-Galium verum dune grassland community	Carex arenaria-Elymus farctus sub-community	1
SALT MARSH			
SM13	Puccinellia maritima salt marsh community		1
SM13b	Puccinellia maritima salt marsh community		1
SM16c	Festuca rubra salt marsh community		1
SM16e	Festuca rubra salt marsh community		4
SM18a	Juncus maritimus community	Plantago maritima sub-community	1
SM20	Eleocharis uniglumis community	Glaux maritima sub-community	1
WOODLAND			
WX3	Corylus avellana community	Festuca rubra-Glaux maritima sub-community	1
WEED COMMUNITIES			
WD1	General weed communities in survey	Leontodon autumnalis sub-community	1
			102

DOOAGHTRY TARGET NOTES

NUMBER	GRID REF. 11 (L)	NOTES
T 1	7406 7206 7431 7176 7420 7025	Vertical sand faces 0.5-2.5m high extending up hill
T 2	7382 7204	Small enclosure, see Q6
T 3	7382 7196	2m boulder clay capped by 2m sand deposition **96.924.33**
T 4	7434 71 81	Series of large potato patches, some fallow
T 5	7441 7157	Dumping, mostly metal and bottles
T 6	7427 7137	Shingle mixed with sand
T 7	7420 7070	Graveyard now a flattened pile of stones in intertidal zone.
T 8	7414 7017 7522 6888 7512 6884	Rock outcropping
T 9	7429 6996	Band of 'mole' hill bumps, no vegetational differentiation. Salt marsh, waterlogged brown earth with high clay content. **96.925.1**
T 10	7440 6976	Bridge over ditch draining into salt marsh
T 11	7430 6968 7426 6938	Mosaic of 'mole' hill size bumps. Q36 bump =30%, Q35=70% **96.925.1/2**
T 12	7415 7037 7379 6994 7384 6941	50m square enclosure, lambing pens
T 13	7416 6920 7416 6934	Old cultivation rigs
T 14	7419 6934	Circular walled enclosure
T 15	7434 7091	Peat
T 16	7511 6875	Soil profile **96.925.16**

T 17	7490 6884	Abundant wood remains in vast sand scoured area. Remnant 'buttes' and aeolianite dripping over rock outcrops. **96.925.17/18/19/20**
T 18	7535 6895	Waterfall **96.925.22/23**
T 19	7459 6913	Populus tremula grove ,c.10 individuals, at end of woodland **96.925.28**

OMEY ISLAND

Location:

Omey Island is situated on the north coast of County Galway.

Description:

Omey Island is a granite outcrop that has become a tidal island due to sea level rise. Offshore sand has swept around the island to produce intertidal strands. Onshore it has accumulated on the west between rock headlands, most of the sand being blown by south westerlies up the north side of this bay. There are low, relict and retreating foredunes, with an increasingly narrow machair strip behind them. A large calcareous loch separates the machair from the granite massif, but the open water is gradually being reduced as sand blows in. It drains along the north side of the plain to the beach. The machair surface is eroding and there are large blowouts on the slopes of the north side of the bay overlooking the loch. Rabbits have also been contributory to surface erosion. A *Festuca rubra-Galium verum* grassland predominates, mostly of the *Thymus praecox* variety which typifies sand over rock. The rock outcrops support a maritime heath.

Sand has blown over the higher, north headland to create a series of small, sandy bays on the far side. There is a decrease in the depth of sand over the rock to the west but an accumulation in the elbow. This accumulation can be roughly dated as the remains of an Early Christian church has become inundated by sand. A smaller loch nestles against the granite massif at a slightly higher altitude than the main body of water. It supports a good variety of emergent, aquatic and fen communities.

The abundance of Early Christian (and probably pre-Christian) buildings, graveyards, wells and occupation horizons on Omey Island are indicative of a past religious and political significance.

Management:

The machair and headlands are unenclosed and intensively cattle grazed. No sheep were present at time of survey, but the close cropped nature of the grassland was indicative of their presence. The rest of the island is fenced into small agricultural holdings. There is reasonably heavy recreational use in the summer months, focussed on the west facing beach.

Assessment:

The only real damage from amenity use is that made by cars driven onto the fragile machair plain. Wind erosion and sediment depletion are the main agents of change, and it is only a matter of time before a winter storm takes the sea over into the loch and destroys the machair. Before this damage occurs it would be advisable to retrieve archaeological information in a systematic and careful manner, focussing on stratigraphy rather than grave looting, as this information would help to date geomorphological events.

OMEY ISLAND - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
AQUATIC COMMUNITIES			
A7	Nymphaea alba community		1
AX1a	Chara community	Species poor sub-community	1
HEATHS			
H7c	Calluna vulgaris-Scilla verna community	Erica tetralix sub-community	1
MARITIME CLIFF			
MC1a	Crithmum maritimum-Spergularia rupicola community	Typical sub-community	1
MESOTROPHIC GRASSLANDS			
MG5c	Cynosurus cristatus-Centaurea nigra community	Prunella vulgaris sub-community	1
MG5d	Cynosurus cristatus-Centaurea nigra community	Holcus lanatus-Trifolium pratense sub-community	3
MG11d	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex nigra sub-community	3
MGX1	Juncus bufonius-Agrostis stolonifera community		1
FEN AND SWAMP			
S4c	Phragmites australis community	Menyanthes trifoliata sub-community	1
S8a	Scirpus lacustris ssp. lacustris community	Scirpus lacustris lacustris sub-community	2
S19d	Eleocharis palustris community	Hydrocotyle vulgaris sub-community	1
S23a	Nasturtium officinale-Apium nodiflorum ditch community	Typical sub-community	2
S23c	Nasturtium officinale-Apium nodiflorum ditch community	Eleocharis palustris-Calliergon cuspidatum sub-community	4
SX2	Iris pseudacorus community		2
SX3a	Carex nigra community	Potentilla anserina sub-community	3
SAND DUNE AND STRANDLINE			
SD4a	Elymus farctus spp. boreali-atlanticus community	Elymus farctus sub-community	1
SD4b	Elymus farctus spp. boreali-atlanticus community	Lotus corniculatus-Plantago lanceolata sub-community	1
SD8c	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	5
SD8e	Festuca rubra-Galium verum dune grassland community	Prunella vulgaris sub-community	2
SD8g	Festuca rubra-Galium verum dune grassland community	Thymus praecox sub-community	4
SD8h	Festuca rubra-Galium verum dune grassland community	Lolium perenne sub-community	2
SD8i	Festuca rubra-Galium verum dune grassland community	Carex arenaria-Elymus farctus sub-community	2
SALT MARSH			
SM16e	Festuca rubra salt marsh community	Leontodon autumnalis sub-community	2
			46

OMEY ISLAND TARGET NOTES

NUMBER	NOTES
T 1	Stratagraphic sequence visible on this rocky headland, under turf and protected by intertidal rocks: Bedrock Glacial Till Reed Peat Coarse sand/gravel, unsorted alluvial wash, various horizons Turf with black humic development **96.916.5/6/7**
T 2	Fresh water catchment from seepage zone, very limey
T 3	Occasional mounds and hummocks composed of coarser sediment (see T1) with shell sand on top
T 4	New houses
T 5	Extensive occupation horizons and shell middens, relatively high in statigraphic sequence with shell sand underneath, then peat, then glacial till. **96.916.9/10**
T 6	Dung and byre cleaning laid to arrest erosion
T 7	Mound with stonework and occupation horizons
T 8	Soccer pitch
T 9	Extensive rabbit activity, but not obviously contributing to erosion
T 10	Shell midden mound
T 11	Storm beach of boulders and pebbles
T 12	Overwash of unsorted pebbles, shells and gravel. **96.916.23**
T 13	Chapel buried by sand
T 14	Drainage ditches recently cleaned out

DOGS BAY

Location:

Dogs Bay is a south west facing site in County Galway.

Description:

This site is a tombola formation; a rock headland linked to the mainland by a sandy spit. The rock headland is like a hammer with two distinct headlands, north and south facing separated by a sandy bay. The southern headland is lower lying with several small bodies of water lying in between rock outcrops. There is an intricate patterning of plant communities, aquatic, fen, mire, heath and grasslands. This headland bears the brunt of Atlantic storms as the incidence of storm beaches around its perimeter testify. The north headland is higher and more uniform with a decrease in sand covering to the west.

The sand spit and sandy, west facing bay are suffering severe erosion. Foredunes are badly fragmented and losing height and older, higher ground surfaces are being eroded from the sides. *Ammophila arenaria* dominated communities are the most prevalent across the decreasing width of the spit indicating the unstable nature of the present situation. Where the sand has lodged on the rock a good quality *Festuca rubra-Galium verum* grassland can be sustained. This shows spectacular visual variation according to grazing regime, but in actual fact quadrat information indicates that the vegetation is identical in species composition and that it is the flowering heads that are so distinctive.

There are substantial archaeological deposits at the neck of the spit as it abutts the headland. These have been excavated. They are indicative of a much larger and more stable landscape than at present.

Management:

There is no grazing to be had on the spit so cattle are fenced onto portions of the headland. There is no evidence of sheep and the high quality of the *Festuca rubra-Galium verum* grassland would verify this. The most dominant management is for coastal protection and to this end the spit has been extensively fenced. On both sides of the narrow spit there is a fence at the top of the beach to

prevent access, with a line of brush wood, a band of marram planting and a back fence. The west facing bay is also fenced off with marram planting inside. The beaches are intensively used for recreation in the summer months as this area of County Galway is well known and accessible. There is a caravan and camping site on the hill overlooking Dogs Bay at the inland edge of the site.

The south headland contains many small, old fields, marked out by boulders in between the rock outcrops.

Assessment:

This is an extremely attractive site with a wide range of plant communities and habitat diversity in such a compact space. The presence of a dune system has reached a near terminal stage and it is estimated that the headland will become a tidal island in five to ten years time. From a conservation perspective there is no loss as the spit supports little of botanical or ornithological interest now. The loss will be in recreational use. The grazing regime is maintaining good quality grassland on the headland.

The coastal protection plan is well intentioned but over elaborate and expensive. It is not based on a sound knowledge of the species ecology and coastal processes involved. *Ammophila arenaria* is not only a sand trapping plant, it is also dependant on a supply of sand for its well being. Planting this species behind brush wood deprives it of its lifes blood and is doomed to failure. The question must be asked whether, in a system which is suffering from severe sediment depletion, there is any viable long term solution. Brush wood fences inhibit the loss of sand for a short time, and they are also cheap and easy to erect. Intensive amenity use of the beach at the driest time of year will exacerbate sediment loss, but access prevention will mean a loss of tourist revenue.

DOGS BAY - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY

			No.Samples
AQUATIC COMMUNITIES			
A7a	Nymphaea alba community	Species poor sub-community	1
A9a	Potamogeton natans community	Species poor sub-community	1
AX1b	Chara community	Potamogeton natans sub-community	1
CALCICOLOUS GRASSLANDS			
CGX1	Blackstonia perfoliata-Carex flacca community		1
HEATHS			
H7c	Calluna vulgaris-Scilla verna community	Erica tetralix sub-community	1
H7e	Calluna vulgaris-Scilla verna community	Calluna vulgaris sub-community	1
H8	Calluna vulgaris-Ulex gallii community		1
MIRES			
M10a	Carex dioica-Pinguicula vulgaris community		2
M24c	Molinea caerulea-Cirsium dissectum community	Juncus acutiflorus-Erica tetralix sub-community	1
MX1	Carex nigra-Eriophorum angustifolium community		1
MARITIME CLIFF			
MC1a	Crithmum maritimum-Spergularia rupicola community	Typical sub-community	1
MESOTROPHIC GRASSLANDS			
MG5b	Cynosurus cristatus-Centaurea nigra community	Galium verum sub-community	1
MG5c	Cynosurus cristatus-Centaurea nigra community	Prunella vulgaris sub-community	1
MG11c	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex arenaria sub-community	1
MG11d	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex nigra sub-community	3
FEN AND SWAMP			
S2b	Cladium mariscus community	Menyanthes trifoliata sub-community	1
S4a	Phragmites australis community	Phragmites australis sub-community	1
S4c	Phragmites australis community	Menyanthes trifoliata sub-community	1
S12a	Typha latifolia community	Typha latifolia sub-community	1
S19a	Eleocharis palustris community	Eleocharis palustris sub-community	1
S19d	Eleocharis palustris community	Hydrocotyle vulgaris sub-community	1
S20	Scirpus lacustris ssp. tabernaemontani community		1
S23c	Nasturtium officinale-Apium nodiflorum ditch community	Eleocharis palustris-Calliergon cuspidatum sub-community	1
SX3a	Carex nigra community	Potentilla anserina sub-community	1
SX3c	Carex nigra community	Galium palustre-Mentha aquatica sub-community	2
SAND DUNE AND STRANDLINE			
SD2b	Honkenya peploides-Cakile maritima community	Honkenya sub-community	1
SD2c	Honkenya peploides-Cakile maritima community	Salsola sub-community	1
SD3	Matricaria maritima-Galium aparine community		1

SD6a	Ammophila arenaria mobile dune community	Elymus farctus sub-community	1
SD6d	Ammophila arenaria mobile dune community	Typical sub-community	1
SD8a	Festuca rubra-Galium verum dune grassland community	Typical sub-community	3
SD8b	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	1
SD8c	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	4
SD8e	Festuca rubra-Galium verum dune grassland community	Prunella vulgaris sub-community	1
SALT MARSH			
SM16b	Festuca rubra salt marsh community	Juncus gerardii sub-community	1
SM16c	Festuca rubra salt marsh community	Festuca rubra-Glaux maritima sub-community	1
			45

DOGS BAY TARGET NOTES

NUMBER	GRID REF. 11 (L)	NOTES
T 1	6960/3728 6963/3707 6864/3763	Boulder/pebble storm beach, no vegetation.
T 2	6891/3768 6963/3732 6965/3723	Old cultivation evidence
T 3	6892/3778 6960/3750 6994/3728	Old boundary, line of boulders c. 1m high
T 4	6925/3765 6932/3768 6945/3786	Line of brush wood for sand trapping **96.917.5**
T 5	6946/3826 6925/3804 6957/3818	Recent marram planting **96.917.6**
T 6	6928/3764	Occupation horizons and shell midden
T 7	6931/3804	Old archaeological excavation
T 8	6965/3838	Football pitch
T 9	6945/3855 6964/3859	Unofficial caravan and camp site
T 10	6985/3848	Cemetery, in use
T 11	6946/3831	Small gabion wall

MURVEY

Location:

Murvey is a bay situated just north of Dogs Bay in County Galway.

Description:

Murvey is a south west facing bay with a small river running down a well cut valley to outflow onto the beach at the north end. Severe erosion and sediment depletion have made this site a relict dune system; foredunes are fragmentary and the sand has blown up the hill behind. A small, eroded reef of intertidal peat suggests a former machair with a water body between it and the hill. A poor quality, overgrazed Festuca rubra-Galium verum grassland is the predominant vegetation type with the rock outcrops supporting a maritime cliff community. In the more sheltered angle there are some large blow outs with the remains of a former, higher surface.

Management:

The whole site is unenclosed and intensively sheep grazed. There is minimal recreational use of the exposed beach.

Assessment:

The conservation interest of this relict site is minimal as sheep grazing has badly compromised the vegetation. The main agents of change are abiotic - wind erosion, sea level rise and sediment depletion - but the effects of these have been enhanced by overgrazing. Sheep will tend to break the surface cover, and once bare sand is exposed it is available to aeolian forces. If the sand is on a flat plain there is always the restraining influence of the water table, but sand blown over rock has no such check.

MURVEY - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
AQUATIC COMMUNITIES			
AX1a	Chara community	Species poor sub-community	1
MARITIME CLIFF			
MC10	Festuca rubra-Plantago spp. community		1
MESOTROPHIC GRASSLANDS			
MG11d	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex nigra sub-community	2
FEN AND SWAMP			
S23a	Nasturtium officinale-Apium nodiflorum ditch community	Typical sub-community	2
SX3c	Carex nigra community	Galium palustre-Mentha aquatica sub-community	2
SAND DUNE AND STRANDLINE			
SD2c	Honkenya peploides-Cakile maritima community	Salsola sub-community	1
SD8a	Festuca rubra-Galium verum dune grassland community	Typical sub-community	3
SD8c	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	2
SD8e	Festuca rubra-Galium verum dune grassland community	Prunella vulgaris sub-community	2
WOODLAND			
W22	Prunus spinosa-Rubus fruticosus scrub community		1
			17

MURVEY TARGET NOTES

NUMBER	GRID REF. 11 (L)	NOTES
T 1	6606/3874	Large deflation area of bare sand, includes enriched ? occupation horizon **96.917.11/17**
T 2	6565/3923	Archaeological deposits
T 3	6605/3869	Shingle beach, unvegetated. No incoming sand
T 4	6608/3867	Dumping, domestic and scrap metal
T 5	6593/3915	Intertidal reed peat deposit. Inland edge as bedrock rises thereafter

MANNIN, DOONLOUGHAN AND AILLEBRACK

Location:

These three sites are all on the Slyne Head, one of the most westerly headlands in County Galway.

Description:

The site called Mannin Bay is on the north side of Slyne Head. It is protected from the prevailing Atlantic winds by a rock ridge running parallel to the coast. Sand has blown up to form a beach and narrow strip of grassland, and then up the hillside to modify the heath vegetation that exists on the crest. Sediment depletion is responsible for there being only remnant foredunes along this south shore of Mannin Bay; for the most part there is just a narrow band of *Ammophila arenaria* fronting the *Festuca rubra-Galium verum* grassland. The grassland is of the *Thymus praecox* sub-community indicating a growing matrix of sand blown over rock. A small fen/dry lochan lies at the base of a cliff at mid point, with well defined bands of several different community types despite its small size.

A large rock headland in the north, with an extensive fen development on its landward side, separates the Mannin Bay site from Doonloughan. The fen nestles in a shallow hollow of bedrock and is an accummulation zone for water run off from the surrounding outcrops and ridges. It supports a large and impressive range of different plant communities. The coastline is west facing and more exposed on this side of the headland where there is a series of small bays held by low rock headlands. The north-west facing bay has a large shingle storm beach and no sand. Erosion and sediment depletion is severe and there are no foredunes. The most dominant feature is a 7m high, 50m broad bare sand ridge, consolidated by extensive midden and occupation deposits. Plugs of aeolianite stand proud of the eroded surfaces. This ridge runs more or less north-south, parallel to the shoreline in front of it. Behind this is an extensive machair with ground horizons of at least two different periods. The higher one is eroding laterally while the lower is held by the water table. An erosion face on one of the rock headlands shows the marks of ploughing, but this is undateable unless connected to an occupation horizon.

Aillebrack is a south-west facing site on the other side of Slyne Head. There are a series of sandy bays interspersed with low, rock headlands. The sand supply is too reduced for foredune development and coastal retreat is very evident. The bay furthest west has a double curve of rock

filled gabions around the inside of the whole bay to prevent the road being undermined. A machair plain has been able to form at the east end of the site although it was undoubtedly more extensive seawards in the past. For the most part the configuration of underlying bedrock has presented a landscape of rock outcrops and ridges overwhich the sand has blown. The vegetation here tends towards a calcicolous grassland type rather than the ubiquitous *Festuca rubra-Galium verum* grassland, which is unusual in this region. A golf course and club house dominate this area so the intensive pattern of fairways disrupt the natural succession of vegetation types, however the mowing rather than grazing regime is beneficial to the grassland. In the far corner at the back of the machair is a small loch at the foot of a large rock outcrop.

Management:

Mannin Bay is lightly grazed by sheep and cattle. There is an informal caravan and camping site at mid way, but most recreational use is focussed at the east end where there is road access to the shore. The coastal strip is unenclosed; although there are small fields on the rock ridge.

Doonloughan is unenclosed and heavily sheep grazed. There are some cattle and a few Connemara ponies. These beaches are more exposed than the Mannin Bay ones so are less used; however it is possible to drive across the machair right to the beach. A significant amount of sand extraction is taking place, using the vertical face of the older, higher ground horizon as an excavating point.

Aillebrack is equally divided between management for golf at the west end and unenclosed cattle grazing and recreation at the east end on the machair itself. There is a football and soccer pitch on the machair and the area is used for pony trekking. Potatoes are grown on a small fenced plot near the shore.

Assessment:

Mannin Bay is an attractive stretch of coast, and, together with Doonloughan, form an area of great diversity and conservation interest. The large expanse of machair at Doonloughan is unusual in this more southerly part of the survey area. A valuable opportunity existed to date a machair landscape development, especially the unusual feature of a sand ridge. (If the Scottish situation pertains it would be of Early Bronze Age date, but this needs verification from an Irish site.)

Erosion, exacerbated by sand extraction, vehicle erosion and grazing is destroying the integrity of the archaeological stratigraphy that would date land surfaces.

Aillebrack is relatively stable by comparison, although the shoreline is retreating. The main botanical interest at this site is the calcicolous grassland, so the golf course management plan should be viewed with this in mind.

MANNIN BAY - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
AQUATIC COMMUNITIES			
A11	Potamogeton pectinatus-Myriophyllum spicatum community		1
AX1a	Chara community	Species poor sub-community	1
CALCICOLOUS GRASSLANDS			
CG13b	Dryas octapetala-Carex flacca community	Salix repens-Empetrum nigrum sub-community	1
CGX1	Blackstonia perfoliata-Carex flacca community		3
CGX2	Sesleria albicans-Carex flacca community		2
HEATHS			
H8	Calluna vulgaris-Ulex gallii community		1
MIRES			
M13b	Schoenus nigricans-Juncus subnodulosus community	Briza media-Pinguicula vulgaris sub-community	5
MX1	Carex nigra-Eriophorum angustifolium community		3
MARITIME CLIFF			
MC1a	Crithmum maritimum-Spergularia rupicola community	Typical sub-community	1
MESOTROPHIC GRASSLANDS			
MG5b	Cynosurus cristatus-Centaurea nigra community	Galium verum sub-community	3
MG5c	Cynosurus cristatus-Centaurea nigra community	Prunella vulgaris sub-community	4
MG5d	Cynosurus cristatus-Centaurea nigra community	Holcus lanatus-Trifolium pratense sub-community	1
MG11a	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Lolium perenne sub-community	1
MG11b	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Matricaria maritima sub-community	1
MG11c	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex arenaria sub-community	1
MG11d	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex nigra sub-community	5
MGX1	Juncus bufonius-Agrostis stolonifera community		1
FEN AND SWAMP			
S2b	Cladium mariscus community	Menyanthes trifoliata sub-community	1
S4a	Phragmites australis community	Phragmites australis sub-community	1
S4c	Phragmites australis community	Menyanthes trifoliata sub-community	2
S8a	Scirpus lacustris ssp. lacustris community	Scirpus lacustris lacustris sub-community	1
S19a	Eleocharis palustris community	Eleocharis palustris sub-community	4
S20	Scirpus lacustris ssp. tabernaemontani community		2
S23a	Nasturtium officinale-Apium nodiflorum ditch community	Typical sub-community	3
S23c	Nasturtium officinale-Apium nodiflorum ditch community	Eleocharis palustris-Calliergon cuspidatum sub-community	5
SX2	Iris pseudacorus community		1
SX3a	Carex nigra community	Potentilla anserina sub-community	1
SX3b	Carex nigra community	Holcus lanatus-Festuca rubra sub-community	1
SX3c	Carex nigra community	Galium palustre-Mentha aquatica sub-community	2

SX4	Carex paniculata community		1
SAND DUNE AND STRANDLINE			
SD2b	Honkenya peploides-Cakile maritima community	Salsola sub-community	1
SD2c	Honkenya peploides-Cakile maritima community		1
SD3	Matricaria maritima-Galium aparine community	Elymus farctus sub-community	1
SD4a	Elymus farctus spp. boreali-atlanticus community	Lotus corniculatus-Plantago lanceolata sub-community	2
SD4b	Elymus farctus spp. boreali-atlanticus community	Elymus farctus sub-community	1
SD6a	Ammophila arenaria mobile dune community	Typical sub-community	2
SD6d	Ammophila arenaria mobile dune community	Typical sub-community	2
SD8a	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	1
SD8b	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	3
SD8c	Festuca rubra-Galium verum dune grassland community	Prunella vulgaris sub-community	13
SD8e	Festuca rubra-Galium verum dune grassland community	Thymus praecox sub-community	4
SD8g	Festuca rubra-Galium verum dune grassland community	Carex arenaria-Elymus farctus sub-community	4
SD8i	Festuca rubra-Galium verum dune grassland community		6
WEED COMMUNITIES			
WD1	General weed communities in survey		1
			102

MANNIN BAY/DOONLOUGHAN/AILLEBRACK TARGET NOTES

NUMBER	GRID REF. 11 (L)	NOTES
		MANNIN BAY
T 1	5996 4649	Streams don't flow across beach, blocked by sand
T 2	6006 4639	5 caravans permanent and unofficial camping site well used
		DOONLOUGHAN
T 3	5864 4605 5870 4621 5846 4647	Vertical sand faces 1-2m high eroded down to bedrock
T 4	5815 4605 5819 4623 5815 4586	Extensive middens, c.7m high and 50m broad. ?Remnant machair ridge. **96.926.2**
T 5	5833 4676	Extensive occupation deposits in all blowouts
T 6	5841 4674	Shingle storm beach and shingle thrown up onto grass
T 7	5843 4663	Rock outcropping
T 8	5839 4680	Ploughing marks in soil section. **96.926.6**
T 9	5802 4618	Stands of aeolianite
T 10	5821 4576	Sand extraction , systematic and long term. **96.926.12**
T 11	5795 4557	House in large enclosure, part flower and vegetable garden, part ungrazed Q45
		AILLEBRACK
T 12	5730 4315	Line of gabions filled with beach pebbles. This covered by ramp of sand in mid bay. **96.926.17/18**
T 13	5705 4330	Golf works hanger, surrounded by weedy vegetation, piles of grass cuttings etc.
T 14	5743 4323	Golf club house and car park. **96.926.23**
T 15	5725 4330 5735 4327 5739 4329	Long mounds built by golf club, c.30m long by 1.5m high, Q65 type vegetation
T 16	5748 4307 5751 4308 5766 4329	Drainage ditches, 40cm deep by 50cm wide. Dry and unvegetated

T 17	5780 4331 5765 4333	Turf taken to build mounds. T15. Colonising vegeation as Q73
T 18	5830 4300	Soccer pitch
T 19	5820 4223 5805 4232 5852 4318	Dumping. mostly metal
T 20	5825 4276 5809 4271 5835 4307	Rock outcroppings
T 21	5863 4299	Football pitch
T 22	5851 4285	Vertical sand faces, c.1m high
T 23	5783 4279	Potatoes

MASON ISLAND

Location:

Mason island is situated off the southern coast of County Galway.

Description:

To reach Mason island about an hours rowing is necessary from the small fishing quay. Only the eastern edge is sandy with a small machair in front of a line of deserted 19th century houses. Two small lochans, partly dried out, lie at the back of the machair. The machair supports the damper variant of the *Festuca rubra-Galium verum* grassland, which changes to a more mesotrophic grassland 50m or so inland. There is no foredune development and the coast is retreating despite its protected aspect.

Management:

Although the island is now deserted it is still used for cattle grazing. The presence of fresh water is crucial.

Assessment:

There is no intrinsic conservation interest in the vegetation surveyed, although the relative isolation of the site is beneficial for birds and seals.

MASON - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
AQUATIC COMMUNITIES			
A10	Polygonum amphibium community		2
AX2	Hippurus vulgaris community		1
MESOTROPHIC GRASSLANDS			
MG5b	Cynosurus cristatus-Centaurea nigra community	Galium verum sub-community	1
MG11b	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Matricaria maritima sub-community	1
MG11c	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex arenaria sub-community	1
MG11d	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex nigra sub-community	1
FEN AND SWAMP			
S4a	Phragmites australis community	Phragmites australis sub-community	1
S12a	Typha latifolia community	Typha latifolia sub-community	1
SX3a	Carex nigra community	Potentilla anserina sub-community	1
SX3c	Carex nigra community	Galium palustre-Mentha aquatica sub-community	1
SAND DUNE AND STRANDLINE			
SD4a	Elymus farctus spp. boreali-atlanticus community	Elymus farctus sub-community	1
SD4b	Elymus farctus spp. boreali-atlanticus community	Lotus corniculatus-Plantago lanceolata sub-community	1
SD8e	Festuca rubra-Galium verum dune grassland community	Prunella vulgaris sub-community	2
			15

NUMBER	GRID REF. 11 (F)	NOTES
T 1	7465/2940	Herons. Common terns. Black headed gulls. and Oyster catchers

MWEENISH

Location:

Mweenish is an island situated off southern the coast of County Galway.

Description:

Mweenish is a large island connected to the mainland by a causeway. A dune system has developed on the west facing coast, but it is now at a terminal stage of development and only preserved in the south west facing elbow. There are no foredunes or machair plain and the sand has blown up the gentle hillside behind. A good quality *Festuca rubra-Galium verum* grassland covers the hummocks and slope. At the inland edge of the site where the land is fenced into small fields there is a good range of unimproved hay meadows and other mesotrophic grassland types.

A modern cemetery forms a promontory at the south end, and this has earlier antecedents judging by the depth of midden deposits eroding around about.

Management:

The area is lightly cattle grazed which has promoted a good species diversity in the various types of grassland.

Assessment:

This site is senescent as a dune system due to the effects of erosion, sediment depletion and sea level rise. It is not of great interest as a coastal site but the traditionally managed damp fields and hay meadows at the top of the hill are of conservation interest both for plants and birds.

MWEENISH - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
MESOTROPHIC GRASSLANDS			
MG1e	Arrhenatherum elatius community	Centaurea nigra sub-community	3
MG5a	Cynosurus cristatus-Centaurea nigra community	Lolium perenne sub-community	2
MG5b	Cynosurus cristatus-Centaurea nigra community	Galium verum sub-community	1
MG5c	Cynosurus cristatus-Centaurea nigra community	Prunella vulgaris sub-community	1
MG11b	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Matricaria maritima sub-community	1
MG12b	Potentillo-Festuca arundinacea community	Oenanthe lachenalii sub-community	4
FEN AND SWAMP			
S23a	Nasturtium officinale-Apium nodiflorum ditch community	Typical sub-community	1
SX2	Iris pseudacorus community		1
SAND DUNE AND STRANDLINE			
SD2b	Honkenya peploides-Cakile maritima community	Honkenya sub-community	1
SD3	Matricaria maritima-Galium aparine community		1
SD8a	Festuca rubra-Galium verum dune grassland community	Typical sub-community	2
SD8b	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	1
SD8c	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	1
SD8g	Festuca rubra-Galium verum dune grassland community	Thymus praecox sub-community	1
SD8i	Festuca rubra-Galium verum dune grassland community	Carex arenaria-Elymus farctus sub-community	1
			22

MWEENISH TARGET NOTES

NUMBER	GRID REF. 11 (L)	NOTES
T 1	7635/2914	Shell midden eroding
T 2	7635/2917	Cemetery and modern extension
T 3	7628/2938	Occupation horizon eroding from shore face
T 4	7625/2945	Rock outcropping

FINNISH ISLAND

Location:

Finnish island is situated off the southern coast of County Galway.

Description:

At very low tides Finnish island can be reached on foot across a tidal strand. The sand has accumulated on the east facing side of this long island but all that is left of a dune system are exposed sand flats severely eroded by the wind. The fields behind support a range of mesotrophic grasslands.

Management:

The island is deserted but is still used as a grazing resource for a few sheep and a herd of cattle.

Assessment:

The island has no value as a dune system but its isolation would be an important factor for bird conservation.

FINNISH - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
AQUATIC COMMUNITIES			
AX2	Hippurus vulgaris community		1
MESOTROPHIC GRASSLANDS			
MG1e	Arrhenatherum elatius community	Centaurea nigra sub-community	1
MG5b	Cynosurus cristatus-Centaurea nigra community	Galium verum sub-community	1
MG11c	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex arenaria sub-community	1
MGX1	Juncus bufonius-Agrostis stolonifera community		2
FEN AND SWAMP			
SX2	Iris pseudacorus community		1
SAND DUNE AND STRANDLINE			
SD2c	Honkenya peploides-Cakile maritima community	Salsola sub-community	1
SD4a	Elymus farctus spp. boreali-atlanticus community	Elymus farctus sub-community	1
SD4b	Elymus farctus spp. boreali-atlanticus community	Lotus corniculatus-Plantago lanceolata sub-community	1
SD8c	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	1
SALT MARSH			
SM13b	Puccinellia maritima salt marsh community	Glaux maritima sub-community	1
			12

INIS MOR

Location:

Inis Mor is the most northerly and largest of the Aran Islands.

Description:

Sand accumulation on Inis Mor is focussed at the south-eastern end in a north facing bay. The bay is almost closed over by a large, high sand spit completely vegetated by *Ammophila arenaria*. Just to the north west is a low rock headland, with a this sand covering, dominated by the airport and runway. The beach and broad tidal strand lie to landward of the spit; there are no foredunes and the sand has blown up over the gentle slope to the limestone outcrops. The coasline is retreating, the cemetery is eroding out, but the spit is growing and creating a protective bar across the mouth of the bay. Two streams dissect this smooth, gentle slope. Another low, rock headland sweeps out past the spit to the northeast. The sand covering thins out leaving limestone pavement exposures.

The slope at the back of the site is vegetated with a good quality *Festuca rubra-Galium verum* grassland which is slightly damper than the same grassland type elsewhere on the site. Most of the vegetation is dry with a significant proportion of *Ammophila arenaria* in its composition. There is a tendency for the grassland to be of a calcicolous rather than a dune type when the sand covering thins over limestone.

A high proportion of the sand is composed of dark limestone, but the shell and quartzitic fragments are sorted to lie uppermost. The beaches look white in situ, but very dark in a bag.

Management:

The whole site except for the airport headland is lightly cattle grazed. There is some amenity use of the beaches in summer but the *Ammophila* dominated grassland is unattractive to amenity use.

Assessment:

The present management is not detrimental to the site, light cattle grazing is ideal to prevent a rank grassland developing. Wind erosion is having a significant impact, but the area is sheltered so

sediment seems to be re-worked and re-deposited within the system. Due to the constant supply of limestone fragments there is no sediment depletion, but it would be interesting to monitor the change (if any) in the relative proportions of the sediment composition. The combination of a dune system on limestone is rare in Ireland and the British Isles.

INIS MOR - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
CALCICOLOUS GRASSLANDS			
CG7b	Festuca ovina-Agrostis capillaris-Thymus praecox community	Cladonia sub-community	4
MARITIME CLIFF			
MC1a	Crithmum maritimum-Spergularia rupicola community	Typical sub-community	1
MESOTROPHIC GRASSLANDS			
MG5a	Cynosurus cristatus-Centaurea nigra community	Lolium perenne sub-community	1
FEN AND SWAMP			
S23a	Nasturtium officinale-Apium nodiflorum ditch community	Typical sub-community	1
SAND DUNE AND STRANDLINE			
SD2a	Honkenya peploides-Cakile maritima community	Cakile sub-community	1
SD3	Matricaria maritima-Galium aparine community		2
SD6d	Ammophila arenaria mobile dune community	Typical sub-community	1
SD6e	Ammophila arenaria mobile dune community	Festuca rubra sub-community	2
SD7a	Ammophila arenaria-Festuca rubra fixed dune community	Typical sub-community	1
SD8a	Festuca rubra-Galium verum dune grassland community	Typical sub-community	5
SD8c	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	3
			22

INIS MOR TARGET NOTES

NUMBER	GRID REF. 11 (L)	NOTES
T 1	9050/0750	Ringed Plovers and Arctic terns
T 2	8927/0735	Airport, runway and terminal building
T 3	8920/0737	Rye and Potato patches
T 4	8939/0692	Cemetery with concrete wall built against erosion.
T 5	8935/0685	Old chapel buried in sand
T 6	9014/0653	Erosion area, ledges c.50cm high and lateral erosion
T 7	9002/0655	Stream emerging from rock face but bed running to sea is dry

INIS MEAIN

Location:

Inis Meain is the middle island in the Aran Island complex.

Description:

A dune system has formed on the exposed north east coast of Inis Meain. A broad, but steep, beach Lies along the east side of a low, rock promontory. Much of the promontory is exposed limestone pavement and there is no foredune development and only a thin covering of sand. The vegetation here was dry and almost 'continental' at the time of survey, a semi-stable grassland with *Eryngium maritima* and *Calystegia soldanella* visually very prominent. To the south the sand has piled into a high *Ammophila arenaria* dominated dune. Behind this is an area marked as a loch on the maps. At the time of survey it was a dry depression in the bedrock supporting a pattern of dune and mesotrophic grassland. The airport runway runs along the inland edge of this hollow and beyond it are a series of small, walled fields with a dry variant of a *Festuca rubra-Galium verum* grassland.

A high proportion of the sand is composed of dark limestone, but the shell and quartzitic fragments are sorted to lie uppermost. The beaches look white in situ, but very dark in a bag.

Management:

The airport dominates much of the site, but the rest is lightly cattle grazed. Sand extraction is taking place on the inland face of the foredune.

Assessment:

This was the least accessible of the Aran Island sites and the most attractive. While sediment depletion does not appear to be an immediate problem and the site is relatively stable, sand extraction is probably not advisable. The dried loch is a curious feature and a core from it would be interesting for Holocene research.

The combination of a dune system on limestone is rare in Ireland and the British Isles.

INIS MEAIN - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
MARITIME CLIFF			
MC10	Festuca rubra-Plantago spp. community		1
MESOTROPHIC GRASSLANDS			
MG11b	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Matricaria maritima sub-community	1
MG11d	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex nigra sub-community	1
FEN AND SWAMP			
SX3a	Carex nigra community	Potentilla anserina sub-community	2
SAND DUNE AND STRANDLINE			
SD4b	Elymus farctus spp. boreali-atlanticus community	Lotus corniculatus-Plantago lanceolata sub-community	2
SD6a	Ammophila arenaria mobile dune community	Elymus farctus sub-community	2
SD7a	Ammophila arenaria-Festuca rubra fixed dune community	Typical sub-community	1
SD7d	Ammophila arenaria-Festuca rubra fixed dune community	Tortula ruraliformis sub-community	1
SD8a	Festuca rubra-Galium verum dune grassland community	Typical sub-community	2
SD8i	Festuca rubra-Galium *verum dune* grassland community	Carex arenaria-Elymus farctus sub-community	3
			16

INIS MEAIN TARGET NOTES

NUMBER	GRID REF. 11 (L)	NOTES
T 1	9468/0608	Airport, runway and terminal building
T 2	9490/0567	Field walls now built down to very near airport fence
T 3	9515/0622	Sand extraction, recent
T 4	9523/0635	Common and Arctic terns

INIS OIRR

Location:

Inis Oirr is the most southerly and smallest of the Aran Islands.

Description:

A dune system has formed in an open bay on the north east coast of Inis Oirr. The beach is fairly wide with an eroding and retreating foredune behind it. A poor quality dune grassland lies behind the dune, compromised by camping activities. Sand has blown over a low, limestone promontory and accumulated in another, smaller bay at the southern end of the site. A *Festuca rubra-Galium verum* grassland covers this area which is tall and rank in the ungrazed airport enclosure. However, due to the dry nature of the matrix and underlying limestone this rank grassland is still relatively species rich compared to an equivalent situation in wetter circumstances.

Judging by the quantity of sand that has blown up the limestone ridge behind there was once a more extensive and active dune system. The shell midden eroding from under the present cemetery could provide a useful date for estimating the history of sand movement at this site. An impressive castle overlooks the bay from the crest of the ridge.

Management:

This is the island most used for beach recreation; it is very accessible being adjacent to the ferry pier and has more 'amenities' than the other islands. A camping site occupies the area behind the foredune and there is a raised football pitch heyond this. People pressure is intense in the summer. The low promontory is fenced off for the airport and runway; the grassland beyond is lightly cattle grazed. There is a great deal of building and excavating activity on the ridge and a great deal of sand is being lost, both intentionally and nono-intetionally due to wind action.

Assessment:

This island has less of conservation interest than the other islands because of its accessibility and people pressue. It is also a smaller site. Its primary use would be as a 'honey pot'site; to focus people at Inis Oirr and not onto the other, more interesting sites.

INIS OIRR - PLANT COMMUNITIES PRESENT DURING 1996 SURVEY			
			No.Samples
MARITIME CLIFF			
MC6	Atriplex hastata-Beta vulgaris community		1
MESOTROPHIC GRASSLANDS			
MG5a	Cynosurus cristatus-Centaurea nigra community	Lolium perenne sub-community	1
SAND DUNE AND STRANDLINE			
SD4b	Elymus farctus spp. boreali-atlanticus community	Lotus corniculatus-Plantago lanceolata sub-community	2
SD6a	Ammophila arenaria mobile dune community	Elymus farctus sub-community	1
SD7a	Ammophila arenaria-Festuca rubra fixed dune community	Typical sub-community	1
SD8a	Festuca rubra-Galium verum dune grassland community	Typical sub-community	1
SD8c	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	3
			10

INIS OIRR TARGET NOTES

NUMBER	GRID REF. 11 (L)	NOTES
T 1	9872/0258	Airport, runway and terminal building
T 2	9857/0254	Shell midden eroding from under current cemetery **96.915.20**
T 3	9865/0250	Sand excavated to road level to build 2 new buildings. Bare sand edges.
T 4	9830/0260	Store for quarried rock and building material **96.15.20**
T 5	9842/0253	Eroded ledges in sand face. Heavy use of area with new roads and houses
T 6	9809/0253	Sand excavated to road level ? prior to building
T 7	9795/0260	Football pitch
T 8	9807/0263	Camp site, vegetation very dry and very tramped
T 9	9845/0245	New houses

APPENDIX 1

SITE INFORMATION

SITE INFORMATION

SITE NO.	SITE NAME	File Name .dat,.nts,.txt	No. Q's	Q no. In Total Data	No. Plant Communities	No. Sub-Communities	No.Man Days	'96 Date Surveyed
194	Melmore	melmore.	66	1-66	23	33	9	5-7.6
194	Tranarossan	melmore.	77	67-123	19	26	9	7-9.6
1141	Lunniagh-north	lunnaigh.	106	124-229	24	41	12	10-13.6
1141	Lunniagh-south	lunnaigh.	36	230-266	17	24	5	13-15.6
1141	Gola Island	gola.	12	267-275	7	10	3	12.6
1141	Keadue	keadue.	43	279-321	13	22	5	16-17.6
197	Lettermacaward	letterma.	56	332-377	21	35	7	18-20.6
197	Clooney	letterma.	68	378-445	25	43	2	20-21.6
197	Sheskinmore	sheskin.	119	446-564	30	44	12	10-13.7
625	Trawalua	bunduff.	60	565-624	16	27	6	13-15.7
625	Bunduff	bunduff.	64	625-688	24	36	6	16.7
500	Garter Hill	garter.	36	689-724	9	14	5	14.8
470	Termoncarragh	mullet.	46	725-798	20	35	9	6-8.8
470	Emlybegs	mullet.	49	799-848	11	21	5	10-11.8
470	Cross Lough	mullet.	54	849-902	17	27	4	11-12.8
470	Aghleam	mullet.	46	903-948	13	22	4	13.8
	Kinrovar	kinrovar.	19	949-967	8	13	2	15.8
507	Inishkea N.	iniskea.	26	968-993	11	14	3	7.8
1513	Keel Lough	keel.	28	994-1020	10	17	3	16.8
1497	Doo Lough	doolough.	25	1022-1046	11	15	2	17.8
1932	Dooaghtry	dooaghtr.	102	1047-1148	30	47	9	18-20.8
1309	Omey Island	omey.	46	1149-1194	16	23	3	23.7
1257	Dogs Bay	dogsbay.	45	1195-1239	22	32	4	24.7
1257	Murvey	murvey.	17	1240-1256	7	9	2	25.7
2074	Mannin	mannin.	19	1257-1274	9	12	2	26.7
2074	Doonloughan	mannin.	39	1275-1314	17	24	5	21.8
2074	Aillebrack	mannin.	44	1315-1358	22	32	4	21.8
1302	Mason Island	mason.	15	1359-1373	8	12	3	22.7
1306	Mweenish	mweenish.	22	1374-1395	9	15	3	21.7
1266	Finnish Island	finnish.	12	1396-1407	10	11	2	22.8
213	Inis Mor	insmor.	22	1408-1429	9	11	3	18.7
212	Inis Meain	insmeain.	16	1430 -1445	7	10	3	19.7
211	Inis Oirr	insoirr.	10	1446-1455	6	7	3	20.7
	TOTAL		1455				159	

APPENDIX 2

MAP INFORMATION

IRISH MACHAIR SURVEY 1996 - MAP DETAILS

COUNTY	SITE	SITE NO.	1/2" MAP	6" MAP
Donegal	Melmore/Tranarossan	194	2, 5	08, 17
	Lunnaigh	1141	4	32, 32A, 23
	Gola Island	1141	4	32, 32A
	Keadue	1141	4	40, 40A, 41
	Lettermacaward	197	7	65, 64, 57
	Clooney	197	7	73
	Sheskinmore	197	7	73, 64
Sligo/Leitrim	Bunduff/Trawlua	625	9	02, 01
Mayo	Garter Hill	500	12	4
	Termoncarragh/Emlybegs	470	12	33, 9, 16, 24
	Cross Lough	470	12	33, 9, 16, 24
	Aghleam	470	12	33, 9, 16, 24
	Kinrovar			34
	Inishkea North	507	12, 17	23
	Keel Lough	1513	17	54, 42
	Lough Doo	1497		43, 42
	Dooaghtry	1932	23	105, 115A
Galway	Omey Island	1309	29	21
	Dogs Bay	1257	29	63
	Murvey	1257	29	62
	Mannin Bay/Doonloughan	2074	29	34, 35, 48, 49
	Aillebrack	2074	29	34, 35, 48, 49
	Mason Island	1302	29, 35	76
	Mweenish	1306	35	76
	Finnish Island	1266	35	76
	Inis Mor	213	35	119, 111
	Inis Meain	212	35	119
	Inis Oirr	211	35	119

APPENDIX 3

SITE ASSESSMENT

MACHAIR SURVEY '96 - SITE ASSESSMENT ON A 1 TO 10 SCALE

	Melmore	Tranarossan	Lunnaigh-north	Lunnaigh-south	Gola Island	Keadue	Lettermacaward	Clooney	Sheskinmore	Trawalua	Bunduff	Garter Hill	Termoncarragh	Emlybegs	Cross Lough	Aghleam	Kinrovar	Inishkea N.	Keel Lough	Doo Lough	Dooaghtry	Omey Island	Dogs Bay	Murvey	Mannin	Doonloughan	Aillebrack	Mason Island	Mweenish	Finnish Island	Inis Mor	Inis Meain	Inis Oirr
THREATS																																	
Overall	3	6	3	9	1	4	7	8	5	8	2	9	5	8	9	8	7	8	9	9	5	6	8	9	7	8	6	7	7	8	3	5	9
NATURAL																																	
Erosion wind	5	7	5	4	4	5	7	4	4	4	4	10	6	9	5	9	8	5	3	9	6	8	8	9	6	8	6	6	7	10	7	6	8
Erosion sea	7	7	4	3	3	5	6	6	8	3	3	6	6	9	4	5	5	7	3	8	3	4	6	8	7	6	7	5	7	7	2	4	3
Erosion sediment dep.	7	7	5	3	3	7	3	4	3	3	4	8	8	9	9	9	8	7	10	9	2	6	7	9	8	8	8	7	7	9	2	3	4
MANAGEMENT																																	
Agricultural Improvement	0	2	0	0	2	2	9	5	0	6	1	2	5	3	6	2	2	0	0	0	0	2	0	0	0	0	0	3	2	0	2	3	0
Fences	3	6	2	2	0	6	7	4	0	5	0	1	7	8	9	7	9	0	0	3	0	5	8	3	3	0	3	0	2	0	2	0	0
Sheep	0	8	3	9	6	0	7	4	0	7	0	9	4	0	0	0	0	9	9	7	9	0	0	9	4	8	0	0	0	2	0	0	0
Cattle	4	0	0	2	0	2	3	3	2	7	1	6	6	6	7	6	4	5	0	3	0	8	8	0	6	3	6	7	2	5	2	2	3
Sand extraction	3	0	0	0	0	8	3	3	3	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	6	8
Caravan parks	4	8	0	3	0	3	0	5	6	0	0	0	0	0	0	0	0	0	5	3	0	0	2	0	0	0	0	0	0	0	0	0	0
Golf courses	0	3	0	8	0	0	0	8	0	0	0	0	0	9	0	0	0	0	5	0	0	0	0	0	0	0	7	0	0	0	0	0	0
Airport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	7	4
Construction	2	0	0	0	0	3	0	0	0	0	0	0	0	6	7	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Recreation	4	6	5	7	0	6	0	7	2	2	9	5	3	3	3	4	2	3	8	5	5	7	9	2	8	6	9	1	1	2	2	2	8
Dumping	0	0	3	3	0	2	3	0	0	0	0	6	0	0	6	1	0	0	2	2	0	0	0	3	0	3	3	0	0	0	0	0	0
Accessibility	3	4	5	9	2	5	2	8	4	3	10	7	3	4	5	4	3	3	9	7	6	6	9	3	7	5	7	2	5	1	3	2	8
ASSESSMENT																																	
Overall	8	6	6	6	5	6	4	5	8	7	9	4	6	6	4	6	2	8	5	6	9	6	7	3	6	6	8	4	5	3	8	6	4
Attractiveness	9	6	5	6	4	6	6	7	8	7	9	7	5	6	4	6	2	9	6	7	9	7	8	3	6	6	8	5	4	6	6	6	4
Habitat diversity	8	7	7	7	2	5	5	6	8	4	7	3	4	4	4	3	2	3	3	5	8	5	7	3	3	6	7	4	4	2	4	3	2
Plant rarity potential	7	7	7	4	2	3	2	2	8	2	8	2	3	2	2	1	1	2	4	4	7	3	4	1	3	3	7	2	2	2	8	4	2
Red Data Book species	1	2	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Arch./ Holocene interest	0	5	0	2	0	7	3	2	3	3	5	9	5	5	5	5	2	9	6	7	8	4	4	7	2	7	2	1	2	2	2	2	3
Bird interest	6	5	8	8	7	6	2	2	8	3	8	4	8	4	5	3	2	9	6	7	6	5	5	2	3	6	5	6	3	4	7	7	4
Management	7	4	8	3	7	6	3	3	8	2	9	1	3	3	2	6	4	3	2	3	4	4	3	2	3	3	6	5	7	5	7	5	2

APPENDIX 4

PLANT COMMUNITIES PRESENT IN SURVEY

PLANT COMMUNITIES PRESENT IN 1996 SURVEY			
			No.Samples
AQUATIC COMMUNITIES			
A7	Nymphaea alba community		1
A7a	Nymphaea alba community	Species poor sub-community	4
A9a	Potamogeton natans community	Species poor sub-community	1
A10	Polygonum amphibium community		3
A11	Potamogeton pectinatus-Myriophyllum spicatum community		2
A13	Potamogeton perfoliatus-Myriophyllum alternifolium community		3
A22a	Littorella uniflora-Lobelia dortmanna community	Littorella sub-community	1
AX1a	Chara community	Species poor sub-community	11
AX1b	Chara community	Potamogeton natans sub-community	5
AX2	Hippurus vulgaris community		5
			36
CALCICOLOUS GRASSLANDS			
CG7b	Festuca ovina-Agrostis capillaris-Thymus praecox community	Cladonia sub-community	4
CG10b	Festuca ovina-Hieracium pilosella-Thymus praecox community	Carex pulicaris-Carex panicea sub-community	3
CG13b	Dryas octapetala-Carex flacca community	Salix repens-Empetrum nigrum sub-community	3
CGX1	Blackstonia perfoliata-Carex flacca community		8
CGX2	Sesleria albicans-Carex flacca community		3
			21
HEATHS			
H7a	Calluna vulgaris-Scilla verna community	Armeria maritima sub-community	1
H7c	Calluna vulgaris-Scilla verna community	Erica tetralix sub-community	9
H7d	Calluna vulgaris-Scilla verna community	Empetrum nigrum sub-community	3
H7e	Calluna vulgaris-Scilla verna community	Calluna vulgaris sub-community	6
H8	Calluna vulgaris-Ulex gallii community		2
H10	Calluna vulgaris-Erica cinerea community		2
			23
MIRES			
M2b	Sphagnum cuspidatum-recurvum bog pool community	Sphagnum recurvum sub-community	4
M10a	Carex dioica-Pinguicula vulgaris community		3
M10b	Carex dioica-Pinguicula vulgaris community		1
M13b	Schoenus nigricans-Juncus subnodulosus community	Briza media-Pinguicula vulgaris sub-community	10

M23b	Juncus effusus/acutiflorus-Galium palustre community	Juncus effusus sub-community	1
M24c	Molinea caerulea-Cirsium dissectum community	Juncus acutiflorus-Erica tetralix sub-community	12
M28a	Iris pseudacorus-Filipendula ulmaria community	Juncus effusus/acutiflorus sub-community	4
M28b	Iris pseudacorus-Filipendula ulmaria community	Urtica dioica-Galium aparine	1
M29	Hypericum elodes-Potamogeton polygonifolius community		2
MX1	Carex nigra-Eriophorum angustifolium community		31
			69
MARITIME CLIFF			
MC1a	Crithmum maritimum-Spergularia rupicola community	Typical sub-community	6
MC2	Armeria maritima-Ligusticum scoticum community		1
MC3	Rhodiola rosea-Armeria maritima community		2
MC6	Atriplex hastata-Beta vulgaris community		1
MC8	Festuca rubra-Armeria maritima community		3
MC8a	Festuca rubra-Armeria maritima community	Typical sub-community	1
MC9	Festuca rubra-Holcus lanatus community		1
MC9a	Festuca rubra-Holcus lanatus community	Plantago maritima sub-community	3
MC10	Festuca rubra-Plantago spp. community		2
MC10a	Festuca rubra-Plantago spp. community	Armeria maritima sub-community	5
MC10b	Festuca rubra-Plantago spp. community	Carex panicea sub-community	1
MCX1	Hedera helix-Lonicera community		2
			28
MESOTROPHIC GRASSLANDS			
MG1e	Arrhenatherum elatius community	Centaurea nigra sub-community	5
MG5a	Cynosurus cristatus-Centaurea nigra community	Lolium perenne sub-community	11
MG5b	Cynosurus cristatus-Centaurea nigra community	Galium verum sub-community	20
MG5c	Cynosurus cristatus-Centaurea nigra community	Prunella vulgaris sub-community	24
MG5d	Cynosurus cristatus-Centaurea nigra community	Holcus lanatus-Trifolium pratense sub-community	33
MG5e	Cynosurus cristatus-Centaurea nigra community	Carex nigra sub-community	6
MG7a	Lolium perenne ley community	Lolium perenne-Trifolium repens sub-community	6
MG7e	Lolium perenne ley community	Lolium perenne-Plantago lanceolata sub-community	6
MG10a	Holcus lanatus-Juncus effusus community	Typical sub-community	3
MG11a	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Lolium perenne sub-community	6
MG11b	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Matricaria maritima sub-community	11
MG11c	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex arenaria sub-community	18
MG11d	Festuca rubra-Agrostis stolonifera-Potentilla anserina community	Carex nigra sub-community	91

MG12b	Potentillo-Festuca arundinacea community	Oenanthe lachenalii sub-community	4
MGX1	Juncus bufonius-Agrostis stolonifera community		12
			256
FEN AND SWAMP			
S2b	Cladium mariscus community	Menyanthes trifoliata sub-community	2
S4a	Phragmites australis community	Phragmites australis sub-community	7
S4c	Phragmites australis community	Menyanthes trifoliata sub-community	6
S4d	Phragmites australis community	Atriplex prostrata sub-community	1
S4e	Phragmites australis community	Agrostis stolonifera-Hydrocotyle vulgaris sub-community	3
S8a	Scirpus lacustris ssp. lacustris community	Scirpus lacustris lacustris sub-community	4
S9a	Carex rostrata community	Carex rostrata sub-community	2
S9b	Carex rostrata community	Menyanthes trifoliata-Equisetum fluviatile sub-community	9
S12a	Typha latifolia community	Typha latifolia sub-community	4
S14	Sparganium erectum community		3
S14a	Sparganium erectum community	Sparganium erectum sub-community	2
S19a	Eleocharis palustris community	Eleocharis palustris sub-community	15
S19c	Eleocharis palustris community	Agrostis stolonifera sub-community	12
S19d	Eleocharis palustris community	Hydrocotyle vulgaris sub-community	8
S20	Scirpus lacustris ssp. tabernaemontani community		6
S20a	Scirpus lacustris ssp. tabernaemontani community	Species poor sub-community	3
S21	Scirpus maritimus community		3
S21a	Scirpus maritimus community	Scirpus maritimus sub-community	5
S23a	Nasturtium officinale-Apium nodiflorum ditch community	Typical sub-community	27
S23b	Nasturtium officinale-Apium nodiflorum ditch community	Glyceria sub-community	13
S23c	Nasturtium officinale-Apium nodiflorum ditch community	Eleocharis palustris-Calliergon cuspidatum sub-community	28
SX1a	Carex diandra-Menyanthes trifoliata community	Typical sub-community	2
SX1b	Carex diandra-Menyanthes trifoliata community	Calliergon cuspidatum-Hydrocotyle vulgaris sub-community	7
SX2	Iris pseudacorus community		11
SX3a	Carex nigra community	Potentilla anserina sub-community	51
SX3b	Carex nigra community	Holcus lanatus-Festuca rubra sub-community	32
SX3c	Carex nigra community	Galium palustre-Mentha aquatica sub-community	46
SX4	Carex paniculata community		2
			314
SAND DUNE AND STRANDLINE			
SD2a	Honkenya peploides-Cakile maritima community	Cakile sub-community	4

SD2b	Honkenya peploides-Cakile maritima community	Honkenya sub-community	10
SD2c	*Honkenya peploides-Cakile* maritima community	Salsola sub-community	7
SD3	Matricaria maritima-Galium aparine community		8
SD4a	Elymus farctus spp. boreali-atlanticus community	Elymus farctus sub-community	17
SD4b	Elymus farctus spp. boreali-atlanticus community	Lotus corniculatus-Plantago lanceolata sub-community	14
SD5a	Leymus arenarius community	Species poor sub-community	2
SD5b	Leymus arenarius community	Elymus farctus sub-community	1
SD5c	Leymus arenarius community	Festuca rubra sub-community	1
SD6a	Ammophila arenaria mobile dune community	Elymus farctus sub-community	31
SD6c	Ammophila arenaria mobile dune community	Leymus arenarius sub-community	2
SD6d	Ammophila arenaria mobile dune community	Typical sub-community	27
SD6e	Ammophila arenaria mobile dune community	Festuca rubra sub-community	10
SD6g	Ammophila arenaria mobile dune community	Carex arenaria sub-community	1
SD7a	Ammophila arenaria-Festuca rubra fixed dune community	Typical sub-community	33
SD7d	Ammophila arenaria-Festuca rubra fixed dune community	Tortula ruraliformis sub-community	6
SD8a	*Festuca* rubra-Galium verum dune grassland community	Typical sub-community	100
SD8b	Festuca rubra-Galium verum dune grassland community	*Tortula ruraliformis* sub-community	43
SD8c	Festuca rubra-Galium verum dune grassland community	Tortula ruraliformis sub-community	104
SD8d	Festuca rubra-Galium verum dune grassland community	Ranunculus acris-Bellis perennis sub-community	28
SD8e	Festuca rubra-Galium verum dune grassland community	Prunella vulgaris sub-community	57
SD8f	Festuca rubra-Galium verum dune grassland community	Pteridium aquilinum sub-community	4
SD8g	Festuca rubra-Galium verum dune grassland community	Thymus praecox sub-community	63
SD8h	Festuca rubra-Galium verum dune grassland community	Lolium perenne sub-community	13
SD8i	Festuca rubra-Galium verum dune grassland community	Carex arenaria-Elymus farctus sub-community	25
SD9	Ammophila arenaria-Arrhenatherum elatius community		1
SD9c	Ammophila arenaria-Arrhenatherum elatius community	Geranium sanguineum sub-community	17
SD10a	Carex arenaria dune community	Festuca rubra sub-community	8
SD15	Salix repens-Calliergon cuspidatum dune slack community		1
SD18a	Hippophae rhamnoides dune scrub community	Festuca rubra sub-community	2
SDX1	Catabrosa aquatica community		3
			643
SALT MARSH			
SM10	Puccinellia maritima-Salicornia spp.-Suaeda maritima community		1
SM13	Puccinellia maritima salt marsh community		1
SM13b	Puccinellia maritima salt marsh community	Glaux maritima sub-community	4
SM13d	Puccinellia maritima salt marsh community	Plantago maritima sub-community	3

SM16	Festuca rubra salt marsh community		1
SM16b	Festuca rubra salt marsh community	Juncus gerardii sub-community	8
SM16c	Festuca rubra salt marsh community	Festuca rubra-Glaux maritima sub-community	6
SM16e	Festuca rubra salt marsh community	Leontodon autumnalis sub-community	9
SM18	Juncus maritimus community		1
SM18a	Juncus maritimus community	Plantago maritima sub-community	5
SM19	Blysmus rufus community		2
SM20	Eleocharis uniglumis community		1
			42
UPLAND GRASSLANDS			
U4b	Festuca ovina-Agrostis capillaris-Galium saxatile community	Holcus-Trifolium sub-community	3
			3
WOODLAND			
W22	Prunus spinosa-Rubus fruticosus scrub community		2
W24	Rubus fruticosus-Holcus lanatus underscrub community		2
WX1	Pinus nigra community		1
WX2	Populus tremula community		1
WX3	Corylus avellana community		2
			8
WEED COMMUNITIES			
WD1	General weed communities in survey		13
			13

APPENDIX 5

PLANT COMMUNITY LOCATION

PLANT COMMUNITY LOCATION			
NVC	SITE	SITE Q	Q NO.
AQUATIC COMMUNITIES			
A7	Omey	44	1192
A7a	Mel/Tran	123	123
A7a	Sheskin	106	551
A7a	Dooaghtry	98	1144
A7a	Dogs Bay	4	1196
A9a	Dogs Bay	14	1208
AX1a	Bun/Traw	100	664
AX1a	Mullet	75	799
AX1a	Mullet	125	849
AX1a	Mullet	170	894
AX1a	Mullet	213	937
AX1a	Iniskea	3	970
AX1a	Keel Lough	26	1019
AX1a	Doo Lough	18	1039
AX1a	Omey	14	1162
AX1a	Murvey	10	1249
AX1a	Mannin	86	1342
AX1b	Lunnaigh	127	250
AX1b	Lunnaigh	143	266
AX1b	Sheskin	24	469
AX1b	Dooaghtry	63	1109
AX1b	Dogs Bay	28	1222
AX2	Bun/Traw	73	637
AX2	Bun/Traw	95	659
AX2	Dooaghtry	86	1134
AX2	Mason	1	1359
AX2	Finnish	11	1406
A10	Keel Lough	18	1011
A10	Mason	2	1360
A10	Mason	3	1361
A11	Bun/Traw	91	655
A11	Mannin	84	1340
A13	Mullet	126	850
A13	Mullet	127	851
A13	Mullet	171	895
A22a	Lettermac	89	410
CALCICOLOUS GRASSLANDS			
CG7b	Inis Mor	9	1416
CG7b	Inis Mor	10	1417
CG7b	Inis Mor	11	1418
CG7b	Inis Mor	19	1426
CGX1	Bun/Traw	105	669
CGX1	Bun/Traw	106	670
CGX1	Bun/Traw	117	681
CGX1	Bun/Traw	120	684
CGX1	Dogs Bay	33	1227
CGX1	Mannin	4	1260
CGX1	Mannin	5	1261
CGX1	Mannin	97	1353
CGX2	Keadue	17	295
CGX2	Mannin	52	1308
CGX2	Mannin	66	1322
CG10b	Lunnaigh	13	136
CG10b	Bun/Traw	25	590
CG10b	Dooaghtry	95	1141
CG13b	Lettermac	31	352
CG13b	Lettermac	35	356
CG13b	Mannin	70	1326
HEATHS			
H7a	Mel/Tran	93	93
H7c	Lunnaigh	1	124
H7c	Lunnaigh	15	138
H7c	Sheskin	9	454
H7c	Sheskin	10	455
H7c	Sheskin	35	480
H7c	Bun/Traw	77	641
H7c	Omey	42	1190
H7c	Dogs Bay	37	1231
H7c	Sheskin	44	489
H7d	Keadue	23	301
H7d	Lettermac	9	330
H7d	Lettermac	15	336

H7e	Mel/Tran	4	4
H7e	Mel/Tran	[illegible]	7
H7e	Mel/Tran	22	22
H7e	Mel/Tran	56	56
H7e	Mel/Tran	57	57
H7e	Dogs Bay	36	1230
H8	Dogs Bay	7	1201
H8	Mannin	90	1346
H10	Mel/Tran	60	60
H10	Lettermac	3	324
MIRES			
M2b	Mel/Tran	6	6
M2b	Mel/Tran	58	58
M2b	Mel/Tran	59	59
M2b	Lettermac	10	331
M10a	Lettermac	96	417
M10a	Dogs Bay	18	1202
M10a	Dogs Bay	10	1204
M10b	Sheskin	71	516
M13b	Mel/Tran	78	78
M13b	Sheskin	50	495
M13b	Sheskin	74	519
M13b	Sheskin	87	532
M13b	Mannin	30	1286
M13b	Mannin	37	1293
M13b	Mannin	38	1294
M13b	Mannin	51	1307
M13b	Mannin	102	1358
M23b	Lettermac	112	433
M24c	Mel/Tran	5	5
M24c	Lunnaigh	6	129
M24c	Lunnaigh	140	263
M24c	Lettermac	2	323
M24c	Lettermac	5	326
M24c	Lettermac	7	328
M24c	Lettermac	111	432
M24c	Sheskin	47	492
M24c	Sheskin	48	493
M24c	Sheskin	111	556
M24c	Dooaghtry	98	1142
M24c	Dogs Bay	9	1203
M28a	Mel/Tran	25	25
M28a	Mel/Tran	26	26
M28a	Keadue	24	302
M28a	Keadue	28	306
M28b	Bun/Traw	75	639
M29	Mel/Tran	64	64
M29	Mel/Tran	120	120
MX1	Mel/Tran	9	9
MX1	Mel/Tran	118	118
MX1	Lunnaigh	2	125
MX1	Lunnaigh	4	127
MX1	Lunnaigh	7	130
MX1	Lunnaigh	11	134
MX1	Lunnaigh	14	137
MX1	Lunnaigh	54	177
MX1	Lunnaigh	139	262
MX1	Lettermac	8	329
MX1	Sheskin	46	491
MX1	Sheskin	49	494
MX1	Sheskin	73	518
MX1	Sheskin	82	527
MX1	Sheskin	83	528
MX1	Sheskin	112	557
MX1	Bun/Traw	64	628
MX1	Bun/Traw	65	629
MX1	Bun/Traw	66	630
MX1	Bun/Traw	67	631
MX1	Bun/Traw	76	640
MX1	Bun/Traw	90	654
MX1	Bun/Traw	98	662
MX1	Garter Hill	22	710
MX1	Dogs Bay	5	1199
MX1	Mannin	16	1272
MX1	Mannin	32	1288
MX1	Mannin	57	1313
MX1	Sheskin	16	521
MX1	Sheskin	17	522

MX1	Sheskin	79	524
MARITIME CLIFF			
MC1a	Mel/Tran	39	39
MC1a	Mullet	56	780
MC1a	Omey	25	1173
MC1a	Dogs Bay	11	1205
MC1a	Mannin	80	1336
MC1a	Inis Mor	12	1419
MC2	Mel/Tran	113	113
MC3	Mel/Tran	119	119
MC3	Sheskin	43	488
MC6	Inis Oirr	5	1450
MC8	Lunnaigh	3	126
MC8	Lunnaigh	17	140
MC8	Mullet	57	781
MC8a	Mel/Tran	1	1
MC9	Mel/Tran	96	96
MC9a	Mel/Tran	2	2
MC9a	Mel/Tran	3	3
MC9a	Mel/Tran	41	41
MC10	Murvey	7	1246
MC10	Inis Meain	12	1441
MC10a	Lunnaigh	16	139
MC10a	Lunnaigh	118	241
MC10a	Keadue	5	283
MC10a	Lettermac	1	322
MC10a	Sheskin	12	457
MC10b	Lunnaigh	60	183
MCX1	Lunnaigh	9	132
MCX1	Gola	12	278
MESOTROPHIC GRASSLANDS			
MG1e	Mullet	39	763
MG1e	Mweenish	4	1377
MG1e	Mweenish	8	1381
MG1e	Mweenish	20	1393
MG1e	Finnish	10	1405
MG5a	Lettermac	34	355
MG5a	Lettermac	71	392
MG5a	Lettermac	101	422
MG5a	Sheskin	4	449
MG5a	Sheskin	91	536
MG5a	Bun/Traw	104	668
MG5a	Mullet	13	737
MG5a	Mweenish	1	1374
MG5a	Mweenish	3	1376
MG5a	Inis Mor	18	1425
MG5a	Inis Oirr	10	1455
MG5b	Lunnaigh	91	214
MG5b	Lettermac	55	376
MG5b	Lettermac	66	387
MG5b	Lettermac	87	408
MG5b	Lettermac	92	413
MG5b	Lettermac	97	418
MG5b	Lettermac	105	426
MG5b	Lettermac	107	428
MG5b	Bun/Traw	108	672
MG5b	Mullet	6	730
MG5b	Mullet	9	733
MG5b	Mullet	108	832
MG5b	Mullet	112	836
MG5b	Dogs Bay	15	1209
MG5b	Mannin	3	1259
MG5b	Mannin	91	1347
MG5b	Mannin	92	1348
MG5b	Mason	7	1365
MG5b	Mweenish	5	1382
MG5b	Finnish	12	1407
MG5c	Mel/Tran	24	24
MG5c	Mel/Tran	54	54
MG5c	Mel/Tran	55	55
MG5c	Lettermac	54	375
MG5c	Lettermac	113	434
MG5c	Lettermac	121	442
MG5c	Sheskin	14	459
MG5c	Sheskin	51	496
MG5c	Sheskin	108	553
MG5c	Bun/Traw	62	626
MG5c	Bun/Traw	78	642

MG5c	Bun/Traw	102	666
MG5c	Bun/Traw	107	671
MG5c	Iniskea	9	976
MG5c	Dooaghtry	31	1077
MG5c	Dooaghtry	99	1145
MG5c	Dooaghtry	100	1146
MG5c	Omey	38	1186
MG5c	Dogs Bay	16	1210
MG5c	Mannin	50	1306
MG5c	Mannin	58	1314
MG5c	Mannin	98	1354
MG5c	Mweenish	12	1385
MG5c	Mannin	15	1271
MG5d	Mel/Tran	27	27
MG5d	Lunnaigh	8	131
MG5d	Lunnaigh	51	174
MG5d	Lunnaigh	106	231
MG5d	Lunnaigh	115	238
MG5d	Lettermac	19	340
MG5d	Lettermac	24	345
MG5d	Lettermac	56	377
MG5d	Sheskin	45	490
MG5d	Sheskin	85	510
MG5d	Sheskin	75	520
MG5d	Sheskin	118	563
MG5d	Bun/Traw	50	614
MG5d	Bun/Traw	51	615
MG5d	Bun/Traw	59	623
MG5d	Mullet	32	756
MG5d	Mullet	89	793
MG5d	Mullet	173	897
MG5d	Mullet	175	899
MG5d	Mullet	179	903
MG5d	Mullet	180	904
MG5d	Mullet	181	905
MG5d	Mullet	194	918
MG5d	Mullet	195	919
MG5d	Mullet	197	921
MG5d	Mullet	221	945
MG5d	Keel Lough	5	998
MG5d	Doo Lough	25	1046
MG5d	Dooaghtry	3	1049
MG5d	Omey	5	1153
MG5d	Omey	6	1154
MG5d	Omey	37	1185
MG5d	Mannin	62	1318
MG5e	Lunnaigh	5	128
MG5e	Keadue	12	290
MG5e	Lettermac	72	393
MG5e	Bun/Traw	81	645
MG5e	Mullet	5	729
MG5e	Mullet	38	762
MG7a	Lettermac	53	374
MG7a	Lettermac	84	405
MG7a	Bun/Traw	60	624
MG7a	Mullet	105	829
MG7a	Mullet	106	830
MG7a	Mullet	134	858
MG7e	Lettermac	51	372
MG7e	Lettermac	52	373
MG7e	Lettermac	53	404
MG7e	Mullet	135	859
MG7e	Mullet	136	860
MG7e	Mullet	165	889
MG10a	Lunnaigh	53	179
MG10a	Bun/Traw	24	588
MG10a	Dooaghtry	55	1101
MG11a	Lunnaigh	82	185
MG11a	Gola	8	274
MG11a	Keadue	22	300
MG11a	Lettermac	75	399
MG11a	Bun/Traw	25	589
MG11a	Mannin	53	1309
MG11b	Mel/Tran	110	110
MG11b	Lunnaigh	37	160
MG11b	Gola	11	277
MG11b	Lettermac	20	341
MG11b	Lettermac	77	398

MG11b	Bun/Traw	19	583
MG11b	Mullet	210	934
MG11b	Mannin	61	1317
MG11b	Mason	14	1372
MG11b	Mweenish	2	1375
MG11b	Inis Meain	10	1439
MG11c	Lunnaigh	132	255
MG11c	Lettermac	49	370
MG11c	Lettermac	75	396
MG11c	Lettermac	76	397
MG11c	Lettermac	114	435
MG11c	Mullet	91	815
MG11c	Mullet	132	856
MG11c	Mullet	149	873
MG11c	Mullet	150	874
MG11c	Mullet	219	943
MG11c	Mullet	224	948
MG11c	Kinrovar	4	952
MG11c	Kinrovar	18	966
MG11c	Iniskea	7	974
MG11c	Dogs Bay	31	1225
MG11c	Mannin	14	1270
MG11c	Mason	8	1366
MG11c	Finnish	7	1402
MG11d	Mel/Tran	10	10
MG11d	Mel/Tran	11	11
MG11d	Mel/Tran	43	43
MG11d	Mel/Tran	46	46
MG11d	Mel/Tran	61	61
MG11d	Mel/Tran	62	62
MG11d	Mel/Tran	63	63
MG11d	Mel/Tran	69	69
MG11d	Mel/Tran	87	87
MG11d	Lunnaigh	12	135
MG11d	Lunnaigh	20	143
MG11d	Lunnaigh	42	165
MG11d	Lunnaigh	59	182
MG11d	Lunnaigh	75	198
MG11d	Lunnaigh	76	199
MG11d	Lunnaigh	125	248
MG11d	Lunnaigh	136	259
MG11d	Lunnaigh	137	260
MG11d	Keadue	7	285
MG11d	Keadue	27	305
MG11d	Lettermac	14	335
MG11d	Lettermac	48	369
MG11d	Lettermac	85	406
MG11d	Lettermac	93	414
MG11d	Lettermac	95	416
MG11d	Sheskin	11	456
MG11d	Sheskin	55	500
MG11d	Sheskin	69	514
MG11d	Sheskin	81	526
MG11d	Sheskin	97	542
MG11d	Bun/Traw	10	574
MG11d	Bun/Traw	12	576
MG11d	Bun/Traw	27	591
MG11d	Bun/Traw	118	682
MG11d	Bun/Traw	122	686
MG11d	Garter Hill	13	701
MG11d	Garter Hill	23	711
MG11d	Garter Hill	31	719
MG11d	Garter Hill	32	720
MG11d	Mullet	27	751
MG11d	Mullet	31	755
MG11d	Mullet	77	801
MG11d	Mullet	113	837
MG11d	Mullet	151	891
MG11d	Iniskea	1	968
MG11d	Iniskea	2	969
MG11d	Iniskea	16	983
MG11d	Keel Lough	3	996
MG11d	Keel Lough	8	1001
MG11d	Keel Lough	9	1002
MG11d	Keel Lough	10	1003
MG11d	Keel Lough	11	1004
MG11d	Keel Lough	16	1009
MG11d	Keel Lough	19	1012

MG11d	Doo Lough	2	1023
MG11d	Doo Lough	15	1036
MG11d	Doo Lough	19	1040
MG11d	Doo Lough	21	1042
MG11d	Doo Lough	22	1043
MG11d	Doo Lough	24	1045
MG11d	Dooaghtry	9	1055
MG11d	Dooaghtry	23	1069
MG11d	Dooaghtry	24	1070
MG11d	Dooaghtry	36	1082
MG11d	Dooaghtry	37	1083
MG11d	Dooaghtry	51	1097
MG11d	Dooaghtry	58	1104
MG11d	Dooaghtry	67	1113
MG11d	Dooaghtry	72	1118
MG11d	Dooaghtry	75	1121
MG11d	Dooaghtry	77	1123
MG11d	Dooaghtry	80	1126
MG11d	Dooaghtry	81	1127
MG11d	Dooaghtry	85	1131
MG11d	Dooaghtry	86	1132
MG11d	Dooaghtry	87	1133
MG11d	Omey	3	1151
MG11d	Omey	17	1165
MG11d	Omey	46	1194
MG11d	Dogs Bay	20	1214
MG11d	Dogs Bay	34	1228
MG11d	Dogs Bay	35	1229
MG11d	Murvey	3	1242
MG11d	Murvey	6	1245
MG11d	Mannin	9	1265
MG11d	Mannin	17	1273
MG11d	Mannin	46	1302
MG11d	Mannin	68	1324
MG11d	Mannin	89	1345
MG11d	Mason	13	1371
MG11d	Inis Mean	11	1440
MG12b	Mweenish	5	1378
MG12b	Mweenish	6	1379
MG12b	Mweenish	7	1380
MG12b	Mweenish	19	1392
MGX1	Bun/Traw	46	610
MGX1	Bun/Traw	82	646
MGX1	Garter Hill	10	698
MGX1	Mullet	182	886
MGX1	Kinrovar	1	949
MGX1	Kinrovar	15	963
MGX1	Dooaghtry	17	1063
MGX1	Dooaghtry	27	1073
MGX1	Omey	16	1164
MGX1	Mannin	60	1316
MGX1	Finnish	8	1403
MGX1	Finnish	9	1404
FEN AND SWAMP			
S2b	Dogs Bay	2	1196
S2b	Mannin	35	1291
S4a	Lunnaigh	61	184
S4a	Sheskin	85	533
S4a	Iniskea	4	971
S4a	Dooaghtry	61	1107
S4a	Dogs Bay	1	1195
S4a	Mannin	88	1344
S4a	Mason	5	1367
S4c	Mel/Tran	49	49
S4c	Sheskin	82	531
S4c	Omey	41	1189
S4c	Dogs Bay	17	1211
S4c	Mannin	12	1268
S4c	Mannin	39	1295
S4d	Lettermac	106	429
S4e	Lunnaigh	82	211
S4e	Lettermac	90	411
S4e	Mullet	47	765
S8a	Sheskin	3	482
S8a	Omey	40	1188
S8a	Omey	43	1191
S8a	Mannin	87	1343
S9	Sheskin	109	554

S9a	Bun/Traw	96	660
S9b	Lettermac	94	415
S9b	Sheskin	70	515
S9b	Sheskin	85	530
S9b	Sheskin	107	552
S9b	Bun/Traw	68	632
S9b	Bun/Traw	89	653
S9b	Dooaghtry	48	1094
S9b	Dooaghtry	59	1105
S9b	Dooaghtry	60	1106
S12a	Bun/Traw	70	634
S12a	Dooaghtry	45	1091
S12a	Dogs Bay	3	1197
S12a	Mason	11	1369
S14	Lunnaigh	85	208
S14	Dooaghtry	46	1092
S14	Dooaghtry	62	1108
S14a	Lettermac	86	407
S14a	Mullet	133	857
S19a	Mel/Tran	35	35
S19a	Lunnaigh	55	178
S19a	Lunnaigh	131	254
S19a	Bun/Traw	94	658
S19a	Bun/Traw	101	665
S19a	Keel Lough	15	1008
S19a	Dooaghtry	49	1095
S19a	Dooaghtry	83	1129
S19a	Dooaghtry	91	1137
S19a	Dogs Bay	22	1216
S19a	Mannin	24	1280
S19a	Mannin	34	1290
S19a	Mannin	85	1341
S19a	Keel Lough	7	1000
S19a	Mannin	94	1350
S19c	Mel/Tran	31	31
S19c	Lunnaigh	128	251
S19c	Lettermac	47	368
S19c	Lettermac	81	402
S19c	Bun/Traw	69	633
S19c	Mullet	30	754
S19c	Mullet	92	816
S19c	Mullet	117	841
S19c	Iniskea	6	973
S19c	Doo Lough	6	1027
S19c	Doo Lough	17	1038
S19c	Dooaghtry	92	1138
S19d	Lunnaigh	43	166
S19d	Lunnaigh	124	247
S19d	Sheskin	38	483
S19d	Sheskin	114	559
S19d	Mullet	169	893
S19d	Keel Lough	6	999
S19d	Omey	15	1163
S19d	Dogs Bay	13	1207
S20	Sheskin	89	534
S20	Mullet	121	845
S20	Mullet	176	900
S20	Dogs Bay	6	1200
S20	Mannin	31	1287
S20	Mannin	56	1312
S20a	Lunnaigh	136	261
S20a	Bun/Traw	72	636
S20a	Dooaghtry	54	1140
S21	Lettermac	80	401
S21	Bun/Traw	93	657
S21	Mullet	29	752
S21a	Lunnaigh	70	193
S21a	Mullet	24	748
S21a	Iniskea	5	972
S21a	Dooaghtry	20	1066
S21a	Dooaghtry	29	1075
S23	Mannin	54	1310
S23a	Mel/Tran	50	50
S23a	Lunnaigh	18	141
S23a	Lunnaigh	26	151
S23a	Bun/Traw	48	612
S23a	Garter Hill	6	694
S23a	Garter Hill	11	699

S23a	Garter Hill	24	712
S23a	Garter Hill	25	713
S23a	Mullet	67	791
S23a	Mullet	119	843
S23a	Mullet	199	923
S23a	Mullet	207	931
S23a	Mullet	208	932
S23a	Kinrovar	12	960
S23a	Doo Lough	3	1024
S23a	Doo Lough	14	1035
S23a	Dooaghtry	7	1053
S23a	Dooaghtry	13	1059
S23a	Omey	12	1160
S23a	Omey	26	1174
S23a	Murvey	4	1243
S23a	Murvey	17	1256
S23a	Mannin	41	1297
S23a	Mannin	47	1303
S23a	Mweenish	15	1388
S23a	Inis Mor	21	1428
S23b	Mel/Tran	28	28
S23b	Mel/Tran	86	86
S23b	Mel/Tran	106	106
S23b	Lunnaigh	27	150
S23b	Lunnaigh	29	152
S23b	Lunnaigh	38	161
S23b	Keadue	32	310
S23b	Bun/Traw	3	567
S23b	Bun/Traw	29	593
S23b	Bun/Traw	30	594
S23b	Mullet	62	786
S23b	Kinrovar	14	962
S23b	Keel Lough	25	1018
S23c	Lunnaigh	19	142
S23c	Sheskin	42	487
S23c	Sheskin	54	499
S23c	Garter Hill	9	697
S23c	Garter Hill	12	700
S23c	Mullet	25	749
S23c	Mullet	26	750
S23c	Mullet	29	753
S23c	Mullet	33	757
S23c	Mullet	120	844
S23c	Iniskea	15	982
S23c	Iniskea	22	989
S23c	Doo Lough	20	1041
S23c	Dooaghtry	2	1048
S23c	Dooaghtry	76	1122
S23c	Dooaghtry	82	1128
S23c	Dooaghtry	89	1135
S23c	Dooaghtry	90	1136
S23c	Omey	23	1171
S23c	Omey	27	1175
S23c	Omey	33	1181
S23c	Omey	35	1183
S23c	Dogs Bay	32	1226
S23c	Mannin	1	1257
S23c	Mannin	10	1266
S23c	Mannin	33	1289
S23c	Mannin	48	1304
S23c	Mannin	96	1352
SX1a	Bun/Traw	92	656
SX1a	Dooaghtry	93	1139
SX1b	Sheskin	72	517
SX1b	Bun/Traw	57	651
SX1b	Bun/Traw	58	652
SX1b	Mullet	36	760
SX1b	Dooaghtry	43	1089
SX1b	Dooaghtry	54	1100
SX1b	Dooaghtry	97	1143
SX2	Lettermac	50	371
SX2	Sheskin	95	540
SX2	Mullet	35	759
SX2	Keel Lough	13	1006
SX2	Dooaghtry	32	1078
SX2	Dooaghtry	42	1088
SX2	Omey	32	1180
SX2	Omey	36	1184

SX2	Mannin	29	1285
SX2	Mweenish	18	1391
SX2	Finnish	5	1400
SX3a	Mel/Tran	45	45
SX3a	Mel/Tran	47	47
SX3a	Mel/Tran	48	48
SX3a	Mel/Tran	51	51
SX3a	Mel/Tran	74	74
SX3a	Mel/Tran	89	89
SX3a	Mel/Tran	99	99
SX3a	Mel/Tran	112	112
SX3a	Lunnaigh	41	164
SX3a	Lunnaigh	123	246
SX3a	Lunnaigh	126	252
SX3a	Lunnaigh	134	257
SX3a	Lunnaigh	135	258
SX3a	Keadue	8	286
SX3a	Keadue	29	307
SX3a	Keadue	42	320
SX3a	Lettermac	4	325
SX3a	Lettermac	11	332
SX3a	Lettermac	25	346
SX3a	Lettermac	32	353
SX3a	Lettermac	57	378
SX3a	Lettermac	79	400
SX3a	Lettermac	82	403
SX3a	Sheskin	5	450
SX3a	Sheskin	25	470
SX3a	Sheskin	30	475
SX3a	Sheskin	31	476
SX3a	Sheskin	39	484
SX3a	Sheskin	116	561
SX3a	Sheskin	119	564
SX3a	Bun/Traw	9	573
SX3a	Bun/Traw	13	577
SX3a	Bun/Traw	15	579
SX3a	Bun/Traw	18	582
SX3a	Bun/Traw	49	613
SX3a	Mullet	76	800
SX3a	Mullet	80	804
SX3a	Mullet	184	908
SX3a	Iniskea	28	993
SX3a	Doo Lough	12	1033
SX3a	Dooaghtry	11	1057
SX3a	Dooaghtry	66	1112
SX3a	Dooaghtry	84	1130
SX3a	Omey	34	1182
SX3a	Omey	39	1187
SX3a	Omey	45	1193
SX3a	Dogs Bay	19	1213
SX3a	Mannin	55	1311
SX3a	Mason	4	1362
SX3a	Inis Meain	1	1430
SX3a	Inis Meain	4	1433
SX3b	Mel/Tran	36	36
SX3b	Mel/Tran	67	67
SX3b	Mel/Tran	68	68
SX3b	Mel/Tran	97	97
SX3b	Mel/Tran	108	108
SX3b	Lunnaigh	30	153
SX3b	Lunnaigh	45	168
SX3b	Lunnaigh	52	175
SX3b	Lettermac	30	351
SX3b	Sheskin	8	453
SX3b	Sheskin	36	481
SX3b	Sheskin	64	509
SX3b	Bun/Traw	83	627
SX3b	Bun/Traw	85	649
SX3b	Bun/Traw	88	650
SX3b	Mullet	34	758
SX3b	Mullet	43	767
SX3b	Mullet	44	768
SX3b	Mullet	53	777
SX3b	Mullet	83	787
SX3b	Mullet	85	789
SX3b	Mullet	91	795
SX3b	Mullet	124	848
SX3b	Mullet	129	853

SX3b	Mullet	183	907
SX3b	Mullet	216	940
SX3b	Iniskea	19	986
SX3b	Iniskea	21	988
SX3b	Dooaghtry	35	1081
SX3b	Dooaghtry	79	1125
SX3b	Mannin	28	1284
SX3b	Sheskin	60	505
SX3c	Mel/Tran	6	8
SX3c	Mel/Tran	23	23
SX3c	Keadue	25	303
SX3c	Keadue	26	304
SX3c	Lettermac	12	333
SX3c	Lettermac	33	354
SX3c	Lettermac	88	409
SX3c	Lettermac	91	412
SX3c	Lettermac	96	419
SX3c	Lettermac	100	421
SX3c	Lettermac	120	441
SX3c	Sheskin	29	474
SX3c	Sheskin	33	478
SX3c	Sheskin	41	486
SX3c	Sheskin	53	498
SX3c	Sheskin	63	508
SX3c	Sheskin	78	523
SX3c	Sheskin	90	535
SX3c	Sheskin	110	565
SX3c	Bun/Traw	71	635
SX3c	Bun/Traw	74	638
SX3c	Bun/Traw	99	663
SX3c	Garter Hill	17	705
SX3c	Mullet	42	766
SX3c	Mullet	64	788
SX3c	Mullet	118	842
SX3c	Mullet	128	852
SX3c	Mullet	172	896
SX3c	Mullet	174	898
SX3c	Keel Lough	12	1005
SX3c	Doo Lough	13	1034
SX3c	Dooaghtry	8	1054
SX3c	Dooaghtry	38	1084
SX3c	Dooaghtry	39	1085
SX3c	Dooaghtry	40	1086
SX3c	Dooaghtry	41	1087
SX3c	Dooaghtry	47	1093
SX3c	Dooaghtry	50	1096
SX3c	Dooaghtry	57	1103
SX3c	Dogs Bay	12	1206
SX3c	Dogs Bay	23	1217
SX3c	Murvey	1	1240
SX3c	Murvey	9	1248
SX3c	Mannin	13	1269
SX3c	Mannin	19	1275
SX3c	Mason	10	1368
SX4	Sheskin	84	529
SX4	Mannin	36	1292
SAND DUNE AND STRANDLINE			
SD2a	Lettermac	44	365
SD2a	Lettermac	74	395
SD2a	Lettermac	124	445
SD2a	Inis Mor	6	1413
SD2b	Mel/Tran	44	44
SD2b	Lunnaigh	10	133
SD2b	Gola	10	276
SD2b	Keadue	35	313
SD2b	Lettermac	115	436
SD2b	Bun/Traw	110	674
SD2b	Iniskea	13	980
SD2b	Dogs Bay	25	1219
SD2b	Mannin	81	1337
SD2b	Mweenish	22	1395
SD2c	Garter Hill	30	718
SD2c	Doo Lough	9	1030
SD2c	Dooaghtry	102	1148
SD2c	Dogs Bay	25	1220
SD2c	Murvey	15	1254
SD2c	Mannin	76	1332
SD2c	Finnish	4	1399

SD3	Mullet	14	738
SD3	Mullet	139	863
SD3	Mullet	154	878
SD3	Dogs Bay	45	1239
SD3	Mannin	79	1335
SD3	Mweenish	16	1389
SD3	Inis Mor	5	1412
SD3	Inis Mor	17	1424
SD4a	Mel/Tran	15	15
SD4a	Lettermac	62	383
SD4a	Sheskin	102	547
SD4a	Bun/Traw	44	608
SD4a	Mullet	4	728
SD4a	Mullet	15	739
SD4a	Mullet	18	742
SD4a	Mullet	46	770
SD4a	Mullet	48	772
SD4a	Mullet	146	870
SD4a	Mullet	192	916
SD4a	Kinrovar	10	958
SD4a	Omey	9	1157
SD4a	Mannin	7	1263
SD4a	Mannin	75	1331
SD4a	Mason	6	1364
SD4a	Finnish	1	1396
SD4b	Mel/Tran	18	18
SD4b	Keadue	43	321
SD4b	Mullet	2	726
SD4b	Mullet	206	930
SD4b	Doo Lough	4	1025
SD4b	Doo Lough	10	1031
SD4b	Omey	18	1166
SD4b	Mannin	42	1298
SD4b	Mason	15	1373
SD4b	Finnish	3	1398
SD4b	Inis Meain	3	1432
SD4b	Inis Meain	14	1443
SD4b	Inis Oirr	4	1449
SD4b	Inis Oirr	7	1452
SD5	Lunnaigh	103	226
SD5	Lunnaigh	141	264
SD5b	Keadue	9	287
SD5c	Keadue	34	312
SD6a	Mel/Tran	38	38
SD6a	Lettermac	106	427
SD6a	Sheskin	17	462
SD6a	Bun/Traw	4	568
SD6a	Bun/Traw	5	569
SD6a	Bun/Traw	34	598
SD6a	Bun/Traw	41	605
SD6a	Bun/Traw	103	667
SD6a	Bun/Traw	109	673
SD6a	Garter Hill	5	693
SD6a	Garter Hill	35	723
SD6a	Mullet	8	732
SD6a	Mullet	49	773
SD6a	Mullet	90	814
SD6a	Mullet	122	846
SD6a	Mullet	140	864
SD6a	Mullet	201	925
SD6a	Mullet	204	928
SD6a	Kinrovar	9	957
SD6a	Kinrovar	11	959
SD6a	Keel Lough	24	1017
SD6a	Doo Lough	5	1026
SD6a	Dooaghtry	14	1060
SD6a	Dooaghtry	15	1061
SD6a	Dooaghtry	69	1115
SD6a	Dogs Bay	39	1233
SD6a	Mannin	25	1281
SD6a	Mannin	49	1305
SD6a	Inis Meain	7	1436
SD6a	Inis Meain	8	1437
SD6a	Inis Oirr	8	1453
SD6c	Mel/Tran	103	103
SD6c	Lunnaigh	142	265
SD6d	Mel/Tran	17	17
SD6d	Mel/Tran	102	102

SD6d	Lunnaigh	34	157
SD6d	Lunnaigh	36	159
SD6d	Lunnaigh	98	221
SD6d	Lunnaigh	101	224
SD6d	Lunnaigh	110	233
SD6d	Gola	7	273
SD6d	Lettermac	21	342
SD6d	Lettermac	46	367
SD6d	Lettermac	117	438
SD6d	Sheskin	20	465
SD6d	Bun/Traw	6	570
SD6d	Bun/Traw	17	581
SD6d	Bun/Traw	37	601
SD6d	Garter Hill	15	703
SD6d	Garter Hill	19	707
SD6d	Mullet	16	740
SD6d	Mullet	155	879
SD6d	Mullet	191	915
SD6d	Mullet	223	947
SD6d	Keel Lough	4	997
SD6d	Dooaghtry	52	1098
SD6d	Dogs Bay	41	1235
SD6d	Mannin	40	1296
SD6d	Mannin	77	1333
SD6d	Inis Mor	15	1422
SD6e	Lettermac	27	348
SD6e	Sheskin	61	506
SD6e	Bun/Traw	21	585
SD6e	Bun/Traw	35	599
SD6e	Bun/Traw	38	602
SD6e	Bun/Traw	39	603
SD6e	Garter Hill	7	695
SD6e	Dooaghtry	70	1116
SD6e	Inis Mor	7	1414
SD6e	Inis Mor	8	1415
SD6g	Mullet	51	775
SD7a	Mel/Tran	13	13
SD7a	Mel/Tran	76	76
SD7a	Mel/Tran	77	77
SD7a	Mel/Tran	81	81
SD7a	Mel/Tran	98	98
SD7a	Mel/Tran	100	100
SD7a	Mel/Tran	104	104
SD7a	Lunnaigh	35	158
SD7a	Lunnaigh	96	219
SD7a	Lunnaigh	99	222
SD7a	Lunnaigh	106	229
SD7a	Lunnaigh	126	249
SD7a	Gola	9	275
SD7a	Lettermac	42	363
SD7a	Lettermac	60	381
SD7a	Lettermac	61	382
SD7a	Lettermac	104	425
SD7a	Sheskin	19	464
SD7a	Sheskin	21	466
SD7a	Sheskin	22	467
SD7a	Sheskin	101	546
SD7a	Bun/Traw	38	600
SD7a	Bun/Traw	115	679
SD7a	Mullet	10	734
SD7a	Mullet	47	771
SD7a	Mullet	88	812
SD7a	Mullet	143	867
SD7a	Mullet	188	912
SD7a	Mullet	222	946
SD7a	Keel Lough	1	994
SD7a	Inis Mor	14	1421
SD7a	Inis Meain	13	1442
SD7a	Inis Oirr	6	1451
SD7d	Sheskin	18	463
SD7d	Sheskin	26	471
SD7d	Sheskin	100	545
SD7d	Keel Lough	21	1014
SD7d	Dooaghtry	71	1117
SD7d	Inis Meain	2	1431
SD8a	Mel/Tran	21	21
SD8a	Mel/Tran	29	29
SD8a	Mel/Tran	30	30

SD8g	Omey	28	1176
SD8g	Mannin	2	1258
SD8g	Mannin	73	1329
SD8g	Mannin	83	1339
SD8g	Mannin	95	1351
SD8g	Mweenish	10	1383
SD8h	Lettermac	18	339
SD8h	Lettermac	36	357
SD8h	Bun/Traw	2	566
SD8h	Bun/Traw	28	592
SD8h	Bun/Traw	31	595
SD8h	Bun/Traw	58	622
SD8h	Mullet	72	796
SD8h	Mullet	107	831
SD8h	Mullet	138	862
SD8h	Mullet	177	901
SD8h	Kinrovar	19	967
SD8h	Omey	6	1156
SD8h	Omey	30	1178
SD8i	Mel/Tran	16	16
SD8i	Mel/Tran	105	105
SD8i	Lettermac	38	359
SD8i	Mullet	3	727
SD8i	Mullet	141	865
SD8i	Mullet	147	871
SD8i	Mullet	152	876
SD8i	Mullet	156	880
SD8i	Mullet	159	883
SD8i	Mullet	161	885
SD8i	Mullet	163	887
SD8i	Keel Lough	2	995
SD8i	Dooaghtry	16	1062
SD8i	Omey	10	1158
SD8i	Omey	11	1159
SD8i	Mannin	21	1277
SD8i	Mannin	22	1278
SD8i	Mannin	23	1279
SD8i	Mannin	26	1282
SD8i	Mannin	27	1283
SD8i	Mannin	74	1330
SD8i	Mweenish	13	1386
SD8i	Inis Meain	5	1434
SD8i	Inis Meain	6	1435
SD8i	Inis Meain	9	1438
SD9	Keadue	13	291
SD9c	Mel/Tran	20	20
SD9c	Mel/Tran	71	71
SD9c	Mel/Tran	91	91
SD9c	Mel/Tran	92	92
SD9c	Mel/Tran	94	94
SD9c	Lunnaigh	130	253
SD9c	Lunnaigh	133	256
SD9c	Keadue	14	292
SD9c	Keadue	36	314
SD9c	Lettermac	41	362
SD9c	Lettermac	67	388
SD9c	Sheskin	3	448
SD9c	Sheskin	23	468
SD9c	Sheskin	32	477
SD9c	Sheskin	94	539
SD9c	Sheskin	115	560
SD9c	Bun/Traw	112	676
SD10a	Bun/Traw	23	587
SD10a	Bun/Traw	83	647
SD10a	Bun/Traw	84	648
SD10a	Mullet	142	866
SD10a	Mullet	193	917
SD10a	Kinrovar	5	953
SD10a	Doo Lough	8	1029
SD10a	Kinrovar	8	956
SD15	Sheskin	26	473
SD18a	Mel/Tran	14	14
SD18a	Lettermac	58	379
SDX1	Sheskin	15	460
SDX1	Sheskin	16	461
SDX1	Mullet	208	929
SALT MARSH			
SM10	Lunnaigh	113	236

SM13	Dooaghtry	19	1065
SM13b	Lunnaigh	68	191
SM13b	Mullet	17	741
SM13b	Dooaghtry	84	1110
SM13b	Finnish	6	1401
SM13d	Lunnaigh	67	190
SM13d	Lunnaigh	112	235
SM13d	Lettermac	110	431
SM16	Lettermac	73	394
SM16b	Lunnaigh	64	187
SM16b	Lunnaigh	69	192
SM16b	Lunnaigh	73	196
SM16b	Keadue	40	318
SM16b	Lettermac	6	327
SM16b	Lettermac	116	439
SM16b	Sheskin	99	544
SM16b	Dogs Bay	24	1218
SM16c	Mel/Tran	42	42
SM16c	Lunnaigh	68	189
SM16c	Lunnaigh	78	201
SM16c	Keadue	39	317
SM16c	Dooaghtry	28	1074
SM16c	Dogs Bay	21	1215
SM16e	Lunnaigh	72	195
SM16e	Mullet	1	725
SM16e	Mullet	23	747
SM16e	Dooaghtry	25	1071
SM16e	Dooaghtry	28	1072
SM16e	Dooaghtry	33	1079
SM16e	Dooaghtry	34	1080
SM16e	Orney	1	1149
SM16e	Orney	2	1150
SM18	Lunnaigh	63	186
SM18a	Lunnaigh	65	188
SM18a	Lunnaigh	71	194
SM18a	Lettermac	109	430
SM18a	Lettermac	119	440
SM18a	Dooaghtry	65	1111
SM19	Lunnaigh	114	237
SM19	Sheskin	113	558
SM20	Dooaghtry	30	1076
UPLAND GRASSLANDS			
U4b	Mel/Tran	115	115
U4b	Lettermac	13	334
U4b	Lettermac	16	337
WOODLAND			
W22	Mel/Tran	95	95
W22	Murvey	16	1255
W24	Bun/Traw	52	616
W24	Bun/Traw	79	643
WX1	Bun/Traw	80	644
WX2	Mel/Tran	122	122
WX3	Lettermac	99	420
WX3	Dooaghtry	44	1090
WEED COMMUNITIES			
WD1	Gola	4	270
WD1	Lettermac	55	380
WD1	Sheskin	104	549
WD1	Bun/Traw	57	621
WD1	Garter Hill	15	704
WD1	Mullet	55	792
WD1	Mullet	73	797
WD1	Mullet	74	798
WD1	Mullet	145	869
WD1	Mullet	190	914
WD1	Kinrovar	17	965
WD1	Dooaghtry	6	1052
WD1	Mannin	54	1320

APPENDIX 6

PLANT COMMUNITY ALLOCATIONS

COMMUNITY ALLOCATIONS

Site	SiteQ	Q no.	NVC	Photo	Site	Site Q	Q no.	NVC	Photo
Mel/Tran	1	1	MC8a	903.9	Mel/Tran	51	51	SX3a	
Mel/Tran	2	2	MC9a		Mel/Tran	52	52	SD8a	
Mel/Tran	3	3	MC9a		Mel/Tran	53	53	SD8a	
Mel/Tran	4	4	H7e		Mel/Tran	54	54	MG5c	
Mel/Tran	5	5	M24c		Mel/Tran	55	55	MG5c	
Mel/Tran	6	6	M2b		Mel/Tran	56	56	H7e	
Mel/Tran	7	7	H7e		Mel/Tran	57	57	H7e	
Mel/Tran	8	8	SX3c		Mel/Tran	58	58	M2b	
Mel/Tran	9	9	MX1		Mel/Tran	59	59	M2b	
Mel/Tran	10	10	MG11d		Mel/Tran	60	60	H10	
Mel/Tran	11	11	MG11d		Mel/Tran	61	61	MG11d	
Mel/Tran	12	12	SD8d		Mel/Tran	62	62	MG11d	
Mel/Tran	13	13	SD7a		Mel/Tran	63	63	MG11d	
Mel/Tran	14	14	SD18a	903.14	Mel/Tran	64	64	M29	
Mel/Tran	15	15	SD4a		Mel/Tran	65	65	SD8a	
Mel/Tran	16	16	SD8i	903.13	Mel/Tran	66	66	SD8e	
Mel/Tran	17	17	SD6d	903.15	Mel/Tran	67	67	SX3b	500.17
Mel/Tran	18	18	SD4b		Mel/Tran	68	68	SX3b	
Mel/Tran	19	19	SD8g		Mel/Tran	69	69	MG11d	904.23/24
Mel/Tran	20	20	SD9c		Mel/Tran	70	70	SD8c	
Mel/Tran	21	21	SD8a	903.16/17	Mel/Tran	71	71	SD9c	500.15
Mel/Tran	22	22	H7e	903.20	Mel/Tran	72	72	SD8a	
Mel/Tran	23	23	SX3c	903.21	Mel/Tran	73	73	SD8g	
Mel/Tran	24	24	MG5c		Mel/Tran	74	74	SX3a	
Mel/Tran	25	25	M28a	500.2	Mel/Tran	75	75	SD8c	904.23
Mel/Tran	26	26	M28a	903.23	Mel/Tran	76	76	SD7a	
Mel/Tran	27	27	MG5d		Mel/Tran	77	77	SD7a	500.18
Mel/Tran	28	28	S23b	500.3	Mel/Tran	78	78	M13b	500.2
Mel/Tran	29	29	SD8a		Mel/Tran	79	79	SD8g	
Mel/Tran	30	30	SD8a	903.25	Mel/Tran	80	80	SD8d	
Mel/Tran	31	31	S19c	500.4 500.6	Mel/Tran	81	81	SD7a	
Mel/Tran	32	32	SD8a	904.5	Mel/Tran	82	82	SD8a	
Mel/Tran	33	33	SD8d	904.7	Mel/Tran	83	83	SD8d	
Mel/Tran	34	34	SD8a	904.7	Mel/Tran	84	84	SD8g	
Mel/Tran	35	35	S19a	500.9	Mel/Tran	85	85	SD8g	
Mel/Tran	36	36	SX3b		Mel/Tran	86	86	S23b	904.26
Mel/Tran	37	37	SD8b		Mel/Tran	87	87	MG11d	
Mel/Tran	38	38	SD6a	500.7	Mel/Tran	88	88	SD8d	
Mel/Tran	39	39	MC1a	500.11	Mel/Tran	89	89	SX3a	
Mel/Tran	40	40	SD8b		Mel/Tran	90	90	SD8g	
Mel/Tran	41	41	MC9a		Mel/Tran	91	91	SD9c	
Mel/Tran	42	42	SM16c	500.12	Mel/Tran	92	92	SD9c	
Mel/Tran	43	43	MG11d		Mel/Tran	93	93	H7a	
Mel/Tran	44	44	SD2b		Mel/Tran	94	94	SD9c	
Mel/Tran	45	45	SX3a		Mel/Tran	95	95	W22	
Mel/Tran	46	46	MG11d		Mel/Tran	96	96	MC9	
Mel/Tran	47	47	SX3a		Mel/Tran	97	97	SX3b	
Mel/Tran	48	48	SX3a		Mel/Tran	98	98	SD7a	904.28/29
Mel/Tran	49	49	S4c		Mel/Tran	99	99	SX3a	904.31
Mel/Tran	50	50	S23a		Mel/Tran	100	100	SD7a	

Site	SiteQ	Q no.	NVC	Photo
Mel/Tran	101	101	SD8d	
Mel/Tran	102	102	SD6d	
Mel/Tran	103	103	SD6c	
Mel/Tran	104	104	SD7a	
Mel/Tran	105	105	SD8i	
Mel/Tran	106	106	S23b	
Mel/Tran	107	107	SD8a	
Mel/Tran	108	108	SX3b	
Mel/Tran	109	109	SD8b	
Mel/Tran	110	110	MG11b	905.1/2
Mel/Tran	111	111	SD8g	
Mel/Tran	112	112	SX3a	
Mel/Tran	113	113	MC2	
Mel/Tran	114	114	SD8f	905.5
Mel/Tran	115	115	U4b	
Mel/Tran	116	116	SD8g	
Mel/Tran	117	117	SD8g	905.7/8
Mel/Tran	118	118	MX1	
Mel/Tran	119	119	MC3	905.9
Mel/Tran	120	120	M29	
Mel/Tran	121	121	SD8g	
Mel/Tran	122	122	WX2	903.18
Mel/Tran	123	123	A7a	
Lunnaigh	1	124	H7c	905.11/12
Lunnaigh	2	125	MX1	
Lunnaigh	3	126	MC8	
Lunnaigh	4	127	MX1	
Lunnaigh	5	128	MG5e	905.14
Lunnaigh	6	129	M24c	
Lunnaigh	7	130	MX1	
Lunnaigh	8	131	MG5d	
Lunnaigh	9	132	MCX1	905.15
Lunnaigh	10	133	SD2b	
Lunnaigh	11	134	MX1	
Lunnaigh	12	135	MG11d	
Lunnaigh	13	136	CG10b	905.17/18
Lunnaigh	14	137	MX1	905.18/19
Lunnaigh	15	138	H7c	906.32
Lunnaigh	16	139	MC10a	
Lunnaigh	17	140	MC8	
Lunnaigh	18	141	S23a	905.19
Lunnaigh	19	142	S23c	
Lunnaigh	20	143	MG11d	
Lunnaigh	21	144	SD8c	905.20
Lunnaigh	22	145	SD8c	
Lunnaigh	23	146	SD8d	
Lunnaigh	24	147	SD8a	
Lunnaigh	25	148	SD8a	500.22
Lunnaigh	26	149	SD8g	
Lunnaigh	27	150	S23b	

Site	Site Q	Q no.	NVC	Photo
Lunnaigh	28	151	S23a	905.21
Lunnaigh	29	152	S23b	500.23/24/25
Lunnaigh	30	153	SX3b	
Lunnaigh	31	154	SD8a	
Lunnaigh	32	155	SD8e	
Lunnaigh	33	156	SD8g	906.16
Lunnaigh	34	157	SD6d	
Lunnaigh	35	158	SD7a	
Lunnaigh	36	159	SD6d	
Lunnaigh	37	160	MG11b	
Lunnaigh	38	161	S23b	906.19
Lunnaigh	39	162	SD8e	906.19
Lunnaigh	40	163	SD8e	
Lunnaigh	41	164	SX3a	
Lunnaigh	42	165	MG11d	
Lunnaigh	43	166	S19d	
Lunnaigh	44	167	SD8d	
Lunnaigh	45	168	SX3b	
Lunnaigh	46	169	SD8g	
Lunnaigh	47	170	SD8d	
Lunnaigh	48	171	SD8a	906.20/21
Lunnaigh	49	172	SD8e	
Lunnaigh	50	173	SD8a	
Lunnaigh	51	174	MG5d	
Lunnaigh	52	175	SX3b	
Lunnaigh	53	176	SD8g	906.24
Lunnaigh	54	177	MX1	
Lunnaigh	55	178	S19a	
Lunnaigh	56	179	MG10a	906.25
Lunnaigh	57	180	SD8g	
Lunnaigh	58	181	SD8c	
Lunnaigh	59	182	MG11d	906.28/29
Lunnaigh	60	183	MC10b	906.30/31
Lunnaigh	61	184	S4a	
Lunnaigh	62	185	MG11a	500.26
Lunnaigh	63	186	SM18	
Lunnaigh	64	187	SM16b	
Lunnaigh	65	188	SM18a	
Lunnaigh	66	189	SM16c	
Lunnaigh	67	190	SM13d	500.27/28/30
Lunnaigh	68	191	SM13b	500.29
Lunnaigh	69	192	SM16b	
Lunnaigh	70	193	S21a	
Lunnaigh	71	194	SM18a	
Lunnaigh	72	195	SM16e	
Lunnaigh	73	196	SM16b	
Lunnaigh	74	197	SD8e	500.31
Lunnaigh	75	198	MG11d	500.31
Lunnaigh	76	199	MG11d	
Lunnaigh	77	200	SD8a	

Site	SiteQ	Q no.	NVC	Photo
Lunnaigh	78	201	SM16c	
Lunnaigh	79	202	SD8g	
Lunnaigh	80	203	SD8c	
Lunnaigh	81	204	SD8b	
Lunnaigh	82	205	SD8b	
Lunnaigh	83	206	SD8c	
Lunnaigh	84	207	SD8b	
Lunnaigh	85	208	S14	500.33
Lunnaigh	86	209	SD8g	
Lunnaigh	87	210	SD8b	
Lunnaigh	88	211	S4e	
Lunnaigh	89	212	SD8b	
Lunnaigh	90	213	SD8g	
Lunnaigh	91	214	MG5b	
Lunnaigh	92	215	SD8a	
Lunnaigh	93	216	SD8a	
Lunnaigh	94	217	SD8b	
Lunnaigh	95	218	SD8b	
Lunnaigh	96	219	SD7a	
Lunnaigh	97	220	SD8a	
Lunnaigh	98	221	SD6d	
Lunnaigh	99	222	SD7a	
Lunnaigh	100	223	SD8c	
Lunnaigh	101	224	SD6d	
Lunnaigh	102	225	SD8c	500.34/35
Lunnaigh	103	226	SD5	
Lunnaigh	104	227	SD8d	
Lunnaigh	105	228	SD8b	
Lunnaigh	106	229	SD7a	
Lunnaigh	107	230	SD8b	
Lunnaigh	108	231	MG5d	
Lunnaigh	109	232	SD8b	
Lunnaigh	110	233	SD6d	
Lunnaigh	111	234	SD8c	
Lunnaigh	112	235	SM13d	906.35
Lunnaigh	113	236	SM10	906.35
Lunnaigh	114	237	SM19	906.37
Lunnaigh	115	238	MG5d	
Lunnaigh	116	239	SD8g	
Lunnaigh	117	240	SD8b	
Lunnaigh	118	241	MC10a	
Lunnaigh	119	242	SD8g	
Lunnaigh	120	243	SD8b	
Lunnaigh	121	244	SD8c	
Lunnaigh	122	245	SD8b	
Lunnaigh	123	246	SX3a	
Lunnaigh	124	247	S19d	
Lunnaigh	125	248	MG11d	
Lunnaigh	126	249	SD7a	
Lunnaigh	127	250	AX1b	

Site	Site Q	Q no.	NVC	Photo
Lunnaigh	128	251	S19c	
Lunnaigh	129	252	SX3a	907.5/6/7/8
Lunnaigh	130	253	SD9c	
Lunnaigh	131	254	S19a	
Lunnaigh	132	255	MG11c	
Lunnaigh	133	256	SD9c	
Lunnaigh	134	257	SX3a	907.12
Lunnaigh	135	258	SX3a	
Lunnaigh	136	259	MG11d	
Lunnaigh	137	260	MG11d	
Lunnaigh	138	261	S20a	
Lunnaigh	139	262	MX1	
Lunnaigh	140	263	M24c	
Lunnaigh	141	264	SD5	
Lunnaigh	142	265	SD6c	
Lunnaigh	143	266	AX1b	
Gola	1	267	SD8a	
Gola	2	268	SD8c	906.13
Gola	3	269	SD8a	
Gola	4	270	WD1	
Gola	5	271	SD8b	
Gola	6	272	SD8c	
Gola	7	273	SD6d	
Gola	8	274	MG11a	
Gola	9	275	SD7a	
Gola	10	276	SD2b	
Gola	11	277	MG11b	
Gola	12	278	MCX1	906.14
Keadue	1	279	SD8g	
Keadue	2	280	SD8a	
Keadue	3	281	SD8a	
Keadue	4	282	SD8c	
Keadue	5	283	MC10a	907.28
Keadue	6	284	SD8b	
Keadue	7	285	MG11d	
Keadue	8	286	SX3a	
Keadue	9	287	SD5b	
Keadue	10	288	SD8a	
Keadue	11	289	SD8b	
Keadue	12	290	MG5e	907.34 501.6
Keadue	13	291	SD9	
Keadue	14	292	SD9c	
Keadue	15	293	SD8b	
Keadue	16	294	SD8b	
Keadue	17	295	CGX2	
Keadue	18	296	SD8c	907.35
Keadue	19	297	SD8b	
Keadue	20	298	SD8b	
Keadue	21	299	SD8g	
Keadue	22	300	MG11a	907.36

Site	SiteQ	Q no.	NVC	Photo	Site	Site Q	Q no.	NVC	Photo
Keadue	23	301	H7d		Lettermac	30	351	SX3b	
Keadue	24	302	M28a		Lettermac	31	352	CG13b	
Keadue	25	303	SX3c		Lettermac	32	353	SX3a	
Keadue	26	304	SX3c	501.7	Lettermac	33	354	SX3c	
Keadue	27	305	MG11d		Lettermac	34	355	MG5a	
Keadue	28	306	M28a		Lettermac	35	356	CG13b	
Keadue	29	307	SX3a		Lettermac	36	357	SD8h	
Keadue	30	308	SD8a		Lettermac	37	358	SD8b	
Keadue	31	309	SD8g	501.8	Lettermac	38	359	SD8i	
Keadue	32	310	S23b		Lettermac	39	360	SD8a	
Keadue	33	311	SD8b		Lettermac	40	361	SD8g	
Keadue	34	312	SD5c	501.2	Lettermac	41	362	SD9c	
Keadue	35	313	SD2b		Lettermac	42	363	SD7a	
Keadue	36	314	SD9c		Lettermac	43	364	SD8c	
Keadue	37	315	SD8d	908.4	Lettermac	44	365	SD2a	
Keadue	38	316	SD8b		Lettermac	45	366	SD8g	
Keadue	39	317	SM16c		Lettermac	46	367	SD6d	
Keadue	40	318	SM16b		Lettermac	47	368	S19c	
Keadue	41	319	SD8c		Lettermac	48	369	MG11d	
Keadue	42	320	SX3a		Lettermac	49	370	MG11c	
Keadue	43	321	SD4b		Lettermac	50	371	SX2	
Lettermac	1	322	MC10a		Lettermac	51	372	MG7e	
Lettermac	2	323	M24c		Lettermac	52	373	MG7e	
Lettermac	3	324	H10		Lettermac	53	374	MG7a	
Lettermac	4	325	SX3a		Lettermac	54	375	MG5c	
Lettermac	5	326	M24c		Lettermac	55	376	MG5b	
Lettermac	6	327	SM16b		Lettermac	56	377	MG5d	
Lettermac	7	328	M24c		Lettermac	57	378	SX3a	
Lettermac	8	329	MX1		Lettermac	58	379	SD18a	
Lettermac	9	330	H7d	908.9/10	Lettermac	59	380	WD1	
Lettermac	10	331	M2b		Lettermac	60	381	SD7a	
Lettermac	11	332	SX3a		Lettermac	61	382	SD7a	
Lettermac	12	333	SX3c		Lettermac	62	383	SD4a	501.26
Lettermac	13	334	U4b		Lettermac	63	384	SD8a	
Lettermac	14	335	MG11d	501.9	Lettermac	64	385	SD8c	
Lettermac	15	336	H7d	908.13/14	Lettermac	65	386	SD8b	
Lettermac	16	337	U4b	908.16	Lettermac	66	387	MG5b	501.27
Lettermac	17	338	SD8g		Lettermac	67	388	SD9c	
Lettermac	18	339	SD8h		Lettermac	68	389	SD8g	
Lettermac	19	340	MG5d		Lettermac	69	390	SD8a	
Lettermac	20	341	MG11b		Lettermac	70	391	SD8e	
Lettermac	21	342	SD6d		Lettermac	71	392	MG5a	
Lettermac	22	343	SD8a		Lettermac	72	393	MG5e	
Lettermac	23	344	SD8a		Lettermac	73	394	SM16	
Lettermac	24	345	MG5d		Lettermac	74	395	SD2a	
Lettermac	25	346	SX3a		Lettermac	75	396	MG11c	
Lettermac	26	347	SD8e	501.11	Lettermac	76	397	MG11c	
Lettermac	27	348	SD6e		Lettermac	77	398	MG11b	
Lettermac	28	349	SD8g		Lettermac	78	399	MG11a	
Lettermac	29	350	SD8e		Lettermac	79	400	SX3a	

Site	SiteQ	Q no.	NVC	Photo	Site	Site Q	Q no.	NVC	Photo
Lettermac	80	401	S21		Sheskin	6	451	SD8f	
Lettermac	81	402	S19c		Sheskin	7	452	SD8g	912.5/6/8
Lettermac	82	403	SX3a		Sheskin	8	453	SX3b	
Lettermac	83	404	MG7e		Sheskin	9	454	H7c	
Lettermac	84	405	MG7a		Sheskin	10	455	H7c	912.9
Lettermac	85	406	MG11d		Sheskin	11	456	MG11d	
Lettermac	86	407	S14a		Sheskin	12	457	MC10a	502
Lettermac	87	408	MG5b		Sheskin	13	458	SD8e	
Lettermac	88	409	SX3c		Sheskin	14	459	MG5c	
Lettermac	89	410	A22a	501.28	Sheskin	15	460	SDX1	912.12
Lettermac	90	411	S4e		Sheskin	16	461	SDX1	
Lettermac	91	412	SX3c		Sheskin	17	462	SD6a	
Lettermac	92	413	MG5b		Sheskin	18	463	SD7d	
Lettermac	93	414	MG11d		Sheskin	19	464	SD7a	
Lettermac	94	415	S9b		Sheskin	20	465	SD6d	
Lettermac	95	416	MG11d		Sheskin	21	466	SD7a	
Lettermac	96	417	M10a		Sheskin	22	467	SD7a	502.1
Lettermac	97	418	MG5b	501.29	Sheskin	23	468	SD9c	
Lettermac	98	419	SX3c		Sheskin	24	469	AX1b	
Lettermac	99	420	WX3		Sheskin	25	470	SX3a	
Lettermac	100	421	SX3c		Sheskin	26	471	SD7d	912.16 502.2
Lettermac	101	422	MG5a		Sheskin	27	472	SD8c	
Lettermac	102	423	SD8g		Sheskin	28	473	SD15	
Lettermac	103	424	SD8c		Sheskin	29	474	SX3c	
Lettermac	104	425	SD7a	501.3	Sheskin	30	475	SX3a	
Lettermac	105	426	MG5b		Sheskin	31	476	SX3a	
Lettermac	106	427	SD6a		Sheskin	32	477	SD9c	
Lettermac	107	428	MG5b		Sheskin	33	478	SX3c	
Lettermac	108	429	S4d	501.32	Sheskin	34	479	SD8a	
Lettermac	109	430	SM18a		Sheskin	35	480	H7c	
Lettermac	110	431	SM13d		Sheskin	36	481	SX3b	
Lettermac	111	432	M24c		Sheskin	37	482	S8a	
Lettermac	112	433	M23b		Sheskin	38	483	S19d	
Lettermac	113	434	MG5c		Sheskin	39	484	SX3a	
Lettermac	114	435	MG11c		Sheskin	40	485	SD8a	
Lettermac	115	436	SD2b		Sheskin	41	486	SX3c	
Lettermac	116	437	SD8e		Sheskin	42	487	S23c	
Lettermac	117	438	SD6d		Sheskin	43	488	MC3	
Lettermac	118	439	SM16b		Sheskin	44	489	H7c	912.19
Lettermac	119	440	SM18a		Sheskin	45	490	MG5d	
Lettermac	120	441	SX3c		Sheskin	46	491	MX1	
Lettermac	121	442	MG5c		Sheskin	47	492	M24c	
Lettermac	122	443	SD8e		Sheskin	48	493	M24c	
Lettermac	123	444	SD8d		Sheskin	49	494	MX1	
Lettermac	124	445	SD2a		Sheskin	50	495	M13b	
Sheskin	1	446	SD8e		Sheskin	51	496	MG5c	
Sheskin	2	447	SD8g	912.2	Sheskin	52	497	SD8a	
Sheskin	3	448	SD9c		Sheskin	53	498	SX3c	
Sheskin	4	449	MG5a		Sheskin	54	499	S23c	
Sheskin	5	450	SX3a		Sheskin	56	500	MG11d	

Site	SiteQ	Q no.	NVC	Photo
Sheskin	56	501	SD8g	
Sheskin	57	502	SD8f	
Sheskin	58	503	SD8e	
Sheskin	59	504	SD8a	
Sheskin	60	505	SX3b	
Sheskin	61	506	SD6e	
Sheskin	62	507	SD8a	
Sheskin	63	508	SX3c	
Sheskin	64	509	SX3b	
Sheskin	65	510	MG5d	
Sheskin	66	511	SD8e	
Sheskin	67	512	SD8e	912.21
Sheskin	68	513	SD8a	
Sheskin	69	514	MG11d	
Sheskin	70	515	S9b	
Sheskin	71	516	M10b	
Sheskin	72	517	SX1b	?913.6
Sheskin	73	518	MX1	
Sheskin	74	519	M13b	502.6/7
Sheskin	75	520	MG5d	
Sheskin	76	521	MX1	
Sheskin	77	522	MX1	502.8/9
Sheskin	78	523	SX3c	
Sheskin	79	524	MX1	502.10
Sheskin	80	525	SD8c	
Sheskin	81	526	MG11d	502.12
Sheskin	82	527	MX1	
Sheskin	83	528	MX1	913.1 502.13
Sheskin	84	529	SX4	913.12
Sheskin	85	530	S9b	
Sheskin	86	531	S4c	502.14
Sheskin	87	532	M13b	
Sheskin	88	533	S4a	
Sheskin	89	534	S20	
Sheskin	90	535	SX3c	
Sheskin	91	536	MG5a	
Sheskin	92	537	SD8a	
Sheskin	93	538	SD8e	
Sheskin	94	539	SD9c	502.15
Sheskin	95	540	SX2	
Sheskin	96	541	SD8a	
Sheskin	97	542	MG11d	
Sheskin	98	543	SD8e	
Sheskin	99	544	SM16b	
Sheskin	100	545	SD7d	
Sheskin	101	546	SD7a	
Sheskin	102	547	SD4a	
Sheskin	103	548	SD8e	
Sheskin	104	549	WD1	
Sheskin	105	550	SD8a	

Site	Site Q	Q no.	NVC	Photo
Sheskin	106	551	A7a	
Sheskin	107	552	S9b	
Sheskin	108	553	MG5c	
Sheskin	109	554	S9	
Sheskin	110	555	SX3c	
Sheskin	111	556	M24c	
Sheskin	112	557	MX1	
Sheskin	113	558	SM19	
Sheskin	114	559	S19d	
Sheskin	115	560	SD9c	
Sheskin	116	561	SX3a	
Sheskin	117	562	SD8e	
Sheskin	118	563	MG5d	
Sheskin	119	564	SX3a	913.20
Bun/Traw	1	565	SD8b	
Bun/Traw	2	566	SD8h	
Bun/Traw	3	567	S23b	
Bun/Traw	4	568	SD6a	913.22
Bun/Traw	5	569	SD6a	913.23
Bun/Traw	6	570	SD6d	913.24
Bun/Traw	7	571	SD8c	
Bun/Traw	8	572	SD8a	
Bun/Traw	9	573	SX3a	
Bun/Traw	10	574	MG11d	
Bun/Traw	11	575	SD8d	
Bun/Traw	12	576	MG11d	
Bun/Traw	13	577	SX3a	
Bun/Traw	14	578	SD8e	
Bun/Traw	15	579	SX3a	
Bun/Traw	16	580	SD8e	
Bun/Traw	17	581	SD6d	
Bun/Traw	18	582	SX3a	
Bun/Traw	19	583	MG11b	914.2
Bun/Traw	20	584	SD8g	914.5/6
Bun/Traw	21	585	SD6e	
Bun/Traw	22	586	SD8a	
Bun/Traw	23	587	SD10a	
Bun/Traw	24	588	MG10a	
Bun/Traw	25	589	MG11a	
Bun/Traw	26	590	CG10b	
Bun/Traw	27	591	MG11d	
Bun/Traw	28	592	SD8h	
Bun/Traw	29	593	S23b	
Bun/Traw	30	594	S23b	
Bun/Traw	31	595	SD8h	
Bun/Traw	32	596	SD8a	
Bun/Traw	33	597	SD8a	
Bun/Traw	34	598	SD6a	
Bun/Traw	35	599	SD6e	
Bun/Traw	36	600	SD7a	

Site	SiteQ	Q no.	NVC	Photo
Bun/Traw	37	601	SD6d	
Bun/Traw	38	602	SD6e	
Bun/Traw	39	603	SD6e	
Bun/Traw	40	604	SD8c	
Bun/Traw	41	605	SD6a	
Bun/Traw	42	606	SD8c	
Bun/Traw	43	607	SD8e	
Bun/Traw	44	608	SD4a	
Bun/Traw	45	609	SD8a	502.20
Bun/Traw	46	610	MGX1	
Bun/Traw	47	611	SD8a	
Bun/Traw	48	612	S23a	
Bun/Traw	49	613	SX3a	
Bun/Traw	50	614	MG5d	502.21
Bun/Traw	51	615	MG5d	
Bun/Traw	52	616	W24	
Bun/Traw	53	617	SD8c	
Bun/Traw	54	618	SD8a	
Bun/Traw	55	619	SD8c	502.23
Bun/Traw	56	620	SD8b	
Bun/Traw	57	621	WD1	
Bun/Traw	58	622	SD8h	
Bun/Traw	59	623	MG5d	
Bun/Traw	60	624	MG7a	
Bun/Traw	61	625	SD8g	
Bun/Traw	62	626	MG5c	
Bun/Traw	63	627	SX3b	
Bun/Traw	64	628	MX1	914.16/17
Bun/Traw	65	629	MX1	
Bun/Traw	66	630	MX1	
Bun/Traw	67	631	MX1	
Bun/Traw	68	632	S9b	
Bun/Traw	69	633	S19c	
Bun/Traw	70	634	S12a	
Bun/Traw	71	635	SX3c	
Bun/Traw	72	636	S20a	
Bun/Traw	73	637	AX2	
Bun/Traw	74	638	SX3c	
Bun/Traw	75	639	M28b	
Bun/Traw	76	640	MX1	
Bun/Traw	77	641	H7c	
Bun/Traw	78	642	MG5c	
Bun/Traw	79	643	W24	
Bun/Traw	80	644	WX1	
Bun/Traw	81	645	MG5e	
Bun/Traw	82	646	MGX1	
Bun/Traw	83	647	SD10a	
Bun/Traw	84	648	SD10a	
Bun/Traw	85	649	SX3b	
Bun/Traw	86	650	SX3b	

Site	Site Q	Q no.	NVC	Photo
Bun/Traw	87	651	SX1b	914.18
Bun/Traw	88	652	SX1b	
Bun/Traw	89	653	S9b	
Bun/Traw	90	654	MX1	
Bun/Traw	91	655	A11	
Bun/Traw	92	656	SX1a	
Bun/Traw	93	657	S21	
Bun/Traw	94	658	S19a	
Bun/Traw	95	659	AX2	
Bun/Traw	96	660	S9a	
Bun/Traw	97	661	SD8e	
Bun/Traw	98	662	MX1	
Bun/Traw	99	663	SX3c	
Bun/Traw	100	664	AX1a	
Bun/Traw	101	665	S19a	
Bun/Traw	102	666	MG5c	
Bun/Traw	103	667	SD6a	
Bun/Traw	104	668	MG5a	502.24/25
Bun/Traw	105	669	CGX1	914.19 502.26
Bun/Traw	106	670	CGX1	502.27
Bun/Traw	107	671	MG5c	
Bun/Traw	108	672	MG5b	502.28
Bun/Traw	109	673	SD6a	
Bun/Traw	110	674	SD2b	
Bun/Traw	111	675	SD8g	
Bun/Traw	112	676	SD9c	502.29
Bun/Traw	113	677	SD8c	
Bun/Traw	114	678	SD8a	914.24/25
Bun/Traw	115	679	SD7a	
Bun/Traw	116	680	SD8g	
Bun/Traw	117	681	CGX1	
Bun/Traw	118	682	MG11d	
Bun/Traw	119	683	SD8e	
Bun/Traw	120	684	CGX1	
Bun/Traw	121	685	SD8e	
Bun/Traw	122	686	MG11d	
Bun/Traw	123	687	SD8b	
Bun/Traw	124	688	SD8e	
Garter Hill	1	689	SD8a	
Garter Hill	2	690	SD8a	
Garter Hill	3	691	SD8e	
Garter Hill	4	692	SD8c	
Garter Hill	5	693	SD6a	
Garter Hill	6	694	S23a	
Garter Hill	7	695	SD6e	
Garter Hill	8	696	SD8c	
Garter Hill	9	697	S23c	503.31
Garter Hill	10	698	MGX1	
Garter Hill	11	699	S23a	
Garter Hill	12	700	S23c	

Site	SiteQ	Q no.	NVC	Photo	Site	Site Q	Q no.	NVC	Photo
Garter Hill	13	701	MG11d		Mullet	27	751	MG11d	919.5/6
Garter Hill	14	702	SD8a		Mullet	28	752	S21	
Garter Hill	15	703	SD6d		Mullet	29	753	S23c	
Garter Hill	16	704	WD1		Mullet	30	754	S19c	919.4
Garter Hill	17	705	SX3c	503.32	Mullet	31	755	MG11d	919.4
Garter Hill	18	706	SD8c		Mullet	32	756	MG5d	
Garter Hill	19	707	SD6d		Mullet	33	757	S23c	
Garter Hill	20	708	SD8a		Mullet	34	758	SX3b	
Garter Hill	21	709	SD8c	503.33/35	Mullet	35	759	SX2	
Garter Hill	22	710	MX1		Mullet	36	760	SX1b	919.11
Garter Hill	23	711	MG11d	923.13	Mullet	37	761	SD8g	
Garter Hill	24	712	S23a	923.11/12	Mullet	38	762	MG5e	919.13
Garter Hill	25	713	S23a		Mullet	39	763	MG1e	919.15
Garter Hill	26	714	SD8c		Mullet	40	764	SD8c	919.14
Garter Hill	27	715	SD8e		Mullet	41	765	S4e	
Garter Hill	28	716	SD8e		Mullet	42	766	SX3c	
Garter Hill	29	717	SD8c		Mullet	43	767	SX3b	
Garter Hill	30	718	SD2c		Mullet	44	768	SX3b	
Garter Hill	31	719	MG11d		Mullet	45	769	SD8c	
Garter Hill	32	720	MG11d		Mullet	46	770	SD4a	
Garter Hill	33	721	SD8c		Mullet	47	771	SD7a	
Garter Hill	34	722	SD8c		Mullet	48	772	SD4a	
Garter Hill	35	723	SD6a		Mullet	49	773	SD6a	920.2/4 503.20
Garter Hill	36	724	SD8e	923.27	Mullet	50	774	SD8e	920.4
Mullet	1	725	SM16e		Mullet	51	775	SD6g	
Mullet	2	726	SD4b		Mullet	52	776	SD8c	
Mullet	3	727	SD8i		Mullet	53	777	SX3b	503.21/23
Mullet	4	728	SD4a		Mullet	54	778	SD8c	
Mullet	5	729	MG5e		Mullet	55	779	SD8g	
Mullet	6	730	MG5b		Mullet	56	780	MC1a	920.6
Mullet	7	731	SD8d		Mullet	57	781	MC8	
Mullet	8	732	SD6a		Mullet	58	782	SD8g	
Mullet	9	733	MG5b		Mullet	59	783	SD8c	
Mullet	10	734	SD7a		Mullet	60	784	SD8c	
Mullet	11	735	SD8c		Mullet	61	785	SD8c	
Mullet	12	736	SD8b		Mullet	62	786	S23b	
Mullet	13	737	MG5a		Mullet	63	787	SX3b	
Mullet	14	738	SD3		Mullet	64	788	SX3c	
Mullet	15	739	SD4a		Mullet	65	789	SX3b	
Mullet	16	740	SD6d		Mullet	66	790	SD8b	503.22
Mullet	17	741	SM13b		Mullet	67	791	S23a	
Mullet	18	742	SD4a		Mullet	68	792	WD1	
Mullet	19	743	SD8c		Mullet	69	793	MG5d	
Mullet	20	744	SD8c		Mullet	70	794	SD8g	
Mullet	21	745	SD8c		Mullet	71	795	SX3b	
Mullet	22	746	SD8e		Mullet	72	796	SD8h	
Mullet	23	747	SM16e		Mullet	73	797	WD1	
Mullet	24	748	S21a		Mullet	74	798	WD1	
Mullet	25	749	S23c		Mullet	75	799	AX1a	920.12/13
Mullet	26	750	S23c		Mullet	76	800	SX3a	920.12/14

Site	SiteQ	Q no.	NVC	Photo
Mullet	77	801	MG11d	920.12/15
Mullet	78	802	SD8c	
Mullet	79	803	SD8a	
Mullet	80	804	SX3a	
Mullet	81	805	SD8a	
Mullet	82	806	SD8a	920.17
Mullet	83	807	SD8a	
Mullet	84	808	SD8d	
Mullet	85	809	SD8d	
Mullet	86	810	SD8d	
Mullet	87	811	SD8e	
Mullet	88	812	SD7a	
Mullet	89	813	SD8g	
Mullet	90	814	SD6a	
Mullet	91	815	MG11c	920.22
Mullet	92	816	S19c	920.22
Mullet	93	817	SD8a	
Mullet	94	818	SD8a	920.21
Mullet	95	819	SD8a	
Mullet	96	820	SD8c	
Mullet	97	821	SD8c	
Mullet	98	822	SD8a	
Mullet	99	823	SD8a	
Mullet	100	824	SD8g	
Mullet	101	825	SD8g	
Mullet	102	826	SD8g	
Mullet	103	827	SD8e	
Mullet	104	828	SD8d	
Mullet	105	829	MG7a	
Mullet	106	830	MG7a	
Mullet	107	831	SD8h	
Mullet	108	832	MG5b	
Mullet	109	833	SD8g	
Mullet	110	834	SD8g	
Mullet	111	835	SD8d	
Mullet	112	836	MG5b	
Mullet	113	837	MG11d	920.30
Mullet	114	838	SD8g	
Mullet	115	839	SD8c	
Mullet	116	840	SD8a	920.35
Mullet	117	841	S19c	920.33
Mullet	118	842	SX3c	
Mullet	119	843	S23a	921.3/4
Mullet	120	844	S23c	921.3/5
Mullet	121	845	S20	921.3
Mullet	122	846	SD6a	921.7
Mullet	123	847	SD8c	
Mullet	124	848	SX3b	
Mullet	125	849	AX1a	921.13
Mullet	126	850	A13	921.13

Site	Site Q	Q no.	NVC	Photo
Mullet	127	851	A13	921.13
Mullet	128	852	SX3c	
Mullet	129	853	SX3b	
Mullet	130	854	SD8a	
Mullet	131	855	SD8d	
Mullet	132	856	MG11c	
Mullet	133	857	S14a	
Mullet	134	858	MG7a	
Mullet	135	859	MG7e	
Mullet	136	860	MG7e	
Mullet	137	861	SD8c	
Mullet	138	862	SD8h	
Mullet	139	863	SD3	
Mullet	140	864	SD6a	
Mullet	141	865	SD8i	
Mullet	142	866	SD10a	
Mullet	143	867	SD7a	
Mullet	144	868	SD8c	
Mullet	145	869	WD1	
Mullet	146	870	SD4a	
Mullet	147	871	SD8i	
Mullet	148	872	SD8a	
Mullet	149	873	MG11c	
Mullet	150	874	MG11c	
Mullet	151	875	SD8d	
Mullet	152	876	SD8i	
Mullet	153	877	SD8c	
Mullet	154	878	SD3	921.18
Mullet	155	879	SD6d	921.19
Mullet	156	880	SD8i	
Mullet	157	881	SD8a	
Mullet	158	882	SD8e	
Mullet	159	883	SD8i	
Mullet	160	884	SD8d	
Mullet	161	885	SD8i	
Mullet	162	886	MGX1	921.24/25
Mullet	163	887	SD8i	
Mullet	164	888	SD8g	
Mullet	165	889	MG7e	
Mullet	166	890	SD8g	
Mullet	167	891	MG11d	
Mullet	168	892	SD8e	
Mullet	169	893	S19d	
Mullet	170	894	AX1a	921.29
Mullet	171	895	A13	921.28/29
Mullet	172	896	SX3c	921.29
Mullet	173	897	MG5d	
Mullet	174	898	SX3c	
Mullet	175	899	MG5d	921.33
Mullet	176	900	S20	

Site	SiteQ	Q no.	NVC	Photo
Mullet	177	901	SD8h	
Mullet	178	902	SD8d	
Mullet	179	903	MG5d	
Mullet	180	904	MG5d	
Mullet	181	905	MG5d	
Mullet	182	906	SD8d	
Mullet	183	907	SX3b	
Mullet	184	908	SX3a	922.13
Mullet	185	909	SD8d	
Mullet	186	910	SD8c	
Mullet	187	911	SD8a	
Mullet	188	912	SD7a	
Mullet	189	913	SD8a	
Mullet	190	914	WD1	
Mullet	191	915	SD6d	
Mullet	192	916	SD4a	
Mullet	193	917	SD10a	922.2
Mullet	194	918	MG5d	
Mullet	195	919	MG5d	
Mullet	196	920	SD8a	
Mullet	197	921	MG5d	922.3
Mullet	198	922	SD8g	922.5
Mullet	199	923	S23a	922.4
Mullet	200	924	SD8c	
Mullet	201	925	SD6a	
Mullet	202	926	SD8a	
Mullet	203	927	SD8a	
Mullet	204	928	SD6a	
Mullet	205	929	SDX1	922.8/9
Mullet	206	930	SD4b	922.10
Mullet	207	931	S23a	922.11
Mullet	208	932	S23a	922.11
Mullet	209	933	SD8a	
Mullet	210	934	MG11b	
Mullet	211	935	SD8b	
Mullet	212	936	SD8a	503.24
Mullet	213	937	AX1a	503.25
Mullet	214	938	SD8a	
Mullet	215	939	SD8e	922.14
Mullet	216	940	SX3b	503.27
Mullet	217	941	SD8g	922.15
Mullet	218	942	SD8d	
Mullet	219	943	MG11c	
Mullet	220	944	SD8d	
Mullet	221	945	MG5d	503.28
Mullet	222	946	SD7a	
Mullet	223	947	SD6d	
Mullet	224	948	MG11c	
Kinrovar	1	949	MGX1	
Kinrovar	2	950	SD8c	

Site	Site Q	Q no.	NVC	Photo
Kinrovar	3	951	SD8a	
Kinrovar	4	952	MG11c	
Kinrovar	5	953	SD10aa	
Kinrovar	6	954	SD8c	
Kinrovar	7	955	SD8c	
Kinrovar	8	956	SD10a	
Kinrovar	9	957	SD6a	
Kinrovar	10	958	SD4a	
Kinrovar	11	959	SD6a	
Kinrovar	12	960	S23a	
Kinrovar	13	961	SD8a	
Kinrovar	14	962	S23b	
Kinrovar	15	963	MGX1	
Kinrovar	16	964	SD8d	
Kinrovar	17	965	WD1	
Kinrovar	18	966	MG11c	
Kinrovar	19	967	SD8h	
Iniskea	1	968	MG11d	
Iniskea	2	969	MG11d	
Iniskea	3	970	AX1a	
Iniskea	4	971	S4a	
Iniskea	5	972	S21a	
Iniskea	6	973	S19c	
Iniskea	7	974	MG11c	
Iniskea	8	975	SD8e	
Iniskea	9	976	MG5c	
Iniskea	10	977	SD8c	
Iniskea	11	978	SD8c	
Iniskea	12	979	SD8c	503.14
Iniskea	13	980	SD2b	
Iniskea	14	981	SD8e	
Iniskea	15	982	S23c	919.26/27
Iniskea	16	983	MG11d	
Iniskea	17	984	SD8e	503.15
Iniskea	18	985	SD8c	
Iniskea	19	986	SX3b	
Iniskea	20	987	SD8e	
Iniskea	21	988	SX3b	
Iniskea	22	989	S23c	
Iniskea	23	990	SD8e	
Iniskea	24	991	SD8e	
Iniskea	25	992	SD8c	
Iniskea	26	993	SX3a	
Keel Lough	1	994	SD7a	
Keel Lough	2	995	SD8i	
Keel Lough	3	996	MG11d	
Keel Lough	4	997	SD6d	
Keel Lough	5	998	MG5d	
Keel Lough	6	999	S19d	
Keel Lough	7	1000	S19a	

Site	SiteQ	Q no.	NVC	Photo
Keel Lough	8	1001	MG11d	
Keel Lough	9	1002	MG11d	
Keel Lough	10	1003	MG11d	
Keel Lough	11	1004	MG11d	
Keel Lough	12	1005	SX3c	
Keel Lough	13	1006	SX2	
Keel Lough	14	1007	SD8g	
Keel Lough	15	1008	S19a	924.5
Keel Lough	16	1009	MG11d	
Keel Lough	17	1010	SD8b	
Keel Lough	18	1011	A10	
Keel Lough	19	1012	MG11d	
Keel Lough	20	1013	SD8b	
Keel Lough	21	1014	SD7d	
Keel Lough	22	1015	SD8a	
Keel Lough	23	1016	SD8a	924.9
Keel Lough	24	1017	SD6a	
Keel Lough	25	1018	S23b	
Keel Lough	26	1019	AX1a	
Keel Lough	27	1020	SD8a	
Keel Lough	28	1021	SD8a	
Doo Lough	1	1022	SD8c	
Doo Lough	2	1023	MG11d	
Doo Lough	3	1024	S23a	924.10/11
Doo Lough	4	1025	SD4b	
Doo Lough	5	1026	SD6a	
Doo Lough	6	1027	S19c	
Doo Lough	7	1028	SD8c	
Doo Lough	8	1029	SD10a	
Doo Lough	9	1030	SD2c	924.15
Doo Lough	10	1031	SD4b	
Doo Lough	11	1032	SD8c	
Doo Lough	12	1033	SX3a	
Doo Lough	13	1034	SX3c	
Doo Lough	14	1035	S23a	
Doo Lough	15	1036	MG11d	924.28
Doo Lough	16	1037	SD8e	924.28
Doo Lough	17	1038	S19c	
Doo Lough	18	1039	AX1a	924.30
Doo Lough	19	1040	MG11d	
Doo Lough	20	1041	S23c	
Doo Lough	21	1042	MG11d	
Doo Lough	22	1043	MG11d	
Doo Lough	23	1044	SD8b	
Doo Lough	24	1045	MG11d	
Doo Lough	25	1046	MG5d	
Dooaghtry	1	1047	SD8e	
Dooaghtry	2	1048	S23c	
Dooaghtry	3	1049	MG5d	
Dooaghtry	4	1050	SD8b	

Site	Site Q	Q no.	NVC	Photo
Dooaghtry	5	1051	SD8b	
Dooaghtry	6	1052	WD1	
Dooaghtry	7	1053	S23a	
Dooaghtry	8	1054	SX3c	
Dooaghtry	9	1055	MG11d	
Dooaghtry	10	1056	SD8c	924.35
Dooaghtry	11	1057	SX3a	
Dooaghtry	12	1058	SD8c	
Dooaghtry	13	1059	S23a	
Dooaghtry	14	1060	SD6a	924.34
Dooaghtry	15	1061	SD6a	924.34
Dooaghtry	16	1062	SD8i	
Dooaghtry	17	1063	MGX1	
Dooaghtry	18	1064	SD8c	
Dooaghtry	19	1065	SM13	
Dooaghtry	20	1066	S21a	
Dooaghtry	21	1067	SD8a	
Dooaghtry	22	1068	SD8c	
Dooaghtry	23	1069	MG11d	
Dooaghtry	24	1070	MG11d	
Dooaghtry	25	1071	SM16e	
Dooaghtry	26	1072	SM16e	924.36/37
Dooaghtry	27	1073	MGX1	
Dooaghtry	28	1074	SM16c	925.0
Dooaghtry	29	1075	S21a	
Dooaghtry	30	1076	SM20	
Dooaghtry	31	1077	MG5c	
Dooaghtry	32	1078	SX2	
Dooaghtry	33	1079	SM16e	
Dooaghtry	34	1080	SM16e	
Dooaghtry	35	1081	SX3b	925.1
Dooaghtry	36	1082	MG11d	925.1
Dooaghtry	37	1083	MG11d	
Dooaghtry	38	1084	SX3c	
Dooaghtry	39	1085	SX3c	
Dooaghtry	40	1086	SX3c	
Dooaghtry	41	1087	SX3c	
Dooaghtry	42	1088	SX2	
Dooaghtry	43	1089	SX1b	
Dooaghtry	44	1090	WX3	
Dooaghtry	45	1091	S12a	
Dooaghtry	46	1092	S14	
Dooaghtry	47	1093	SX3c	
Dooaghtry	48	1094	S9b	
Dooaghtry	49	1095	S19a	
Dooaghtry	50	1096	SX3c	
Dooaghtry	51	1097	MG11d	
Dooaghtry	52	1098	SD6d	
Dooaghtry	53	1099	SD8a	
Dooaghtry	54	1100	SX1b	

Site	SiteQ	Q no.	NVC	Photo
Dooaghtry	55	1101	MG10a	925.7
Dooaghtry	56	1102	SD8g	
Dooaghtry	57	1103	SX3c	925.8
Dooaghtry	58	1104	MG11d	
Dooaghtry	59	1105	S9b	
Dooaghtry	60	1106	S9b	
Dooaghtry	61	1107	S4a	
Dooaghtry	62	1108	S14	
Dooaghtry	63	1109	AX1b	
Dooaghtry	64	1110	SM13b	925.9 504.2
Dooaghtry	65	1111	SM18a	925.9 504.2
Dooaghtry	66	1112	SX3a	
Dooaghtry	67	1113	MG11d	
Dooaghtry	68	1114	SD8a	
Dooaghtry	69	1115	SD6a	
Dooaghtry	70	1116	SD6e	
Dooaghtry	71	1117	SD7d	504.3
Dooaghtry	72	1118	MG11d	
Dooaghtry	73	1119	SD8f	
Dooaghtry	74	1120	SD8g	
Dooaghtry	75	1121	MG11d	925.13/14
Dooaghtry	76	1122	S23c	925.15 504.4
Dooaghtry	77	1123	MG11d	504.5
Dooaghtry	78	1124	SD8a	
Dooaghtry	79	1125	SX3b	925.21
Dooaghtry	80	1126	MG11d	
Dooaghtry	81	1127	MG11d	
Dooaghtry	82	1128	S23c	
Dooaghtry	83	1129	S19a	
Dooaghtry	84	1130	SX3a	
Dooaghtry	85	1131	MG11d	
Dooaghtry	86	1132	MG11d	504.6
Dooaghtry	87	1133	MG11d	
Dooaghtry	88	1134	AX2	925.24/25
Dooaghtry	89	1135	S23c	
Dooaghtry	90	1136	S23c	
Dooaghtry	91	1137	S19a	
Dooaghtry	92	1138	S19c	504.7
Dooaghtry	93	1139	SX1a	
Dooaghtry	94	1140	S20a	
Dooaghtry	95	1141	CG10b	
Dooaghtry	96	1142	M24c	
Dooaghtry	97	1143	SX1b	504.8 504.9
Dooaghtry	98	1144	A7a	504.8 504.10
Dooaghtry	99	1145	MG5c	
Dooaghtry	100	1146	MG5c	
Dooaghtry	101	1147	SD8c	
Dooaghtry	102	1148	SD2c	504.11
Omey	1	1149	SM16e	
Omey	2	1150	SM16e	

Site	Site Q	Q no.	NVC	Photo
Omey	3	1151	MG11d	
Omey	4	1152	SD8g	
Omey	5	1153	MG5d	
Omey	6	1154	MG5d	
Omey	7	1155	SD8c	503.4
Omey	8	1156	SD8h	
Omey	9	1157	SD4a	916.13
Omey	10	1158	SD8i	
Omey	11	1159	SD8i	
Omey	12	1160	S23a	916.14
Omey	13	1161	SD8c	916.11/12
Omey	14	1162	AX1a	916.16
Omey	15	1163	S19d	
Omey	16	1164	MGX1	
Omey	17	1165	MG11d	
Omey	18	1166	SD4b	
Omey	19	1167	SD8c	
Omey	20	1168	SD8e	
Omey	21	1169	SD8c	
Omey	22	1170	SD8g	
Omey	23	1171	S23c	
Omey	24	1172	SD8g	916.17/21/22 503.5
Omey	25	1173	MC1a	916.18/19/20
Omey	26	1174	S23a	
Omey	27	1175	S23c	503.6
Omey	28	1176	SD8g	
Omey	29	1177	SD8e	
Omey	30	1178	SD8h	
Omey	31	1179	SD8c	
Omey	32	1180	SX2	
Omey	33	1181	S23c	
Omey	34	1182	SX3a	
Omey	35	1183	S23c	
Omey	36	1184	SX2	
Omey	37	1185	MG5d	
Omey	38	1186	MG5c	
Omey	39	1187	SX3a	
Omey	40	1188	S8a	
Omey	41	1189	S4c	
Omey	42	1190	H7c	
Omey	43	1191	S8a	
Omey	44	1192	A7	916.27
Omey	45	1193	SX3a	
Omey	46	1194	MG11d	
Dogs Bay	1	1195	S4a	916.29
Dogs Bay	2	1196	S2b	916.29
Dogs Bay	3	1197	S12a	916.29
Dogs Bay	4	1198	A7a	916.29
Dogs Bay	5	1199	MX1	916.30
Dogs Bay	6	1200	S20	

Site	SiteQ	Q no.	NVC	Photo
Dogs Bay	7	1201	H8	916.32/33
Dogs Bay	8	1202	M10a	
Dogs Bay	9	1203	M24c	
Dogs Bay	10	1204	M10a	
Dogs Bay	11	1205	MC1a	
Dogs Bay	12	1206	SX3c	916.34
Dogs Bay	13	1207	S19d	916.34/35
Dogs Bay	14	1208	A9a	916.34
Dogs Bay	15	1209	MG5b	
Dogs Bay	16	1210	MG5c	
Dogs Bay	17	1211	S4c	
Dogs Bay	18	1212	SD8a	
Dogs Bay	19	1213	SX3a	
Dogs Bay	20	1214	MG11d	
Dogs Bay	21	1215	SM16c	
Dogs Bay	22	1216	S19a	
Dogs Bay	23	1217	SX3c	
Dogs Bay	24	1218	SM16b	
Dogs Bay	25	1219	SD2b	
Dogs Bay	26	1220	SD2c	916.37
Dogs Bay	27	1221	SD8e	
Dogs Bay	28	1222	AX1b	
Dogs Bay	29	1223	SD8a	917.1/2
Dogs Bay	30	1224	SD8b	917.1/2/3 503.8
Dogs Bay	31	1225	MG11c	
Dogs Bay	32	1226	S23c	
Dogs Bay	33	1227	CGX1	
Dogs Bay	34	1228	MG11d	
Dogs Bay	35	1229	MG11d	917.4
Dogs Bay	36	1230	H7e	503.9
Dogs Bay	37	1231	H7c	
Dogs Bay	38	1232	SD8a	
Dogs Bay	39	1233	SD6a	
Dogs Bay	40	1234	SD8c	
Dogs Bay	41	1235	SD6d	
Dogs Bay	42	1236	SD8c	
Dogs Bay	43	1237	SD8c	
Dogs Bay	44	1238	SD8c	
Dogs Bay	45	1239	SD3	
Murvey	1	1240	SX3c	
Murvey	2	1241	SD8e	
Murvey	3	1242	MG11d	
Murvey	4	1243	S23a	917.12/13
Murvey	5	1244	SD8c	
Murvey	6	1245	MG11d	
Murvey	7	1246	MC10	
Murvey	8	1247	SD8e	917.16
Murvey	9	1248	SX3c	
Murvey	10	1249	AX1a	
Murvey	11	1250	SD8a	

Site	Site Q	Q no.	NVC	Photo
Murvey	12	1251	SD8a	
Murvey	13	1252	SD8a	
Murvey	14	1253	SD8c	
Murvey	15	1254	SD2c	
Murvey	16	1255	W22	917.19
Murvey	17	1256	S23a	
Mannin	1	1257	S23c	
Mannin	2	1258	SD8g	917.22
Mannin	3	1259	MG5b	
Mannin	4	1260	CGX1	
Mannin	5	1261	CGX1	
Mannin	6	1262	SD8c	
Mannin	7	1263	SD4a	
Mannin	8	1264	SD8c	917.23
Mannin	9	1265	MG11d	
Mannin	10	1266	S23c	
Mannin	11	1267	SD8c	
Mannin	12	1268	S4c	917.27/30
Mannin	13	1269	SX3c	
Mannin	14	1270	MG11c	
Mannin	15	1271	MG5c	
Mannin	16	1272	MX1	917.28/29
Mannin	17	1273	MG11d	
Mannin	18	1274	SD8c	917.31
Mannin	19	1275	SX3c	
Mannin	20	1276	SD8c	
Mannin	21	1277	SD8i	
Mannin	22	1278	SD8i	
Mannin	23	1279	SD8i	926.5
Mannin	24	1280	S19a	
Mannin	25	1281	SD6a	
Mannin	26	1282	SD8i	
Mannin	27	1283	SD8i	
Mannin	28	1284	SX3b	
Mannin	29	1285	SX2	
Mannin	30	1286	M13b	504.12
Mannin	31	1287	S20	
Mannin	32	1288	MX1	
Mannin	33	1289	S23c	
Mannin	34	1290	S19a	
Mannin	35	1291	S2b	
Mannin	36	1292	SX4	
Mannin	37	1293	M13b	
Mannin	38	1294	M13b	
Mannin	39	1295	S4c	
Mannin	40	1296	SD6d	
Mannin	41	1297	S23a	926.11
Mannin	42	1298	SD4b	
Mannin	43	1299	SD8c	
Mannin	44	1300	SD8b	

Site	SiteQ	Q no.	NVC	Photo
Mannin	45	1301	SD8c	926.14
Mannin	46	1302	MG11d	
Mannin	47	1303	S23a	
Mannin	48	1304	S23c	
Mannin	49	1305	SD6a	
Mannin	50	1306	MG5c	
Mannin	51	1307	M13b	
Mannin	52	1308	CGX2	
Mannin	53	1309	MG11a	
Mannin	54	1310	S23	
Mannin	55	1311	SX3a	
Mannin	56	1312	S20	
Mannin	57	1313	MX1	
Mannin	58	1314	MG5c	
Mannin	59	1315	SD8c	
Mannin	60	1316	MGX1	
Mannin	61	1317	MG11b	
Mannin	62	1318	MG5d	
Mannin	63	1319	SD8c	
Mannin	64	1320	WD1	926.15/16
Mannin	65	1321	SD8a	
Mannin	66	1322	CGX2	
Mannin	67	1323	SD8b	
Mannin	68	1324	MG11d	
Mannin	69	1325	SD8b	
Mannin	70	1326	CG13b	
Mannin	71	1327	SD8c	
Mannin	72	1328	SD8e	
Mannin	73	1329	SD8g	
Mannin	74	1330	SD8i	
Mannin	75	1331	SD4a	
Mannin	76	1332	SD2c	
Mannin	77	1333	SD6d	
Mannin	78	1334	SD8c	
Mannin	79	1335	SD3	
Mannin	80	1336	MC1a	926.21
Mannin	81	1337	SD2b	
Mannin	82	1338	SD8e	
Mannin	83	1339	SD8g	926.22
Mannin	84	1340	A11	926.26/27
Mannin	85	1341	S19a	926.26
Mannin	86	1342	AX1a	926.26
Mannin	87	1343	S8a	926.26
Mannin	88	1344	S4a	
Mannin	89	1345	MG11d	
Mannin	90	1346	H8	
Mannin	91	1347	MG5b	
Mannin	92	1348	MG5b	
Mannin	93	1349	SD8e	926.28/29/30/31
Mannin	94	1350	S19a	
Mannin	95	1351	SD8g	
Mannin	96	1352	S23c	
Mannin	97	1353	CGX1	
Mannin	98	1354	MG5c	
Mannin	99	1355	SD8c	
Mannin	100	1356	SD8c	
Mannin	101	1357	SD8e	
Mannin	102	1358	M13b	
Mason	1	1359	AX2	915.35
Mason	2	1360	A10	915.34
Mason	3	1361	A10	915.35
Mason	4	1362	SX3a	
Mason	5	1363	SD8e	503.3
Mason	6	1364	SD4a	
Mason	7	1365	MG5b	
Mason	8	1366	MG11c	
Mason	9	1367	S4a	916.2
Mason	10	1368	SX3c	916.2 503.2
Mason	11	1369	S12a	916.2
Mason	12	1370	SD8e	
Mason	13	1371	MG11d	916.1
Mason	14	1372	MG11b	
Mason	15	1373	SD4b	
Mweenish	1	1374	MG5a	
Mweenish	2	1375	MG11b	
Mweenish	3	1376	MG5a	
Mweenish	4	1377	MG1e	
Mweenish	5	1378	MG12b	
Mweenish	6	1379	MG12b	
Mweenish	7	1380	MG12b	502.33
Mweenish	8	1381	MG1e	
Mweenish	9	1382	MG5b	
Mweenish	10	1383	SD8g	
Mweenish	11	1384	SD8a	
Mweenish	12	1385	MG5c	
Mweenish	13	1386	SD8i	502.34
Mweenish	14	1387	SD8b	
Mweenish	15	1388	S23a	915.28
Mweenish	16	1389	SD3	
Mweenish	17	1390	SD8c	
Mweenish	18	1391	SX2	
Mweenish	19	1392	MG12b	
Mweenish	20	1393	MG1e	915.30/31 502.35
Mweenish	21	1394	SD8a	
Mweenish	22	1395	SD2b	
Finnish	1	1396	SD4a	
Finnish	2	1397	SD8c	
Finnish	3	1398	SD4b	
Finnish	4	1399	SD2c	
Finnish	5	1400	SX2	

Site	SiteQ	Q no.	NVC	Photo
Finnish	6	1401	SM13b	
Finnish	7	1402	MG11c	
Finnish	8	1403	MGX1	
Finnish	9	1404	MGX1	
Finnish	10	1405	MG1e	
Finnish	11	1406	AX2	
Finnish	12	1407	MG5b	
Inis Mor	1	1408	SD8c	
Inis Mor	2	1409	SD8a	
Inis Mor	3	1410	SD8c	
Inis Mor	4	1411	SD8a	
Inis Mor	5	1412	SD3	
Inis Mor	6	1413	SD2a	
Inis Mor	7	1414	SD6e	
Inis Mor	8	1415	SD6e	914.26
Inis Mor	9	1416	CG7b	914.27/28/31
Inis Mor	10	1417	CG7b	914.29
Inis Mor	11	1418	CG7b	914.30
Inis Mor	12	1419	MC1a	
Inis Mor	13	1420	SD8a	
Inis Mor	14	1421	SD7a	
Inis Mor	15	1422	SD6d	
Inis Mor	16	1423	SD8c	
Inis Mor	17	1424	SD3	
Inis Mor	18	1425	MG5a	
Inis Mor	19	1426	CG7b	
Inis Mor	20	1427	SD8a	
Inis Mor	21	1428	S23a	
Inis Mor	22	1429	SD8a	
Inis Meain	1	1430	SX3a	
Inis Meain	2	1431	SD7d	915.4/5
Inis Meain	3	1432	SD4b	
Inis Meain	4	1433	SX3a	
Inis Meain	5	1434	SD8i	
Inis Meain	6	1435	SD8i	
Inis Meain	7	1436	SD6a	
Inis Meain	8	1437	SD6a	915.8
Inis Meain	9	1438	SD8i	
Inis Meain	10	1439	MG11b	915.7
Inis Meain	11	1440	MG11d	
Inis Meain	12	1441	MC10	
Inis Meain	13	1442	SD7a	
Inis Meain	14	1443	SD4b	915.1 502.31/32
Inis Meain	15	1444	SD8a	
Inis Meain	16	1445	SD8a	
Inis Oirr	1	1446	SD8c	915.16
Inis Oirr	2	1447	SD8c	
Inis Oirr	3	1448	SD8a	915.17
Inis Oirr	4	1449	SD4b	915.8
Inis Oirr	5	1450	MC6	
Inis Oirr	6	1451	SD7a	
Inis Oirr	7	1452	SD4b	
Inis Oirr	8	1453	SD6a	
Inis Oirr	9	1454	SD8c	
Inis Oirr	10	1455	MG5a	

APPENDIX 7

PHOTOGRAPHIC CATALOGUE

MACHAIR SURVEY '96 PHOTOGRAPH CATALOGUE

Ref No.	Site	Asp.	Quadrat	NVC	Notes
96.903.8	Melmore	80		MC8a	Melmore lochan
96.903.9	Melmore	350	1		
96.903.10	Melmore	210			
96.903.11	Melmore				Armeria maritima
96.903.12	Melmore	75			Melmore lochan
96.903.13	Melmore		16	SD8i	
96.903.14	Melmore		14	SD18a	
96.903.15	Melmore		17	SD6d	
96.903.16	Melmore		21	SD8a	SD8 ungrazed
96.903.17	Melmore		21	*SD8a*	Bluebells
96.903.18	Melmore	305	122	WX2	Populus woodland
96.903.19	Melmore	220			Melmore machair
96.903.20	Melmore		22	H7e	Juniper/Salix heath
96.903.21	Melmore	85	23	SX3C	
96.903.22	Melmore		T6		Silene dioica
96.903.23	Melmore		26	M28a	Phragmites marsh fringe
96.903.24	Melmore	225			Tranafaighaboy
96.903.25	Melmore		30	SD8a	Mown SD8
96.904.1	Melmore	225			Lough and machair composite 1/2/3
96.904.2	Melmore	280			Lough and machair composite 1/2/3
96.904.3	Melmore	330			Lough and machair composite 1/2/3
96.904.4	Melmore	55			caravans
96.904.5	Melmore	60	32	SD8a	
96.904.6	Melmore	165			Lough
96.904.7	Melmore	185	33, 34	SD8d/8a	
96.904.8	Melmore	305			Rough Island
96.904.9	Melmore	25			Sand up cliff
96.904.10	Melmore	95			
96.904.11	Melmore	65			Machair
96.904.12	Melmore	40			
96.904.13	Melmore	180			Melmore west
96.904.14	Melmore	25			Granite at Scoltachor
96.904.15	Melmore	325	T18		Coastal defense on Melmore east beach

96.904.16	Tranarossan	260			
96.904.17	Tranarossan				Soil profile of north hill slope, sand blown over rock
96.904.18	Tranarossan	165	T19		Metal working
96.904.19	Tranarossan		T20		Slurry dump
96.904.20	Tranarossan	115	75	SD8c	
96.904.21	Tranarossan	195			From west composite 21/22
96.904.22	Tranarossan	140			From west composite 21/22
96.904.23	Tranarossan		69	MG11d	Soil profile of turf build up/blow sequence under Q69
96.904.24	Tranarossan		69, T21	MG11d	Soil profile of turf build up/blow sequence under Q69
96.904.25	Tranarossan				Beach
96.904.26	Tranarossan		86	S23b	Note depth of sand on banks
96.904.27	Tranarossan	325			Melmore east
96.904.28	Tranarossan		98	SD7a	
96.904.29	Tranarossan		98	SD7a	
96.904.30	Tranarossan				Euphorbia paralias
96.904.31	Tranarossan		99	SX3A	Ophioglossum vulgatum
96.904.33	Tranarossan	255	T27		
96.904.34	Tranarossan	105	T30		Stream
96.904.35	Tranarossan	230	T32		
96.904.36	Tranarossan	325	T33		
96.905.1	Tranarossan	305	110	MG11b	
96.905.2	Tranarossan		110	MG11b	
96.905.3	Tranarossan				
96.905.5	Tranarossan		113	MC2	Ligusticum scoticum
96.905.6	Tranarossan				camp followers
96.905.7	Tranarossan		117	SD8g	Arabis hirsuta
96.905.8	Tranarossan		117	SD8g	Arabis hirsuta
96.905.9	Tranarossan		119	MC3	Sedum rosea
96.905.10	Melmore				
96.905.11	Lunnaigh north		1	H7c	Pseudorchis alba
96.905.12	Lunniagh north		1	H7c	Pseudorchis alba
96.905.13	Lunniagh north	200			Torhonadoogha. Peat banks to boulder beach
96.905.14	Lunniagh north	305	5	MG5	Primula bank Scotpatrickonousky
96.905.15	Lunniagh north	325	9	MCX1	Cliff ledge.
96.905.16	Lunniagh north	205			Boulder clay exposure at Bunaninver port
96.905.17	Lunniagh north		13	CG10	Spiranthes
96.905.18	Lunniagh north	235	13 (14)	CG10	
96.905.19	Lunniagh north	280	14, 18	MX1/S23a	

96.905.20	Lunniagh north	360	21	SD8c	Dry bank.
96.905.21	Lunniagh north	325	28	S23a	Caltha palustris near shore
96.905.22	Lunniagh north				Soil profile above Q30
96.905.23	Lunniagh north	150			Site looking south
96.905.24	Lunniagh north	35			Site at north end
96.906.11	Gola	270			Lagoon
96.906.12	Gola	120			Dunes
96.906.13	Gola	105	2	SD8c	
96.906.14	Gola	350	12	MCX1	Populus
96.906.15	Gola				Gola from the sea
96.906.16	Lunniagh north	260	33	SD8g	
96.906.17	Lunniagh north	350			Tragal, wind erosion and foredune retreat
96.906.18	Lunniagh north	120	T17		Tragal, archaeological deposits
96.906.19	Lunniagh north	270	38, 39	S23b/SD8e	Tragal stream
96.906.20	Lunniagh north	340	48	SD8a	
96.906.21	Lunniagh north		48	SD8a	
96.906.22	Lunniagh north				Polygala vulgaris
96.906.23	Lunniagh north				Listera ovata
96.906.24	Lunniagh north		53	SD8g	Lichen and Carex arenaria
96.906.25	Lunniagh north		56	MG10a	J. effusus damp grassland and cows
96.906.26	Lunniagh north	210			Composite
96.906.27	Lunniagh north	165			Composite
96.906.28	Lunniagh north		59	MG11d	D. incarnata
96.906.29	Lunniagh north		59	MG11d	D. incarnata
96.906.30	Lunniagh north		60	MC10b	Botrychium
96.906.31	Lunniagh north		60	MC10b	
96.906.32	Lunniagh north				Accreting south tip of Lunnaigh north
96.906.33	Lunnaigh south	120			Salt marsh and estuary
96.906.34	Lunniagh south				Nell
96.906.35	Lunniagh south	110	112, 113	SM13d/SM10	
96.906.36	Lunniagh south	300			Peat around salt marsh
96.906.37	Lunniagh south		114	SM19	Blysmus
96.907.1	Lunniagh south	20	T30		Sheep feeding hollow
96.907.2	Lunniagh south	195			Site
96.907.3	Lunniagh south	115			Errigal
96.907.4	Gola	285			From Lunnaigh south
96.907.5	Lunniagh south		129	AX1b	Lagoon

96.907.6	Lunniagh south		127	AX1b	Lagoon
96.907.7	Lunniagh south		127	AX1b	Lagoon
96.907.8	Lunniagh south		127	AX1b	Lagoon
96.907.9	Lunniagh south				Lagoon
96.907.10	Lunniagh south	10			Leymus at south tip
96.907.11	Lunniagh south	10			Leymus at south tip
96.907.12	Lunniagh south		133	SD9c	Rosa pimpinellifolia
96.907.13	Lunniagh south	60			Large slack and erosion
96.907.14	Lunniagh south				Composite .14/.15 Lagoon
96.907.15	Lunniagh south				Composite .14/15
96.907.16	Lunniagh south				Dragging Lagoon
96.907.17	Lunniagh south				Dragging Lagoon
96.907.18	Lunniagh south	180			North tip, boulder clay with sand on top
96.907.19	Lunniagh south				North tip, boulder clay with sand on top
96.907.20	Lunniagh south	140			NB wash over evidence as strata of gravel/shell
96.907.21	Lunniagh south	70			From Lunnaigh south
96.907.22	Lunniagh south	35			From Lunnaigh south
96.907.23	Lunniagh south	295	T20, T21		Golf Tee and sown green
96.907.24	Lunniagh south	290			Golf development
96.907.25	Lunniagh south	360			From Lunnaigh south
96.907.26	Keadue	180			Lough Arlands
96.907.27	Keadue	320	T1		Seepage zone over peat
96.907.28	Keadue	330	5	MC10a	Pebble storm beach/wash over
96.907.29	Keadue	165	T3		Upper peat eroding at high tides
96.907.30	Keadue	165	T3		Upper peat eroding at high tides
96.907.31	Keadue				Tree in lower peat
96.907.32	Keadue	155			Portacurry
96.907.33	Keadue	85			Keadue Point
96.907.34	Keadue	135	12	MG5	Hay meadow
96.907.35	Keadue	340	18	SD8c	Dry bank
96.907.36	Keadue	220	22	MG11a	Lough
96.907.37	Keadue	95	T13		Eroding Foredune and fenceNOT DEVELOPED
96.908.1	Keadue	190	T17		Causeway
96.908.2	Keadue	200			Rocks above causeway
96.908.3	Keadue				Juniper
96.908.4	Keadue	300	37	SD8d	with Listera ovata
96.908.5	Keadue	270			
96.908.6	Keadue		T15		Intertidal peat

96.908.7	Keadue		T15		Intertidal peat
96.908.8	Keadue	90			Salt marsh
96.908.9	Lettermacaward		9	H7d	Fern bank
96.908.10	Lettermacaward		9	H7d	Fern bank
96.908.11	Lettermacaward				Cirsium dissectum
96.908.12	Lettermacaward				Cirsium dissectum
96.908.13	Lettermacaward	360	15	H7d	
96.908.14	Lettermacaward	200	15	H7d	
96.908.15	Lettermacaward	180			Beach
96.908.16	Lettermacaward		16	U4b	
96.908.17	Lettermacaward	180			From road
96.908.18	Lettermacaward	180			From road
96.908.19	Lettermacaward	250			From road
96.908.20	Lettermacaward	190			From road
96.912.2	Sheskinmore	95	2	SD8g	
96.912.3	Sheskinmore				View from south
96.912.4	Sheskinmore	145			Trawmore beach
96.912.5	Sheskinmore		7	SD8g	Draba incana
96.912.6	Sheskinmore		7	SD8g	Draba incana
96.912.7	Sheskinmore				Draba and Coeloglossum nr. Q7
96.912.8	Sheskinmore	45	7	SD8g	General context
96.912.9	Sheskinmore		10	H7d	Erica/Juniper/Empetrum
96.912.10	Sheskinmore	160			Trawmore beach
96.912.11	Sheskinmore	100			Caravan Park
96.912.12	Sheskinmore	165	15		J.articulatus
96.912.13	Sheskinmore				Centaurea erythrea
96.912.14	Sheskinmore				Centaurea erythrea
96.912.15	Sheskinmore				Erosion factors
96.912.16	Sheskinmore		26		Tortula community
96.912.17	Sheskinmore	250			Chara pool
96.912.18	Sheskinmore	100			Lough flats
96.912.19	Sheskinmore		44		Soil profile-peat and sand
96.912.20	Sheskinmore	340			West end of fen
96.912.21	Sheskinmore		67		Juniper
96.912.22	Sheskinmore				View south east
96.912.23	Sheskinmore				View south east (composite)
96.912.24	Sheskinmore				View east (composite)
96.912.25	Sheskinmore				View north east (composite)

96.913.0	Sheskinmore				View north (composite)
96.913.1	Sheskinmore				View north west (composite)
96.913.2	Sheskinmore				View west (composite)
96.913.3	Sheskinmore				View south (composite)
96.913.4	Sheskinmore	120			River erosion
96.913.5	Sheskinmore				Veronica arvensis
96.913.6	Sheskinmore		2	SD8g	
96.913.7	Sheskinmore				Lough, north east
96.913.8	Sheskinmore				Lough, north east
96.913.9	Sheskinmore				Lough, north
96.913.10	Sheskinmore		83	MX1	Eriophorum latifolium
96.913.11	Sheskinmore				Eriophorum latifolium
96.913.12	Sheskinmore		84	SX4	Carex paniculata
96.913.13	Sheskinmore				Soil section by river near Q95
96.913.14	Sheskinmore				North west end of site
96.913.15	Sheskinmore				Soil at back of lough
96.913.16	Sheskinmore				Soil at back of lough
96.913.17	Sheskinmore				Draba incana
96.913.18	Sheskinmore				South west Draba site
96.913.20	Sheskinmore		119	SX3a	Lychnis flos-cuculi
96.913.22	Trawalua		4	SD6a	Ammophila/Galium
96.913.23	Trawalua		5	SD6a	Ammophila/Galium
96.913.24	Trawalua		6	SD6d	Ammophila/Galium
96.914.2	Trawalua	320	19	MG11b	Hummocks
96.914.3	Trawalua	80	T5		Old hedge line
96.914.4	Trawalua	360	T5/20	SD8g	Old hedge line
96.914.5	Trawalua	40	20	SD8g	
96.914.6	Trawalua		20	SD8g	Soil profile under Q20, ?remnant ridge
96.914.7	Trawalua	50	T6		Aeolianite
96.914.8	Trawalua	240			Site from high point on foredune (composite)
96.914.9	Trawalua	200			Site from high point on foredune (composite)
96.914.10	Trawalua	180			Site from high point on foredune (composite)
96.914.11	Trawalua	130			Site from high point on foredune (composite)
96.914.12	Trawalua	90			Site from high point on foredune (composite)
96.914.13	Trawalua	180	T7		Sheep under sand ledges
96.914.14	Trawalua	180			Trawalua dunes
96.914.15	Trawalua	220			Benbulben

96.914.16	Bunduff		64	MX1	Epipactus palustris
96.914.17	Bunduff		64	MX1	Epipactus palustris
96.914.18	Bunduff	60	87	SX1b	
96.914.19	Bunduff		105	CGX1	Dodder
96.914.20	Bunduff	260			
96.914.21	Bunduff	320			Bunduff beach
96.914.22	Bunduff	190	T13		Intertidal peat
96.914.23	Bunduff	140	T14		Boulder clay
96.914.24	Bunduff		114		Bee orchid
96.914.25	Bunduff		114		Bee orchid
96.914.26	Inis Mor		8	SD6e	
96.914.27	Inis Mor		9	CG7b	Astragalus and Dodder
96.914.28	Inis Mor	205	9	CG7b	
96.914.29	Inis Mor		10	CG7b	
96.914.30	Inis Mor	320	11	CG7b	Dodder
96.914.31	Inis Mor	55	9	CG7b	
96.914.32	Inis Mor		12	MC1a	Crithmum maritimum
96.915.4	Inis Meain		2	SD7d	Calystegia and Eryngium
96.915.5	Inis Meain		2	SD7d	Calystegia and Eryngium
96.915.6	Inis Meain	130			near Q7
96.915.7	Inis Meain	335	10	MG11b	Dried up lake
96.915.8	Inis Meain	10	8	SD6a	Foredune
96.915.9	Inis Meain	300			
96.915.10	Inis Meain		14	SD4b	
96.915.11	Inis Meain				Eryngium
96.915.14	Inis Meain				To Inis mor from Dun Conan
96.915.16	Inis Oirr	90	1	SD8c	
96.915.17	Inis Oirr	340	3	SD8a	Airport grassland
96.915.18	Inis Oirr	100	4	SD4b	Armeria
96.915.19	Inis Oirr	215			Across airport to new houses
96.915.20	Inis Oirr	120	T4 + T2		From Q8 to T4 and T2
96.915.21	Inis Oirr	290			To pier
96.915.22	Inis Oirr	210			Across camp site to football pitch
96.915.24	Inis Oirr				From pier to beach
96.915.25	Mweenish	190			Back of site, Q3 - Q8
96.915.26	Mweenish	220			From Q10
96.915.27	Mweenish	280			From Q10
96.915.28	Mweenish		15	S23a	

96.915.29	Mweenish	330			Beach
96.915.30	Mweenish		20	MG1e	
96.915.31	Mweenish		20	MG1e	
96.915.32	Mweenish				Centaurea scabiosa
96.915.34	Mason	70	2	A10	
96.915.35	Mason	70	1, 3	AX2, A10	
96.915.36	Mason	20			From Q5
96.916.1	Mason	15	13	MG11d	North lochan
96.916.2	Mason	325	9 ,10, 11	S4a/SX3c/S12	North lochan
96.916.3	Mason				Shells
96.916.4	Mason				Shells
96.916.5	Omey Island	90	T1		Peat and gravel
96.916.6	Omey Island	90	T1		Peat and gravel
96.916.7	Omey Island	90	T1		Peat and gravel
96.916.8	Omey Island	60			Beach
96.916.9	Omey Island	180	T5		Archaeological site and peat
96.916.10	Omey Island	140	T5		Archaeological site and peat
96.916.11	Omey Island	325	13	SD8c	Asperula and Thymus
96.916.12	Omey Island	150	13	SD8c	Asperula and Thymus
96.916.13	Omey Island	160	9	SD4a	Beach and Q9
96.916.14	Omey Island	100	12	S23a	Stream and Q12
96.916.15	Omey Island	175			Machair
96.916.16	Omey Island	110	14	AX1a	Loch and Q14
96.916.17	Omey Island	70	24	SD8g	
96.916.18	Omey Island		25	MC1a	Crithmum maritimum
96.916.19	Omey Island		25	MC1a	Crithmum maritimum
96.916.20	Omey Island		25	MC1a	Crithmum maritimum
96.916.21	Omey Island	70	24	SD8g	
96.916.22	Omey Island		24	SD8g	
96.916.23	Omey Island		T12		Overwash
96.916.24	Omey Island	300			Small loch
96.916.25	Omey Island	300			Small loch
96.916.26	Omey Island	220			Large loch
96.916.27	Omey Island		44	A7	
96.916.29	Dogs Bay	340	1, 2, 3, 4	S4a/S2b/S12a/A7a	Lochan
96.916.30	Dogs Bay	290	5	MX1	
96.916.31	Dogs Bay	340			
96.916.32	Dogs Bay		7	H8	

96.916.33	Dogs Bay		7	H8	Jasione montana
96.916.34	Dogs Bay		12, 13, 14	SX3c/S19d/A9a	
96.916.35	Dogs Bay		14	A9a	Potamogeton
96.916.36	Dogs Bay				Salt marsh on peat amonst rocks
96.916.37	Dogs Bay		26	SD2c	Atriplex
96.917.1	Dogs Bay	135	29, 30	SD8a/SD8b	
96.917.2	Dogs Bay	45	29, 30	SD8a/SD8b	
96.917.3	Dogs Bay		30	SD8b	Campanula
96.917.4	Dogs Bay		35	MG11d	Storm beach
96.917.5	Dogs Bay	30	T4, T4, 41		East side
96.917.6	Dogs Bay	320	T5		West side
96.917.7	Dogs Bay	220			West side fences and brushwood
96.917.8	Dogs Bay	210			
96.917.9	Dogs Bay	190			(composite)
96.917.10	Dogs Bay	240			(composite)
96.917.11	Murvey	265	T1		Blow out
96.917.12	Murvey		4	S23a	Apium
96.917.13	Murvey	230	4	S23a	
96.917.14	Murvey	300	T3		
96.917.15	Murvey	150			Blow out and Q7 distant
96.917.16	Murvey		8	SD8e	
96.917.17	Murvey	200	T1		
96.917.18	Murvey	120	11, 12	SD8a	
96.917.19	Murvey	240	16	MG5	Ridge above stream with Juniper
96.917.20	Murvey	140			Beach
96.917.22	Mannin Bay	320	2	SD8g	
96.917.23	Mannin Bay	340	8	SD8c	
96.917.24	Mannin Bay	120			North side
96.917.25	Mannin Bay	290			North side (composite)
96.917.26	Mannin Bay	330			North side (composite)
96.917.27	Mannin Bay		12	S4c	Juncus
96.917.28	Mannin Bay		16	MX1	
96.917.29	Mannin Bay		16	MX1	
96.917.30	Mannin Bay	295	12, -16	S4c/MX1	
96.917.31	Mannin Bay	310	18	SD8c	
96.919.1	Termoncarragh	175	T1, T2		North end
96.919.2	Termoncarragh	240	T1		Peat on beach

96.919.3	Termoncarragh	80	T7		
96.919.4	Termoncarragh	150	30, 31	S19c/MG11d	
96.919.5	Termoncarragh		27	MG11d	Parnassia palustris
96.919.6	Termoncarragh		27	MG11d	Parnassia palustris
96.919.7	Termoncarragh				
96.919.8	Termoncarragh	250			From dune to north of road (composite)
96.919.9	Termoncarragh	285			From dune to north of road (composite)
96.919.10	Termoncarragh	320			From dune to north of road (composite)
96.919.11	Termoncarragh	345	36	SX1b	From dune to north of road (composite)
96.919.12	Termoncarragh	20			From dune to north of road (composite)
96.919.13	Termoncarragh		38	MG5	Daucus and Centaurea
96.919.14	Termoncarragh		40	SD8c	
96.919.15	Termoncarragh		39	MG1e	
96.919.18	Iniskea	85			Lough Doon
96.919.19	Iniskea		T1		Overwash
96.919.20	Iniskea		T1		Overwash
96.919.21	Iniskea		T2		Peat, west
96.919.22	Iniskea		T2		Peat, west
96.919.23	Iniskea	290	T1, T2		Break through
96.919.24	Iniskea	260			Machair gap
96.919.25	Iniskea	80	T2		Peat, east
96.919.26	Iniskea	200	15	S23c	
96.919.27	Iniskea	50	15	S23c	
96.919.28	Iniskea				John and cows
96.919.29	Iniskea	345			Lough Doon
96.919.30	Iniskea	30			Lough Doon
96.919.31	Iniskea				Dwarf Daucus
96.919.36	Iniskea	120			Peat, east
96.919.37	Iniskea				Soil section, with peat near houses
96.920.2	Termoncarragh	120	49	SD6a	Bay
96.920.3	Termoncarragh	360			Bay
96.920.4	Termoncarragh	110	49, 50	SD6a/SD8e	
96.920.5	Termoncarragh	160			
96.920.6	Termoncarragh	30	56, T10	MC1a	
96.920.7	Termoncarragh	100	T10		
96.920.8	Termoncarragh	180			From high point near Q59
96.920.9	Termoncarragh	50			Hummocky
96.920.10	Termoncarragh	90	T11		

96.920.11	Termoncarragh				Peat at stream mouth, brown and black
96.920.12	Termoncarragh	340	75,76,77	AX1a/SX3a/MG11d	Pond
96.920.13	Termoncarragh		75	AX1a	Pond
96.920.14	Termoncarragh		76	SX3a	Pond edge
96.920.15	Termoncarragh		77	MG11d	Pond outer edge
96.920.16	Emlybegs	30	T16		Netting on dune face
96.920.17	Emlybegs	180	82	SD8a	North facing bank
96.920.18	Emlybegs	350			Q near 82
96.920.19	Emlybegs	360	T21		
96.920.20	Emlybegs	240	T22		Ground horizons in blow out sides
96.920.21	Emlybegs	130	94	SD8a	Blowouts
96.920.22	Emlybegs	100	91, 92	MG11c/S19c	
96.920.23	Emlybegs	20			(composite)
96.920.24	Emlybegs	260			(composite)
96.920.25	Emlybegs	330			(composite)
96.920.26	Emlybegs	90	T23		
96.920.27	Emlybegs	60	T24		Bedrock eroding from under massive dunes
96.920.28	Emlybegs				Soil profile on bend near Q105. 3 thin bands
96.920.29	Emlybegs				shell sand, rest of sand very fine
96.920.30	Emlybegs		113	MG11d	Parnassia
96.920.31	Emlybegs	10	T26,114,115	SD8g/SD8c	Hummocky mosaic
96.920.32	Emlybegs	90	T26,114,116	SD8g/SD8a	Hummocky mosaic
96.920.33	Emlybegs	360	117	S19c	
96.920.34	Emlybegs	30	T25		Shingle bank
96.920.35	Emlybegs		116	SD8a	Glacial deposits under Q116
96.920.36	Emlybegs	90			Glacial deposits, clay and very fine sand, see sample
96.920.37	Emlybegs				Glacial deposits under Q116
96.921.3	Emlybegs	140	119,120,121	S23a/S23c/S20b	
96.921.4	Emlybegs		119	S23a	
96.921.5	Emlybegs		120	S23c	Edge
96.921.6	Emlybegs	10	T25		Shingle bank
96.921.7	Emlybegs	110	122	SD6a	
96.921.8	Emlybegs	270			Northernmost stream
96.921.9	Emlybegs	120	T27		Stream and sand face
96.921.10	Emlybegs	305	T27		Stream and sand face
96.921.11	Emlybegs		T27		Soil profile, occasional shell sand lenses (flat) which is only recognisable stratigraphy
96.921.12	Emlybegs				Soil under Q124, waterlogged
96.921.13	Cross Lough	150	125-127	AX1a/A13	Cross Lough

96.921.14	Cross Lough	240			(composite)
96.921.15	Cross Lough	190			(composite)
96.921.16	Cross Lough	40			Up beach from Cross Point
96.921.17	Cross Lough	180			Down beach from Cross Point
96.921.18	Cross Lough	140	T41, 154	SD3	
96.921.19	Cross Lough		155	SD6d	Festuca rubra var. arenaria
96.921.20	Cross Lough	240			Iniskea
96.921.21	Cross Lough		T45		Sgeirean
96.921.22	Cross Lough		T45		Sgeirean
96.921.23	Cross Lough	190	T47		Wall and fence
96.921.24	Cross Lough	10	T48, 162	MGX1	
96.921.25	Cross Lough	350	T48, 162	MGX1	
96.921.26	Cross Lough	120	T42		Storm beach
96.921.27	Cross Lough				Pebbles
96.921.28	Cross Lough		171	AX1c	Cross Lough
96.921.29	Cross Lough	130	170-172	AX1a/AX1c/SX3c	
96.921.30	Cross Lough		172	SX3c	
96.921.31	Cross Lough		172	SX3c	
96.921.32	Cross Lough				Senecio aquaticus and caterpillar
96.921.33	Cross Lough		175	MG5d	Holcus meadow
96.921.35	Aghleam		T53		Soil section
96.921.36	Aghleam		T53		Soil section
96.921.37	Aghleam		T53		Soil section
96.922.0	Aghleam	360			Blowout
96.922.1	Aghleam	260			Blowout
96.922.2	Aghleam		193	SD10	Carex arenaria
96.922.3	Aghleam	260	197	MG5d	
96.922.4	Aghleam	260	199	S23a	Stream
96.922.5	Aghleam		198	SD8g	
96.922.6	Aghleam	60	T57		
96.922.7	Aghleam	290	T57		
96.922.8	Aghleam	100	T59, 205	SDX1	
96.922.9	Aghleam	360	205	SDX1	
96.922.10	Aghleam		206	SD4b	Crithmum
96.922.11	Aghleam	90	207,208	S23a	
96.922.12	Aghleam	340	T60		
96.922.13	Aghleam		184	SX3a	
96.922.14	Aghleam	170	215	SD8e	Salix slack

96.922.15	Aghleam	270	217	SD8g	
96.922.16	Aghleam				Campanulas
96.922.17	Aghleam	150	T62		
96.922.18	Aghleam	210			Achill
96.922.19	Garter Hill	140			
96.922.21	Garter Hill				Stream face soil section
96.922.22	Garter Hill				Boulder overwash
96.922.23	Garter Hill		T1		Lower stream
96.922.24	Garter Hill				(composite 280-260 degrees) NB orange sand to NW
96.922.25	Garter Hill				(composite 280-260 degrees) NB orange sand to NW
96.922.26	Garter Hill				(composite 280-260 degrees) NB orange sand to NW
96.922.27	Garter Hill				(composite 280-260 degrees) NB orange sand to NW
96.922.28	Garter Hill				(composite 280-260 degrees) NB orange sand to NW
96.922.29	Garter Hill				(composite 280-260 degrees) NB orange sand to NW
96.922.30	Garter Hill				(composite 280-260 degrees) NB orange sand to NW
96.922.31	Garter Hill				(composite 280-260 degrees) NB orange sand to NW
96.922.32	Garter Hill				Stream course
96.922.33	Garter Hill	350	T3		Erosion sections
96.922.34	Garter Hill	220	T3		Erosion sections
96.922.35	Garter Hill	265	T5		
96.922.36	Garter Hill	140			
96.923.1	Garter Hill	270	T6		Towards peat and point
96.923.2	Garter Hill	100	T6		Inland
96.923.3	Garter Hill	80	T4		Westernmost
96.923.4	Garter Hill	280	T4		Westernmost
96.923.5	Garter Hill	130	T12		Boulder clay
96.923.6	Garter Hill	165			Up river
96.923.7	Garter Hill	80			To east end of site
96.923.8	Garter Hill	165			Up river
96.923.9	Garter Hill	20			Eroded hill
96.923.10	Garter Hill	40	T13		
96.923.11	Garter Hill	290	24	S23a	
96.923.12	Garter Hill		24	S23a	
96.923.13	Garter Hill		23	MG11d	
96.923.14	Garter Hill	325	T14		
96.923.15	Garter Hill	355	T15		Scoured surface
96.923.16	Garter Hill	160			Up river
96.923.17	Garter Hill	210			Down river

96.923.18	Garter Hill	170			Up river
96.923.19	Garter Hill	205	T17		
96.923.20	Garter Hill	155			
96.923.21	Garter Hill	215	T17		
96.923.22	Garter Hill	260	T16		
96.923.23	Garter Hill	215	T17		
96.923.24	Garter Hill	260	T16		
96.923.25	Garter Hill	190	T17		
96.923.26	Garter Hill	150	T17		
96.923.27	Garter Hill	90	36	SD8e	
96.923.28	Garter Hill	360			hay ricks
96.923.29	Garter Hill	100	T16,T17		
96.923.31	Kinrovar	360			
96.923.32	Keel Lough	60	T1		soil profile
96.923.33	Keel Lough	310	T2		Looking north
96.923.34	Keel Lough	110			South end of site
96.923.35	Keel Lough	360	T2		East end of site
96.923.36	Keel Lough	360	T5		Soil profile
96.923.37	Keel Lough	170			East end of site
96.924.1	Keel Lough	230			Golf course and east end of site
96.924.2	Keel Lough	340			Main drain
96.924.3	Keel Lough		T11		Soil profile
96.924.4	Keel Lough	270	T12		Pipeline route
96.924.5	Keel Lough	300	15	S19a	Lough, Ulex and Q15
96.924.6	Keel Lough	100	T15		Flattened hummocks
96.924.7	Keel Lough	290	T16		Constructed 'foredune'
96.924.8	Keel Lough	120			To east of site
96.924.9	Keel Lough		23	SD8a	Plantago sward
96.924.10	Doo Lough		3	S23a	Ditch
96.924.11	Doo Lough	180	3	S23a	Stream cut soil profile
96.924.12	Doo Lough	220	T4		Man made dune
96.924.13	Doo Lough	280			Beach at west end
96.924.14	Doo Lough	330	T7		Gravel
96.924.15	Doo Lough	20	9	SD2c	
96.924.16	Doo Lough				Salsola kali
96.924.17	Doo Lough				Salsola kali
96.924.18	Doo Lough				Eryngium maritimum
96.924.19	Doo Lough	340			Caraun Head

96.924.20	Doo Lough	80			Caraun Head
96.924.21	Doo Lough	350			Caraun Head
96.924.22	Doo Lough	160			Barnynagappul strand (composite)
96.924.23	Doo Lough	210			Barnynagappul strand (composite)
96.924.24	Doo Lough	250			Barnynagappul strand (composite)
96.924.25	Doo Lough	180	T10		Soil profile under T10
96.924.26	Doo Lough	145	T11		Peat face
96.924.27	Doo Lough	70	T11		Peat face
96.924.28	Doo Lough		15, 16	MG11d/SD8e	Hummock mosaic
96.924.29	Doo Lough	220	T13		Hummock mosaic
96.924.30	Doo Lough		18	AX1a	Nambrack Lough
96.924.31	Doo Lough	210			Peat by Doo Lough
96.924.32	Dooaghtry	190			From north end
96.924.33	Dooaghtry	120	T3		Boulder clay
96.924.34	Dooaghtry	170	14, 15	SD6a	
96.924.35	Dooaghtry	20	10	SD8c	Distant
96.924.36	Dooaghtry	200	26	SM16e	
96.924.37	Dooaghtry		26	SM16e	
96.925.0	Dooaghtry	220	28	SM16c	Soil profile under Q28
96.925.1	Dooaghtry	210	35, 36, T11	SX3b/MG11d	
96.925.2	Dooaghtry		35, 36, T11	SX3b/MG11d	
96.925.3	Dooaghtry	60			(composite)
96.925.4	Dooaghtry	10			(composite)
96.925.5	Dooaghtry	340			(composite)
96.925.6	Dooaghtry	240			Dooaghtry Lough
96.925.7	Dooaghtry	140	55	MG10a	Juncus
96.925.8	Dooaghtry		57	SX3c	Hypericum
96.925.9	Dooaghtry	115	64, 65	SM13b/SM18a	Salt marsh
96.925.10	Dooaghtry	30			Erosion
96.925.11	Dooaghtry	110			From north ridge/step to south
96.925.12	Dooaghtry	320			From north ridge/step to lough
96.925.13	Dooaghtry		75	MG11d	Rock outcrop vegetation
96.925.14	Dooaghtry	10	75	MG11d	Rock outcrop vegetation
96.925.15	Dooaghtry	290	76	S23c	
96.925.16	Dooaghtry		T16		Soil profile
96.925.17	Dooaghtry	280	T17		Remnant 'buttes'
96.925.18	Dooaghtry		T17		Aeolianite
96.925.19	Dooaghtry		T17		Aeolianite

96.925.20	Dooaghtry		T17		Wood remains
96.925.21	Dooaghtry	10	79	SX3b/MG11d	
96.925.22	Dooaghtry	140	T18		Waterfall
96.925.23	Dooaghtry	320	T18		Waterfall to lough
96.925.24	Dooaghtry		88	AX2	Hippurus vulgaris
96.925.25	Dooaghtry		88	AX2	Hippurus vulgaris
96.925.26	Dooaghtry	260			Woodland
96.925.27	Dooaghtry	50			Lough edge (composite)
96.925.28	Dooaghtry	110	T19		Populus tremula (composite)
96.925.29	Dooaghtry	260	T1		West of south beach
96.926.1	Doonloughan	180			False Bay
96.926.2	Doonloughan	195	T4		Across False Bay
96.926.3	Doonloughan	35			Headland
96.926.4	Doonloughan	110			Marsh/Fen
96.926.5	Doonloughan	160	23	SD8i	
96.926.6	Doonloughan	240	T8		Ploughing in soil profile
96.926.7	Doonloughan	165			Fen (composite)
96.926.8	Doonloughan	130			Fen (composite)
96.926.9	Doonloughan	90			Fen (composite)
96.926.10	Doonloughan	50			Fen (composite)
96.926.11	Doonloughan	290	41	S23a	Stream
96.926.12	Doonloughan	90	T10		
96.926.13	Doonloughan	50	T4		Across bay
96.926.14	Doonloughan	35	45	SD8c	Grazed and ungrazed version
96.926.15	Aillebrack	40	64	WD1	
96.926.16	Aillebrack		64	WD1	Coronopus didymus
96.926.17	Aillebrack	290	T12		Beach, gabions and associated vegetation
96.926.18	Aillebrack	130	T12		Beach, gabions and associated vegetation
96.926.19	Aillebrack	140			Second bay
96.926.20	Aillebrack				Crithmum maritimum
96.926.21	Aillebrack		80	MC1a	Armeria and Crithmum
96.926.22	Aillebrack	90	83	CG1e	
96.926.23	Aillebrack	290	T14		Golf club house
96.926.24	Aillebrack	70			To lough
96.926.25	Aillebrack	330			Golf course
96.926.26	Aillebrack	35	84-87	A11/S19a/AX1a/S8	
96.926.27	Aillebrack		84	A11	
96.926.28	Aillebrack		93	SD8e	

96.926.29	Aillebrack	93	SD8e	
96.926.30	Aillebrack	93	SD8e	
96.926.31	Aillebrack	93	SD8e	Gentianella amarella
96.926.32	Equipment			Drag
96.926.33	Equipment			Drag
96.926.34	Equipment			Drag
96.500.2	Melmore	25	M28a	Phragmites reedswamp, N.E. of Melmore lough
96.500.3	Melmore	28	S23b	Drain with Nasturtium, N.E. of Melmore lough
96.500.4	Melmore	31	S19c	Eleocharis/Carex lake edge Melmore lough
96.500.5	Melmore		S10	Polygonum amphibium community
96.500.6	Melmore	33	SD8d	Flat machair veg. north of Melmore lough
96.500.7	Melmore	38	SD6a	Large dune N.W. of Melmore lough
96.500.8	Melmore			Southern slopes of Melmore hill
96.500.9	Melmore	35	S19a	Menyanthes community in Melmore lough
96.500.10	Melmore			Melmore lough and machair from the west
96.500.11	Melmore	39	MC1a	Crithmum maritimum on rock ledge
96.500.12	Melmore	42	SM16c	Armeria maritima community
96.500.13	Tranarossan			Tranarossan machair viewed from the north
96.500.14	Tranarossan			Compacted cars along N. edge of Tranarossan
96.500.15	Tranarossan	71	SD9c	Rosa/Pteridium community
96.500.16	Tranarossan			General view of machair from North-west of site
96.500.17	Tranarossan	67	SX3b	Salix/Carex nigra community
96.500.18	Tranarossan	77	SD7a	Ammophila-dominated fore-dune
96.500.19	Tranarossan			General view of foerdune-machair transition
96.500.20	Tranarossan	78	M13b	Schoenus nigricans community on slope
96.500.21	Tranarossan			Field of oats at s.w. corner of site
96.500.22	Lunniagh N	25	SD8a	Dune vegetation, with Pseudoscleropodium dominant
96.500.23	Lunniagh N	29	S23b	Channel dominated by Apium nodiflorum
96.500.24	Lunniagh N	29	S23b	Channel dominated by Apium nodiflorum
96.500.25	Lunnaigh N	29	S23b	Channel dominated by Apium nodiflorum
96.500.26	Lunniagh N	62	MG11	Rank Festuca-Poa vegetation
96.500.27	Lunniagh N	67	SM13d	General view of Armeria saltmarsh along S. of site
96.500.28	Lunniagh N	67	SM13d	Close-up of salmarsh vegetation
96.500.29	Lunniagh N	68	SM13b	Puccinellia fringe and pool in saltmarsh
96.500.30	Lunnaigh N	67	SM13d	General view of Armeria saltmarsh
96.500.31	Lunniagh N	74, 75	SD8e/MG11d	Flat grassland with sheep along south of site

96.500.32	Lunniagh N			Ammophila dominated dune vegetation
96.500.33	Lunniagh N	85	S14	Sparganium-Caltha community in ditch
96.500.34	Lunniagh N	102	SD8c	Close-up of moss-rich Ammophila community
96.500.35	Lunniagh N	102	SD8c	General view of moss-rich Ammophila community
96.500.36	Lunniagh N			General view of dunes looking south
96.500.37	Lunniagh N			Continuation of previous photo
96.501.2	Keadue	34	SD5	Leymus arenaria strandline
96.501.3	Keadue			Panorama of site interior looking from the north
96.501.4	Keadue			Continuation of panorama
96.501.5	Keadue			Continuation of panorama
96.501.6	Keadue	12	MG5	Hay meadow west of Keadue bay
96.501.7	Keadue	26	SX3c	Iris community in channel east of Arlands lough
96.501.8	Keadue	31	SD8g	Ammophila-Galium-Lotus community
96.501.9	Lettermac	14	MG11d	Calluna-Cirsium dissectum heath
96.501.10	Lettermac			Sandy beach south of Dooey point
96.501.11	Lettermac	26	SD8e	Ammophila-dominated dune vegetation
96.501.12	Lettermac			Interior of large northernmost blowout
96.501.13	Lettermac			Interior of large middle blowout
96.501.14	Lettermac			Reseeded Lolium field with cattle feeders
96.501.15	Lettermac			Interior of large southern blowout
96.501.16	Lettermac			Interior of large southern blowout
96.501.17	Lettermac			Panorama of site interior taken from top of
96.501.18	Lettermac			large dune blowout
96.501.19	Lettermac			
96.501.20	Lettermac			
96.501.21	Lettermac			
96.501.22	Lettermac			
96.501.23	Lettermac			Lizard seen along southern edge of site
96.501.24	Lettermac			
96.501.25	Clooney			Interior of caravan park showing rank Ammophila
96.501.26	Clooney	62	SD4a	Elymus/Leymus foredune
96.501.27	Clooney	66	MG5b	Looking south from dunes showing golf course
96.501.28	Clooney	89	A22a	Transition along northern edge of Clooney lough
96.501.29	Clooney	97	MG5b	Rosa-Arrhenatherum community
96.501.30	Clooney	104	SD7a	Ammophila-Tussilago-Festuca foredune
96.501.31	Clooney			View south-west showing slippage of dune veg
96.501.32	Clooney	108	S4d	Juncus maritimus saltmarsh south of Roshin point

96.502.0	Sheskinmore	12	MC10a	Exposed Carex flacca-Thymus sward close to sea
96.502.1	Sheskinmore	22	SD7a	Moss-rich Ammophila dune vegetation
96.502.2	Sheskinmore	26	SD7d	Ammophila-Tortula dune vegetation
96.502.3	Sheskinmore			Panorama of site taken from dunes at west of site
96.502.4	Sheskinmore			Continuation of above
96.502.5	Sheskinmore			Andy nearby
96.502.6	Sheskinmore	74	M13b	Close up of Platanthera bifolia
96.502.7	Sheskinmore	74	M13b	General shot of species-rich fen veg. with P. bifolia
96.502.8	Sheskinmore	77	MX1	Moss-rich Menyanthes-Equisetum fen community
96.502.9	Sheskinmore	77	MX1	Close-up of Epipactis palustris
96.502.10	Sheskinmore	79	MX1	Species-rich Drepanocladus/Carex fen vegetation
96.502.11	Sheskinmore			Sheskinmore lough seen fron the south-west
96.502.12	Sheskinmore	81	MG11d	Potentilla anserina-Carex nigra community
96.502.13	Sheskinmore	83	MX1	Species-rich fen vegetation with Erioph. latifolium
96.502.14	Sheskinmore	86	S4c	Species-poor Phragmites reedswamp
96.502.15	Sheskinmore	94	SD9c	Rosa pimpinellifolia community with prominent Succisa
96.502.16	Sheskinmore			Anacamptis pyramidalis in flower
96.502.17	Sheskinmore			Panorama of Sheskinmore lake from south
96.502.18	Sheskinmore			Continuation of above
96.502.19	Trawlua			Strand at Trawlua
96.502.20	Trawlua	45	SD8a	Galium-Festuca grassland with prominent Galium
96.502.21	Trawlua	50	MG5d	Tall, species poor Poa pratensis/Holcus grassland
96.502.22	Trawlua			Ben Bulben with Trawlua machair in foreground
96.502.23	Trawlua	55	SD8c	Galium verum-Thymus praecox grassland
96.502.24	Bunduff	104	MG5a	Species-rich heath vegetation with Antennaria
96.502.25	Bunduff	104	MG5a	Species-rich heath vegetation with Antennaria
96.502.26	Bunduff	105	CGX1	Sand-dune vegetation with Cuscuta
96.502.27	Bunduff	106	CGX1	Species-rich vegetation with prominent Anthyllis & mosses
96.502.28	Bunduff	108	MG5b	Improved pasture on sand dominated by Dactylis glomerata
96.502.29	Bunduff	112	SD9c	Rosa pimpinellifolia/Ammophila scrub
96.502.30	Inis Meain			Location shot, Astragalus is located just right of Andy
96.502.31	Inis Meain	14	SD4b	Vegetation dominated by Calystegia and Elymus
96.502.32	Inis Meain	14	SD4b	Same as previous
96.502.33	Mweenish	7	MG12b	Damp grassland dominated by Trifolium pratense
96.502.34	Mweenish	13	SD8i	Festuca grassland with abundant Lotus corn. and Tortula
96.502.35	Mweenish	20	MG1e	Galium-Festuca grassland with Centaurea scabiosa
96.503.2	Mason	10	SX3c	Species-rich vegetation dominated by Iris
96.503.3	Mason	5	SD8e	General view of undulating machair looking south

96.503.4	Omey	7	SD8c	Galium-Festuca grassland with high moss cover
96.503.5	Omey	24	SD8g	Galium-Festuca grassland with high moss cover
96.503.6	Omey	27	S23c	Calliergon/Hydrocotyle flush
96.503.7	Omey			General view of lough Namackan looking north
96.503.8	Dogs bay	30	SD8b	General view of undulating Galium-Festuca grassland
96.503.9	Dogs bay	36	H7e	Heath vegetation dominated by Calluna
96.503.10	Dogs bay			General view of Galium/Festuca grassland
96.503.11	Galway city			Hyoscyamus niger on shingle south of L. Atalia
96.503.12	Galway city			Close-up of releve taken containing H. niger
96.503.13	Iniskea N.			General view of machair on north-eastern side
96.503.14	Iniskea N.	12	SD8c	Heavily grazed Galium-Festuca-Tortula grassland
96.503.15	Iniskea N.	17	SD8e	Moss-rich vegetation on dry slope
96.503.16	Iniskea N.			Panorama of site taken from prominent mound at
96.503.17	Iniskea N.			the south-east of the island. Views pan from north to
96.503.18	Iniskea N.			west
96.503.19	Iniskea N.			
96.503.20	Mullet	49	SD6a	Species-poor Ammophila community in blowout
96.503.21	Mullet	53	SX3b	Holcus-Festuca-Trifolium pratense wet meadow
96.503.22	Mullet	66	SD8b	Extensive, flat Koeleria-Trifolium repens grassland
96.503.23	Mullet	53	SX3	Vegetation very similar to 19 above
96.503.24	Mullet	212	SD8a	Scirpus maritimus dominated vegetation
96.503.25	Mullet			Ammopila/Galium veg with Daucus
96.503.26	Mullet	213	AX1a	Sandy pit dominated by Chara
96.503.27	Mullet	216	SX3b	Fen veg with Salix repens & Parnassia
96.503.28	Mullet	221	MG5d	Agrostis stol slack community
96.503.29	Mullet			Ammophila in sand
96.503.30	Mullet	?		Veg dominated by Rhinanthus and Trif. pratense
96.503.31	Garter hill	9	S23c	Apium nodiflorum-Calliergon community
96.503.32	Garter hill	17	SX3c	Flushed sand dominated by Iris pseudacorus
96.503.33	Garter hill	21	SD8c	General view of Tortula-Homalothecium community
96.503.34	Garter hill			View of headland S.E. of Gartar hill from the north?
96.503.35	Garter hill	21	SD8c	Close-up view of Tortula-Homalothecium community
96.503.36	Garter hill	?		Galium-Festuca grassland S.E. of graveyard
96.503.37	Garter hill			Tent and general view of site from the south-west
96.504.1	Garter hill			General view of site from the south-west
96.504.2	Dooaghtry	64, 65	SM13b/SM18a	Salt-marsh vegetation at Tallaban
96.504.3	Dooaghtry	71	SD7d	Moss-rich dune veg with sparse Ammophila
96.504.4	Dooaghtry	76	S23c	Apium nod./Eleocharis channel

96.504.5	Dooaghtry	77	MG11d	Carex panicea/Plantago marsh
96.504.6	Dooaghtry	86	MG11d	Species-rich fen vegetation Carex pan/Pinguicula
96.504.7	Dooaghtry	92	S19c	Fen vegetation with prominent Bidens cernua
96.504.8	Dooaghtry	97, 98	SX1b/A7	General view of lake dominated by fen and reedswamp
96.504.9	Dooaghtry	97	SX1	Marsh vegetation dominated by Carex lasiocarpa
96.504.10	Dooaghtry	98	A7	Aquatic veg. dominated by Nymphea & Phragmites
96.504.11	Dooaghtry	102	SD2c	Strandline dominated by Salsola kali
96.504.12	Doonloughan	30	M13b	Fen dominated by Juncus subnodulosus
96.504.13	Doonloughan			Fen vegetation dominated by Carex paniculata
96.504.14	Doonloughan			Fen vegetation dominated by Cladium mariscus
96.504.15	Finnish island			Various views taken from roughly the centre of
96.504.16	Finnish island			Finnish island showing widespread erosion
96.504.17	Finnish island			of sand
96.504.18	Finnish island			Ditto
96.504.19	Finnish island			Ditto
96.504.20	Finnish island			Ditto
96.504.21	Finnish island			Ditto

APPENDIX 8

ANNEX 1 HABITAT TYPES PRESENT

ANNEX 1 HABITAT TYPES PRESENT

CODE	NAME	NVC community	Melmore/Tranarossan	Lunnaigh-north and south	Gola Island	Keadue	Lettermacaward/Clooney	Sheskinmore	Trawalua/Bunduff	Garter Hill	Term./Emly./Cross/Aghleam	Kinrovar	Inishkea N.	Keel Lough	Doo Lough	Dooaghtry	Omey Island	Dogs Bay	Murvey	Mannin/Doonloughan/Aillebrac	Mason Island	Mweenish	Finnish Island	Inis Mor	Inis Meain	Inis Oirr
17.2	Annual vegetation of drift lines	SD2, SD3,	x	x	x	x	x		x	x			x		x	x		x	x	x		x	x	x		
17.3	Perrenial vegetation of stony banks										x															
18.21	Vegetated sea cliffs of Atlantic coasts	MC1-MC12,H6-H8	x	x	x	x	x	x	x		x						x	x		x				x		x
15.13	Atlantic salt meadows	SM10-SM20	x	x		x	x	x			x					x	x	x					x			
16.211	Embryonic shifting dunes	SD4	x			x	x	x	x		x	x			x		x	x		x	x		x		x	x
16.212	Shifting dunes along the shoreline (white dunes)	SD6	x	x	x	x	x	x	x	x	x	x		x	x	x		x		x				x	x	x
16.225/.226	Fixed dune with herbaceous vegetation (grey dunes)	SD7-SD11	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
16.25	Dunes with Hippophae rhamnoides	SD18	x					x																		
16.26	Dunes with Salix repens	SD16						x																		
16.31/.35	Humid dune slacks	SD13-SD17	x	x		x	x	x	x		x		x	x	x	x	x	x	x	x	x					
1A	Machairs	SD8d/e (+12)	x	x		x			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
22.11x22.31	Oligotrophic waters, few minerals of Atlantic sandy plains						x																			
22.12x22.44	Hard oligo-mesotrophic waters with benthic veg. of Chara			x				x	x		x		x	x	x	x	x	x	x	x						
34.31-34.34	Semi-natural dry grasslands	CG1-CG9				x														x				x		
38.2	Lowland hay meadows	MG4	x	x		x	x	x	x		x		x	x	x	x	x	x		x	x	x	x	x	x	