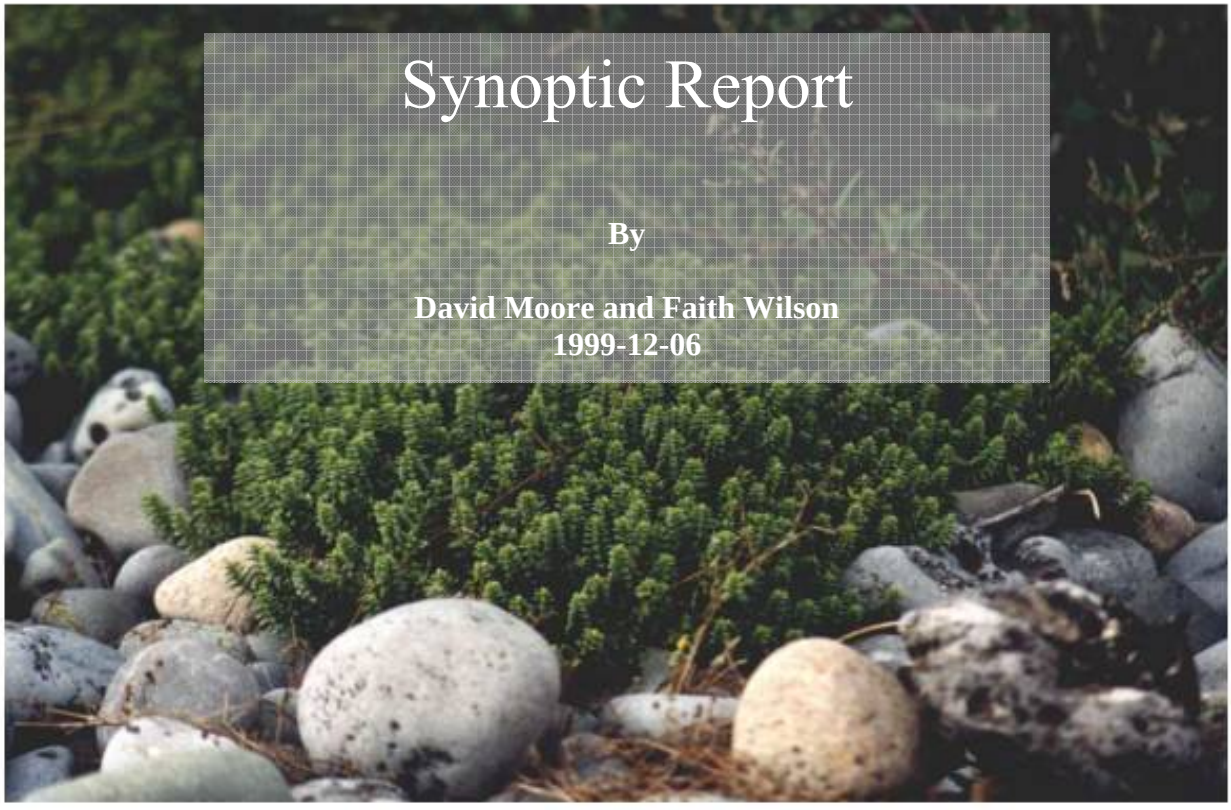
National Shingle Beach Survey of Ireland 1999



Synoptic Report

By

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1999-12-06

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Abstract

This report provides a synopsis of the data presented in the National Shingle Beach Survey files. A total of 153 sites in the counties of Donegal Sligo, Mayo, Galway, Clare, Kerry, Cork, Waterford, Wexford, Wicklow, Dublin, Meath and Louth have been surveyed. The survey methods are outlined. An explanation of terminology and measurements used in the files is given. The individual sites surveyed are listed by county with some general notes on the counties surveyed, including the classification of each beach, location of rare plants and the ranking of each site as either high, medium or low importance. There are 37 sites ranked as high, 51 as medium and 65 as low. Limitations of the survey are highlighted. There is a broad discussion of the vegetation of shingle beaches. Sites of high importance are recommended for further study.

David Moore and Faith Wilson 1999-12-06

1. Introduction

This document is part of The National Shingle Beach Survey Report 1999. The second section of the report takes the form of a set of files – The National Shingle Beach Survey Files.

The National Shingle Beach Survey spanned a six-month period from 21 June to 6 December 1999. Fieldwork was carried out during the months of July, August, September, October and November. Recorded data were then compiled and were presented as files. Summaries of the data in the files are contained within this document as well as explanations of fieldwork protocol, definitions of terms used within the survey report and a brief general discussion of the results of the survey.

The aim of the survey was "To carry out an inventory of shingle areas of conservation on the Irish coast and to record data relating to the rare species and vegetation of the same." The production of an inventory of shingle areas implies the classification of those areas into meaningful groups and the frequency of such groups throughout Ireland accounted for. In this survey an interest rank was given to each site to aid in ascertaining the conservation value of the area. This interest rank was based on the vegetation and rare plant species of the site[1].

There is much confusion in the definition of shingle as a habitat (Packham et al 1999). As such the definition used in this survey will be stated:

[1] Other factors were also considered in the assigning of interest ranks these will be detailed later (Section 2).

Definition: Shingle as a habitat is defined for the purposes of The National Shingle Beach Survey as areas of coastal beaches, above the MHWM, rich in stones of approximately 2mm to 250mm in diameter which have been worked by the sea, giving them a rounded or smoothed shape.

Beaches dominated by larger particles (up to 1.5m in diameter) were termed boulder deposits and were included in the survey. The results of this survey may have an influence on the future conservation status of the sites included therein. Therefore, in light of the NATURA 2000 habitat definitions 17.2 (annual vegetation of drift lines) and 17.3 (perennial vegetation of stony banks), it was decided that a broad definition was required encompassing both habitat types[1].

[1] See "Interpretation Manual of European Union Habitats", 1996, page 10.

2. Methods

As no national survey of shingle beach systems has previously been carried out, part of this survey involved locating coastal shingle systems. A preliminary list was provided by Dr. Tom Curtis, which was augmented by Dr. Oscar Merne. Further sites were gleaned from the National Heritage Area (NHA) files at the National Parks and Wildlife Service headquarters in 7, Ely Place, Dublin 2. The remaining 'unknown' coastline was either checked by us or by proxy by consulting with regional Wildlife Rangers or local residents. Systems smaller than 100m in length were omitted from the survey unless they held particular interest i.e. the presence of a rare plant or a unique shingle formation.

No experimental work was carried out; all data in this report are based on observational notes and photographs. All measurements given in the two sections of the report are estimates; i.e. distances were either estimated or paced out by foot. A sample record card is given in **Appendix I.**

Each site was visited and general observations and notes were made, typically with reference to an Ordnance Survey 1:50,000 map or 6" map, aerial photograph or a sketch map[1]. A photographic record was also made – notable features, evidence of threats etc. were photographed where warranted. A list of plant species growing on the system was compiled for each site and the associated habitats and species therein were noted. Finally a profile (or profiles depending on the size of system) was sketched showing the shape of the beach along a transect

[1] The allowed survey time for each site varied depending on the size of the system but as a rough guide 20 minutes would be allowed for a beach of 200m in length.

of the shore. The mean high water tide mark (MHWM), mean high water springs mark (MHWS) and where obvious the height reached by winter storms was indicated on the profiles, with a rough estimate of distance and height given (see **Figure 1**). Particle sizes along the beach were indicated on the profile.

There are existing particle size scales that rely on accurate and precise measurement of stone particles (Allen 1985, Packham and Willis 1997). However, as all measurements were estimated, we could not measure particle size with sufficient accuracy to compare with a predefined scale. Thus boulders were taken to be approximately head sized, cobbles approximately fist sized and pebbles approximately the size of a 10 pence coin. Particles smaller than pebbles were termed fine gravel if the particles could be easily distinguished as separate and coarse sand if they could not. The addition of the terms 'large' or 'small' to the estimate denote intermediates between any of these particle sizes.

On completion of fieldwork a set of files was prepared detailing each site individually. The classification of shingle beach types was based on observations made during the survey – topography, plant species etc. (see Section 3.6).

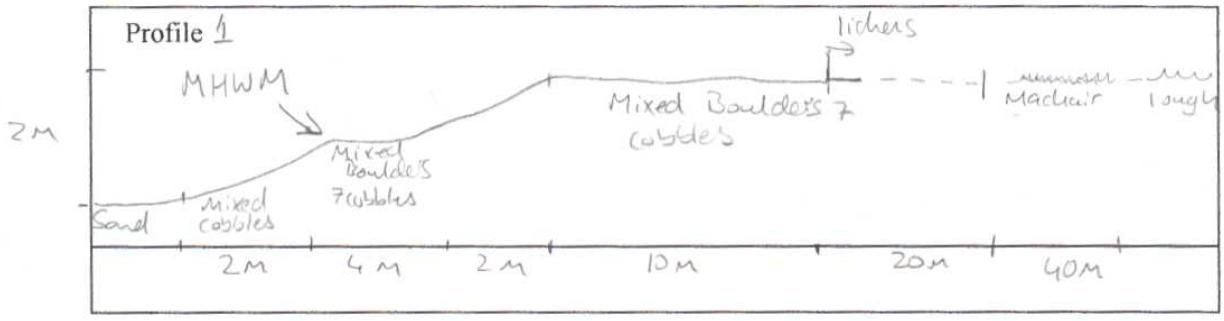

Figure 1: Sketch profile of a section of Sruhir Strand, Co. Mayo

Each site was given an interest rank – high, medium or low. The interest ranks were reviewed after the completion of fieldwork and ranks were assigned on the basis of representivity[1], species diversity[2], habitat diversity[3] and the presence of rare or scarce species[4].

3. Explanation of files

The National Shingle Beach Survey of Ireland 1999 files contain the species lists, profile drawings, maps, observational details and photographs pertaining to each specific site, i.e. they contain the specific information on each site visited, while this report contains more general information on shingle throughout the country. What follows in this section is an explanation of the terms and nomenclature used in the files.

3.1 Site index code

This is a four-digit code particular to each site listed within the Shingle beach files. This is primarily to facilitate rapid file retrieval. Sites are given specific site numbers starting in Co. Donegal and moving around the country in an anti-clockwise direction to Co. Louth.

County	Site codes
Donegal	0001 - 0031
Sligo	0032 - 0038
Mayo	0039 - 0056
Galway	0057 - 0075

[1] How many similar habitats are there in the country?
[2] An estimate of the number of different species at the site.
[3] A ridge system includes a frontal fringe which is distinct from the more stable plateau or the associated shingle based grassland, if present.
[4] These include *Mertensia maritima*, *Lathyrus japonicus*, *Crambe maritima* and *Glaucium flavum*.

County	Site codes
Clare	0076 - 0091
Kerry	0092 - 0104
Cork	0105 - 0120
Waterford	0121 - 0127
Wexford	0128 - 0131
Wicklow	0132 - 0135
Dublin	0136 - 0139
Meath	0140 - 0141
Louth	0142 - 0153

Table 1: Summary of County Site Index Codes in the National Shingle Beach Survey 1999.

3.2 Name of Site

This is the specific site name usually gleaned from the Ordnance Survey of Ireland 6" maps, sometimes from the Ordnance Survey of Ireland 1:50 000 Discovery Series. Individual beaches are not always given specific names on these maps and in such cases the name of the locale is used.

3.3 Beach description

This is a short, general description of the beach.

3.4 County

The full name of the county is printed on the file.

3.5 Interest Rank

There are three interest ranks, which refer to the conservation value of the site. Interest ranks are indicated by a colour code on the file (**Figure 2**).

High - a rank of 'high' denotes a site that is of high conservation value. The site may be of interest botanically or geomorphologically[1]. The authors recommend that further study be carried out on sites of high interest before being put forward as Special Areas of Conservation (SACs) or other designations.

Medium - a rank of 'medium' interest implies the site may be extensive but not of particular interest either geomorphologically or botanically. Some sites of medium interest are borderline cases and could be re-examined if required.

Low - a rank of 'low' interest is reserved for small sites with no particular interest (either geomorphologically or botanically), typically poorly vegetated sites, highly damaged sites or sites which are of a very common classification.

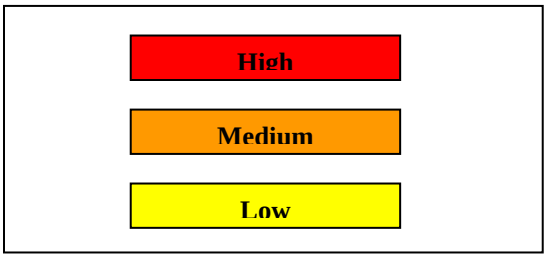

Figure 2: Colour coding of interest ranks in the National Shingle Beach Survey Files.

[1] Geomorphological appraisals may not be valid, as no geomorphologist was present during the survey (see Limitations section).

3.6 Reason for interest

This section details the reason(s) that a site was ascribed a given interest rank. These reasons are typically based on species lists, observations at site, profiles etc.

3.7 Grid reference

The national grid reference for each site is provided. This consists of a 100 000 Metre Grid Square Identification Letter followed by a three digit Easting number and a three digit Northing number. If a single grid reference is given on the files this indicates the middle of the site in question. If two are given these specify the extremities of the site (which naturally runs along the coast between the two given grid references). Elsewhere in the report a single grid reference indicates either the first extremity or the middle of the site.

3.8 Classification

This section gives the beach classification (see Figure 3).

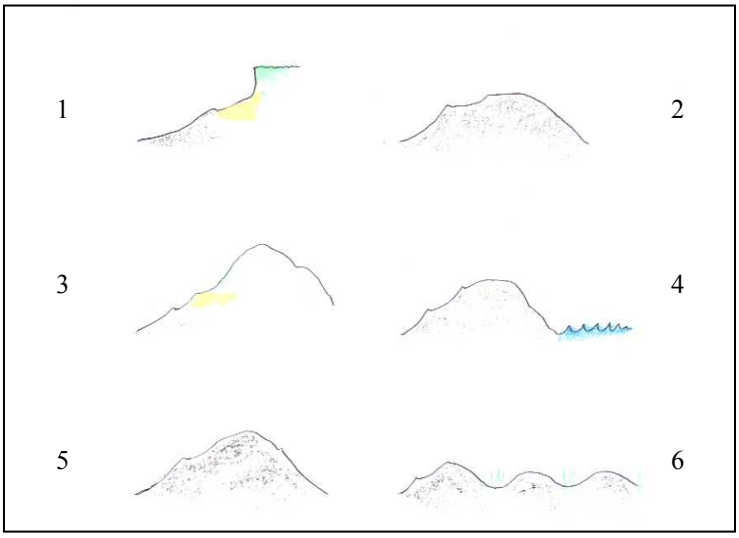

Figure 3: Typical profiles of the 6 different beach classifications used in The National Shingle Beach Survey. 1-finging beach, 2-shingle ridge, 3-shingle based dune system, 4-lagoonal system, 5-shingle spit, 6-multiridged raised beach. The sea is to the left of each of the profiles.

The range of different topographies coupled with general information about associated habitats suggests six broad categories for shingle systems.

3.9 NHA site code

If the site lies within a region contained within an NHA site the appropriate code is given here. Relevant information pertaining to the general area of the shingle site may be found in the NHA files at The National Parks and Wildlife Service, 7 Ely Place, Dublin 2.

3.10 Vegetated / Unvegetated

Denotes presence or absence of plant cover

3.11 Lichens present/absent

Denotes the presence or absence of lichens on the beach, lichen cover is a good indication of stability in shingle beaches.

3.12 Exposed / Sheltered

This note gives an "at a glance" appraisal of the force of the sea and currents on the site.

3.13 Associated habitats

Habitats associated with the shingle beach include:

Intertidal shingle – areas of rounded shingle periodically flooded by the tides. This is an important feeding habitat for many species of birds.

Lagoon – a body of water forming on the landward side of the beach, usually tidal and brackish in nature fed by one or more streams, rivers or rivulets. The lake may exit through a channel in the shingle or may seep through without forming a channel.

Lowland Karst – areas of exposed limestone pavement.

Machair – dry sandy grassland forming behind the beach, typically grazed, potentially shingle based.

Rocky shore – outcrops of bedrock frequently washed by the sea or salt spray.

Saltmarsh – sand or mud based areas of land frequently inundated by seawater. Dominated by *Salicornia*, *Puccinellia* and *Spergularia* species.

Sand Dunes – *Ammophila* dominated, wind formed, drifts of vegetated sand found behind the beach, may be cobble based.

Shingle based grassland – shingle worked by the sea forms the underlying substrate of grassland. May be grazed or not, typically dry, dominated by *Festuca rubra*, *Lotus corniculatus*, *Trifolium repens* and others.

3.14 Substrate type

This is divided into stony or sandy. The difference between sandy and stony has inferences as to the energy of the system i.e. the force of the sea at each location. Similarly the rounded / angular measure reflects the force of the sea on the stones. However these simple measures are not only purely observational but are confounded by ocean currents, availability of substrate, and the time of year. None of these additional factors were taken into account in a meaningful, quantitative way in this report.

3.15 Species list

This consists of a complete list of all species of plants found at the site during the survey, (alphabetically ordered for ease of comparison between sites). Species found at particular locations within the site are repeated with the notes for that site. Where there are distinct zones of a plant species on the beach, i.e. on the front, plateau or back of the beach, this is also indicated.

3.16 Impacts

This section is essentially a list of human impacts and alterations at the site. These are often associated with coastal protection measures and may include:

Extraction / movement of shingle – artificial movement or removal of beach substrate.

Dumping – dumping of waste materials on the beach (specified in the text).

Rock armoury – artificially deposited or constructed boulder anti-erosion measure.

Groynes – anti-erosion measure consisting of small rocks sealed in wire mesh.

Sea wall – constructed cement wall running along the back of the shore.

Car park – flattened area used frequently for parking vehicles.

Development – non-specified artificial impact (detailed in notes)

None – no apparent human influences.

3.17 Notes

These observations may form the bulk of information in many files, especially those consisting of long stretches of coastline, where notes indicate sub-sites within a site. The format follows the NHA files. Notes may refer to an associated site map, sketch map or aerial photograph. A list of plant species at that particular sub-site is often associated with the note.

3.18 Profile drawings

These are drawn by hand, on separate sheets; containing up to 4 profiles on each sheet (see Fig.1). They incorporate the distribution of substrate (cobbles, pebbles, boulders etc) along the beach and the topography of the given transect (the location at which it was made should be noted on the appropriate map, sketch or aerial photo). Where noted the profiles also indicate the occurrence of lichens and/or plant communities.

3.19 Site maps

Site maps typically consist of a location map (Ordnance Survey of Ireland Discovery Series, 1: 50 000) which indicates the general location of the site within the surrounding region. This is accompanied by the relevant Ordnance Survey 6" map(s) for that site. These 6" maps often indicate the relevant location for related notes/profile drawings.

3.20 Sketch maps

A sketch map was sometimes made on site to indicate a particular feature not clearly shown by the site map.

4. Results

The counties of Donegal, Sligo, Mayo, Galway, Clare, Kerry, Cork, Waterford, Wexford, Wicklow, Dublin, Meath and Louth have been surveyed giving a total of 153 sites (Fig. 4)

4.1 Regional synopses

The following section provides a list of sites surveyed during the 1999 fieldwork season. General comments on the shingle systems in each region can be found at the end of each section. Sites of particular interest are highlighted in red.

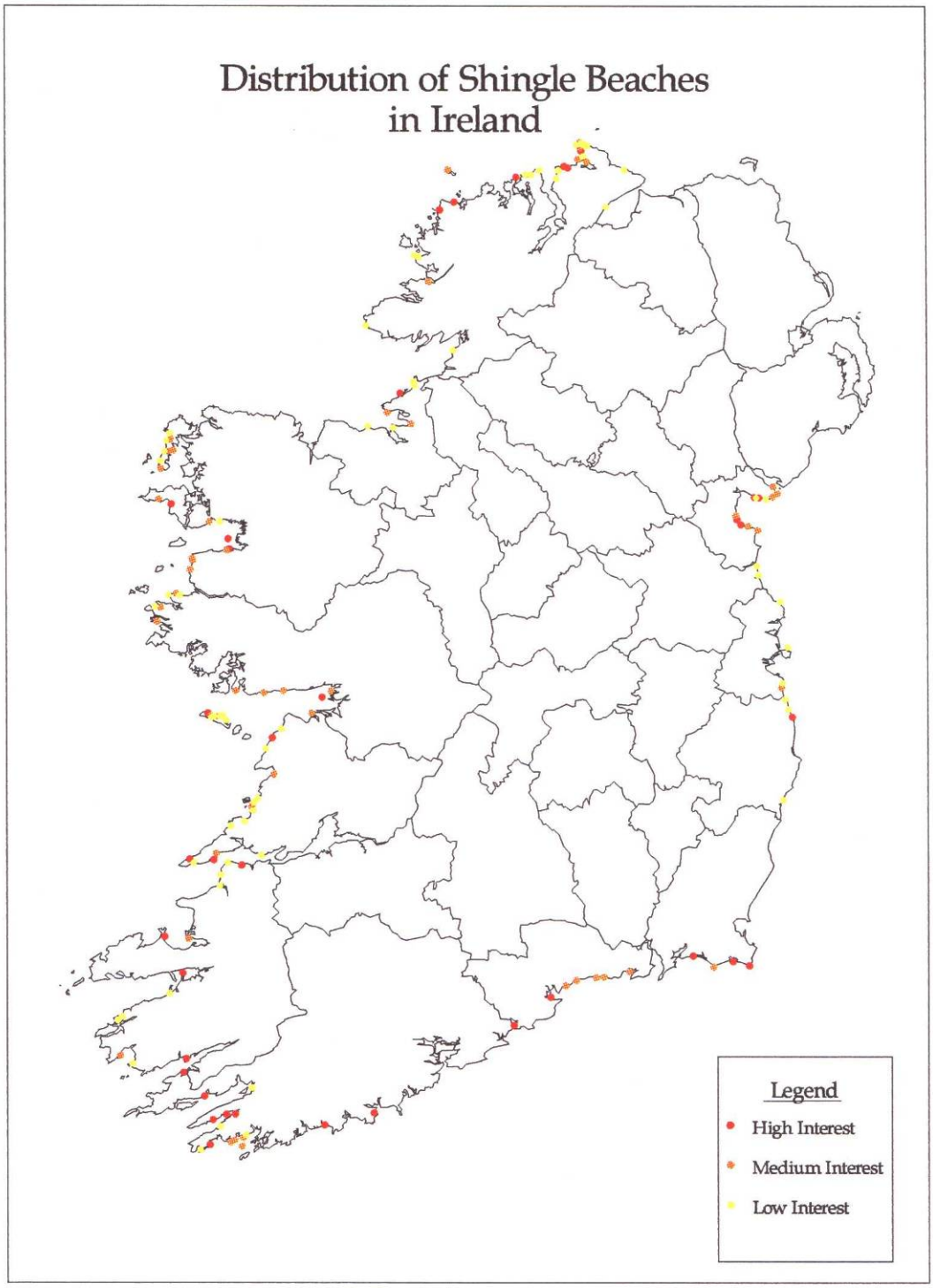

Figure 4: Map of Ireland showing the sites surveyed in the National Shingle Beach Survey. Coloured dots refer to the interest rank of the site.

Donegal

Donegal contains huge areas of shingle beaches and is noted as a county for its raised beaches (**Table 2**). The best shingle in this county is found on the Inishowen peninsula and on Doagh Isle. Although 31 sites were noted in Donegal many were classified as low due to poor vegetation cover or a variety of impacts. The rare plant *Mertensia maritima* was present on several sites in the county.

Sligo

There is little shingle of interest in Sligo although it does contain one of only three shingle based dune systems in the country (Streedagh) (**Table 3**). Raghly and Standalone Point are the other sites of note. Although there is considerable damaged portions of Raghly parts of the beach show a stable and diverse habitat. Standalone Point is a curved spit that is highly sheltered and well vegetated.

Site code	Site Name	Classification	Interest	Grid reference
0001	Northwestern shoreline of Lough Foyle.	Vegetated fringing beach	Low	C515315
0002	Tramone Bay.	Vegetated fringing beach	Low	C595476
0003	Slievebane.	Vegetated shingle ridge	Low	C437581
0004	Bulbin.	Vegetated fringing beach	Low	C426582
0005	Portmore.	Vegetated fringing beach	Low	C422584
0006	Bulbinbeg.	Vegetated fringing beach	Low	C423587
0007	Esky Bay.	Vegetated fringing beach	Low	C412589
0008	Pebble Strand.	Unvegetated shingle ridge	Medium	C404594
0009	Ineuran Bay.	Unvegetated shingle ridge	Low	C391585
0010	Whitestrand Bay.	Vegetated fringing beach, Multi-ridged raised beach	Medium	C408572
0011	Whitestrand Bay - Culoort.	Multi-ridged raised beach	High	C412558
0012	Back Strand.	Vegetated shingle ridge, Vegetated fringing beach	Low	C420535
0013	Doaghmore point.	Vegetated shingle spit	Medium	C436510
0014	Lagacurry, Doagh Strand, Bincree, Binderg.	Vegetated shingle ridge, Vegetated fringing beach	Medium	C407525
0015	Pollan Bay.	Multi-ridged raised beach	Medium	C397523
0016	Tullagh Bay and Tullagh Point.	Vegetated shingle ridge, Multi-ridged raised beach	High	C355485
0017	Rockstown Harbour.	Multi-ridged raised beach	High	C339491
0018	Dunaff Bay.	Vegetated shingle ridge, Vegetated fringing beach	Low	C314473
0019	Lehan Bay.	Unvegetated fringing beach	Low	C305438
0020	Fanad Head.	Vegetated shingle ridge	Low	C232473
0021	Ballyhiernan Bay.	Vegetated fringing beach	Low	C197454
0022	Rinboy Point to Ballyhoorisky Island.	Vegetated fringing beach	Low	C173455
0023	Rossguill Peninsula.	Vegetated fringing beach	High	C133444
0024	Tory Island.	Vegetated shingle ridge	Medium	B842475
0025	Coastline from Port ui Chuirean to Bunaninver.	Vegetated shingle ridge, Unvegetated fringing beach, Multi-ridged raised beach	High	B868336
0026	Port bun an Inbhir.	Vegetated shingle ridge	High	B807302
0027	Maghery Bay and Termon Strand.	Vegetated shingle ridge, Vegetated fringing beach	Low	B715096
0028	Illancrone and Iniskeeragh Island.	Vegetated fringing beach	Low	B695103
0029	Roishin Point.	Vegetated shingle spit	Medium	G758990
0030	Malin Beg.	Unvegetated fringing beach	Low	G489801
0031	Rossnowlagh Point.	Vegetated fringing beach	Low	G860695

Table 2. Summary of sites surveyed in County Donegal.

Site code	Site Name	Classification	Interest	Grid reference
0032	Carricknacarta.	Vegetated fringing beach	Low	G690561
0033	Trawalna Strand.	Unvegetated fringing beach	Low	G695543
0034	Streedagh.	Vegetated shingle ridge	High	G635510
0035	Raghly.	Vegetated shingle ridge	Medium	G580427
0036	Standalone Point.	Vegetated shingle ridge	Medium	G681377
0037	Strandhill.	Unvegetated fringing beach	Low	G604360
0038	Aughris Head.	Vegetated shingle ridge	Low	G496367

Table 3: Summary of sites surveyed in County Sligo.

Mayo

Tramore at Keel, Achill Island is a very large multi-ridged system that is also extremely extensive. The Belmullet Peninsula is notable for its ephemeral shingle ridges – the ridges are 5m high in some places (Portacarn) but can disappear for months at a time. The vegetation on these very dynamic ridge systems is sparse and seems to protrude from the dunes and sandy shore on which the shingle is deposited.

Site code	Site Name	Classification	Interest	Grid reference
0039	Bingham Lodge.	Unvegetated fringing beach	Low	F652333
0040	Belderra Strand.	Vegetated fringing beach	Medium	F655310
0041	Cross Lough.	Vegetated fringing beach	Low	F638302
0042	Barranagh Island.	Vegetated shingle spit	Medium	F667261
0043	Barrack South.	Vegetated fringing beach	Medium	F648257
0044	Portacarn and surrounds.	Unvegetated fringing beach	Low	F630256
0045	Portglash.	Unvegetated fringing beach	Low	F611215
0046	Portmore.	Unvegetated shingle ridge	Medium	F613182
0046	Portmore.	Vegetated fringing beach	Medium	F613182
0047	Dooagh Strand, Achill.	Vegetated fringing beach	Medium	F605048
0048	Trawmore, Keel.	Vegetated shingle ridge	High	F658027
0048	Trawmore, Keel.	Vegetated fringing beach	High	F658027
0049	Mulranny beach.	Vegetated fringing beach	Medium	L820950
0049	Mulranny beach.	Unvegetated shingle ridge	Medium	L820950
0050	Rossmurrevagh.	Vegetated fringing beach	Low	L863952
0051	Clew Bay Complex.	Vegetated shingle ridge	High	L900878
0051	Clew Bay Complex.	Vegetated fringing beach	High	L900878
0052	Bartraw Strand.	Vegetated shingle spit	High	L905834
0053	Thornhill strand and surrounds.	Vegetated fringing beach	Medium	L894830
0053	Thornhill strand and surrounds.	Vegetated shingle ridge	Medium	L894830

Site code	Site Name	Classification	Interest	Grid reference
0054	White Strand.	Vegetated lagoonal system	Medium	L746793
0055	Sruhir Strand.	Vegetated lagoonal system	Medium	L750784
0056	Bunlough Strand.	Unvegetated lagoonal system	Medium	L738745

Table 4: Summary of sites surveyed in County Mayo.

Galway

There is more shingle in Galway than was imagined at the outset of this project (**Table 5**). Two sites have scarce plants on them – Tawain Point has a small population of *Glaucium flavum* (the most Northern site for that plant on the West Coast) and An Gleannachán, on Inismór supports a population of *Crambe maritima*. In the North of the county the shingle has a patchy distribution and only small deposits are found. The shingle in the South of the county is characterised by well vegetated deposits of angular shingle behind rocky outcrops, typically dominated by *Raphanus raphanistrum* Subsp. *raphanistrum*.

Site code	Site Name	Classification	Interest	Grid reference
0057	Tully.	Unvegetated fringing beach	Low	L693635
0058	Rosheenduff Lough.	Vegetated fringing beach	Medium	L679642
0059	Rinvyle Point (Trawmore).	Unvegetated fringing beach	Low	L645635
0060	Cleggan Strand (Lough Anilaun).	Vegetated lagoonal system Vegetated fringing beach	Medium	L612582
0061	Sellerna Bay.	Vegetated fringing beach	Low	L587586
0062	Ardmore, Clifden Bay.	Vegetated shingle spit	Medium	L596522
0063	Carraroe.	Vegetated fringing beach	Medium	L931222
0064	Loughaunbeg to Cora na Ceibhe.	Vegetated fringing beach Vegetated shingle ridge	Medium	M050213
0065	Spiddle beach to Ballymoneen.	Vegetated shingle ridge Vegetated fringing beach	Medium	M134222
0066	Rinville Point.	Vegetated shingle spit	Medium	M338341
0067	Tawain Point	Vegetated shingle ridge Vegetated fringing beach	High	M299194
0068	An Gleannachan.	Vegetated shingle ridge Vegetated lagoonal system	High	L812124
0069	Clochan.	Vegetated shingle ridge	Medium	L825114
0070	Port Mhuirbhigh.	Vegetated fringing beach	Low	L828105
0071	An Scailp Fhada.	Vegetated shingle ridge	Low	L837111
0072	Port Chorruch.	Vegetated lagoonal system	Medium	L856111
0073	Port Eochla.	Vegetated shingle ridge	Low	L864111
0074	Potrnamonastragh.	Unvegetated fringing beach	Low	L873115

Site code	Site Name	Classification	Interest	Grid reference
0075	Tra na bhFrancach.	Vegetated fringing beach	Low	L887094

Table 5: Summary of sites surveyed in County Galway.

County Clare

Clare has some interesting stretches of shingle (**Table 6**). The southern shoreline of Galway Bay is almost entirely composed of shingle deposits – these vary from unvegetated and vegetated fringing beaches to vegetated shingle ridges. Much of this is unworked and often deposited on intertidal limestone pavement/karst. The southerly deposits indicate a more dynamic environment with rounded and smooth limestone cobbles and boulders. There are also two cobble lagoon barrier formations separating Lough Donnell and Cloonconeen Lough from the sea. A fine population of *Crithmum maritimum* at Poulsallagh is possibly the largest seen during the survey.

Site code	Site Name	Classification	Interest	Grid reference
0076	Coastline from Black Head to Carrickada.	Vegetated lagoonal system, Vegetated shingle ridge, Unvegetated shingle ridge, Vegetated fringing beach	Medium	M255124
0077	Poulnagraghaun.	Vegetated fringing beach	Low	M123056
0078	Poulsallagh.	Vegetated shingle ridge	High	M086018
0079	Doolin.	Unvegetated shingle ridge	Low	R057971
0080	Lahinch.	Vegetated fringing beach	Medium	R092862
0080	Lahinch.	Vegetated shingle ridge	Medium	R092862
0081	Caherrush, Spanish Point and Travaun Bay.	Unvegetated fringing beach Vegetated shingle ridge	Low	R021760
0082	Lough Donnell.	Vegetated lagoonal system	Low	R002707
0083	Carricknola/Tromc astle Strand.	Vegetated shingle ridge	Medium	R997730
0084	Quilty.	Vegetated shingle ridge, Unvegetated fringing beach	Low	R006742
0085	Farrihy Bay.	Vegetated shingle ridge	Low	Q907640
0086	Doonbeg and Rinnagonaght Strand.	Vegetated shingle ridge, Unvegetated fringing beach	Low	Q965661
0087	Ross Bay.	Vegetated shingle ridge	High	Q733498
0088	Kilbaha Bay.	Unvegetated fringing beach	Low	Q750483

Site code	Site Name	Classification	Interest	Grid reference
0089	Cloonconeen Lough and Rinvella Bay.	Vegetated lagoonal system	High	Q835496
0090	Carrigaholt Bay.	Vegetated shingle ridge, Unvegetated fringing beach	Medium	Q845523
0091	Ballymacrinan Bay.	Unvegetated fringing beach	Low	R025524

Table 6: Summary of sites surveyed in County Clare.

Kerry

Northern Kerry holds few shingle beaches of note, being mostly storm deposits of unvegetated shingle (**Table 7**). The exception is a small shingle bar in Bunaclugga Bay – a record of *Glaucium flavum* for this site was not checked due to difficulties with access. The coastline of peninsular County Kerry, whilst predominantly composed of rocky cliffs, also affords some good shingle beaches – notably Rossdohan Island and Ballinskelligs, both well vegetated shingle spits. The *Crambe maritima* population at Cromane point was no longer present and this site should be revisited. A superb population of *Euphorbia paralias* was found growing on shingle at Magherabeg.

Site code	Site Name	Classification	Interest	Grid reference
0092	Bunaclugga Bay.	Vegetated shingle spit	High	Q954472
0093	Corcas and sandhills.	Unvegetated shingle ridge	Low	Q894484
0094	Bromore.	Unvegetated fringing beach	Low	Q864430
0095	Ballybunnion.	Unvegetated fringing beach	Low	Q862383
0096	Fenit.	Vegetated shingle ridge	Medium	Q727153
0097	Magherabeg.	Vegetated shingle ridge	High	Q627160
0098	Cromane Point.	Vegetated shingle ridge Vegetated shingle spit	High	Q702004
0099	Rossbehy.	Unvegetated shingle ridge	Low	V645915
0100	Cooncrome Harbour.	Vegetated shingle ridge	Low	V444816
0101	Doulus Bay.	Unvegetated fringing beach	Low	V425800
0102	Ballinskelligs.	Vegetated shingle spit	Medium	V435650
0103	Waterville.	Unvegetated fringing beach	Low	V487616
0104	Rossdohan Island.	Vegetated shingle spit	High	V717637

Table 7: Summary of sites surveyed in County Kerry.

Cork

Shingle in Cork is typically found as small deposits (**Table 8**). Pallas Harbour is an unusual tombola/spit formation with a diverse flora. Adrigole Harbour was not surveyed; this site was only brought to the attention of the authors in late November when a report of a new site for *Crambe maritima* at this location was submitted to NPWS. The islands in Roaringwater Bay have a large amount of intertidal shingle but only the sites with shingle above the high tide mark for at least part of the year are shown. Calf Island Middle has a set of three lagoons and an interesting flora. Castle Island and Long Island are also botanically interesting, with Castle Island sporting a population of yellow horned poppy (*Glaucium flavum*). There are several other sites of interest in Cork containing populations of rare plant species - namely Broadstrand Bay for *Glaucium flavum*, Ownahincha and the Crookhaven site for the presence of *Lathyrus japonicus* and *Crambe maritima* respectively. Reen Point, Reenydonagan Lough and Farranagh Lough all have lagoons associated with them and the site opposite Manion's Island Large has an associated salt marsh and brackish marsh.

Site code	Site Name	Classification	Interest	Grid reference
0105	Pallas Harbour.	Vegetated shingle spit	High	V706578
0106	Adrigole Harbour, West.	Vegetated fringing beach	High	V794477
0107	Reenydonagan Lough.	Vegetated lagoonal system	Low	V995514
0108	Farranamagh Lough.	Vegetated lagoonal system	High	V830376
0109	Reen Point.	Vegetated shingle spit	High	V887399
0110	Rossmore.	Vegetated shingle ridge	High	V925400
0111	Opposite Horse Island.	Vegetated shingle ridge	Low	V859346
0112	Barley Cove.	Unvegetated fringing beach	Low	V776245
0113	South of Spanish point, Crookhaven.	Vegetated fringing beach	High	V817267
0114	Long Island West.	Vegetated fringing beach	Medium	V905278
0115	Long Island East.	Vegetated fringing beach	Medium	V923286
0116	Castle Island.	Vegetated shingle ridge	Medium	V959297
0117	Rossbrin Point.	Vegetated fringing beach	Low	V970310
0118	Calf Island Middle.	Vegetated shingle ridge	Medium	V953260

Site code	Site Name	Classification	Interest	Grid reference
0119	Ownahinchy.	Vegetated shingle ridge	High	W306353
0120	Broadstrand Bay.	Vegetated shingle ridge	High	W516406

Table 8: Summary of sites surveyed in County Cork.

Waterford

Much of the South coast of Waterford is open cliff, many bays are indeed shingle based but most is intertidal (**Table 9**). Tramore, The Conigar and Ferryport represent the larger systems; the others are small deposits. Ferryport is of particular interest – a spit out into Youghal harbour on the Waterford side. It is a developed system with *Rubus*, *Ulex* and even *Crataegus monogyna* growing near the centre over a shingle based *Festuca* dominated grassland. A small population of yellow horned poppy (*Glaucium flavum*) is found on the southern side of the spit. There is also a lagoon, which is at least brackish judging by the vegetation. The site does however have a house and access road built. The Conigar and Tramore Strand are both dune systems either shingle based or with fringing shingle deposits.

Site code	Site Name	Classification	Interest	Grid reference
0121	Ferrypoint.	Vegetated shingle spit	High	X115780
0122	The Cunnigar.	Vegetated shingle spit	High	X272901
0123	Ballyvoyle.	Vegetated fringing beach	Medium	X336950
0124	Killmurren.	Vegetated shingle ridge	Medium	X465985
0125	Annestown.	Vegetated fringing beach	Medium	X498988
0126	Ballyvooney bridge.	Vegetated fringing beach	Medium	X382973
0127	Tramore dunes and backstrand.	Vegetated shingle ridge	Medium	S610010

Table 9: Summary of sites surveyed in County Waterford.

Wexford

The shingle sites in Wexford are summarised in **Table 10**. Ballyteige is the most impressive single based dune system in the country. There are 'cobble valley's' in between the some of the

dunes. This site immediately recommends itself for conservation as a highly developed shingle system, however it is already protected. Lady's Island Lake is notable for the presence of *Otanthus maritimus*. Lady's Island, Tachumsin and Ballyteige are all notable for their size and the development of dunes on top of the shingle bars.

Site code	Site Name	Classification	Interest	Grid reference
0128	Ballyteigue Burrow.	Shingle based dune system	High	S880079
0129	Kilmore Quay.	Vegetated fringing beach	Medium	S967032
0130	Tacumshin Barrier.	Vegetated lagoonal system	High	T050055
0131	Lady's Island Lake barrier.	Vegetated lagoonal system	High	T120037

Table 10: Summary of sites surveyed in County Wexford.

Wicklow

The Arklow site is included only because it is an ephemeral system that can disappear and reappear sporadically – there is no vegetation there. The Murrough is very extensive with the most interesting portion (botanically) being just north of the road to Newcastle. There are good amounts of *Glaucium flavum*, in the more disturbed places. Most of the northern part of the Wicklow coast, (i.e. Greystones and Bray beaches) is composed of shingle, which is poorly vegetated and is often intertidal (see **Table 11**).

Site code	Site Name	Classification	Interest	Grid reference
0132	Arklow.	Unvegetated fringing beach	Low	T265753
0133	The Murrough.	Vegetated shingle ridge	High	O306109
0134	Greystones Beach.	Vegetated fringing beach	Low	O288141
0135	Bray Beach.	Unvegetated fringing beach	Low	O275185

Table 11: Summary of sites surveyed in County Wicklow.

Dublin

There is very little shingle of note in Dublin although there are some patches of well-vegetated shingle beach on Killiney Beach (see **Table 12**.)

Site code	Site Name	Classification	Interest	Grid reference
0136	Killiney Bay, South.	Vegetated fringing beach	Medium	O260237
0137	Killiney Bay, North.	Vegetated fringing beach	Low	O263257
0138	Ireland's Eye.	Vegetated fringing beach	Low	O286412
0139	North Beach, Skerries.	Vegetated fringing beach	Low	O250688

Table 12: Summary of sites surveyed in County Dublin.

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Meath

There is no shingle of note in Meath (**Table 13**).

Site code	Site Name	Classification	Interest	Grid reference
0140	Laytown Strand.	Vegetated fringing beach	Low	O162722
0141	Mornington.	Vegetated fringing beach	Low	O155761

Table 13: Summary of sites surveyed in County Meath.

Louth

The shingle sites in Louth are summarised in **Table 14**. The majority of the shingle beaches are simple, narrow stretches of cobbles or boulders with communities of *Beta vulgaris*, *Atriplex prostrata*, *Tripleurospermum maritimum* and *Glaux maritima*. However, where topography allows (i.e. where the beach is not backed by a cliff, a road or a barrier of some kind) the shingle ridge develops into a multi-ridged system with lichens growing on the cobbles further from the sea and more permanent vegetation. *Glaucium flavum* is surprisingly abundant in this region, particularly in disturbed regions – where extraction has taken place. The foreshore in Louth is not managed and several cases of car dumping were noted.

Site code	Site Name	Classification	Interest	Grid reference
0142	Michelstown and Lurganboy.	Vegetated fringing beach	Medium	O160915
0143	Salterstown to Dunany Point.	Vegetated fringing beach Vegetated shingle ridge	Medium	O120933
0144	Annagassan Pier to Ardsallagh.	Vegetated fringing beach Multi-ridged raised beach	High	O089940
0145	Castlebellingham to Annagassan Pier.	Multi-ridged raised beach	High	O072962
0146	Lurgan White House.	Vegetated fringing beach	Medium	O068979
0147	Eggleston Point to Dundalk.	Vegetated fringing beach Multi-ridged raised beach	High	J147057
0148	Giles Quay.	Vegetated fringing beach	Low	J155055
0149	River Foot.	Vegetated shingle ridge	High	J166055
0150	Rathcor Lower and Johns Town.	Vegetated fringing beach	Low	J195049
0151	Whitestown to Cooley Point.	Vegetated fringing beach	Medium	J225060
0152	Balagan Point.	Vegetated fringing beach	Medium	J244073
0153	Greenore.	Vegetated fringing beach	Medium	J226105

Table 14: Summary of sites surveyed in County Louth.

4.2 Analyses of data on a national scale

Beaches were divided into various classifications (see **Figure 2**). The proportion of each beach type at each interest rank is given in **Table 15** as well as the total number of each classification of beach in the country.

	Interest rank			
Classification	High	Medium	Low	Total
Multi-ridged raised beach	7 78%	2 22%	0 0%	9 100%
Shingle based dune system	3 100%	0 0%	0 0%	3 100%
Unvegetated fringing beach	1 4%	1 4%	22 92%	24 100%
Unvegetated lagoonal system	0 0%	1 100%	0 0%	1 100%
Unvegetated shingle ridge	0 0%	4 50%	4 50%	8 100%
Vegetated fringing beach	7 11%	28 44%	29 45%	64 100%
Vegetated lagoonal system	5 42%	5 42%	2 17%	12 100%
Vegetated shingle ridge	14 30%	18 40%	14 30%	46 100%

	Interest rank			
Classification	High	Medium	Low	Total
Vegetated shingle spit	8 57%	6 43%	0 0%	14 100%
Total	**45** **25%**	**65** **36%**	**71** **39 %**	**181** **100%**

Table 15: The proportion of each classification of beach at each importance rank.

The total number of classifications is 181 whereas the total number of sites is only 153. This is because any given site can contain within it a number of beach types. For example Keel Strand in Mayo is fringing beach at the NW end of the system while the majority of the beach is the form of a vegetated shingle ridge, thus Keel Strand has two types of beach on it.

Systems that are ranked HIGH are recommended for further study and for potential inclusion as Special Areas of Conservation (SAC). Some systems may be within existent National Heritage Areas or even within existent SACs; however we have highlighted systems in which shingle forms and integral part of the conservation value of the site.

Unvegetated systems feature poorly in the HIGH interest category. This is because they do not represent a permanent and meaningful habitat (for plants). Many are ephemeral and only manifest themselves at certain times of the year. Vegetated fringing beaches also feature poorly in the HIGH interest category. The main reason for this is that the habitat is essentially included in other beach types – at the front of a shingle ridge is a habitat which is very similar to a fringing beach habitat. All of the shingle based dune systems are recommended for conservation, as there are only three such systems in the country. Eight of the fourteen shingle

spits are conserved and fourteen of the forty-six vegetated shingle ridges are ranked HIGH. There are fourteen lagoonal systems; five are ranked HIGH. **Table 16** shows the total number of sites and the total numbers of sites at each interest rank. Nearly one quarter of the total number of sites surveyed are ranked of high importance.

Interest rank	Number of sites
High	37 24%
Medium	51 33%
Low	65 43%
Total	**153**

Table 16: Total number (on top in black) and the percentage (below in green) of sites at each interest rank.

4.3 Vegetation

A complete list of plants found during the survey can be found in the record card (**Appendix 1**). However this list includes anomalous plants that may have only been found once throughout the entire survey. **Table 17** shows the thirty most commonly found species during the survey (i.e. these plants were found in the most number of sites during the survey).

Species name	
Tripleurospermum maritimum	*Rumex crispus*
Festuca rubra	*Atriplex prostrata*
Galium aparine	*Plantago lanceolata*
Glaux maritima	*Potentilla anserina*
Taraxacum agg.	*Beta vulgaris*
Lotus corniculatus	*Trifolium repens*
Sonchus arvensis	*Urtica dioica*
*Silene vulgaris (*Subsp. *maritima)*	*Rubus fruticosus*
Cirsium sp.	*Agrostis stolonifera*
Ammophila arenaria	*Raphanus raphanistrum (*Subsp. *raphanistrum)*
Senecio jacobaea	*Cochlearia officinalis*
Geranium robertianum	*Senecio vulgaris*
Daucus carota	*Ranunculus repens*
Plantago coronopus	*Plantago maritima*
Crepis capillaris	*Honkenya peploides*

Table 17: A list of the thirty most commonly found species on shingle during the National Shingle Beach Survey 1999.

The classifications (see **Table 15**) reflect, in part, different plant communities. Fringing beaches tended to have less diverse vegetation than any other vegetated classification because of the lack of a stable and permanent habitat. This is true for the front areas of all beaches, which would be more effected by the action of the sea than areas further inland. Front or fringe vegetation was typically limited to *Tripleurospermum maritimum*, *Rumex crispus*, *Atriplex prostrata*, *Beta vulgaris*, *Sonchus arvensis* and some summer populations of *Potentilla anserina* and *Galium aparine*. Systems with a significant stable area at the site (i.e. with lichens encrusting the stones on the plateau or the back of the ridge) tended to have a more diverse flora. In addition to the

fringing beach type vegetation the stable systems tended to include *Plantago lanceolata*, *Festuca rubra*, *Lotus corniculatus*, *Rubus fruticosus*, *Geranium robertianum* and more occasionally *Silene vulgaris* (Subsp. *maritima*), *Daucus carota* and *Rumex acetosella*. The richest sites (botanically) were those with shingle based grassland associated with them. These areas were typically *Festuca rubra* dominated areas of shingle over which nearly 100% plant cover had developed. Species found in these areas include *Plantago lanceolata*, *Festuca rubra*, *Lotus corniculatus*, *Rubus fruticosus*, *Crepis capillaris*, *Anthyllis vulneraria*, *Achillea millefolium*, *Hypochoeris radicata*, *Hieracium pilosella* and *Daucus carota*. Lists of plants are not exhaustive by any means.

Substrate also had a notable impact on the types of plants found at different sites. A predominance of sandy substrate usually correlated with more *Glaux maritima*, *Cakile maritima*, *Ammophila arenaria*, *Eryngium maritimum* and *Euphorbia paralias*. *Carex arenaria* was restricted to sandier areas.

Certain rare or scarce plants are found on shingle beaches in Ireland. *Mertensia maritima* and *Lathyrus japonicus* are particularly rare, while *Crambe maritima* and *Glaucium flavum* are less endangered. The sites where these plants were found during the survey are listed below in **Tables 18**, **19**, **20** and **21**. It is important to note however that the primary aim of the survey was to compile an inventory of shingle habitats and not to search for rare plants. Thus just because the plant was not found at a particular site does not rule out the possibility that the species grows there.

Mertensia maritima (oyster plant) was found only in Donegal, though it is known to occur in Louth and Mayo. The best populations were found on the North Inishowen peninsula (**Table 18**). However these populations were found in areas suffering from damaging operations. For further details see files 0011 and 0016.

Site code	County	Site name	Classification	Grid reference
0011	Donegal	Whitestrand Bay - Culoort.	Multi-ridged raised beach	C412558
0016	Donegal	Tullagh Bay and Tullagh Point.	Multi-ridged raised beach Vegetated shingle ridge	C355485
0023	Donegal	Rossguill Peninsula.	Vegetated fringing beach	C133444

Table 18: The sites within which *Mertensia maritima* was found during the National Shingle Beach Survey 1999.

Lathyrus japonicus (sea pea) was found only in one site during the survey (**Table 19**). Ownahincy in Cork receives its rank of HIGH importance solely on the basis that the plant occurs there.

Site code	County	Site Name	Classification of beach	Grid Reference
0119	Cork	Ownahinchy.	Vegetated shingle ridge	W306353

Table 19: The site within which Lathyrus japonicus was found during the National Shingle Beach Survey 1999.

Crambe maritima (sea kale) was found in only two sites during the survey, however due to the time scale of the project and the fact that much of the fieldwork was carried out in late October and throughout November Crambe maritima is undoubtedly more abundant than **Table 20** indicates.

Site code	County	Site Name	Classification of beach	Grid Reference
0068	Galway	An Gleannachan.	Vegetated lagoonal system Vegetated shingle ridge	L812124
0113	Cork	South of Spanish point, Crookhaven.	Vegetated fringing beach	V817267

Table 20: The sites within which *Crambe maritima* was found during the National Shingle Beach Survey 1999.

Glaucium flavum (Yellow horned poppy) was found to be abundant on the East Coast. It is thought to be more abundant still as this species grows in other coastal habitats especially disturbed areas of sandy substrate. The most interesting sites for this plant were those in Cork, Kerry, Galway and Clare as the plant is less abundant on the South and West Coasts.

Site code	County	Site Name	Classification of beach	Grid Reference
0089	Clare	Cloonconeen Lough and Rinvella Bay.	Vegetated lagoonal system	Q835496
0067	Galway	Tawain Point	Vegetated shingle ridge Vegetated fringing beach	M299194
0092	Kerry	Bunaclugga Bay.	Vegetated shingle spit	Q954472
0114	Cork	Long Island West.	Vegetated fringing beach	V905278
0116	Cork	Castle Island.	Vegetated shingle ridge	V959297
0118	Cork	Calf Island Middle.	Vegetated shingle ridge	V953260
0120	Cork	Broadstrand Bay.	Vegetated shingle ridge	W516406
0121	Waterford	Ferrypoint.	Vegetated shingle spit	X115780
0131	Wexford	Lady's Island Lake barrier.	Vegetated lagoonal system	T120037
0133	Wicklow	The Murrough.	Vegetated shingle ridge	O306109
0144	Louth	Annagassan Pier to Ardsallagh.	Vegetated fringing beach Multi-ridged raised beach	O089940
0145	Louth	Castlebellingham to Annagassan Pier.	Multi-ridged raised beach	O072962
0149	Louth	River Foot.	Vegetated shingle ridge	J166055

Table 21: The sites within which *Glaucium flavum* was found during the National Shingle Beach Survey 1999.

For further information on the location of these plants please refer to the most recent records of the plant in the rare plant data base (see Tom Curtis, National Parks and Wildlife Service) as a far more complete record of the plant distribution can be found there.

4.4 Limitations of this survey

The nature and time scale of this survey constrains the validity, accuracy and applicability of this report. Over the six-month time scale approximately three and a half months were spent in the field. This constitutes the time taken to visit 153 sites in fifteen counties in the Rep. of Ireland. Only a short time could be spent at each site and the exact time varied from site to site.

This means that species lists given for each site should NOT be thought of as complete or definitive. Also as more time was spent at some sites than at others the species lists themselves cannot be taken as more than guidelines in terms of measures of species richness. The longer one spends at a given site the more plants one finds (when working with short time scales as in this survey).

The fieldwork spanned three seasons; summer, autumn and winter. This adds a further complication to the interpretation of species lists as some plants e.g. *Atriplex* sp. and *Galium aparine* appear in copious amounts in summer but are more or less absent in the winter. The date of the survey on each site should help offset this.

Carrying out fieldwork in autumn and especially in winter leads to problems in identifying plants quickly in the field. We would be remiss if we did not point out that we are personally uncomfortable identifying grasses and so we cannot be completely comfortable with the quality of grass identification in the survey. On more than one occasion the term “other grasses” has been employed.

Geological data is contained within this report. The survey was botanical in nature and therefore we will not stand over affirmations of rock types present at each site. Similarly a geomorphologist should really examine data pertaining to geomorphology.

5. Conclusion

As we have said the detail and resolution of this survey is limited. It is however the first survey of its kind ever carried out. The aim of the project was to compile an inventory of shingle beaches in the country, and to classify said beaches for conservation purposes. This report includes the most comprehensive list of the shingle beaches of Ireland to date at a level of detail equal to that of the NHA surveys. This survey provides a baseline for further study and if coupled with other disciplines i.e. geomorphology, meteorology, zoology and geology it should prove a useful database.

David Moore and Faith Wilson

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Monday, 06 December 1999

6. Acknowledgements

Thanks to Tom Curtis, Colman O'Criodáin, Oscar Merne, Pat Doody, Paul Evans, Peter Vestergaard, Helena Granja, Declan O'Donnell, Declan Strong, Karen Gaynor, Amanda Browne, Donald Palmer, Don and Ethna Moore and Ian Kirwan.

Special thanks to Gary Thompson, for his generosity in giving up much of his free time. Without his help there would have been much weeping and gnashing of teeth.

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8. Appendix I. Field Recording Card

Shingle Beach Survey of Ireland 1999

Record Card

Name of Site:	Recorder/Date:			
County:	NHA site code:			
Grid Reference: to	Vegetated (y/n)		Exposed/sheltered	

Map attached?		Description:
Interest rank		
Reason:		Associated habitats:

Substrate type

Evidence of threats (details, photos)

Notes:

Profile 1

Profile 2

Profile 3

Profile 4

Notes:

Plant name	
Acaena ovalifolia	
Achillea millefolium	
Aegopodium podagraria	
Agrostis stolonifera	
Ammophila arenaria	
Anagallis arvensis	
Anthoxanthum odoratum	
Anthriscus sylvestris	
Anthyllis vulneraria	
Arctium minus	
Armeria maritima	
Artemisia vulgaris	
Atriplex glabriuscula	
Atriplex laciniata	
Atriplex littoralis	
Atriplex prostrata	
Bellis perennis	
Berberis vulgaris	
Beta vulgaris	
Cakile maritima	
Calluna vulgaris	
Calystegia pulchra	
Calystegia soldanella	
Carex arenaria	
Centaurea nigra	
Cirsium sp.	
Cochlearia officinalis	
Convolvulus arvensis	
Crambe maritima	
Crataegus monogyna	
Crepis capillaris	
Crithmum maritimum	
Dactylis glomerata	
Daucus carota	
Digitalis pupurea	
Elymus atherica	
Elymus repens	
Epilobium angustifolium	
Equisetum sp.	
Erodium maritimum	
Eryngium maritimum	
Euphorbia helioscopia	
Euphorbia paralias	
Euphorbia portlandica	
Festuca rubra	

Fumaria capreolata	
Galium aparine	
Galium verum	
Geranium molle	
Geranium robertianum	
Glaucium flavum	
Glaux maritima	
Halimione portulacoides	
Hedera helix	
Heracleum sphondylium	
Hieracium pilosella	
Holcus lanatus	
Honkenya peploides	
Hypochoeris radicata	
Iris pseudacorus	
Japanese bindweed	
Lamium purpureum	
Lavatera arborea	
Leontodon taraxacoides	
Leymus arenarius	
Lonicera periclymenum	
Lotus corniculatus	
Medicago lupulina	
Mertensia maritima	
Moss sp.	
Otanthus maritimum	
Parietaria judaica	
Phragmites australis	
Plantago coronopus	
Plantago lanceolata	
Plantago major	
Plantago maritima	
Poa pratensis	
Polygonum pericola	
Polygonum sp.	
Potentilla anserina	
Potentilla reptans	
Prunus spinosa	
Pteridium aquilinum	
Puccinellia maritima	
Ranunculus repens	
*Raphanus raphanistrum (*Subsp. *raphanistrum)*	
Rosa pimpinellifolia	
Rubus fruticosus	
Rumex acetosella	

Rumex crispus	
Salix sp.	
Salsola kali	
Scirpus sp.	
Sedum acre	
Sedum anglicum	
Sedum sp.	
Senecio jacobaea	
Senecio sp.	
Senecio vulgaris	
*Silene vulgaris (*Subsp. *maritima)*	
Solanum dulcamara	
Solanum var.	
Sonchus arvensis	
Sonchus sp.	

Spergularia sp.	
Stellaria media	
Taraxacum sp.	
Teucrium sp.	
Thymus praecox	
Trifolium pratense	
Trifolium repens	
Tripleurospermum maritimum	
Tussilago farfara	
Ulex europaeus	
Urtica dioica	
Vicia cracca	
Vicia sp.	

F= front, P= plateau, B= backing vegetation, √= present in system,

Other notes

Sketch map 1

Sketch map 2

9. Appendix II. Sites Surveyed

Site code	County	Site name	Classification	Interest rank	Grid Reference
0001	Donegal	North western shoreline of Lough Foyle.	Vegetated fringing beach	Low	C515315
0002	Donegal	Tramone Bay.	Vegetated fringing beach	Low	C595476
0003	Donegal	Slievebane.	Vegetated shingle ridge	Low	C437581
0004	Donegal	Bulbin.	Vegetated fringing beach	Low	C426582
0005	Donegal	Portmore.	Vegetated fringing beach	Low	C422584
0006	Donegal	Bulbinbeg.	Vegetated fringing beach	Low	C423587
0007	Donegal	Esky Bay.	Vegetated fringing beach	Low	C412589
0008	Donegal	Pebble Strand.	Unvegetated shingle ridge	Medium	C404594
0009	Donegal	Ineuran Bay.	Unvegetated shingle ridge	Low	C391585
0010	Donegal	Whitestrand Bay.	Vegetated fringing beach Multi-ridged raised beach	Medium	C408572
0011	Donegal	Whitestrand Bay - Culoort.	Multi-ridged raised beach	High	C412558
0012	Donegal	Back Strand.	Vegetated shingle ridge Vegetated fringing beach	Low	C420535
0013	Donegal	Doaghmore point.	Vegetated shingle spit	Medium	C436510
0014	Donegal	Lagacurry, Doagh Strand, Bincree, Binderg.	Vegetated shingle ridge Vegetated fringing beach	Medium	C407525
0015	Donegal	Pollan Bay.	Multi-ridged raised beach	Medium	C397523
0016	Donegal	Tullagh Bay and Tullagh Point.	Vegetated shingle ridge Multi-ridged raised beach	High	C355485
0017	Donegal	Rockstown Harbour.	Multi-ridged raised beach	High	C339491
0018	Donegal	Dunaff Bay.	Vegetated shingle ridge Vegetated fringing beach	Low	C314473
0019	Donegal	Lehan Bay.	Unvegetated fringing beach	Low	C305438
0020	Donegal	Fanad Head.	Vegetated shingle ridge	Low	C232473
0021	Donegal	Ballyhiernan Bay.	Vegetated fringing beach	Low	C197454
0022	Donegal	Rinboy Point to Ballyhoorisky Island.	Vegetated fringing beach	Low	C173455
0023	Donegal	Rossguill Peninsula.	Vegetated fringing beach	High	C133444
0024	Donegal	Tory Island.	Vegetated shingle ridge	Medium	B842475
0025	Donegal	Coastline from Port ui Chuirean to Bunaninver.	Vegetated shingle ridge Unvegetated fringing beach Multi-ridged raised beach	High	B868336
0026	Donegal	Port bun an Inbhir.	Vegetated shingle ridge	High	B807302
0027	Donegal	Maghery Bay and Termon Strand.	Vegetated shingle ridge Vegetated fringing beach	Low	B715096
0028	Donegal	Illancrone and Iniskeeragh Island.	Vegetated fringing beach	Low	B695103
0029	Donegal	Roishin Point.	Vegetated shingle spit	Medium	G758990
0030	Donegal	Malin Beg.	Unvegetated fringing beach	Low	G489801
0031	Donegal	Rossnowlagh Point.	Vegetated fringing beach	Low	G860695
0032	Sligo	Carricknacarta.	Vegetated fringing beach	Low	G690561
0033	Sligo	Trawalna Strand.	Unvegetated fringing beach	Low	G695543
0034	Sligo	Streedagh.	Shingle based dune system	High	G635510
0035	Sligo	Raghly.	Vegetated shingle ridge	Medium	G580427

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0036	Sligo	Standalone Point.	Vegetated shingle ridge	Medium	G681377
0037	Sligo	Strandhill.	Unvegetated fringing beach	Low	G604360
0038	Sligo	Aughris Head.	Vegetated shingle ridge	Low	G496367
0039	Mayo	Bingham Lodge.	Unvegetated fringing beach	Low	F652333
0040	Mayo	Belderra Strand.	Vegetated fringing beach	Medium	F655310
0041	Mayo	Cross Lough.	Vegetated fringing beach	Low	F638302
0042	Mayo	Barranagh Island.	Vegetated shingle spit	Medium	F667261
0043	Mayo	Barrack South.	Vegetated fringing beach	Medium	F648257
0044	Mayo	Portacarn and surrounds.	Unvegetated fringing beach	Low	F630256
0045	Mayo	Portglash.	Unvegetated fringing beach	Low	F611215
0046	Mayo	Portmore.	Unvegetated shingle ridge Vegetated fringing beach	Medium	F613182
0047	Mayo	Dooagh Strand, Achill.	Vegetated fringing beach	Medium	F605048
0048	Mayo	Trawmore, Keel.	Vegetated shingle ridge Vegetated fringing beach	High	F658027
0049	Mayo	Mulranny beach.	Vegetated fringing beach Unvegetated shingle ridge	Medium	L820950
0050	Mayo	Rossmurrevagh.	Vegetated fringing beach	Low	L863952
0051	Mayo	Clew Bay Complex.	Vegetated shingle ridge Vegetated fringing beach	High	L900878
0052	Mayo	Bartraw Strand.	Shingle based dune system	High	L905834
0053	Mayo	Thornhill strand and surrounds.	Vegetated fringing beach Vegetated shingle ridge	Medium	L894830
0054	Mayo	White Strand.	Vegetated lagoonal system	Medium	L746793
0055	Mayo	Sruhir Strand.	Vegetated lagoonal system	Medium	L750784
0056	Mayo	Bunlough Strand.	Unvegetated lagoonal system	Medium	L738745
0057	Galway	Tully.	Unvegetated fringing beach	Low	L693635
0058	Galway	Rosheenduff Lough.	Vegetated fringing beach	Medium	L679642
0059	Galway	Rinvyle Point (Trawmore).	Unvegetated fringing beach	Low	L645635
0060	Galway	Cleggan Strand (Lough Anilaun).	Vegetated lagoonal system Vegetated fringing beach	Medium	L612582
0061	Galway	Sellerna Bay.	Vegetated fringing beach	Low	L587586
0062	Galway	Ardmore, Clifden Bay.	Vegetated shingle spit	Medium	L596522
0063	Galway	Carraroe.	Vegetated fringing beach	Medium	L931222
0064	Galway	Loughaunbeg to Cora na Ceibhe.	Vegetated fringing beach Vegetated shingle ridge	Medium	M050213
0065	Galway	Spiddle beach to Ballymoneen.	Vegetated shingle ridge Vegetated fringing beach	Medium	M134222

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0066	Galway	Rinville Point.	Vegetated shingle spit	Medium	M338341
0067	Galway	Tawain Point	Vegetated shingle ridge Vegetated fringing beach	High	M299194
0068	Galway	An Gleannachan.	Vegetated shingle ridge Vegetated lagoonal system	High	L812124
0069	Galway	Clochan.	Vegetated shingle ridge	Medium	L825114
0070	Galway	Port Mhuirbhigh.	Vegetated fringing beach	Low	L828105
0071	Galway	An Scailp Fhada.	Vegetated shingle ridge	Low	L837111
0072	Galway	Port Chorruch.	Vegetated lagoonal system	Medium	L856111
0073	Galway	Port Eochla.	Vegetated shingle ridge	Low	L864111
0074	Galway	Potrnamonastragh.	Unvegetated fringing beach	Low	L873115
0075	Galway	Tra na bhFrancach.	Vegetated fringing beach	Low	L887094
0076	Clare	Coastline from Black Head to Carrickada.	Vegetated lagoonal system Vegetated shingle ridge Unvegetated shingle ridge Vegetated fringing beach	Medium	M255124
0077	Clare	Poulnagraghaun.	Vegetated fringing beach	Low	M123056
0078	Clare	Poulsallagh.	Vegetated shingle ridge	High	M086018
0079	Clare	Doolin.	Unvegetated shingle ridge	Low	R057971
0080	Clare	Lahinch.	Vegetated fringing beach Vegetated shingle ridge	Medium	R092862
0081	Clare	Caherrush, Spanish Point and Travaun Bay.	Unvegetated fringing beach Vegetated shingle ridge	Low	R021760
0082	Clare	Lough Donnell.	Vegetated lagoonal system	Low	R002707
0083	Clare	Carricknola/Tromcastle Strand.	Vegetated shingle ridge	Medium	R997730
0084	Clare	Quilty.	Vegetated shingle ridge Unvegetated fringing beach	Low	R006742
0085	Clare	Farrihy Bay.	Vegetated shingle ridge	Low	Q907640
0086	Clare	Doonbeg and Rinnagonaght Strand.	Vegetated shingle ridge Unvegetated fringing beach	Low	Q965661
0087	Clare	Ross Bay.	Vegetated shingle ridge	High	Q733498
0088	Clare	Kilbaha Bay.	Unvegetated fringing beach	Low	Q750483
0089	Clare	Cloonconeen Lough and Rinvella Bay.	Vegetated lagoonal system	High	Q835496
0090	Clare	Carrigaholt Bay.	Vegetated shingle ridge Unvegetated fringing beach	Medium	Q845523
0091	Clare	Ballymacrinan Bay.	Unvegetated fringing beach	Low	R025524
0092	Kerry	Bunaclugga Bay.	Vegetated shingle spit	High	Q954472
0093	Kerry	Corcas and sandhills.	Unvegetated shingle ridge	Low	Q894484
0094	Kerry	Bromore.	Unvegetated fringing beach	Low	Q864430

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0095	Kerry	Ballybunnion.	Unvegetated fringing beach	Low	Q862383
0096	Kerry	Fenit.	Vegetated shingle ridge	Medium	Q727153
0097	Kerry	Magherabeg.	Vegetated shingle ridge	High	Q627160
0098	Kerry	Cromane Point.	Vegetated shingle ridge Vegetated shingle spit	High	Q702004
0099	Kerry	Rossbehy.	Unvegetated shingle ridge	Low	V645915
0100	Kerry	Cooncrome Harbour.	Vegetated shingle ridge	Low	V444816
0101	Kerry	Doulus Bay.	Unvegetated fringing beach	Low	V425800
0102	Kerry	Ballinskelligs.	Vegetated shingle spit	Medium	V435650
0103	Kerry	Waterville.	Unvegetated fringing beach	Low	V487616
0104	Kerry	Rossdohan Island.	Vegetated shingle spit	High	V717637
0105	Cork	Pallas Harbour.	Vegetated shingle spit	High	V706578
0106	Cork	Adrigole Harbour, West.	Vegetated fringing beach	High	V794477
0107	Cork	Reenydonagan Lough.	Vegetated lagoonal system	Low	V995514
0108	Cork	Farranamagh Lough.	Vegetated lagoonal system	High	V830376
0109	Cork	Reen Point.	Vegetated shingle spit	High	V887399
0110	Cork	Rossmore.	Vegetated shingle ridge	High	V925400
0111	Cork	Opposite Horse Island.	Vegetated shingle ridge	Low	V859346
0112	Cork	Barley Cove.	Unvegetated fringing beach	Low	V776245
0113	Cork	South of Spanish point, Crookhaven.	Vegetated fringing beach	High	V817267
0114	Cork	Long Island West.	Vegetated fringing beach	Medium	V905278
0115	Cork	Long Island East.	Vegetated fringing beach	Medium	V923286
0116	Cork	Castle Island.	Vegetated shingle ridge	Medium	V959297
0117	Cork	Rossbrin Point.	Vegetated fringing beach	Low	V970310
0118	Cork	Calf Island Middle.	Vegetated shingle ridge	Medium	V953260
0119	Cork	Ownahinchy.	Vegetated shingle ridge	High	W306353
0120	Cork	Broadstrand Bay.	Vegetated shingle ridge	High	W516406
0121	Waterford	Ferrypoint.	Vegetated shingle spit	High	X115780
0122	Waterford	The Cunnigar.	Vegetated shingle spit	High	X272901
0123	Waterford	Ballyvoyle.	Vegetated fringing beach	Medium	X336950
0124	Waterford	Killmurren.	Vegetated shingle ridge	Medium	X465985
0125	Waterford	Annestown.	Vegetated fringing beach	Medium	X498988
0126	Waterford	Ballyvooney bridge.	Vegetated fringing beach	Medium	X382973
0127	Waterford	Tramore dunes and backstrand.	Vegetated shingle ridge	Medium	S610010
0128	Wexford	Ballyteigue Burrow.	Shingle based dune system	High	S880079
0129	Wexford	Kilmore Quay.	Vegetated fringing beach	Medium	S967032
0130	Wexford	Tacumshin Barrier.	Vegetated lagoonal system	High	T050055
0131	Wexford	Lady's Island Lake barrier.	Vegetated lagoonal system	High	T120037

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0132	Wicklow	Arklow.	Unvegetated fringing beach	Low	T265753
0133	Wicklow	The Murrough.	Vegetated shingle ridge	High	O306109
0134	Wicklow	Greystones Beach.	Vegetated fringing beach	Low	O288141
0135	Wicklow	Bray Beach.	Unvegetated fringing beach	Low	O275185
0136	Dublin	Killiney Bay, South.	Vegetated fringing beach	Medium	O260237
0137	Dublin	Killiney Bay, North.	Vegetated fringing beach	Low	O263257
0138	Dublin	Ireland's Eye.	Vegetated fringing beach	Low	O286412
0139	Dublin	North Beach, Skerries.	Vegetated fringing beach	Low	O250688
0140	Meath	Laytown Strand.	Vegetated fringing beach	Low	O162722
0141	Meath	Mornington.	Vegetated fringing beach	Low	O155761
0142	Louth	Michelstown and Lurganboy.	Vegetated fringing beach	Medium	O160915
0143	Louth	Salterstown to Dunany Point.	Vegetated fringing beach Vegetated shingle ridge	Medium	O120933
0144	Louth	Annagassan Pier to Ardsallagh.	Vegetated fringing beach Multi-ridged raised beach	High	O089940
0145	Louth	Castlebellingham to Annagassan Pier.	Multi-ridged raised beach	High	O072962
0146	Louth	Lurgan White House.	Vegetated fringing beach	Medium	O068979
0147	Louth	Eggleston Point to Dundalk.	Vegetated fringing beach Multi-ridged raised beach	High	J147057
0148	Louth	Giles Quay.	Vegetated fringing beach	Low	J155055
0149	Louth	River Foot.	Vegetated shingle ridge	High	J166055
0150	Louth	Rathcor Lower and Johns Town.	Vegetated fringing beach	Low	J195049
0151	Louth	Whitestown to Cooley Point.	Vegetated fringing beach	Medium	J225060
0152	Louth	Balagan Point.	Vegetated fringing beach	Medium	J244073
0153	Louth	Greenore.	Vegetated fringing beach	Medium	J226105