Report of Coastal Ecological Survey of Old Parish/An Sean Phobal, Dungarvan, Co. Waterford

Aerial View of Mine Head

Hare's Foot Clover

For: Cosaint Cósta na Gaeltachta
Date: November 2003

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An Chomhairle Oidhreachta The Heritage Council

1 Preface

1.1 Summary

A coastal ecological survey of Old Parish (An Sean Phobal) in Co. Waterford for Cosaint Cósta na Gaeltachta (Concern for the Coast of the Gaeltacht) was funded by The Heritage Council. Cosaint Cósta na Gaeltachta commissioned Coveney Wildlife Consulting Ltd. to carry out and report on a terrestrial ecological survey in 2002. These objectives included a desk study of existing information, a habitat survey, as well as surveys of birds, mammals, plants, butterflies and dragonflies. Survey work of seabirds was done in June 2003.

Old Parish is on the west Waterford coast in the Mine Head area. The coastline comprises mainly steep grassy or rocky cliffs of moderate height interspersed with stream valleys running into coves. The valleys have varying extents of scrub and woodland. One, at Ballymacart, has been proposed as a Natural Heritage Area (pNHA) because of its semi-natural woodlands. The coast slopes back onto farmland, which is mainly moderately or intensively managed for grass production. Thirteen site visits were made between 4 December 2001 and 28 August 2002 and a further two were made in June 2003.

The desk study produced information on plants, choughs, peregrine falcons and the Glenanna NHA. "Phase 1" habitat mapping showed a range of semi-natural woodland and scrub in the valleys, most notably in the Ballymacart Valley. However, there was also habitat damage due to planting of conifers and burning in the valleys. Outside of the valleys, there are areas of less intensively managed grassland at Ballynamona and Hacketstown. There are also small areas of coastal grassland and heathland on the cliffs. Elsewhere much of the land was intensively farmed to the cliff tops. There is bare rocky ground at a quarry.

The main bird species were up to 16 pairs of cormorants, five pairs of choughs and one pair of peregrine falcons. A countryside bird survey showed many species typical of the national profile. The valleys were more species rich than the cliff tops. Several species of rare vagrants have also been recorded. Seven mammal species were recorded, most notably otter. Common lizard and frog were also recorded. Fourteen species of butterflies and six species of dragonflies were also recorded, most notably scarce blue-tailed damselfly. 270 plant species have been recorded, mostly common. The rarest plants were hare's foot clover and wood vetch.

Overall the ecology of the Study Area is typical of rocky coasts backing onto farmland in south Munster. The most notable features are the numbers of choughs and cormorants and the Glenanna woodland NHA. The area could be improved ecologically by allowing more woodland to regenerate on the valley slopes which could be connected by an ecological corridor along the cliff tops. Encouragement of local landowners to join REPS would also be helpful. The cliff tops may qualify for designations as a Special Protection Area for choughs.

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1.2.1 List of Figures

1.2.2 List of Tables

1.3 Report team

Project design & management: John Coveney

Bird fieldwork & data collation: Ed Hawan

Butterflies dragonflies and supplementary bird information: John Joe Cahill.

Seabird Survey: Michael Cowming

Botanist: Paul Green

1.4 Acknowledgements

Thanks to: -

Dominic Berridge, the Dúchas conservation ranger for initial information.

BirdWatch Ireland for information on choughs.

AJ Finn for various reports.

Maeve Flynn for assistance with the breeding bird survey analysis.

Roger Macaughton for preparing species target lists.

Brian Madden for information on peregrine falcons.

John Power for taking aerial photographs

The project was funded by The Heritage Council.

An Chomhairle Oidhreachta The Heritage Council

2 Introduction

A proposal for a coastal ecological survey of Old Parish (An Sean Phobal) in Co. Waterford for Cosaint Cósta na Gaeltachta (Concern for the Coast of the Gaeltacht) was funded by The Heritage Council (Coveney Wildlife Consulting Ltd. 2001). The groups aims are as follows:-

1. To increase the awareness and understanding in the local community of the natural and man-made heritage present along the coastline of An Sean Phobal.

2. In doing so, to ensure that this heritage is afforded the appropriate local and national recognition and protection.

The group's five year plan provides for a land-based ecological survey in 2002. The overall objective is to produce a comprehensive ecological report on the area covering all the major groups such as plants, mammals, birds and larger invertebrates. This will be used to identify conservation objectives for the area and to promote the protection and awareness of the Old Parish coastline.

Cosaint Cósta na Gaeltachta commissioned Coveney Wildlife Consulting Ltd. to carry out and report on a terrestrial ecological survey in 2002. These objectives were achieved by desk studies to compile existing information, a habitat survey, as well as surveys of birds, mammals, plants, butterflies and dragonflies in 2002. Additional seabird survey work was done in June 2003 and the 2002 report is modified here to include the results and conclusions of this additional seabird work.

3 Study Area & Methods

3.1 Study Area

Old Parish is on the west Waterford coast in the Mine Head area (Figure 1 & Figure 2). It is some 6 km south of Ring and Helvick Head. The coastline comprises mainly steep grassy or rocky cliffs of moderate height. These are interspersed with steep sided stream valleys running into coves. There are also inaccessible coves and beaches. The valleys have varying extents of scrub and woodland. One, at Ballymacart at the western end of the Study Area, has been proposed as a Natural Heritage Area (pNHA) because of its semi-natural woodlands. The coast slopes back onto farmland, which is mainly moderately or intensively managed for grass production. There is also some arable land. Hedges border most of the fields.

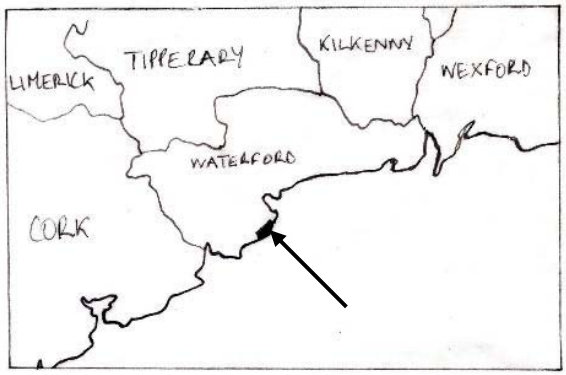

Figure 1. Location of the Old Parish Study Area

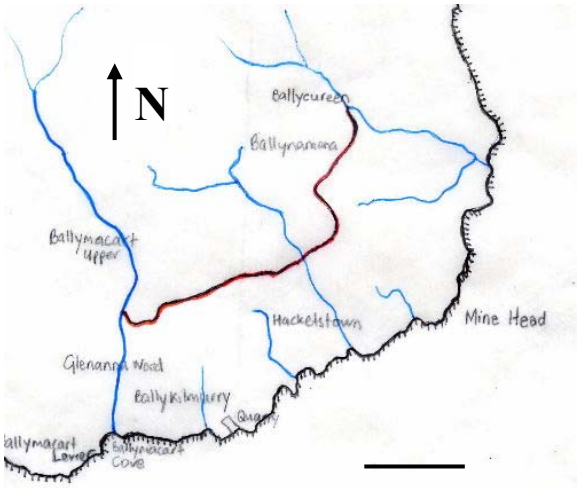

Figure 2. Location of the Old Parish Study Area. Bar = 1 km.

The northern boundary of the Study Area is approximately at the parish's edge, at the outflow of a small stream from Ballycurreen that meets the sea north of Carrignanean rock (Grid Ref. X 290 840). The Study Area runs some 5km, inside the first road parallel to the coast – marked in red on the map, via Mine Head, to the outflow of the Ballymacart River. This river runs into the sea at Ballymacart Cove (X 252 810). The lowest stretch of the Ballymacart River runs through Glenanna Wood (pNHA No. 1698).

A series of photographs of the Study Area are in Appendix 1.

3.2 Desk Study

The following sources of information were consulted: -

- A preliminary ecological study of Old Parish (Tobin 2001).
- The draft Ring-Helvick-Old Parish Action Area Plan (CAAS Environmental Services 2001 – relevant extracts are reproduced in Appendix 2).

- Dúchas's Natural Heritage Area site synopsis for Glennanna Wood in the Ballymacart River Valley (reproduced in Appendix 3). Contacts were also made with the Dúchas conservation ranger.
- The Waterford Wildlife series of publications. The studies relevant to this report cover butterflies (O'Meara 2001a), amphibians, repitiles and mammals (O'Meara 2001b), dragonflies (O'Meara 2001d) and birds (O'Meara 2001e). The Bibliography of the Flora and Fauna of Waterford was also checked for information on the Study Area (O'Meara 2001c). Waterford Wildlife's current news reports for 2002 were also monitored. (http://www.waterfordwildlife.com & http://www.waterford-today.ie).
- The "Waterford Bird Report 1976 – 86" (Walsh & McGrath 1988) and "Where to Watch Birds in Waterford" (McGrath & Walsh 1990).
- Data for the Study Area from the first national survey of choughs in 1992 (Berrow et al 1993). This was obtained from BirdWatch Ireland in return for the provision of 2002 data for the second national survey.
- Data for the Study Area from the second national survey peregrine in 1991 (Norriss 1995). This was obtained from the project co-ordinator in return for provision of 2002 data for the third national survey. However, the 2002 information was provided on the condition that site details remained confidential.
- The county botanical recorder was able to supply a list of 161 plant species recorded in the Mine Head area in 1988 (see Appendix 4).

3.3 Visit Programme

Table 1. Fieldwork Programme

Date	Work	Area Covered
4 Dec 01	Initial site visit	Most of Study Area
7 Mar 02	Site walk, habitat mapping bird survey	Hacketstown to Ballymarcart.
24 Apr 02	Peregrine & chough surveys, habitat mapping..	Ballymarcart to Longship rock
27 Apr 02	Chough survey & habitat mapping	Loskearn to Minehead
23 May 02	Countryside bird survey, peregrine & chough surveys, habitat mapping.	Ballymarcart to Hacketstown
15 Jun 02	Habitat mapping & peregrine survey,	Minehead to Loskeran
22 Jun 02	Countryside bird survey, peregrine and chough surveys.	Loskeran to Minehead & Ballymacart to Ballynaharda
5 Jul 02	Plant survey, butterflies & dragonflies	Ballycurreen, Ballymacart & Glenanna
26 Jul 02	Plant survey, butterflies & dragonflies	Ballymacart to Ballynamona via Hacketstown
5 Aug 02	Choughs & habitat mapping	Ballymacart to Hacketstown
6 Aug 02	Choughs & habitat mapping	Loskearn to Hacketstown
26 Aug 02	Birds, butterflies & dragonflies	Ballycurreen to Hacketstown
28 Aug 02	Birds, butterflies & dragonflies	Hacketstown to Ballymacart
14 Jun 03	Seabird survey	Ballycurreen to Hacketstown
20 Jun 03	Seabird survey	Hacketstown to Ballymacart

The dates of visits to the Study Area between December 2001 and June 2003, and the main tasks undertaken are given in Table 1. In summary, bird work was mainly done early in the spring and early summer. Observations of plant and invertebrates were made from mid summer onwards. Seabird surveying was done in June 2003. Notable observations of any species were recorded on all visits.

3.4 Habitat Mapping

The coloured habitat survey map (Figure 4 – see page 7) was prepared using the "Phase 1" habitat survey technique (Nature Conservancy Council 1990). Identified habitats were cross-referenced to the Irish standard habitat listing (Fossit 2000). A map was made of the entire coastal stretch as well as the Ballycurreen, Hacketstown, Ballykilmurray and Ballymacart valleys – listed north east to south west. Valleys were mapped to their top (Ballykilmurray) or to the first road in from the coast.

3.5 Bird Surveys

3.5.1 Breeding Bird Survey

This was done according to the methods of the national scheme, the Countryside Bird Survey (BirdWatch Ireland 2002). Surveys were conducted, in May and June, along four 1km stretches representative of the Study Area (Figure 3). In the north east, 1 km was surveyed along the Ballycurreen valley (Area 1) followed by 1 km along the cliff top (Area 2). In the south west, 1 km was surveyed along the edge of Glenanna wood (Area 4) followed by 1 km along the cliff top (Area 3). For the analysis, results from the two coastal areas were combined as were the results of the two valley areas.

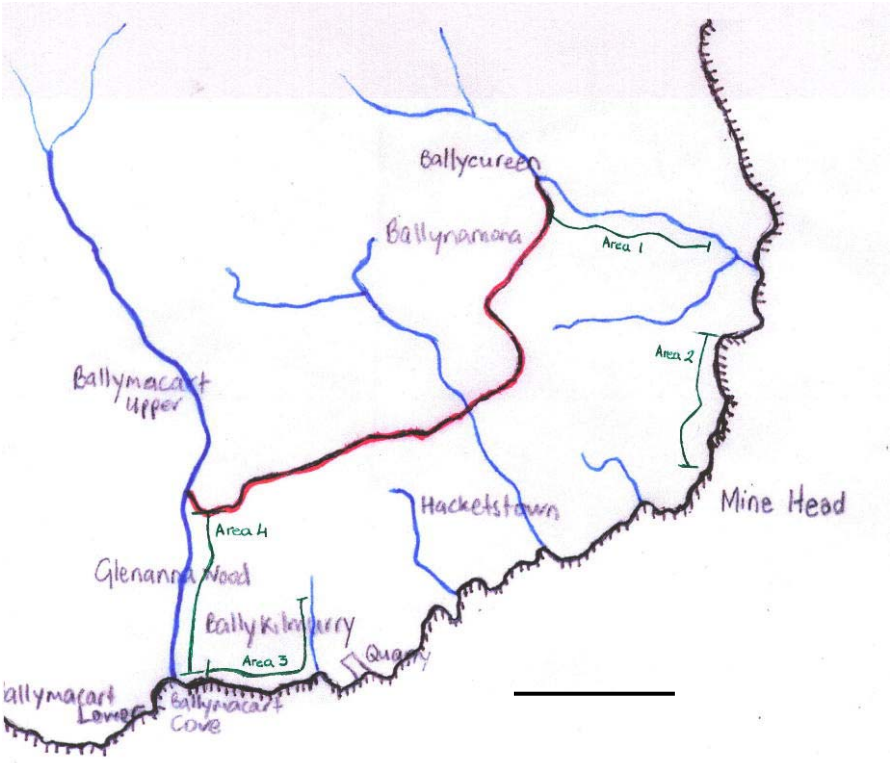

Figure 3. Map of four Countryside Bird Survey routes – in green. Bar = 1km.

3.5.2 Choughs and Peregrine Falcons

National surveys of choughs and peregrine falcons were done in 2002. In the Study Area, surveys for these species were done according to national survey methodologies (Anon 2002a & b). In return for access to data for the Study Area from previous surveys of these species, the 2002 data from the Study Area is being forwarded to these national schemes.

3.5.3 Seabirds

A national seabird survey, Seabird 2000, was done between 1999 and 2001 (Anon 2000). As the Study Area was not included in the Seabird 2000 survey, data from previous surveys of the Study Area was compiled (Walsh & McGrath 1988). A survey of seabirds in the Study Area was done in June 2003 used the Seabird 2000 methodology. For the 2003 survey, the coast was divided in 5 sections of 1 km each. These started at Ballycurreen (OP1) and ran via Mine Head to Ballymacart (OP5). The survey was done in mid-June which is a good time for the species that are likely to occur in the area.

3.6 Mammals & Other Vertebrates

These were recorded as encountered, either as sightings of animals themselves or by observations of tracks and signs (McDonald & Barrettt, 1993).

3.7 Larger Invertebrates

Butterflies and dragonflies were mainly recorded during good weather at the end of August.

3.8 Plants

The county recorder for Co. Waterford, who is currently working on a flora list of the county, was commissioned to prepare a plant list of the Study Area. He also supplied a 1988 plant list of the Mine Head area. The areas surveyed in 2002 included the Ballymacart Cove area, Glenanna Wood, the quarry area (just east of the Ballykilmurray valley), the Hacketstown valley, the megalithic tomb area in Ballynamona and the Ballycurreen stream valley. Plants were also recorded on some of the other visits to the Study Area.

4 Results

4.1 Desk Study

The Study Area appears to have been little studied in the past. The main items of information obtained were as follows:-

- The preliminary ecological report (Tobin 2001). This identified the area as important for choughs.
- Brief habitat descriptions for the proposed Natural Heritage Area at Glennanna Woods and the undesignated areas at Ballynamona Stream and in the Hacketstown Valley (Appendix 2 & Appendix 3)
- The locations of peregrine and chough breeding sites in 1991 and 1992, respectively. As the former were obtained in confidence - only summary details for the whole site are included in this report.
- Seabird survey data for the period 1981 to 1989 (Walsh & McGrath, 1988)
- The 1998 plant list for Mine Head (per Paul Green).
- There was very little information for the area in the Waterford Wildlife series of publications (O'Meara 2001). Information for the presence some species was obtained for the 10km square encompassing the Study Area, X28. However, the recorded absence of species from this square may often have been due to lack to coverage.

More detail on the various items is included in the relevant sections of the results, below.

4.2 Habitat Mapping

The results of the "Phase 1" habitat survey (Nature Conservancy Council 1990) are presented in Figure 4 and Figure 5, while the key to the map is in Figure 6. An approximate linkage between Phase 1 habitat definitions and the standard Irish habitat scheme (Fossit 2000) is given in Table 2.

The valleys contained a range of scrub and woodland although they have been much modified by intensification, burning and planting for forestry. The best areas were the Glenanna woodland in the Ballymacart valley, followed by the Hacketstown and Ballycurreen valleys. The Ballykilmurray valley is the smallest and is of least value due to extensive planting of conifers. The lower part of the Hacketstown valley has also been extensively burned

Outside of the valleys, the land was often intensively farmed to near the cliff tops. However, there are less intensively used fields, especially in Ballynamona. Despite this, the less intensively used fields are not botanically rich indicating more intensive management in the past. West of the Hacketstown valley, and in the lower section of the Ballymacart valley, some of the fields are

reverting to scrubland. On the coast itself, the main habitat is comprised of cliffs which are vegetated to varying extents. There are small patches of coastal grassland and coastal heathland north of Mine Head. Some areas have been burned – particularly in the Ballykilmurray area.

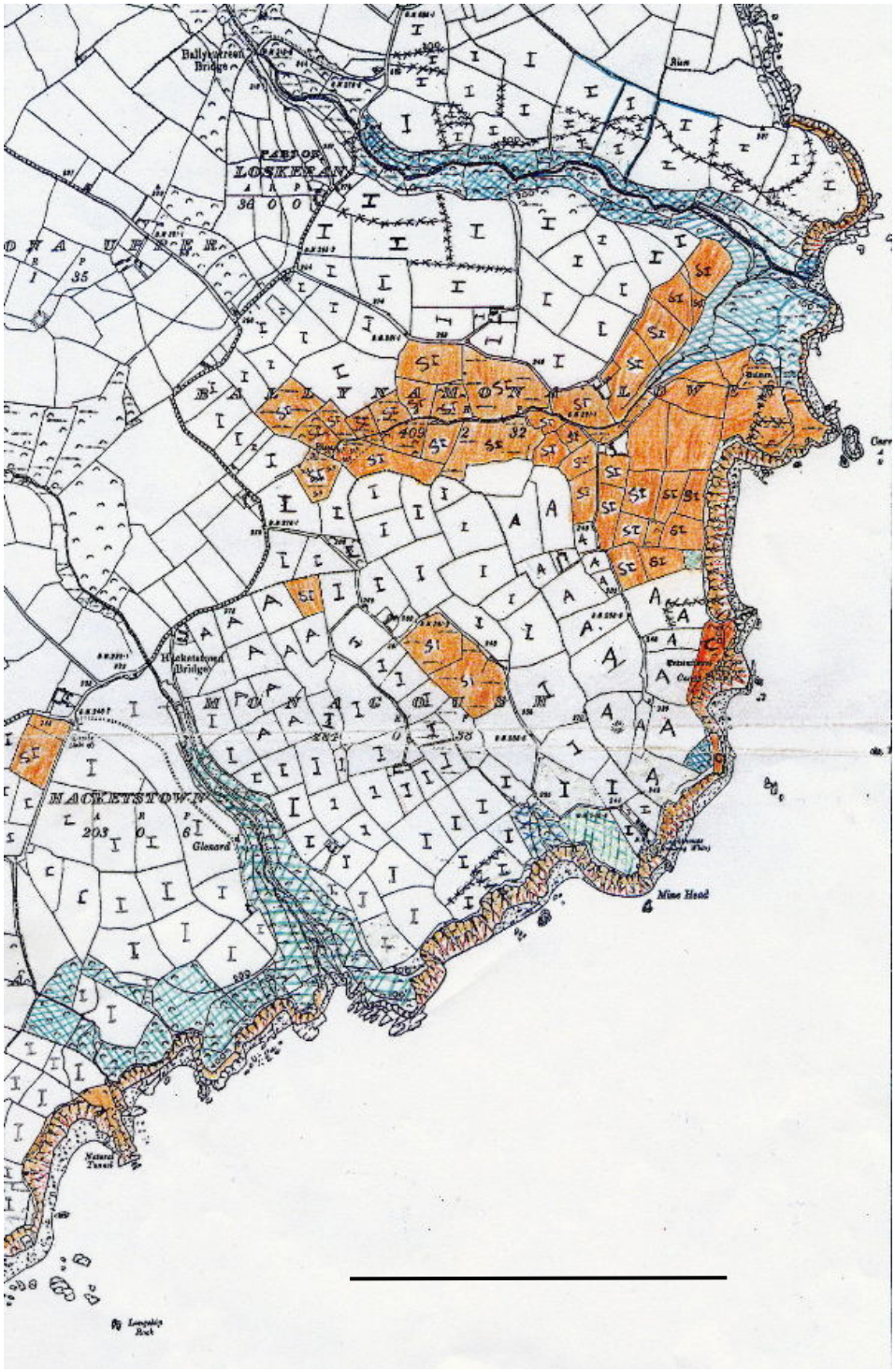

Figure 4. Phase 1 Habitat Map of the Old Parish Study Area – Ballycurreen to Hacketstown. Bar = 1km.

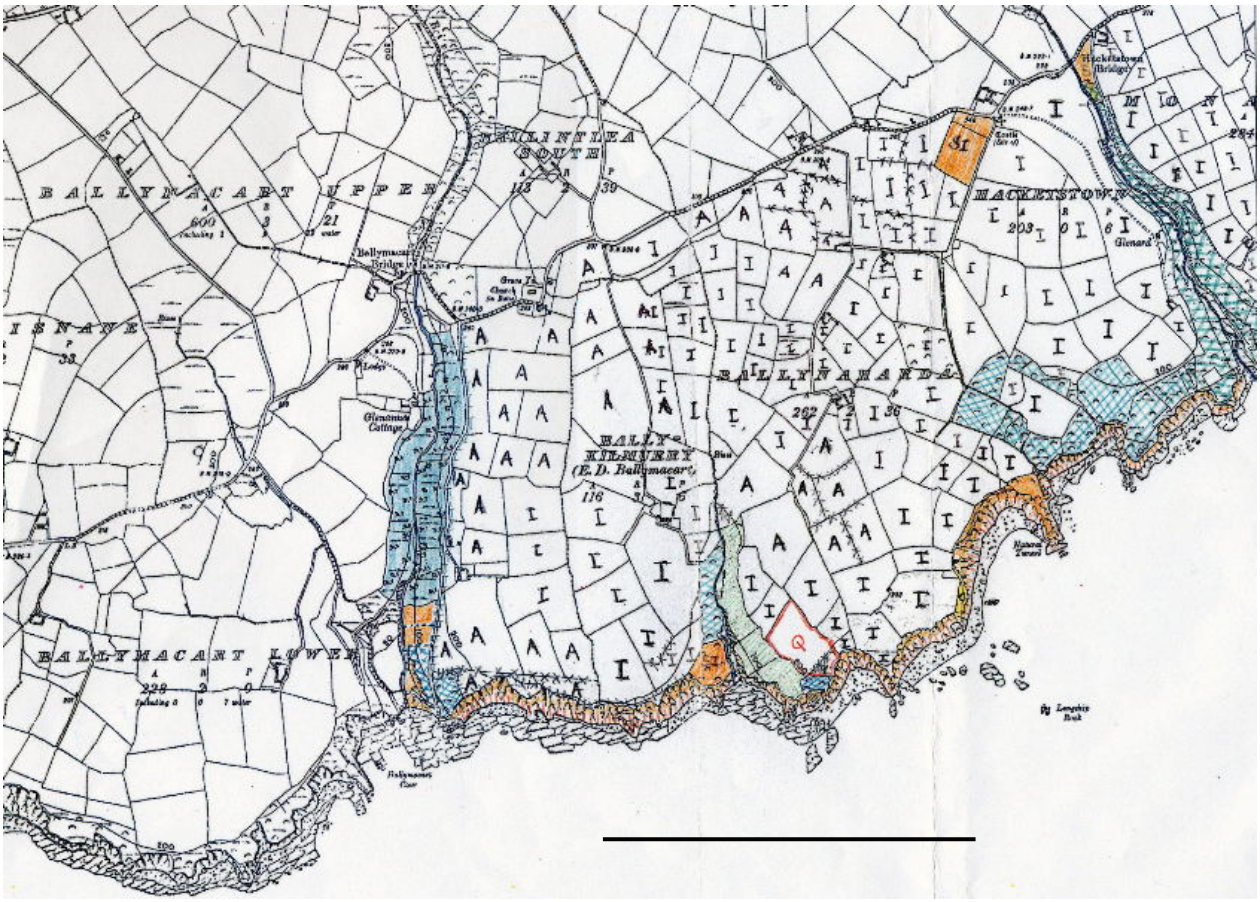

Figure 5. Phase 1 Habitat Map of the Old Parish Study Area – Hacketstown to Ballymacart. Bar = 1km.

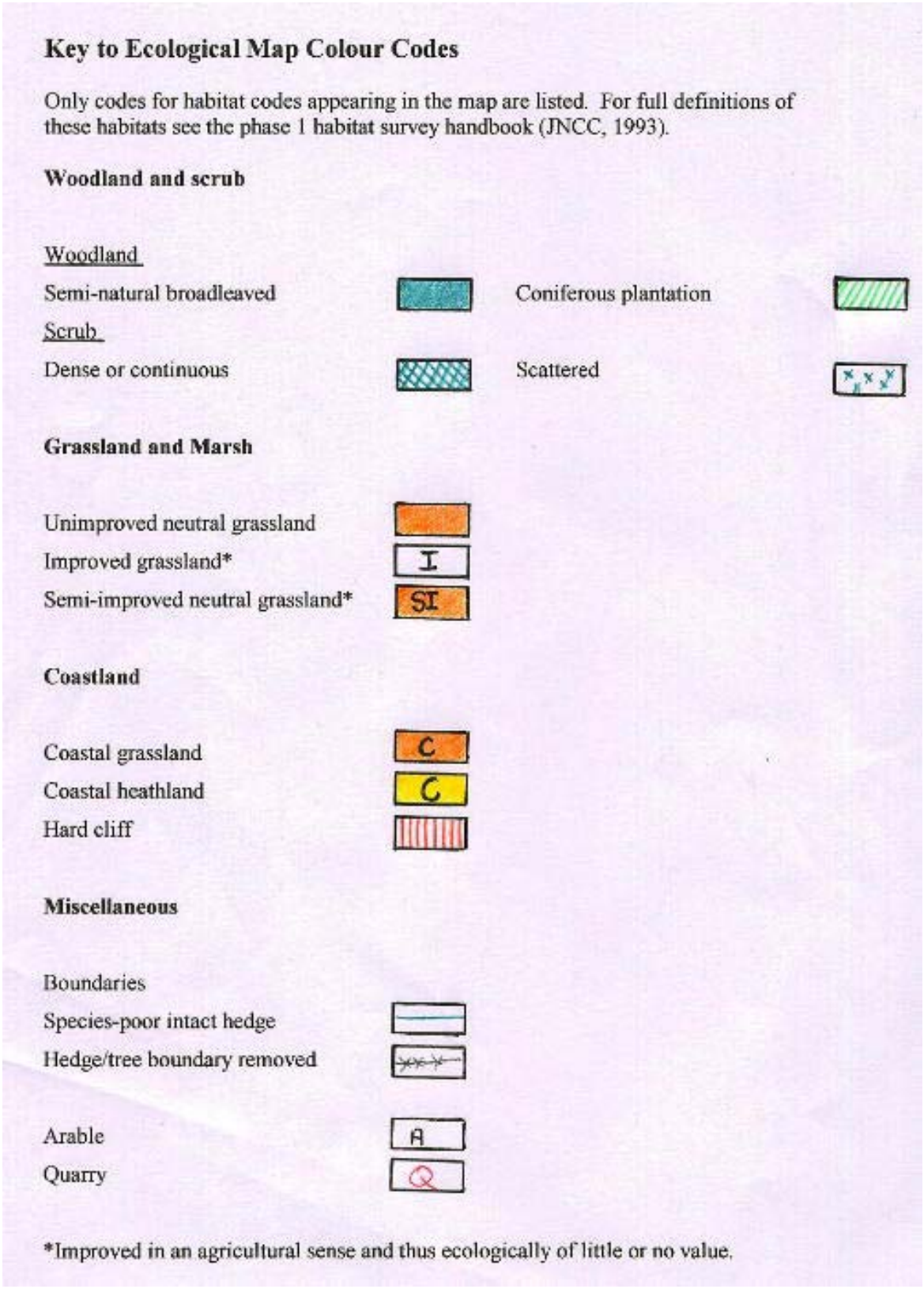

Figure 6. Key to Phase 1 Habitat Map of the Old Parish Study Area.

Table 2. Linkage between Phase 1 Habitats and the Standard Irish Habitat Scheme

Phase 1 Habitat Type[1]	Irish Habitat Type[2]	Irish Code
Semi-natural broadleaved	Oak-ash-hazel woodland	WN2
Coniferous plantation	Conifer plantation	WD4
Dense or continuous scrub	Scrub	WS1
Scattered scrub	Scrub	WS1
Unimproved neutral grassland	≅ Dry meadows & grassy verges	GS2
Semi-improved neutral grassland	≅ Dry meadows & grassy verges	GS2
Coastal grassland	≅ Dry meadows & grassy verges	GS2
Improved grassland*	Improved agricultural grassland	GA1
Coastal heathland	≅ Dry siliceous heath or dense bracken	HH1 or HD4
Hard cliff	Rock sea cliffs	CS1
Hedge/tree boundary removed	None	n/a
Boundaries	Hedgerows	WL1
Arable	Arable crops or Tilled land	BC1 or BC3
Quarry	Active quarries and mines	ED4

[1] Nature conservancy Council (1990). * Indicates improved in the agricultural sense and therefore of little ecological value.

[2] Fossit (2090). ≅ Indicates an approximate correspondence.

4.3 Bird Surveys

4.3.1 Seabirds in the 1980's

The principal seabird species nesting in the area in the 1980's was the cormorant with up to 75 pairs. These nested mainly on Carraignaean (Figure 8) off Ballynamona (Table 3). The peak numbers represented some 1.8% of the Irish population for the mid-1980's or 22% of the Waterford population (Lloyd et al, 1991).

Fulmars and herring gulls nested in small numbers in several parts of the Study Area and there were scattered pairs of shags, great black-backed gulls and razorbills. The totals of all of these species are well under 1% of the Irish population and thus of little significance. Herring Gull with 0.3% of the Irish population was the most important.

Figure 7. Cormorant colony in 2003 on an islet just west of Mine Head

Table 3. Nests Counts of Breeding Seabirds 1981-1989.

Species	Count[1]	Date	Location	Grid Ref.
Fulmar	25	8/6/87	Ballynamona	X288837-X286833
do.	30 ±1	8/6/87	Mine Head East	X285830-X284822
do.	1	8/6/86	Mine Head West	X284822-X278818
do.	83 ±7	21/6/86	Ballymacart	X270815-X258809
Cormorant	15	21/4/81	Ballynamona	X288837-X286833
do.	26	14/4/82	Ballynamona	X288837-X286833
do.	24 ±1	2/6/85	Ballynamona	X288837-X286833
do.	44	8/6/87	Ballynamona	X288837-X286833
do.	75[2]	1989	Carrignanean	X 290 834
do.	4 ±1	14/4/82	Mine Head East	X285830-X284822
do.	9	4/4/83	Mine Head East	X285830-X284822
do.	4-5	2/6/85	Mine Head East	X285830-X284822
do.	15-16	8/6/87	Mine Head East	X285830-X284822
Shag	4-5	2/6/85	Ballynamona	X288837-X286833
do.	4	8/6/87	Ballynamona	X288837-X286833
Herring Gull	60 ±2	8/6/87	Ballynamona	X288837-X286833
do.	19 ±1	8/6/87	Mine Head East	X285830-X284822
do.	38 ±2	8/6/87	Mine Head West	X284822-X278818
do.	12 ±2	21/6/87	Ballymacart	X270815-X258809
Great Black-backed Gull	7	8/6/87	Ballynamona	X288837-X286833
do.	3	8/6/87	Mine Head West	X284822-X278818
do.	1	21/6/87	Ballymacart	X270815-X258809
Razorbill	2	8/6/87	Ballynamona	X288837-X286833

[1] Walsh & McGrath, 1988. [2] McGrath & Walsh, 1990.

4.3.2 Seabirds in 2003

The numbers of seabirds recorded in 2003 are given in Table 4. The numbers are well down on the 1980's and there are also notable changes in the distribution of seabirds in the Study Area. In particular, fulmars are no longer using the Ballynmona and Ballymacart areas and the remaining birds are concentrated around the Ballynharda Promontory Fort. In 2003, up to 16 pairs cormorants nested on a small islet just west of Mine Head (Figure 7). They no longer use Carrignanean - it is assumed the all or the bulk of the 1980's records of seabirds in Ballynamona were from Carrignanean. Roost of 11 cormorants was also noted on the cliffs just east of Mine Head and of 9 birds on cliffs below the quarry at Ballykilmurray. In 2002, a few pairs nested on the cliffs at Ballykilmurray. Very few gulls now nest on Carrignanean or in the eastern part of the Study Area. There are no obvious reasons for the decline in the seabird numbers or the changes in distribution in the Study Area. However, Carrignanean was notably more vegetated in 2003 and less covered with guano than in earlier year (Figure 8 & Figure 9) indicating that it is less

used as nesting site by local seabirds in recent years. The changes may part of larger scale trends around the coast but this will not become apparent until the results of the Seabird 2000 survey are published.

Table 4. Seabird Numbers in 2003.

Species	Count Unit[1]	OP1[2]	OP2[2]	OP3[2]	OP4[2]	OP5[2]	Total 2003	1980's Peaks[3]	Trend
Start & End Points (Grid Refs)		X290840 - 286830	X286830 - 280820	X280820 - 270815	X270815 - 260810	X260810 - 252818			
Date		14 Jun 03	14 Jun 03	20 Jun 03	20 Jun 03	20 Jun 03			
Fulmar	Site		7	26	15		48	139 ±7	**Down**
Cormorant	Nest		16				16	75	**Down**
Shag	-						0	4-5	**Down**
Herring Gull	Nest	10	13	3	3	1	30	129 ±7	**Down**
Great Black-backed Gull	Nest		1		1		2	11	**Down**
Guillemot	Ind.		1				1	0	None
Razorbill	Ind.		3				3	2	None

[1] Seabird 2000 survey methods were used (Anon. 2000). "Site" is defined as an apparently occupied site, i.e. a pair or individual occupying an apparent nest site. "Nest" is defined as an apparently occupied nest, i.e. an incubating or brooding adult, nest with young, or a well built nest capable of holding eggs. For gulls, "nest" includes apparently occupied territories where positions of birds or pairs indicated the presence of an invisible nest. "Ind." is an individual guillemot or razorbill. The birds recorded were not seen on the cliffs on the water close to the base of the cliffs.

[2] For the seabird survey, the Study Area was broken into 5 contiguous sections OP1 to OP5 (OP = Old Parish), each 1 km long. OP1 started at the mouth of the Ballycurreen stream, OP2 started about halfway between Carriganean and Mine Head, OP3 started just northeast of mouth of the Hacketstown stream, OP4 started at the Ballynharda Promontory Fort. OP5 started at the Ballykilmurray stream outflow and ran to cove at the Ballymacart stream outflow.

[3] Estimated peaks from the 1980's survey data in Table 3.

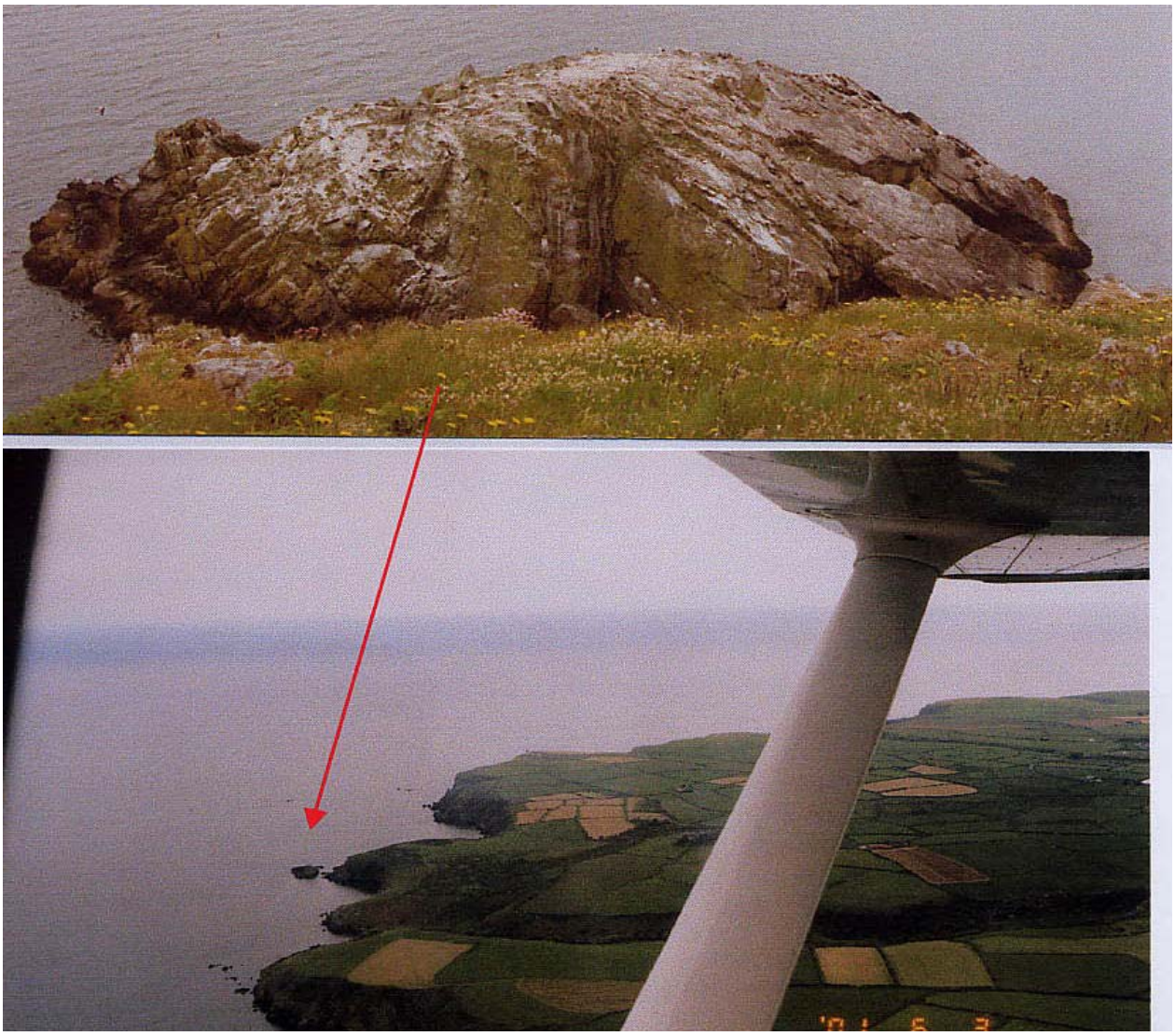

Figure 8. Aerial Views of Carraignanean – off the Ballycurreen/Ballynamona valleys.

Figure 9. 2003 view of Carraignanean from the Ballynamona cliffs.

4.3.3 Countryside Bird Survey (CBS)

In May and June, forty one species were recorded during the countryside bird survey of the Study Area. This is typical of what would be expected. Except for open country specialists such as stonechat and meadow pipit, much higher numbers of most species were recorded in the sheltered well vegetated valleys. For the analysis, results from the two coastal areas were combined and results from the two valley areas were combined.

Examining each survey area individually, area 4 (Ballymacart bridge to Ballymacart cove) had the greatest bird species richness with 27 species recorded (Figure 12). The coastal area of Ballmacart cove to Ballykilmurry (area 3) had the lowest species richness with 12 species recorded

When combined, the survey sites of Area 1 and Area 4, had the greatest species richness (31 species) compared to about 25 species for the combined coastal areas (Area 2 and Area 3) (Figure 13). Nationally, results from the CBS (Coombes *et al.* 2002) have shown that in 2000, more than 25 species were recorded in over 50% of survey squares.

The abundance of individual species was calculated for both inland valley areas (areas 1 and 4, Table 5) and coastal (areas 2 and 3, Table 6). Abundance was calculated from the peak number recorded during the survey. Subsequently, species were ranked in order of abundance. Finally comparisons were made with the local and national species profiles (Coombes *et al*. 2002).

Figure 10. Female Stonechat

Figure 11. Meadow Pipit

This shows that the species profiles of the areas were noticeably different from the national profile. In part, this is due random factors due to the small size of the Study Area. Furthermore, the presence of marine and coastal species is an obvious difference from the national profile. Even after taking account of these factors, there is still a clear preponderance of farmland and woodland species such as wren, blackbird chaffinch chiffchaff, dunnock and song thrush in Areas 1 and 4. These species also rank highly in the national profile. In contrast open country passerine

species such as stonechat and meadow pipit ranked more high in areas 2 and 3 although wren and song thrush scored well here also.

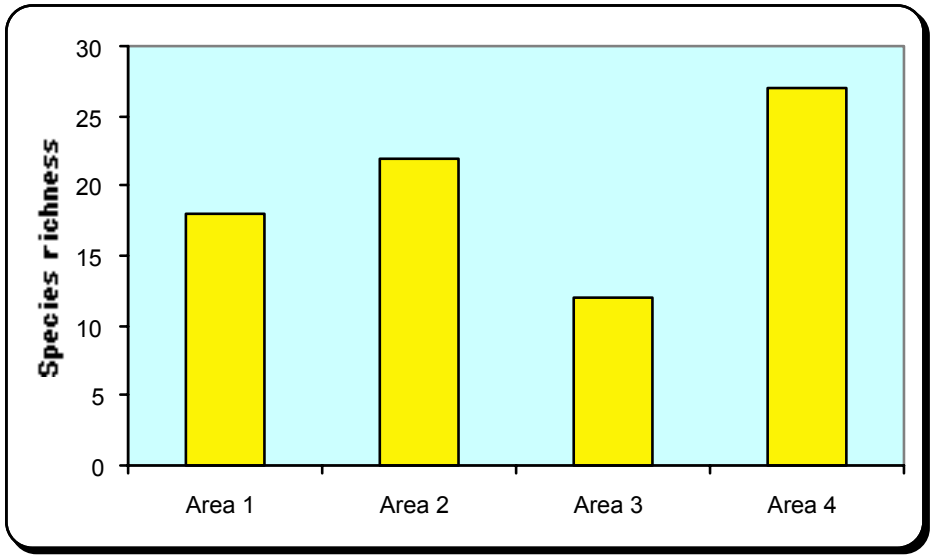

Figure 12. Avian Species Richness in the Four Survey Areas.

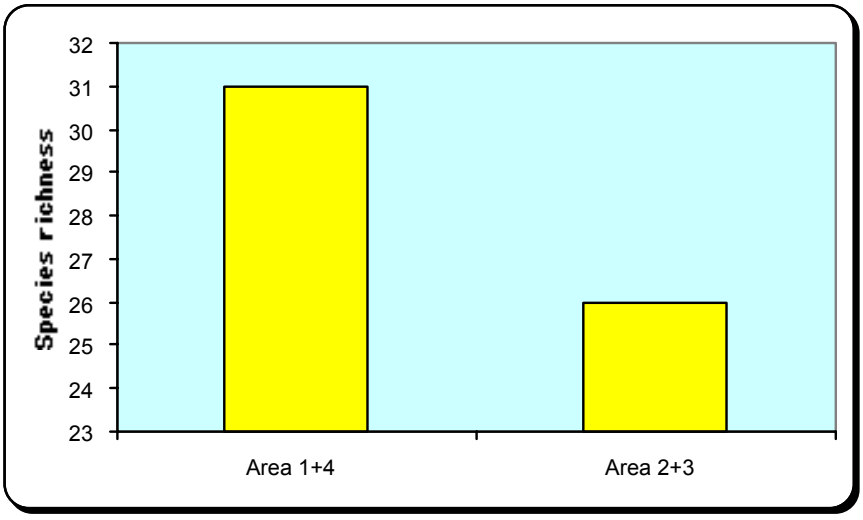

Figure 13. Avian Species Richness of Area 1 and 4 Combined & Areas 2 and 3 combined.

Table 5. The Most Abundant Birds Recorded in Areas 1 and 4.

Species	Peak numbers in Areas 1 & 4[1]	Local Ranking	National Ranking[2]
Wood pigeon	42	1	7
House martin	25	2	
Wren	19	3	2
Hooded Crow	16	4	
Blackbird	15	5	5
Chaffinch	11	6	9
Chiffchaff	9	7	
Dunnock	8	8	18
Robin	6	9	6
Magpie	5	10	11
Song thrush	5	10	12
Jackdaw	4	11	8
Oystercatcher	4	11	
Blackcap	3	12	
Skylark	3	12	17
Blue Tit	2	13	15
Chough	2	13	
Greenfinch	2	13	19
Linnet	2	13	
Meadow Pipit	2	13	10
Mistle Thrush	2	13	
Raven	2	13	
Bullfinch	1	14	
Coal Tit	1	14	
Cormorant	1	14	
Pheasant	1	14	20
Sparrowhawk	1	14	
Stock dove	1	14	
Swift	1	14	

[1] Peak numbers from the first or second survey visit

[2] National species rankings are from Coombes *et al.* (2002)

Table 6. The Most Abundant Birds Recorded in Areas 2 and 3.

Species	Peak numbers in Areas 2 & 3[1]	Local Ranking	National Ranking[2]
Starling	40	1	3
House Martin	10	2	
Kittiwake	10	2	
Manx Shearwater	10	2	
Chough	9	3	
Herring Gull	9	3	
Gannet	8	4	
Meadow Pipit	8	4	10
Wren	8	4	2
Cormorant	7	5	
Song thrush	7	5	17
Linnet	6	6	
Stonechat	5	7	
Fulmar	4	8	
Swallow	4	8	4
Blackbird	3	9	5
Chiffchaff	3	9	
Magpie	3	9	11
Skylark	3	9	17
Bullfinch	2	10	
Lesser Black-backed Gull	2	10	
Peregrine	2	10	
Pied Wagtail	2	10	
Chaffinch	1	11	9
Dunnock	1	11	18
Sparrowhawk	1	11	

[1] Peak numbers from the first or second survey visit

[2] National species rankings are from Coombes *et al.* (2002)

An additional eleven bird species were recorded in August. All of these except swallow had not been recorded earlier in the season. Dipper is noteworthy in that it indicates the high quality of stream water in the area

Table 7. Additional Bird Records in August

Species	26 Aug (Ballycurreen to Hacketstown)	28 Aug (Hacketstown - Ballymacart)	Total
Dipper		2	2
Rock Dove	6		6
Grey Wagtail		5	5
Goldfinch	16		16
House Sparrow		28	28
Kestrel	2		2
Lesser Whitethroat	1		1
Rock Pipit		6	6
Swallow	100s	100s	100s
Wheatear	10		10
Willow Warbler	3	3	6

4.3.4 Peregrine Falcons

In previous years, peregrine falcons have used three sites within the Study Area and a fourth not far outside the Study Area (Norriss 1995). However it is likely that only one or a maximum of two of these sites are occupied in any one year. As peregrine nesting sites are vulnerable to human persecution, the exact locations of the sites are not reported on here.

In 2002, one site within the Study Area was occupied by a pair of peregrines. They were considered to have bred although no young were seen.

Figure 14. Peregrine Falcon

The three previously occupied sites within the Study Area were regularly checked during the season. A single bird, thought to have been from the 2002 nest site, was seen at one of them but they were considered not to have been used in 2002. During the seabird survey in 2003 pairs were observed at probable nest sites east of the Lighthouse and in the Ballynaharda area.

Peregrine falcons are listed on Annex 1 of the EU Birds Directive because they declined dramatically in the 1960's and 1970's due to pesticide contamination. Following the phasing out of these chemicals, their population in Ireland (270 pairs) and Britain has recovered to well in

excess of 1950's levels (Tucker & Heath 1994). The main problem facing them now is occasional persecution of nest sites but this probably does not impact on the population as whole.

4.3.5 Choughs

Observations of choughs were made in the Study Area on eight dates during the season between March and August. Five pairs of choughs were observed in individual sites along the Study Area. The nest sites were not directly visible from the cliff tops. However, it was possible to confirm breeding at these sites, typically by the observation of both adults going into the nest site and one leaving shortly afterwards.

Figure 15. Chough

This is taken as the male accompanying the female back to the nest and then leaving her to incubate the eggs. On other occasions, single birds were seen returning to nest sites. This is interpreted as the female returning to incubate. Later in the season family groups were seen at three of the nest sites. Finally, flocks of 25 and 8 birds were seen in the Ballykilmurray area on 7 March and on 23 May. During the seabird survey in 2003, a flock of 25-30 birds was seen near the lighthouse on 14 June and a flock of 26 birds was seen at Ballymacart Cove on 20 June.

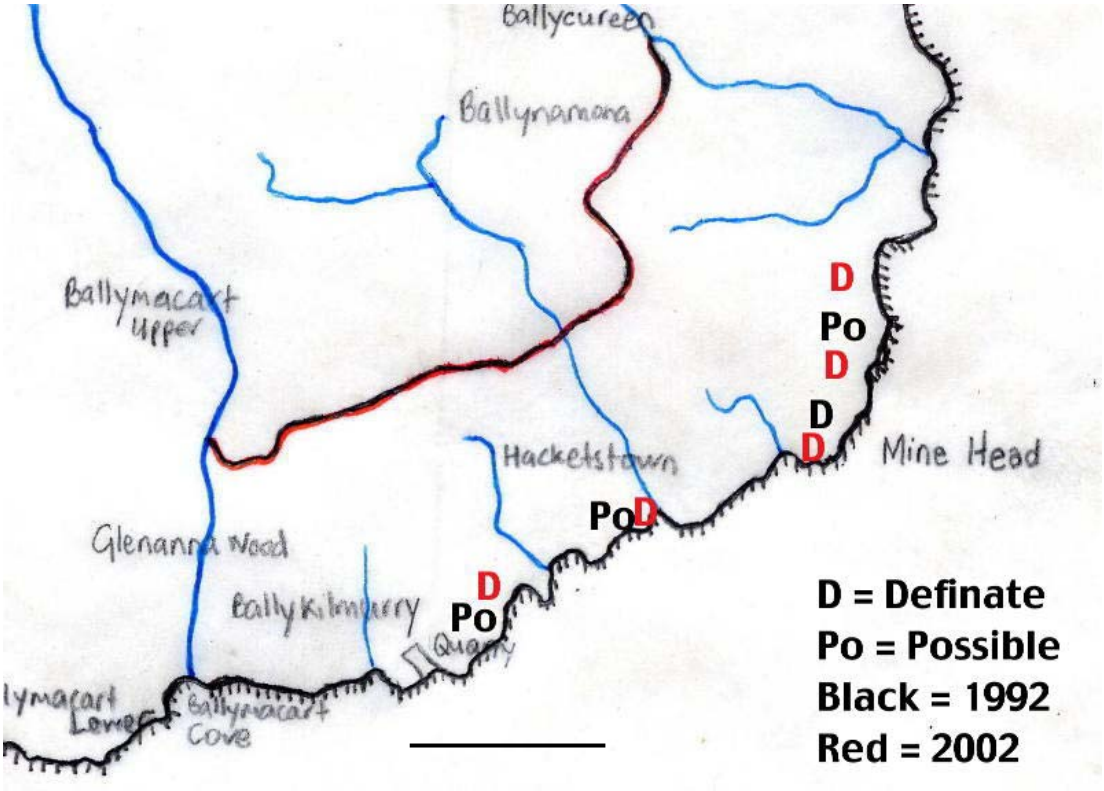

Figure 16. Location of Chough Nest Sites in 1992 and 2002. Bar = 1km.

In 1992 four nest sites were observed, 1 confirmed and three possible (Berrow et al 1993). The apparent increase in 2002 may, however, reflect increased coverage in 2002. The similarity of the flock sizes in 2002 and 2003 would indicate that the population in the Study Area is stable.

The chough is listed on Annex 1 of the EU Birds Directive and it is declining over much of its montane range in Europe (Tucker & Heath 1994). However, the coastal populations of Britain and Ireland are largely stable and its conservation status in the Republic of Ireland is considered secure (Newton et al 1999) with some 900 pairs. BirdWatch Ireland has proposed linear coastal Special Protection Areas (SPAs) for choughs on the peninsulas in the south west and in west Donegal covering populations ranging from 53 to 129 pairs (Hunt et al 2000). A similar SPA may be justified for the Waterford chough population of nearly 50 pairs but it would have to take in the entire length of suitable coast rather than just the Old Parish area.

4.3.6 Extinct and rare bird species

The corn bunting has become extinct in Ireland over the last two decades or so. This has been attributed to intensification and specialisation of agricultural practices such as the reduction in mixed farming and the switch from spring to autumn cereals (Taylor & O'Halloran 1999). Co. Waterford was one of the last Irish strongholds of the species. One of the last records relates two pairs seen in a newly sown barley field at Ballynaharda on 20 May 1984 by Declan McGrath (per JJ Cahill). Concern has also been expressed that other declining seed eating species – especially yellowhammer – may be also be lost (Newton et al 1999). It is noteworthy that no yellowhammers were recorded in 2002 indicating that that they are uncommon in the Study Area. They were noted in 2001, however (Tobin 2001).

Rare species such as hoopoe and red-eyed vireo have been recorded in the Study Area. The former is a summer migrant to Europe that often overshoots to Ireland. Two were seen by JJ Cahill at Ballymacart in April 1983. The red-eyed vireo is an American passerine that occurs in very small numbers in some autumns. One was reported from the area in 1996 by P. Walsh (per JJ Cahill). Finally, Waterford's only hawfinch – a European finch that has occasionally bred in Ireland – struck the lighthouse at the beginning of the twentieth century. Two lesser rarities were recorded this year – a lesser whitethroat at Hacketstown in late August and a reed warbler was reported from there in September.

These records illustrate the potential of the area to attract occasional rarities during the spring and autumn migration periods. It is probable that such vagrants home in on the lighthouse in cloudy or misty weather and then disperse to the nearby vegetated valleys. More coverage by birdwatchers would undoubtedly increase the number of rarities seen but this is unlikely given the relatively low numbers of birdwatchers in Ireland and the lure of better known headlands such as Brownstown Head and Helvick Head elsewhere in Co. Waterford and several others of even higher profile in Cos. Wexford and Cork.

4.4 Mammals & Other Vertebrates

Seven species of mammals were recorded in the Study Area (Table 8). While all of these are common or very common, perhaps the most noteworthy were the presence of otters in the area – a protected species under Annex II of the EU Habitats Directive (92/43). It must be said, however, that otters have this protected status because of serious declines in Britain and Europe due to pollution over the last several decades. In Ireland they remain widely distributed, if elusive (Hayden & Harrington 2000)

Figure 17. Fox at Ballynamona

One reptile species, the common lizard, and one amphibian, the common frog were recorded. Both are common in Ireland.

It is likely that hedgehog, pygmy shrew, field mouse, house mouse and grey seal also occur as they have been recorded in X28, the 10 km square encompassing the Study Area. However, no bats, red squirrels or stoats have been recorded in X28 (O'Meara 2001b) – although this may be partly due to poor coverage.

Figure 18. Otter Footprints at Ballymacart

Finally, it is likely that various whale, dolphin and porpoise species pass close offshore. In 2002, the most notable occurrence was the sighting of a pod of 5-6 humpback whales. However, these were several miles offshore and they have only a passing relevance to the terrestrial Study Area (O'Meara http://www.waterford-today.ie).

Table 8. Records of Mammals & Other Vertebrates

Date	Species	No & Age	Evidence	Location
27 Apr	Rabbit	2 adults	Sighting	Ballynamona
22 Jun	Rabbit	1 adult	Sighting	Ballycurreen valley
28 Aug	Rabbit	5	Sighting	Hacketstown - Ballymacart
25 May	Irish Hare	1 adult	Sighting	Ballycurreen valley
15 Jun	Irish Hare	2 adult	Sighting	Ballycurreen valley
22 Jun	Irish Hare	1 adult	Sighting	Ballycurreen valley
27 Apr	Brown Rat	1	Sighting	Ballynamona
25 May	Brown Rat	2	Sighting	Hacketstown valley
15 Jun	Fox	2 cubs	Sighting	Ballycurreen valley
15 Jun	Fox	1 adult	Sighting	Ballycurreen valley
26 Jul	Fox	1 adult	Sighting	Ballynamona
26 Aug	Fox	1	Sighting	Ballycurreen - Hacketstown
23 May	Badger	?	Droppings, latrine	Hacketstown valley
4 Dec	American Mink	1?	Footprints & droppings	Hacketstown valley
4 Dec	Otter	1?	Footprints	Ballymacart
23 May	Lizard	1	Sighting	Ballymacart valley
10 Aug	Lizard	1	Sighting	Ballynaharda
23 May	Common Frog	1	Sighting	Ballymacart valley
28 Aug	Common Frog	1	Sighting	Hacketstown - Ballymacart

4.5 Butterflies, Moths and Dragonflies

4.5.1 Butterflies & Moths

Fourteen species of butterflies were recorded. Three species are migrants - the clouded yellow, red admiral and painted lady. The clouded yellow does not breed and arrives in very variable numbers from year to year. The remaining species are all fairly common to very common although the silver-washed fritillary does not seem to have been previously recorded in X28. Four other species that have been recorded in X28 include orange tip – a common late spring species - as well as grayling, gatekeeper and small heath. Three other species - wood white, dark-green fritillary and holly blue - are possible, although they have not been recorded in X28 (Asher et al. 2001, O'Meara 2001a). Two common species of day flying moths were recorded in 2002, the burnet and the silver Y.

Figure 19. Clouded Yellow

Figure 20. Ringlet

Table 9. Butterfly Species Recorded

Species	26 Aug (Ballycurreen to Hacketstown)	28 Aug (Hacketstown - Ballymacart)	Total
Large White	11		11
Green-veined White	77	28	105
Small White	4	2	6
Clouded Yellow	5		5
Speckled Wood	43	55	98
Wall Brown	42	52	94
Meadow Brown	19	17	36
Silver-washed Fritillary		7	7
Red Admiral	10	16	26
Painted Lady	85	38	123
Small Tortoiseshell	15	7	22
Peacock	10	15	25
Small Copper	3	4	7
Common Blue		5	5

4.5.2 Dragonflies & Damselflies

Six species of dragonflies and damselflies were recorded. The most notable of these is scarce-blue-tailed damselfly, a fairly rare species that specialises in the bare pools that occur in quarries. Migrant hawkers, a species that has only recently colonised Ireland have also been reported from the Study Area.

There appears to have been no previous recording of dragonflies and damselflies in X28 (O'Meara 2001d). However, it seems likely that another half dozen or so species could be expected to occur in the Study Area (Lewington 1997).

Figure 21. Scarce Blue-tailed Damselfly

Figure 22. Four-spotted Chaser at the Quarry

Table 10. Dragonfly Species Recorded

Species	26 Aug (Ballycurreen - Hacketstown)	28 Aug (Hacketstown - Ballymacart)	Other dates & locations	Total
Scarce Blue-tailed Damselfly	-	-	10 Aug, Quarry	6
Blue-tailed Damselfly	-	-	26 Jul, Quarry	5+
Four-spotted Chaser	-	-	26 Jul, Quarry	1
Common Hawker	3	15	-	18
Common Darter	10	82	-	92
Ruddy Darter	-	10	-	10

4.6 Plants

In 2002, 251 plant species were recorded in the Study Area. Examination of a plant list of 161 species for the Mine Head area, which was made in 1988, revealed an additional 19 species that were not seen in 2002. The full plant list is in Appendix 4.

The total of 270 species compares with a plant list of about 776 species for the whole of Co. Waterford. However, there is obviously a much narrower range of habitats in the Study Area than

there is in the whole of the county. It is considered that a total of about 300 species could be expected to be found in the Study Area.

One of two noteworthy plants was hare's foot clover (Figure 24), which was rediscovered in Co. Waterford during the study. Several tens of these plants were initially found on a stone wall at one of the hairpin bends on the road down to Ballymacart Cove in early July. Hundreds more plants were found in the quarry in late July and subsequently two more sites were found near Helvick Head. These are the only current sites in Co. Waterford where this plant is found. All except two of the older records date from the nineteenth century. The twentieth century records come from Brownstown Head and Kilfarassy Beach, both in the Tramore area. It has only been recorded in 31 10km squares in Ireland (Preston et al 2002).

Figure 23. Hare's Foot Clover.

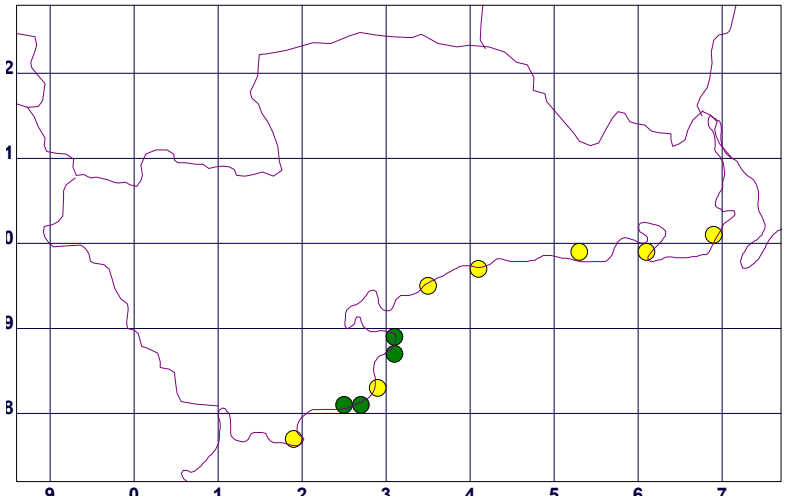

Figure 24. Historical (yellow) and Current (green) Distribution of Hare's Foot Clover in Co. Waterford.

A second rare plant in Waterford is the wood vetch. This was recorded near Mine Head in 1988 but it was not relocated in 2002. The Census Catalogue of Irish Flora (Scannell & Synott 1987) lists a scattered distribution in Kerry, north Kilkenny and from Sligo to Antrim for this species. There are old records from Co. Waterford.

Four other plants that are not very common in Co. Waterford were found in the Study Area. These are dove's-foot crane's-bill, heath groundsel, hop trefoil and heath speedwell. Another four exotic species that are also rare in Co. Waterford were also found - tall ramping-fumitory opium poppy, smooth tare and wild-oat. However, as these are escapes or introductions, they are of little significance.

5 Conclusions

The ecology of the Old Parish area is typical of rocky coast sites in the south of Ireland stretching from south Wexford to Cape Clear. As a coastal site it tends to be richer in some respects than the adjoining marine and terrestrial areas because of the conjunction of sea, coast and land. It is however, notably less rich than estuarine wetlands in Co. Waterford such as Dungarvan Bay or Tramore Back Strand. It is therefore most relevant to compare this stretch of coast with other areas of rocky coasts.

It's most important features are the presence of the protected species, chough, peregrine falcon, and otter – as well as the NHA at Glenanna Wood. The two bird species occur regularly along stretches of coast similar to that in the Study Area. Otters are widely distributed throughout the country. The main seabird species is the cormorant and up 1.8% of the national population nested in the Study Area in the in the 1980's. However, the current population is at about one fifth of this level. The numbers and species richness of countryside birds in the valleys are fairly typical of the country as a whole. The open coastal areas have a poorer mix of countryside bird species.

It is possible that the vegetated cliffs in the Study Area may qualify as a habitat listed on Annex I of the EU Habitats Directive i.e. "vegetated sea cliffs of Atlantic and Baltic coasts" (habitat code 1230 in DG Environment 1999). Such sites include a complex range of micro-habitats depending on geology, exposure to the sea and human influences. Dúchas have sent 20 proposed Special Areas of Conservation (SACs) that include this habitat to the European Commission. One of these 20 is at Ardmore Head in Co. Waterford some 6.5 km south west of the Study Area. The voluntary conservation agencies have proposed a further nine such sites including Helvick Head some 6.5 km north east of the Study Area. However, there is insufficient information on the exact criteria for identification of this habitat and on the current network of sites (Dwyer 2000). Therefore, it is not possible at this stage to assess if the vegetated cliffs qualify as an SAC.

Glenanna Wood is a small NHA, typical of a number of such wooded sites in steep valleys on the Waterford coast. The main value of such sites is because of the rarity of natural woodlands in the Irish landscape. It appears to be secondary regenerating woodland – there are paths and tracks along the most of the stream on both sides - although some patches on the steeper slopes may be more natural. It needs to be managed to ensure that there is not excessive trampling and grazing. Its presence shows what could be achieved if at least the steeper areas of the other valleys were left to natural regeneration. The adjoining areas of scrub on the valley sides leading down to Ballymacart Cove should also be conserved.

Botanically, the Study Area has a good range of plant species, the vast majority of which are common. The two most notable species are wood vetch and hare's foot clover. The former was noted near Mine Head in 1988 although this was not relocated in 2002. The hare's foot clover was rediscovered in the county during the study and it was also relocated at Helvick Head in 2002. The mix of butterflies and dragonflies was also much as expected.

The main ecological problems are the intensive agricultural management right to cliff tops along much of the coast. This is compounded by burning, plantation of conifers, bracken infestation and scrub removal in places. An ecological management plan for the Study Area should focus on the following topics:-

- Regeneration of scrub and woodland on at least the steeper slopes of the valleys. These could be interspersed with grazed but unfertilised open areas on sunny slopes to provide more biodiversity of plants and butterflies.

- Improved management of Glenanna Wood NHA.

- Designation of the coastal strip as an SPA for choughs.

- Possible designation of the cormorant nesting areas as an NHA

- Further examination of the vegetated sea cliffs in relation to possible SAC designation.

- Connection of the valleys by a cliff top strip, from which intensive agriculture should be pulled back. Conservation of existing areas of grassland and heathland in the coastal strip should be a priority. A coastal path would mean this strip would also have amenity value.

- At least some areas of the semi-intensive grassland should be managed without fertiliser to allow an increase in botanical diversity.

- Retention of bare rocky areas in the quarry for bare ground specialists such as hare's foot clover and scarce blue-tailed damselfly.

- Landowners in the area should be encouraged to join REPS to minimise fertiliser use and to promote the retention and management of hedgerows.

- Ecological monitoring of key ecological features such as Glenanna Wood, choughs, peregrines, otters and rarer plants.

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7. Appendices

7.1 Appendix 1. Additional Study Area Photographs

Figure 25. Aerial view of the Ballycurreen stream valley looking north west. The Ballynamona stream is to the left.

Figure 26. Aerial view of the cliffs and farmland around Mine Head. The Ballycurreen valley is towards the top right

Figure 27. A well vegetated area in the middle of the Hacketstown valley – looking north.

Figure 28. Poorly vegetated area at the bottom of the Hacketstown valley – looking south. Note the burned area on the eastern side

Figure 29. Scrubby area on the cliff top just west of the Hacketstown valley – looking east.

Figure 30. View of the coast looking north east from Ballykilmurray over the promontory fort towards Mine Head.

Figure 31. View of the quarry looking south west.

Figure 32. View of the Ballykilmurray valley looking south. Note the extensive conifer planting on the eastern side.

Figure 33. An inaccessible sandy cove at the bottom the cliffs in the Ballykilmurray area.

Figure 34. View of lower Glenanna Wood looking north east from the hairpin bends above Ballymacart Cove.

Figure 35. View of the scrubby valley below Glenanna Wood looking east from the hairpin bends above Ballymacart Cove.

Figure 36. View of Ballymacart Cove looking south east from the hairpin bends above the cove.

7.2 Appendix 2.Extracts from Ring-Helvick-Old Parish Draft Action Area Plan 2001

Prepared by CAAS Environmental Services (2001)

(*JC Note: It is assumed that the protection of these ecological areas is an objective of the plan although this does not appear to be explicitly stated anywhere*)

7.2.1 Ecological Sites Within the Study Area

7.2.1.1 Glenanna Wood

The pNHA site consists of the lower part of the Ballymacart valley which is a steep wooded gorge. The slopes are dry and covered by ash/hazel woodland with some oak, sycamore and elm. There are more open areas of developing scrub which a valuable contrast to and transition into the closed canopy areas. The ground flora is currently rather trampled by stock but contains a relatively good diversity of species. It is less rich however than the larger and similar site of Ballyeelin Wood just to the west.

7.2.1.2 Ballynamona Stream

The whole valley contains scrub and woodland vegetation of potential interest though the northern half is more fragmented and affected by grazing. The eastern end also has been cleared significantly but is included to connect the site with the coastal heath. Gorse and hawthorn are major species but there is also ash and oak in places. The passerine bird fauna is a feature of the site with whitethroat, stonechat, willow warbler etc.

7.2.1.3 D. Hacketstown Valley

This is a very similar site to the last with widespread gorse scrub but only small trees. There is a considerable area of rough grassland on the coast which is potentially a feeding area for choughs - an Annex I species on the Birds Directive (79/409/EEC).

7.2.2 Ecological Sites Close to the Study Area

7.2.2.1 Glenanna (upper)

(*JC Note: upstream of Ballymacart Bridge*)

The valley narrows in its upper part but still includes a reasonable amount of rough land with scrub and some young trees. It would act as a line of communication for various animal species allowing them access to the more open agricultural lands on each side. The stream also supports dipper and grey wagtail.

Additional coastal land at the southern end of the valley, west of the pNHA, should be included for its potential as nesting cliffs for birds as well as other maritime organisms.

7.2.2.2 Crobally Lower

(*JC Note:this area forms a link to the next valley NHA some 4 km westwards along the coast at Ballyeelinan Wood - No. 1692*)

The two small valleys here are linked along the coast by abandoned rough grassland forming a unit of some ecological significance containing scrub, heathland and cliff.

7.2.3 Landscape

Muggort's Bay and the coast southwards to Mine Head is visually distinctive on account of its steepness and enclosure – as a series of small bays.

South West of Mine Head the coastline is less dramatic but is still distinctive on account of its small bays and promontories.

7.3 Appendix 3. NHA Sites Synopsis (NPW)

7.3.1 SITE NAME: GLENANNA WOOD SITE CODE: 001698

Just before it reaches the Waterford coast four km west of Mine Head, the Ballymacart River runs through a steep wooded gorge carved out of the Old red sandstone that forms precipitous coastal cliffs here. Despite the river occupying the valley, the woodland is dry by nature, and contains a rich variety of deciduous native trees, especially Ash (Fraxinus excelsior), and Hazel (Corylus avellana), with Elm (Ulmus sp.), Oak (Quercus sp.), Elder (Sambucus niger), Hawthorn (Crateagus monogyna) and some non-native Sycamore (Acer pseudoplatanus). More open areas of developing scrub have been included in the site because they currently provide a valuable contrast to and transition into the closed canopy areas. The ground flora is currently rather trampled by stock but seems to be of typical woodland fern and moss species.

Despite the attentions of cattle and sheep, protected by its steep gradients, this site has remained in a notably natural condition, and thus, although small, it is one of the few representatives of typical semi-natural woodland left in the area.

7.4. Appendix 1. Plant List for Old Parish

English Name[1]	Scientific Name[2]	Seen 1988[3]	Seen 2002[4]	Habitat in Co. Waterford	Status in Co. Waterford[5]
HORSETAILS					
Field Horsetail	Equisetum arvense	1	1	Roadsides, unstable sea cliffs railway tracks & waste places.	Common over most of the county, but rare in the mountain areas.
Water Horsetail	Equisetum fluviatile		1	Ditches, marshes, margins of lakes etc.	Common except for the mountain & heath land areas.
Shore Horsetail	Equisetum *x* litorale		1	Ditches, damp stream banks, marshes & shores of lakes etc.	The hybrid between Field & Water Horsetail. Known from less than 15 sites in the county.
FERNS					
Black Spleenwort	Asplenium adiantum-nigrum	1	1	Walls, hedge-banks & shady places	Common over whole of county
Sea Spleenwort	Asplenium marinum		1	Rocks by the sea, especially in crevices, occasional on walls.	Common along most of the coast especially along the stretch covered by this survey.
Wall-rue	Asplenium ruta-muraria		1	Walls & rock crevices	Evenly scattered over the county, but rare in area surveyed.
Maidenhair Spleenwort	Asplenium trichomanes subsp. quadrivalens	1	1	Walls, rocks & hedge-banks.	Common over the whole county. On walls this is the commonest small fern.
Lady-fern	Athyrium filix-femina	1	1	Woods, shady banks & streamsides.	Common, except for Waterford city & Dungarvan Bay areas.
Rustyback	Ceterach officinarum		1	Walls & limestone rocks.	Almost entirely confined to walls in the county.
Scaly Male-fern	Dryopteris affinis		1	Woods, hedges & streamsides.	Common, largest of the clump forming ferns in the county.
Broad Buckler-fern	Dryopteris dilatata	1	1	Woods, banks, hedges & streamsides.	Very common.

English Name[1]	Scientific Name[2]	Seen 1988[3]	Seen 2002[4]	Habitat in Co. Waterford	Status in Co. Waterford[5]
Male-fern	Dryopteris filix-mas	1	1	Woods, hedges, banks & streamsides.	Common.
Hart's-tongue	Phyllitis scolopendrium	1	1	Woods, hedges, damp walls & rocky places.	Very common. Only rare on areas of heathland.
Polypody	Polypodium vulgare	1		Walls, hedge banks, boughs of trees	Common
Soft Shield-fern	Polystichum setiferum	1	1	Woods, hedges & other shady places.	Very common.
Bracken	Pteridium aquilinum	1	1	Open woods, hedges, neglected pastures etc.	Very common, becoming a pest in many areas.
FLOWERING PLANTS					
Yarrow	Achillea millefolium	1	1	Pastures, roadsides & waste places.	Common over the whole county.
Ground-elder	Aegopodium podagraria	1		Banks, roadsides, river banks & waste places	Common but rare in the wilder parts of the county.
Fool's Parsley	Aethusa cynapium		1	Tilled fields, gardens & waste places.	Very scattered over the county. Absent from the high ground.
Fragrant Agrimony	Agrimonia procera	1	1	Roadsides & bushy places.	A declining species in Ireland. Probably more common in Co. Waterford than any other Irish county.
Wood Anemone	Anemone nemorosa		1	Woods & shady places	Locally common
Scarlet Pimpernel	Anagallis arvensis	1	1	Cultivated ground, roadsides, waste areas	Very common in the east & south, rare elsewhere in the county.
Wild Angelica	Angelica sylvestris		1	By streams & ditches, marshes, damp areas	Very common.
Cow Parsley	Anthriscus sylvestris		1	Hedges, roadsides etc	Very common.
Kidney Vetch	Anthyllis vulneraria		1	Cliff tops, walls, dry banks, sand dunes etc	Very common along the coast, rarely found more than 2 miles inland.

English Name[1]	Scientific Name[2]	Seen 1988[3]	Seen 2002[4]	Habitat in Co. Waterford	Status in Co. Waterford[5]
Slender Parsley-piert	Aphanes australis		1	Cultivated ground, walls, roadsides etc	A small plant, recorded from less than 60 sites, maybe over looked.
Fool's-water-cress	Apium nodiflorum	1	1	Ditches, streams, muddy places etc	Common except for the mountain areas of the county.
Wood Burdock	Arctium nemorosum		1	Roadsides, cultivated ground, waste places	Thinly scattered over the county.
Thrift	Armeria maritima		1	Cliffs, rocks banks & salt marshes by the sea.	Very common along the coast, rarely more than 2 miles inland except for occasionally on rocks along the tidal part of the River Blackwater.
Sea Aster	Aster tripolium		1	Salt marshes, estuary banks & rocks by the sea.	Common along the coast and the tidal parts of the River Suir & Blackwater.
Common Orache	Atriplex patula		1	Cultivated ground, roadsides & waste places.	Frequent, absent from the mountain areas. Rare in areas of heathland.
Spear-leaved Orache	Atriplex prostrata		1	Seashores, waste places, roadsides etc	Common along the coast, very scattered elsewhere.
Winter-cress	Barbarea vulgaris		1	Field margins, waste places & roadsides etc	Common in the agricultural areas of the county only.
Daisy	Bellis perennis	1	1	Walls, lawn, roadsides	Common
Sea Beet	Beta vulgaris subsp. maritima		1	Seashores, sea cliffs & walls by the sea.	Only found along the coast.
Wild Turnip	Brassica rapa subsp. campestris		1	Cultivated ground, roadsides & waste places.	Frequent, absent from the mountain areas. Rare in areas of heathland.
Common Water-starwort	Callitriche stagnalis	1	1	Ponds, muddy ditches, slow streams etc	The only Water-starwort that is common in the county.
Heather	Calluna vulgaris		1	Drier parts of bogs, heathland, moors & mountain slopes	Common where there is suitable habitat. Very rare in the very far east of the county.
Hedge Bindweed	Calystegia sepium subsp. sepium		1	Hedges, waste places, woodland edges etc	Common except for areas of heathland & in the mountains.
Shepherd's-purse	Capsella bursa-pastoris	1	1	Cultivated ground, roadsides &	Common except for areas of heathland & in

English Name[1]	Scientific Name[2]	Seen 1988[3]	Seen 2002[4]	Habitat in Co. Waterford	Status in Co. Waterford[5]
				waste places.	the mountains.
Wavy bitter-cress	Cardamine flexuosa		1	Woods and shady wet places	Common
Hairy Bitter-cress	Cardamine hirsuta	1	1	Walls, roadsides, waste places etc	Common
Cuckooflower	Cardamine pratensis	1	1	Marshes, lawns, damp pasture &streamsides	Very common.
Common Knapweed	Centaurea nigra	1	1	Pasture, roadsides, banks, forest rides etc	Very common.
Common Centaury	Centaurium erythraea	1	1	Banks, sand dunes, dry pasture, sea cliffs	Common on the coast, scattered elsewhere.
Sea Mouse-ear	Cerastium diffusum		1	Maritime sand, cliff tops, walls etc	Frequent along the coast, never very far inland.
Common Mouse-ear	Cerastium fontanum	1	1	Walls, pastures, waste places etc	Very common.
Sticky Mouse-ear	Cerastium glomeratum	1	1	Walls, pastures, waste places etc	Very common.
Rosebay Willowherb	Chamerion angustifolium		1	Forest rides, hedges, waste places etc	Common, a species that has greatly increased in the last 20 years.
Fat-hen	Chenopodium album		1	Waste places, arable fields, roadsides etc	Widespread, absent from areas of heathland & the mountains.
Creeping Thistle	Cirsium arvense	1	1	Pastures, banks, waste places, roadsides etc	Very common.
Marsh Thistle	Cirsium palustre	1	1	Marshy places, damp fields, forest rides etc	Very common.
Spear Thistle	Cirsium vulgare	1	1	Pastures, roadsides & waste places etc	Very common.
Danish Scurvygrass	Cochlearia danica		1	Rocks, walls & banks near the sea	Common along the coast, not found inland.
Hemlock	Conium maculatum		1	Farmyards, waste ground, roadsides etc	Frequent along the coast, scattered elsewhere, missing from large tracks of the county.
Field Bindweed	Convolvulus arvensis	1	1	Hedges, cultivated & waste ground etc	Scattered along the coast. Only recorded from 13 sites inland.

English Name[1]	Scientific Name[2]	Seen 1988[3]	Seen 2002[4]	Habitat in Co. Waterford	Status in Co. Waterford[5]
Lesser Swine-cress	Coronopus didymus		1	Roadsides, cultivated & waste ground etc	Fairly common except for the mountain areas
Swine-cress	Coronopus squamatus		1	Roadsides, cultivated & waste ground etc	Scattered along the coast, rare inland. Recorded from less than 50 sites.
Smooth Hawk's-beard	Crepis capillaris	1	1	Pastures, walls, banks	Common
Rock Samphire	Crithmum maritimum		1	Seaside walls, rocks & cliffs.	Only found along the coast where it is common.
Montbretia*	Crocosmia *x* crocosmiiflora		1	Banks, river & stream sides, waste places etc	Common except for the Comeragh Mountain range.
Wild Carrot	Daucus carota subsp. carota	1	1	Banks, pastures, waste places, sea cliffs etc	Very common along the coast & from Dungarvan across to Cappoquin & in the east of the county. Very rare elsewhere.
Foxglove	Digitalis purpurea	1	1	Woods, heaths, banks, forest rides etc	Very common
American Willowherb*	Epilobium ciliatum		1	Walls, waste places, roadsides etc	An increasing species in the county, still rare in some areas
American *x* Hoary Willowherb	Epilobium ciliatum *x* E. parviflorum		1	Quarries (used & disused)	Only recorded twice from the county, both in 2002.
Great Willowherb	Epilobium hirsutum		1	Ditches, river sides, damp waste places etc	Common in most areas.
Broad-leaved Willowherb	Epilobium montanum	1	1	Roadsides, banks, walls, waste places etc	Common.
Short-fruited Willowherb	Epilobium obscurum		1	Marshes, damp places, rocks & walls by water etc	Possibly under recorded, scattered over the whole county.
Hoary Willowherb	Epilobium parviflorum	1	1	Ditches, damp places, marshes, forest rides	Common
Square-stalked Willowherb*	Epilobium tetragonum	1	1	Waste places	A rare introduced Willowherb in Ireland. Known from less than 60 sites in the county.
Bell Heather	Erica cinerea	1	1	Heaths, drier parts of bogs, rocky	Common where suitable habitat exists.

English Name[1]	Scientific Name[2]	Seen 1988[3]	Seen 2002[4]	Habitat in Co. Waterford	Status in Co. Waterford[5]
				areas	
Hemp-agrimony	Eupatorium cannabinum	1	1	River sides, damp sea cliffs, marshes etc	Scattered along the coast, very rare inland. Known from less than 40 sites in the county.
Sun Spurge	Euphorbia helioscopia		1	Roadsides, cultivated & waste ground etc	Widespread in the east & south of the county, rare elsewhere.
Meadowsweet	Filipendula ulmaria	1	1	River sides, marshes, damp places etc.	Common
Tall Ramping-fumitory	Fumaria bastardii		1	Cultivated & waste places etc	Rare or overlooked, only recorded from 24 very scattered sites in the county.
Common Ramping-fumitory	Fumaria muralis subsp. boraei		1	Cultivated & waste places, arable fields	The commonest fumitory in the county, only absent from the mountain areas.
Cleavers	Galium aparine	1	1	Cultivated & waste places, arable fields	Common
Common Marsh-bedstraw	Galium palustre	1	1	Marshes, damp places, ditches etc	Common
Heath Bedstraw	Galium saxatile	1	1	Heaths & rocky places, banks etc	Common in the mountain & heathland areas, rare elsewhere
Lady's Bedstraw	Galium verum	1	1	Dry banks, hedges, sandy places & sea cliffs.	Very common along the coast, only known from 7 sites inland.
Cut-leaved Crane's-bill	Geranium dissectum	1	1	Roadsides, waste places, field borders	Common except for in the mountain areas.
Dove's-foot Crane's-bill	Geranium molle		1	Dry pastures, banks, roadsides etc	Rare, very scattered about the county.
Herb-Robert	Geranium robertianum	1	1	Walls, roadsides, hedges etc	Common
Wood Avens	Geum urbanum		1	Hedges, walls, woods	Common
Ground-ivy	Glechoma hederacea	1		Hedges, woodland, river & stream banks	Common but absent from the mountain & heathland areas
Marsh Cudweed	Gnaphalium uliginosum	1	1	Damp places, forest rides, cultivated areas	Common

English Name[1]	Scientific Name[2]	Seen 1988[3]	Seen 2002[4]	Habitat in Co. Waterford	Status in Co. Waterford[5]
Hogweed	Heracleum sphondylium	1	1	Roadsides, waste places, forest rides etc	Very common
Mouse-ear Hawkweed	Hieracium pilosella		1		
Bluebell	Hyacinthoides non-scripta	1	1	Hedges, woods, bracken covered slopes etc	Common over most of the county, but absent from the Knockmealdown mountains
Tutsan	Hypericum androsaemum	1		Hedges, woods, river & stream banks	Common
Trailing St John's-wort	Hypericum humifusum	1		Dry banks, rocky areas, heathland	Thinly scattered over the whole county.
Imperforate St John's-wort	Hypericum maculatum		1	Thickets, banks, forest rides, roadsides etc	Locally common in the far west, becoming rarer as you head east almost absent from the far east of the county.
Perforate St John's-wort	Hypericum perforatum	1		Hedges, thickets, roadsides, forest rides & railway banks	Locally common from Dungarvan to Kilmacthomas very scattered elsewhere
Slender St John's-wort	Hypericum pulchrum	1	1	Banks, heaths, forest rides, rocky places etc	Common
Square-stalked St John's-wort	Hypericum tetrapterum	1	1	Ditches & other damp places	Widespread over the whole county but always in small numbers.
Cat's-ear	Hypochaeris radicata	1	1	Found in all types of habitat	Very Common
Yellow Iris	Iris pseudacorus		1	Marshes, streamsides, damp fields, pond margins etc	Common except for the mountain areas and areas of heathland.
Sheep's-bit	Jasione montana	1	1	Dry banks, heaths, coastal cliffs	Common on the coast partially in the area of this survey & the Comeragh Mountains very rare elsewhere in the county.
Field Scabious	Knautia arvensis	1		Dry pastures & banks, hedges etc	Recorded from less than 60 sites. From Lismore across to Dungarvan, Kinsalebeg to Ringville and from Dungarvan to Waterford city. A strange distribution.

English Name[1]	Scientific Name[2]	Seen 1988[3]	Seen 2002[4]	Habitat in Co. Waterford	Status in Co. Waterford[5]
Red Dead-nettle	Lamium purpureum	1	1	Cultivated & waste places, arable fields	Common but absent from the more wild parts of the county.
Nipplewort	Lapsana communis subsp. communis		1	Roadsides, waste places, hedges etc	Common
Bitter-vetch	Lathyrus linifolius	1	1	Hedges, woodland edges, riverbanks, heaths etc	Scattered over the whole county but never common.
Meadow Vetchling	Lathyrus pratensis	1	1	Hedges, banks etc	Very common
Common Duckweed	Lemma minor	1		Ponds, ditches, lakes, slow streams & rivers	Common but absent from the mountain & heathland areas
Autumn Hawkbit	Leontodon autumnalis	1	1	Hedges, grassland, lawns, waste places	Common
Lesser Hawkbit	Leontodon saxatile	1		Dry banks & moorland, forest rides, sand dunes, wall etc	Common along the coast rare inland.
Oxeye Daisy	Leucanthemum vulgare	1	1	Hedges, waste places, grassland, roadsides, churchyards etc	Common on the coast & east of the county, becoming rare in the north & west.
Fairy Flax	Linum catharticum		1	Roadsides, forest rides coastal grassland etc	Very scattered over the county recorded from less than 60 sites.
Common Bird's-foot-trefoil	Lotus corniculatus	1	1	Grassland, banks, walls, roadsides etc	Very common on the coast less so inland.
Greater Bird's-foot-trefoil	Lotus pedunculatus	1	1	Roadsides, hedges, riversides, damp places, marshes etc	Very common
Ragged-Robin	Lychnis flos-cuculi	1		Marshes, fens, damp fields, river & stream banks	Common in the east of the county very scattered elsewhere.
Purple-loosestrife	Lythrum salicaria	1	1	Damp places, roadsides, ditch, marshes, streamsides	Common in the east & south of the county. Absent from the mountain areas
Pineappleweed	Matricaria discoidea	1	1	Roadsides, waste places, arable weed	Very common
Black Medick	Medicago lupulina	1	1	Banks, roadsides, walls, waste places etc	Common except for the mountain & heathland areas

English Name[1]	Scientific Name[2]	Seen 1988[3]	Seen 2002[4]	Habitat in Co. Waterford	Status in Co. Waterford[5]
Water Mint	Mentha aquatica	1	1	Damp places, marshes streamside, roadsides	Common
Field Forget-me-not	Myosotis arvensis		1	Cultivated & waste places, arable fields	Common except for the mountain & heathland areas
Tufted Forget-me-not	Myosotis laxa		1	Marshes, stream banks, pond edges etc	Possibly over looked only recorded from 34 sites.
Water Forget-me-not	Myosotis scorpioides		1	River banks, marshes, damp places	Common along the Rivers Blackwater & Suir, very scattered elsewhere.
Red Bartsia	Odontites vernus	1	1	Forest rides, roadsides, grassland	Common
Hemlock Water-dropwort	Oenanthe crocata		1	Damp places, slow rivers & streams etc	Common over most of the county. Absent from the Knockmealdown Mountains.
Opium Poppy*	Papaver somniferum		1	Waste places, disused quarries, roadsides etc	A rare casual, only recorded from 12 very scattered sites
Water-pepper	Persicaria hydropiper	1	1	Roadsides, ditches, waste places, streamsides, margins of lakes & ponds	Common
Redshank	Persicaria maculosa	1	1	Roadsides, ditches, waste places, streamsides, margins of lakes & ponds	Common
Mouse-ear-hawkweed	Pilosella officinarum	1	1	Walls, churchyards, dry banks etc	Widespread but not common
Buck's-horn Plantain	Plantago coronopus		1	Sea cliffs, banks, coastal walls etc	Very common along the coast not found inland
Ribwort Plantain	Plantago lanceolata	1	1	Walls, pastures, lawns, waste places	Very common
Greater Plantain	Plantago major subsp. major	1	1	Walls, pastures, lawns, waste places	Very common
Sea Plantain	Plantago maritima		1	Sea cliffs, banks, coastal walls etc	Very common along the coast not found inland
Common Milkwort	Polygala vulgaris	1	1	Coastal grassland, sand dunes	Common along most of the coast. Two sites inland.

English Name[1]	Scientific Name[2]	Seen 1988[3]	Seen 2002[4]	Habitat in Co. Waterford	Status in Co. Waterford[5]
Knotgrass	Polygonum aviculare	1	1	Walls, roadsides, waste places, cultivated ground etc	Very common except for the mountain areas.
Trailing Tormentil	Potentilla anglica		1	Roadsides, banks, heaths, forest rides etc	Scattered over the county but absent from many areas
Silverweed	Potentilla anserina	1	1	Roadsides, waste places, margins of lakes, forest rides etc	Common
Tormentil	Potentilla erecta subsp. erecta		1	Hedges, banks, heathland & moorland	Common
Creeping Cinquefoil	Potentilla reptans	1		Banks, roadsides, forest rides & waste places	Common except for the high areas of the mountains.
Barren Strawberry	Potentilla sterilis	1	1	Hedges, banks, roadsides & scrub.	Common except for the mountain areas
Primrose	Primula vulgaris	1	1	Hedges, banks, woods, shady places	Common
Selfheal	Prunella vulgaris	1	1	Walls, pasture, banks, roadsides, forest rides	Very common
Common Fleabane	Pulicaria dysenterica	1	1	Damp places, stream sides, marshes & waste places	Common along the coast & in the very far east of the county extremely rare elsewhere.
Meadow Buttercup	Ranunculus acris	1	1	Pastures, roadsides etc	Common
Lesser celandine	Ranunculus ficaria		1	Damp shady places	Common
Lesser Spearwort	Ranunculus flammula	1	1	Damp places, ditches, marshes, streamsides	Common
Ivy-leaved Crowfoot	Ranunculus hederaceus	1		Ditches, streamsides, & marshes.	Widespread in the east very scattered elsewhere
Round-leaved Crowfoot	Ranunculus omiophyllus		1	Ditches, streamsides, & marshes.	Common in the centre of the county rare elsewhere
Creeping Buttercup	Ranunculus repens	1	1	All types of habitat	Very common
Celery-leaved Buttercup	Ranunculus sceleratus		1	Muddy places, farm yards, poached edges of streams & ponds	Found in the very far east of the county & in the area from Ardmore up Dungarvan & Lismore. Absent in most other areas.

English Name[1]	Scientific Name[2]	Seen 1988[3]	Seen 2002[4]	Habitat in Co. Waterford	Status in Co. Waterford[5]
Wild Radish	Raphanus raphanistrum subsp. raphanistrum		1	Waste & cultivated ground.	Only recorded from 12 very scatted sites
Water-cress	Rorrippa nasturitium-aquaticum	1	1	Damp places, stream sides, edges of ponds	Common except for the mountain & heathland areas
Common Sorrel	Rumex acetosa subsp. acetosa	1	1	Pastures, roadsides etc	Very common
Sheep's Sorrel	Rumex acetosella	1	1	Dry banks, waste ground, heaths etc	Common
Curled Dock	Rumex crispus subsp. crispus	1	1	Roadsides, waste places, pastures etc	Common
Curled *x* Broad-leaved Dock	Rumex crispus *x* R. obtusifolius		1	Waste places, pastures, roadsides,	The commonest of all hybrids to be found in the county
Broad-leaved Dock	Rumex obtusifolius	1	1	Waste places, pastures, roadsides,	Very common
Wood Dock	Rumex sanguineus		1	Woods, roadsides, waste places etc	Common except for in the mountain areas
Annual Pearlwort	Sagina apetala	1	1	Walls, waste places, forest rides, roadsides	Scattered over the whole county but nowhere common
Procumbent Pearlwort	Sagina procumbens	1	1	Walls, waste places, roadsides, pastures etc	Very Common
Common Figwort	Scrophularia nodosa	1	1	Roadsides, ditches, banks, streamsides etc	Common
English Stonecrop	Sedum anglicum	1	1	Dry banks, rocky areas, dry heaths	Common along the coast & the rocky outcrops in the east. Very rare & absent in most other areas.
Marsh Ragwort	Senecio aquaticus	1	1	Marshes, ditches, forest rides, stream & river banks, roadsides	Common but scarce along the coast & absent from much of it especially in the east.
Common Ragwort	Senecio jacobaea	1	1	Pastures, waste places, roadsides etc	Very common
Heath Groundsel	Senecio sylvaticus		1	Dry banks, cliff tops, rocky outcrops, railway banks etc	Surprisingly rare, recorded from less than 50 sites, populations normally in single numbers.

English Name[1]	Scientific Name[2]	Seen 1988[3]	Seen 2002[4]	Habitat in Co. Waterford	Status in Co. Waterford[5]
Sea Campion	Silene uniflora	1	1	Coastal cliffs & walls, rocky mountain ledges	Very common along the coast only known from 3 sites inland
Charlock	Sinapis arvensis		1	Waste places, roadsides & cultivated ground	Scattered over most of the county but absent from the mountain areas.
Hedge Mustard	Sisymbrium officinale		1	Walls, waste places, roadsides & cultivated ground	Scattered over most of the county but absent from the mountain areas.
Bitter-sweet	Solanum dulcamara		1	Hedges, waste places etc.	Common
Goldenrod	Solidago virgaurea	1		Hedges, heaths, mountain cliffs, woods etc	Common in the west, very rare in the east, absent from the coast except for the area between Ardmore & Ringville.
Perennial Sow-thistle	Sonchus arvensis	1	1	Sea shores, cultivated ground, waste places	Very common along the coast, rare inland
Prickly Sow-thistle	Sonchus asper	1	1	Walls, waste places, roadsides & cultivated ground,	Very common
Smooth Sow-thistle	Sonchus oleraceus	1	1	Walls, waste places, roadsides & cultivated ground	Very common
Branched Bur-reed	Sparganium erectum		1	Marshes, ditches, damp fields, streamsides etc	Common in the east, along the Rivers Suir & Blackwater. Rare elsewhere, absent from the mountains areas.
Corn Spurrey	Spergula arvensis		1	Roadsides, waste places, & cultivated ground.	Common in the eastern half of the county, very rare in the west, absent from the mountain areas.
Rock Sea-spurrey	Spergularia rupicola		1	Coastal rocks & walls	Only along the coast
Field Woundwort	Stachys arvensis		1	Roadsides, waste places, & cultivated ground.	Scattered in the area between Bunmahon, Waterford city & Dunmore. Only five records out side this area.
Marsh Woundwort	Stachys palustris	1	1	Ditches, marshes, roadsides, waste & cultivated ground etc	Very common
Hedge Woundwort	Stachys sylvatica	1		Hedges, roadsides, waste places,	Common

English Name[1]	Scientific Name[2]	Seen 1988[3]	Seen 2002[4]	Habitat in Co. Waterford	Status in Co. Waterford[5]
				banks	
Lesser Stitchwort	Stellaria graminea		1	Hedges, marshes, roadsides etc	Common except for the extreme far east where it is absent.
Greater Stitchwort	Stellaria holostea	1	1	Hedges, thickets etc	Very common
Chickweed	Stellaria media	1	1	Roadsides, waste places, & cultivated ground.	Common
Bog Stitchwort	Stellaria uliginosa	1		Marshes, damp places, river & stream banks	Common
Devil's-bit Scabious	Succisa pratensis	1		Marshes, damp fields, heaths, banks etc	Common
Russian Comfrey	Symphytum *x* uplandicum		1	Roadsides, river banks, waste places & pasture etc	Very scattered over the whole county. A hybrid between Rough & Common Comfrey
Dandelion	Taraxacum agg.	1	1	All types of habitat	Very common
Wood Sage	Teucrium scorodonia	1	1	Banks, hedges, rocky areas, woodland edges	Common
Wild Thyme	Thymus polytrichus	1	1	Coastal cliffs, rocky areas, mountain ledges & sand dunes	Common along the coast. Known from 3 sites inland, 2 of which are in the Comeragh Mountain range
Upright Hedge-parsley	Torilis japonica	1	1	Hedges, roadsides, forest rides, thickets	Common
Hare's-foot Clover	Trifolium arvense		1	Sand or rocky ground by the sea	Rediscovered in county at two sites in study area – see text.
Hop Trefoil	Trifolium campestre	1	1	Dry banks & pastures, waste places, disused railways etc	Found in 30 very scattered sites about the county.
Lesser Trefoil	Trifolium dubium	1	1	Banks, walls, lawns, waste places etc	Common
Red Clover	Trifolium pratense	1	1	Pastures, roadsides etc	Common
White Clover	Trifolium repens	1	1	All types of habitat	Very common

English Name[1]	Scientific Name[2]	Seen 1988[3]	Seen 2002[4]	Habitat in Co. Waterford	Status in Co. Waterford[5]
Scentless Mayweed	Tripleurospermum inodorum		1	Roadsides, waste places, & cultivated ground.	Common in areas of habitation, rare elsewhere.
Sea Mayweed	Tripleurospermum maritimum		1	Coastal cliffs, wall & banks, waste areas by the sea	Only along the coast where it is common.
Colt's-foot	Tussilago farfara		1	Banks, sand dunes, waste places etc	Common in some areas especially along rivers valleys
Navelwort	Umbilicus rupestris	1	1	Walls, banks, rocky areas etc	Common
Common Nettle	Urtica dioica	1	1	Banks, hedges, waste & cultivated ground.	Common
Bilberry	Vaccinium myrtillus	1		Banks, heathland, moorland, woods etc	Absent from the coast apart from the area covered by this survey. Very rare in the extreme east, common elsewhere.
Common Valerian	Valeriana officinalis		1	Ditches, riversides, damp woods, hedges	Common but rare on the coast & the very east of the county.
Great Mullein	Verbascum thaspus		1	Gravelly and waste areas	Common
Wall Speedwell	Veronica arvensis	1	1	Walls, waste places, cultivated ground etc	Common
Brooklime	Veronica beccabunga	1	1	Streams, ditches, marshes, pond edges	Widespread, never in large numbers.
Germander Speedwell	Veronica chamaedrys	1	1	Banks, lawns, roadsides, hedges etc	Very common
Heath Speedwell	Veronica officinalis	1		Heaths, banks, hedges, walls, churchyards etc	Only found on the coast at Ballyvoyle & the area covered by this survey, widespread in the mountains & the west, very rare elsewhere.
Common Field-speedwell	Veronica persica		1	Walls, waste places, cultivated ground etc	Common except for the mountain areas
Thyme-leaved Speedwell	Veronica serpyllifolia	1	1	Walls, lawns, roadsides, cultivated ground etc	Very common
Tufted Vetch	Vicia cracca	1	1	Hedges, banks, waste places etc	Common along the coast, less so inland.

English Name[1]	Scientific Name[2]	Seen 1988[3]	Seen 2002[4]	Habitat in Co. Waterford	Status in Co. Waterford[5]
Hairy Tare	Vicia hirsuta		1	Field margins, hedges, waste places etc	Mostly on the coast & in the east. Only recorded from 40 sites scattered over the county.
Common Vetch	Vicia sativa subsp. segetalis	1	1	Hedges, roadsides, waste places etc	Scattered over the county, rare in the far west.
Bush Vetch	Vicia sepium	1	1	Hedges, thickets etc	Very common
Wood Vetch	Vicia sylvatica	1		Coast cliffs	Only known from two sites in the county.
Smooth Tare*	Vicia tetrasperma		1	Quarry (disused?)	A very rare plant in Ireland the New Atlas only gives six records. This is the first record for Co. Waterford.
Common Dog-violet	Viola riviniana	1	1	Hedges, woods, waste places etc.	Very Common
GRASSES					
Common Bent	Agrostis capillaris		1	Dry pastures, sand dunes, heaths and mountain grassland.	Very common over the whole county.
Creeping Bent	Agrostis stolonifera		1	Waste places, ditches, damp meadows, rocky seashores & banks.	Very common, only rare on moorland and in the mountains.
Silver Hair-grass	Aira caryophyllea	1	1	Banks, walls, sand dunes & top of sea cliffs.	Common along the coast, rare & very scattered elsewhere in the county.
Early Hair-grass	Aira praecox		1	Heaths, walls, sand dunes & top of sea cliffs.	Widespread along the coast & in the eastern half of the county. Absent in the west.
Marsh Foxtail	Alopecurus geniculatus		1	Marshes, ditches & damp pasture.	Common in the east, becoming rarer further west in the county.
Sweet Vernal-grass	Anthoxanthum odoratum	1	1	Pastures, heaths, banks etc.	A very common grass.
False Oat-grass	Arrhenatherum elatius	1	1	Hedges, roadsides & waste places etc.	Very common, only rare on the high ground in the mountains.
Wild-oat*	Avena fatua		1	Cultivated & waste ground.	Rare, absent from large areas of the county.

English Name[1]	Scientific Name[2]	Seen 1988[3]	Seen 2002[4]	Habitat in Co. Waterford	Status in Co. Waterford[5]
				Roadsides.	
False Brome	Brachypodium sylvaticum	1	1	Hedges, woods & shady banks.	Common, except for the high ground & areas of moorland.
Soft-brome	Bromus hordeaceus	1	1	Grassland, roadsides & waste places etc.	Common, except for the high ground & areas of moorland.
Sea Fern-grass	Catapodium marinum		1	Walls, cliffs tops, sand dunes & waste places near the sea.	Common about Dungarvan & Tramore. Very scattered elsewhere on the coast.
Crested Dog's-tail	Cynosurus cristatus	1	1	Pastures, roadsides, forest rides etc	Very common.
Cock's-foot	Dactylis glomerata	1	1	Pastures, banks & waste places.	Very common.
Common Couch	Elytrigia repens		1	Cultivated ground, waste places & field banks.	Common on the coast, in the east & south of the county. Very rare in the mountain areas
Sheep's-fescue	Festuca ovina		1	Heaths, sea cliffs, rocky outcrops etc.	Common in the mountain areas extremely rare elsewhere.
Red Fescue	Festuca rubra		1	Walls, banks, sand dunes, sea cliffs etc.	A very common grass.
Small Sweet-grass	Glyceria declinata	1	1	Muddy situations, damp fields etc.	A rare grass known from less than 30 sites in the county.
Floating Sweet-grass	Glyceria fluitans		1	Ditches, pools, muddy places & slow streams	Common, especially in the east of the county.
Yorkshire-fog	Holcus lanatus	1	1	Pastures, banks, waste places etc.	Very common.
Perennial Rye-grass	Lolium perenne	1	1	Pastures, roadsides, waste places etc.	Very common. Widely sown in amenity grassland.
Timothy	Phleum pratense	1		Pastures, roadsides, waste places	Surprisingly rare recorded from less than 50 sites.
Annual Meadow-grass	Poa annua	1	1	Found in most types of habitat.	Extremely common.
Smooth Meadow-grass	Poa pratensis		1	Pastures, roadsides, walls & waste places.	Common, except for the mountain areas of the county.
Rough Meadow-grass	Poa trivialis		1	Pastures, roadsides etc	Very common

English Name[1]	Scientific Name[2]	Seen 1988[3]	Seen 2002[4]	Habitat in Co. Waterford	Status in Co. Waterford[5]
Squirreltail Fescue	Vulpia bromoides		1	Walls, heathland, dry banks & waste areas.	Rare but evenly scattered about the county.
RUSHES					
Sharp-flowered Rush	Juncus acutiflorus		1	Bog-margins, marshes wet fields, stream banks etc.	Evenly scattered over the whole county.
Jointed Rush	Juncus articulatus	1	1	Marsh, wet fields, lake shores, roadsides	Common.
Toad Rush	Juncus bufonius	1	1	Damp muddy places, forest rides etc.	Very common.
Bulbous Rush	Juncus bulbous	1		Bogs, pools, ditches, lake margins, rivers	Common in the mountains areas & the bogs & fens in the east. Very rare & scattered elsewhere in the county.
Compact Rush	Juncus conglomeratus		1	Moorland, heaths, pastures etc.	Scattered over the county, rare on the coast.
Soft Rush	Juncus effusus	1	1	Ditches, marshes, streamsides, roadsides	The commonest rush in the county.
Hard Rush	Juncus inflexus		1	Wet fields, ditches, streamsides etc.	Locally common, absent from many areas of the county.
SEDGES					
Sand Sedge	Carex arenaria		1	Sand dunes & sandy shores.	Scattered along the coast where suitable sites occur.
Grey Sedge	Carex divulsa subsp. divulsa	1	1	Hedges, roadsides & open woods.	Common, except for the mountain areas of the county.
Glaucous Sedge	Carex flacca		1	Grassland, hedges, sand dunes etc.	Common on the coast & in the east only. Rare elsewhere.
Pill Sedge	Carex pilulifera		1	Heathy grassland & moorland.	Common in the mountains, very scattered elsewhere.
Yellow-sedge	Carex viridula subsp. oedocarpa		1	Bog-margins, damp grassland, marshes & forest rides.	Widespread but never in large numbers & missing from many areas of the county.

English Name[1]	Scientific Name[2]	Seen 1988[3]	Seen 2002[4]	Habitat in Co. Waterford	Status in Co. Waterford[5]
Bristle Club-rush	Isolepis setacea	1	1	Damp fields, forest rides, marshes etc	Very scattered over the whole county.
TREES & SHRUBS					
Sycamore	Acer pseudoplantanus		1	Woods, hedges & waste ground	Very common
Alder	Alnus glutinosa		1	River banks, lake shores & damp woods	A common tree.
Hawthorn	Crataegus monogyna	1	1	Hedges, copses & scrub.	Very common over the whole county.
Ash	Fraxinus excelsior	1	1	Hedges, woods etc	Very common
Fuchsia*	Fuchsia magellanica	1	1	Hedges, waste places, river banks etc.	In most cases plants, spreads along rivers where broken off twigs root.
Ivy	Hedera helix subsp. hibernica	1	1	Walls, climbing up trees, hedges & woods	Very common.
Honeysuckle	Lonicera periclymenum	1	1	Hedges, thickets, woods etc	A very common climbing shrub.
Apple	Malus domestica		1	Hedges, woods & thickets.	The commonest apple found growing wild. Most trees that produce small apples belong here rather than to Crab Apple
Hybrid Black-poplar	Populus *x* canadensis		1	Hedges, roadsides, riverbanks etc.	Only a planted tree in the county spreads by suckers.
Blackthorn	Prunus spinosa	1	1	Hedges, woods, thickets etc.	Very common, rare or absent from areas of moorland.
Field Rose	Rosa arvensis		1	Hedges & thickets	Common in hedges only.
Dog-rose	Rosa canina	1	1	Hedges, thickets waste places etc.	The most common rose in the county.
Burnet Rose	Rosa pimpinellifolia	1	1	Sand dunes, hedges, sea cliffs & rocky ledges in coums	Very seldom more than 4 miles inland from the sea with the exception of several small populations in the Comeragh Mountains.
Bramble	Rubus fruticosus agg.	1	1	Hedges, thickets, edge of woods etc.	Very common.

English Name[1]	Scientific Name[2]	Seen 1988[3]	Seen 2002[4]	Habitat in Co. Waterford	Status in Co. Waterford[5]
Grey Willow	Salix cinerea subsp. oleifolia		1	Hedges, woods, river banks etc	The commonest willow in the county.
Grey *x* Eared Willow	Salix *x* multinervis		1	Hedges, river banks, bog margins etc	Common replacing Eared Willow in many areas.
Osier	Salix viminalis	1		Hedges, river & stream banks	Common along the Rivers Blackwater & Suir, very scattered elsewhere.
Elder	Sambucus nigra	1	1	Hedges, woods, walls, tickets etc	Very common.
Gorse	Ulex europaeus	1	1	Heaths, hedges, rocky places, rough ground	Very common.
Western Gorse	Ulex gallii		1	Heaths, rocky places, forest rides etc.	Common, but much less so than Gorse
Small-leaved Elm	Ulmus minor		1	Hedges, woods etc	Widespread but always planted, spreading by suckers.
English Elm	Ulmus procera	1		Hedges, woods etc	Widespread but always planted, spreading by suckers.

[1] English names taken from Preston et al. (2002). * = non-native species. [2] Scientific names taken from Preston et al. (2002)
[3] Recorded during visit to Mine Head by Paul Green and others on 19 September 1988.
[4] Mainly recorded by Paul Green with the assistance of JC on 26 July 2002. A few supplementary records by JC, mainly on 5 July 2002, are also included.
[5] As found by P. Green during fieldwork for Co. Waterford flora (in prep.) Note that status is given with reference to the habitats it favours, i.e. a species may be very frequent but only in a rare habitat such as a salt marsh.