
APPENDIX B

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APPENDIX B1

Evaluation and Classification of Hedgerows and Other Field Boundaries

*HEGS value (after Clements and Tofts 1992)

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
1	N	Moderately High to High	Native species. Tall, overhanging, compact, wide and impenetrable.	Ash, blackthorn, hawthorn with some bramble and ivy.
	S	Moderately High to High	Planted hedgerow with 17 woody spp. - mixed native and introduced.	Includes: Norway maple, Scots pine, silver birch, alder, ash, sycamore, beech, copper beech, dogwood, cornel, Escallonia, snowberry, weeping willow, privet, rowan and Sumach.
	E	Moderate	Fairly wide, compact and uniform hedgerow.	Blackthorn throughout, scattered hawthorn with dog-rose and bramble.
	W	Low	Planted hedgerow	Mostly alder with a few well-branched ash and medium-sized sycamore. Some hawthorn, bramble and ivy.
2	N	Moderately High to High	Wide, irregular, hedgerow with a compact base, overhanging.	Mature, well-branched ash, with some hawthorn, occasional blackthorn, ivy and dog-rose and a sycamore.
	S	Moderately High to High	Short, irregular width hedge with compact, wide base.	Frequent mature, well-branched ash with occasional hawthorn. Ivy common. Brambles abundant in places at base of hedge.
	E	Low	Planted hedgerow.	Mostly alder with a few well-branched ash and medium-sized sycamore. Some hawthorn, bramble and ivy.
	W	Moderately High to High	Substantial hedgerow with very compact, wide base. Upper sections more open.	Spaced, well-branched overhanging ash with a few sycamore. Bramble and blackthorn form extensive basal outgrowths. Scattered hawthorn and dog-rose with abundant ivy in places.
3	N	Moderately High to High	Planted hedgerow with 17 woody spp. - mixed native and introduced.	Includes: Norway maple, Scots pine, silver birch, alder, ash, sycamore, beech, copper beech, dogwood, Escallonia, snowberry, weeping willow, privet, rowan and Sumach.
	S	Low	A uniform, compact managed hedgerow; height about 2 m.	Bramble is common; three tall ash trees and one elder shrub. Hawthorn and dog-rose were also recorded.
	E	Moderate	A recently planted hedgerow.	Lombardy poplar, sycamore, cherry laurel, sumach, white dogwood, dwarf cornel and field maple. Hawthorn is common between the adjoining road and the hedgerow.
	W	N/A	No hedgerow -	-
4	N	Low	A uniform, compact managed hedgerow; height about 2 m.	Bramble is common; three mature ash trees and one elder; hawthorn and dog-rose present.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	S	Moderately High to High	Open aerially but compact basally.	Medium-sized, well-branched over-hanging ash form the tallest part of the hedgerow; Blackthorn, hawthorn and bramble occur throughout.
	E	Moderately High to High	Well-spaced, well-branched over-hanging ash trees with the intervals rather low, compact and fairly wide	Ash with bramble, hawthorn and blackthorn. Climbing ivy abundant, dog-rose occasional. Snowberry occurs towards the southern end.
	W	Moderate	Partly defined by a short hedgerow; composed of a few tall, well-branched over-hanging ash trees. The base very wide and compact.	Ash with low hawthorn beneath; bramble limited but climbing. Ivy plentiful.
5	N	Moderate	Well branched, overhanging trees with an impenetrable base.	Four ash trees in the eastern half of the hedgerow, one of which is very tall; extensive bramble. The remainder of the hedgerow mostly comprises blackthorn and hawthorn; climbing ivy and dog-rose also present.
	S	Low	An intermittent hedgerow.	Single bushy hawthorn on the western end; otherwise well-spaced hawthorn with bramble.
	E	Low	An intermittent, sparse hedgerow.	Occasional ash with hawthorn, blackthorn and bramble.
	W	Low	An intermittent, sparse hedgerow.	Occasional ash with hawthorn, blackthorn and bramble.
6	N	Low	An intermittent hedgerow.	A few medium-sized bushy hawthorn on the western end; a length of a sluggish stream; thereafter, well-spaced hawthorn with bramble; the eastern end is rather wide, compact and has blackthorn and bramble.
	S	Low	This boundary has a wire mesh fence with sparse tree line.	Two mature Lombardy poplars, several grey willows and compact basal bramble are located on one-half of the fence.
	E	Low	An intermittent hedgerow – the boundary marked partly by a short, compact, basally wide hedgerow and partly by a small stream.	Hawthorn and bramble; dog-rose also present.
	W	Low	A wire mesh fence which is covered for most of its length with compact bramble	Occasional low blackthorn. A bushy, spreading grey willow occurs on the northern corner.
7	N	Low	Wire fence with some woody vegetation	Bramble and small ash occupy most of its length; butterfly-bush and snowberry also present.
	S	Low	Sparse tree line.	English elm on the eastern end and compact blackthorn on the western end; bramble occurs throughout.
	E	Low	Boundary represented by a small stream.	
	W	Low	Wire fence with some woody vegetation.	Occasional small ash; bramble and snowberry present.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
8	N	Low	Boundary marked partly by a short, intermittent, compact hedgerow and partly by a small stream.	A medium-sized ash with a mixture of hawthorn and blackthorn.
	S	Low	Low wire mesh fence partly covered with sparse vegetation.	Blackthorn and hawthorn.
	E	Moderate	Wide and compact basally with some well-branched, mature, overhanging trees.	Medium-sized ash trees and a wych elm; with spreading bramble and ivy occur on the southern half. Hawthorn, bramble (which forms very compact, high and extensive outgrowths in places), and occasional blackthorn and climbing ivy occur in the northern half.
	W	Low	Intermittent - boundary marked partly by a short, wide, compact hedgerow and partly by a small stream	Hawthorn and bramble; dog-rose also present.
9	N	Low	Boundary marked by a mesh wire fence.	Bramble in varying densities throughout.
	S	Low	A wide-gapped hedgerow	A mature, well-branched overhanging ash, occasional smaller ash, and elder on the eastern end; hawthorn is present on the western end.
	E	Low	A poor quality, short, very wide hedgerow.	Tall English elms and bushy hawthorn on the southern end; bramble, in the form of extensive outgrowths, is present throughout.
	W	Low	Boundary comprises intermittent vegetation and sluggish stream.	Bramble, especially towards the southern end.
10	N	Moderately High to High	Compact base, upper sections more open.	Well-branched, overhanging ash with intermingled hawthorn; elder and dog-rose also present; spreading bramble occurs throughout; bramble outgrowths occur in the western end.
	S	Moderate	Narrow, low woody species but impenetrable and compact basally.	Tall, overhanging well-branched hawthorn, with low areas at the eastern end; climbing bramble occurs throughout; dog-rose also present.
	E	Moderate		East: A straight hedgerow, rather open aerially but compact basally; sycamore is present on the northern end and mid-way; poorly-branched ash occurs throughout; hawthorn, bramble, dog-rose and climbing ivy are present.
	W	N/A	No hedgerow present - boundary represented by a wire mesh fence.	-
11	N	Moderate	A managed hedgerow with near vertical sides consisting of mostly tall, overhanging freely-branched hawthorn; low areas noted on both ends; rather narrow but compact and impenetrable basally	Hawthorn; climbing bramble plentiful; dog-rose also present.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	S	Low	A relatively low, bushy, irregular straggling hedgerow. Quite compact basally.	Hawthorn, blackthorn and bramble.
	E	Moderate	An irregular, tall, well-branched hedgerow; rather wide and penetrable in places.	Well-spaced ash especially on the southern end; hawthorn and blackthorn plentiful and compact between the ash; bramble relatively scarce except on the southern end where it is both climbing and spreading; dog-rose also present;
	W	N/A	A wire mesh fence.	-
12	N	Low	A relatively low, bushy, irregular straggling hedgerow. Quite compact basally.	Hawthorn, blackthorn and bramble.
	S	Moderate	Sections between tall trees rather low; hedgerow relatively gapped, and with long open and short compact basal areas.	A few tall, well-branched overhanging ash trees occur on both the western and northern ends; otherwise, mostly medium-sized ash throughout; bramble and hawthorn very plentiful and forming compact areas; one silver birch.
	E	Moderate	A relatively low, bushy, irregular hedgerow - rather compact basally.	A straggling mixture of hawthorn, blackthorn and bramble.
	W	N/A	A wire mesh fence	
13	N	Moderately High to High	The eastern half of this hedgerow is very close, compact and wide both basally and aerially, with some mature trees. Also well-branched and overhanging in the western half.	The eastern half: hawthorn with two medium-sized ash trees and one elder shrub; blackthorn and bramble occur throughout; the western half has well-branched overhanging ash; hawthorn, gorse, elder, ivy and bramble also noted.
			A short, very wide, irregular hedgerow or 'spur' runs due south from the northern hedgerow;	Woody species present are similar to those recorded for the northern end of 'E' below.
	S	Moderately High to High	Occasional tall overhanging trees, otherwise low, very compact and impenetrable basally.	Hawthorn and bramble; with occasional tall well-branched, overhanging ash; dog-rose and climbing ivy present.
	E	Moderate	A very wide, irregular, gapped hedgerow with a short stretch of tall overhanging, well-branched ash trees. Some impenetrable sections.	Ash, sycamore hawthorn, blackthorn and bramble; also lilac and snowberry. Northern section: ash trees and elder shrubs are present; bramble is frequent.
	W	Moderate	Hedgerow variable in structure with mature and semi-mature trees scattered throughout - some being ivy-covered.	Ash, sycamore, bramble, blackthorn and hawthorn scattered throughout; dog-rose also present; climbing ivy; some elder.
14	N	Moderately High to High	Variable structure: sparse in parts, compact and impenetrable in others.	Tall well-branched overhanging ash trees and tall hawthorn occur on the western end; otherwise dense hawthorn. Towards the northern end: sycamore, ash and blackthorn; ivy and bramble - both mostly climbing.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	S	N/A	No hedgerow present; boundary not well defined	
	E	Moderate	Intermittent - a wide hedgerow with tall herbaceous material at either end and low areas of woody scrub in the mid-section. Fast-running stream within.	Tall well-branched, overhanging ash; hawthorn, grey willow, ivy and elder scattered throughout; bramble both spreading and climbing present;
	W	Moderate	Structure varies from compact to well-spaced overhanging trees. Northern end comprises denser trees with a dry ditch.	From south to north: Bramble and hawthorn, and well-branched overhanging ash. Followed by low compact bramble and hawthorn; thereafter, a few well-spaced ash with yet more compact hawthorn and bramble.
15	N	Low	A wide-gapped hedgerow.	Ash (tall, well-branched overhanging), a smaller ash, well-spaced English elms with elder towards the eastern end. Compact blackthorn occurs on the western end and also mid-way along the hedgerow; a few hawthorn occur in the same area; scattered bramble occurs throughout.
	S	Low	The boundary is defined by a wide ditch which is bordered with overgrown ruderal species on the eastern section while the western section is wide-gapped and woody.	Eastern section: herbaceous plants and bramble. The western section: hawthorn; some ash, willow and expansive bramble.
	E	High	A wide and irregular hedgerow - variable structure; base compact and impenetrable in parts.	Tall, well-branched overhanging ash, lime and sycamore; hawthorn, elder, ivy are present; also English elms and extensive bramble.
	W	Moderate	A long managed hedgerow variable structure and quality. The southern end is rather narrow basally, relatively low and gapped;	English elm, ash trees, hawthorn with lilac and snowberry; bramble varies from being scarce to plentiful throughout; ivy and dog-rose present.
16	N	N/A	Boundary marked by a wire mesh fence; no significant hedgerow present	
	S	Moderately High to High	A tall and reasonably compact hedgerow consisting mostly of well-branched, widely overhanging trees. Base of hedgerow exceptionally wide.	Ash, sycamore and hawthorn present; abundant bramble.
	E	N/A	No hedgerow; boundary not well defined.	
	W	Moderately High to High	Variable in height, the hedgerow is very wide, mostly impenetrable and irregular; stream within.	Ash and sycamore; hawthorn is frequent on the southern end, while English elm and elder occur on the northern end; a few lilac plants were also noted; bramble - both climbing and spreading is frequent.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
17	N	High	A tall and reasonably compact hedgerow consisting mostly of well-branched, widely overhanging trees, with wide base and scattered basal clumps of bramble.	Ash; sycamore and hawthorn; bramble, especially towards the western end; a 'spur' at right angles to the main hedgerow, has three well-spaced, tall lime and two sycamore trees; bramble also present.
	S	Moderate	A tall hedgerow which varies from open to compact with extensive bramble - especially on the western end, is also wide-gapped.	Horse-chestnut, ash and sycamore; all are well-branched and widely overhanging; some tall bushy hawthorn and elder shrubs are also present;
	E	Moderate	Tree line	Beech with bramble of varying density between the trees.
	W	Moderate	Hedgerow irregular, wide base and impenetrable. Woody plants bushy and spreading aerially giving a rather compact hedgerow; wide ditch within.	English elm, frequent elder and some ash; bramble occasional except towards the southern corner; some ivy also noted.
18	N	Moderate	Boundary marked partly by a hedgerow and partly by walls of old farm buildings; hedgerow variable in structure though rather open but impenetrable.	A tall sycamore, a few well-branched overhanging ash trees on the western end; a few metres of low compact bramble followed throughout, by a mixture of light ash, spreading bramble, outgrowths of bramble and hawthorn; small amounts of elder and dog-rose were also noted.
	S	Moderately High to High	A hedgerow of variable structure with a very wide and impenetrable Base. Three definable sections.	Tall, well-branched overhanging ash with a dense blackthorn, hawthorn, climbing ivy and bramble; Light, tall ash and hawthorn; abundant bramble; Elder, well-branched overhanging ash, some dense hawthorn and abundant ivy; bramble is very dense, extensive and impenetrable.
	E	Low	Hedgerow compact aerially but rather sparse basally.	Lawson cypress, ash, hawthorn, occasional Escallonia, and scattered bramble; abundant blackthorn in places. 'Spurs' off main hedge: cypress spp.
	W	Low	Wide bramble-dominated boundary.	Occasional hawthorn, medium-sized ash, abundant ivy and extensive bramble.
19	N	N/A	Boundary not well defined; no hedgerow present.	
	S	Low	A dense planted hedge.	Lawson Cypress
	E	Moderate	"Gappy", managed hedge.	Tall ash, hawthorn, blackthorn; climbing and spreading ivy; low dense bramble and some gorse.
	W	Moderate	Wide hedgerow with variable structure; fast-running stream within.	Ash, hawthorn; grey willow, ivy and elder are scattered throughout; bramble, both spreading and climbing, is present.
20	N	Moderately High to High	Wide base, structure and density/compactness is very variable; impenetrable in places.	Hawthorn, elder and ash; some sycamore, abundant ivy; bramble forms compact growths in some areas.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	S	Moderate	Boundary comprises a hedgerow of variable structure and a wire mesh fence in parts.	Blackthorn, some tall, well-branched, overhanging closely-set ash and scattered hawthorn; small amounts of bramble and ivy are scattered throughout.
	E	Moderate	Hedgerow is rather narrow and open basally.	Well-branched over-hanging ash with a few scattered hawthorn and elder; climbing ivy and bramble are frequent throughout.
	W	Moderate	Hedgerow of variable structure	Hawthorn, blackthorn, some ash, bramble, occasional elder and sycamore; ivy present; bramble sparsely present throughout.
21	N	Moderately High to High	Hedgerow of variable structure. In parts the base of hedgerow very wide, impenetrable with extensive bramble in places.	Ash; some hawthorn throughout and occasional elder, some bramble.
	S	Moderate	Hedgerow reasonably wide and basally compact.	Blackthorn – frequent; occasional tall ash and elder; some dense hawthorn; some dog-rose and abundant climbing ivy also noted.
	E	High	Hedgerow very wide, very compact, irregular, impenetrable basally but open to compact aerially. Scrubby basal outgrowths.	Tall ash; bramble, hawthorn, gorse and are scattered throughout; frequent blackthorn in places.
	W	Moderate	Variable in structure from narrow tree line to compact hedgerow.	Ash, hawthorn, together with abundant bramble outgrowths and climbing ivy; dog-rose also present.
22	N	Moderately High to High	Hedgerow reasonably wide and basally compact.	Blackthorn – frequent; occasional tall ash and elder; some dense hawthorn; some dog-rose and abundant climbing ivy also noted.
	S	N/A	No hedgerow present; boundary represented by a wire mesh fence.	
	E	Moderate	Boundary marked by concrete railing and planted trees. Long section of remnant hedgerow - narrow, open basally, compact aerially - adjacent to the railing.	Field maple, Norway maple, ash, hawthorn and poplar; remnant hedge comprises hawthorn with a few tall ash trees and a small amount of blackthorn; low dense bramble occurs at the southern end.
	W	Moderate	Hedgerow of variable and irregular structure, in places the base is rather sparse.	Tall ash, some scattered hawthorn and varying amounts of elder; grey willow and dog-rose are present; bramble and climbing ivy - while scattered throughout - are abundant in places;
23	N	N/A	No hedgerow present; boundary represented by a wire mesh fence.	
	S	Moderate	Hedgerow is rather irregular or open aerially giving high and low areas, and an open to compact base which is wide-gapped in some places.	Ash, hawthorn, blackthorn, some elder – more frequent at the eastern end; bramble forms compact basal outgrowths; overall; gaps have overgrown herbaceous spp., especially nettles.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	E	Moderate	A very short hedgerow with well-branched overhanging small tree species; base rather compact.	Blackthorn and hawthorn; very small amount of bramble present; no elder or ash noted.
	W	Low	Boundary represented by concrete railing; sparse shrubs and no significant hedgerow present	Sparse, small blackthorn present.
24	N	Moderate	Hedgerow is rather irregular or open aerially giving high and low areas, and an open to compact base which is wide-gapped in some places.	Ash, hawthorn, blackthorn, some elder – more frequent at the eastern end; bramble forms compact basal outgrowths; overall, gaps have overgrown herbaceous spp., especially nettles.
	S	Low	New roadway traverses original boundary resulting in sections of the hedgerow being located north and south of the road. Hedgerow is variable in structure.	North of road: hawthorn; bramble, elder shrubs noted; blackthorn and climbing ivy. South of road: hawthorn; bramble and climbing ivy are extensive in places.
	E	Low	New roadway traverses original boundary resulting in sections of the hedgerow being located north and south of the road. Hedgerow is variable in structure. On the southern side of the road, hedgerow is short and straggling, wide in places.	Blackthorn, hawthorn and bramble are the most frequent woody plants in the low section; ash also occurs; and small amounts of dog-rose also present.
	W	Low	Boundary partly represented by concrete railing and partly by a short hedgerow which is varies from compact to open basally	Tall ash, sycamore with hawthorn; bramble is abundant and forms compact basal clumps; occasional specimen of hawthorn, blackthorn, grey willow and dog-rose are scattered throughout on adjoining roadside.
25	N	Low	Hedgerow rather irregular, mostly wide and variable in basal compactness.	Hawthorn and bramble; blackthorn frequent towards the eastern end. Occasional hawthorn on adjoining road-side.
	S	N/A	No hedgerow present.	
	E	N/A	Boundary marked by concrete railing; no hedgerow present.	
	W	N/A	Boundary marked by concrete railing; no hedgerow present.	
26	N	Low	Variable structure, mostly low-growing; wet ditch within.	Hawthorn and bramble; elder and dog-rose present; ivy abundant throughout.
	S	Moderate	Tall hedgerow of variable density.	Hawthorn and ash throughout; abundant ivy on trees; wild privet, blackthorn and dog-rose present.
	E	Moderate	A hedgerow of varying quality and composition; stone wall, makes up the remainder of boundary; wet ditch present.	Hawthorn, ash and sycamore; stone wall is partly covered with ivy and brambles.
	W	N/A	No hedgerow present; boundary of concrete railing.	

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
27	N	Low	Northern boundary not defined.	This area is comprises waste ground covered with overgrown ruderal herbaceous vegetation.
	S	Low	Sparse tall hedge of poor quality.	Mostly tall ash with intermingled bramble and occasional hawthorn.
	E	Low	Poor quality.	Mostly medium-sized ash with intermingled bramble.
	W	Low	Short boundary with low scrub.	Consists entirely of compact, wide low bramble.
28	N	N/A	No hedgerow; boundary of concrete railing.	Sparse blackthorn, tall ash, hawthorn with bramble.
	S	N/A	No hedgerow; boundary consisting of a wire fence.	
	E	Low	A hedgerow of varying density and quality.	
	W	N/A	No hedgerow; boundary of concrete railing.	
29	N	Moderate	Hedgerow of variable height and density.	Ash, bramble, abundant ivy and occasional hawthorn; blackthorn present.
	S	Low	A poor quality hedgerow with a wet ditch and a very small pond.	Hawthorn; with occasional elder, blackthorn, ash and bramble.
	E	Low	Poor quality	Hawthorn with occasional elder, blackthorn, ash and bramble.
	W	Low	A hedgerow of varying density and quality.	Sparse blackthorn, tall ash, hawthorn with bramble. Wild cherry and Wych elm also noted.
30	N	Low	A short sparse hedgerow,	A tall ash a few tall hawthorn; ivy and bramble present on the trees.
	S	N/A	No hedgerow present; boundary consists of a wire fence.	
	E	Low		
	W	Low	A straggling hedgerow, mostly 2-3 metres high.	
31	N	N/A	No hedgerow present; boundary represented by a wire mesh fence.	Hawthorn and bramble; elder and dog-rose present; ivy abundant throughout. Hawthorn, ash and occasional blackthorn; bramble abundant and dense in places. North: blackthorn, hawthorn with ash; dog-rose present; bramble throughout; south: hawthorn and bramble; dog-rose also present.
	S	Low	Variable structure, mostly low-growing; wet ditch within.	
	E	Low	Poor quality hedgerow of variable structure	
	W	Low	New roadway traverses original boundary resulting in a hedgerow of variable in structure. North – low and gappy; south – straggling.	
32	N	N/A	No significant hedgerow present; boundary represented by wire mesh fencing.	

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	S	Low	Sparse and of poor quality.	Hawthorn and climbing bramble; ash and ivy present.
	E	Low	Sparse and of poor quality.	Hawthorn and some bramble.
	W	Low	New roadway traverses the original boundary. Variable structure, little diversity.	Tall hawthorn with some bramble and blackthorn.
33	N	Low	Sparse, gappy hedgerow.	Hawthorn; ash also present; ivy abundant.
	S	N/A	No hedgerow present; boundary represented by derelict farm buildings.	Tall ruderal vegetation.
	E	Low	Sparse, gappy and straggling.	Hawthorn and bramble with occasional ash.
	W	Low	Sparse, gappy hedgerow.	Hawthorn; elder present; ivy abundant.
34	N	N/A	No hedgerow present; boundary comprises a concrete rail.	
	S	N/A	No hedgerow present; this is a triangular field with no clearly-defined southern boundary.	
	E	Low	Wide-spaced; deep ditch/stream present.	Hawthorn; some bramble and ivy; dog-rose present.
	W	Low	Sparse, gappy hedgerow.	Hawthorn and bramble; some ivy present throughout.
35	N	Low	Poor quality.	Hawthorn; bramble forms a wide compact wide base for most of the hedgerow; ash present.
	S	Moderate	Variable structure with some mature trees.	Tall ash, hawthorn and bramble; ivy abundant throughout.
	E	Moderate	Some good sections with a tree species; wide wet/dry ditch present for some of its length.	Hawthorn in varying amounts; ash, beech and sycamore; extensive bramble in places; the second part is varied; ivy present in parts.
	W	Low	Straggling, gappy hedgerow.	Hawthorn; extensive bramble and occasional ash.
36	N	Moderate	Relatively dense hedgerow of variable height with some trees.	Blackthorn and bramble; ash present; hawthorn and elder occasional.
	S	N/A	No hedgerow present; boundary comprises a wire fence.	
	E	Moderate	Tall hedgerow with some mature trees.	Hawthorn with some tall ash trees; blackthorn present throughout; elder also noted.
	W	Moderate	A long right-angled hedgerow, variable in structure with compact base.	Tall ash, hawthorn, blackthorn, elder and some bramble;
37	N	Moderate	Tall hedgerow of variable density.	Wych elm, ash and some hawthorn; frequent blackthorn and bramble in parts; elder present in eastern section.
	S	N/A	No hedgerow present; boundary is a wire fence.	

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	E	Moderate	Comprised mostly of tree species.	Tall hawthorn and ash present; blackthorn recorded in a few areas; occasional sycamore.
	W	Moderate	Medium height with a few mature trees.	Hawthorn and some well-branched tall sycamore ; occasional ash.
38	N	N/A	A small triangular field with no clearly-defined northern boundary.	Hawthorn, bramble; elder and ivy present. Hawthorn, bramble; elder and ivy present.
	S	N/A	No hedgerow present; boundary is a concrete railing.	
	E	Low	Poor quality hawthorn hedge with wide bramble base.	
	W	Low	Poor quality hawthorn hedge with wide, dense bramble base.	
39	N	N/A	No hedgerow present; boundary is a concrete railing.	Hawthorn and bramble; the latter forms wide clumps in places. Mostly hawthorn; two ash trees were noted; bramble. Hawthorn; bramble forms wide basal outgrowths in a few places.
	S	Low	A low wide-gapped hedgerow.	
	E	Low	Poor quality hawthorn hedge with wide, dense bramble base.	
	W	Low	Spaced hawthorn hedgerow.	
40	N	N/A	Bramble-covered fence	A few small elder and sycamore plants adjacent.
	S	N/A	Roadside.	
	E	N/A	Boundary not clearly-defined.	
	W	N/A	Boundary not clearly-defined.	
41	N	N/A	No hedgerow present; boundary represented by concrete railing on the south side of the roadway and wire mesh fencing on the north side	A single large ash tree present. Hawthorn with abundant bramble at the western end; eastwards - tall ash with hawthorn, blackthorn and bramble; some wild privet was also noted. Hawthorn and a single mature ash tree Tall ash and hawthorn; blackthorn; small amounts of elder also noted; in places there is extensive encroachment by blackthorn into the pasture.
	S	Moderate	Variable structure, from compact hawthorn to tall ash.	
	E	Moderate	Dense hawthorn hedgerow; less dense towards the southern end.	
	W	Moderate	Basally wide hedgerow with some tall trees and shrubs; deep ditch/stream within.	
42	N	Moderately High to High	Medium height ash and hawthorn hedgerow.	Ash, hawthorn and blackthorn present; a single pedunculate oak; small amounts of dog-rose and extensive bramble. Frequent tall ash; hawthorn; occasional elder, blackthorn and bramble; hedgerow gapped basally. Hawthorn and some bramble.
	S	Moderately High to High	Good, though basally gapped hedgerow with mature trees.	
	E	Moderate	Medium height, "gappy" hawthorn hedgerow	

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	W	Moderate	Tall hedge with some mature trees.	Mostly tall hawthorn and some taller ash trees; blackthorn present in a few areas; occasional sycamore.
43	N	Moderately High to High	Variable structure, some mature trees; basally gapped.	Tall ash; hawthorn; occasional elder, hazel, blackthorn.
	S	N/A	No hedgerow present; boundary represented by a wire fence.	
	E	Moderate	Compact, regular hedgerow with some mature trees.	Hawthorn and blackthorn of more or less equal height; very occasional bramble basally; a few tall ash trees and one wild cherry.
	W	Moderate	Hedgerow relatively low, no trees present.	Bramble, blackthorn and hawthorn.
44	N	Moderate	Hedgerow comprised of trees and gapped basally.	Tall ash, some hawthorn; a mature sycamore, occasional elder and two English elms.
	S	Moderately High to High	Mostly tall, well-branched overhanging trees; basal structure variable.	Ash throughout; hawthorn, blackthorn, butterfly-bush and bramble present.
	E	Moderate	Of varying height, the hedgerow gapped basally.	Hawthorn of mixed age classes; low dense bramble in places; occasional elder and ivy also noted; one pedunculate oak identified; tall ash towards the southern end.
	W	Moderate	Intermittent and in places sparse, the hedgerow has several well-branched overhanging trees.	Hawthorn is dominant; dog-rose and bramble is present throughout; ivy abundant in places; several well-branched overhanging ash and a few wild cherries are present towards the southern corner - also a small amount of blackthorn.
45	N	Low	About two-thirds of the boundary comprises a wire fence; the remainder mostly of tall, well-branched trees, basally variable.	Tall ash, hawthorn, blackthorn and bramble also present.
	S	Low	About one-half of the boundary comprises a wire fence. The remainder is a hawthorn hedge with a wide compact base.	Hawthorn, bramble.
	E	Moderate	A managed hawthorn-dominated hedge.	Hawthorn; abundant bramble; occasional wild cherries.
	W	Low	Relatively low, wide hedgerow; no trees present.	Blackthorn, hawthorn and bramble.
46	N	Low	Straggling hawthorn hedgerow 2-3 m. in height, wide base.	Hawthorn with dense outgrowths of bramble.
	S	N/A	No hedgerow present; boundary comprises a wire fence.	
	E	Moderate	A few well-branched overhanging trees, base of the hedgerow is compact with a few gaps.	Tall ash trees; some blackthorn, hawthorn and bramble.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	W	N/A	Boundary not clearly defined; area as a whole is a small triangular piece of waste ground.	
47	N	N/A	The northern boundary of this field comprises a concrete railing.	There is a small are of scrub nearby consisting dominated by hawthorn and abundant bramble. One sycamore present.
	S	Moderate	Blackthorn-dominant hedgerow with wide basal outgrowths of bramble.	Blackthorn, hawthorn and bramble. Ash present; also ivy and wild privet.
	E	Moderate	Irregular structure; base compact but with a few openings in the centre.	Hawthorn; some ash in the northern end; dense bramble forms short outgrowths.
	W	Moderate	Variable structure along the length of hedgerow; base rather open in places.	Tall scattered ash trees frequent in the southern end; some hawthorn, elder and abundant bramble; some.
48	N	N/A	No hedgerow present; boundary comprises concrete railing.	
	S	High	Hedgerow mostly of a straggling mass of many woody species.	Ash, sycamore, elder, hawthorn, bird cherry, wild cherry, ivy, bramble and some butterfly-bush.
	E	Moderately High to High	Boundary comprised of derelict farm buildings and by an extremely wide, irregularly structured hedgerow	Elder, ash, sycamore, beech, common barberry and some holly.
	W	Moderate	Variable structure.	Mostly hawthorn with some ash at the northern end; compact bramble forms short outgrowths; base compact but with a few openings in the centre; scattered wild cherries and a weeping willow were noted within field 48.
49	N	Low	Boundary partly of farm buildings and partly of woody plants	Scattered elder, bramble and ivy.
	S	N/A	About one-half of the boundary is of wire fencing, the other represented by a concrete wall.	Wall partly covered with bramble and ivy.
	E	Low	Hedgerow comprised of relatively tall, wide, bushy spreading elder.	A single sycamore and some bramble also present.
	W	Low	Boundary partly of a concrete wall and partly of woody plants.	Some tall scattered sycamore, two lime trees, wych elm and elder.
50	N	N/A	No hedgerow present; boundary comprises a concrete railing.	
	S	Low	Wide-gapped or intermittent hedgerow with a wide wet ditch/stream in places.	Mostly sycamore; occasional ash and elder; hawthorn present; bramble frequent.
	E	Low	Scattered woody species associated with a wet marshy area.	A short, rather wide, collection of woody plants present; mostly hawthorn; a few ash and two sycamore trees recorded; bramble widespread and scattered.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	W	N/A	No hedgerow present; comprises a wire fence.	
51	N	Low	A wide-gapped / intermittent hedgerow.	Mostly sycamore; a few medium-sized ash trees; hawthorn and elder present; low bramble frequent in places.
	S	Moderate	Good mix of mature trees and other woody species.	Many tall ash and sycamore present; hawthorn, some blackthorn, grey willow and dog-rose present.
	E	Moderate	A hedgerow with a small stream.	Mostly tall ash, occasional sycamore and a few hawthorn towards the northern end; the southern end contains mostly ash and hawthorn.
	W	Low	A short, basally sparse hedgerow.	Some sycamore, one ash and bramble.
52	N	Moderately High to High	Compact, very wide blackthorn hedgerow with some mature trees.	Tall scattered ash trees and hawthorn at the eastern-end, otherwise blackthorn, with some elder and ivy present throughout.
	S	Moderate	Most of the boundary, on the western side, is marked by a wide marsh area.	Scattered small hawthorn; also thickets are of low wide bramble and one ash; a short section on the eastern end has one plant each of tall ash, tall hawthorn and wild cherry.
	E	N/A	No hedgerow present; boundary comprises a wire mesh fence.	
	W	Low	Mostly tall dense growths of elder and garden privet beside the derelict farm-house	Elder, privet, bramble, scattered tall ash; and hawthorn.
53	N	Moderately High to High	An irregular hedgerow with mature trees, basally wide in places.	Tall specimens of ash, hawthorn, sycamore and one wild cherry; eastern half rather compact; bramble forming a wide base in parts.
	S	Moderate	Very variable in structure. Compact in some parts, wide-gapped in others.	A few tall ash trees, two hawthorns shrubs and a small amount of elder; other half is fairly compact, and again with some tall ash and a small amount of hawthorn; some bramble and gorse also present.
	E	Moderate	Boundary represented partly by farm buildings and a wide hedgerow with ditch within; a small pond is surrounded by tall ash.	Mostly of tall ash but with one tall pedunculate oak; hawthorn quite dense, bramble and elder abundant.
	W	Moderate	Tall trees and some shrubs around small pond.	Area around small pond mostly of tall ash and hawthorn; bramble, elder dog-rose present.
54	N	Moderate	Irregular structure, with some mature trees; base compact and wide in places.	Tall ash trees, hawthorn, a small amount of elder, some bramble and some gorse also present.
	S	Moderately High to High	A hedgerow / treeline with a few fine, thick-trunked, well-spaced mature ash trees.	Ash with sparse hawthorn, ivy, dog-rose and bramble.
	E	High		Many fine ash trees with hawthorn and bramble intermixed; one fine beech and one pedunculate oak were also recorded.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	W	Moderate		A mixture of some tall ash and hawthorn; the southern section fairly compact, the remainder somewhat open; bramble occurs throughout.
55	N	High	A hedgerow / treeline with a few fine, thick-trunked, well-spaced mature ash trees.	Ash with sparse hawthorn, ivy, dog-rose and bramble.
	S	Moderately High to High	Variable with frequent mature trees.	Ash, hawthorn; bramble.
	E	Moderately High to High	Variable with frequent mature trees.	Well-branched, overhanging ash; hawthorn; bramble.
	W	Moderately High to High	Variable with mature trees and woody shrubs; base of hedgerow compact but with a few gaps.	A few tall, well-branched overhanging ash trees; other woody plants include a few plants of blackthorn, hawthorn and bramble; the latter spreading basally;
56	N	Moderate	A long boundary; the western end is mark by a wide marshy area; low hedgerow with scattered trees hedgerow wide-gapped basally.	Hawthorn and ash; long stretches of bramble; the eastern end shows mostly tall scattered ash trees with a few tall hawthorn; a sycamore, bramble and dog-rose.
	S	Moderately High to High	Many fine thick-trunked mature trees; the hedgerow is open to very open basally	Mature ash, 6 pedunculate oaks and two sycamores were noted scattered throughout the length of the hedgerow; small amounts of bramble and hawthorn also present.
	E	Moderate	Hedgerow/treeline with some mature trees - variable density/compactness.	Several tall ash trees and some hawthorn; the northern half is reasonably compact, the other half more open.
	W	Moderately High to High	Specimen mature trees present.	Many fine ash trees with intermingled hawthorn and bramble; one fine beech and one pedunculate oak were also recorded.
57	N	N/A	No hedgerow present; boundary comprises a wire fence.	
	S	N/A	Roadside.	
	E	N/A	Boundary not defined.	
	W	N/A	Boundary not defined.	
58	N	N/A	No hedgerow present; boundary comprises a mesh wire fence.	Bramble thicket ocated on western end.
	S	N/A	No hedgerow present; boundary represented by a roadside.	
	E	N/A	No hedgerow present; boundary not clearly defined.	
	W	N/A	No hedgerow present; boundary not clearly defined.	
59	N	Moderate	Irregular height; more compact at eastern end with wide outgrowths.	Ash and hawthorn; blackthorn abundant at eastern end.
	S	N/A	No hedgerow present; boundary comprises a concrete railing.	

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
60	E	Moderate	A blackthorn and hawthorn hedgerow - variable in height.	Blackthorn and hawthorn; bramble abundant.
	W	N/A	No hedgerow present; boundary not clearly defined	
	N	Moderate	Mostly widely-spaced trees with some bramble thickets forming wide outgrowths.	Ash, hawthorn, English elm; and bramble.
	S	N/A	No hedgerow present; boundary comprises a concrete railing.	
60	E	Moderate	This is a compact hedgerow with compact, irregular, impenetrable spreading outgrowths	Abundant bramble, one wych elm, one sycamore and four wild cherries.
	W	N/A	No hedgerow of significance present; boundary defined by a wide, dense, low growth of bramble.	Bramble
61	N	Moderately High to High	A straggling hedgerow with several tree species and a compact, irregular wide base.	Pedunculate oaks, wild cherry, whitebeam, bramble and some hawthorn.
	S	N/A	No hedgerow present; boundary represented by concrete railing.	
	E	Moderately High to High	A short, compact, overhanging, spreading hedgerow; very wide impenetrable outgrowths.	Pedunculate oak, bird cherry; ash present; extensive bramble.
	W	N/A	No hedgerow present; boundary not clearly defined.	
62	N	N/A	No hedgerow present; boundary comprises a concrete railing.	Tall ash; hawthorn, pedunculate oak, English elm and blackthorn.
	S	Moderately High to High	A compact hedgerow is	
	E	Moderate	A scattered wide-gapped hedgerow.	Mostly hawthorn and some English elm; wild cherry, ash tree and scattered bramble.
	W	Moderate	A hedgerow with a small stream within.	Tall ash, occasional sycamore and occasional hawthorn.
63	N	High	An exceptionally wide hedgerow showing a compact mixture of a variety of species.	Hawthorn, ash, elder, hazel, some gorse and blackthorn; bramble extensive in some locations
	S	High	A hedgerow represented by fine tall specimens of over hanging mature trees. Width and density variable.	
	E	N/A	Boundary not clearly defined	Pedunculate oak, sycamore, whitebeam and ash; very small amount of hawthorn and blackthorn noted; bramble and ivy abundant.
	W	N/A	No hedgerow present, boundary represented by a wire mesh fence.	
64	N	Moderately High to High	Hedgerow consists of several tall, overhanging, well-spaced specimens of oak and ash; rather open basally.	Pedunculate oak and ash; hawthorn abundant; bramble scarce.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	S	N/A	Boundary not clearly defined.	
	E	Moderately High to High	Mature oak; base compact and wide in places.	Mostly pedunculate oak and hawthorn; some ash, bramble and dog-rose also present.
	W	Moderately High to High	Variable height and rather open basally.	Several tall, well-branched, overhanging tall ash trees with much shorter hawthorn present; very small amount of bramble also noted;
65	N	N/A	No hedgerow present; boundary comprises a concrete railing.	
	S	High	An extensive hedgerow containing many woody species; varies in height, width and density throughout; mostly tall but with long low sections	Ash, horse chestnut, sycamore, dog-rose, abundant English elm, hawthorn, wild privet and snowberry. Straggling bramble in the low sections.
	E	Moderately High to High	A low, managed compact hedgerow varying in width and density; it contains a mixture of many woody species.	Ash, sycamore, wych elm, bramble, English elm, wild privet, hawthorn, Wilson's honeysuckle, white willow, dog-rose and butterfly-bush.
	W	Moderate	A scattered, wide-gapped hedgerow.	Hawthorn, some English elm, wild cherry, ash trees and scattered bramble.
66	N	Moderately High to High	A hedgerow of mostly uniform height, but varying from being compact to rather open basally; low areas covered with straggling bramble.	Tall ash, hawthorn; wych elm, field maple, English elm, hazel and whitebeam.
	S	Moderately High to High	Hedgerow consists mostly of well-branched, widely overhanging trees; bramble forms some wide compact areas.	Ash, some hawthorn, bramble, ivy, sycamore, several English elms; and dog-rose present.
	E	Moderate	A rather gappy hedgerow.	Hawthorn, some well-branched overhanging ash, whitebeam and sycamore; bramble and ivy present.
	W	Moderately High to High	Irregular height and compactness.	Several tall, well-branched widely-overhanging ash trees; hawthorn and some English elm.
67	N	Moderately High to High	Hedgerow consists mostly of tall, well-branched widely overhanging trees.	Ash; some hawthorn, bramble, ivy, sycamore, several English elms and dog-rose also present; bramble forms some wide compact areas.
	S	N/A	No hedgerow present; boundary comprises a wire fence.	
	E	Low	Hedgerow is gappy with long open stretches.	Hawthorn, tall ash, a sycamore, a whitebeam and some bramble.
	W	Moderately High to High	Hedgerow comprises a mix of trees and has a base which is compact and wide in places.	Mostly pedunculate oak and hawthorn in the short stretch examined; some ash, bramble and dog-rose also present;
68	N	Moderately High to High	Hedgerow consists mostly of well-branched, widely overhanging trees; bramble forms some wide compact areas.	Ash; some hawthorn, bramble, ivy, sycamore and several English elms also present.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	S	Low	Boundary represented by a high stone wall covered with extensive ivy.	Low hawthorn and small amounts of bramble.
	E	Moderate	Hawthorn hedge, bushy and overhanging; base varying from being open to compact.	Hawthorn; ash present; ivy and bramble in places.
	W	Low	Long open stretches; narrow basally.	Hawthorn, ash, one whitebeam and one sycamore; small amount of bramble and ivy also present.
69	N	Low	Boundary comprises is the walls of derelict farm buildings – vegetation sparse.	Ivy; small amounts of scattered hawthorn and elder also noted; one sycamore tree is present.
	S	N/A	No hedgerow present; boundary comprises a wire fence.	
	E	Low	Boundary mainly comprises a wall with overhanging ivy.	Ivy, some hawthorn, dog-rose and a small amount of bramble were also recorded.
	W	N/A	No hedgerow present; boundary represented by wire fence.	
70	N	Moderately High to High	A fairly compact hedgerow of varying height; wide basally.	Ash, English elm, hawthorn, hazel and bramble.
	S	Low	Boundary represented by a high stone wall covered with extensive ivy thickets.	Ivy, low hawthorn and bramble.
	E	Moderate	A hedgerow of about 2.5 m in height;	English elm and ash present; ivy and bramble abundant; hawthorn lilac, blackthorn and Norway maple.
	W	Moderate	Hawthorn hedge, bushy and overhanging; base varying from being open to compact.	Hawthorn; ash present; ivy and bramble in places.
71	N	N/A	Boundary not clearly defined.	
	S	N/A	No hedgerow present; boundary comprises a concrete railing.	
	E	N/A	No hedgerow present; boundary comprises a concrete railing.	
	W	High	A double hedgerow present.	The outer (near road) consists of hawthorn, bramble, ash, English Elm, sycamore and snowberry; the inner hedgerow is shorter and has hawthorn, tall ash and one small elder; some low basal areas filled with compact bramble.
72	N	Moderately High to High	Variable structure though compact with good species composition in most parts.	Ash, elm, elder, some bramble and ivy; hawthorn some tall sycamore and occasional snowberry.
	S	N/A	No hedgerow present; boundary comprises a concrete railing.	Extensive thicket of young English elm, blackthorn and bramble occurs about mid-way on this side.
	E	Low	Boundary marked by low, wide compact bramble.	Bramble and single ash tree.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	W	N/A	No significant hedgerow present; boundary comprises a concrete railing.	Some bramble.
73	N	Low	A short but exceptionally wide hedgerow of hawthorn of about 4m high.	Hawthorn and abundant.
	S	N/A	No hedgerow present; boundary comprises the Airport perimeter fence.	
	E	Low	A low insignificant hedgerow.	Mostly elder; hawthorn and bramble present.
	W	N/A	No hedgerow present; boundary comprises a concrete railing.	
74	N	N/A	No hedgerow present, boundary comprises a concrete railing	
	S	Moderate	Variable structure - very wide and compact basally in parts, narrow in others, very irregular.	Hawthorn; occasional elder, a sycamore, a wild cherry, occasional blackthorn with bramble and ivy - both frequent.
	E	Moderate	A rather short hedgerow, the northern end of which has a few tall well-branched mature trees.	Ash and English elm; the southern end is very wide, somewhat triangular, and has a mixture of elder, blackthorn and wild cherry; small amounts of hawthorn, bramble and ivy.
	W	N/A	No hedgerow present, western boundary not clearly defined.	
75	N	Moderate	Irregular structure.	Hawthorn - dominant throughout; a small sycamore and occasional blackthorn present; bramble forms a wide basal outgrowth in one location.
	S	N/A	No hedgerow present; boundary comprises the Airport perimeter fence.	
	E	Moderate	Irregular structure from compact to open and "gappy".	White willow, hawthorn, wild cherry, bramble and ivy; in the more open parts: grey willow, ash, elder, English elm and blackthorn.
	W	Low	A low insignificant hedgerow.	Mostly elder; hawthorn and bramble present.
76	N	N/A	No hedgerow present; boundary comprises a concrete railing.	
	S	Moderate	A very irregular, angular, exceptionally wide hedgerow on the western end; not very compact; the remainder of the hedgerow is much narrower, wide-gapped.	Ash is dominant; with small amounts of hawthorn, blackthorn and bramble; crab apple and Norway maple also present; ivy abundant;
	E	Moderate	A short, exceptionally compact hedgerow, with tall trees on either end.	Ash, hawthorn; abundant; bramble forms wide compact basal outgrowths.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	W	Moderate	A rather short compact hedgerow which is very wide basally.	Tall, well-branched ash; occasional English elms and a sycamore present; the front of the hedgerow consists of a dense thicket of blackthorn and bramble.
77	"Boot Inn Road"	Moderate	Eastern side of Airport perimeter (along Boot Inn Road): A rather low, wide, compact hedgerow extends along a part of the Airport perimeter; many woody species present.	Small ash, blackthorn, elder and bramble abundant; the latter very extensive and dominant approaching the roundabout; other species noted were dog-rose, white willow, snowberry, English elm and cherry laurel.
78	N	Moderately High to High	Wide and impenetrable basally, and aerially gapped.	Occasional elder, hawthorn and well-branched overhanging ash; bramble forms short but very extensive outgrowths which extend into the adjoining grassland.
	S	N/A	No hedgerow present; boundary comprises the perimeter fence.	
	E	Moderate	Varying structure and quality.	Ash, occasional small elder and abundant ivy; bramble abundant in parts.
	W		Boundary consists of the perimeter fence and short length of very wide, very irregular, and thicket-like hedgerow on the northern end; the remainder of the hedgerow is low, narrow, gapped.	Abundant elder, occasional English elm; ivy, bramble ash, grey willow, wild cherry and blackthorn present.
79	N	Moderately High to High	High with mature trees and rather compact basally.	Tall ash; hawthorn throughout; occasional elder throughout.
	S	Moderate	Variable in structure.	Ash, English elm; elder throughout in varying amounts; abundant bramble in places.
	E	N/A	Boundary not clearly defined.	
	W	Moderate	Tall, rather wide and irregular; wide-gapped in parts; deep ditch within.	Mature ash, hawthorn, grey willow and abundant ivy.
80	N	Moderately High to High	An exceptionally long and varied hedgerow.	Ash, elder, English elm, sycamore, blackthorn, butterfly-bush; very wide dense bramble in places; ivy occurs throughout.
	S	Moderate	The boundary of this field consists in part of a concrete railing; the remainder is hedgerow of varying structure and quality.	Blackthorn is dominant in parts; ash, hawthorn, wild cherry; elder, bramble, gorse and ivy are abundant; clumps of blackthorn, English elm and bramble are located along the concrete railing.
	E	Low	Hawthorn-dominated with wide basal outgrowths of bramble.	Hawthorn; elder and ivy present; bramble.
	W	Low	Boundary consists of dense brambles.	Bramble and a single tall ash.
81	N	Moderately High to High	Good structure and species composition. Compact base with wide basal outgrowths.	Tall, well-branched spaced ash, occasional English elm and blackthorn; base dominated by elder; bramble outgrowths extend into the pasture.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	S	N/A	No hedgerow present.	A few scattered small ash plants and hawthorn noted; some bramble also present.
	E	Moderately High to High	Irregular, wide hedgerow with tall, mature trees.	Tall ash trees; wild cherry frequent; bramble forms extensive outgrowths in parts; elder present.
	W	Low	Northwards to the radar station, the hedgerow is very low, intermittent; wide-gapped in places.	A mixture of ash and elder; hawthorn present; abundant ivy; gaps filled with overgrown nettles and thistles.
82	N	Low	Scattered young trees and shrubs.	Small ash plants and hawthorn noted; some bramble also present.
	S	N/A	No hedgerow present; boundary comprises the perimeter fence.	
	E	Low	Scattered young trees and shrubs with wide base of brambles.	Medium ash, with young hawthorn and some dog-rose; dense bramble.
	W	N/A	Boundary not clearly defined.	
83	N	Low	Boundary consists of a length of concrete railing and a short hedgerow at the western end with wide and rather compact base.	Occasional tall, well-branched ash trees, hawthorn and some elder; wide outgrowths of bramble and gorse. Small area of gorse scrub nearby.
	S	Moderately High to High	A very wide irregular hedgerow; compact, impenetrable base.	Abundant medium-sized ash; English elms and hawthorn frequent; elder and ivy abundant in places; extensive bramble extends throughout.
	E	N/A	No hedgerow present; boundary not clearly defined.	
	W	Moderately High to High	An exceptionally wide hedgerow, very irregular.	and mostly of tall ash trees; a few wild cherries, some English elm and tall elder also noted; bramble forms wide outgrowths in parts.
84	N	Moderately High to High	A very wide compact hedgerow; extensive bramble forms a compact base for virtually throughout.	Abundant medium-sized ash and hawthorn; occasional wild cherry; clumps of blackthorn also present; bramble throughout.
	S	N/A	No hedgerow present; boundary comprises the perimeter fence.	
	E	Low	Hedgerow generally rather low, mostly wide, dense and impenetrable; and; a few well-spaced trees are present.	Occasional ash; hawthorn and bramble co- dominant; occasional elder; dog-rose present.
	W	Moderate	A short section of hedgerow .	Occasional ash and dense bramble.
85	N	Low	Boundary consists of length of hedgerow in part and a concrete railing.	Ash, blackthorn; occasional wild cherry, dog-rose and clumps of bramble present.
	S	N/A	No hedgerow present; boundary comprises the perimeter fence.	
	E	Low	No significant hedgerow present; the boundary is marked by expansive, low, dense scrubby thicket.	Single ash tree; blackthorn and gorse form low thicket.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	W	Low	Hedgerow rather low and mostly of wide compact impenetrable spreading bramble and hawthorn.	Hawthorn and bramble dominant; Occasional well-spaced ash at northern end; occasional elder occur on the southern end; dog-rose present.
86	N	Moderate	A very irregular and very wide hedgerow; open to compact basally; wet ditch/stream within.	Tall ash, compact hawthorn, occasional wild cherry, occasional elder, dog-rose and ivy; bramble forms wide, dense, basal out-growths throughout; blackthorn present.
	S	Low	Boundary partly comprised of concrete railing and partly by a stretch of compact woody plants; base of which is very wide, and impenetrable.	A tall sycamore, an English elm, some dog-rose and a small amount of hawthorn and blackthorn also present; bramble and gorse form wide dense base.
	E	High	A very extensive, wide, irregular hedgerow with a deep stream within; hedgerow narrows towards the southern end.	Ash dominant; but with some wild cherry, grey willow, hawthorn, blackthorn, occasional wych elm, hazel and sycamore; hawthorn and blackthorn form long compact stretches; extensive outgrowths of bramble, or bramble and blackthorn present nearby; the southern end is very irregular with scattered ash, elder, hawthorn and blackthorn, and outgrowths of bramble or bramble and blackthorn; dog-rose present.
	W	N/A	No hedgerow present; boundary not clearly defined.	
87	N	Moderate	Hedgerow mostly of medium-sized trees with some associated scrub.	Ash, hawthorn, blackthorn and bramble.
	S	Low	The southern boundary is represented partly by a short hedgerow of mostly gorse and bramble thicket; and partly by concrete railing. Long open stretches.	A tall sycamore, an English elm, occasional few wild cherry and some blackthorn; occasional dog-rose and butterfly-bush are located towards the eastern end. Gorse and bramble.
	E	Low	The boundary here is partly concrete railing and a hedgerow of mixed quality. Long open stretches.	Well - spaced ash; some sycamore and English elm; bramble, hawthorn, some elder and a small amount of snowberry.
	W	Moderately High to High	A very extensive, wide, irregular hedgerow with a deep stream within; gapped.	Frequent ash; occasional some wild cherry, grey willow and sycamore; bramble and ivy present.
88	N	N/A	No hedgerow present; boundary comprised of concrete railing.	Some bramble on railing.
	S	N/A	No hedgerow present; boundary comprised of the Airport perimeter fence.	
	E	N/A	No hedgerow present; boundary comprised of the perimeter fence.	
	W	Low	Poor quality.	Blackthorn; single ash; bramble present - expansive, irregular and compact in places.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
89	N	High	An exceptionally compact, wide or double hedgerow with a small stream and a dry ditch within;	Tall ash and sycamore - both frequent; sycamore, English elm, hawthorn - all occasional; dog-rose present; spreading bramble abundant. An English elm and elder shrubs with a clump of spreading bramble on the northern corner.
	S	N/A	No hedgerow present; boundary represented by concrete railing.	
	E	N/A	Boundary not clearly defined.	
	W	Low	No significant hedgerow present; the boundary is represented by concrete railing	
90	N	Moderately High to High	This boundary lies within the grounds of 'Forrest Little Golf course'; it consists mainly of planted trees.	Lombardy poplar, Scots pine, sycamore, hawthorn, wild cherry and ash. Tall ash and sycamore abundant; spreading bramble also abundant; woody species recorded as occasional were sycamore, English elm, hawthorn; a small amount of dog-rose also noted. Ash and sycamore; also occasional wild cherry, elder, English elm, hawthorn, Norway maple; honeysuckle, ivy and blackthorn recorded; bramble abundant basally.
	S	High	An exceptionally compact, wide or double hedgerow with a small stream and a dry ditch within	
	E	N/A	Boundary not clearly defined.	
	W	Moderately High to High	Very tall roadside hedgerow; it consists mostly of mature trees and a variety of other woody species; hedgerow rather compact throughout.	
91	N	Moderately High to High	This boundary lies with the grounds of Forrest Little Golf course; it consists mainly of planted trees	Lombardy poplar, Scots pine, sycamore, hawthorn, wild cherry and ash. The western end has an expansive growth of dense gorse and some bramble. An English elm, occasional hawthorn shrubs and gorse.
	S	Low	No significant hedgerow present; boundary represented mostly by wire mesh fencing.	
	E	N/A	Boundary not clearly defined.	
	W	Moderate	Tall, well-branched trees and dense gorse.;	
92	N	Moderately High to High	Hedgerow mostly consists of well-branched, well-spaced trees; wide and compact basally.	Tall ash and sycamore.;; smaller shrubs of hawthorn and blackthorn scattered throughout; bramble dense at base;; dog-rose present. Mostly tall ash; hawthorn intermingled and bramble Blackthorn
	S	N/A	No hedgerow present; boundary comprises a concrete railing.	
	E	Moderate	A "gappy" hedgerow with a small stream within; basal outgrowths reasonably wide and compact in places.	
	W	Low	A very short, low hedgerow.	
93	N	N/A	No hedgerow present; boundary comprises a concrete railing.	Single hawthorn nearby.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	S	Moderate	An irregular hedgerow of reasonably compact medium-sized trees; compact basally with some wide outgrowths.	Ash, a few English elm, some sycamore and hawthorn and bramble.
	E	Moderate	A short, reasonably compact hedgerow.	Occasional ash, sycamore and hawthorn present; bramble scattered basally; ivy present.
	W	N/A	No hedgerow present; boundary comprises a wire mesh fence	Occasional clumps of bramble and dog-rose on fence.
94	N	Low	Boundary represented by concrete railing; bramble and gorse, wide and scattered, occur in places.	Bramble and gorse.
	S	Low	A short hedgerow which consists of medium sized trees.	Occasional ash, elder and sycamore; some bramble at the base.
	E	N/A	No hedgerow present.	
	W	Low	A short, compact hedgerow; low and narrow in the central section.	Ash, and one plant each of sycamore and hawthorn present; bramble scattered basally; ivy present.
95	N		Hedgerow of reasonably compact medium-sized ash, some sycamore and hawthorn; compact basally with short hawthorn and bramble; the latter forms some wide, compact, basal outgrowths; some butterfly-bush present on the western corner; climbing ivy scattered throughout.	
	S	Moderate	A short stretch of rather irregular hedgerow.	Tall ash, hawthorn, English elm, bramble and ivy recorded
	E	Moderate	Variable, relatively open basally and aerially.	Blackthorn; hawthorn, sycamore and ash; occasional of bramble, ivy, elder, aspen and grey poplar were also noted.
	W	N/A	No hedgerow present; boundary comprises the perimeter fence.	
96	N	Low	Irregular hedgerow, compact in parts.	Scattered hawthorn and ash; some short English elm also present; bramble forms some extensive outgrowths which extend well into the pasture.
	S	N/A	Boundary consists of concrete railing.	A clump of bramble is located about mid-way along the fence.
	E	Moderate	Variable in compactness.	Hawthorn, occasional ash trees; ivy present in parts; abundant bramble; occasional dog-rose and elder.
	W	Moderate	A rather wide hedgerow, especially on the northern end; a small stream within.	Hawthorn and tall ash frequent; occasional elder and sycamore; bramble outgrowths dense and wide; ivy abundant.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
97	N	Moderately High to High	A very extensive, wide, compact double hedgerow.	The central section is overgrown with bramble and ruderal herbaceous species; the eastern comprises dense bramble; the dominant woody plant on the western end is hawthorn; eastwards, tall ash becomes more prominent; other woody plants present are sycamore, dog-rose and ivy.
	S	Moderately High to High	Mostly spaced, well-branched tall trees.	Ash; hawthorn and elder plentiful intermingled; base compact in parts with bramble; ivy also present.
	E	N/A	No hedgerow present; hedgerow represented by concrete railing.	
	W	Moderate	Irregular with some bramble outgrowths.	Two tall ash plants present; remainder a mixture of hawthorn, blackthorn and elder; with bramble outgrowths; bullace (wild plum) also recorded.
98	N	Moderately High to High	Mostly spaced, well-branched tall trees.	Ash; hawthorn and elder plentiful intermingled; base compact in parts with bramble; ivy also present.
	S	N/A	No hedgerow present.	
	E	N/A	No hedgerow present; boundary comprises a wire mesh fence.	
	W	N/A	No hedgerow present.	
99	N	Low	No significant hedgerow present; hedgerow represented by concrete railing and a short length of scrub.	Hawthorn and blackthorn; sycamore also present.
	S	Moderately High to High	A very extensive, wide, compact double hedgerow.	The central section is overgrown with bramble and ruderal herbaceous species ; the eastern comprises dense bramble; the dominant woody plant on the western end is hawthorn; eastwards, tall ash becomes more prominent; other woody plants present are sycamore, dog-rose and ivy.
	E	N/A	No hedgerow present; boundary comprises a concrete railing.	
	W	N/A	No hedgerow present.	
100	N	N/A	No hedgerow present; boundary comprises a concrete railing.	Hawthorn, elder, ivy and abundant bramble.
	S	Low	Boundary represented partly by concrete railing and partly by a short hedgerow which consists of short, compact growth. Part is a managed dwelling garden hedgerow c. 2m. high.	

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	E	Low	A planted hedgerow, it consists mostly of tall garden privet; small amounts of blackthorn and ivy also present.	Garden privet, blackthorn and ivy.
	W	N/A	No hedgerow present; boundary comprises a concrete railing.	
101	N	N/A	No hedgerow present; boundary represented by wire mesh fencing.	Well-branched, overhanging hawthorn is dominant throughout; bramble abundant; ivy abundant. Hawthorn and bramble. Hawthorn is dominant; occasional ash; bramble and ivy present in parts; some dog-rose and elder also present.
	S	Moderate	A reasonably good quality, medium-sized hedgerow; rather open aerially and compact basally.	
	E	Moderate	A reasonably tall hedgerow consisting mostly of hawthorn and bramble.	
	W	Moderate	Variable in structure and quality.	
102	N	Moderate	A reasonably good quality, medium-sized hedgerow; rather open aerially and compact basally.	Well-branched, overhanging hawthorn is dominant throughout; bramble abundant; ivy abundant. Hawthorn and bramble.
	S	N/A	No hedgerow present; boundary represented by concrete railing.	
	E	Moderate	A reasonably tall hedgerow consisting mostly of hawthorn and bramble.	
	W	N/A	No hedgerow present; boundary not clearly defined.	
103	N	Moderate	A planted roadside hedgerow consisting of many introduced species. such	Garden privet, silver birch, Norway maple, field maple, dog-wood, dwarf cornel, Scots pine, bird cherry, rowan, guelder-rose, grey willow and Leyland cypress. Ash, hawthorn, elder, sycamore and ivy; bramble is extensive and wide basally. Well-spaced Lawson cypress and a small amount of garden privet.
	S	Moderately High to High	Good hedgerow with irregular structure; abundant tree, shrub and climber growth.	
	E	N/A	Boundary not well clearly defined.	
	W	Low	A planted hedgerow consisting of introduced species.	
104	N	Moderately High to High	It consists of a mixture of medium-sized trees and shrubs; basally compact.	Tall, well-branched overhanging ash; elder, hawthorn and English elm; base compact with impenetrable bramble. A compact growth of wych elm, elder, sycamore and some bramble occurs in the eastern corner. Garden privet, silver birch, Norway maple, field maple, dwarf cornel, dog-wood, Scots pine, sycamore, crab apple and Leyland cypress.
	S	Low	Boundary comprises the walls of farm buildings,	
	E	Moderate	A planted roadside hedgerow consisting of native and introduced woody species.	

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	W	Moderate	Variable structure; base rather wide and open to compact.	Tall, well-branched overhanging ash with smaller ash, hawthorn and elder scattered inter-mixed; ivy abundant.
105	N	N/A	Boundary represented by the walls of farm buildings;	A tall, well-branched overhanging sycamore occurs on this boundary.
	S	Low	Boundary represented partly by a short length of wire fencing and partly by a short hedgerow; reasonably compact basally.	Tall, well-branched sycamore, and with a more or less equal mixture of elder and hawthorn; ivy abundant.
	E	N/A	No hedgerow present; boundary represented by a wire mesh fence.	
	W	Moderate	Hedgerow consists of a mixture of fairly mature trees; rather compact aerially and open basally;	Tall sycamore, ash and hawthorn; ivy abundant; bramble present.
106	N	N/A	North: Boundary represent by plastic railing.	
	S	N/A	Boundary not clearly defined.	
	E	Moderate	A planted roadside hedgerow.	Ash, Norway maple, pedunculate oak, grey willow, larch, birch and sycamore
	W	Moderately High to High	Mostly of tall, well-branched overhanging trees; base irregular, gapped.	Ash; small elder and bramble; ivy present.
107	N	N/A	No hedgerow present; boundary comprises a service road.	
	S	Moderate	A very irregular long hedgerow of variable compactness and density; the final 30 metres, or so, of the boundary has no woody plants.	Bushy overhanging hawthorn, some elder and English elm; ivy and bramble abundant.
	E	Moderate	Irregular; wide aerially and basally; a wide, compact impenetrable base in many areas.	Hawthorn dominant; bramble abundant in places, occasional elder and blackthorn are scattered throughout; climbing ivy abundant.
	W	N/A	No hedgerow present; boundary comprises a service road.	
108	N	Moderate	A very irregular long hedgerow of variable compactness and density; the final 30 metres, or so, of the boundary has no woody plants.	Bushy overhanging hawthorn, some elder and English elm; ivy and bramble abundant.
	S	Moderate	The most significant feature of this boundary is the presence of a large rock-outcrop; the latter is mostly the remainder of the boundary, eastwards, has occasional or isolated plants of woody species; the walls of the derelict buildings form the remainder of the boundary.	Rock outcrop is covered with extensive dense growths of ivy; Other parts of boundary: specimens of ash, laburnum, elder, wych elm, snowberry, sycamore bramble is abundant. Walls are covered in dense ivy.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	E	Moderate	A tall irregular hedgerow.	Three medium-sized English elms and one mature tall, well-branched widely overhanging sycamore; an ash of similar mature characteristics; tall, well-branched overhanging hawthorn co-dominant; bramble abundant; ivy also recorded.
	W	N/A	No significant hedgerow present; boundary comprises a wire fencing;	Bramble present.
109	N	Moderate	Irregular hedgerow with outgrowths of hawthorn and bramble.	Hawthorn, elder, with bramble, English elm, blackthorn, sycamore and ash; abundant climbing ivy.
	S	Low	The southern boundary is not clearly defined except for a short length of a dry ditch, on the eastern end, which is bordered with scattered bramble and blackthorn.	Blackthorn, ash and bramble.
	E	Moderate	A very irregular hedgerow	Mature ash and one beech; several hawthorn shrubs; some climbing ivy and bramble also present; a small amount of elder and blackthorn present.
	W	Moderate	A long and irregular hedgerow which varies in compactness. Much of it is planted with introduced species.	Hawthorn, ash and elder; bramble and dog-rose; abundant ivy; planted Lawson cypress, poplars, a few horse-chestnut, white poplar, and Griselinia.
110	N	Moderate	Irregular with some open sections; the final 30 metres, or so, of the boundary has no woody plants.	Hawthorn, ash, occasional elder, ivy and extensive bramble; the latter forms clumps of varying sizes throughout;
	S	Low	Approximately one-half of the hedgerow has been removed and replaced by wooden railing to make way for a new roadway presently under construction; the remaining stretch is straight, narrow and 'walk-through' basally.	Hawthorn, one small elder and some bramble
	E	Low	Hedgerow very irregular throughout; the intervals between the trees mainly consist of wide, low compact bramble.	Ash, elder and occasional intermixed hawthorn; ivy and bramble; occasional sycamore.
	W	Moderate	A tall irregular hedgerow.	Three medium-sized English elms and one mature tall, well-branched widely overhanging sycamore; an ash of similar mature characteristics; tall, well-branched overhanging hawthorn co-dominant; bramble abundant; ivy also recorded.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
111	N		This field has been transected by a new roadway presently under construction; the remaining hedgerow, north of the roadway, is straight, narrow and 'walk-through' basally. Southern section consist of more scattered woody species.	Widely overhanging well-branched hawthorn, one small elder and some bramble.
	S	Low	Scattered trees and a concrete wall.	medium-sized, overhanging beech, horse-chestnut, sycamore and wild cherry; hawthorn, ash, elder and blackthorn.
	E	Low	No significant hedgerow present; boundary represented by a stone wall.	There is low scattered bramble throughout.
	W	Low	An intermittent hedgerow.	Mostly elder with some hawthorn; abundant bramble in places; ivy is also abundant; The walls of the adjacent derelict farm buildings and the trees in the surrounding grounds are mostly covered with exceptionally plentiful, compact, overhanging climbing ivy. The grounds have several elder shrubs, a few small sycamore and extensive clumps of bramble.
112	N	N/A	Hedgerow recently removed and replaced with wooden railing.	
	S	Low	Hedgerow irregular, rather open basally and aerially; 'see-through'.	An ash, two sycamore - one of which is mature and very tall; small elder shrubs and a small amount of bramble occur intermixed.
	E	Moderate	Comprised of medium sized hawthorn and elder; base wide and compact; towards the southern end	Hawthorn, elder and bramble; one lilac and one ash also noted.
	W	N/A	No hedgerow present; boundary represented by a stone wall;	A small hawthorn and a small elder were noted close by.
113	N	Low	No significant hedgerow present; instead boundary defined by low planted speices of low value.	Lawson cypress dominant; and some indigenous woody plants: small ash, one hawthorn and bramble.
	S	N/A	No hedgerow present; boundary represented by wooden fencing.	
	E	N/A	No hedgerow present; boundary represented by wire fencing.	

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	W	Moderately High to High	Hedgerow represented by an exceptionally wide, irregular, compact thicket towards the northern corner of this field; very compact aerially and mostly so basally. The same woody species are present towards the southern end, but the growths are more hedgerow-like, much narrower and open aerially.	Ash and hawthorn co-dominant; blackthorn and bramble are extensive; small amounts of dog-rose and ivy also present;
114	N	Moderate	Very variable in structure; hedgerow mostly impenetrable except for the western corner.	Three tall well-branched Monterey cypress; and well-branched overhanging ash on the western and eastern corners; smaller ash, hawthorn and one tall and one small sycamore are intermixed; a small amount of elder also noted; bramble abundant throughout, especially at the eastern corner;
	S	N/A	No hedgerow present; boundary represented by wooden railing.	
	E	Moderate	A hedgerow of two parts - the northern half has rather tall plants, whereas the southern half shows much smaller woody plants;	
	W	N/A	No hedgerow present; boundary represented by wire fencing.	
115	N	N/A	No hedgerow present; boundary represented partly by wire fencing and partly by wooden fencing.	Tall, well-branched overhanging ash; hawthorn and blackthorn scattered throughout in about equal amounts; climbing ivy abundant; a small amount of dog-rose also noted. Hawthorn, ash, blackthorn, with occasional elder ; bramble occurs in low compact clumps in places; ivy, gorse and dog-rose are scattered throughout Ash, elder, hawthorn, low compact bramble and ivy; a combination of hawthorn, bramble and climbing ivy form very wide and extensive growths in some areas.
	S	Moderate	This hedgerow is relatively short and located on a very small embankment; hedgerow rather open aerially, compact and impenetrable on the eastern end, and gapped approaching the western end.	
	E	Moderate	A very irregular hedgerow.	
	W	Moderate	Hedgerow very irregular throughout. the southern end is characterised by the presence a few tall, well-branched, overhanging widely-spaced	
116	N	Moderate	A short hedgerow consisting of about four exceptionally tall, well-branched overhanging trees; hedgerow very wide aerially, rather narrow and compact but 'see-through' basally.	Ash, elder; bramble and hawthorn are intermixed; the latter very extensive in places.

Field	Position	HEGS* Grade (evaluation)	Boundary Description	Species
	S	N/A	No hedgerow present; boundary marked by wooden railing.	Hawthorn, sycamore.
	E	Moderate	This hedgerow, which is really outside the study area, consists mostly of medium-sized, well-branched overhanging small trees; base reasonably compact but 'see-through'.	
	W	Moderate	A short hedgerow showing of a few well-branched trees; very wide and compact basally; impenetrable.	
117	N	Moderately High to High	The area concerned here is the 'Cloghran Stud Farm' where several trees and shrubs are scattered throughout.	Elder, hawthorn, horse-chestnut, ash, Monterey pine, mature beech, small sycamore. Ivy and bramble in varying amounts.
118	N	Moderate	This irregularly-shaped field is situated south of Stockhole Lane; the boundary is characterised by the presence of some very tall ash trees.	Ash, hawthorn; bramble is both extensive and impenetrable.
	S	Moderate	This comparatively low hedgerow is characterised by very tall, well-branched overhanging ash.	Ash, elder, blackthorn, lilac, ivy and extensive wide bramble.
	E	N/A	Boundary not clearly defined.	Blackthorn, elder, hawthorn, a single tall beech, bramble and ivy.
	W	Moderate	Irregular in structure. one, a few tall, well-branched widely	

APPENDIX B2

Woody Species Occurring Within the Hedgerows

Common Name ¹	Scientific Name
Alder	<i>Alnus glutinosa</i>
Ash	<i>Fraxinus excelsior</i>
Aspen	<i>Populus tremula</i>
Beech	<i>Fagus sylvatica</i>
Bird cherry	<i>Prunus padus</i>
Blackthorn	<i>Prunus spinosa</i>
Bramble	<i>Rubus fruticosus</i> agg.
Bullace (wild plum)	<i>Prunus domestica</i>
Butterfly-bush	<i>Buddleja davidii</i>
Cherry-laurel	<i>Prunus laurocerasus</i>
Common barberry	<i>Berberis vulgaris</i>
Cotoneaster	<i>Cotoneaster horizontalis</i>
Crab apple	<i>Malus sylvestris</i>
Dog-rose	<i>Rosa canina</i>
English elm	<i>Ulmus procera</i>
Elder	<i>Sambucus nigra</i>
Escallonia	<i>Escallonia macrantha</i>
Field maple	<i>Acer campestre</i>
Garden privet	<i>Ligustrum ovalifolium</i>
Grey poplar	<i>Populus x canescens</i>
Grey willow	<i>Salix cinerea</i>
Gorse	<i>Ulex europaeus</i>
Guelder-rose	<i>Viburnum opulus</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Holly	<i>Ilex aquifolium</i>
Honeysuckle	<i>Lonicera periclymenum</i>
Horse-chestnut	<i>Aesculus hippocastanum</i>
Ivy	<i>Hedera helix</i>
Japanese larch	<i>Larix leptolepis</i>
Lime	<i>Tilia x vulgaris</i>
Laburnum	<i>Laburnum anagyroides</i>
Lawson cypress	<i>Chamaecyparis lawsoniana</i>
Leyland cypress	<i>x Cupressocyparis leylandii</i>
Lilac	<i>Syringa vulgaris</i>
Lombardy poplar	<i>Populus nigra</i> var. <i>italica</i>
Monterey cypress	<i>Cupressus macrocarpa</i>
New Zealand broadleaf	<i>Griselinia littoralis</i>
Norway maple	<i>Acer platanooides</i>
Pedunculate oak	<i>Quercus robur</i>
Red osier dogwood (Dwarf cornel)	<i>Cornus sericea</i>
Rowan (mountain ash)	<i>Sorbus acuparia</i>
Silver birch	<i>Betula pendula</i>
Snowberry	<i>Symphoricarpos rivularis</i>
Scots pine	<i>Pinus sylvestris</i>
Sumach	<i>Rhus typhina</i>
Sycamore	<i>Acer pseudoplatanus</i>
Weeping willow	<i>Salix vitellina</i> var. <i>pendula</i>
Whitebeam	<i>Sorbus aria</i>
White dogwood	<i>Cornus alba</i>
White poplar	<i>Populus alba</i>
White willow	<i>Salix alba</i>
Wild cherry	<i>Prunus avium</i>
Wild privet	<i>Ligustrum vulgare</i>
Wilson's honeysuckle	<i>Lonicera nitida</i>
Wych elm	<i>Ulmus glabra</i>

¹ Common names: mostly after Scannell and Synott (1987), otherwise after Stace (1997); latin names after Webb *et al.* (1996) or Stace (1997).

APPENDIX B3

Herbaceous Plants (Including Ferns) Recorded Within the Study Area²

Scientific Name	Common Name
<i>Achillea millefolium</i>	Yarrow
<i>Aegopodium podagraria</i>	Ground-elder
<i>Aethusa cynapium</i>	Fool's parsley
<i>Agrostis capillaris</i>	Common bent
<i>Agrostis stolonifera</i>	Creeping bent
<i>Alliaria petiolata</i>	Garlic mustard
<i>Alopecurus geniculatus</i>	Marsh foxtail
<i>Alopecurus pratensis</i>	Meadow foxtail
<i>Angelica sylvestris</i>	Angelica
<i>Anemone nemorosa</i>	Wood anemone
<i>Anthriscus sylvestris</i>	Cow parsley
<i>Anthoxanthum odoratum</i>	Sweet vernal-grass
<i>Apium nodiflorum</i>	Fool's watercress
<i>Arctium minus</i>	Lesser burdock
<i>Arrhenatherum elatius</i>	False oat-grass
<i>Arum maculatum</i>	Lords-and-ladies
<i>Asplenium ruta-muraria</i>	Wall-rue
<i>Asplenium trichomanes</i>	Maidenhair spleenwort
<i>Atriplex patula</i>	Common orache
<i>Atriplex prostrata</i>	Spear-leaved orache
<i>Avena fatua</i>	Wild-oat
<i>Avena sativa</i>	Cultivated oat
<i>Bellis perennis</i>	Daisy
<i>Brachypodium sylvaticum</i>	False brome
<i>Brassica rapa</i>	Wild turnip
<i>Bromus hordeaceus</i>	Soft brome
<i>Bromus ramosus</i>	Hairy-brome
<i>Bromus sterilis</i>	Sterile brome
<i>Bromus erectus</i>	Erect brome
<i>Callitriche stagnalis</i>	Common water-starwort
<i>Caltha palustris</i>	Marsh-marigold
<i>Calystegia sepium</i>	Hedge bindweed
<i>Capsella bursa-pastoris</i>	Shepherd's-purse
<i>Cardamine flexuosa</i>	Wavy bitter-cress
<i>Cardamine hirsuta</i>	Hairy bitter-cress
<i>Cardamine pratensis</i>	Cuckooflower
<i>Carex flacca</i>	Glaucous sedge
<i>Carex nigra</i>	Common sedge
<i>Carex remota</i>	Remote sedge
<i>Carex rostrata</i>	Bottle sedge
<i>Catapodium rigidum</i>	Fern-grass
<i>Centaurea nigra</i>	Knapweed
<i>Centranthus ruber</i>	Red valerian
<i>Cerastium fontanum</i>	Common mouse-ear
<i>Cerastium glomeratum</i>	Sticky mouse-ear
<i>Chenopodium album</i>	Fat-hen
<i>Cirsium arvense</i>	Creeping thistle
<i>Cirsium palustre</i>	Marsh thistle
<i>Cirsium vulgare</i>	Spear thistle
<i>Clematis vitalba</i>	Traveller's-joy

² Common names: mostly after Scannell and Synott (1987), otherwise after Stace (1997); latin names after Webb et al. (1996) or Stace (1997).

Scientific Name	Common Name
<i>Convolvulus arvensis</i>	Field bindweed
<i>Crepis capillaris</i>	Smooth hawk's-beard
<i>Crepis vesicaria</i>	Beaked hawk's-beard
<i>Cymbalaria muralis</i>	Ivy-leaved toadflax
<i>Cynosurus cristatus</i>	Crested dog's-tail
<i>Dactylis glomerata</i>	Cock's-foot
<i>Dactylorhiza fuchsii</i>	Common spotted-orchid
<i>Daucus carota</i>	Wild carrot
<i>Dryopteris filix-mas</i>	Male-fern
<i>Elymus repens</i>	Common couch
<i>Epilobium angustifolium</i>	Rosebay willow-herb
<i>Epilobium hirsutum</i>	Great willow-herb
<i>Epilobium montanum</i>	Broad-leaved willow-herb
<i>Epilobium parviflorum</i>	Hoary willow-herb
<i>Equisetum arvense</i>	Field horsetail
<i>Equisetum fluviatile</i>	Water horsetail
<i>Euphorbia helioscopia</i>	Sun spurge
<i>Euphorbia peplus</i>	Petty spurge
<i>Euphrasia</i> spp.	Eyebright
<i>Fallopia convolvulus</i>	Black-bindweed
<i>Festuca arundinacea</i>	Tall fescue
<i>Festuca pratensis</i>	Meadow fescue
<i>Festuca rubra</i>	Red fescue
<i>Filipendula ulmaria</i>	Meadowsweet
<i>Fumaria muralis</i>	Common ramping-fumitory
<i>Fumaria officinalis</i>	Common fumitory
<i>Galium aparine</i>	Cleavers
<i>Galium palustre</i>	Common marsh-bedstraw
<i>Galium verum</i>	Lady's bedstraw
<i>Geranium dissectum</i>	Cut-leaved crane's-bill
<i>Geranium molle</i>	Dove's-foot crane's-bill
<i>Geranium robertianum</i>	Herb-Robert
<i>Geum urbanum</i>	Wood avens
<i>Glechoma hederacea</i>	Ground ivy
<i>Glyceria fluitans</i>	Floating sweet-grass
<i>Glyceria notata</i>	Plicate sweet-grass
<i>Heracleum sphondylium</i>	Hogweed
<i>Hirschfeldia incana</i>	Hoary mustard
<i>Holcus lanatus</i>	Yorkshire-fog
<i>Hordeum vulgare</i>	Six-rowed barley
<i>Hypericum androsaemum</i>	Tutsan
<i>Hypochaeris radicata</i>	Cat's-ear
<i>Iris pseudacorus</i>	Yellow Iris
<i>Juncus acutiflorus</i>	Sharp-flowered rush
<i>Juncus articulatus</i>	Jointed rush
<i>Juncus bufonius</i>	Toad rush
<i>Juncus effusus</i>	Soft rush
<i>Juncus inflexus</i>	Hard rush
<i>Lamium purpureum</i>	Red dead-nettle
<i>Lapsana communis</i>	Nipplewort
<i>Lathyrus pratensis</i>	Meadow vetchling
<i>Lemna minor</i>	Common duckweed
<i>Leontodon autumnalis</i>	Autumn hawkbit
<i>Leontodon taraxacoides</i>	Lesser hawkbit
<i>Linaria purpurea</i>	Purple toadflax
<i>Linum catharticum</i>	Fairy flax
<i>Lolium multiflorum</i>	Italian rye-grass
<i>Lolium perenne</i>	Perennial rye-grass
<i>Lonicera periclymenum</i>	Honeysuckle
<i>Lotus corniculatus</i>	Common bird's-foot-trefoil
<i>Malva sylvestris</i>	Common mallow
<i>Matricaria discoides</i>	Pineapple-weed
<i>Medicago lupulina</i>	Black medick

Scientific Name	Common Name
<i>Mercurialis annua</i>	Annual mercury
<i>Myosotis arvensis</i>	Field forget-me-not
<i>Nasturtium microphyllum</i>	Narrow-fruited water-cress
<i>Nasturtium officinale</i>	Water-cress
<i>Odontites verna</i>	Red bartsia
<i>Ononis repens</i>	Restharrow
<i>Papaver dubium</i>	Long-headed poppy
<i>Papaver rhoeas</i>	Common poppy
<i>Petasites fragrans</i>	Winter heliotrope
<i>Phalaris arundinacea</i>	Reed canary-grass
<i>Phleum pratense</i>	Timothy
<i>Phyllitis scolopendrium</i>	Hart's-tongue
<i>Plantago lanceolata</i>	Ribwort plantain
<i>Plantago major</i>	Greater plantain
<i>Poa annua</i>	Annual meadow-grass
<i>Poa nemoralis</i>	Wood meadow-grass
<i>Poa pratensis</i>	Smooth meadow-grass
<i>Poa trivialis</i>	Rough meadow-grass
<i>Polygonum aviculare</i>	Knotgrass
<i>Polygonum persicaria</i>	Redshank
<i>Polypodium vulgare</i>	Polypody
<i>Polystichum setiferum</i>	Soft shield-fern
<i>Potentilla anserina</i>	Silverweed
<i>Potentilla reptans</i>	Creeping cinquefoil
<i>Primula vulgaris</i>	Primrose
<i>Prunella vulgaris</i>	Selfheal
<i>Pteridium aquilinum</i>	Bracken
<i>Ranunculus acris</i>	Meadow buttercup
<i>Ranunculus ficaria</i>	Lesser celandine
<i>Ranunculus hederaceus</i>	Ivy-leaved crowfoot
<i>Ranunculus repens</i>	Creeping buttercup
<i>Ranunculus scleratus</i>	Celery-leaved buttercup
<i>Reseda luteola</i>	Weld
<i>Rhinanthus minor</i>	Yellow-rattle
<i>Rumex acetosa</i>	Common sorrel
<i>Rumex conglomeratus</i>	Clustered dock
<i>Rumex crispus</i>	Wavy dock
<i>Rumex obtusifolius</i>	Broad-leaved dock
<i>Rumex sanguineus</i>	Blood-veined dock
<i>Sambucus ebulus</i>	Dwarf elder
<i>Scrophularia nodosa</i>	Common figwort
<i>Senecio aquaticus</i>	Marsh ragweed
<i>Senecio jacobaea</i>	Common ragwort
<i>Senecio vulgaris</i>	Groundsel
<i>Sinapis arvensis</i>	Charlock
<i>Sisymbrium officinale</i>	Hedge mustard
<i>Smyrniolus olusatrum</i>	Alexanders
<i>Solanum dulcamara</i>	Bittersweet
<i>Sonchus arvensis</i>	Perennial sow-thistle
<i>Sonchus asper</i>	Prickly sow-thistle
<i>Sonchus oleraceus</i>	Smooth sow-thistle
<i>Sparganium erectum</i>	Branched bur-reed
<i>Stachys palustris</i>	Marsh sow-thistle
<i>Stachys sylvatica</i>	Hedge woundwort
<i>Stellaria graminea</i>	Lesser stitchwort
<i>Stellaria media</i>	Common chickweed
<i>Tanacetum vulgare</i>	Tansy
<i>Taraxacum officinale agg.</i>	Common dandelion
<i>Torilis japonica</i>	Upright hedge-parsley
<i>Trifolium dubium</i>	Lesser trefoil
<i>Trifolium pratense</i>	Red clover
<i>Trifolium repens</i>	White clover
<i>Tripleurospermum inodorum</i>	Scentless mayweed

Scientific Name	Common Name
<i>Trisetum flavescens</i>	Yellow oat-grass
<i>Triticum aestivum</i>	Bread wheat
<i>Tussilago farfara</i>	Colt's-foot
<i>Urtica dioica</i>	Common nettle
<i>Urtica urens</i>	Small nettle
<i>Verbascum thapsus</i>	Great mullein
<i>Veronica agrestis</i>	Green field-speedwell
<i>Veronica anagallis-aquatica</i>	Blue water-speedwell
<i>Veronica beccabunga</i>	Brooklime
<i>Veronica chamaedrys</i>	Germander speedwell
<i>Veronica filiformis</i>	Slender speedwell
<i>Veronica hederifolia</i>	Ivy-leaved speedwell
<i>Veronica persica</i>	Common field-speedwell
<i>Veronica polita</i>	Grey field-speedwell
<i>Veronica scutellata</i>	Marsh speedwell
<i>Veronica serpyllifolia</i>	Thyme-leaved speedwell
<i>Vicia cracca</i>	Tufted vetch
<i>Vicia sativa ssp. nigra</i>	Narrow-leaved vetch
<i>Vicia sepium</i>	Bush vetch
<i>Viola reichenbachiana</i>	Early dog-violet
<i>Viola riviniana</i>	Common dog-violet

APPENDIX B4

Results of Bird Surveys

Table 1. Summary of the taxa encountered during the Winter/Spring (2001/2002) avian survey at the proposed site.

Common Name	Latin Name	Nov	Dec	Jan	Feb	Months Seen
Sparrowhawk	<i>Accipiter nisus</i>	x	x	x		3
Kestrel	<i>Falco tinnunculus</i>	x	x			2
Buzzard	<i>Buteo buteo</i>		x	x	x	3
Pheasant	<i>Phasianus colchicus</i>	x	x	x	x	4
Moorhen	<i>Gallinula chloropus</i>		x			1
Oystercatcher	<i>Haematopus ostralegus</i>			x		1
Golden Plover	<i>Pluvialis apricaria</i>		x			1
Lapwing*	<i>Vanellus vanellus</i>	x	x			2
Curlew*	<i>Numenius arquata</i>	x	x			2
Black-headed Gull**	<i>Larus canus</i>	x	x	x	x	4
Common Gull**	<i>Larus ridibundus</i>	x	x	x		3
Lesser Black-backed Gull	<i>Larus fuscus</i>			x		1
Woodpigeon	<i>Columba palumbus</i>	x	x	x	x	4
Stock Dove**	<i>Columba oenas</i>				x	1
Collared Dove	<i>Streptopelia decaocto</i>	x	x		x	3
Meadow Pipit	<i>Anthus pratensis</i>	x	x	x		3
Pied Wagtail	<i>Motacilla alba</i>	x	x	x	x	4
Grey Wagtail	<i>Motacilla cinerea</i>	x				1
Wren	<i>Troglodytes troglodytes</i>	x	x	x	x	4
Dunnoek	<i>Prunella modularis</i>	x	x	x	x	4
Stonechat**	<i>Saxicola torquata</i>			x		1
Robin	<i>Erithacus rubecula</i>	x	x	x	x	4
Blackbird	<i>Turdus merula</i>	x	x	x	x	4
Fieldfare	<i>Turdus pilaris</i>	x	x	x		3
Redwing	<i>Turdus iliacus</i>	x	x	x	x	4
Song Thrush	<i>Turdus philomelos</i>	x	x	x	x	4
Mistle Thrush	<i>Turdus viscivorus</i>	x	x	x		3
Blackcap	<i>Sylvia atricapilla</i>	x		x		2
Goldcrest	<i>Regulus regulus</i>	x	x	x	x	4
Blue Tit	<i>Parus caeruleus</i>	x	x	x	x	4
Great Tit	<i>Parus major</i>	x	x	x	x	4
Coal Tit	<i>Parus ater</i>	x	x	x	x	4
Starling	<i>Sturnus vulgaris</i>	x	x	x	x	4
Magpie	<i>Pica pica</i>	x	x	x	x	4
Jackdaw	<i>Corvus monedula</i>	x	x	x	x	4
Hooded Crow	<i>Corvus corone</i>	x	x	x	x	4
Rook	<i>Corvus frugilegus</i>	x	x	x	x	4
House Sparrow	<i>Passer domesticus</i>	x				1
Chaffinch	<i>Fringilla coelebs</i>	x	x	x	x	4
Siskin	<i>Carduelis spinus</i>	x				1
Greenfinch	<i>Carduelis chloris</i>	x	x	x	x	4
Goldfinch	<i>Carduelis carduelis</i>	x	x	x	x	4
Bullfinch	<i>Pyrrhula pyrrhula</i>	x		x		2
Linnet	<i>Carduelis cannabina</i>	x	x		x	3
Yellowhammer*	<i>Emberiza citrinella</i>	x		x		2
Reed Bunting	<i>Emberiza schoeniclus</i>				x	2
Number of Species Observed		38	35	34	27	46

* Red Listed Species.

** Amber Listed Species (Newton et al., 1999).

Table 2. The 46 species encountered on transect at the site ranked in terms of overall abundance. Table compiled from transect observations (November 2001 - February 2002).

Rank	Common Name	Latin Name
1	Rook	<i>Corvus frugilegus</i>
2	Lapwing	<i>Vanellus vanellus</i>
3	Woodpigeon	<i>Columba palumbus</i>
4	Goldfinch	<i>Carduelis carduelis</i>
5	Redwing	<i>Turdus iliacus</i>
6	Starling	<i>Sturnus vulgaris</i>
7	Jackdaw	<i>Corvus monedula</i>
8	Robin	<i>Erithacus rubecula</i>
9	Chaffinch	<i>Fringilla coelebs</i>
10	Blackbird	<i>Turdus merula</i>
11	Greenfinch	<i>Carduelis chloris</i>
12	Golden Plover	<i>Pluvialis apricaria</i>
13	Magpie	<i>Pica pica</i>
14	Dunnock	<i>Prunella modularis</i>
15	Wren	<i>Troglodytes troglodytes</i>
16	Pied Wagtail	<i>Motacilla alba</i>
17	Collared Dove	<i>Streptopelia decaocto</i>
18	Hooded Crow	<i>Corvus corone</i>
19	Blue Tit	<i>Parus caeruleus</i>
20	Coal Tit	<i>Parus ater</i>
21	Black-headed Gull	<i>Larus canus</i>
22	Linnet	<i>Carduelis cannabina</i>
23	Great Tit	<i>Parus major</i>
24	Goldcrest	<i>Regulus regulus</i>
25	Pheasant	<i>Phasianus colchicus</i>
26	Song Thrush	<i>Turdus philomelos</i>
27	Bullfinch	<i>Pyrrhula pyrrhula</i>
28	Lesser Black-backed Gull	<i>Larus fuscus</i>
29	Mistle Thrush	<i>Turdus viscivorus</i>
30	Buzzard	<i>Buteo buteo</i>
31	Fieldfare	<i>Turdus pilaris</i>
32	Common Gull	<i>Larus ridibundus</i>
33	Meadow Pipit	<i>Anthus pratensis</i>
34	House Sparrow	<i>Passer domesticus</i>
35	Curlew	<i>Numenius arquata</i>
36	Sparrowhawk	<i>Accipiter nisus</i>
37	Blackcap	<i>Sylvia atricapilla</i>
38	Siskin	<i>Carduelis spinus</i>
39	Stock Dove	<i>Columba oenas</i>
40	Yellowhammer	<i>Emberiza citrinella</i>
41	Kestrel	<i>Falco tinnunculus</i>
42	Reed Bunting	<i>Emberiza schoeniclus</i>
43	Oystercatcher	<i>Haematopus ostralegus</i>
44	Stonechat	<i>Saxicola torquata</i>
45	Moorhen	<i>Gallinula chloropus</i>
46	Grey Wagtail	<i>Motacilla cinerea</i>

Table 3. The top five most abundant species November, 2001 - February, 2002. The overall rank abundance of each species during the entire survey period is also given.

Overall Rank	Common Name	Latin Name
<i>November 2001</i>		
1	Rook	<i>Corvus frugilegus</i>
5	Redwing	<i>Turdus iliacus</i>
9	Blackbird	<i>Turdus merula</i>
8	Robin	<i>Erithacus rubecula</i>
4	Goldfinch	<i>Carduelis carduelis</i>
<i>December 2001</i>		
2	Lapwing	<i>Vanellus vanellus</i>
12	Golden Plover	<i>Pluvialis apricaria</i>
1	Rook	<i>Corvus frugilegus</i>
4	Goldfinch	<i>Carduelis carduelis</i>
6	Starling	<i>Sturnus vulgaris</i>
<i>January 2002</i>		
1	Rook	<i>Corvus frugilegus</i>
6	Starling	<i>Sturnus vulgaris</i>
7	Jackdaw	<i>Corvus monedula</i>
8	Robin	<i>Erithacus rubecula</i>
10	Chaffinch	<i>Fringilla coelebs</i>
<i>February 2002</i>		
1	Rook	<i>Corvus frugilegus</i>
3	Woodpigeon	<i>Columba palumbus</i>
4	Goldfinch	<i>Carduelis carduelis</i>
11	Greenfinch	<i>Carduelis chloris</i>
10	Chaffinch	<i>Fringilla coelebs</i>

Table 4. The results of 14 ten minute 'scans' of over flying birds along the route of the proposed runway. Scans 1-8 were conducted from vantage points outside the existing airfield fence and the remainder at intervals further along the route of the proposed runway.

Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Average Per Hr.	Min. Rate	Max. Rate
Blackbird	0	0	0	0	0	0	0	0	0	6	0	0	0	6	0.86	0	6
Black-headed Gull	0	0	0	0	0	0	0	0	0	0	0	6	0	6	0.86	0	6
Chaffinch	0	0	0	0	0	0	0	0	0	6	0	6	0	0	0.86	0	6
Collared Dove	0	6	12	0	0	0	6	0	0	0	0	0	0	0	1.71	0	12
Curlew	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0.43	0	6
Goldfinch	0	0	0	0	0	0	150	0	12	6	0	0	0	0	12.00	0	150
Goldfinch	0	0	0	0	0	0	0	0	12	6	0	0	0	0	1.29	0	12
Greenfinch	0	0	0	0	0	24	0	0	30	0	0	0	0	0	3.86	0	30
Hooded Crow	0	6	12	12	6	0	6	0	0	6	6	0	6	0	4.29	0	12
Jackdaw	0	0	90	0	6	6	0	0	0	6	6	0	18	6	9.86	0	90
Kestrel	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0.43	0	6
Lapwing	0	0	300	0	0	0	6	0	0	0	450	0	0	0	54.00	0	450
Lesser Black-backed Gull	0	0	0	0	0	0	0	0	0	0	0	24	0	0	1.71	0	24
Magpie	6	0	0	12	6	6	0	0	0	0	6	0	6	0	3.00	0	12
Pied Wagtail	0	0	0	6	0	18	0	6	0	0	0	0	0	0	2.14	0	18
Redwing	0	48	0	0	0	48	0	18	0	0	0	0	0	0	8.14	0	48
Robin	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0.43	0	6
Rook	90	18	198	12	54	102	24	72	60	72	30	18	30	12	56.57	12	198
Song Thrush	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0.86	0	12
Starling	0	0	0	6	42	0	0	0	0	6	0	0	0	0	3.86	0	42
Woodpigeon	0	66	24	6	18	0	24	0	0	0	0	6	0	0	10.29	0	66
TOTAL	96	144	642	54	132	204	222	96	114	114	504	60	60	42	177.43	42	642

Table 5. Summary of the taxa encountered during the breeding season avian survey (March-June, 2002) at the site of the proposed runway development.

Common Name	Latin Name	Mar	Apr	May	Jun	Months 'Seen'
Grey Heron	<i>Ardea cinerea</i>			x		1
Mallard	<i>Anas platyrhynchos</i>			x	x	2
Sparrowhawk	<i>Accipiter nisus</i>	x		x		2
Kestrel	<i>Falco tinnunculus</i>		x	x	x	3
Buzzard	<i>Buteo buteo</i>			x	x	2
Peregrine**	<i>Falco peregrinus</i>				x	1
Pheasant	<i>Phasianus colchicus</i>	x	x	x	x	4
Moorhen	<i>Gallinula chloropus</i>	x	x	x	x	4
Curlew*	<i>Numenius arquata</i>	x				1
Snipe**	<i>Gallinago gallinago</i>		x		x	2
Black-headed Gull**	<i>Larus canus</i>	x	x	x	x	4
Common Gull**	<i>Larus ridibundus</i>	x		x	x	3
Lesser Black-backed Gull	<i>Larus fuscus</i>	x		x		2
Great Black-backed Gull	<i>Larus marinus</i>		x			1
Herring Gull	<i>Larus argentatus</i>			x	x	2
Woodpigeon	<i>Columba palumbus</i>	x	x	x	x	4
Stock Dove**	<i>Columba oenas</i>	x			x	2
Collared Dove	<i>Streptopelia decaocto</i>	x		x	x	3
Swift	<i>Apus apus</i>			x	x	2
Skylark**	<i>Alauda arvensis</i>	x	x	x	x	4
Swallow**	<i>Hirundo rustica</i>		x	x	x	3
House Martin	<i>Delichon urbica</i>		x	x	x	3
Meadow Pipit	<i>Anthus pratensis</i>	x	x	x	x	4
Pied Wagtail	<i>Motacilla alba</i>	x	x	x	x	4
Grey Wagtail	<i>Motacilla cinerea</i>			x	x	2
Wren	<i>Troglodytes troglodytes</i>	x	x	x	x	4
Dunnock	<i>Prunella modularis</i>	x	x	x	x	4
Stonechat**	<i>Saxicola torquata</i>		x	x	x	3
Northern Wheatear	<i>Oenanthe oenanthe</i>		x	x	x	3
Robin	<i>Erithacus rubecula</i>	x	x	x	x	4
Blackbird	<i>Turdus merula</i>	x	x	x	x	4
Fieldfare	<i>Turdus pilaris</i>	x				1
Song Thrush	<i>Turdus philomelos</i>	x	x	x	x	4
Mistle Thrush	<i>Turdus viscivorus</i>	x	x	x	x	4
Whitethroat	<i>Sylvia communis</i>			x	x	2
Blackcap	<i>Sylvia atricapilla</i>		x	x	x	3
Willow Warbler	<i>Phylloscopus trochilus</i>			x	x	2
Chiffchaff	<i>Phylloscopus collybita</i>		x	x	x	3
Goldcrest	<i>Regulus regulus</i>	x	x	x	x	4
Spotted Flycatcher**	<i>Muscicapa striata</i>					1
Blue Tit	<i>Parus caeruleus</i>	x	x	x	x	4
Great Tit	<i>Parus major</i>	x	x	x	x	4
Coal Tit	<i>Parus ater</i>	x	x	x	x	4
Treecreeper	<i>Certhia familiaris</i>			x		1
Starling	<i>Sturnus vulgaris</i>	x	x	x	x	4
Magpie	<i>Pica pica</i>	x	x	x	x	4
Jackdaw	<i>Corvus monedula</i>	x	x	x	x	4
Raven	<i>Corvus corax</i>				x	1
Hooded Crow	<i>Corvus corone</i>	x	x	x	x	4
Rook	<i>Corvus frugilegus</i>	x	x	x	x	4
House Sparrow	<i>Passer domesticus</i>		x	x	x	3
Chaffinch	<i>Fringilla coelebs</i>	x	x	x	x	4
Siskin	<i>Carduelis spinus</i>	x				1
Greenfinch	<i>Carduelis chloris</i>	x	x	x	x	4
Goldfinch	<i>Carduelis carduelis</i>	x	x	x	x	4
Bullfinch	<i>Pyrrhula pyrrhula</i>	x		x	x	3
Linnet	<i>Carduelis cannabina</i>	x			x	2
Yellowhammer*	<i>Emberiza citrinella</i>	x		x	x	3
Reed Bunting	<i>Emberiza schoeniclus</i>				x	1
Number of Species Encountered						59

* Red-Listed Species.

** Amber-Listed Species (Newton *et al.*, 1999).

Table 6. The 59 species encountered on transect during the breeding season at the site ranked in terms of overall abundance. Table compiled from transect observations (March - June, 2002). The top 30 species are listed in order of overall abundance to the left of the dividing column and the less commonly encountered species are shown in the right-hand side of this divide. Only one individual of each of the bottom six species (lightly shaded) was encountered during the breeding season survey.

Common Name	Latin Name	Common Name	Latin Name
Rook	<i>Corvus frugilegus</i>	Northern Wheatear	<i>Oenanthe oenanthe</i>
Swallow	<i>Hirundo rustica</i>	House Martin	<i>Delichon urbica</i>
Woodpigeon	<i>Columba palumbus</i>	Bullfinch	<i>Pyrrhula pyrrhula</i>
Robin	<i>Erithacus rubecula</i>	Collared Dove	<i>Streptopelia decaocto</i>
Chaffinch	<i>Fringilla coelebs</i>	Moorhen	<i>Gallinula chloropus</i>
Wren	<i>Troglodytes troglodytes</i>	Black-headed Gull	<i>Larus canus</i>
Greenfinch	<i>Carduelis chloris</i>	Blackcap	<i>Sylvia atricapilla</i>
Jackdaw	<i>Corvus monedula</i>	Stock Dove	<i>Columba oenas</i>
Blue Tit	<i>Parus caeruleus</i>	Herring Gull	<i>Larus argentatus</i>
Blackbird	<i>Turdus merula</i>	Stonechat	<i>Saxicola torquata</i>
Starling	<i>Sturnus vulgaris</i>	Linnet	<i>Carduelis cannabina</i>
Goldfinch	<i>Carduelis carduelis</i>	Mallard	<i>Anas platyrhynchos</i>
Duncock	<i>Prunella modularis</i>	Lesser Black-backed Gull	<i>Larus fuscus</i>
Coal Tit	<i>Parus ater</i>	Common Gull	<i>Larus ridibundus</i>
House Sparrow	<i>Passer domesticus</i>	Grey Wagtail	<i>Motacilla cinerea</i>
Pied Wagtail	<i>Motacilla alba</i>	Fieldfare	<i>Turdus pilaris</i>
Meadow Pipit	<i>Anthus pratensis</i>	Kestrel	<i>Falco tinnunculus</i>
Hooded Crow	<i>Corvus corone</i>	Buzzard	<i>Buteo buteo</i>
Goldcrest	<i>Regulus regulus</i>	Reed Bunting	<i>Emberiza schoeniclus</i>
Song Thrush	<i>Turdus philomelos</i>	Sparrowhawk	<i>Accipiter nisus</i>
Magpie	<i>Pica pica</i>	Curlew	<i>Numenius arquata</i>
Great Tit	<i>Parus major</i>	Snipe	<i>Gallinago gallinago</i>
Skylark	<i>Alauda arvensis</i>	Spotted Flycatcher	<i>Muscicapa striata</i>
Chiffchaff	<i>Phylloscopus collybita</i>	Grey Heron	<i>Ardea cinerea</i>
Yellowhammer	<i>Emberiza citrinella</i>	Peregrine	<i>Falco peregrinus</i>
Swift	<i>Apus apus</i>	Great Black-backed Gull	<i>Larus marinus</i>
Whitethroat	<i>Sylvia communis</i>	Treecreeper	<i>Certhia familiaris</i>
Pheasant	<i>Phasianus colchicus</i>	Raven	<i>Corvus corax</i>
Mistle Thrush	<i>Turdus viscivorus</i>	Siskin	<i>Carduelis spinus</i>
Willow Warbler	<i>Phylloscopus trochilus</i>		

Table 7. The results of 12 ten minute 'scans' of over flying birds along the route of the proposed runway. These scans were conducted during the breeding season survey visits (March - June, 2002).

Species	Average Per Hr.	Min. Rate	Max. Rate
Blackbird	2.00	0	12
Black-headed Gull	3.00	0	18
Common Gull	0.50	0	6
Goldfinch	7.00	0	60
Greenfinch	2.00	0	18
Hooded Crow	5.50	0	18
House Martin	2.18	0	18
House Sparrow	14.00	0	120
Jackdaw	14.00	0	30
Lesser Black-backed Gull	1.50	0	12
Magpie	3.00	0	18
Meadow Pipit	1.50	0	12
Mistle Thrush	0.50	0	6
Northern Wheatear	2.50	0	18
Peregrine	0.50	0	6
Pheasant	1.00	0	12
Pied Wagtail	3.00	0	12
Robin	1.00	0	6
Rook	44.00	12	84
Skylark	4.50	0	18
Snipe	0.50	0	6
Song Thrush	1.00	0	6
Starling	22.50	0	180
Swallow	21.00	0	72
Swift	3.00	0	18
Whitethroat	0.50	0	6
Woodpigeon	18.00	0	54
Yellowhammer	1.50	0	12
TOTAL	181.18	96	660

Table 8. The recent historical status (1990-2004*) of birds encountered during the current study. *Data supplied by Dr. Tom Kelly.

Common Name	Latin Name	Status
Grey Heron	<i>Ardea cinerea</i>	Fairly common
Mallard	<i>Anas platyrhynchos</i>	Breed on airfield
Sparrowhawk	<i>Accipiter nisus</i>	Scarce
Kestrel	<i>Falco tinnunculus</i>	Regular spring/autumn
Buzzard	<i>Buteo buteo</i>	Increasing locally
Peregrine	<i>Falco peregrinus</i>	Regular on airfield
Pheasant	<i>Phasianus colchicus</i>	Common - breeds
Moorhen	<i>Gallinula chloropus</i>	Fairly common
Oystercatcher	<i>Haematopus ostralegus</i>	Scarce
Golden Plover	<i>Pluvialis apricaria</i>	Common in winter
Lapwing	<i>Vanellus vanellus</i>	Numerous in winter
Curlew	<i>Numenius arquata</i>	Common August-early spring
Snipe	<i>Gallinago gallinago</i>	Common doesn't breed on airfield
Black-headed Gull	<i>Larus canus</i>	Very common on airfield
Common Gull	<i>Larus ridibundus</i>	Common
Lesser Black-backed Gull	<i>Larus fuscus</i>	Fairly common
Great Black-backed Gull	<i>Larus marinus</i>	Scarce
Herring Gull	<i>Larus argentatus</i>	Common - coastal
Woodpigeon	<i>Columba palumbus</i>	Very common - breeds
Stock Dove	<i>Columba oenas</i>	Fairly common
Collared Dove	<i>Streptopelia decaocto</i>	Scarce - thought to breed
Swift	<i>Apus apus</i>	Common in summer
Skylark	<i>Alauda arvensis</i>	Common on airfield
Swallow	<i>Hirundo rustica</i>	Very common - breeds
House Martin	<i>Delichon urbica</i>	Fairly common - breeds
Meadow Pipit	<i>Anthus pratensis</i>	Very common on airfield
Pied Wagtail	<i>Motacilla alba</i>	Common - breeds
Grey Wagtail	<i>Motacilla cinerea</i>	Scarce
Wren	<i>Troglodytes troglodytes</i>	Common - breeds
Duncock	<i>Prunella modularis</i>	Common - breeds
Stonechat	<i>Saxicola torquata</i>	Common on airfield
Northern Wheatear	<i>Oenanthe oenanthe</i>	Very common - breeds
Robin	<i>Erithacus rubecula</i>	Common - breeds
Blackbird	<i>Turdus merula</i>	Common - breeds
Fieldfare	<i>Turdus pilaris</i>	Variable numbers in winter
Redwing	<i>Turdus iliacus</i>	Common in winter
Song Thrush	<i>Turdus philomelos</i>	Common - breeds
Mistle Thrush	<i>Turdus viscivorus</i>	Breeds - small flocks
Whitethroat	<i>Sylvia communis</i>	Fairly common in summer
Blackcap	<i>Sylvia atricapilla</i>	Scarce
Willow Warbler	<i>Phylloscopus trochilus</i>	Fairly common - poss. breeds
Chiffchaff	<i>Phylloscopus collybita</i>	Fairly common - poss. breeds
Goldcrest	<i>Regulus regulus</i>	Common - breeds
Spotted Flycatcher	<i>Muscicapa striata</i>	Very scarce
Blue Tit	<i>Parus caeruleus</i>	Common - breeds
Great Tit	<i>Parus major</i>	Common - breeds
Coal Tit	<i>Parus ater</i>	Common - breeds
Treecreeper	<i>Certhia familiaris</i>	Very scarce
Starling	<i>Sturnus vulgaris</i>	Common - breeds
Magpie	<i>Pica pica</i>	Common - breeds
Jackdaw	<i>Corvus monedula</i>	Common - breeds
Raven	<i>Corvus corax</i>	Very scarce
Hooded Crow	<i>Corvus corone</i>	Common - breeds
Rook	<i>Corvus frugilegus</i>	Very common - breeds
House Sparrow	<i>Passer domesticus</i>	Fairly common - breeds
Chaffinch	<i>Fringilla coelebs</i>	Common - breeds
Siskin	<i>Carduelis spinus</i>	Scarce
Greenfinch	<i>Carduelis chloris</i>	Very common - breeds
Goldfinch	<i>Carduelis carduelis</i>	Very common - breeds
Bullfinch	<i>Pyrrhula pyrrhula</i>	Common - breeds
Linnet	<i>Carduelis cannabina</i>	Fairly common - breeds
Yellowhammer	<i>Emberiza citrinella</i>	Scarce - breeds
Reed Bunting	<i>Emberiza schoeniclus</i>	Scarce

Table 9. Species, which have been recorded in the vicinity of the airfield, 1990-2004, but not observed during the current study and their recent historical status (1990-2004*) at the airfield.

Common Name	Recent Status
Fulmar	Very scarce
Cormorant	Very scarce
Mute Swan	Very scarce
Rough Legged Buzzard	Rarity
Merlin	Common in early Autumn
Ringed Plover	Very scarce
Dunlin	Very scarce
Whimbrel	Very scarce
Black-tailed Godwit	Very scarce
Redshank	Very scarce
Mediterranean Gull	Very scarce
Ring-billed Gull	Very scarce
Barn Owl	Very scarce
Short-eared Owl	Very scarce
Long-eared Owl	Very scarce
Sand Martin	Scarce
Whinchat	Very scarce
Sedge Warbler	Scarce

*Data supplied by Dr. Tom Kelly.

Table 10. Summary of the taxa encountered during the follow-up avian survey (July-September, 2004) at the site of the proposed runway development.

Common Name	Latin Name	Jul	Aug	Sept	Months 'Seen'
Grey Heron	<i>Ardea cinerea</i>	x		x	2
Mallard	<i>Anas platyrhynchos</i>	x	x	x	3
Shelduck	<i>Tadorna tadorna</i>		x		1
Hobby	<i>Falco subbuteo</i>		x		1
Kestrel	<i>Falco tinnunculus</i>	x	x	x	3
Buzzard	<i>Buteo buteo</i>		x	x	2
Pheasant	<i>Phasianus colchicus</i>	x	x	x	3
Moorhen	<i>Gallinula chloropus</i>		x		1
Curlew	<i>Numenius arquata</i>	x	x	x	3
Oystercatcher	<i>Haematopus ostralegus</i>			x	1
Snipe	<i>Gallinago gallinago</i>		x		1
Black-headed Gull	<i>Larus canus</i>	x	x	x	3
Lesser Black-backed Gull	<i>Larus fuscus</i>			x	1
Woodpigeon	<i>Columba palumbus</i>	x	x	x	3
Racing Pigeon	<i>Columba livia</i>	x	x	x	3
Stock Dove	<i>Columba oenas</i>	x	x	x	3
Collared Dove	<i>Streptopelia decaocto</i>	x	x	x	3
Swift	<i>Apus apus</i>	x	x		2
Skylark	<i>Alauda arvensis</i>	x	x	x	3
Swallow	<i>Hirundo rustica</i>	x	x	x	3
House Martin	<i>Delichon urbica</i>	x			1
Meadow Pipit	<i>Anthus pratensis</i>	x	x	x	3
Pied Wagtail	<i>Motacilla alba</i>	x	x	x	3
Wren	<i>Troglodytes troglodytes</i>	x	x	x	3
Dunnock	<i>Prunella modularis</i>	x	x	x	3
Stonechat	<i>Saxicola torquata</i>	x	x	x	3
Northern Wheatear	<i>Oenanthe oenanthe</i>		x	x	2
Robin	<i>Erithacus rubecula</i>	x	x	x	3
Blackbird	<i>Turdus merula</i>	x	x	x	3
Song Thrush	<i>Turdus philomelos</i>		x	x	2
Willow Warbler	<i>Phylloscopus trochilus</i>	x			1
Chiffchaff	<i>Phylloscopus collybita</i>	x	x		2
Goldcrest	<i>Regulus regulus</i>	x	x	x	3
Blue Tit	<i>Parus caeruleus</i>	x	x	x	3
Great Tit	<i>Parus major</i>	x	x	x	3
Coal Tit	<i>Parus ater</i>	x	x	x	3
Long-tailed Tit	<i>Aegithalos caudatus</i>		x		1
Starling	<i>Sturnus vulgaris</i>	x	x	x	3
Magpie	<i>Pica pica</i>	x	x	x	3
Jackdaw	<i>Corvus monedula</i>	x	x	x	3
Hooded Crow	<i>Corvus corone</i>	x	x	x	3
Rook	<i>Corvus frugilegus</i>	x	x	x	3
House Sparrow	<i>Passer domesticus</i>	x	x	x	3
Chaffinch	<i>Fringilla coelebs</i>	x	x	x	3
Greenfinch	<i>Carduelis chloris</i>	x	x	x	3
Goldfinch	<i>Carduelis carduelis</i>	x	x	x	3
Bullfinch	<i>Pyrrhula pyrrhula</i>			x	1
Linnet	<i>Carduelis cannabina</i>	x		x	2
Yellowhammer	<i>Emberiza citrinella</i>	x	x		2
Number of Species Encountered					49

APPENDIX B5
Table to Show Non-Avian Vertebrates and Their Status or
Potential Status in the Survey Area³

	Order	Common Name	Latin Name	Known Status	Potential Status
Mammals	Insectivora	Hedgehog Pygmy Shrew	<i>Erinaceus europaeus</i> <i>Sorex minutus</i>		Certain Certain
	Chiroptera (bats)	Common pipistrelle	<i>Pipistrellus pipistrellus</i>	Present	
		Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	Present	
		Brown long-eared	<i>Plecotus auritus</i>	Present	
		Leisler's	<i>Nyctalus leisleri</i>	Present	Likely
		Whiskered Natterer's	<i>Myotis mystacinus</i> <i>Myotis nattereri</i>		Likely
	Lagomorpha	Rabbit	<i>Oryctolagus cuniculus</i>	Present	
		Irish Hare	<i>Lepus timidus hibernicus</i>		Likely
	Rodentia	Red Squirrel	<i>Sciurus vulgaris</i>		Potential
		Grey Squirrel	<i>Sciurus carolinensis</i>		Potential
		Wood Mouse	<i>Apodemus sylvaticus</i>	Present	
		House Mouse	<i>Mus musculus</i>		Certain
Carnivora	Brown Rat	<i>Rattus norvegicus</i>	Present		
	Fox	<i>Vulpes vulpes</i>	Present		
	Badger	<i>Meles meles</i>		Likely	
	Irish Stoat	<i>Mustela erminea hibernica</i>		Likely	
	Otter	<i>Lutra lutra</i>		Unlikely	
	American Mink	<i>Mustela vison</i>		Unlikely	
Feral Cat	<i>Felis cattus</i> ⁴	Present			
Amphibians		Smooth Newt	<i>Triturus vulgaris</i>		Potential
		Frog	<i>Rana temporaria</i>		Certain
Reptiles		Common Lizard	<i>Lacerta vivipara</i>		Potential

³ Nomenclature follows Whilde (1993) – with the exception of *Felis cattus*.

APPENDIX B6

List of Night-Scented Plant Species

BEDDING PLANTS

Nottingham catchfly (*Silene nutans*)
Night-scented catchfly (*Silene noctiflora*)
Bladder campion (*Silene vulgaris*)
Night-scented stock (*Matthiola bicornis*)
Sweet rocket (*Hesperis matronalis*)
Evening primrose (*Oenothera biennis*)
Tobacco plant (*Nicotiana affinis*)
Cherry pie (*Heliotropum x hybridum*)
Soapwort (*Saponaria officinalis*)

SCENTED HERBS

Chives
Borage
Lemon balm
Marjoram
Mint

CLIMBERS

European honeysuckle (*Lonicera caprifolium*)
Italian honeysuckle (*Lonicera etrusca superba*)
Japanese honeysuckle (*Lonicera japonica halliana*)
Native honeysuckle (*Lonicera periclymenum*)
White jasmine (*Jasminum officinale*)
Dogrose (*Rosa canina*)
Sweetbriar (*Rosa rubiginosa*)
Fieldrose (*Rosa arvensis*)
Ivy (*Hedera helix*)
Bramble - many species

APPENDIX B7

List of Insect Species

Nomenclature and systematic sequence are based on Leraut (1997). The exact locations are indicated by the six-figure Irish Grid References; m.v. trap = mercury-vapour light-trap.

BUTTERFLIES

	Species	No. found	Location	Date	GR	Comment
Pieridae	<i>Pieris rapae</i> (Linnaeus, 1758) Small White	1	Pickardstown	19.8.200	O146443	
		3	Barberstown Lane (west)	25.8.2002	O136443	on <i>Brassica rapa</i> (Wild Turnip)
	<i>Pieris napi</i> (Linnaeus, 1758) Green-veined White	1	Pickardstown	19.8.2001	O146443	
Lycaenidae	<i>Polyommatus icarus</i> (Rottemburg, 1775) Common Blue	1	Pickardstown	19.8.2001	O146443	female
Nymphalidae	<i>Aglais urticae</i> (Linnaeus, 1758) Small Tortoiseshell	1	Barberstown Lane	12.8.2002	O146445	
	<i>Pararge aegeria tircis</i> (Zeller, 1839) Speckled Wood	1	Barberstown Lane (E.)		O148445	
		2	Barberstown (W)	19.8.2001	O141444	
		2	Barberstown Lane	25.8.2002	O145444	
	<i>Maniola jurtina</i> (Linnaeus, 1758) Meadow Brown	1	field next to NE perimeter	19.8.2001	O172442	

MOTHS

	Species	No. found	Location	Date	GR	Comment
Nepticulidae	<i>Stigmella plagicolella</i> (Stainton, 1854) Vacated leaf-mine		Pickardstown	19.8.2001	O146443	on <i>Prunus spinosa</i>
Coleophoridae	<i>Coleophora alticolella</i> Zeller, 1849		by fence, NE perimeter	19.8.2001	O170442	Early-instar larval cases on <i>Juncus</i>
Gelechiidae	<i>Scrobipalpa costella</i> (Humphreys & Westwood, 1845)		Barberstown	25.8.2002	O147442	Female taken at m. v. trap
Tortricidae	<i>Acleris laterana</i> (Fabricius, 1794)	1	Pickardstown	19.8.2001	O146443	
	<i>Acleris rhombana</i> (Denis & Schiffermüller, 1775)	1	by fence, NE perimeter	19.8.2001	O170442	
Pyralidae	<i>Agriphila tristella</i> (Denis & Schiffermüller, 1775)	1	NW perimeter	19.8.2001	O154443	
		1	field next to NE perimeter	19.8.2001	O172442	
		1	Pickardstown	9.8.2001	O146443	
		1	Barberstown	25.8.2002	O147442	at m. v. trap
	<i>Agriphila straminella</i> (Denis & Schiffermüller, 1775)	1	airfield next to NE perimeter	19.8.2001	O170442	
		1	field next to NE perimeter	19.8.2001	O172442	
		1	Forrest Little	19.8.2001	O171443	
		2	Barberstown Lane	12.8.2002	O146445	
	<i>Eudonia truncicolella</i> (Stainton, 1849)		Barberstown farm buildings	28.8.2001	O145445	Male at m. v. trap (genitalia checked)
	<i>Udea lutealis</i> (Denis & Schiffermüller, 1775)	1	NE perimeter	19.8.2001	O170442	
		4	field next to NE perimeter	19.8.2001	O172442	
		5	Forrest Little	19.8.2001	O171443	
		3	Pickardstown	19.8.2001;	O146443	
		2	Barberstown	12.8.2002	O152446	
		4	Barberstown	25.8.2002	O147442	at m. v. trap
	<i>Udea ferrugalis</i> (Hübner, 1796) Rusty Dot	1	Barberstown	25.8.2002	O147442	at m. v. trap
	<i>Pleuroptya ruralis</i> (Scopoli, 1763) Mother of Pearl	1	Pickardstown	19.8.2001	O146443	
Zygaenidae	<i>Zygaena filipendulae</i> (Linnaeus, 1758) Six-spot Burnet		Forrest Little	19.8.2001	O171443	Two cocoons
Geometridae	<i>Idaea aversata</i> (Linnaeus, 1758) Riband Wave	1	Barberstown	25.8.2002	O147442	at m. v. trap
	<i>Scotopteryx chenopodiata</i> (Linnaeus, 1758) Shaded Broad-bar	1	NW perimeter	19.8.2001	O154443	
		4	field next to NE perimeter	19.8.2001	O172442	
		5	Forrest Little	19.8.2001	O171443	
		1	Pickardstown	19.8.2001	O146443	
	<i>Xanthorhoe designata</i> (Hufnagel, 1767) Flame Carpet	1	Barberstown	25.8.2002	O147442	at m. v. trap

	Species	No. found	Location	Date	GR	Comment
	<i>Epirrhoe alternata</i> (Müller, 1764) Common Carpet	2	Barberstown	25.8.2002	O147442	at m. v. trap
Noctuidae	<i>Amphipyra tragopoginis</i> (Clerck, 1759) Mouse Moth	1	Barberstown	25.8.2002	O147442	at m. v. trap
	<i>Hydraecia micacea</i> (Esper, 1789) Rosy Rustic	1	Barberstown	25.8.2002	O147442	at m. v. trap
	<i>Luperina testacea</i> (Denis & Schiffermüller, 1775) Flounced Rustic	1	Barberstown	25.8.2002	O147442	at m. v. trap
	<i>Mesapamea secalis</i> (Linnaeus, 1758) Common Rustic	5	Barberstown	25.8.2002	O147442	at m. v. trap
	<i>Mesapamea didyma</i> (Esper, 1788) Lesser Common Rustic	6	Barberstown	25.8.2002	O147442	at m. v. trap
	<i>Mesoligia furuncula</i> (Denis & Schiffermüller, 1775) Cloaked Minor	1	NE perimeter	19.8.2001	O170442	
	<i>Apamea monoglypha</i> (Hufnagel, 1766) Dark Arches	2	Barberstown	25.8.2002	O147442	at m. v. trap
	<i>Aletia impura</i> (Hübner, [1808]) Smoky Wainscot	4	Barberstown	25.8.2002	O147442	at m. v. trap
	<i>Xestia xanthographa</i> (Denis & Schiffermüller, 1775) Square-spot Rustic	1	Barberstown farm buildings	28.8.2001	O145445	at m. v. trap
		6	Barberstown	25.8.2002	O147442	at m. v. trap
	<i>Diarsia rubi</i> (Vieweg, 1790) Small Square-spot	10	Barberstown farm buildings	28.8.2001	O145445	at m. v. trap
		12	Barberstown	25.8.2002	O147442	at m. v. trap
	<i>Noctua janthe</i> (Borkhausen, 1792) Lesser Broad-bordered Yellow Underwing	1	Barberstown farm buildings	28.8.2001	O145445	at m. v. trap
		2	Barberstown	25.8.2002	O147442	at m. v. trap
	<i>Noctua pronuba</i> (Linnaeus, 1758) Large Yellow Underwing	1	Barberstown	25.8.2002	O147442	at m. v. trap

APPENDIX B8

Outline Recommendations for a Compensation Habitat

The creation of a new habitat resource in the greater Fingal area as close as possible to the development site is recommended. The reason for this is to compensate for the habitat loss necessitated by the proposed development.

As meaningful mitigation of permanent habitat removal is very difficult, the creation of a relatively large "high-quality" woodland-dominated habitat should have the potential to significantly improve the diversity of flora and fauna in that area. It would also be a beneficial and compensatory measure in the greater metropolitan area.

It is envisaged that such a habitat might comprise:

- ◆ A woodland-rich area which would be landscaped in order to maximise its resource potential for birds and non-avian fauna. For example, variation of structure and species content and the inclusion of rides could also increase the amount of woodland edge - a habitat factor known to increase the abundance of many songbird species (Fuller, 1995).
- ◆ Scrub should be planted along the woodland edge, both to soften the woodland edge and also to increase cover for wildlife.
- ◆ Hedgerows and tree-lines should also be constructed and planted as habitat corridors between denser patches of trees.
- ◆ Where possible the compensation habitat should not be isolated amid tillage lands, but should be located such that wildlife can move freely between it and existing hedgerows, areas of scrub woodland etc.
- ◆ Open areas with a small wetland, incorporating open water and marshland should also be incorporated in order to further increase local species diversity and to provide compensation habitat for amphibians.

APPENDIX B9

Designated Conservation Areas in the Wider Locality of North County Dublin

There are a number of designated and proposed conservation areas in the wider locality of north County Dublin. This appendix sets out the sites, their approximate distance from the proposed new runway at Dublin Airport, and gives the National Parks and Wildlife Service (NPWS, Department of the Environment, Heritage and Local Government) site synopsis[†] where available.

Table 1. Special Areas of Conservation (SACs).

Site Code	Name	Approximate distance and direction from the eastern end of the proposed new runway to nearest point of the designated site (km)
000205*	Malahide Estuary	4.2
000199§	Baldoye Bay	7.25
000208*§	Rogerstown Estuary	7.75
000206*§	North Dublin Bay	8.0
002193	Ireland's Eye	8.5
000202	Howth Head	12.2
000204*	Lambay Island	14.8

* Sites which are whole or part Special Protection Areas (SPA) under the EU Birds Directive.

§ Sites which are whole or part Nature Reserves.

Table 2. Proposed Natural Heritage Areas (pNHAs).

Site Code	Name	Approximate distance and direction from the eastern end of the proposed new runway to nearest point of the designated site (km)
1208	Feltrim Hill	2.6
178	Santry Demesne	3.2
1763	Sluice River Marsh	5.8
2103	Royal Canal	8.0
1215	Portraine Shore	9.6
1204	Bog of the Ring	16.1
2000	Loughshinny Coast	17.75
1218	Skerries Islands	18.5
00207*	Rockabill Island	24.0

SITE SYNOPSES

Note: the contents of the following site synopses are as received from National Parks and Wildlife Service.

Special Areas of Conservation

(1) Malahide Estuary (000205) (synopsis date - 3.10.2001)

Malahide Estuary is situated immediately north of Malahide and east of Swords. It is the estuary of the River Broadmeadow. The site is divided by a railway viaduct built in the 1800s.

[†] Where a recent site synopsis was not available from NPWS, the most recently available site description is included. The date of the synopsis/description is given where known.

The outer part of the estuary is mostly cut off from the sea by a large sand spit, known as "the island". The outer estuary drains almost completely at low tide, exposing sand and mud flats. There is a large bed of Eelgrass (*Zostera noltii* and *Z. angustifolium*) in the north section of the outer estuary, along with Tassel Weed (*Ruppia maritima*) and extensive mats of green algae (*Enteromorpha* spp., *Ulva lactuca*). Cordgrass (*Spartina anglica*) is also widespread in this sheltered part of the estuary.

The dune spit has a well developed outer dune ridge dominated by Marram Grass (*Ammophila arenaria*). The dry areas of the stabilised dunes have a dense covering of Burnet Rose (*Rosa pimpinellifolia*), Red Fescue (*Festuca rubra*) and species such as Yellow Wort (*Blackstonia perfoliata*), Field Gentian (*Gentianella amarella*), Hound's Tongue (*Cynoglossum officinale*), Carline Thistle (*Carlina vulgaris*) and Pyramidal Orchid (*Anacamptis pyramidalis*). Much of the interior of the spit is taken up by a golf course. The inner stony shore has frequent Sea-holly (*Eryngium maritimum*). Well-developed saltmarshes occur at the tip of the spit. Atlantic salt meadow is the principle type and is characterised by species such as Sea Purslane (*Halimolobos portulacastris*), Sea Aster (*Aster tripolium*), Thrift (*Armeria maritima*), Sea Arrowgrass (*Triglochin maritima*) and Common Saltmarsh-grass (*Puccinellia maritima*). Elsewhere in the outer estuary, a small area of Mediterranean salt meadow occurs which is characterised by the presence of Sea Rush (*Juncus maritimus*). Below the salt marshes there are good examples of pioneering Glasswort swards and other annual species, typified by *Salicornia dolichostachya* and Annual Sea-blite (*Suaeda maritima*).

The inner estuary does not drain at low tide apart from the extreme inner part. Here, patches of saltmarsh and salt meadows occur, with Sea Aster, Sea Plantain (*Plantago maritima*) and Sea Clubrush (*Scirpus maritimus*). Tassel Weed (*Ruppia maritima*) occurs in one of the channels.

The site includes a fine area of rocky shore southeast of Malahide and extending towards Portmarnock. This represents the only continuous section through the fossiliferous Lower Carboniferous rocks in the Dublin Basin, and is the type locality for several species of fossil coral.

The estuary is an important wintering bird site and holds an internationally important population of Brent Geese and nationally important populations of a further 15 species. Average maximum counts during the 1995/96-1997/98 period were Brent Geese 1217; Great Crested Grebe 52; Mute Swan 106; Shelduck 471; Pochard 200; Goldeneye 333; Red-breasted Merganser 116; Oystercatcher 1228; Golden Plover 2123; Grey Plover 190; Redshank 454; Wigeon 50; Teal 78; Ringed Plover 106; Knot 858; Dunlin 1474; Greenshank 38; Pintail 53; Black-tailed Godwit 345; Bar-tailed Godwit 99. The high numbers of diving birds reflects the lagoon-type nature of the inner estuary.

The estuary also attracts migrant species such as Ruff, Curlew Sandpiper, Spotted Redshank and Little Stint. Breeding birds of the site include Ringed Plover, Shelduck and Mallard. Up to the 1950s there was a major tern colony at the southern end of the island and the habitat remains suitable for these birds.

The inner part of the estuary is heavily used for water sports. A section of the outer estuary has recently been infilled for a marina and housing development.

This site is a fine example of an estuarine system with all the main habitats represented. The site is important ornithologically, with a population of Brent Geese of international significance.

(2) *Baldoyle Bay (000199) (synopsis date - 15.2.2000)*

Baldoyle Bay extends from just below Portmarnock village to the west pier at Howth, Co. Dublin. It is a tidal estuarine bay protected from the open sea by a large sand-dune system. Two small rivers, the Mayne and the Sluice, flow into the bay. The site contains four habitats listed on Annex I of the EU Habitats directive: *Salicornia* mud, Mediterranean salt meadows, Atlantic salt meadows and Tidal mudflats.

Large areas of intertidal flats are exposed at low tide. These are mostly sands but grade to muds in the inner sheltered parts of the estuary. Extensive areas of Common Cord-grass (*Spartina anglica*) occur in the inner estuary. Both the Narrow-leaved Eelgrass (*Zostera angustifolia*) and the Dwarf Eelgrass (*Z. noltii*) are also found here. During summer, the sandflats of the sheltered areas are covered by mats of green algae (*Enteromorpha* spp. and *Ulva lactuca*).

The sediments have a typical macrofauna, with Lugworm (*Arenicola marina*) dominating the sandy flats. The tubeworm *Lanice conchilega* is present in high densities at the low tide mark and the small gastropod *Hydrobia ulvae* occurs in the muddy areas, along with the crustacean *Corophium volutator*.

Areas of saltmarsh occur near Portmarnock Bridge and at Portmarnock Point, with narrow strips along other parts of the estuary. Species such as Glasswort (*Salicornia* spp.), Sea-purslane (*Halimione portulacoides*), Sea Plantain (*Plantago maritima*) and Sea Rush (*Juncus maritimus*) are found here. Portmarnock Spit formerly had a well-developed sand dune system but this has been largely replaced by golf courses and is mostly excluded from the site. A few dune hills are still intact at Portmarnock Point, and there are small dune hills east of Cush Point and below the Claremont Hotel. These are mostly dominated by Marram (*Ammophila arenaria*), though Lyme-grass (*Leymus arenarius*) is also found.

The site includes a brackish marsh along the Mayne River. Soils here have a high organic content and are poorly drained, and some pools occur. Rushes (*Juncus* spp.) and salt tolerant species such as Common Scurvygrass (*Cochleria officinalis*) and Greater Sea-spurrey (*Spergularia media*) are typical of this area. Knotted Hedge-parsley (*Torilis nodosa*), a scarce plant in eastern Ireland, has been recorded here, along with Brackish Water-crowfoot (*Ranunculus baudotti*), a species of brackish pools and ditches which has declined in most places due to habitat loss.

Two plant species, legally protected under the Flora (Protection) Order, 1999, occur in the Mayne marsh: Borrer's Saltmarsh-grass (*Puccinellia fasciculata*) and Meadow Barley (*Hordeum secalinum*).

Baldoyle Bay is an important bird site for wintering waterfowl and the inner part of the estuary is a Special Protection Area under the EU Birds Directive as well as being a Statutory Nature Reserve. Internationally important numbers of Pale-bellied Brent Geese (418) and nationally important numbers of two Annex I Birds Directive species - Golden Plover (1,900) and Bar-tailed Godwit (283) - have been recorded. Four other species also reached nationally important numbers: Shelduck (147), Pintail (26), Grey Plover (148) and Ringed Plover (218) - all figures are average peaks for four winters 1994/95 to 1997/1998. Breeding wetland birds at the site include Shelduck, Mallard and Ringed Plover. Small numbers of Little Tern, a species listed on Annex I of the EU Birds Directive, have bred on a few occasions at Portmarnock Point but not since 1991.

Because the area surrounding Baldoyle Bay is densely populated, the main threats to the site include visitor pressure, disturbance to wildfowl and dumping. In particular, the dumping of spoil onto the foreshore presents a threat to the value of the site.

Baldoyle Bay is a fine example of an estuarine system. It contains four habitats listed on Annex I of the EU Habitats Directive and has two legally protected plant species. The site is also an important bird area and part of it is a Special Protection Area under the EU Birds Directive, as well as being a Statutory Nature Reserve. It supports internationally important numbers of Brent Geese and nationally important numbers of six other species including two Annex I Birds Directive species.

(3) Rogerstown Estuary (000208) (synopsis date - 21.1.2000)

Rogerstown estuary is situated about 2 km north of Donabate. It is a relatively small, narrow estuary separated from the sea by a sand and shingle bar. The estuary is divided by a causeway and narrow bridge, built in the 1840s to carry the Dublin-Belfast railway line. The site contains good examples of a number of habitats listed on Annex I of the EU Habitats Directive.

The estuary drains almost completely at low tide. The intertidal flats of the outer estuary are mainly of sands, with soft muds in the northwest sector and along the southern shore. Associated with these muds are stands of Cordgrass (*Spartina anglica*). Green algae (mainly *Enteromorpha* spp. and *Ulva lactuca*) are widespread and form dense mats in the more sheltered areas. The intertidal angiosperm, Beaked Tasselweed (*Ruppia maritima*), grows profusely in places beneath the algal mats. The Lugworm (*Arenicola marina*) is common in the outer estuary and large Mussel beds (*Mytilus edulis*) occur at the outlet to the sea.

The area of intertidal flats in the inner estuary is reduced as a result of the local authority refuse tip on the north shore. The sediments are mostly muds, which are very soft in places. Cordgrass (*Spartina anglica*) is widespread in parts, and in summer, dense green algal mats grow on the muds. In the extreme inner part, the estuary narrows to a tidal river.

Saltmarsh fringes parts of the estuary, especially the southern shores and parts of the outer sand spit. Common plant species of the saltmarsh include Sea Rush (*Juncus maritimus*), Sea Purslane (*Halimione portulacoides*) and Common Saltmarsh-grass (*Puccinellia maritima*). Salt meadows and wet brackish fields occur along the tidal river. Low sand hills occur on the outer spit, including some small areas of fixed dunes and Ammophila dunes. Fine sandy beaches and intertidal sandflats occur at the outer part of the estuary.

Two plant species, which are legally protected under the Flora (Protection) Order, 1999, occur within the site: Hairy Violet (*Viola hirta*) occurs on the sand spit and Meadow Barley (*Hordeum secalinum*) occurs in the saline fields of the inner estuary. This species has declined apparently due to reclamation and embankment of lands fringing estuaries. Another rare species, Green-veined Orchid (*Orchis morio*), occurs in the sandy areas of the outer estuary.

Rogerstown Estuary is an important waterfowl site, with Brent Geese having a population of international importance (1176). A further 16 species have populations of national importance: Greylag Goose (186), Shelduck (785), Teal (584), Pintail (30), Shoveler (69), Oystercatcher (1028), Ringed Plover (152), Golden Plover (1813), Grey Plover (245),

Lapwing (4056), Knot (2076), Dunlin (2625), Sanderling (57), Black-tailed Godwit (272), Curlew (1549), Redshank (732) and Greenshank (22) (All counts are average peaks over four winters 1994/95 - 1997/98). The presence of a significant population of Golden Plover is of note and this species is listed on Annex I of the EU Birds Directive. The estuary is a regular staging post for autumn migrants, especially Green Sandpiper, Ruff, Little Stint, Curlew Sandpiper and Spotted Redshank.

Little Tern has bred at the outer sand spit, but much of the nesting area has now been washed away as a result of erosion. The maximum number of pairs recorded was 17 in 1991. Ringed Plover breed in the same area.

The outer part of the estuary has been designated a statutory Nature Reserve and a Special Protection Area under the EU Birds Directive. The inner estuary has been damaged by the refuse tip which covers 40 hectares of mudflat.

This site is an good example of an estuarine system, with all typical habitats represented, including several listed on Annex I of the EU Habitats Directive. Rogerstown is an internationally important waterfowl site and has been a breeding site for Little Terns. The presence within the site of three rare plant species adds to its importance.

(4) North Dublin Bay (000206) (synopsis date 23.11.1999)

This site covers the inner part of north Dublin Bay, the seaward boundary extending from the Bull Wall lighthouse across to the Martello Tower at Howth Head.

The North Bull Island is the focal point of this site. The island is a sandy spit which formed after the building of the South Wall and Bull Wall in the 18th and 19th centuries. It now extends for about 5 km in length and is up to 1 km wide in places. A well-developed and dynamic dune system stretches along the seaward side of the island. Various types of dunes occur, from fixed dune grassland to pioneer communities on foredunes. Marram Grass (*Ammophila arenaria*) is dominant on the outer dune ridges, with Lyme Grass (*Leymus arenarius*) and Sea Couchgrass (*Elymus farctus*) on the foredunes. Behind the first dune ridge, plant diversity increases with the appearance of such species as Wild Pansy (*Viola tricolor*), Kidney Vetch (*Anthyllis vulneraria*), Bird's-foot Trefoil (*Lotus corniculatus*), Rest Harrow (*Ononis repens*), Yellow Rattle (*Rhinanthus minor*) and Pyramidal Orchid (*Anacamptis pyramidalis*). In these grassy areas and slacks, the scarce Bee Orchid (*Ophrys apifera*) occurs.

About 1 km from the tip of the island, a large dune slack with a rich flora occurs, usually referred to as the 'Alder Marsh' because of the presence of Alder trees (*Alnus* spp). The water table is very near the surface and is only slightly brackish. Saltmarsh Rush (*Juncus maritimus*) is the dominant species, with Meadow Sweet (*Filipendula ulmaria*) and Devil's-bit (*Succisa pratensis*) being frequent. The orchid flora is notable and includes Marsh Helleborine (*Epipactis palustris*), Common Twayblade (*Listera ovata*), Autumn Lady's-tresses (*Spiranthes spiralis*) and Marsh orchids (*Dactylorhiza* spp.)

Saltmarsh extends along the length of the landward side of the island. The edge of the marsh is marked by an eroding edge which varies from 20 cm to 60 cm high. The marsh can be zoned into different levels according to the vegetation types present. On the lower marsh, Glasswort (*Salicornia europaea*), Saltmarsh Grass (*Puccinellia maritima*), Annual Sea-blite (*Suaeda maritima*) and Greater Sea-spurrey (*Spergularia media*) are the main species. Higher up in the middle marsh Sea Plantain (*Plantago maritima*), Sea Aster (*Aster tripolium*), Sea Arrowgrass (*Triglochin maritima*) and Sea Pink (*Armeria maritima*) appear.

Above the mark of the normal high tide, species such as Scurvy Grass (*Cochlearia officinalis*) and Sea Milkwort (*Glaux maritima*) are found, while on the extreme upper marsh, Sea Rushes (*Juncus maritimus* and *J. gerardii*) are dominant. Towards the tip of the island, the saltmarsh grades naturally into fixed dune vegetation.

The island shelters two intertidal lagoons which are divided by a solid causeway. The sediments of the lagoons are mainly sands with a small and varying mixture of silt and clay. The north lagoon has an area known as the "Salicornia flat", which is dominated by *Salicornia dolichostachya*, a pioneer Glasswort species, and covers about 25 ha. Tassel Weed (*Ruppia maritima*) occurs in this area, along with some Eelgrass (*Zostera angustifolia*). Eelgrass (*Z. noltii*) also occurs in Sutton Creek. Cordgrass (*Spartina anglica*) occurs in places but its growth is controlled by management. Green algal mats (*Enteromorpha* spp., *Ulva lactuca*) cover large areas of the flats during summer. These sediments have a rich macrofauna, with high densities of Lugworms (*Arenicola marina*) in parts of the north lagoon. Mussels (*Mytilus edulis*) occur in places, along with bivalves such as *Cerastoderma edule*, *Macoma balthica* and *Scrobicularia plana*. The small gastropod *Hydrobia ulvae* occurs in high densities in places, while the crustaceans *Corophium volutator* and *Carcinus maenas* are common. The sediments on the seaward side of North Bull Island are mostly sands. The site extends below the low spring tide mark to include an area of the sublittoral zone.

Three Rare plant species legally protected under the Flora Protection Order 1987 have been recorded on the North Bull Island. These are Lesser Centaury (*Centaurea pulchellum*), Hemp Nettle (*Galeopsis angustifolia*) and Meadow Saxifrage (*Saxifraga granulata*). Two further species listed as threatened in the Red Data Book, Wild Sage (*Salvia verbenaca*) and Spring Vetch (*Vicia lathyroides*), have also been recorded. A rare liverwort, *Petalophyllum ralfsii*, was first recorded from the North Bull Island in 1874 and has recently been confirmed as being still present there. This species is of high conservation value as it is listed on Annex II of the E.U. Habitats Directive. The North Bull is the only known extant site for the species in Ireland away from the western seaboard.

North Dublin Bay is of international importance for waterfowl. During the 1994/95 to 1996/97 period the following species occurred in internationally important numbers (figures are average maxima): Brent Geese 2,333; Knot 4,423; Bar-tailed Godwit 1,586. A further 14 species occurred in nationally important concentrations - Shelduck 1505; Wigeon 1,166; Teal 1,512; Pintail 334; Shoveler 239; Oystercatcher 2,190; Ringed Plover 346; Grey Plover 816; Sanderling 357; Dunlin 6,238; Black-tailed Godwit 156; Curlew 1,193; Turnstone 197 and Redshank 1,175. Some of these species frequent South Dublin Bay and the River Tolka Estuary for feeding and/or roosting purposes (mostly Brent Goose, Oystercatcher, Ringed Plover, Sanderling, Dunlin).

The tip of the North Bull Island is a traditional nesting site for Little Tern. A high total of 88 pairs nested in 1987. However, nesting attempts have not been successful since the early 1990s. Ringed Plover, Shelduck, Mallard, Skylark, Meadow Pipit and Stonechat also nest. A well-known population of Irish Hare is resident on the island

The invertebrates of the North Bull Island have been studied and the island has been shown to contain at least seven species of regional or national importance in Ireland (Orders Diptera, Hymenoptera, Hemiptera).

The main landuses of this site are amenity activities and nature conservation. The North Bull Island is the main recreational beach in Co Dublin and is used throughout the year. Much of the land surface of the island is taken up by two golf courses. Two separate

Statutory Nature Reserves cover much of the island east of the Bull Wall and the surrounding intertidal flats. The site is used regularly for educational purposes. North Bull Island has been designated a Special Protection Area under the E.U. Birds Directive and it is also a statutory Wildfowl Sanctuary, a Ramsar Convention site, a Biogenetic Reserve, a Biosphere Reserve and a Special Area Amenity Order site.

This site is an excellent example of a coastal site with all the main habitats represented. The holds good examples of ten habitats that are listed on Annex I of the E.U. Habitats Directive; one of these is listed with priority status. Several of the wintering bird species have populations of international importance, while some of the invertebrates are of national importance. The site contains a numbers of rare and scarce plants including some which are legally protected. Its proximity to the capital city makes North Dublin Bay an excellent site for educational studies and research.

(5) Ireland's Eye (002193) (synopsis date - 25.9.2000)

Ireland's Eye is located about 1.5 km north of Howth in Co. Dublin. It is a cambrian island with quartzite which forms spectacular cliffs on the northeast side. Elsewhere much of the area is covered by drift. There is a Martello tower at the west end of the island and an ancient ruined church in the middle.

The drift soils support a plant community of Bracken (*Pteridium aquilinum*) and various grasses, especially Red Fescue (*Festuca rubra*), along with Bluebells (*Hyacinthoides non-scripta*), Common Dog-violet (*Viola riviniana*) and Pennywort (*Umbilicus rupestris*). The thinner soils have some interesting species, including Spring Squill (*Scilla verna*), Knotted Clover (*Trifolium striatum*) and Field Mouse-ear (*Cerastium arvense*). Bloody Cranesbill (*Geranium sanguineum*) has also been recorded from here.

The cliff maritime flora includes Rock Spurrey (*Spergularia rupicola*), Sea Stork's-bill (*Erodium maritimum*), Rock Samphire (*Crithmum maritimum*), Golden Samphire (*Inula crithmoides*), Sea Lavender (*Limonium binervosum*), Meadow Rue (*Thalictrum minor*), Portland Spurge (*Euphorbia portlandica*) and Tree Mallow (*Lavatera arborea*).

A small area of shingle vegetation occurs above the sandy beach at Carrigeen Bay on the western side of the island. This habitat is listed on Annex I of the EU Habitats Directive. Species such as Curled Dock (*Rumex crispus*), Silverweed (*Potentilla anserina*) and Spear-leaved Orache (*Atriplex prostrata*) occur, while the rare Sea Kale (*Crambe maritima*), a very characteristic species of this habitat, has been known from this site since 1894 and was recorded as recently as 1981. Sea Kale is listed as threatened in the Irish Red Data Book. Also occurring on the sandy/shingle beach is the Red Data Book species Henbane (*Hyoscyamus niger*).

Ireland's Eye is of national importance for breeding seabirds. In 1999 the following were counted: Fulmar 70 pairs; Cormorant 306 pairs; Shag 32 pairs; Lesser Black-backed Gull 1 pair; Herring Gull c.250 pairs; Great Black-backed Gull c.100 pairs; Kittiwake 941 pairs; Guillemot 2191 individuals; Razorbill 522 individuals. A Gannet colony was established on the stack at the east end of the island in the late 1980s, and in 1999 142 pairs bred. Puffin was formerly common, but nowadays not more than 20 individuals occur. Black Guillemot also breeds, with 15 individuals recorded in 1998. Several pairs each of Oystercatcher and Ringed Plover breed, while the island is a traditional site for Peregrine Falcon.

In winter small numbers of Greylag and Pale bellied Brent Geese graze on the island.

This uninhabited marine island has a well developed maritime flora, with two habitats (sea cliffs and shingle) listed on Annex II of the EU Habitats Directive, and nationally important seabird colonies. Owing to its easy access and proximity to Dublin it has great educational and amenity value.

(6) Howth Head (000202) (synopsis date - 4.2.1998)

Howth Head is a rocky headland situated on the northern side of Dublin Bay. The peninsula is composed of Cambrian slates and quartzites, joined to the mainland by a post glacial raised beach. Limestone occurs on the northwest side while glacial drift is deposited against the cliffs in places. Howth Head contains sea cliffs and dry heaths, two habitats listed on Annex I of the EU Habitats Directive.

A mosaic of heathland vegetation occurs on the slopes above the sea cliffs and in the area of the summit. This is dominated by Western Gorse (*Ulex gallii*), Heather (*Calluna vulgaris*), Bell Heather (*Erica cinerea*) and localised patches of Bracken (*Pteridium aquilinum*). In more open areas species such as English Stonecrop (*Sedum anglicum*), Wood Sage (*Teucrium scorodonia*) and Navelwort (*Umbilicus rupestris*) occur, along with some areas of bare rock.

The heath merges into dry grassland in places, with Bent Grasses (*Agrostis* spp.), Red Fescue (*Festuca rubra*), Cock's-foot (*Dactylis glomerata*), Yorkshire-fog (*Holcus lanatus*), Sweet Vernal-grass (*Anthoxanthum odoratum*), Lady's Bedstraw (*Galium verum*), Ribwort Plantain (*Plantago lanceolata*) and Yellow-wort (*Blackstonia perfoliata*). In the summit area there are a few wet flushes and small bogs, with typical bog species such as Bog Asphodel (*Narthecium ossifragum*) and Sundew (*Drosera* spp.). Patches of scrub, mostly Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Willow (*Salix* spp.) and Downy Birch (*Betula pubescens*), occur in places.

The maritime flora is of particular interest as a number of scarce and local plants have been recorded, including Golden-samphire (*Inula crithmoides*), Sea Wormwood (*Artemisia maritima*), Grass-leaved Orache (*Atriplex littoralis*), Frosted Orache (*Atriplex laciniata*), Sea Spleenwort (*Asplenium marinum*), Bloody Crane s-bill (*Geranium sanguineum*), Spring Squill (*Scilla verna*), Sea Stork's-bill (*Erodium maritimum*) and three Clover species: Knotted Clover (*Trifolium striatum*), Bird's-foot Clover (*T. ornithopodioides*) and Western Clover (*T. occidentalis*).

Rock outcrops which are important for lichens are distributed widely around Howth Head. The richest area for lichens appears to be around Balscadden quarries. In addition, the Earlscliffe area is of national importance for lichens and is the type locality for the black, yellow and grey lichen zonation.

A number of Red Data Book plant species, which are legally protected under the Flora Protection Order, have been recorded at this site - Green-winged Orchid (*Orchis morio*), Bird's-foot (*Ornithopus perpusillus*), Hairy Violet (*Viola hirta*), Rough Poppy (*Papaver hybridum*), Pennyroyal (*Mentha pulegium*), Heath Cudweed (*Omalotheca sylvatica*) and Betony (*Stachys officinalis*).

Curved Hard-grass (*Parapholis incurva*), a species which had not previously been recognized as occurring in Ireland, was found at Red Rock in 1979.

The site is of national importance for breeding seabirds. A census in 1985-87 recorded the following numbers: Fulmar (105 pairs), Shags (25 pairs), Herring Gulls (70 pairs), Kittiwake

(c.1,700 pairs), Guillemot (585 birds), Razorbill (280 birds). In 1990, 21 pairs of Black Guillemot were counted.

A number of rare invertebrates have been recorded from the site: the insect *Phaonia exoleta* (Order Diptera) occurs in the woods at the back of Deerpark and has not been seen anywhere else in Ireland, while the ground beetle *Trechus rubens* (Order Coleoptera) is found on storm beaches on the eastern cliffs. A hoverfly, known from only a few Irish locations, *Sphaerophoria batava* (Order Diptera) is present in the heathland habitat within the site.

The main landuse within the area is recreation, mostly walking and horse-riding, and this has led to some erosion within the site. Fires also pose a danger to the site. There may also be a threat in some areas from further housing development.

Howth Head displays a fine range of natural habitats, including two Annex I habitats, within surprisingly close proximity to Dublin city. The site is also of scientific importance for its seabird colonies, invertebrates and lichens. It also supports populations of at least two legally protected plant species and several other scarce plants.

(7) Lambay Island (000204) (synopsis date - 8.11.2001)

Lambay Island is a large (250 ha.) inhabited island lying 4 km off Portrane on the north Co. Dublin coast. It is privately owned and is accessible by boat from Rogerstown Quay.

The island rises to 127 m and is surrounded by steep cliffs on the north, east and south slopes. These cliffs contain good diversity in height, slope and aspect. The west shore is low-lying and the land slopes gently eastwards to the summit in the centre of the island. The underlying geology is very varied, but is dominated by igneous rocks (of andesitic type) and ash. Also present are shales and limestones of Silurian origin, limestone conglomerates, and shales from the Old Red Sandstone era. The bedrock is exposed on the fringing cliffs and in rocky outcrops; elsewhere it is overlain by varying depths of glacial drift.

Most of the western third of the island is intensively farmed (mostly pasture), and there are small areas of parkland, deciduous and coniferous woodland, buildings, walled gardens and the harbour. Much of the rest of the island is a mixture of less intensively grazed land, rocky outcrops, patches of Bracken (*Pteridium aquilinum*) and Bramble (*Rubus fruticosus* agg.), and cliff slopes with typical maritime vegetation e.g. Thrift (*Armeria maritima*), Sea Campion (*Silene maritima*), Rock Sea-spurrey (*Spergularia rupicola*) and Spring Squill (*Scilla verna*). Some sheltered gullies have small areas of scrub woodland dominated by Elder (*Sambucus nigra*). Vegetated sea cliffs are listed on Annex I of the EU Habitats Directive.

Lambay supports the only colony of Grey Seals on the east coast. Although it is a long established breeding site for this species, it remains relatively small (45-60 individuals) probably because of the restricted area suitable for breeding. A herd of Fallow Deer (up to c. 80) roams the higher parts of the island, and a small number of wallabies (c. 10) survive in a feral state. This island may also hold the last Irish population of the Ship Rat, a species listed in the vertebrate Red Data Book.

Lambay Island is internationally important for its breeding seabirds. The most numerous species is the Guillemot, with almost 52,000 individuals on the cliffs. Razorbills (3,646 individuals), Kittiwakes (5,102 individuals), Herring Gulls (2,500 pairs), Cormorants (605

pairs), Shags (1,164 pairs), Puffins (235 pairs), and small numbers of Great and Lesser Black-backed Gulls also breed (all figures from 1995). Between 1991 and 1995 Fulmar numbers varied between 573-737 pairs. There is a small colony (<100 pairs) of the nocturnal Manx Shearwater on the island and up to 20 pairs of Common Terns have bred in recent years. A few Black Guillemots have been recorded on Lambay, but it is not clear if they breed. A pair of Peregrines are known to breed on the island.

In winter the most notable bird species on Lambay Island is the Greylag Goose with numbers peaking at 1,000, though in recent winters there has been a decline to 400-700 individuals. There is also a small wintering flock of Barnacle Geese (up to 50), and recently Brent Geese (up to 100) have started to occur regularly. Small numbers of Great Northern Diver and Red-throated Diver are also present in winter.

An intensive survey of the natural history of Lambay Island was carried out in 1906 and published in the Irish Naturalist. A similar, comparative survey has been carried out in the early 1990's and it is hoped this will be published soon. With this background, Lambay is an excellent site for studies of marine biology, terrestrial fauna and flora, geology, geomorphology and ecology.

The island has been maintained as a wildlife sanctuary by its owners and no threats are envisaged should the present land use continue. Rodents may be causing some damage to the populations of burrow-nesting sea-birds.

Lambay Island has good examples of vegetated sea cliffs, a habitat listed on Annex I of the EU Habitats Directive, and these cliffs hold internationally important populations of sea-birds. The site is also of conservation for the population of Grey Seal, a species listed on Annex II of this directive, that it supports.

II. Proposed Natural Heritage Areas

Note: It is understood from consultations with NPWS (October 2004) that the Designations Unit of NPWS will be conducting a review of those sites proposed as NHAs during the mid-1990s. It should be noted that the synopses for the following sites largely date from that time and that the current status of these sites is unclear.

(1) Feltrim Hill (1208) (no site synopsis was available for this site)

This site is shown on the Heritage Service half inch map for County Dublin (dated 03/06/1997). Consultations with NPWS indicate that this site "remains as a pNHA".

The description relating to the original Area of Scientific Interest (ASI) refers to it as being grassland associated with a carboniferous limestone quarry (AFF, 1981⁵).

(2) Santry Demesne (000178) (no date)

This site is located immediately north of old Santry village.

The site comprises the remnants of a former demesne woodland. The remaining woods are of generally good quality and include Beech (*Fagus sylvatica*), Wych Elm (*Ulmus*

⁵ An Foras Forbatha 1981 *National Heritage Inventory, Areas of Scientific Interest in Ireland*. An Foras Forbatha, Dublin.

glabra), Ash (*Fraxinus excelsior*), Sycamore (*Acer pseudoplatanus*), Hawthorn (*Crataegus monogyna*) and Scot's Pine (*Pinus sylvestica*).

A wide range of herbaceous species were recorded, including Wood Speedwell (*Veronica montana*), Sanicle (*Sanicula europaea*), Ramsons (*Allium ursinum*), Early Dog-violet (*Viola reichenbachiana*), Goldilocks Buttercup (*Ranunculus auricomus*), Giant Fescue (*Festuca gigantea*) and False Brome (*Brachypodium sylvaticum*).

A species legally protected under the Flora Protection Order 1987, Hairy St.John's Wort (*Hypericum hirsutum*), was recorded here in 1991. This downy-leaved perennial of river banks and shady places has been recorded from only five counties in eastern Ireland, concentrated in the River Liffey valley.

The primary importance of this site is that it contains a legally protected plant species. The woodland, however, is of general ecological interest as it occurs in an area where little has survived of the original vegetation.

(3) Sluice River Marsh (001763) (no date)

This site is located about 1 km west of Portmarnock village. The Sluice river flows into Baldoyle estuary, less than 1 km away. The marsh backs onto the east side of the railway embankment.

The wettest parts of the marsh have Yellow Flag (*Iris pseudacorus*), Reedmace (*Typha latifolia*), Horsetail (*Equisetum fluviatile*), Common Club-rush (*Scirpus lacustris*), Starwort (*Callitriche* spp.), Water Crowfoot (*Ranunculus aquatilis*), Fool's Water Cress (*Apium inundatum*) and Duckweed (*Lemna* spp.).

In the somewhat drier marsh areas the typical plant species are Marsh Bedstraw (*Galium palustre*), Creeping Cinquefoil (*Potentilla reptans*), Meadowsweet (*Filipendula ulmaria*), Water Mint (*Mentha aquatica*), Angelica (*Angelica sylvestris*), Water Plantain (*Alisma plantago-aquatica*) and the sedges *Carex disticha* and *Carex nigra*.

Wet grassland occurs around the marsh, with Silverweed (*Potentilla anserina*), Lady's Smock (*Cardamine pratensis*), Meadow Vetchling (*Lathyrus pratensis*), Common Rush (*Juncus effusus*), Bent Grass (*Agrostis stolonifera*) and Buttercups (*Ranunculus repens*, *R. acris*).

Some wet woodland and scrub occurs on the west side of the site, mostly Willow (*Salix* spp.), Alder (*Alnus glutinosa*), Birch (*Betula pubescens*) and some Hazel (*Corylus avellana*).

Mallard, Snipe, Grey Heron Moorhen and Reed Bunting were recorded on the marsh. The Grey Herons nest nearby. Some waterfowl from Baldoyle Estuary may use the marsh on occasions. Horses graze the site and there is probably some shooting in winter. The Murrough Estuary Wildfowler's Association use the site as a game sanctuary. Malahide golf course is situated on the other side of the Sluice River.

This site is of importance as it is a relatively intact freshwater marsh, a habitat that is now rare in Co Dublin.

(4) Royal Canal (002103) (13 February 1995)

The Royal Canal is a man-made waterway linking the River Liffey at Dublin to the River Shannon near Tarmonbarry. There is a branch line from Kiltash to Longford Town. The canal NHA comprises the central channel and the banks on either side of it. The main water supply is from Lough Owel (also an NHA) via a feeder channel into the canal at Mullingar. The Royal Canal was closed to navigation in 1961. The section of canal west of Mullingar was allowed to dry out, and the eastern section silted up and became overgrown. Restoration began in 1988, and is still in progress.

A number of different habitats are found within the canal boundaries - hedgerow, tall herbs, calcareous grassland, reed fringe, open water, scrub and woodland.

The hedgerow, although diverse, is dominated by Hawthorn (*Crataegus monogyna*). On the limestone soils of the midlands Spindle (*Euonymus europaeus*) and Guelder-rose (*Viburnum opulus*) are present.

The vegetation of the towpath is usually dominated by grass species. Crested Dog's-tail (*Cynosurus cristatus*), Quaking Grass (*Briza media*) and Sweet Vernal-grass (*Anthoxanthum odoratum*) are typical species of the calcareous grasslands of the midlands. Where the canal was built through a bog, soil (usually calcareous) was brought in to make the banks. The contrast between the calcicolous species of the towpath and the calcifuge species of the bog is very striking.

Otter spraints are found along the towpath, particularly where the canal passes over a river or stream.

The Rare and legally protected Opposite-leaved Pondweed (*Groenlandia densa*) (Flora Protection Order 1987) is present at one site in Dublin, between Locks 4 and 5. *Tolypella intricata* (a stonewort listed in the Red Data Book as being Vulnerable) is also in the Royal Canal in Dublin, the only site in Ireland where it is now found.

The ecological value of the canal lies more in the diversity of species it supports along its linear habitats than in the presence of rare species. It crosses through agricultural land and therefore provides a refuge for species threatened by modern farming methods.

(5) Portraine Shore (001215) (16 February 1995)

This site is located about 3 km east of Donabate. The site is mostly a stretch of rocky shore, with some intertidal sands at the south end. A narrow strip of coastal vegetation above the rocky shore is included.

Geologically the rocky shore is an inlier, i.e. a structure in which older rock is surrounded by rock of younger age. The northern end is an area of volcanic rocks with limestones, shales and grits to the south.

The grit series apparently forms the younger part of the exposure and the volcanics the older.

The flora and fauna of the rocky shore is typical of such a habitat, with brown, green and red algae, and marine invertebrates. Turnstones, Oystercatchers and Curlew feed along the shore.

Above the rocky shore the following plant species were recorded: Sea Pink (*Armeria maritima*), Sea Campion (*Silene maritima*), Sea Beet (*Beta vulgaris*), Kidney Vetch

(*Anthyllis vulneraria*), Sea Mayweed (*Matricaria maritima*), Spurge (*Euphorbia* spp.), Scurvy Grass (*Cochlearia* spp.), Hoary Cress (*Cardaria draba*) and Tree-mallow (*Lavatera arborea*). Spring Squill (*Scilla verna*) was recorded along the cliff path. The narrow cliffpath is used regularly by walkers.

This site is a good example of a rocky bedrock shore with a typical flora and fauna. The grassy vegetation above the shore adds habitat diversity. The site is also an important geological site.

(6) Bog Of The Ring (001204) (no date)

Bog of the Ring is situated approximately 5 km southwest of Balbriggan. It is a flat low-lying area with impeded drainage, showing signs of peat development in its upper horizons. The site was drained about thirty years ago, but still contains pockets of wet and damp ground where marsh vegetation occurs.

The greater part of the surface is covered by Yellow Iris (*Iris pseudacorus*) and Rough Meadow-grass (*Poa trivialis*), with Soft Rush (*Juncus effusus*) and Meadowsweet (*Filipendula ulmaria*) being common. Other species which occur in this dryish habitat are Great Willowherb (*Epilobium hirsutum*), Field Horsetail (*Equisetum arvense*), Angelica (*Angelica sylvestris*), Reed Canary-grass (*Phalaris arundinacea*), Purple-loosestrife (*Lythrum salicaria*) and Heath Spotted Orchid (*Dactylorhiza maculata*).

In the wetter areas, such as drainage ditches, species which have been recorded in the past include Frogbit (*Hydrocharis morsus-ranae*), Bladderworts (*Utricularia vulgaris* and *U. neglecta*), Lesser Marshwort (*Apium inundatum*), the scarce starwort (*Callitriche obtusangula*), Common Water Crowfoot (*Ranunculus aquatilis*), Unbranched Bur-reed (*Sparganium emersum*) and the stonewort *Chara hispida*. Other marshy places allow Great Yellow-cress (*Rorippa amphibia*) to grow, with Early Marsh-orchid (*Dactylorhiza incarnata*), Water-purslane (*Lythrum portula*), Wild Celery (*Apium graveolens*), Bur-marigolds (*Bidens cernua* and *B. tripartita*) and Lesser Water-parsnip (*Berula erecta*).

The site is used in winter by Golden Plover, Whooper Swan (occasionally) and Short-eared Owl. Breeding species include Snipe, Skylark, Meadow Pipt, Reed Bunting, Stonechat and Sedge Warbler.

Marshes are few in County Dublin and therefore the site is of interest. Although attempts at drainage have been made in the past, isolated wet areas still exist and the site could be considerably improved by raising the water table.

The construction of Balbriggan by-pass is an immediate threat and may alter the hydrology of the site.

(7) Loughshinny Coast (002000) (no date)

This site is situated midway between Loughshinny and Skerries. The south boundary of the site extends to the clay cliffs, which are overgrown with brambles and ivy, while the north end is bounded by a stream. This coastal area is noted for its geological interests, the rocks being conglomerates, limestones and shales.

The main habitat of the site is coastal grass, which merges into a shingle/rocky shore with some patches of saltmarsh.

The site is a station for the Green-winged Orchid (*Orchis morio*), a species legally protected under the Flora Protection Order 1987.

Species occurring in association with the orchid include Cowslip (*Primula veris*), Birds foot-trefoil (*Lotus corniculatus*), Yarrow (*Achillea millefolium*), Plantain (*Plantago lanceolata*), Burnet-saxifrage (*Pimpinella saxifraga*), Creeping Thistle (*Cirsium arvense*) and Buttercups (*Ranunculus acris*, *R. bulbosus*). A diverse fungal flora is present in autumn.

Of particular interest is a small seepage area at the northern end of the site, which is dominated by Black Bog-rush (*Schoenus nigricans*) and Rushes (*Juncus* spp.). Bryophytes are present along with Water Mint (*Mentha aquatica*). This flush occurs almost directly above the high tide mark.

The grassy area is a roost for Curlew and Oystercatcher.

The coastal grass shows signs of improvement and grazing. Further improvement and heavier grazing is a threat to the site.

(8) Skerries Islands (001218) (16 February 1995)

The Skerries Islands are a group of three islands situated between 1 km and 2 km east of Skerries. Shenick's Island is connected to the mainland by sandflats at low tide. The other two islands are St. Patrick's and Colt. Shenick's is composed of lower Palaeozoic rocks consisting of Ordovician volcanic, siltstones and shales. On the southeast of the island there is a patch of red breccia which rests unconformably on the Ordovician strata. The underlying strata are not horizontal - which is most frequently the case where an unconformity exists.

The islands are important bird islands. In 1992 15 pairs of Fulmar bred on Shenick's and three pairs on St. Patrick's Island. A recently established Cormorant colony on St. Patrick's Island was discovered in 1992 and had at least 35 pairs. Shags also breed on St. Patrick's, with 112 pairs in 1986. Large gulls breed on all three islands. Between 1984-86 the following were recorded: 89 pairs of Herring and Great Black-backed Gulls, mostly the former on Shenick's; c.250-300 pairs of Herring Gulls, c.200 pairs of Great Black-backed Gulls on St. Patrick's; 232 pairs of Herring and Great Black-backed Gulls, mostly the former on Colt.

In winter, the islands are frequented by geese and some waders. Brent Geese have been regular in recent years, usually in numbers less than 50. Barnacle and Greylag Geese also occur on occasions, seldom more than 50, these birds being from the Lambay populations. In January 1992, 250 Oystercatchers, 500 Golden Plover, 400 Lapwing and 600 Curlew were present. Up to three Short-eared Owls are regular each winter, though as many as six have been seen. The owls occur most often on Shenick's and St. Patrick's Islands. The Shenick's Island is now a bird reserve managed by the Irish Wildbird Conservancy.

(9) Rockabill Island (000207) (16 February 1995)

This site is located about 6 km east-northeast of Skerries. It comprises two small granitic islets separated by a 20 m wide channel. One rock has a lighthouse (manned until 1989) with walled areas of soil and vegetation, dominated by Tree Mallow (*Lavatera arborea*). The other islet has very little vegetation apart from lichens.

Rockabill is an internationally important breeding site for Roseate Tern and is the most important colony in Europe.

In 1994, 394 pairs bred, an increase from 366 in 1991. Common Terns also breed with 289 pairs in 1994, and 20 pairs of Arctic Tern bred in the same year. Other breeding seabirds are Black Guillemot (20 pairs in 1994) and Kittiwakes (75 occupied sites in 1994).

Since 1989 the site has been wardened by NPWS and IWC during the breeding season, and research and habitat management have been carried out. The site is owned by the Commissioners of Irish Lights and is a Refuge for Fauna and a Special Protection Area under the EU Birds Directive.