Stradbally Biodiversity Action Plan 2009-2012



Stradbally Tidy Towns 2009

An Chomhairle Oidhreachta The Heritage Council





Published by Stradbally Tidy Towns November 2009

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Stradbally Biodiversity Action Plan 2010-2012

Introduction

Stradbally is a beautiful village situated on the south coast of Waterford. It has a wealth of biodiversity and Stradbally Tidy Towns are working to enhance and protect our wildlife. This Biodiversity Action Plan outlines our objectives in this area for the next three years. The first task in this project was to document as far as possible the biodiversity resources i.e. the plants, animals and habitats in and around Stradbally. Ideas for biodiversity actions were sought from visiting wildlife experts and local people and the An Taisce Green Communities scheme.

Stradbally's biodiversity resource

To understand what habitats and species contribute most to biodiversity in Stradbally, we undertook an audit of Stradbally's biodiversity as well as collecting existing information on the village's flora and fauna.

We firstly consulted various wildlife agencies for information on Stradbally's biodiversity. Organisations consulted were the National Biodiversity Data Centre, BirdWatch Ireland, Bat Conservation Ireland, Irish Whale and Dolphin Group, National Parks and Wildlife Service, and the Botanical Society of the British Isles. We then commissioned a botanical and bat survey of Stradbally by Paul Green of the Botanical Society of the British Isles and Chris Peppiatt of Bat Conservation Ireland as well as commissioning a survey and mapping of habitats.

Outlined below are the results of the surveys. The report on the survey of Stradbally's flora which gives an informative guide to the most interesting places for plants is in Appendix 1. Lists of plants and animals are also recorded in the appendices. Legally protected species occurring in Stradbally village include the Freshwater Pearl Mussel, five species of bats, Chough, Barn Owl, Bottlenose Dolphin, Harbour Porpoise, and Leatherback Turtle.



Habitats of Stradbally village and surrounding areas

Figure 1. Aerial view of Stradbally

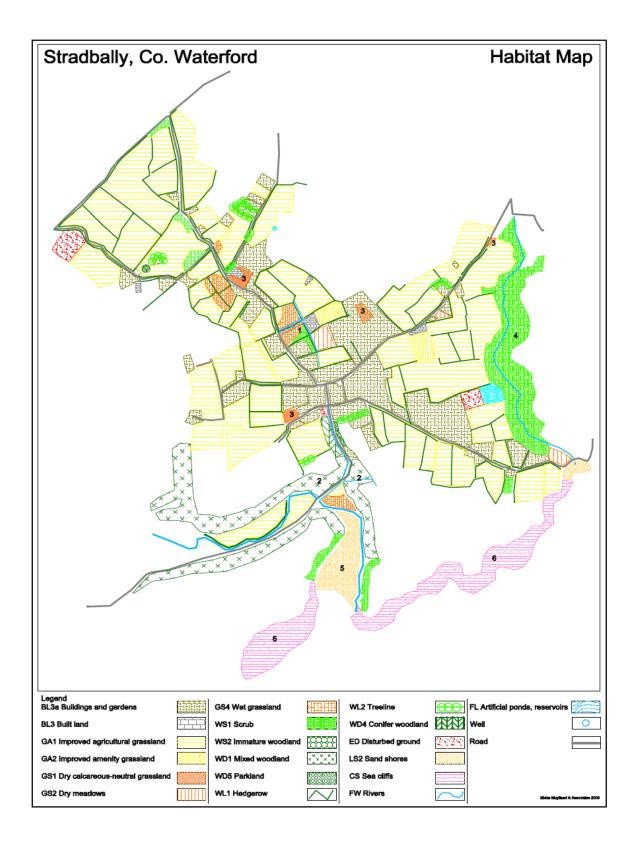
Habitats for wildlife around Stradbally

Stradbally Tidy Towns commissioned survey and mapping of habitats for wildlife in the village and surrounding areas. The various habitats are coloured and hatched on the map for maximum clarity. The map is intended as a guide to help Stradbally Tidy Towns and to highlight the wide variety of habitats present in their local area. Due to the area covered, it is not possible to show smaller details such as individual gardens or other small areas. Habitats mapped include: hedgerows, grassy banks, woodland and scrub, coastal grassland, sand dunes, old grassland, old walls and buildings, riverbanks, rivers and streams.

Important habitats in the village include the coastal cliffs which are Special Protection Areas under the EU Birds Directive for the Chough, the woodlands around Woodhouse which are proposed as Natural Heritage Areas under the Irish Wildlife Act. Important features of the area for wildlife are numbered on the map and listed below.

Areas with habitats of note

- 1. Old well, wet grassland and scrub on the entrance to the new pitch north of the village on the Carrickahilla road. The well is marked on the 6" map.
- 2. Mixed woodland along the Ballyvoyle road south of the village, with associated scrub, streams and hedgerows. This woodland is protected as a proposed Natural Heritage Area.
- 3. Dry grassland with similar diversity of species found in church yards, in housing estate and beside 'Welcome to Stradbally' sign north east of the village on the Newtown road.
- 4. Scrub and stream corridor east of the village, leading to Ballyvooney cove.
- 5. Stradbally Cove with associated coastal and marine habitats.
- 6. Coastline protected in Special Protection Area.
- 7. Network of hedgerows throughout the locality.
- 8. Roadside walls/banks with a good diversity of wild flowers, grasses and ferns.
- 9. Other patches of wet grassland and dry meadows; treelines; young woodland and patches of scrub. Older gardens in the village and those with a mixture of grass, trees, shrubs and other natural feature are also of interest for biodiversity.



A total of 19 habitats were surveyed and mapped. These are:

- BL3a buildings and gardens
- BL3 built land
- GA1 improved agricultural grassland
- GA2 amenity grassland
- GS1 Dry calcareous-neutral grassland
- GS2 dry meadows
- GS4 wet grassland
- WS1 scrub
- WS2 immature woodland
- WD1 mixed woodland
- WD5 parkland
- WL1 hedgerow
- WL2 Treeline
- WD4 conifer woodland
- ED disturbed ground
- LS2 sand shores
- CS sea cliffs
- FW rivers
- FL artificial ponds, reservoirs

Flora and Fauna of Stradbally

The second part of the audit was gathering of information on the different plant and animal species that are known to occur in and around Stradbally. Recorded from our area are: 429 plant species, 14 mammals, 2 reptiles, 2 amphibians, 88 birds, 84 invertebrates, including bees, butterflies, slugs, snails, beetles, a predatory bug, a damselfly a bush cricket and a centipede. All of these are listed in the appendices. Most of these are quite common and widespread across much of the Irish countryside, a few, however, are restricted to certain types of habitats and their continued presence in our environs is testament to the quality of the habitats around our village. Thousands more species occur here but they have never been recorded. Some of these species have legal protection such as the some of the birds, the bat species and Freshwater Pearl Mussel, but most have not.

Biodiversity, even in a small area such as our corner of Co. Waterford, is too diverse to measure. Neither can we measure the contribution of particular species of wild plant or insect to our enjoyment of our natural heritage in Stradbally. Yet when species are lost because their habitat is damaged, destroyed, or neglected, we are all a little bit worse off. By acknowledging, appreciating and protecting the flora and fauna inherited from past generations we can perhaps enhance our enjoyment of our living environment and quality of life in Stradbally.

Creation of the Biodiversity Action Plan

This plan aims to contribute to the appreciation and conservation of wildlife in and around Stradbally. Stradbally Tidy Town's have consulted with local groups to produce this Biodiversity Action Plan. These are the Holy Cross and St. James' churches, Stradbally GAA, St. James' National School, The Convent National School and the Holy Cross National School. Having compiled information gathered from visiting wildlife experts and from consultation with individuals and community groups, the priorities and targets of this plan are:

1. Increase awareness of our local biodiversity

Sometimes it is easy to overlook the wealth of biodiversity that lives in and around our village. The Tidy Towns are promoting an understanding and appreciation of our wildlife through walks and talks on various aspects of our wildlife throughout the year as well as providing interpretative material.

2. Networking of wildlife sites

Creation of linkages in between established habitats was identified as a priority biodiversity action. The habitat map and aerial photography was used to identify breaks in hedgerow and isolated habitats and these areas were targeted for planting. A number of areas have been highlighted including a boundary of the GAA pitches and a new boundary at St. James' National School. The Tidy Towns will work with the GAA club and the national school to establish new hedgerows at these breaks. Native species of tree and shrub will be used and will be sourced from a local nursery.

3. Provide suitable hibernation and summer roosts for protected bat species in Stradbally

Stradbally is home to five of the ten Irish bat species. They are legally protected under the EU Habitats Directive as well as the Irish Wildlife Act. Providing appropriately designed and situated bat boxes will help conserve these species in the village. Bat Conservation Ireland have given advice on appropriate boxes and in partnership with An Taisce Green Communities, bat boxes have been purchased and will be erected at the Holy Cross Church, St. James' Church, and some of the national schools.

4. Provide bird boxes for our native birds

Bird boxes in Stradbally will fulfill two aims: 1. to help conserve some of our important bird species and 2. increase awareness of our biodiversity. Barn owls are a Red-Listed *Bird of Conservation Concern in Ireland*. Stradbally may have breeding barn owls in the locality. We aim to help conserve this species by providing appropriate bird boxes with assistance from the probation service. We will also erect other bird boxes to help the conservation and improve our awareness of our local bird species. This will be done with the advice of the Waterford branch of BirdWatch Ireland.



Photo: Stradbally wildlife walk May 22nd 2009



Photo: Stradbally bat walk September 12th 2009

Acknowledgements

This action plan was compiled by Stephen McCormack and Dr. Eugenie Regan. We would like to thank Paul Green, Mieke Muyllaert, Dr. Chris Peppiatt, Paul Walsh, Dr. Úna Fitzpatrick, and Dave Pollock for their help with compiling this action plan and supporting the biodiversity initiatives of the Stradbally's Tidy Towns committee. We are also grateful for the support to all those consulted in the preparation of this plan. Support from the Heritage Council, An Taisce Green Communities scheme and Waterford County Council is gratefully acknowledged.

Biodiversity Action Plan

Objective 1- Promote the biodiversity of Stradbally to the wider public

Action	Timeframe	Lead	Partner
1.1 Village clean up	Annual (April/May)	Stradbally Tidy Towns	Schools, village community, Waterford County Council
1.2 Wildflower walk	Annual (summer)	Stradbally Tidy Towns	Botanical Society of the British Isles
1.3 Bat walk	Annual (August)	Stradbally Tidy Towns	Bat Conservation Ireland
1.4 Wildlife Walk	Annual (May, National Biodiversity Day)	Stradbally Tidy Towns	
1.5 Heritage in Schools		Stradbally Tidy Towns	Heritage Council
1.6 Dawn Chorus	Annual (May)	BirdWatch Ireland	Stradbally Tidy Towns
1.7 Erect interpretation signs	2009/2010	Stradbally Tidy Towns	Heritage Council
1.8 Produce and distribute wildlife map of Stradbally	2009/2010	Stradbally Tidy Towns	Heritage Council
1.9 Promote gardening for wildlife	March 2010	Stradbally Tidy Towns	An Taisce Green Communities, Stradbally residents associations

Objective 2 – Conserve, protect, and increase Stradbally's biodiversity

Action	Timeframe	Lead	Partner
2.1 Erect bird boxes	Winter 2009/2010	Stradbally Tidy Towns	BirdWatch Ireland, Probation Service
2.2 Erect bat boxes	Winter 2009/2010	Stradbally Tidy Towns	Bat Conservation Ireland, Holy cross and St. James' churches, St. James', Holy Cross, and the Convent national schools
2.3 Hedgerow planting	2010/2011	Stradbally Tidy Towns	GAA club, St. James' national school
3.4 Tree planting	Annual (March, National Tree Week	Stradbally Tidy Towns	Waterford County Council, Tree Council of Ireland
2.5 Removal of invasive species	Annual (Autumn)	Stradbally Tidy Towns	An Taisce Green Communities
2.6 Leave areas of grass uncut for nature conservation	Annual (Summer)	Stradbally Tidy Towns	
2.7 Reduce use of pesticides and herbicides	Annual	Stradbally Tidy Towns	
2.8 Choose plants rich in nectar and pollen for flowerbeds and borders to attract butterflies and other insects	Annual	Stradbally Tidy Towns	An Taisce Green Communities
2.9 Leave mosses, lichens and ferns on stone walls	Annual	Stradbally Tidy Towns	

Objective 3 – Monitor Stradbally's biodiversity

Action	Timeframe	Lead	Partner
3.1 Irish Butterfly Monitoring Scheme	Annual	National Biodiversity Data Centre	Stradbally Tidy Towns
3.2 Daubenton's bat Waterways Survey	Annual (August)	Bat Conservation Ireland	Stradbally Tidy Towns
3.3 Monitor bat boxes in village	Annual (March)	Bat Conservation Ireland	Stradbally Tidy Towns
3.4 I-WeBS (Irish Wetland Bird Survey)	Annual (winter)	BirdWatch Ireland	
3.5 Countryside Bird Survey	Annual (summer)	BirdWatch Ireland	
3.6 Monitor Mackay's Horsetail	Annual (June- August)	Stradbally Tidy Towns	Botanical Society of the British Isles
3.7 Monitor Invasive plant	Annual (all year)	Stradbally Tidy Towns	Botanical Society of the British Isles

Appendix 1: A botanical survey of Stradbally

By Paul Green



Southern Polypody, a rare fern found in the walls of St. James' churchyard, Stradbally

Stradbally Cove

A rocky sided cove surrounded by broad-leaved woodland.

There is a small area of sand dune. This is under huge pressure from human recreation. The only dune plants here are Sea Mouse-ear which is a very small annual. The other species is Sand Couch; this grass helps to stabilise the dunes.

Ivy Broomrape, a parasitic plant on Ivy, can be found around the lime-kiln.

On the rocks are Burnet Rose, Kidney Vetch, Rock Samphire, Thrift and Wild Madder.

River Tay

The bank of the River Tay is rich in flora. Butterbur, Marsh Hawk's-beard, Ramsons, Sanicle, Wild Onion, Wood Anemone, Wood Avens and Wood Sedge are some of the common native species here. Mackay's Horsetail is a very rare native species and this is the only known site in Co. Waterford. It is a hybrid between Rough and Variegated Horsetail. Rough Horsetail is only known from four sites in the county and Variegated Horsetail has never been recorded from Co. Waterford.

There are four non-native invasive species on this river bank: Ground-elder, Japanese Knotweed, Montbretia and Winter Heliotrope. It could be worth trying to remove these. The only problem is that the Mackay's Horsetail grows amongst the Winter Heliotrope and next to the Japanese Knotweed.



Stradbally is the only site in county Waterford for this rare plant, Mackay's horsetail

Woodlands above Stradbally Cove

These woodlands are reasonably rich in ground flora. Bluebells are widespread, Wood Speedwell and Pignut are as well. Ferns are common and these consist of Broad Bucklerfern, Hard-fern and Soft Shield-fern. Bramble and Honeysuckle are also frequent. Pedunculate Oak is the commonest tree, but there are also Ash, Beech, Downy Birch, Hazel, Mediterranean Sycamore, Rowan, Scots Pine, Sessile Oak, Sycamore, etc.

Damp pasture

The two damp pastures on either side of the road by the bridge are not herb-rich. They do have a good selection of common plants: Creeping Buttercup, Cuckooflower, Meadow Buttercup, Meadow Foxtail, Meadow sweet and Sweet Vernal, etc.

River Tay

The water is crystal clear. Growing in the river are Butterbur, Hemlock Water-dropwort and Stream Water-crowfoot. The Stream Water-crowfoot gives a fine display of white when flowering.

Wood on left side of road, if walking up slope to Stradbally

This wood has many large Beech trees and is a carpet of blue from the Bluebells. This is probably one of the top ten Bluebell woods in the county. The Beech gives just the correct amount of shade to keep out the bramble. This wood is very open and is not rich in ground flora apart from the Bluebells but it does have a good selection of ferns: Broad Buckler-fern, Hard-fern, Hart's-tongue, Male-fern and Soft Shield-fern. Tree species include: Aspen, Bay, Beech, Cherry, Cherry Laurel, Grand Fir, Hawthorn, Holly, Pedunculate Oak, Scot Pine, Sweet Chestnut, etc. It could be worth removing the one Cherry Laurel as this species can be very invasive.

The broad-leaved wood is joined by a conifer plantation – this is mainly Sitka Spruce – there is no ground flora under these trees – this is a very good example of shading.

Stream below the above woods

This has a herb-rich flora of damp loving species along its banks: Bluebell, Fool's-watercress, Lesser Celandine, Marsh Bedstraw, Opposite-leaved Golden-saxifrage, Primrose, Ramsons, Remote Sedge, Water-cress and Water Figwort, etc, they are all native species. Non-native species include: Bear's-breech, Fuchsia, Garden Yellow Archangel, Mindyour-own-business, Pendulous Sedge and Winter Heliotrope.

Hedges and banks along the roadsides

All the hedges and banks along the roads seem to be very straight forward and only common species are found: Ash, Blackthorn, Grey Willow, Hawthorn, Small-leaved Elm, Sycamore, etc. Ivy is frequent, Greater Stitchwort, Herb-robert and Intermediate Polypody are as well.

St. James' churchyard in centre of Stradbally

This is kept very tidy. Southern Polypody used to be common on the walls. Re-pointing of the joints in the walls has removed much of this uncommon fern that is mainly confined to the very southern counties of Ireland. There still is a large patch of the fern on

a wall in Church Lane. Other species found on the walls include: Columbine, Ivy, Ivyleaved Speedwell, Maidenhair Spleenwort, Navelwort, Purple Toadflax and Red Valerian.

Species of tree found in the churchyard: Ash, Beech, Cherry, Copper Beach, Hawthorn, Laburnum, Lime, Mediterranean Sycamore, Norway Maple, Pedunculate Oak, Sycamore and Whitebeam.

Ballyvooney Cove

A nice shingle beach in contrast to the sandy Stradbally beach. Sea Spleenwort can be found growing under Ballyvoony Bridge. On the cliffs to the west of the bridge can be found Danish Scurvygrass, Sea Campion, Sea Radish, Wild Madder, Thrift, etc.

There is a stream leading up from Ballyvoony Bridge, this has much scrub along it. Good for nesting birds but not greatly exciting for plants.



Ballyvooney cove

Recommendations for Stradbally Tidy Towns to help conserve native flora in Stradbally:

- 1. Monitoring and awareness of Mackey's horsetail on the banks of the Tay.
- 2. Monitoring and, perhaps, removal of invasive species along the banks of the Tay
- **3.** Removal of cherry laurel from bluebell woods

Appendix 2: Bat survey report and recommendations for bat conservation

Bat species recorded in Stradbally were the Long-Eared, Leisler's, Soprano pipistrelle, Pipistrelle, and the Daubenton's.

Bat recommendations for Stradbally Tidy Towns:

(1) Bat boxes can be mounted on large mature trees. A standard configuration is three per tree oriented facing N, SE and SW, if possible. This allows the bats to move with changing weather conditions so that they can roost at a comfortable temperature. The boxes should be at heights of 3.5 to 5 metres above the ground. They should be in positions that cannot easily be climbed to by hand, but will be safely accessible with a decent ladder. The boxes should be cleaned/monitored once or twice per year (Feb-Mar and/or Aug-Sept). Traditional wooden boxes (these could be bought or locally made to patterns that can be provided) or woodcrete boxes are acceptable. I suggest that boxes could be mounted on perhaps two of the mature trees in the grounds of the Church of Ireland church, on another two in the grounds of the Roman Catholic church and on one of the mature trees next to the girls' school. In addition, a wall-mounted box (Schwegler make) could be mounted on each gable end of the boys' school.

(2) Hedgerows and treelines should be maintained. Try to avoid very heavy flail maintenance that keeps the hedges strongly cut-back and low (although many of the roadside hedges will be cut by the local authority and the committee are unlikely to have any control over how they do so). Remember that hedges should only be cut between September and February inclusive, unless there is a safety issue. Where possible hedgerows or lines of native trees should be planted between blocks of trees, area of scrub, or by old buildings to provide commuting routes for bats.

(3) The sensible use of public/private outside lighting should be encouraged (i.e. lighting of minimum power and intensity used, lights directed downwards, sensor activated, if appropriate). Avoid uplighting of building exteriors, lighting onto rivers, ponds (not that I think this is too likely at Stradbally). Sensor-activated lighting (e.g. security lighting) should not be set so that it is so sensitive that objects much smaller than a person will set them off (I have seen security lights set of by bats themselves and by large moths; this is a waste of energy and can be annoying to neighbours).

(4) Survey the churches (inside at any time of year, emergence checks between May and July-August-September), bridges (May-August) and large old private houses (by agreement) for presence of bat roosts. If there are any unflooded caves or tunnels (e.g. old railway tunnels) in the area, these could be checked for roosting bats too. Both Bat Conservation Ireland and the Heritage Council have produced signs that can be put on buildings which contain bat roosts. These are intended to inform building contractors etc. about the presence of a roost and should be put at or near the entrances into the spaces used by bats (e.g. loft entrances), rather than on the outside of a building. If roosts are

identified in public or private buildings, the owners need to be made aware of the measures they need to take (e.g. checking if a derogation licence is required from the NPWS, timing of maintenance works, use of bat-safe chemicals for wood treatment) when carrying out work in the roost area.

Dr. Chris Peppiatt 20 November 2009

Appendix 3: Biodiversity Inventory

Mammals

Species		EU HD			WA	Red list
Erinaceus europaeus	Hedgehog				3	II
Sorex minutus	Pygmy Shrew				3	
Myotis daubentoni	Daubenton's bat		IV		3	II
Nyctalus leisleri	Leisler's bat		IV		3	II
Pipistrellus pipistrellus	Common Pipistrelle		IV		3	II
Pipistrellus pygmaeus	Soprano Pipistrelle		IV		3	
Plecotus auritus	Brown long-eared bat		IV		3	II
Sciurus vulgaris	Red Squirrel				3	
Lutra lutra	Otter	II	IV		3	II
Martes martes	Pine Marten			V	3	II
Meles meles	Badger				3	II
Mustela erminea	Stoat				3	
Tursiops truncatus (tursio)	Bottlenose Dolphin	II	IV		3	
Phocoena phocoena	Harbour porpoise	II	IV		3	

Reptiles

Species	EU HD			WA	Red list	
Dermochelys coriacea	Leatherback turtle		IV	3		
Lacerta vivipara	Common lizard			3		

Amphibians

Species	EU HD			WA	Red list	
Rana temporaria	Common frog		V		3	
Triturus vulgaris	Common newt				3	

Birds

Species	
Tyto alba	Barn Owl
Cepphus grylle	Black Guillemot
Phoenicurus ochruros	Black Redstart
Turdus merula	Blackbird
Sylvia atricapilla	Blackcap

Larus ridibundus	Black-headed Gull
Cyanistes caeruleus	Blue Tit
Pyrrhula pyrrhula	Bullfinch
Fringilla coelebs	Chaffinch
Phylloscopus collybita	Chiffchaff
Pyrrhocorax pyrrhocorax	Chough
Periparus ater	Coal Tit
Streptopelia decaocto	Collared Dove
Larus canus	Common Gull
Actitis hypoleucos	Common Sandpiper
Melanitta nigra	Common Scoter
Phalacrocorax carbo	Cormorant
Numenius arguata	Curlew
Cinclus cinclus	Dipper
Calidris alpina	Dunlin
Prunella modularis	Dunnock
Turdus pilaris	Fieldfare
Fulmarus glacialis	Fulmar
Morus bassanus	Gannet
Regulus regulus	Goldcrest
Carduelis carduelis	Goldfinch
Larus marinus	Great Black-backed Gull
Gavia immer	Great Northern Diver
Parus major	Great Tit
Carduelis chloris	Greenfinch
Motacilla cinerea	Grey Wagtail
Uria aalge	Guillemot
Circus cyaneus	Hen Harrier
Larus argentatus	Herring Gull
Corvus cornix	Hooded Crow
Delichon urbica	House Martin
Passer domesticus	House Sparrow
Corvus monedula	Jackdaw
Falco tinnunculus	Kestrel
Rissa tridactyla	Kittiwake
Larus fuscus	Lesser Black-backed Gull
Carduelis cabaret	Lesser Redpoll
Carduelis cannabina	Linnet
Alle alle	Little Auk
Aegithalos caudatus	Long-tailed Tit
Pica pica	Magpie
Anas platyrhynchos	Mallard
Anthus pratensis	Meadow Pipit
Turdus viscivorus	Mistle Thrush
Haematopus ostralegus	Oystercatcher
Falco peregrinus	Peregrine
Phasianus colchicus	Pheasant
Motacilla alba	Pied Wagtail
Corvus corax	Raven
Alca torda	Razorbill
Phoenicurus phoenicurus	Redstart
Gavia stellata	Red-throated Diver

Turdus iliacus	Redwing
Emberiza schoeniclus	Reed Bunting
Erithacus rubecula	Robin
Columba livia	Rock Dove/Feral Pigeon
Anthus petrosus	Rock Pipit
Corvus frugilegus	Rook
Riparia riparia	Sand Martin
Sterna sandvicensis	Sandwich Tern
Acrocephalus schoenobaenus	Sedge Warbler
Phalacrocorax aristotelis	Shag
Tadorna tadorna	Shelduck
Carduelis spinus	Siskin
Alauda arvensis	Skylark
Turdus philomelos	Song Thrush
Accipiter nisus	Sparrowhawk
Muscicapa striata	Spotted Flycatcher
Sturnus vulgaris	Starling
Saxicola torquata	Stonechat
Melanitta perspicillata	Surf Scoter
Hirundo rustica	Swallow
Apus apus	Swift
Arenaria interpres	Turnstone
Oenanthe oenanthe	Wheatear
Numenius phaeopus	Whimbrel
Saxicola rubetra	Whinchat
Sylvia communis	Whitethroat
Phylloscopus trochilus	Willow Warbler
Lanius senator	Woodchat Shrike
Columba palumbus	Woodpigeon
Troglodytes troglodytes	Wren
Larus michahellis	Yellow-legged Gull

Invertebrates

Species		EU HD	WA
Bombus muscorum	Bumblebee		
Bombus pascuorum	Bumblebee		
Bombus terrestris	Bumblebee		
Bombus lapidarius	Bumblebee		
Polyommatus icarus	Common blue butterfly		
Celastrina argiolus	Holly blue butterfly		
Argynnis paphia	Silver-washed fritillary butterfly		
Artogeia rapae	Small white butterfly		
Pieris brassicae	Large white butterfly		
Anthocharis cardamines	Orange-tip butterfly		
Artogeia napi	Green-veined white butterfly		
Vanessa cardui	Painted lady butterfly		
Aglais urticae	Small tortoiseshell butterfly		
Vanessa atalanta	Red admiral butterfly		
Coenonympha pamphilus	Small heath butterfly		

Pararge aegeria	Speckled wood butterfly			
Maniola jurtina	Meadow brown butterfly			
Aphantopus hyperantus	Ringlet butterfly			
Pterostichus vernalis	A ground beetle			
Agabus sturmii	Water beetle			
Anacaena globulus	A water-scavenger beetle			
Anacaena lutescens	A water-scavenger beetle			
Bembidion tetracolum	A ground beetle			
Calathus fuscipes	A ground beetle			
Cercyon littoralis	A water-scavenger beetle			
Chartoscirta cincta	A shore bug			
Gyrinus substriatus	A whirligig beetle			
Halipus lineatocollis	A crawling water beetle			
Helophorus brevipalpis	An aquatic beetle			
Hydroporus tessellatus	A diving beetle			
Nebrioporus depressus	A diving beetle			
Ocys harpaloides	A ground beetle			
Oreodytes sanmarkii	A diving beetle			
Stenus clavicornis	A rove beetle			
Stenus melanopus	A rove beetle			
Stenus picipennis	A rove beetle			
Thinobius vestitus	A rove beetle			
Geophilus pusillifrater	Centipede			
Aegopinella nitidula	Smooth glass snail			
Calopteryx splendens	Beautiful Demoiselle			
Leptophyes punctatissima	Spotted bush cricket			
Anisus (Anisus) leucostoma	Button ram's-horn			
Aplexa hypnorum	Moss bladder snail			
Arion (Carinarion)	Bourguignat's slug			
circumscriptus				
Arion (Kobeltia) distinctus	Garden slug			
Arion (Kobeltia) hortensis	Garden slug			
Arion (Mesarion) subfuscus	Dusky slug			
Balea perversa	Tree snail			
Candidula intersecta	Wrinkled snail			
Carychium tridentatum	Slender herald snail			
Cepaea nemoralis	Grove snail			
Cernuella virgata	Striped snail			
Clausilia bidentata	Common door snail			
Cochlicella acuta	Pointed snail			
Cochlicopa cf. lubrica	Slippery moss snail			
Cochlicopa cf. lubricella	Moss snail			
Deroceras laeve	Marsh slug			
Deroceras reticulatum	Field slug			
Discus rotundatus	Rounded snail			
Galba truncatula	Dwarf pond snail			
Helicella itala	Heath snail			
Helix aspersa	Garden snail			
Lauria cylindracea	Common chrysalis snail			
Lehmannia marginata	Tree slug		X 7	2
Margaritifera margaritifera	Freshwater pearl mussel	•	V	3
Milax gagates	Jet slug			

Myosotella myosotis	Mouse eared snail		
Nesovitrea hammonis	Rayed glass snail		
Oxychilus alliarius	Garlic snail		
Oxychilus cellarius	Cellar snail		
Pisidium nitidum	A pea mussel		
Pisidium obtusale	A pea mussel		
Pisidium personatum	A pea mussel		
Pisidium subtruncatum	A pea mussel		
Potamopyrgus antipodarum	Jenkins's spire snail		
Radix balthica	Common pond snail		
Tandonia budapestensis	Budapest slug		
Tandonia sowerbyi	Keeled slug		
Trochulus hispidus	Hairy snail		
Trochulus striolatus	Strawberry snail		
Vallonia cf. excentrica	Eccentric grass snail		
Vertigo (Vertigo) pygmaea	Common whorl snail		
Vitrea contracta	Milky crystal snail		
Vitrina pellucida	Pellucid glass snail		

Plants

Species	
Abies alba	European silver fir
Acer pseudoplatanus	Sycamore
Achillea millefolium	Yarrow
Aegopodium podagraria	Ground elder
Aethusa cynapium	Fool's parsley
Agrimonia eupatoria	Common agrimony
Agrimonia procera	Fragrant agrimony
Agrostis capillaris	Common bent grass
Agrostis stolonifera	Creeping bent grass
Aira caryophyllea	Silver hair grass
Aira praecox	Yellow hair grass
Ajuga reptans	Bugle
Allium triquetrum	Three-cornered leek
Allium ursinum	Wild garlic
Allium vineale	Crow garlic
Alnus glutinosa	Black alder
Alopecurus geniculatus	Marsh foxtail
Alopecurus pratensis	Meadow foxtail
Anagallis arvensis	Scarlet pimpernel
Anagallis arvensis subsp. arvensis	

Anagallis tenella	Bog pimpernel
Angelica sylvestris	Wild angelica
Anthoxanthum odoratum	Sweet vernal grass
Anthriscus sylvestris	Cow parsley
Anthyllis vulneraria	Kidney vetch
Anthyllis vulneraria subsp. lapponica	
Antirrhinum majus	Snap dragon
Aphanes arvensis agg.	Parsley-piert
Aphanes australis	Slender parsley piert
Apium nodiflorum	Fool's watercress
Aquilegia vulgaris	Colombine
Arabidopsis thaliana	Thale cress
Arctium nemorosum	Wood burdock
Armeria maritima	Thrift/sea pink
Arrhenatherum elatius	False oat grass
Arrhenatherum elatius var. bulbosum	Onion couch
Arum maculatum	Lords and ladies
Asplenium adiantum-nigrum	Black spleenwort
Asplenium marinum	Sea spleenwort
Asplenium ruta-muraria	Wall-rue
Asplenium trichomanes	Maiden hair spleenwort
Asplenium trichomanes subsp. quadrivalens	
Aster tripolium	Sea aster
Athyrium filix-femina	Lady-fern
Atriplex glabriuscula	Babington's orache
Atriplex patula	Common orache
Atriplex prostrata	Spear-leaved orache
Barbarea vulgaris	Winter cress
Bellis perennis	Daisy
Beta vulgaris	Root beet
Beta vulgaris subsp. maritima	Sea beet
Betula pubescens	Downy birch
Blechnum spicant	Hard fern
Brachypodium sylvaticum	Wood false-brome
Brassica rapa	
Brassica rapa subsp. campestris	Wild turnip
Bromus hordeaceus	Soft brome
Callitriche stagnalis sens. lat.	Common water-starwort
Calystegia sepium	Bindweed
Calystegia sepium subsp. sepium	Hedge bindweed

Capsella bursa-pastoris	Shepard's purse
Cardamine flexuosa	Wavy bittercress
Cardamine hirsuta	Hairy bittercress
Cardamine pratensis	Cuckoo flower
Carex arenaria	Sand sedge
Carex divulsa	Grey sedge
Carex divulsa subsp. divulsa	
Carex echinata	Star edge
Carex flacca	Glaucus sedge
Carex nigra	Common sedge
Carex ovalis	Oval sedge
Carex panicea	Carnation sedge
Carex paniculata	Greater tussock sedge
Carex pendula	Pendulous sedge
Carex punctata	Dotted sedge
Carex remota	Remote sedge
Carex sylvatica	Wood sedge
Carex viridula	Yellow sedge
Carex viridula subsp. oedocarpa	Common yellow-sedge
Castanea sativa	Sweet chestnut
Centaurea nigra	Knapweed
Centaurium erythraea	Common centuary
Centranthus ruber	Red valerian
Cerastium diffusum	Sea mouse-ear
Cerastium fontanum	Common mouse-ear
Cerastium glomeratum	Sticky mouse-ear
Ceterach officinarum	Rusty-back fern
Chamerion angustifolium	Rosebay willowherb
Chenopodium album	Fat-hen
Circaea lutetiana	Enchanter's nightshade
Cirsium arvense	Creeping thistle
Cirsium dissectum	Meadow thistle
Cirsium palustre	Marsh thistle
Cirsium vulgare	Spear thistle
Clematis vitalba	Traveller's-joy
Cochlearia danica	Danish scurvygrass
Cochlearia officinalis sens. lat.	Common scurvy-grass
Conium maculatum	Hemlock
Conopodium majus	Pignut
Convolvulus arvensis	Bindweed

Coronopus didymus	Lesser swine-cress
Corylus avellana	Hazel
Cotoneaster sp.	Cotoneaster
Cotoneaster sternianus	Cotoneaster
Crataegus monogyna	Hawthorn
Crepis capillaris	Smooth hawk's-beard
Crepis paludosa	Marsh hawk's beard
Crithmum maritimum	Rock samphire
Crocosmia x crocosmiiflora	Monbretia
Cymbalaria muralis	Ivy-leaved toadflax
Cymbalaria muralis subsp. muralis	Ivy-leaved toadflax
Cynosurus cristatus	Crested dog's tail
Dactylis glomerata	Cocksfoot
Dactylorhiza majalis	Western marsh orchid
Danthonia decumbens	Heath grass
Daucus carota	Wild carrot
Daucus carota subsp. carota	
Deschampsia cespitosa	Tufted hairgrass
Deschampsia cespitosa subsp. cespitosa	
Digitalis purpurea	Fox glove
Dryopteris aemula	Hay-scented buckler fern
Dryopteris affinis	Scaly male fern
Dryopteris dilatata	Broad buckler fern
Dryopteris filix-mas	Male-fern
Elytrigia juncea	Sand couch
Elytrigia repens	Couch
Epilobium ciliatum	American willowherb
Epilobium hirsutum	Willowherb
Epilobium montanum	Broad-leaved willowherb
Epilobium obscurum	Short-fruited willowherb
Epilobium palustre	Water willowherb
Epilobium parviflorum	Hoary willowherb
Equisetum arvense	Field horsetail
Equisetum fluviatile	Water horsetail
Equisetum telmateia	Great horsetail
Equisetum x trachyodon	
Erica cinerea	Bell heather
Erica tetralix	Cross-leaved heath
Erigeron karvinskianus	Mexican fleabean
Eriophorum angustifolium	Common cottongrass

Euonymus europaeus	Spindle
Eupatorium cannabinum	Hemp agrimony
Euphorbia helioscopia	Sea spurge
Euphorbia peplus	Petty surge
Euphorbia portlandica	Spurge
Euphrasia officinalis agg.	Eyebright
Euphrasia tetraquetra	Eyebright
Fagus sylvatica	Beech
Fallopia convolvulus	Black bindweed
Fallopia japonica	Japanese knotweed
Festuca ovina	Sheep's fescue
Festuca ovina agg.	
Festuca ovina subsp. ovina	
Festuca rubra agg.	Red fescue
Filipendula ulmaria	Meadowsweet
Fragaria vesca	Wild strawberry
Fraxinus excelsior	Ash
Fumaria muralis	Fumitory
Fumaria muralis subsp. boraei	
Galanthus nivalis	Snowdrop
Galeopsis tetrahit	Common hemp-nettle
Galeopsis tetrahit agg.	
Galium aparine	Cleavers
Galium palustre	Marsh bedstraw
Galium palustre subsp. palustre	
Galium verum	Ladies bedstraw
Geranium dissectum	Cranesbill
Geranium molle	Dove's foot cranesbill
Geranium robertianum	Herb robert
Geum urbanum	Wood avens
Glechoma hederacea	Ground ivy
Glyceria fluitans	Floating sweet-grass
Gnaphalium uliginosum	Marsh cudweed
Hebe x franciscana	Hedge veronica
Hedera helix	Ivy
Hedera helix subsp. hibernica	
Heracleum sphondylium	Hogweed
Hesperis matronalis	Dame's violet
Holcus lanatus	Yorkshire fog
Holcus mollis	Creeping softgrass

Honckenya peploides	Sea sandwort
Hyacinthoides non-scripta	Bluebell
Hydrocotyle vulgaris	Marsh pennywort
Hypericum androsaemum	Tutsan
Hypericum elodes	Marsh St. John's wort
Hypericum humifusum	St. John's wort
Hypericum pulchrum	Slender St. John's wort
Hypericum tetrapterum	Square-stalked St. John's wort
Hypochaeris radicata	Cat's ear
Ilex aquifolium	Holly
Iris pseudacorus	Yellow Iris
Isolepis setacea	Bristle club-rush
Jasione montana	Sheep's-bit
Juncus acutiflorus	Sharp-flowered rush
Juncus articulatus	Jointed rush
Juncus bufonius	Toad rush
Juncus bufonius sens. lat.	
Juncus bulbosus	Bulbous rush
Juncus conglomeratus	Compact rush
Juncus effusus	Soft-rush
Lamium purpureum	Red dead-nettle
Lapsana communis	Nipplewort
Lapsana communis subsp. communis	
Lathyrus linifolius	Broad-leaved everlasting-pea
Lathyrus pratensis	Meadow vetchling
Lemna minor	Common duckweed
Leontodon autumnalis	Autumn hawkbit
Leontodon hispidus	Rough hawkbit
Lepidium heterophyllum	Smith's pepperwort
Leucanthemum vulgare	Oxeye daisy
Leycesteria formosa	Hymalayan honeysuckle
Ligustrum vulgare	Wild privet
Linaria purpurea	Purple toad-flax
Lolium perenne	Perennial rye-grass
Lonicera nitida	Wilson's honeysuckle
Lonicera periclymenum	Honeysuckle
Lotus corniculatus	Common bird's-foot trefoil
Lotus pedunculatus	Greater bird's-foot trefoil
Luzula campestris	Field wood-rush
Luzula multiflora	Heath wood-rush

Luzula multiflora subsp. congesta	
Luzula sylvatica	Great wood-rush
Lychnis flos-cuculi	Ragged robin
Lysimachia nemorum	Yellow pimpernel
Lysimachia nummularia	Creeping-jenny
Lythrum salicaria	Yellow loosestrife
Malus domestica	Apple
Malus sylvestris sens. lat.	
Malva moschata	Musk-mallow
Malva sylvestris	Common mallow
Matricaria discoidea	Pineappleweed
Medicago lupulina	Black medick
Melissa officinalis	Balm
Mentha aquatica	Water mint
Mentha suaveolens	Round-leaved mint
Molinia caerulea	Purple moor-grass
Montia fontana	Blinks
Myosotis arvensis	Field forget-me-not
Myosotis discolor	Changing forget-me-not
Myosotis laxa	Tufted forget-me-not
Myosotis secunda	Creeping forget-me-not
Narcissus agg.	Daffodils
Narcissus pseudonarcissus subsp. pseudonarcissus	Daffodil
Odontites vernus	Red bartsia
Oenanthe crocata	Hemlock water-dropwort
Oenothera agg.	Evening primrose
Oenothera glazioviana x biennis x cambrica	
Ornithogalum angustifolium	Star-of-bethlehem
Orobanche hederae	Ivy broomrape
Papaver dubium	Long-headed poppy
Papaver dubium subsp. lecoqii	Yellow-juiced poppy
Papaver rhoeas	Common poppy
Papaver somniferum	Opium poppy
Parietaria judaica	Pellitory-of-the-wall
Parthenocissus quinquefolia	Virginia creeper
Pedicularis sylvatica	Lousewort
Pedicularis sylvatica subsp. sylvatica	
Persicaria hydropiper	Water-pepper
Persicaria lapathifolia	Pale persicaria
Persicaria maculosa	Redshank

Petasites fragrans	Winter heliotrope
Petasites hybridus	Butterbur
Phalaris arundinacea	Reed canary-grass
Phleum bertolonii	Smaller cat's-tail
Phleum pratense	Timothy
Phleum pratense sens. lat.	
Phyllitis scolopendrium	Hart's-tongue fern
Pilosella officinarum	Mouse-ear-hawkweed
Pimpinella saxifraga	Burnet-saxifrage
Plantago coronopus	Buck's-horn plantain
Plantago lanceolata	Ribwort plantain
Plantago major	Greater platain
Plantago major subsp. major	
Plantago maritima	Sea plantain
Poa annua	Annual meadow-grass
Poa pratensis	Smooth meadow-grass
Poa pratensis sens. lat.	
Poa trivialis	Rough meadow-grass
Polygala serpyllifolia	Heath milkwort
Polygala vulgaris	Common milkwort
Polygonum aviculare	Knotgrass
Polygonum aviculare agg.	
Polypodium cambricum	Southern polypody
Polypodium interjectum	Intermediate polypody
Polypodium vulgare	Polypody
Polypodium vulgare sens. lat.	
Polypodium x mantoniae	
Polystichum setiferum	Soft-shield-fern
Populus tremula	Aspen
Populus x canadensis	Hybrid Black-poplar
Populus x canescens	Grey poplar
Potamogeton polygonifolius	Bog pondweed
Potentilla anglica	Trailing tormentil
Potentilla anserina	Silverweed
Potentilla erecta	Tormentil
Potentilla reptans	Creeping cinquefoil
Potentilla sterilis	Barren strawberry
Primula vulgaris	Primrose
Prunella vulgaris	Selfheal
Prunus laurocerasus	Cherry laurel

Prunus spinosa	Blackthorn
Pseudofumaria lutea	Yellow corydalis
Pteridium aquilinum	Bracken
Pulicaria dysenterica	Fleabane
Quercus petraea	Sessile Oak
Quercus robur	Pedunculate Oak
Quercus x rosacea	
Ranunculus acris	Meadow buttercup
Ranunculus arvensis	Corn buttercup
Ranunculus bulbosus	Bulbous buttercup
Ranunculus ficaria	Lesser celandine
Ranunculus ficaria subsp. ficaria	
Ranunculus flammula	Lesser spearwort
Ranunculus omiophyllus	Round-leaved crowfoot
Ranunculus penicillatus	Stream water-crowfoot
Ranunculus penicillatus subsp. penicillatus	
Ranunculus repens	Creeping buttercup
Ranunculus subg. Batrachium	
Raphanus raphanistrum	Wild radish
Raphanus raphanistrum subsp. maritimus	Sea radish
Rhinanthus minor	Yellow rattle
Rorippa nasturtium-aquaticum	Water-cress
Rorippa nasturtium-aquaticum agg.	
Rosa arvensis	Field-rose
Rosa canina	Dog-rose
Rosa canina agg.	
Rosa sherardii	Sherard's downy-rose
Rosa spinosissima	
Rubia peregrina	Wild madder
Rubus botryeros	
Rubus cinerosus	
Rubus dentatifolius	
Rubus dumnoniensis	
Rubus fruticosus agg.	Bramble
Rubus nemorosus	
Rubus plymensis	
Rubus polyanthemus	
Rubus ulmifolius	
Rubus vestitus	
Rumex acetosa	Common sorrel

Rumex acetosella	Sheep's sorrel
Rumex conglomeratus	Clushtered dock
Rumex crispus	Curled dock
Rumex crispus subsp. littoreus	
Rumex obtusifolius	Broad-leaved dock
Rumex sanguineus	Wood dock
Rumex x pratensis	
Rumex x schulzei	
Sagina procumbens	Procumbent pearlwort
Salix alba	White willow
Salix aurita	Eared willow
Salix cinerea	
Salix cinerea subsp. oleifolia	Grey willow
Salix fragilis	Crack-willow
Salix repens	Creeping willow
Salix x multinervis	
Sambucus nigra	Elder
Samolus valerandi	Brookweed
Sanicula europaea	Sanicle
Saxifraga tridactylites	Rue-leaved saxifrage
Scrophularia auriculata	Water figwort
Scrophularia nodosa	Common figwort
Scutellaria minor	Lesser skullcap
Sedum album	White stonecrop
Sedum anglicum	English stonecrop
Senecio aquaticus	Marsh ragwort
Senecio jacobaea	Common ragwort
Senecio vulgaris	Groundsel
Silene uniflora	Sea campion
Silene vulgaris	Bladder campion
Silene vulgaris subsp. vulgaris	
Sinapis alba	White mustard
Sinapis arvensis	Charlock
Sisymbrium officinale	Hedge mustard
Solidago virgaurea	Goldenrod
Sonchus arvensis	Perennial sow-thistle
Sonchus asper	Prickly sow-thistle
Sonchus oleraceus	Smooth sow-thistle
Spergula arvensis	Corn spurrey
Spergularia media	Greater sea-spurrey

Spergularia rupicola	Rock sea-spurrey
Stachys palustris	Marsh woundwort
Stachys sylvatica	Hedge woundwort
Stellaria graminea	Lesser stitchwort
Stellaria holostea	Greater stitchwort
Stellaria media	Common chickweed
Stellaria uliginosa	Bog stitchwort
Succisa pratensis	Devil's-bit scabious
Taraxacum agg.	Dandelion
Teucrium scorodonia	Wood sage
Thymus polytrichus	Wild thyme
Torilis japonica	Upright hedge-parsley
Trifolium dubium	Lesser trefoil
Trifolium pratense	Red clover
Trifolium repens	White clover
Triglochin palustre	Marsh arrowgrass
Tripleurospermum inodorum	Scentless mayweed
Tripleurospermum maritimum	Sea mayweed
Tussilago farfara	Colt's-foot
Typha latifolia	Bulrush
Ulex europaeus	Gorse
Ulex gallii	Western gorse
Ulmus glabra	Wych elm
Ulmus minor	Small-leaved elm
Umbilicus rupestris	Navelwort
Urtica dioica	Nettle
Valeriana officinalis	Common valerian
Valerianella carinata	Keeled-fruited cornsalad
Valerianella locusta	Common cornsalad
Verbascum thapsus	Great mullein
Veronica arvensis	Wall speedwell
Veronica beccabunga	Brooklime
Veronica chamaedrys	Germander speedwell
Veronica filiformis	Slender speedwell
Veronica hederifolia	Ivy-leaved speedwell
Veronica hederifolia subsp. hederifolia	
Veronica hederifolia subsp. lucorum	
Veronica montana	Wood speedwell
Veronica persica	Common field-speedwell
Veronica polita	Grey field-speedwell

Veronica scutellata	Marsh speedwell
Veronica serpyllifolia	Thyme-leaved speedwell
Veronica serpyllifolia subsp. serpyllifolia	
Viburnum tinus	Laurustinus
Vicia cracca	Tufted vetch
Vicia sativa	Common vetch
Vicia sativa subsp. segetalis	
Viola riviniana	Dog violet
Vicia sepium	Bush vetch