

Annex 1: List of the national and local forest laws and administrative requirements

National laws

Legislation	Potential Impact
Wildlife Acts, 1976 and 1999 Wildlife Amendment Act, 2000 Flora (Protection) Order, 1999	Flora, fauna, environment and forest management
Forestry Acts, 1946, Forestry 1946 (Part IV) Regulations 1949, Forestry Act 1956 (repealed by Wildlife (Amendment) Act, 2000), and 1988	Forest management
Local Government (Planning and Development) Acts, 1963 to 1999	Control of development and forest management
Planning and Development Act, 2000 Commencement (No. 3) Order, 2001 S.I. No. 599 of 2001. Planning and Development Regulations, 2001 S.I. No. 600 of 2001.	Control of development and forest management
National Monuments Acts and amendments, 1930 to 1994 (Including Approval of Consent (1) Order, 1995)	Forest management
Occupiers Liability Act, 1995	Forest management
Safety Health and Welfare at Work Act 2005. Safety Health and Welfare at Work - General Application Regulations, 1993 and Construction Regulations, 2001	Forest management both in forest and in office
Environmental Protection Agency Act, 1992	Forest management and environment
Heritage Act, 1995	Heritage protection
Local Government (Planning Development) Regulations - Environmental Impact Assessment – S.I. No. 100 of 1996	
European Communities (Environmental Impact Assessment) (Amendment) Regulations, 1996. S.I. No. 101 of 1996.	
Local Government (Water Pollution) Acts, 1977 to 1990	Forest management and environment
European Communities (Environmental Impact Assessment) (Amendment) Regulations, 2001. S.I. No. 538 of 2001.	
Waste Management Act, 1996	Forest management and environment
Local Government (Special Amenity and Conservation Orders) Act, 1976	
Litter pollution Act, 1997	Forest management and environment
Occupiers Liability Act 1995	Forest Management
Roads Act, 1993	Haulage
Road Transport Acts, 1932 to 1999	Haulage
Employment Legislation	
Transport Legislation	
S.I. No. 618 of 2002, European Communities (Marketing of Forest Reproductive Material)	

Legislation	Potential Impact
Regulations 2002	
S.I. No. 894 of 2004, European Communities (Control of Organisms Harmful to Plants and Plant Products) Regulations 2004	
S.I. No. 168 of 2006, European Communities (Environmental Impact Assessment) (Forestry Consent System) (Amendment) Regulations 2006	
S.I. No. 592 of 2006, European Communities (Aerial Fertilisation) (Forestry) Regulations 2006	
S.I. No. 790 of 2007, European Communities (Aerial Fertilisation) (Forestry) (Amendment) Regulations 2007	
S.I. No. 14/1959: FISHERIES (CONSOLIDATION) ACT, 1959	Fisheries protection and conservation measures (including pollution to fisheries).

European (EU) laws pertinent to forest management in Ireland:

Legislation	Potential Impact
Council Directive (92/43/EEC) and amending directives on the conservation of natural habitats of wild fauna and flora ("Habitats Directive")	Flora and fauna and forest management. Established Natura 2000 sites – special protection areas (such as SAC's, SPA)
Council Directive (79/409/EEC) and amending directives on the conservation of wild birds ("Bird's Directive")	Wild birds and forest management
EU (Conservation of Wild Birds) (Amendment) Regulations, 1999	
European Communities (Natural Habitats) Regulations, 1997	
European Communities (Natural Habitats) (Amendment) Regulations, 1998	
Council Directive (2000/60/EC) establishing a framework for community action in the field of water policy	Forest management and the environment
Council Directive (2000/29/EC) on protective measures against the introduction into the Community of organisms harmful to plants or plant products and against their spread within the Community	Forest protection
Council Directive 71/161/EEC on external quality standards for forest reproductive material marketed within the Community	Source: http://www.agriculture.gov.ie/forests-service/forestry-legislation/
Council Directive (1999/105/EC) on the marketing of forest reproductive material	Marketing of trees and plants
Environmental Impact Assessment Council Directive (85/337/EEC) and amending directives on the assessment of the effects of certain public and private projects on the environment and Directive 97/11/EEC	Environmental Impact Assessment Control of development

Legislation	Potential Impact
EU Water Framework Directive (Directive 2000/60/EC)	Water
Council Regulation (EEC3528/86) on the protection of forests against atmospheric pollution	Environment
EU Strategic Environmental Assessment Directive (Directive 2001/42/EC)	Environment

Information in the above tables was derived from Maguire, 2001, and McHugh and Gallagher, 2004, and Department of Agriculture, Fisheries and Food. Website:

<http://www.agriculture.gov.ie/forests/forestrylegislation/>

Best Practice Guidelines affecting forestry In Ireland

National Forest Standard	Forest Service	Required*
Code of Best Forest Practice	Forest Service	Required*
Forestry Schemes Manual	Forest Service	Required
Forest and Water Quality Guidelines	Forest Service	Required*
Forest and Archaeology Guidelines	Forest Service	Required*
Forest Biodiversity Guidelines	Forest Service	Required*
Forest Harvesting and Environmental Guidelines	Forest Service	Required*
Forest Protection Guidelines	Forest Service	Required*
Aerial Fertilisation Requirements	Forest Service	Required*
Forestry and Freshwater Pearl Mussel Requirements	Forest Service	Required
Forest and Landscape Guidelines	Forest Service	Required
Forest recreation in Ireland: A guide for owners and managers	Forest Service	Not Required
Native Woodland notes...	Woodlands of Ireland	Not Required
Habitat mapping	Heritage Council	Not Required

* Compliance with these publications is mandatory for all forestry activities that require prior written approval, or a license, from the Forest Service.

Annex 2: List of all legally prescribed fees, royalties, taxes and other charges relating to forestry enterprises

Income Tax

Profits or gains from the commercial occupation of woodlands in the State are exempt from income tax under Section 232 TCA, 1997.

Source: Revenue Commissioners at <http://www.revenue.ie/en/tax/it/reliefs/exempt-income.html#section3>

Dividends paid by corporations out of exempt woodland income are exempt income to the recipients.

Source: Derry O'Hegarty, http://www.forestryyearbook.ie/articles/yb_article_7.pdf

Specified Reliefs

Section 17 Finance Act, 2006 and section 18 Finance Act, 2007 provide, with effect from 1 January 2007, for measures to limit the use of certain tax reliefs and exemptions by high-income individuals. Further information is available from the Revenue Commissioner within the following document

Source: Revenue Commissioners at <http://www.revenue.ie/en/about/foi/s16/income-tax-capital-gains-tax-and-corporation-tax/part-15/15-02a-01.pdf>.

Income Levies

All individuals are liable to pay the income levy if their gross income exceeds the threshold of €15,028 p.a., or if they exceed the income exemption limit of €20,000 p.a. for an individual aged 65 or over.

Similarly an individual whose income consists of exempt source income including certain woodlands will be subject to levy on any or all income sources.

Source: Revenue Commissioners at www.revenue.ie/en/practitioner/law/income-levy.pdf and <http://www.revenue.ie/en/press/budget/2009/supplementary/income-levy.html>

Pay Related Social Insurance (PRSI)

Income from commercial woodlands including the forest premium is reckoned for the purpose of PRSI.

Source: Derry O'Hegarty, http://www.forestryyearbook.ie/articles/yb_article_7.pdf

Capital Gains Tax (CGT)

Gains arising from felled timber are exempt from Capital Gains Tax. The underlying land is not exempt but chargeable gains are restricted to the surplus over inflation adjusted cost. CGT is not applicable to a disposal on death. The exemption does not apply to corporations which occupy woodlands. Capital sums received by individuals under a policy of insurance in respect of damage or destruction to trees are exempt from Capital Gains Tax.

Sources:

Derry O'Hegarty, http://www.forestryyearbook.ie/articles/yb_article_7.pdf

Department of Agriculture, Fisheries and Food (DAFF):

<http://www.agriculture.gov.ie/media/migration/forestry/publications/growingforthefuture/ApE.pdf>

Capital Acquisitions (Inheritance and Gift) Tax (CAT)

Commercial woodlands in the State are subject to CAT on gifts to, or inheritance by, individuals regardless of the residence or domicile of the donor and beneficiary. In addition to specified

exempt thresholds, relief is available to commercial woodlands as agricultural property. From 23rd of January, 1997 the relief as a reduction in market value is as follows:

- A flat rate reduction of 90% applies to both inter-vivos gifts and inheritance of commercial woodlands.
- All gifts and inheritance between husband and wife are exempt from CAT and Probate Tax.

Source: Derry O'Hegarty, http://www.forestryyearbook.ie/articles/yb_article_7.pdf

Value Added Tax (VAT) may be reclaimable

Forestry, for VAT purposes, is regarded as agricultural production. As such it is exempt from VAT. However the exemption may be waived allowing the woodland occupier to recover VAT on all the inputs of goods and services supplied. Once registered for VAT the woodland occupier will be liable for VAT on all taxable goods and services including sales of timber.

Sources: Derry O'Hegarty, http://www.forestryyearbook.ie/articles/yb_article_7.pdf;

Department of Agriculture, Fisheries and Food (DAFF):

<http://www.agriculture.gov.ie/media/migration/forestry/publications/growingforthefuture/ApE.pdf>

Stamp Duty

For commercial woodlands duty is not chargeable on the value of the trees growing on the land. However Stamp duty is chargeable on the underlying lands. (Section 95, Guidance Notes - Stamp Duties Consolidation Act, 1999.)

Source: Revenue Commissioners at <http://www.revenue.ie/en/tax/stamp-duty/reliefs-exemptions.html>

Keeping of records

The Finance Act, 2003 provides that from 1 January 2004 the profits or gains from the occupation of woodlands must be included in a tax return even though the current tax exemptions will continue. Revenue rules for the keeping of records and having them available for inspection by the Revenue will apply.

Source: Derry O'Hegarty, http://www.forestryyearbook.ie/articles/yb_article_7.pdf

Further information is available from the following websites:

http://www.woodland.ie/incentives_taxation.htm and in the ITGA (Irish Timber Growers Association) Yearbook (website: www.itga.ie)

Annex 3: Identified conflicts between laws, regulations and the FSC Principles and Criteria

| ~~Text to be agreed by FSC Ireland Steering Committee.~~

Annex 4: List of all binding international agreements such as CITES, ILO Conventions, ITTA, and Convention on Biological Diversity

International agreements and protocols pertinent to forest management in Ireland:

a. International Labour Organisation (ILO) Conventions

- **Freedom of Organization**
 - Convention 87 on Freedom of Association and Protection of the Right to Organise, 1948
 - Convention 98 on the Right to Organise and Collective Bargaining, 1949
 - Convention 141 Rural Workers' Organizations Convention, 1975
- **Abolition of Forced Labour**
 - Convention 29 on Forced Labour, 1930
 - Convention 105 on Abolition of Forced Labour, 1957
- **Equal Rights / No Discrimination**
 - Convention 100 on Equal Remuneration, 1951
 - Convention 111 on Discrimination (Employment and Occupation), 1958
- **Child Labour**
 - Convention 138 on Minimum Age for Admission to Employment, 1973
 - Convention 182 Worst Forms of Child Labour Convention, 1999
- **Migrant Workers**
 - Convention 97 Migration for Employment (Revised) Convention, 1949
 - Convention 143 Migrant Workers (Supplementary Provisions) Convention. 1975
- **Wages**
 - Convention 131 Minimum Wage Fixing Convention, 1970
- **Vocational Guidance and Training**
 - Convention 142 Human Resources Development Convention, 1975
- **Occupational Safety and Health**
 - Convention 155 Occupational Safety and Health Convention, 1981
 - OECD Scheme for the Certification of Forest Reproductive Material Moving in International Trade, 2007
- **Indigenous and Tribal Peoples**
 - Convention 169 Indigenous and Tribal Peoples Convention, 1989

ILO Code of Practice on Safety and Health in Forestry Work (ILO 1998)

Recommendation 135 Minimum Wage Fixing Recommendation, 1970.

Sources:

FSC Guidance Document

ILOLEX Database of International Labour Standards:

<http://www.ilo.org/ilolex/english/convdisp1.htm>

b. International Agreements

Ireland has signed the following international agreements, among others:

- the Bern Convention of 1979 for the preservation of Europe's wild animals and native plants and their natural habitats;
- the United Nations Convention on Biological Diversity of Rio de Janeiro of June 5, 1992, concerning biological diversity;
- the Bonn Convention of June 23, 1979, for the preservation of migrating wild animal species;
- the Washington Convention on International Trade in Endangered Species (CITES) of March 3, 1973, concerning the international trade in endangered species of wild animals and plants.
- the Ramsar Convention on Wetlands, 1971 - an intergovernmental treaty which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. There are 45 Ramsar sites in Ireland.
- the Kyoto Protocol, negotiated by more than 160 nations in December 1997, aims to reduce net emissions of certain greenhouse gases (primarily carbon dioxide (CO₂)).
- the International Tropical Timber Agreement of 1994 which seeks to improve the international market conditions for sustainably grown tropical timber.
- the Helsinki Protocols resulting from the Ministerial Conference for Protection of Forests in Europe, 1993.
- the Lisbon Protocols resulting from the Ministerial Conference for Protection of Forests in Europe, 1998.
- The Vienna Protocols resulting from the Ministerial Conference for Protection of Forests in Europe, 2002.
- The United Nations Framework Convention on Climate Change in 1992.
- Convention Concerning the Protection of the World Cultural and Natural Heritage, Paris, 1972
- the Aarhus Convention
- the European Landscape Convention, 2000.
- the OECD Scheme for the Control of Forest Reproductive Material moving in International Trade, 1972 (Source: DAFF: <http://www.agriculture.gov.ie/forests/forestrylegislation/>)
- Protection of the World Cultural and Natural Heritage (1972) (Source: DAFF: <http://www.agriculture.gov.ie/forests/forestrylegislation/>)

Further information is available from the following websites:

CITES – www.cites.org/eng/disc/text.shtml

ILO – www.ilo.org/ilolex/english/convdisp1.htm

Convention on Biological Diversity - www.biodiv.org/biosafety/protocol.asp

Annex 5: List of, or reference to, official lists of endangered species and habitats in Ireland

Checklist of protected & rare species in Ireland

This list includes both legally protected species and those considered rare, but which don't have a protected status. The list is regularly updated and available for download at <http://www.npws.ie/en/media/Media,6699,en.pdf>

This data is reproduced under the data use guidelines of the National Parks and Wildlife Service as detailed at <http://www.npws.ie/en/DataPolicy/> and with the permission of the originator.

Key to Tables:

EU Directives

EU HD	EU Habitats Directive [Council Directive 92/43/EEC]
	II Annex II animal & plant species
	IV Annex IV animal & plant species
	V Annex V animal & plant species

EU BD	EU Birds Directive [Council Directive 79/409/EEC]
	I Annex I bird species
	II(I) Annex II, section I bird species
	II(II) Annex II, section II bird species
	III(I) Annex III, section I bird species
	III(II) Annex III, section II bird species
	III(III) Annex III, section III bird species

National legislation

WA	Wildlife Act, 1976 & Wildlife (Amendment) Act, 2000
FPO	Flora (Protection) Order, 1999 [SI 94/1999]

Published National Red Lists*

Plant Red Lists^{1, 2}

Ex	Extinct
E	Endangered
V	Vulnerable
R	Rare
I	Indeterminate (E,V or R, but not enough information available to say which)
K	Insufficiently known
DD	Data deficient

Vertebrate Red List³

Ex	Extinct
V	Vulnerable
R	Rare
I	Indeterminate (E,V or R, but not enough information available to say which)
II	Internationally important IUCN (2001)

Red List ^{4, 5}	
RE	Regionally Extinct
CR	Critically Endangered
EN	Endangered
VU	Vulnerable
NT	Near threatened
DD	Data deficient

Birds of Conservation Concern in Ireland (BoCCI)⁶
 BD Red
 BD Amber

* Many national red lists are under review, to bring them into line with the IUCN 2001 criteria & categories⁷, and the IUCN guidance on regional red listing⁸.

References

- ¹ Curtis, T. G. F. & McGough, H. N. (1988) The Irish Red Data Book 1: Vascular Plants. Dublin: Stationery Office
- ² Stewart, N. F. & Church, J. M. (1992) Red Data Books of Britain & Ireland: Stoneworts. Peterborough: JNCC.
- ³ Whilde, T. (1993) The Irish Red Data Book 2: Vertebrates: Threatened Mammals, Birds, Amphibians and Fish in Ireland. Belfast: H.M.S.O.
- ⁴ Fitzpatrick, Ú., Murray, T. E., Byrne, A., Paxton, R. J. & Brown, M. J. F. (2006) Regional Red List of Irish Bees. Report to National Parks & Wildlife Service (Ireland) and Environment & Heritage Service (N. Ireland). <http://www.npws.ie/en/media/Media,4860,en.pdf>
- ⁵ Foster, G. N., Nelson, B. H. & O Connor, Á. (2008) *Ireland Red List No. 1 – Water beetles*. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.
- ⁶ BirdWatch Ireland & RSPB NI (2008) Birds of Conservation Concern in Ireland – BoCCI. <http://www.birdwatchireland.ie/Default.aspx?tabid=178>
- ⁷ IUCN (2001) IUCN Red List Categories and Criteria. Version 3.1. IUCN, Gland, Switzerland and Cambridge, UK.
- ⁸ IUCN (2003) Guidelines for application of IUCN Red List criteria at regional levels. Version 3.0. Species Survival Commission. IUCN, Gland, Switzerland and Cambridge, UK.

PLANTS, ALGAE & LICHENS Angiosperms (Flowering plants)

Species		EU HD	FPO	Plant Red
<i>Adoxa moschatellina</i>				V
<i>Luronium natans</i>	Floating Water-Plantain	II		
<i>Allium schoenoprasum</i>	Chives		✓	R
<i>Asparagus officinalis</i> ssp. <i>prostrata</i>	Wild Asparagus		✓	R
<i>Simethis planifolia</i>	Kerry Lily		✓	V
<i>Mertensia maritima</i>	Oyster Plant		✓	R
<i>Callitriche truncata</i>	Short-leaved Water-Starwort		✓	R
<i>Campanula trachelium</i>	Bats-in-the-Belfry			V
<i>Arenaria norvegica</i>				DD
<i>Agrostemma githago</i>				Ex
<i>Arenaria ciliata</i>	Fringed Sandwort		✓	R
<i>Minuartia recurva</i>	Recurved Sandwort		✓	R
<i>Silene acaulis</i>				R

Species		EU HD	FPO	Plant Red
<i>Arthrocnemum perenne</i>	Perennial Glasswort		✓	V
<i>Helianthemum canum</i>	Hoary Rock-rose			R
<i>Helianthemum nummularium</i>	Common Rockrose		✓	R
<i>Tuberaria guttata</i>				R
<i>Colchicum autumnale</i>	Autumn Crocus			E
<i>Carduus nutans</i>				DD
<i>Hypochoeris glabra</i>				DD
<i>Otanthus maritimus</i>	Cottonweed		✓	E
<i>Anthemis arvensis</i>				Ex
<i>Serratula tinctoria</i>				Ex
<i>Cirsium helenioides</i>				R
<i>Logfia minima</i>	Slender Cudweed		✓	R
<i>Omalotheca sylvatica</i>	Wood Cudweed		✓	R
<i>Saussurea alpina</i>	Alpine Saussurea			R
<i>Taraxacum gotlandicum</i>				R
<i>Erigeron acer</i>				V
<i>Inula salicina</i>	Irish Fleabane		✓	V
<i>Matthiola sinuata</i>				Ex
<i>Cardamine amara</i>				R
<i>Cardamine impatiens</i>	Narrow leaved Bitter-Cress		✓	R
<i>Cardaminopsis petraea</i>	Northern Rockcress		✓	R
<i>Draba incana</i>				R
<i>Rorippa islandica</i>	Marsh Yellowcress			R
<i>Teesdalia nudicaulis</i>				R
<i>Carex divisa</i>	Divided Sedge		✓	Ex
<i>Centaurea cyanus</i>				Ex
<i>Carex depauperata</i>	Starved Wood Sedge		✓	R
<i>Carex magellanica</i>				R
<i>Eriophorum gracile</i>	Slender Cotton Grass		✓	R
<i>Carex pauciflora</i>				V
<i>Centaurium littorale</i>				V
<i>Eleocharis parvula</i>				V
<i>Scirpus triquetus</i>	Triangular Club Rush		✓	V
<i>Elatine hydropiper</i>				R
<i>Orthilia secunda</i>				E
<i>Erica mackaiana</i>				R
<i>Monotropa hypopitys</i>				R
<i>Pyrola media</i>				R
<i>Pyrola rotundifolia</i> ssp. <i>maritima</i>	Round-leaved Wintergreen		✓	R
<i>Pyrola rotundifolia</i> ssp. <i>rotundifolia</i>				R
<i>Erica ciliaris</i>	Dorset Heath			V
<i>Erica vagans</i>				V
<i>Euphorbia peplis</i>				Ex
<i>Centaurium pulchellum</i>	Lesser Centaury		✓	V
<i>Geranium purpureum</i>	Little Robin Cranesbill			V
<i>Geranium rotundifolium</i>				V
<i>Geranium sylvaticum</i>				V
<i>Geranium pratense</i>				Y
<i>Hypericum canadense</i>	Canadian St. John's Wort		✓	R
<i>Hypericum hirsutum</i>	Hairy St. John's Wort		✓	V

Species		EU HD	FPO	Plant Red
<i>Hydrilla verticillata</i>	Irish Hydrilla		✓	V
<i>Scleranthus annuus</i>	Annual Knawel		✓	
<i>Juncus compressus</i>				R
<i>Scheuchzeria palustris</i>				Ex
<i>Ajuga pyramidalis</i>	Pyramidal Bugle			R
<i>Lamiastrum galeobdolon</i> ssp. <i>montanum</i>				R
<i>Salvia verbenaca</i>	Wild Clary			R
<i>Acinos arvensis</i>	Basil Thyme		✓	V
<i>Galeopsis angustifolia</i>	Red Hemp Nettle		✓	V
<i>Mentha pulegium</i>	Penny Royal		✓	V
<i>Stachys officinalis</i>	Betony		✓	V
<i>Lathyrus japonicus</i>	Sea pea		✓	DD
<i>Astragalus danicus</i>	Purple Milk Vetch		✓	R
<i>Lotus subbiflorus</i>	Hairy Birdsfoot Trefoil		✓	R
<i>Ornithopus perpusillus</i>	Birdsfoot			R
<i>Vicia lathyroides</i>				R
<i>Trifolium glomeratum</i>	Clustered Clover		✓	V
<i>Trifolium subterraneum</i>	Subterranean Clover		✓	V
<i>Vicia orobus</i>	Bitter Vetch		✓	V
<i>Najas flexilis</i>	Slender Naiad	II IV	✓	R
<i>Epilobium alsinifolium</i>	Chickweed Willow Herb		✓	R
<i>Hammarbya paludosa</i>	Bog Orchid		✓	R
<i>Spiranthes romanzoffiana</i>	Drooping Lady's Tresses		✓	R
<i>Cephalanthera longifolia</i>	Narrow-leaved Helleborine		✓	V
<i>Epipactis phyllanthes</i>	Green-flowered Helleborine			V
<i>Orchis morio</i>	Green-winged orchid			V
<i>Pseudorchis albida</i>	Small-white Orchid		✓	V
<i>Orobanche rapum-genistae</i>	Greater Broomrape			R
<i>Papaver hybridum</i>	Round Prickly-headed Poppy		✓	E
<i>Hordelymus europaeus</i>				DD
<i>Lolium temulentum</i>				Ex
<i>Bromus racemosus</i>				R
<i>Calamagrostis epigejos</i>	Wood small-reed		✓	R
<i>Deschampsia setacea</i>	Bog Hair Grass		✓	R
<i>Hierochloe odorata</i>				R
<i>Poa alpina</i>	Alpine Poa			R
<i>Poa palustris</i>				R
<i>Puccinellia fasciculata</i>	Tufted Salt-marsh Grass			R
<i>Calamagrostis sticta</i>				V
<i>Hordeum secalinum</i>	Meadow Barley		✓	V
<i>Alopecurus aequalis</i>	Orange Foxtail		✓	
<i>Polygonum viviparum</i>	Alpine Bistort		✓	DD
<i>Polygonum maritimum</i>	Sea Knotgrass			R
<i>Rumex maritimus</i>				R
<i>Groenlandia densa</i>	Opposite-leaved Pondweed		✓	V
<i>Hottonia palustris</i>	Water violet			R
<i>Ranunculus fluitans</i>				R
<i>Ranunculus tripartitus</i>	Three-lobed Water Crowfoot			R
<i>Trollius europaeus</i>	Globe Flower		✓	V
<i>Frangula alnus</i>				R

Species		EU HD	FPO	Plant Red
<i>Alchemilla alpina</i>				R
<i>Filipendula vulgaris</i>				R
<i>Potentilla fruticosa</i>				R
<i>Rubus chamaemorus</i>				V
<i>Sanguisorba officinalis</i>	Great Burnet		✓	V
<i>Salix phylicifolia</i>	Tea-leaved Willow			R
<i>Saxifraga granulata</i>	Meadow Saxifrage		✓	E
<i>Saxifraga hirculus</i>	Yellow Marsh Saxifrage	II IV	✓	E
<i>Saxifraga aizoides</i>				R
<i>Saxifraga hartii</i>	Hart's Saxifrage		✓	R
<i>Saxifraga nivalis</i>	Alpine Saxifrage		✓	R
<i>Saxifraga oppositifolia</i>				R
<i>Limosella aquatica</i>	Mudwort		✓	R
<i>Sibthorpia europaea</i>				R
<i>Kickxia elatine</i>	Fluellen			V
<i>Melampyrum sylvaticum</i>				V
<i>Misopates orontium</i>	Lesser Snapdragon		✓	V
<i>Scrophularia umbrosa</i>				V
<i>Hyoscyamus niger</i>	Henbane			R
<i>Scandix pecten-veneris</i>				Ex
<i>Ligusticum scoticum</i>				R
<i>Oenanthe pimpinelloides</i>	Water dropwort			R
<i>Viola persicifolia</i>				R
<i>Viola hirta</i>	Hairy Violet		✓	V
<i>Viola lactea</i>	Pale Heath Violet		✓	V

Pteridophytes (Ferns & Fern allies)

Species		EU HD	FPO	Plant Red
<i>Cryptogramma crispa</i>	Parsley Fern		✓	R
<i>Asplenium septentrionale</i>	Forked Spleenwort		✓	R
<i>Asplenium obovatum</i> subsp. <i>lanceolatum</i>	Lanceolate Spleenwort		✓	V
<i>Polystichum lonchitis</i>	Holly Fern			R
<i>Equisetum pratense</i>				R
<i>Equisetum X moorei</i>	Moore's Horsetail		✓	
<i>Trichomanes speciosum</i>	Killarney Fern	II IV	✓	R
<i>Lycopodiella inundata</i>	Marsh Clubmoss		✓	R
<i>Diphasiastrum alpinum</i>			V	
<i>Huperzia selago</i>			V	
<i>Lycopodium clavatum</i>			V	
<i>Pilularia globulifera</i>	Pillwort		✓	R
<i>Gymnocarpium dryopteris</i>	Oak Fern			V
<i>Gymnocarpium robertianum</i>	Limestone Fern		✓	V

Bryophytes (Mosses & Liverworts)

Species		EU HD	FPO
<i>Drepanocladus vernicosus</i>	Shining Sickle-Moss	II	✓
<i>Bryum calophyllum</i>			✓
<i>Bryum marratii</i>			✓
<i>Catoscopium nigratum</i>			✓
<i>Petalophyllum ralfsii</i>	Petalwort	II	✓
<i>Leucobryum glaucum</i>		V	
<i>Leiocolea gillmanii</i>			✓
<i>Leiocolea rutheana</i>	Fen flapwort		✓
<i>Paludella squarrosa</i>			✓
<i>Orthotrichum pallens</i>			✓
<i>Orthotrichum sprucei</i>			✓
<i>Orthotrichum stramineum</i>			✓
<i>Plagiochila atlantica</i>			✓
<i>Leptobarbula berica</i>			✓
<i>Pottia wilsonii</i>			✓
<i>Tortella inclinata</i>			✓
<i>Weissia longifolia</i>			✓
<i>Weissia rostellata</i>			✓
<i>Tetraplodon angustatus</i>			✓

ALL members of the bryophyte family Sphagnaceae are protected under Annex V of the EU Habitats Directive [92/43/EEC].

Algae

Species		EU HD	FPO	Plant Red
<i>Chara muscosa</i>				Ex
<i>Tolypella prolifera</i>				Ex
<i>Chara connivens</i>				I
<i>Nitella spanioclema</i>				I
<i>Chara baltica</i>				K
<i>Nitellopsis obtusa</i>				K
<i>Chara denudata</i>				R
<i>Chara tomentosa</i>				R
<i>Nitella mucronata</i>				R
<i>Chara canescens</i>				V
<i>Lamprothamnium papulosum</i>	Foxtail Stonewort		✓	V
<i>Nitella gracilis</i>	Slender Stonewort		✓	V
<i>Nitella tenuissima</i>				V
<i>Tolypella intricata</i>				V
<i>Lithothamnion corralloides</i>	Maerl	V		
<i>Phymatolithon calcareum</i>	Maerl	V		

Lichens

Species	FPO
<i>Fulgensia fulgens</i>	✓

ALL members of the lichen species *Cladonia* subgenus *Cladina* (Reindeer Moss) are protected under Annex V of the EU Habitats Directive [92/43/EEC].

MAMMALS

Species		EU HD	WA	Vert. Red
<i>Erinaceus europaeus</i>	Hedgehog		✓	II
<i>Sorex minutus</i>	Pygmy shrew		✓	
<i>Rhinolophus hipposideros</i>	Lesser Horseshoe	II IV	✓	II
<i>Myotis mystacinus</i>	Whiskered bat	IV	✓	I
<i>Myotis nattereri</i>	Natterer's bat	IV	✓	I
<i>Myotis daubentoni</i>	Daubenton's bat	IV	✓	II
<i>Myotis brandtii</i>	Brandt's bat	IV	✓	
<i>Nyctalus leisleri</i>	Leisler's bat	IV	✓	II
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	IV	✓	II
<i>Pipistrellus pygmaeus</i>	Soprano pipistrelle	IV	✓	
<i>Pipistrellus nathusii</i>	Nathusius' pipistrelle	IV	✓	
<i>Plecotus auritus</i>	Brown long-eared bat	IV	✓	II
<i>Lepus timidus</i>	Irish hare		V ✓	II
<i>Lepus europaeus</i>	Brown hare		✓	
<i>Rattus rattus</i>	Ship rat			R
<i>Sciurus vulgaris</i>	Red squirrel		✓	
<i>Lutra lutra</i>	Otter	II IV	✓	II
<i>Martes martes</i>	Pine marten		V ✓	II
<i>Meles meles</i>	Badger		✓	II
<i>Mustela erminea</i>	Stoat		✓	
<i>Halichoerus grypus</i>	Grey seal	II	V ✓	
<i>Phoca vitulina</i>	Harbour seal	II	V ✓	
<i>Canis lupus</i>	Grey wolf			Ex
<i>Cervus elaphus</i>	Red deer		✓	
<i>Cervus nippon</i>	Sika deer		✓	
<i>Dama dama</i>	Fallow deer		✓	
<i>Tursiops truncatus (tursio)</i>	Bottlenose dolphin	II IV	✓	
<i>Phocoena phocoena</i>	Harbour porpoise	II IV	✓	

ALL cetaceans are protected under the EC Habitats Directive (Annex IV), the Whale Fisheries Act, 1937 (including an order made in SI 240/1982) and the Wildlife Act, 1976.

REPTILES

Species		EU HD	WA
<i>Dermochelys coriacea</i>	Leatherback turtle	IV	✓
<i>Lepidochelys kempii</i>	Kemp's Ridley turtle	IV	✓
<i>Caretta caretta</i>	Loggerhead turtle	II IV	✓
<i>Eretmochelys imbricata</i>	Hawksbill turtle	IV	✓
<i>Lacerta vivipara</i>	Common lizard		✓

The common lizard was added to the Wildlife Act, 1976 by regulations made in SI 282/1980, and Marine turtles were added by regulations made in SI 112/1990.

AMPHIBIANS

Species		EU HD	WA	Vert. Red
<i>Bufo calamita</i>	Natterjack toad	IV	✓	E
<i>Rana temporaria</i>	Common frog	V	✓	II
<i>Triturus vulgaris</i>	Common newt		✓	

The common frog and common newt were added to the Wildlife Act, 1976 by regulations made in SI 282/1980.

FISH

Species		EU HD	Vert. Red
<i>Acipenser sturio</i>	Sturgeon	IV	
<i>Alosa alosa</i>	Allis Shad	II V	E
<i>Alosa fallax</i>	Twaite Shad	II V	V
<i>Alosa fallax killarnensis</i>	Killarney Shad	II V	E
<i>Osmerus eperlanus</i>	Smelt		V
<i>Lampetra fluviatilis</i>	River Lamprey	II V	I
<i>Lampetra planeri</i>	Brook Lamprey	II	I
<i>Petromyzon marinus</i>	Sea Lamprey	II	I
<i>Coregonus autumnalis</i>	Pollan	V	E
<i>Salvelinus alpinus</i>	Arctic Charr		V
<i>Salmo salar</i>	Salmon	II* V*	II
<i>Anguilla Anguilla</i>	European Eel*		

*This only refers to Salmon in freshwater.

* European eel has not protection status under the habitats directive but is subject to conservation measures in Ireland and throughout Europe (COUNCIL REGULATION (EC) No 1100/2007)

Conservation of Eel Fishing Bye-law No CS303 2009, which prohibits fishing for eel and Conservation of Eel Fishing (Prohibition on Issue of Licences) Bye-law No 858, 2009, which prohibits the issue of eel fishing licenses in any fishery district
 Numerous fish and invertebrates are listed on the Wildlife (Fish and Aquatic Invertebrate Animals) (Exclusion) Regulations, 2001 [SI 372/2001], which excludes them from the provisions of the Wildlife (Amendment) Act, 2000.

INVERTEBRATES

Bees

Species	Red status
<i>Andrena angustior</i>	VU
<i>Andrena apicata</i>	DD
<i>Andrena barbilabris</i>	NT
<i>Andrena coitana</i>	VU
<i>Andrena denticulata</i>	VU
<i>Andrena fucata</i>	NT
<i>Andrena fulva</i>	RE
<i>Andrena fuscipes</i>	VU
<i>Andrena helvola</i>	DD
<i>Andrena humilis</i>	CR
<i>Andrena marginata</i>	CR
<i>Andrena nigroaenea</i>	VU
<i>Andrena ovatula</i>	DD
<i>Andrena pilipes</i>	DD
<i>Andrena praecox</i>	VU
<i>Andrena rosae</i>	RE
<i>Andrena semilaevis</i>	VU
<i>Andrena stragulata</i>	DD
<i>Andrena trimmerana</i>	CR
<i>Andrena wilkella</i>	DD
<i>Bombus (P.) barbutellus</i>	EN
<i>Bombus (P.) bohemicus</i>	NT
<i>Bombus (P.) campestris</i>	VU
<i>Bombus (P.) rupestris</i>	EN
<i>Bombus cryptarum</i>	DD
<i>Bombus distinguendus</i>	EN
<i>Bombus lapidarius</i>	NT
<i>Bombus magnus</i>	DD
<i>Bombus muscorum</i>	NT
<i>Bombus ruderarius</i>	VU
<i>Bombus sylvarum</i>	EN
<i>Coelioxys elongata</i>	EN
<i>Coelioxys inermis</i>	DD
<i>Colletes daviesanus</i>	DD
<i>Colletes floralis</i>	VU

Species	Red status
<i>Colletes fodiens</i>	DD
<i>Colletes similis</i>	NT
<i>Halictus tumulorum</i>	NT
<i>Hylaeus brevicornis</i>	EN
<i>Hylaeus hyalinatus</i>	VU
<i>Lasioglossum lativentre</i>	CR
<i>Lasioglossum nitidiusculum</i>	VU
<i>Lasioglossum rufitarse</i>	VU
<i>Lasioglossum smeathmanellum</i>	DD
<i>Megachile centuncularis</i>	NT
<i>Megachile circumcincta</i>	DD
<i>Megachile ligniseca</i>	DD
<i>Megachile maritima</i>	NT
<i>Megachile willughbiella</i>	NT
<i>Nomada argentata</i>	CR
<i>Nomada goodeniana</i>	EN
<i>Nomada obtusifrons</i>	EN
<i>Nomada panzeri</i>	NT
<i>Nomada sheppardana</i>	RE
<i>Nomada striata</i>	EN
<i>Osmia aurulenta</i>	NT
<i>Sphecodes crassus</i>	DD
<i>Sphecodes ferruginatus</i>	EN
<i>Sphecodes gibbus</i>	CR
<i>Sphecodes hyalinatus</i>	VU
<i>Sphecodes pellucidus</i>	DD

Water beetles

Species	Red Status
<i>Agabus arcticus</i> (Paykull)	NT
<i>Agabus congener</i> (Thunberg)	VU
<i>Agabus conspersus</i> (Marsham)	EN
<i>Agabus labiatus</i> (Brahm)	NT
<i>Agabus melanarius</i> Aubé	DD
<i>Augyles maritimus</i> (Guérin-Méneville)	DD
<i>Bagous alismatis</i> (Marsham)	CR
<i>Bagous brevis</i> Gyllenhal	CR
<i>Bagous collignensis</i> (Herbst)	DD
<i>Bagous frit</i> (Herbst)	VU
<i>Bagous glabrirostris</i> (Herbst)	RE
<i>Bagous limosus</i> (Gyllenhal)	CR
<i>Bagous lutosus</i> (Gyllenhal)	DD
<i>Bagous lutulentus</i> (Gyllenhal)	CR
<i>Berosus luridus</i> (L.)	CR
<i>Berosus signaticollis</i> (Charpentier)	EN
<i>Bidessus minutissimus</i> (Germar)	RE

Species	Red Status
<i>Chaetarthria seminulum</i> (Herbst)	DD
<i>Cyphon kongsbergensis</i> Munster	VU
<i>Cyphon palustris</i> Thomson	DD
<i>Cyphon punctipennis</i> Sharp	VU
<i>Donacia aquatica</i> (L.)	VU
<i>Donacia cinerea</i> Herbst	VU
<i>Donacia dentata</i> Hoppe	DD
<i>Donacia marginata</i> Hoppe	NT
<i>Donacia semicuprea</i> Panzer	RE
<i>Donacia sparganii</i> Ahrens	DD
<i>Dryops similaris</i> Bollow	NT
<i>Dytiscus circumcinctus</i> Ahrens	NT
<i>Dytiscus lapponicus</i> Gyllenhal	NT
<i>Elodes elongata</i> Tournier	DD
<i>Elodes minuta</i> (L.)	DD
<i>Elodes pseudominuta</i> Klausnitzer	DD
<i>Enicocerus exsculptus</i> (Germar)	EN
<i>Enochrus halophilus</i> (Bedel)	VU
<i>Enochrus melanocephalus</i> (Olivier)	NT
<i>Georissus crenulatus</i> (Rossi)	DD
<i>Graptodytes bilineatus</i> (Sturm)	NT
<i>Gyrinus distinctus</i> Aubé	NT
<i>Gyrinus natator</i> (L.)	NT
<i>Gyrinus urinator</i> Illiger	NT
<i>Haliphus apicalis</i> Thomson	EN
<i>Haliphus lineolatus</i> Mannerheim	NT
<i>Haliphus variegatus</i> Sturm	VU
<i>Helophorus alternans</i> Gené	RE
<i>Helophorus arvernicus</i> Mulsant	EN
<i>Helophorus fulgidicollis</i> Motschulsky	VU
<i>Helophorus granularis</i> (L.)	EN
<i>Helophorus nanus</i> Sturm	VU
<i>Helophorus strigifrons</i> Thomson	VU
<i>Heterocerus fenestratus</i> (Thunberg)	DD
<i>Heterocerus flexuosus</i> Stephens	DD
<i>Heterocerus fossor</i> Kiesenwetter	DD
<i>Heterocerus marginatus</i> (Fab.)	DD
<i>Hydraena minutissima</i> Stephens	CR
<i>Hydraena nigrita</i> Germar	VU
<i>Hydraena pulchella</i> Germar	RE
<i>Hydraena pygmaea</i> Waterhouse	RE
<i>Hydraena rufipes</i> Curtis	EN
<i>Hydraena testacea</i> Curtis	VU
<i>Hydrochus angustatus</i> Germar	RE
<i>Hydrochus brevis</i> (Herbst)	VU
<i>Hydrochus ignicollis</i> Motschulsky	NT
<i>Hydrocyphon deflexicollis</i> (Müller)	EN
<i>Hydroporus glabriusculus</i> Aubé	EN
<i>Hydroporus longicornis</i> Sharp	EN
<i>Hydroporus morio</i> Aubé	VU

Species	Red Status
<i>Hydroporus neglectus</i> Schaum	DD
<i>Hydroporus obsoletus</i> Aubé	NT
<i>Hydroporus scalesianus</i> Stephens	NT
<i>Hydrovatus clypealis</i> Sharp	DD
<i>Hygrotus decoratus</i> (Gyllenhal)	CR
<i>Hygrotus novemlineatus</i> (Stephens)	VU
<i>Hygrotus parallelogrammus</i> (Ahrens)	DD
<i>Hygrotus versicolor</i> (Schaller)	VU
<i>Ilybius chalconatus</i> (Panzer)	VU
<i>Ilybius subaeneus</i> Erichson	VU
<i>Laccobius atratus</i> (Rottenberg)	NT
<i>Laccophilus hyalinus</i> (De Geer)	VU
<i>Laccornis oblongus</i> (Stephens)	NT
<i>Limnebius nitidus</i> (Marsham)	EN
<i>Macroplea appendiculata</i> (Panzer)	NT
<i>Nebrioporus depressus elegans</i> (Panzer)	DD
<i>Ochthebius auriculatus</i> Rey	NT
<i>Ochthebius bicolon</i> Germar	VU
<i>Ochthebius marinus</i> (Paykull)	NT
<i>Ochthebius nilssoni</i> Hebauer	VU
<i>Ochthebius poweri</i> Rye	DD
<i>Ochthebius viridis fallaciosus</i> Ganglbauer	NT
<i>Oreodytes davisii</i> (Curtis)	NT
<i>Paracymus scutellaris</i> (Rosenhauer)	NT
<i>Platambus maculatus</i> (L.)	DD
<i>Plateumaris bracata</i> (Scopoli)	CR
<i>Plateumaris rustica</i> (Kunze)	RE
<i>Prionocyphon serricornis</i> (Müller)	DD
<i>Stictotarsus multilineatus</i> (Falkenström)	NT

Other Invertebrates

Species		EU HD	WA
<i>Euphydrias aurinia</i>	Marsh fritillary	II	
<i>Austropotamobius pallipes</i>	White-clawed crayfish	II	V ✓
<i>Geomalacus maculosus</i>	Kerry slug	II	IV ✓
<i>Vertigo angustior</i>	Marsh snail	II	
<i>Vertigo geyeri</i>	Marsh snail	II	
<i>Vertigo moulinsiana</i>	Marsh snail	II	
<i>Margaritifera margaritifera</i>	Freshwater pearl mussel	II	V ✓

The White-clawed crayfish, Kerry slug and Freshwater pearl mussel were added to the Wildlife Act, 1976 by regulations made in SI 112/1990.

BIRDS

Species	EU BD	BD Red	BD Amb	Vert. Red		
<i>Accipiter gentilis</i>	Goshawk		✓			
<i>Aquila chrysaetos</i>	Golden Eagle	I	✓	Ex		
<i>Falco tinnunculus</i>	Kestrel		✓			
<i>Circus aeruginosus</i>	Marsh Harrier			Ex		
<i>Circus cyaneus</i>	Hen Harrier	I	✓	E		
<i>Haliaeetus albicilla</i>	White-tailed Eagle			Ex		
<i>Milvus milvus</i>	Red Kite		✓			
<i>Alauda arvensis</i>	Skylark		✓			
<i>Lullula arborea</i>	Woodlark			Ex		
<i>Alcedo atthis</i>	Kingfisher	I	✓			
<i>Alca torda</i>	Razorbill		✓			
<i>Cephus grylle</i>	Black Guillemot		✓			
<i>Fratercula arctica</i>	Puffin		✓			
<i>Uria aalge</i>	Guillemot		✓			
<i>Anas acuta</i>	Pintail	II(I)	III(II)	✓	R	
<i>Anas clypeata</i>	Shoveler	II(I)	III(III)	✓	R	
<i>Anas crecca</i>	Teal	II(I)	III(II)	✓		
<i>Anas penelope</i>	Wigeon	II(I)	III(II)	✓		
<i>Anas platyrhynchos</i>	Mallard	II(I)	III(I)			
<i>Anas querquedula</i>	Garganey	II(I)		✓	R	
<i>Anas strepera</i>	Gadwall	II(I)		✓	R	
<i>Anser albifrons</i>	White-fronted Goose	I	II(II)	III(III)	✓	II
<i>Anser anser</i>	Greylag Goose	II(I)	III(II)	✓		
<i>Anser brachyrhynchus</i>	Pink-footed Goose		II(II)			
<i>Aythya ferina</i>	Pochard	II(I)	III(II)	✓	R	
<i>Aythya fuligula</i>	Tufted Duck	II(I)	III(II)	✓		
<i>Aythya marila</i>	Scaup		II(II)	III(III)	✓	
<i>Branta bernicla</i>	Brent Goose			✓	II	
<i>Branta canadensis</i>	Canada Goose	II(I)		✓		
<i>Branta leucopsis</i>	Barnacle Goose			✓	II	
<i>Bucephala clangula</i>	Goldeneye		II(II)	✓		
<i>Clangula hyemalis</i>	Long-tailed Duck		II(II)			
<i>Cygnus bewickii</i>	Bewick's Swan	I		✓		
<i>Cygnus cygnus</i>	Whooper Swan	I		✓	II	
<i>Cygnus olor</i>	Mute Swan			✓		
<i>Malanitta nigra</i>	Common Scoter		II(II)	III(III)	✓	E
<i>Melanitta fusca</i>	Velvet Scoter		II(II)			
<i>Mergus merganser</i>	Goosander		II(II)	✓	R	
<i>Mergus serrator</i>	Red-breasted Merganser		II(II)			
<i>Somateria mollissima</i>	Eider		II(II)	III(II)	✓	

Species		EU BD			BD Red	BD Amb	Vert. Red
<i>Tadorna tadorna</i>	Shelduck						
<i>Botaurus stellaris</i>	Bittern						Ex
<i>Egretta garzetta</i>	Little Egret	I					
<i>Caprimulgus europaeus</i>	Nightjar	I			✓		E
<i>Charadrius alexandrinus</i>	Kentish Plover	I					
<i>Charadrius hiaticula</i>	Ringed Plover					✓	
<i>Pluvialis apricaria</i>	Golden Plover	I	II(II)	III(III)	✓		V
<i>Pluvialis squatarola</i>	Grey Plover					✓	
<i>Haematopus ostralegus</i>	Oystercatcher					✓	
<i>Vanellus vanellus</i>	Lapwing		II(II)		✓		
<i>Streptopelia turtur</i>	Turtle Dove					✓	
<i>Columba livia</i>	Rock Dove		II(I)				
<i>Columba oenas</i>	Stock Dove					✓	
<i>Columba palumbus</i>	Woodpigeon		II(I)	III(I)			
<i>Pyrhocorax pyrrhocorax</i>	Chough	I				✓	II
<i>Sturnus vulgaris</i>	Starling					✓	
<i>Emberiza citrinella</i>	Yellowhammer				✓		
<i>Miliaria calandra</i>	Corn Bunting						E
<i>Falco columbarius</i>	Merlin	I				✓	R
<i>Falco peregrinus</i>	Peregrine	I					II
<i>Falco vespertinus</i>	Red-footed Falcon	I					
<i>Carduelis flavirostris</i>	Twite				✓		I
<i>Carduelis cannabina</i>	Linnet					✓	
<i>Gavia arctica</i>	Black-throated Diver	I				✓	
<i>Gavia immer</i>	Great Northern Diver	I					
<i>Gavia stellata</i>	Red-throated Diver	I				✓	R
<i>Apus apus</i>	Swift					✓	
<i>Hirundo rustica</i>	Swallow					✓	
<i>Riparia riparia</i>	Sand Martin					✓	
<i>Delichon urbica</i>	House Martin					✓	
<i>Hydrobates pelagicus</i>	Storm Petrel	I				✓	II
<i>Oceanodroma leucorhoa</i>	Leach's Petrel	I				✓	
<i>Catharacta skua</i>	Great Skua					✓	
<i>Larus canus</i>	Common Gull					✓	
<i>Larus melanocephalus</i>	Mediterranean Gull	I				✓	
<i>Larus minutus</i>	Little Gull	I					

Species		EU BD		BD Red	BD Amb	Vert. Red
<i>Larus ridibundus</i>	Black-headed Gull			✓		
<i>Larus argentatus</i>	Herring Gull			✓		
<i>Larus marinus</i>	Great black-backed Gull				✓	
<i>Larus fuscus</i>	Lesser black-backed Gull				✓	
<i>Rissa tridactyla</i>	Kittiwake				✓	
<i>Motacilla flava</i>	Yellow Wagtail				✓	
<i>Ficedula hypoleuca</i>	Pied Flycatcher				✓	
<i>Muscicapa striata</i>	Spotted Flycatcher				✓	
<i>Passer montanus</i>	Tree Sparrow				✓	I
<i>Passer domesticus</i>	House Sparrow				✓	
<i>Phalacrocorax carbo</i>	Cormorant				✓	
<i>Phalacrocorax aristotelis</i>	Shag				✓	
<i>Phalaropus lobatus</i>	Red-necked Phalarope	I		✓		E
<i>Coturnix coturnix</i>	Quail			✓		
<i>Perdix perdix</i>	Grey Partridge		II(I)	✓	III(I)	E
<i>Phasianus colchicus</i>	Pheasant		II(I)		III(I)	
<i>Podiceps cristatus</i>	Great-crested Grebe				✓	
<i>Podiceps nigricollis</i>	Black-necked Grebe			✓		R
<i>Podiceps ruficollis</i>	Little Grebe				✓	
<i>Podiceps auritus</i>	Slavonian Grebe				✓	
<i>Procellaria diomedea</i>	Cory's Shearwater	I			✓	
<i>Puffinus griseus</i>	Sooty Shearwater			✓		
<i>Puffinus puffinus</i>	Manx Shearwater				✓	
<i>Puffinus mauretanicus</i>	Balearic Shearwater			✓		
<i>Crex crex</i>	Corncrake	I		✓		E
<i>Fulica atra</i>	Coot		II(I)		III(II)	
<i>Porzana porzana</i>	Spotted Crake					
<i>Rallus aquaticus</i>	Water Rail					
<i>Calidris alpina</i>	Dunlin	I				V
<i>Calidris canutus</i>	Knot			✓		
<i>Gallinago gallinago</i>	Snipe		II(I)		III(III)	
<i>Limosa lapponica</i>	Bar-tailed Godwit	I				
<i>Limosa limosa</i>	Black-tailed Godwit					R
<i>Lymnocyptes minimus</i>	Jack-Snipe		II(I)		III(III)	

Species		EU BD			BD Red	BD Amb	Vert. Red
<i>Numenius arquata</i>	Curlew		II(II)		✓		
<i>Philomachus pugnax</i>	Ruff	I				✓	
<i>Scolopax rusticola</i>	Woodcock		II(I)	III(III)		✓	
<i>Tringa glareola</i>	Wood Sandpiper	I				✓	
<i>Tringa hypoleucos</i>	Common Sandpiper					✓	
<i>Tringa nebularia</i>	Greenshank					✓	R
<i>Tringa totanus</i>	Redshank				✓		
<i>Chlidonias niger</i>	Black Tern	I					
<i>Sterna albifrons</i>	Little Tern	I				✓	V
<i>Sterna dougallii</i>	Roseate Tern	I				✓	E
<i>Sterna hirundo</i>	Common Tern	I				✓	
<i>Sterna paradisaea</i>	Arctic Tern	I				✓	
<i>Sterna sandvicensis</i>	Sandwich Tern	I				✓	
<i>Asio flammeus</i>	Short-eared Owl	I				✓	R
<i>Nyctea scandiaca</i>	Snowy Owl	I				✓	
<i>Morus bassanus</i>	Gannet					✓	
<i>Acrocephalus scirpaceus</i>	Reed Warbler					✓	
<i>Locustella naevia</i>	Grasshopper Warbler					✓	
<i>Phylloscopus sibilatrix</i>	Wood Warbler					✓	R
<i>Sylvia curruca</i>	Lesser Whitethroat					✓	
<i>Lagopus lagopus</i>	Red Grouse		II(I)	III(I)	✓		
<i>Tetrao urogallus cantabricus</i>	Capercaillie			III(II)			Ex
<i>Panurus biarmicus</i>	Bearded Tit						R
<i>Oenanthe pleschanka</i>	Pied Wheatear	I					
<i>Oenanthe oenanthe</i>	Wheatear					✓	
<i>Phoenicurus phoenicurus</i>	Redstart					✓	
<i>Saxicola rubetra</i>	Whinchat					✓	
<i>Turdus torquatus</i>	Ring Ouzel				✓		R
<i>Tyto alba</i>	Barn Owl				✓		I

ALL bird species occurring in Ireland are protected under both the EU Birds Directive [79/409/EEC] and the Wildlife Act, 1976 (including amendments made in SI 283/1980 and SI 397/1985).

Further Information:

Flora Protection Order 1999 available at: <http://www.irishstatutebook.ie/1999/en/si/0094.html>

Wildlife Act 1976 available at: <http://www.irishstatutebook.ie/1976/en/act/pub/0039/index.html>

IUCN Red Lists available at: <http://www.iucnredlist.org/static/programme>

Red Data Lists: <http://www.npws.ie/en/PublicationsLiterature/RedLists/>

EU Birds Directive at:

http://ec.europa.eu/environment/nature/legislation/birdsdirective/index_en.htm and <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31979L0409:EN:HTML>

EU Habitats Directive at:

http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm and <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31992L0043:EN:NOT>

S.I. No. 94/1997 — European Communities (Natural Habitats) Regulations, 1997:

<http://www.irishstatutebook.ie/1997/en/si/0094.html>

Botanic Gardens (for information on plants): <http://www.botanicgardens.ie/contents.htm>

Endangered habitats in Ireland

Habitats in Ireland under Annex 1 of EU Habitats Directive (Natura 2000)
Habitats in danger of disappearance are in *italics*

Freshwater

Dystrophic lakes and ponds (3160)
Acid oligotrophic lakes (3110, 3130)
Limestone/marl lakes (3140)
Eutrophic lakes (3150)
Turloughs (3180)
Eroding/upland rivers & (3260)
Depositing/lowland rivers (3270)
Calcareous springs (7220)
Tall-herb swamps (6430)

Grassland and Marsh

Dry calcareous and neutral grassland (6210, 5130, 6130)
Dry meadows and grassy verges (6510)
Dry-humid acid grassland (6230, 6130)
Wet grassland (6410)
Marsh (6430)

Heath and Dense Bracken

Dry siliceous heath (4030)
Dry calcareous heath (5130)
Wet heath (4010)
Montane heath (4060)

Peatlands

Raised bog (7110, 7120, 7150)
Upland blanket bog (7130) NB: if active bog
Lowland blanket bog (7150)
Cutover bog (7150)
Eroding blanket bog
Rich fen and flush (7210, 7230)
Transition mire and quaking bog (7140)

Woodland and Scrub

Oak-birch-holly woodland (91A0)
Yew woodland (91J0)
Wet pedunculate oak-ash (91E0)
Bog woodland (91D0)
Scrub (5130)

Exposed Rock/Disturbed Ground

Exposed siliceous rock (8220)
Exposed calcareous rock (8210, 8240 – Limestone pavement)
Siliceous scree and loose rock (8110)
Calcareous scree and loose rock (8120)
Non-marine caves (8310)

Coastland

Sea stacks and islets (1230)

Lagoons and saline lakes (1150 - Coastal lagoons)

Tidal rivers (1130)

Lower salt marsh (1310, 1320, 1330, 1420)

Upper salt marsh (1330, 1410)

Shingle and gravel banks (1220)

Embryonic dunes (2110)

Marram dunes (2120)

Fixed dunes (2130, 2140, 2150, 2170)

Dune scrub and woodland (2160)

Dune slacks Dunes (2170, 2190)

Machair (21A0)

Source:

Fossitt, J A (2000). *A Guide to Habitats in Ireland* (Reprint 2007). Heritage Council, Ireland.

Available at

http://www.heritagecouncil.ie/fileadmin/user_upload/Publications/Wildlife/Guide_to_Habitats.pdf

Types of areas designated for conservation:

Statutory Nature Reserves

State-owned land, inland waters or foreshore areas forming the habitat of a species or community of flora or fauna of scientific interest or forming part of an ecosystem of scientific interest, which would benefit from protection measures, established under the Wildlife Act, 1976 and the Wildlife (Amendment) Act, 2000.

National Parks

Almost entirely State-owned areas designated nationally with the aims of nature conservation and public recreation and appreciation. There are currently six National Parks – the Burren in Co Clare. Connemara National Park, Killarney National Park in Co Kerry, Glenveagh National Park in Co Donegal, Wicklow Mountains National Park, and Ballycory National Park in Co Mayo.

Special Protection Areas (SPAs)

Areas of conservation value for the protection of rare and vulnerable bird species, migratory bird species and their important habitats. Designated under the European Union Birds Directive.

Special Areas of Conservation (SACs)

Areas of conservation value for habitats and/or species of importance in the European Union designated internationally under the Habitats Directive.

NB: SPAs and SACs collectively are known as Natura 2000 sites

Natural Heritage Areas (NHAs)

Areas of conservation value for ecological and/or geological/geomorphological heritage designated nationally under the Wildlife (Amendment) Act, 2000.

Wildfowl Sanctuaries

Areas over which shooting of wild birds is prohibited, established under the Wildlife Act, 1976 and the Wildlife (Amendment) Act, 2000. These areas have been excluded from the 'Open Season Order' so that game birds are left undisturbed to rest and feed.

Refuges for Fauna

Areas where the specific protection of one or more species of animal is required, established under the Wildlife Act, 1976 and the Wildlife (Amendment) Act, 2000.

Ramsar Sites

Sites designated internationally for the conservation of wetlands, particularly those of importance to waterfowl under The Convention on Wetlands of International Importance especially as Waterfowl Habitat, the so-called Ramsar Convention.

UNESCO Biosphere Reserves

Sites of conservation value internationally designated with the aim of integrating the interests of nature conservation, sustainable development, research and education. Biosphere Reserves are recognised by UNESCO (United Nations Educational, Social and Cultural Organisation).

Biogenetic Reserves

Biogenetic Reserve is an international designation for natural habitats that are especially valuable for nature conservation in Europe. Biogenetic Reserves are designated by the Council of Europe.

(Last updated September, 2006.

<http://www.epa.ie/environment/biodiversity/protectedareas/>

Further information on protected areas:

National Parks and Wildlife Service: <http://www.npws.ie/en/ProtectedSites/>

Environmental Protection Agency:

<http://www.epa.ie/environment/biodiversity/protectedareas/>

Ramsar sites in Ireland: http://www.ramsar.org/profile/profiles_ireland.htm

UNESCO Biosphere sites in Ireland:

<http://www.unesco.org/mabdb/br/brdir/directory/contact.asp?code=IRE>

Further information on protected species in Ireland is available:

National Parks & Wildlife Service,

www.npws.ie

7 Ely Place,

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Phone: +353 1 8882000

Fax: +353 1 8883272

Environmental Protection Agency

www.epa.ie

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Email: info@epa.ie

Lo Call: 1890 335599

<http://www.epa.ie/environment/biodiversity/protectedareas/>– Environmental Protection Agency

Annex 6: Interpretation of High Conservation Value Forests in Ireland

FSC Ireland has agreed to use the current Coillte draft definition for HCVF in Ireland, with a number of amendments (see below). FSC Ireland plans to hold a workshop following completion of the public consultation on this Draft Standard, in order to finalise the Irish definition for HCVF for use in the National Standard for at least the first 5 years of its operation.

HCV1

Description of the value:

Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g. endemism, endangered species, refugia).

Interpretation:

In the Irish context EU and national designations such as Special Areas for Conservation (SACs), Species Protection Areas (SPAs) for birds and National Heritage Areas (NHAs) will be used to denote areas with significant concentrations of biodiversity values.

Further consideration:

Further consideration should be given to areas known to hold significant concentrations of threatened, endangered or protected species that are *not* currently identified in one of the above designations. For example, areas known to contain significant populations of red squirrel. Additional consideration will be given to concentrations of other red-listed species as data becomes available. It is suggested that National concentrations of species listed by IUCN as Endangered or Critically Endangered will always be considered potential HCVs. Other information of nationally protected species should be reviewed on a case by case basis.

www.iucnredlist.org/search/details.php/40658/all

HCV3

Description of the value:

Forest areas that are in or contain rare, threatened or endangered ecosystems.

Interpretation:

This HCV will be denoted by priority habitats recognised under the EU Habitats Directive as being critically rare. These ecosystem types include:

- Designated alluvial woodland,
- Designated bog woodland,
- Designated woodland associated with limestone pavement and
- Designated yew woodland
- Designated western Blanket Bog habitat
- Designated midland Raised bog habitat

Many of these HCVs are protected as SACs and some as NHAs, but the latter process has yet to be completed for woodlands in Ireland. Proposed NHA (pNHA) sites and Annex 1 quality habitats (Habitats Directive) occurring outside of designated areas shall also be considered HCVF.

Therefore, in addition, some sites not identified under the EU Habitats directive will be considered HCVF. This may include *some* other examples of Old Woodland Sites, for example semi-natural oak ash woodlands (some of which are included in alluvial woodlands). www.heritagecouncil.ie/publications/habitats/8.html .

Further consideration:

Once the NHA process has been completed for woodland areas, the completed list of NHA woodland sites will be included as HCV3. Any harvesting planned for such sites must only take place after an appropriate ecological survey, if one has not taken place.

In addition, broadleaf and Scots pine woodlands identified as continually present since the Second Edition OS maps should also be assessed for High Conservation Value. HCV "Forests" is taken to include non-forested areas with high conservation values, such as upland and raised bogs.

Note: High Conservation Value forest is not necessarily precluded from application for grant aid and participation in government forestry schemes.

Annex 7: Annex I of Council Directive 92/43/EEC of 21 May 1992 (“The Habitats Directive”)- Natural Habitat Types of Community Interest whose conservation requires the designation of Special Areas of Conservation (SACs)

Interpretation

Guidance on the interpretation of habitat types is given in the ‘Interpretation Manual of European Union Habitats’ as approved by the committee set up under Article 20 (‘Habitats Committee’) and published by the European Commission ([7](#)).

The code corresponds to the NATURA 2000 code.

The sign ‘*’ indicates priority habitat types.

1. COASTAL AND HALOPHYTIC HABITATS

11. Open sea and tidal areas

- 1110 Sandbanks which are slightly covered by sea water all the time
- 1120 * *Posidonia* beds (*Posidonium oceanicae*)
- 1130 Estuaries
- 1140 Mudflats and sandflats not covered by seawater at low tide
- 1150 * Coastal lagoons
- 1160 Large shallow inlets and bays
- 1170 Reefs
- 1180 Submarine structures made by leaking gases

12. Sea cliffs and shingle or stony beaches

- 1210 Annual vegetation of drift lines
- 1220 Perennial vegetation of stony banks
- 1230 Vegetated sea cliffs of the Atlantic and Baltic Coasts
- 1240 Vegetated sea cliffs of the Mediterranean coasts with endemic *Limonium* spp.
- 1250 Vegetated sea cliffs with endemic flora of the Macaronesian coasts

13. Atlantic and continental salt marshes and salt meadows

- 1310 *Salicornia* and other annuals colonizing mud and sand
- 1320 *Spartina* swards (*Spartinion maritimae*)
- 1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
- 1340 * Inland salt meadows

14. Mediterranean and thermo-Atlantic salt marshes and salt meadows

- 1410 Mediterranean salt meadows (*Juncetalia maritimae*)
- 1420 Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosae*)

1430 Halo-nitrophilous scrubs (*Pegano-Salsoletea*)

15. Salt and gypsum inland steppes

1510 * Mediterranean salt steppes (*Limonietalia*)

1520 * Iberian gypsum vegetation (*Gypsophiletalia*)

1530 * Pannonic salt steppes and salt marshes

16. Boreal Baltic archipelago, coastal and landupheaval areas

1610 Baltic esker islands with sandy, rocky and shingle beach vegetation and sublittoral vegetation

1620 Boreal Baltic islets and small islands

1630 * Boreal Baltic coastal meadows

1640 Boreal Baltic sandy beaches with perennial vegetation

1650 Boreal Baltic narrow inlets

2. COASTAL SAND DUNES AND INLAND DUNES

21. Sea dunes of the Atlantic, North Sea and Baltic coasts

2110 Embryonic shifting dunes

2120 Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes')

2130 * Fixed coastal dunes with herbaceous vegetation ('grey dunes')

2140 * Decalcified fixed dunes with *Empetrum nigrum*

2150 * Atlantic decalcified fixed dunes (*Calluno-Ulicetea*)

2160 Dunes with *Hippophaë rhamnoides*

2170 Dunes with *Salix repens* ssp. *argentea* (*Salicion arenariae*)

2180 Wooded dunes of the Atlantic, Continental and Boreal region

2190 Humid dune slacks

21A0 Machairs (* in Ireland)

22. Sea dunes of the Mediterranean coast

2210 *Crucianellion maritimae* fixed beach dunes

2220 Dunes with *Euphorbia terracina*

2230 *Malcolmietalia* dune grasslands

2240 *Brachypodietalia* dune grasslands with annuals

2250 * Coastal dunes with *Juniperus* spp.

2260 *Cisto-Lavenduletalia* dune sclerophyllous scrubs

2270 * Wooded dunes with *Pinus pinea* and/or *Pinus pinaster*

23. Inland dunes, old and decalcified

2310 Dry sand heaths with *Calluna* and *Genista*

- 2320 Dry sand heaths with *Calluna* and *Empetrum nigrum*
- 2330 Inland dunes with open *Corynephorus* and *Agrostis* grasslands
- 2340 * Pannonic inland dunes

3. FRESHWATER HABITATS

31. Standing water

- 3110 Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*)
- 3120 Oligotrophic waters containing very few minerals generally on sandy soils of the West Mediterranean, with *Isoetes* spp.
- 3130 Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoëto-Nanojuncetea*
- 3140 Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.
- 3150 Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition* — type vegetation
- 3160 Natural dystrophic lakes and ponds
- 3170 * Mediterranean temporary ponds
- 3180 * Turloughs
- 3190 Lakes of gypsum karst
- 31A0 * Transylvanian hot-spring lotus beds

32. Running water — sections of water courses with natural or semi-natural dynamics (minor, average and major beds) where the water quality shows no significant deterioration

- 3210 Fennoscandian natural rivers
- 3220 Alpine rivers and the herbaceous vegetation along their banks
- 3230 Alpine rivers and their ligneous vegetation with *Myricaria germanica*
- 3240 Alpine rivers and their ligneous vegetation with *Salix elaeagnos*
- 3250 Constantly flowing Mediterranean rivers with *Glaucium flavum*
- 3260 Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation
- 3270 Rivers with muddy banks with *Chenopodion rubri* p.p. and *Bidention* p.p. vegetation
- 3280 Constantly flowing Mediterranean rivers with *Paspalo-Agrostidion* species and hanging curtains of *Salix* and *Populus alba*
- 3290 Intermittently flowing Mediterranean rivers of the *Paspalo-Agrostidion*

4. TEMPERATE HEATH AND SCRUB

- 4010 Northern Atlantic wet heaths with *Erica tetralix*
- 4020 * Temperate Atlantic wet heaths with *Erica ciliaris* and *Erica tetralix*
- 4030 European dry heaths
- 4040 * Dry Atlantic coastal heaths with *Erica vagans*

- 4050 * Endemic macaronesian heaths
- 4060 Alpine and Boreal heaths
- 4070 * Bushes with *Pinus mugo* and *Rhododendron hirsutum* (*Mugo-Rhododendretum hirsutum*)
- 4080 Sub-Arctic *Salix* spp. Scrub
- 4090 Endemic oro-Mediterranean heaths with gorse
- 40A0 * Subcontinental peri-Pannonic scrub
- 40B0 Rhodope *Potentilla fruticosa* thickets
- 40C0 * Ponto-Sarmatic deciduous thickets

5. SCLEROPHYLLOUS SCRUB (MATORRAL)

51. Sub-Mediterranean and temperate scrub

- 5110 Stable xerothermophilous formations with *Buxus sempervirens* on rock slopes (*Berberidion* p.p.)
- 5120 Mountain *Cytisus purgans* formations
- 5130 *Juniperus communis* formations on heaths or calcareous grasslands
- 5140 * *Cistus palhinhae* formations on maritime wet heaths

52. Mediterranean arborescent matorral

- 5210 Arborescent matorral with *Juniperus* spp.
- 5220 * Arborescent matorral with *Zyziphus*
- 5230 * Arborescent matorral with *Laurus nobilis*

53. Thermo-Mediterranean and pre-steppe brush

- 5310 *Laurus nobilis* thickets
- 5320 Low formations of Euphorbia close to cliffs
- 5330 Thermo-Mediterranean and pre-desert scrub

54. Phrygana

- 5410 West Mediterranean clifftop phryganas (*Astragalo-Plantaginetum subulatae*)
- 5420 *Sarcopoterium spinosum* phryganas
- 5430 Endemic phryganas of the *Euphorbio-Verbascion*

6. NATURAL AND SEMI-NATURAL GRASSLAND FORMATIONS

61. Natural grasslands

- 6110 * Rupicolous calcareous or basophilic grasslands of the *Alysso-Sedion albi*
- 6120 * Xeric sand calcareous grasslands
- 6130 Calaminarian grasslands of the *Violetalia calaminariae*
- 6140 Siliceous Pyrenean *Festuca eskia* grasslands
- 6150 Siliceous alpine and boreal grasslands

- 6160 Oro-Iberian *Festuca indigesta* grasslands
- 6170 Alpine and subalpine calcareous grasslands
- 6180 Macaronesian mesophile grasslands
- 6190 Rupicolous pannonic grasslands (*Stipo-Festucetalia pallentis*)

62. Semi-natural dry grasslands and scrubland facies

- 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites)
- 6220 * Pseudo-steppe with grasses and annuals of the *Thero-Brachypodietea*
- 6230 * Species-rich *Nardus* grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)
- 6240 * Sub-Pannonic steppic grasslands
- 6250 * Pannonic loess steppic grasslands
- 6260 * Pannonic sand steppes
- 6270 * Fennoscandian lowland species-rich dry to mesic grasslands
- 6280 * Nordic alvar and precambrian calcareous flatrocks
- 62A0 Eastern sub-Mediterranean dry grasslands (*Scorzoneratalia villosae*)
- 62B0 * Serpentinophilous grassland of Cyprus
- 62C0 * Ponto-Sarmatic steppes
- 62D0 Oro-Moesian acidophilous grasslands

63. Sclerophyllous grazed forests (dehesas)

- 6310 Dehesas with evergreen *Quercus* spp.

64. Semi-natural tall-herb humid meadows

- 6410 *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)
- 6420 Mediterranean tall humid grasslands of the *Molinio-Holoschoenion*
- 6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels
- 6440 Alluvial meadows of river valleys of the *Cnidion dubii*
- 6450 Northern boreal alluvial meadows
- 6460 Peat grasslands of Troodos

65. Mesophile grasslands

- 6510 Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*)
- 6520 Mountain hay meadows
- 6530 * Fennoscandian wooded meadows

7. RAISED BOGS AND MIRES AND FENS

71. Sphagnum acid bogs

- 7110 * Active raised bogs
- 7120 Degraded raised bogs still capable of natural regeneration
- 7130 Blanket bogs (* if active bog)
- 7140 Transition mires and quaking bogs
- 7150 Depressions on peat substrates of the *Rhynchosporion*
- 7160 Fennoscandian mineral-rich springs and springfens

72. **Calcareous fens**

- 7210 * Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*
- 7220 * Petrifying springs with tufa formation (*Cratoneurion*)
- 7230 Alkaline fens
- 7240 * Alpine pioneer formations of the *Caricion bicoloris-atrofuscae*

73. **Boreal mires**

- 7310 * Aapa mires
- 7320 * Palsa mires

8. **ROCKY HABITATS AND CAVES**

81. **Scree**

- 8110 Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladanii*)
- 8120 Calcareous and calcshist screes of the montane to alpine levels (*Thlaspietea rotundifolii*)
- 8130 Western Mediterranean and thermophilous scree
- 8140 Eastern Mediterranean screes
- 8150 Medio-European upland siliceous screes
- 8160 * Medio-European calcareous scree of hill and montane levels

82. **Rocky slopes with chasmophytic vegetation**

- 8210 Calcareous rocky slopes with chasmophytic vegetation
- 8220 Siliceous rocky slopes with chasmophytic vegetation
- 8230 Siliceous rock with pioneer vegetation of the *Sedo-Scleranthion* or of the *Sedo albi-Veronicion dillenii*
- 8240 * Limestone pavements

83. **Other rocky habitats**

- 8310 Caves not open to the public
- 8320 Fields of lava and natural excavations
- 8330 Submerged or partially submerged sea caves
- 8340 Permanent glaciers

9. FORESTS

(Sub)natural woodland vegetation comprising native species forming forests of tall trees, with typical undergrowth, and meeting the following criteria: rare or residual, and/or hosting species of Community interest

90. Forests of Boreal Europe

- 9010 * Western Taïga
- 9020 * Fennoscandian hemiboreal natural old broad-leaved deciduous forests (*Quercus*, *Tilia*, *Acer*, *Fraxinus* or *Ulmus*) rich in epiphytes
- 9030 * Natural forests of primary succession stages of landupheaval coast
- 9040 Nordic subalpine/subarctic forests with *Betula pubescens* ssp. *czerepanovii*
- 9050 Fennoscandian herb-rich forests with *Picea abies*
- 9060 Coniferous forests on, or connected to, glaciofluvial eskers
- 9070 Fennoscandian wooded pastures
- 9080 * Fennoscandian deciduous swamp woods

91. Forests of Temperate Europe

- 9110 *Luzulo-Fagetum* beech forests
- 9120 Atlantic acidophilous beech forests with *Ilex* and sometimes also *Taxus* in the shrublayer (*Quercion robori-petraeae* or *Illici-Fagenion*)
- 9130 *Asperulo-Fagetum* beech forests
- 9140 Medio-European subalpine beech woods with *Acer* and *Rumex arifolius*
- 9150 Medio-European limestone beech forests of the *Cephalanthero-Fagion*
- 9160 Sub-Atlantic and medio-European oak or oak-hornbeam forests of the *Carpinion betuli*
- 9170 *Galio-Carpinetum* oak-hornbeam forests
- 9180 * *Tilio-Acerion* forests of slopes, screes and ravines
- 9190 Old acidophilous oak woods with *Quercus robur* on sandy plains
- 91A0 Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles
- 91B0 Thermophilous *Fraxinus angustifolia* woods
- 91C0 * Caledonian forest
- 91D0 * Bog woodland
- 91E0 * Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)
- 91F0 Riparian mixed forests of *Quercus robur*, *Ulmus laevis* and *Ulmus minor*, *Fraxinus excelsior* or *Fraxinus angustifolia*, along the great rivers (*Ulmenion minoris*)
- 91G0 * Pannonic woods with *Quercus petraea* and *Carpinus betulus*
- 91H0 * Pannonian woods with *Quercus pubescens*

- 91I0 * Euro-Siberian steppic woods with *Quercus* spp.
- 91J0 * *Taxus baccata* woods of the British Isles
- 91K0 Illyrian *Fagus sylvatica* forests (*Aremonio-Fagion*)
- 91L0 Illyrian oak-hornbeam forests (*Erythronio-Carpinion*)
- 91M0 Pannonian-Balkan turkey oak –sessile oak forests
- 91N0 * Pannonic inland sand dune thicket (*Junipero-Populetum albae*)
- 91P0 Holy Cross fir forest (*Abietetum polonicum*)
- 91Q0 Western Carpathian calcicolous *Pinus sylvestris* forests
- 91R0 Dinaric dolomite Scots pine forests (*Genisto januensis-Pinetum*)
- 91S0 * Western Pontic beech forests
- 91T0 Central European lichen Scots pine forests
- 91U0 Sarmatic steppe pine forest
- 91V0 Dacian Beech forests (*Symphyto-Fagion*)
- 91W0 Moesian beech forests
- 91X0 * Dobrogean beech forests
- 91Y0 Dacian oak & hornbeam forests
- 91Z0 Moesian silver lime woods
- 91AA * Eastern white oak woods
- 91BA Moesian silver fir forests
- 91CA Rhodopide and Balkan Range Scots pine forests
- 92. Mediterranean deciduous forests**
- 9210 * Apennine beech forests with *Taxus* and *Ilex*
- 9220 * Apennine beech forests with *Abies alba* and beech forests with *Abies nebrodensis*
- 9230 Galicio-Portuguese oak woods with *Quercus robur* and *Quercus pyrenaica*
- 9240 *Quercus faginea* and *Quercus canariensis* Iberian woods
- 9250 *Quercus trojana* woods
- 9260 *Castanea sativa* woods
- 9270 Hellenic beech forests with *Abies borisii-regis*
- 9280 *Quercus frainetto* woods
- 9290 *Cupressus* forests (*Acero-Cupression*)
- 92A0 *Salix alba* and *Populus alba* galleries
- 92B0 Riparian formations on intermittent Mediterranean water courses with *Rhododendron ponticum*, *Salix* and others
- 92C0 *Platanus orientalis* and *Liquidambar orientalis* woods (*Platanion orientalis*)
- 92D0 Southern riparian galleries and thickets (*Nerio-Tamaricetea* and *Securinegion tinctoriae*)

93. **Mediterranean sclerophyllous forests**

- 9310 Aegean *Quercus brachyphylla* woods
- 9320 *Olea* and *Ceratonia* forests
- 9330 *Quercus suber* forests
- 9340 *Quercus ilex* and *Quercus rotundifolia* forests
- 9350 *Quercus macrolepis* forests
- 9360 * Macaronesian laurel forests (*Laurus*, *Ocotea*)
- 9370 * Palm groves of *Phoenix*
- 9380 Forests of *Ilex aquifolium*
- 9390 * Scrub and low forest vegetation with *Quercus alnifolia*
- 93A0 Woodlands with *Quercus infectoria* (*Anagyro foetidae-Quercetum infectoriae*)

94. **Temperate mountainous coniferous forests**

- 9410 Acidophilous *Picea* forests of the montane to alpine levels (*Vaccinio-Piceetea*)
- 9420 Alpine *Larix decidua* and/or *Pinus cembra* forests
- 9430 Subalpine and montane *Pinus uncinata* forests (* if on gypsum or limestone)

95. **Mediterranean and Macaronesian mountainous coniferous forests**

- 9510 * Southern Apennine *Abies alba* forests
- 9520 *Abies pinsapo* forests
- 9530 * (Sub-) Mediterranean pine forests with endemic black pines
- 9540 Mediterranean pine forests with endemic Mesogean pines
- 9550 Canarian endemic pine forests
- 9560 * Endemic forests with *Juniperus* spp.
- 9570 * *Tetraclinis articulata* forests
- 9580 * Mediterranean *Taxus baccata* woods
- 9590 * *Cedrus brevifolia* forests (*Cedrosetum brevifoliae*)
- 95A0 High oro-Mediterranean pine forests

Appendix 7: Template for submission of monitoring data to National Biodiversity Data Centre *(with sample data)*

Recorder Name	Species Name	Coordinates	Location name	Date	Abundance	Habitat (Fossitt where possible*)	Comment	Determiner Name
Una Fitzpatrick	<i>Bombus lucorum</i>	T307836	Brittas Bay, Co. Wicklow	13/04/2004	4 queens	Fixed dune	2 nests observed	Una Fitzpatrick
Una Fitzpatrick	<i>Bombus pratorum</i>	N365065	Cappard, Slieve Bloom, Co. Offaly	05/08/2004	3 workers	Upland blanket bog/farmland margin		Una Fitzpatrick
Una Fitzpatrick, Andrew Byrne	<i>Bombus sylvarum</i>	N014307	Pilgrim's Road, Clonmacnoise, Co. Offaly	16/08/2004	14 workers	Dry calcareous grassland	Most common bumblebee observed	Una Fitzpatrick
Una Fitzpatrick	<i>Bombus muscorum</i>	R533432	Tory Hill, Croom, Co. Limerick	02/09/2004	2 workers	Dry calcareous grassland		Una Fitzpatrick
Una Fitzpatrick	<i>Bombus lapidarius</i>	R533432	Tory Hill, Croom, Co. Limerick	02/09/2004	3 workers	Dry calcareous grassland		Una Fitzpatrick

- The first 5 columns in the template are mandatory. These data items must be provided to constitute a valid biological record.

- The optional columns are recommended by the Data Centre for use where appropriate. You may want to add additional columns yourself to suit your own data e.g., altitude, status, life stage. or include this information in the comments field.

- If you have any questions about digitising your data please feel free to contact the National Biodiversity Data Centre (051 306240; info@biodiversityireland.ie).

<p>Recorder Name The name of the person(s) that made the observation.</p>
<p>Species Name The scientific name of the recorded species. If scientific name is not known but you know the common (vernacular) name then please supply this instead.</p>
<p>Coordinates A six-figure grid reference, employing three digits in each coordinate, to determine a 100 m square. The preferred format is: <Grid letter><3-figure easting><3-figure northing> Example: M518152 The full numeric grid reference format (replacing the Grid letter with the zone x/y coordinates) is also permitted. Example: 151800 215200 Insert into two separate columns. Those individuals using a GPS (Global Positioning System) can supply 8 or 10 figure grid references. A Latitude / Longitude reference may also be supplied. Insert in decimal degrees into two separate columns.</p>
<p>Location name Location of observation including townland and county. For example: "A kilometre north of Maam Cross, Co. Galway. Ideally supply appropriate Ordnance Survey maps feature names or townland names if available.</p>
<p>Date The date that the observation was recorded. The minimum legal value is the year. The following date format is preferable: dd/mm/yyyy You may also supply the date as a range where the exact date is unavailable. In such a case please provide a start date and a finish date. * Fossitt, J.A. 2000. <i>A Guide to Habitats in Ireland</i>. The Heritage Council, Kilkenny, Ireland.</p>

Glossary

Words in this document are used as defined in most standard English language dictionaries. This glossary is based on the FSC glossary, supplemented by the Oxford English Dictionary, and the Heritage Council glossary

Abundance: the amount of each species present at a site.

Affected Party: Any person, group of persons or entity that may be subject to the effects of the activities of a forest management unit. This is most likely, but not restricted to, persons, groups of persons or entities located in the neighbourhood of the forest management unit. Affect: make a difference to; have an effect on. 2. Party: a person or group forming one side in an agreement or dispute. (Source: Concise Oxford English Dictionary – 11th Edn.)

Afforestation: the planting of trees in an area that has lacked forest cover for a very long time or has never been forested.

Amenity: a two-fold definition used to indicate non-timber uses of forest, generally meaning recreation and contribution to landscape. It is an unsatisfactory term because it is vague and each of the component functions has different implications for management.

Ancient woodland: a woodland that originated before a threshold date, generally taken for convenience as AD 1600, because in Britain maps first become available and plantation forestry becomes important from that date. In Ireland, the first systematic mapping of the country was carried out in the 1830s and 1840s.

Biodiversity: the variety of all life forms at all levels including genetic diversity, species diversity and landscape diversity within an ecosystem.

Biological diversity: The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems. (see Convention on Biological Diversity, 1992)

Biological diversity values: The intrinsic, ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components. (see Convention on Biological Diversity, 1992)

Biological control agents: Living organisms used to eliminate or regulate the population of other living organisms.

Brashing: the removal of lower branches up to a height of about 2 m to facilitate access for inspection, thinning or other purposes.

Brash mat: a soil protection measure using in harvesting operations consisting of putting harvesting residues over areas where heavy machinery is going to travel.

Broadleaf (woodland): broadleaved trees are angiosperms, in contrast with the gymnosperms, primarily represented by conifers. They tend to have leaves broader than the typical linear leaves of conifers. The use of this term groups holly and other broadleaf trees that keep a leaf cover all year (i.e. evergreen), with other angiosperms, while larch and other conifers that lose their leaves at certain times of year (i.e. deciduous) are grouped with other conifers.

Buffer zone: an area adjacent to an aquatic zone and managed for the protection of water quality and aquatic ecosystems.

Buffering capacity: capacity of water or soil in a natural solution to resist changes in pH which would otherwise result from input of a certain amount of an acid or base.

Catchment: a water catchment is an area from which a river or lake derives its water. Synonyms are drainage basin and watershed. Catchment-based management planning takes the entire aquatic network into account.

Certification: a voluntary, market-based instrument aimed at promoting sustainable forest management that takes into account environmental, economic, and social issues. It involves an independent assessment of forest management according to internationally or nationally accepted standards, and the tracking and monitoring of the supply of forest products to the market place.

Chain of custody: The channel through which products are distributed from their origin in the forest to their end-use.

Chemicals: The range of fertilizers, insecticides, fungicides, and hormones which are used in forest management.

Clearfelling (synonym: clearcutting): involves harvesting trees of all sizes over a considerable area, a method frequently used with plantation monocultures (Packham et al. 1992: 29); the new forest is regenerated without any shelter from the old canopy and often by planting. The cutting down of all trees on an area of more than 0.25ha.

Climate change: “the long-term fluctuations or trends in temperature, precipitation, wind, and all other aspects of the earth’s climate” (Helms 1998: 31).

Community: A group of persons that can be identified as a unity based on, but not restricted to, the ability of the group to express a common will or interest, collective ownership of land by the group, the fact that group members live in the same place.

Conifers: a grouping of trees and shrubs (botanically known as gymnosperms) with needle or scale-like leaves (e.g. pine, spruce, cypress) and bear cones. Most conifers are evergreen. They provide softwood timber.

Conservation: the wise use of resources.... involves attitudes of mind (Hookway and Davidson 1970: 2) or “protection against undesirable changes” (De Groot 1992: 308). In contrast with preservation (“keeping something in its present state” (IUCN, UNEP, and WWF 1991 in De Groot 1992: 308).

Consultation: A process of direct engagement with stakeholders who are affected or interested in the forest management activities of a Forest Management Unit, Forest Certification or the development of forest management standards aiming at an exchange of views. Direct engagement would include face to face meetings, group meetings, letters, emails and telephone calls.

Consult: Ask advice of, seek counsel or a professional opinion from; refer to (a source of information); seek permission or approval from for a proposed action (OED).

Continuous Cover: use of a silvicultural system whereby the forest canopy is maintained at one or more levels without clear felling

Coupe: A felling area, usually one of an annual succession.

Criterion (pl. Criteria): A means of judging whether or not a Principle (of forest stewardship) has been fulfilled.

Crown thinning (approximate synonym: halo thinning): The removal of selected trees in the upper canopy to allow growing space for the remaining trees.

Cultivated: considerable alteration to physical or chemical properties of the soil or vegetation by agricultural use.

Customary rights: Rights which result from a long series of habitual or customary actions, constantly repeated, which have, by such repetition and by uninterrupted acquiescence, acquired the force of a law within a geographical or sociological unit.

Decay: the decomposition of wood resulting from the action of wood-rotting fungi in damp/wet conditions; results in loss of strength and weight, generally with a change in texture and colour.

Deciduous: the shedding of leaves at the onset of a dormant period (winter in the temperate zone). Most broadleaves are deciduous, whereas only some conifers are deciduous, e.g. larch.

Density: the number of individuals of a particular species per unit area.

Designation: the act of officially identifying a site as important. For example, legislation protects sites that have been designated as SAC (Habitats Directive), SPA (Birds Directive), or NHA (national designation).

Disturbance: a disruption of the ecosystem that changes resources, substrate availability, or the physical environment and opens up space that can be colonised by individuals of the same or different species. In a natural system, disturbances result in re-creation of early successional or pioneer stages.

Ecological process: The physical, chemical and biological actions or events that link organisms and their environment. Ecosystem processes include water, nutrient, carbon, and biological cycles. (Adapted from the Millenium Ecosystem Assessment)

Ecology: the scientific study of the processes influencing the distribution and abundance of organisms, the interactions among organisms, and the interactions between organisms and the transformation and flux of energy and matter.

Ecosystem: A community of all plants and animals and their physical environment, functioning together as an interdependent unit.
A system of organisms occupying a habitat, together with those aspects of the physical environment with which they interact. (OED)

Ecosystem integrity: The quality of a natural unmanaged or managed ecosystem in which the natural ecological processes sustain the function, composition and structure of the system.

Ecosystem services: The benefits provided by ecosystems. These include provisioning services such as food, water, timber, fibre, and genetic resources; regulating services such as the regulation of climate, floods, disease, and water quality as well as waste treatment; cultural services such as recreation, aesthetic enjoyment, and spiritual fulfilment; and

supporting services such as soil formation, pollination, and nutrient cycling. (*Ecosystems and human wellbeing: a framework for assessment*. Millennium Ecosystem Assessment, 2003)
For more detailed information also see Rudolf S. de Groot, Matthew A. Wilson, Roelof M.J. Boumans. A typology for the classification, description and valuation of ecosystem functions, goods and services. *Ecological Economics* 41 (2002) 393–408, available at http://www.uvm.edu/giee/publications/deGroot_et_al.pdf

Endangered species: Any species which is in danger of extinction throughout all or a significant portion of its range.

Edge effect: The modified environmental conditions or habitat along the margins (edges) of forest stands or patches.

Endemic: native to, and especially restricted to, a certain country or area

Erosion: The movement of soil and rock material by agents such as running water or wind.

Establishment (of a forest): a stage when trees dominate the ground vegetation.

Exotic species: An introduced species not native or endemic to the area in question.

Extraction: the operation of removing felled timber from the forest to a road accessible by lorry.

Felling coupe: an area proposed for felling in one operation.

Fire break: fire line or fire belt. Strip of land where vegetation has been removed to assist in the prevention of fire entering a forest. Usually 6-7m. wide

Forest: areas of land where species of tree occur and give at least 60% coverage. This proportion may be temporarily smaller, i.e. when a stand is not fully grown.

“a certain territory of woody ground and fruitful pastures, privileged for wild beasts and fowls of the forest, chase and warren, to rest and abide in, in the safe protection of the king, for his princely delight and pleasure, which territory of ground, so privileged is meered and bounded with unremovable marks, meers and boundaries, either known by matter or record, or else prescription.... And therefore a forest doth chiefly consist of these four things, that is to say, of vert, venison, particulars and privileges, and of certain meet officers appointed for that purpose, to the end that the same may be better preserved and kept for a place of recreation and pastime meet for the royal dignity of a prince.” (John Manwood, 1598, *A Treatise of the Laws of the Forest*, quoted in Neeson 1991: 37).

Forestry: management for human benefit of the natural resources that occur on or in association with forest lands, whether existing forest or plantations.

Forest integrity: The composition, dynamics, functions and structural attributes of a natural forest.

Forest management/manager: The people responsible for the operational management of the forest resource and of the enterprise, as well as the management system and structure, and the planning and field operations.

Forest species: a plant or animal that is dependent on a forest for part or all of its life cycle. A forest specialist is a forest species which requires forest as a habitat and cannot adapt to other habitats, such as the shade of deep ditches or hedgerows.

Freshwater pearl mussel: *Margaritifera margaritifera*, a freshwater mussel found in Irish rivers and protected under the EU Habitats Directive. A second species, *M. durrovensis*, is only found in the River Nore.

Genetically modified organisms: Biological organisms which have been induced by various means to consist of genetic structural changes.

Geographic Information Systems (GIS): a set of spatial databases. GIS often refers to the manipulation, interpretation, and cartographic display of these databases. The data may be derived from remote sensing such as aerial photographs, from field surveys, or from other sources.

Habitat: any place or type of place where an organism or community of organisms normally lives and thrives.

Habitats Directive: more formally known as Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora; a European Union Directive adopted in 1992 as an EU response to the Berne Convention. It is one of the EU's two directives in relation to wildlife and nature conservation, the other being the Birds Directive.

Hectare: metric unit of area equal to 100 m x 100 m, 2.471x larger than an acres. This means that the number of acres divided by 2.471 equals the number of hectares. Abbreviated ha.

High Conservation Value Forests: High Conservation Value Forests are those that possess one or more of the following attributes:

- a) forest areas containing globally, regionally or nationally significant: concentrations of biodiversity values (e.g. endemism, endangered species, refugia); and/or large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance
- b) forest areas that are in or contain rare, threatened or endangered ecosystems
- c) forest areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control)
- d) forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health) and/or critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

Indigenous lands and territories: The total environment of the lands, air, water, sea, sea ice, flora and fauna, and other resources which indigenous peoples have traditionally owned or otherwise occupied or used. (Draft Declaration of the Rights of Indigenous Peoples: Part VI)

Indigenous peoples: Groups of persons that have determined themselves as indigenous according to the United Nations Declaration on the Rights of Indigenous Peoples as adopted by the 61st Session of the General Assembly.

"The existing descendants of the peoples who inhabited the present territory of a country wholly or partially at the time when persons of a different culture or ethnic origin arrived there from other parts of the world, overcame them and, by conquest, settlement, or other means reduced them to a non-dominant or colonial situation; who today live more in conformity with their particular social, economic and cultural customs and traditions than with the institutions of the country of which they now form a part, under State structure which incorporates mainly the national, social and cultural characteristics of other segments of the population which are

predominant." (Working definition adopted by the UN Working Group on Indigenous Peoples).

Interested Party: Any person, group of persons, or entity that is not an affected party but has shown an interest, is known to have or to potentially have an interest, in the activities of a forest management unit.

Interest group: a group of people sharing a common identifying interest (OED)
Interest: the fact or relation of having a share or concern in, or a right to, something, esp. By law (OED)

Invasive: characterized by invasion; invading. (OED)

Invasive (plants and animals): A plant or animal that is not native to an area but is now established and expanding at the expense of native plants or animals.

Landscape: A geographical mosaic composed of interacting ecosystems resulting from the influence of geological, topographical, soil, climatic, biotic and human interactions in a given area.

Landscape scale: The wider landscape context within which the FMU is located and the environmental information relating to this scale.

Litter: organic matter deposited from nearby plants.

Local laws: Includes all legal norms given by organisms of government whose jurisdiction is less than the national level, such as departmental, municipal and customary norms.

Low-impact silvicultural systems: Silvicultural systems including continuous cover forestry, selection system, shelterwood, or underplanting, small coupe felling, coppice or coppice with standards, minimum intervention and single tree selection systems.

Management operations: All operations related to forest or plantation management, including, but not limited to, planting, harvesting, silvicultural treatments, transportation and others.

Monocultures: an area of forest in which only one species is present or largely dominates.

Native (to a place): a species of plant or animal that was not brought to a site by humans. A species that would grow naturally on the site under consideration; within its natural geographic range and normal soil conditions (Peterken 1996: 16).

Native species: A species that occurs naturally in the region; endemic to the area.

Natural cycles: Nutrient and mineral cycling as a result of interactions between soils, water, plants, and animals in forest environments that affect the ecological productivity of a given site.

Native woodland: Woodlands composed of site native and locally native tree and shrub species.

Natural Forest: Forest areas where many of the principal characteristics and key elements of native ecosystems such as complexity, structure and diversity are present, as defined by FSC approved national and regional standards of forest management.

Natura 2000: An ecological network in the territory of the European Union of habitats and species protected under the Habitats Directive (SACs) and areas protected for birds under the Birds Directive (SPAs).

Natural disturbance: disruption to forest stands, vegetation and wildlife by a natural event such as strong wind, fire or grazing.

Natural Heritage Areas (NHA): areas designated or proposed for designation by NPWS as national areas of nature conservation interest and protected under the Wildlife Act. The process of NHA designation is ongoing.

Natural regeneration: regeneration of trees from seed produced by trees in the vicinity.

Niche: a particular role (or set of relationships) of organisms in an ecosystem, which may be filled by different species in different geographical areas (Abercromie, Hickman, and Johnson 1973: 196).

Non-timber forest products: All forest products except timber, including other materials obtained from trees such as resins and leaves, as well as any other plant and animal products.

Nutrient run-off/eutrophication: nutrient enrichment in aquatic ecosystems.

Other forest types: Forest areas that do not fit the criteria for plantation or natural forests and which are defined more specifically by FSC-approved national and regional standards of forest stewardship.

Parkland: a forest habitat made up of widely spaced trees over grassland. The trees are able to develop large crowns and may be rich in lichens due to the high light levels.

Participation: A form of direct engagement with stakeholders who are affected by the forest management activities of a Forest Management Unit involving them in planning and decision making processes.

Peat: organic soil made up of plant parts.

Pesticide: something which kills a pest, defined as an animals that consumes or damages materials intended for human use. Pesticides are a type of biocide, a larger category which includes herbicides (killing plants) and fungicides (killing fungi).

pH: A value on a logarithmic scale of 0-14 that gives a measure of the acidity or alkalinity of a soil. A neutral soil has a pH of 7. Soils range from over 3 to under 9 in pH. The lower the pH the more acidic is the soil; the higher the pH the more alkaline. pH interacts with plant nutrients, so a soil with a lower pH tends to have fewer available plant nutrients.

Pioneer species: tree species that colonise open habitats. Birch are considered to be pioneer tree species.

Plantation: Forest areas lacking most of the principal characteristics and key elements of native ecosystems as defined by FSC-approved national and regional standards of forest stewardship, which result from the human activities of either planting, sowing or intensive silvicultural treatments.

Potential natural vegetation: the habitat which would be present on a site if humans had not intervened in succession. PNV is estimated from soils, climate, and remnant vegetation.

Precautionary approach: Tool for the implementation of the precautionary principle.

Precautionary principle: if any action is thought possibly to be damaging, one must first prove it will not cause harm before being able to engage in that action.

Principle: An essential rule or element; in FSC's case, of forest stewardship.

Provenance: origin of seed; i.e. from the population of which (denoted by geographical location) it is derived.

Pruning: The removal of branches in order to maintain a single central leader, repair storm damage, or promote clear stems for eventual production of high grade timber.

Recreation: any activity or experience undertaken or undergone in a person's free time voluntarily and without restraint but subject to the social order with the purpose in the first instance of obtaining satisfaction and pleasure; recreation fulfills at least one of three functions: it provides relaxation; entertainment; and a means for personal and social development.

(Natural) Resource: any element of the natural environment considered to be of value to humans.

Reforestation: replanting of an area on which the previous crop of trees has been harvested.

Restocking: the practice of replanting after a stand of trees that has been felled.

Retention: stand retained beyond normal economic felling age (40 - 80 years) which will usually remain in perpetuity.

Ride or ridelines: unplanted strips between stands, used as firebreaks and access routes.

(species) Richness: the number of species present on a particular area.

Rotation: the period in years required to establish and grow a crop to a specified condition of maturity, at which stage the crop is felled or regenerated.

SAC: Special Area of Conservation, designated under the EU Habitats Directive 1992 (EC directive 92/43).

Semi-natural woodland: a general term used to denote woodlands that have been modified by human activities but have some natural characteristics. As very few forests do not show evidence of both natural processes and human impact, this term is very broad.

Silt trap: helps to prevent silt entering rivers and streams and is constructed by deepening mound drains to 1 m x 1 m x 1 m. Water entering a silt trap will stagnate and the silt will be able to settle before the water flows out.

Silviculture: The art of producing and tending a forest by manipulating its establishment, composition and growth to best fulfil the objectives of the owner. This may, or may not, include timber production.

SPA: Special Protection Area for birds, designated under the EU Birds Directive.

Stand: A group of trees growing together and of similar age.

Stakeholder: A stakeholder, or stakeholder group is defined as any individual or group who may be affected by, or expresses an interest or concern in the forest management activities of a Forest Management Unit, Forest Certification or the development of forest management standards.

Structure: composition, abundance, spacing, and other attributes of plants in a community.

Structural diversity: variability in the structure of forest stands attributable to tree size, shape, density and distribution.

Succession: Progressive changes in species composition and forest community structure caused by natural processes (nonhuman) over time.

Sustainable Forest Management: "The stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality, and their potential to fulfil, now and the future, relevant ecological, economic, and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems" (EC 2006: Annex p4).

Tenure: Socially defined agreements held by individuals or groups, recognized by legal statutes or customary practice, regarding the "bundle of rights and duties" of ownership, holding, access and/or usage of a particular land unit or the associated resources there within (such as individual trees, plant species, water, minerals, etc).

Thinning: the removal of a proportion of trees from an immature crop in order to improve the growth and form of the remainder; removal of some trees to allow the resources of the site go into others. Thinning can be by selection, requiring skill to select and mark the trees, or systematic, in which every xth line is removed. Crown thinning is removal of neighbouring trees to allow the best crop trees to develop.

Threatened species: Any species which is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

Use rights: Rights for the use of forest resources that can be defined by local custom, mutual agreements, or prescribed by other entities holding access rights. These rights may restrict the use of particular resources to specific levels of consumption or particular harvesting techniques.

Value: "standards or criteria which guide action as well as other psychological phenomena such as attitudes, judgements and attributions. Values are considered deeper and more stable than attitudes, representing standards of 'oughts and shoulds', and are viewed as determinants of attitudes" (Rokeach 1979: 272 in Axelrod 1994: 86).

Yield class: a classification of rate of growth in terms of the potential maximum mean annual increment per hectare of volume to 7 cm top diameter ($\text{m}^3/\text{ha}/\text{annum}$), irrespective of age of culmination, or of tree species.