

## Northern Ireland Priority Habitat Guide: Wet woodland

### What is Wet woodland?

The term Wet woodland is used to describe a range of woodland that occurs on poorly drained or at least seasonally waterlogged soils. The Wet woodland resource is diverse in composition and structure, usually dominated by Willow *Salix* spp., Alder *Alnus glutinosa* or Downy Birch *Betula pubescens*, but also sometimes includes Ash *Fraxinus excelsior* or Oak *Quercus* spp. on the drier riparian areas or margins of flushes.

Wet woodland habitats occur on a range of soil types with impeded drainage including nutrient-rich mineral and acid soils and nutrient-poor peaty soils. They occur on the margins of water bodies along lowland and upland streams, on hill-side flushes and as successional habitat on fens and bogs. Wet woods frequently occur in a mosaic with other woodland habitats e.g. with Mixed ashwood or Oakwoods and with wetland habitats. Boundaries with other woodland types can sometimes be sharp but are often gradual transitions. The type of Wet woodland may change over time through succession, depending on the hydrological conditions and the management of the wood and surrounding habitat. Management of mosaic sites needs to consider Wet woodland in relation to the requirements of each of the habitats.

**Table 1: Linking Habitat types with Annex 1, ASSI features and NI Priority Species**

Northern Ireland Priority Habitat: Wet woodland		
Habitat Directive Annex 1 habitats (SAC Features)	ASSI features	NI priority species
H91D0 Bog woodland, H91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> ( <i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i> )	Wet woodland	A number of bat species; Common Pipistrelle Bat, Otter, Spotted Flycatcher, Song Thrush, Bullfinch, Alder Buckthorn <i>Frangula alnus</i> , Water-violet <i>Hottonia palustris</i> and Globeflower <i>Trollius europaeus</i> . Spruce's Bristle-moss <i>Orthotrichum sprucei</i>



## Definition

To qualify as Wet woodland priority habitat, the woodland must meet the following criteria:

- Woodland area greater than 0.5 ha.
- 20% or more canopy cover or the potential to achieve this in the case of regenerating or newly planted stands of trees
- A canopy composed of 50% or more site-native trees or shrubs (or will be at canopy closure in the case of younger stands). Site-native trees are those which are native to the locality and capable of growing naturally on the site  
And/Or
- The presence of typical Wet woodland ground flora.

The National Vegetation Classification (NVC) codes are useful in determining which habitat types fall within Wet woodland priority habitat. NVC codes are provided in the Appendix 2.

## Where are they found?

Willow woodland is the most widespread Wet woodland community in Northern Ireland often occurring as an early pioneer Wet woodland habitat prior to the development of mature Wet woodland. Some woodland is often associated with wetland sites dominated by a combination of open water and fen.

Alder woodland occurs throughout Northern Ireland, but is not extensive and is characteristic of permanently wet nutrient-rich soils; examples within the Erne basin are of particular importance. Extensive stands of Alder *Alnus glutinosa* dominant Wet woodland have colonized ground exposed by lowering water levels of lakes and drainage schemes particularly around Lough Neagh.

Wet woodland dominated by Birch *Betula pubescens* is common throughout Northern Ireland occurring on nutrient-poor peat soils. Most examples of this type of woodland have recently developed on drying peats such as those associated with cut-over bogs, where they are often seen as being undesirable in terms of bog restoration. This community does develop naturally on the margins of peatland sites and the mosaic of Wet woodland and bog can enhance the site's nature conservation value. Birch woodland also occurs on lake shores within other woodland types where the soils are acidic.

DAERA hold priority habitat and species data on the NIEA Natural Environment Map Viewer. See <https://apps.daira-ni.gov.uk/nedmapviewer/> (and link to video tutorial on how to use). Note that the Map Viewer indicates areas which hold NIEA records of habitat / species data, but does not infer the complete coverage of these environmental assets in Northern Ireland.

## Why are they important to wildlife?

Wet woodland can be of significant value for flora and fauna. Few rare plant species depend on Wet woodland, however, Alder woodland (NVC W5) may support rare species such as Elongated Sedge *Carex elongata* and Large Bitter-cress *Cardamine amara*. There may be relict species from the former open wetlands or ground flora found in old woodlands including Bog Mosses *Sphagnum* spp., Sedges *Carex* spp., Marsh Marigold *Caltha palustris*, Bottle Sedge *Carex rostrata* and Common Marsh-bedstraw *Galium palustre*. Standing and fallen dead wood is an important element

of Wet woodland, and its association with water provides specialised habitats not found in dry woodland types. The high humidity found in the Wet woodland favours bryophyte (moss) growth.

A very large number of invertebrate species are associated with Alder, Downy birch and Willow woodland. Wet woodland habitat also provides cover and breeding sites for Otter *Lutra lutra* and is of value for the bats and a number of breeding birds. Wet woodland can host a number of priority species which include are listed in Table 1.

The variety and abundance of flowering plants within semi-natural habitats provide good sources of pollen and nectar for many of our pollinating insects such as bumblebees, hoverflies, butterflies and moths. For further information on habitat management for pollinators, refer to the All-Ireland Pollinator Plan resources:

[www.pollinators.ie](http://www.pollinators.ie).

## Pressures & Threats

Factors which can impact on Wet woodland include, but are not limited to:

- Inappropriate grazing - by both livestock and feral goats and deer can have a profound influence both on the structure, species and regeneration potential.
- Browsing and bark stripping - by feral goats and deer and other fauna such as squirrels, can lead to significant changes in the woodland structure, ground flora impoverishment and regeneration potential.
- Invasive species - including replacement of native trees by species that are not native to Northern Ireland such as Sycamore *Acer pseudoplatanus*. Invasive alien species such as Rhododendron *Rhododendron ponticum* and ground flora species including Indian Balsam (Himalyan balsam) *Impatiens glandulifera* and Giant Hogweed *Heracleum mantegazzianum* can lead to changes in the composition of the woodland, alteration of vegetation composition and a lowering of the conservation value of woodland.
- Habitat loss and fragmentation – can be a result of deforestation for agricultural practices or development. This leads to greater ecological isolation of existing woods through the removal of trees in field boundaries and small patches of Wet woodland in fields. Wet woodland can be at risk to illegal dumping of building rubble, agricultural and domestic waste.
- Water level changes - due to drainage, agricultural practices, peat extraction or water abstraction, can result in changes from wet to drier woodland types. Flood prevention measures, river control and canalisation can lead to a reduction in Wet woodland extent and may also affect the dynamics of natural processes and natural Wet woodland systems.
- Nutrient enrichment - leading to changes in soils and ground flora, may occur from spray drift or runoff from adjacent agricultural land. In addition, pesticide drift into woodland margins may cause localised damage to some flora and fauna.
- Disease – plant disease such as Chalara dieback of Ash caused by the fungus *Hymenoscyphus fraxineus* can invade susceptible trees through the bark, killing portions of the tree.
- Nitrogen deposition - excess nitrogen deposition can favour the growth of competitive plants and lead to changes in ecosystem structure or function and to a reduction in biodiversity.
- Air pollution – derived remotely from vehicle and industry emissions could potentially cause pre-mature death of old and veteran trees.
- Climate change - potentially resulting in changes in the vegetation communities.



## Favourable management of Wet woodland

These important woodlands should be protected and maintained where they occur, and should be restored where their condition has declined. Some of our most important woodland sites are protected through National and International legislation. In the wider countryside, woodlands are protected from development and increased agricultural productivity through planning policies and legislation such as the Environmental Impact Assessment Regulations.

Woodland habitat can be managed through grazing or no grazing. The choice of management method for this habitat is based on historical management and current condition.

Optimal grazing management for Wet woodlands is light, extensive grazing at low stocking rates during late spring and summer months, with no winter grazing.

Ungrazed Wet woodland management is used to maintain naturally ungrazed woodlands and to restore woodlands which have been subject to prolonged grazing, used for over-wintering of livestock and where there is damage to the woodland ground flora, excessive poaching and/or little evidence of natural regeneration. Most woodland features of designated sites will be subject to the exclusion of grazing, dependant on the condition of the woodland.

Organic and inorganic fertilisers should not be applied as this would reduce species-richness and diversity with a loss of nature conservation value.

Deadwood should be retained and windblown trees should be left where they fall.

Non-native invasive species, including Bracken *Pteridium aquilinum*, Rhododendron *Rhododendron ponticum* and Laurel *Prunus laurocerasus*, and non-native invasive canopy species, including Sycamore *Acer pseudoplatanus*, Beech *Fagus sylvatica* and conifers, should be controlled. Machinery should only be used where ground conditions permit.

## How do we determine the “health” or condition of Wet woodland?

The conservation status can be determined by the condition of the habitat. Favourable condition is defined by setting targets or target ranges for a series of different attributes. These are components or characteristics of the vegetation that are relatively easy to measure, but which are reliable indicators of the “health” of the habitat.

NIEA has developed Rapid Condition Assessments for several broad habitat types (grassland, moorland, woodland, coastal and wetlands). These will be made available online in the future. In the interim copies can be requested by contacting NIEA by E-mail: [NIEA.EFSHigher@daera-ni.gov.uk](mailto:NIEA.EFSHigher@daera-ni.gov.uk).

## Appendix 1: Wet woodland Indicator species

### Positive Indicators:

<i>Allium ursinum</i>	Ramsons
<i>Alnus glutinosa</i>	Alder
<i>Angelica sylvestris</i>	Wild Angelica
<i>Betula pubescens</i>	Downy Birch
<i>Caltha palustris</i>	Marsh Marigold
<i>Cardamine amara</i>	Large Bitter-cress
<i>Carex paniculata</i>	Greater Tussock-sedge
<i>Carex remota</i>	Remote Sedge
<i>Chrysosplenium oppositifolium</i>	Opposite-leaved Golden-saxifrage
<i>Circaea lutetiana</i>	Enchanter's-nightshade
<i>Corylus avellana</i>	Hazel
<i>Dryopteris spp.</i>	Buckler-fern species
<i>Filipendula ulmaria</i>	Meadowsweet
<i>Galium palustre</i>	Common Marsh-bedstraw
<i>Iris pseudacorus</i>	Yellow Iris/Yellow Flag
<i>Lysimachia nemorum</i>	Yellow Pimpernel
<i>Mentha aquatica</i>	Water Mint
<i>Molinia caerulea</i>	Purple Moor-grass
<i>Potentilla palustris</i>	Marsh Cinquefoil
<i>Ranunculus ficaria</i>	Lesser Celandine
<i>Ranunculus repens</i>	Creeping Buttercup
<i>Salix caprea</i>	Goat Willow
<i>Salix cineria</i>	Grey Willow
<i>Sphagnum spp.</i>	Sphagnum Moss
<i>Viola palustris</i>	Marsh Violet

### Negative Indicators:

<i>Acer pseudoplatanus</i>	Sycamore
Conifer spp.	Conifer species
<i>Epilobium spp.</i>	Willowherb species
<i>Fallopia japonica</i>	Japanese Knotweed
<i>Galium aparine</i>	Cleavers / Robin-run-the-hedge
<i>Graminoid spp.</i>	Non-woodland grass
<i>Heracleum</i>	Giant Hogweed
<i>Heracleum spp.</i>	Hogweed species
<i>Impatiens glandulifera</i>	Indian Balsam (Himalayan Balsam)
<i>Leycesteria formosa</i>	Himalayan Honeysuckle
<i>Rhododendron spp.</i>	Rhododendron species
<i>Rubus spectabilis</i>	Salmonberry
<i>Rumex obtusifolius</i>	Broad-leaved Dock
<i>Symphoricarpos albus</i>	Snowberry
<i>Urtica dioica</i>	Stinging Nettle

## Appendix 2: National Vegetation Classification codes

Wet woodland in Northern Ireland encompass a range of plant communities that broadly reflect a number of those communities described in the National Vegetation Classification (NVC) of Great Britain (Rodwell, 1991a) where descriptions and codes are given to associations of plants that are characteristic of particular environmental and management conditions.

## Wet woodland priority habitat

The vegetation found in Wet woodland Northern Ireland equates to:

**W1** - *Salix cinerea* - *Galium palustre* woodland.

Willow woodland, is the most widespread Wet woodland community in Northern Ireland often occurring as an early pioneer Wet woodland habitat prior to the development of mature Wet woodland.

**W2** - *Salix cinerea* - *Betula pubescens* - *Phragmites australis* woodland and **W3** *Salix pentandra* - *Carex rostrata* woodland.

The distribution in Northern Ireland of the two other Willow wet woodland types is currently uncertain. W2 woodland is often associated with wetland sites dominated by a combination of open water and fen. In these circumstances the expansion of Wet woodland can sometimes be viewed as undesirable as it reduces the area of other priority habitat types, such as reedbed. The combination of Wet woodland and fen often enhances the nature conservation value of a site and in these circumstances, striking the correct balance between apparently competing priority habitats is difficult to determine.

**W4** - *Betula pubescens* - *Molinia caerulea* woodland, Wet woodland dominated by Birch *Betula spp.*, is common throughout Northern Ireland occurring on nutrient-poor peat soils.

Most examples of W4 woodland have recently developed on drying peats such as those associated with cut-over bogs, where they are often seen as being undesirable in terms of bog restoration. This community does develop naturally on the margins of peatland sites and the mosaic of Wet woodland and ombrotrophic bog can enhance the site's nature conservation value. In these circumstances striking the correct balance between open bog habitats and Wet woodland can be difficult to determine. W4 woodland also occurs on lake shores within other woodland types where the soils are acidic. Throughout Ireland, small areas of natural Downy birch *Betula pubescens* dominated Wet woodland occur within wetland/peat bog complexes where there is mineral water influence from flushes or soaks (Cross, 1997).

**W5** - *Alnus glutinosa* - *Carex paniculata* woodland.

Occurs throughout Northern Ireland, but is not extensive and is characteristic of permanently wet nutrient-rich peats. Examples within the Erne basin are of particular importance.

**W6** - *Alnus glutinosa* - *Urtica dioica* woodland.

Associated with the margins of the large eutrophic lakes subject to flooding.

**W7** - *Alnus glutinosa* - *Fraxinus excelsior* – *Lysimachia nemorum* woodland.

Characteristic of the base-rich flushes and valley sides, often occurring in larger mixed ashwoods and oakwoods. Some more extensive stands of this Wet woodland type occur in County Fermanagh on heavy base-rich clays. W7 is also found on the valley floors of many oakwoods and ashwoods.

Extensive stands of *Alnus glutinosa* – *Urtica dioica* (W6) and *Alnus glutinosa*-*Fraxinus excelsior*-*Lysimachia nemorum* (W7) have colonized ground exposed as a result of numerous drainage schemes in Lough Neagh (Christine Butler, The Ecology of Lough Neagh Woodlands, D. Phil., 1996).