

Woodland Assessment Report

OPW Crossmolina Flood Relief Scheme



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2. **METHODOLOGY**

2.1 Desk Study

Initially, a desk study of pertinent information relating to the study area was conducted. This included a review of aerial photography to identify potential wet woodland habitats in advance of field surveys.

The National Parks & Wildlife Service (NPWS) Article 17 habitats GIS datasets are available for download at <u>http://www.npws.ie/maps-and-data/habitat-and-species-data</u>. The datasets were downloaded and reviewed on 3rd of October 2016 in order to determine if any identified Annex I habitats were located in the study area.

The NPWS Ancient and Long-established Woodland database was also downloaded and reviewed. This dataset shows areas of long-established woodland including stands of non-native species and conifer woodland. The GIS database associated with the National Survey of Native Woodlands 2003-2008 was also downloaded and reviewed.

The Teagasc soils map (<u>http://gis.teagasc.ie/soils/</u>) was downloaded and consulted to determine the underlying soil type associated with the various identified woodlands in the study area. This was of particular importance with regard to identification of potential Annex I Alluvial Woodland. The results of the desk study are presented in Section Three.

2.2 Field Surveys

The woodlands that are assessed in this document were first identified during preliminary desk studies of aerial photographs and OSI Discovery Range 1:50,000 maps of the area. The identified woodlands were then briefly assessed during multidisciplinary walkover surveys. During this survey, woodland stands were selected for further assessment where they had the potential to correspond to Annex I woodland habitats. Detailed assessments of the woodlands were conducted on 6th of May 2015, 18th of May 2016 and 24^{th} of July 2019. Specific field sheets were used for recording the survey data. Homogeneous representative 10 m × 10 m relevés and 20 m × 20 m relevés were assessed at each woodland site and the woodland areas were thoroughly walked and assessed.

For each site surveyed the following data were recorded as per Perrin (2008):

Site species list: A comprehensive list of vascular plants was recorded for each site. For tree and shrub species, presence/absence in each of the canopy, shrub and field layers was recorded.

Site situation: The altitudinal range (in metres) for each site was recorded from the appropriate Discovery Map. The general slope (in degrees) for the woodland as a whole was estimated by eye.

Area: Site (in hectares) was measured from GIS mapping.

Internal features: The predominant soil moisture regime (i.e. firm, soft etc.) observed at the site was recorded. In addition, any hydrological features (e.g. streams, ditches and flushes) observed were noted. All evidence of management, both previous and current, in the wood was noted. This included planting, felling, amenity use and coppicing. The presence of historical features such as banks and ruined buildings was also recorded. Evidence of grazing and use by livestock was also noted.

Surface cover: The surface cover of various strata was assessed to give a general indication of the structure of the woodland. The DAFOR scale (dominant, abundant, frequent, occasional, rare or absent) was used to assess cover of: rock and boulders; stones and gravel; bare soil; litter; bryophytes; herbs; and, low woody species. Only



1. INTRODUCTION

1.1 General Introduction

This report has been completed to provide information regarding the classification and status of wet woodlands within the zone of influence of the proposed River Deel flood mitigation works. This assessment highlights any features of particular importance and identify whether any woodland habitats listed on Annex I of Directive 92/43/EEC (Habitats Directive) are located within the study area.

The habitat assessment is based on a desk study and field visits by suitably qualified ecologists including Pat Roberts B.Sc. MCIEEM, John Hynes B.Sc. (Env.) M.Sc. (Eco) and Pamela Boyle Ph.D. All surveyors have extensive experience in Annex I habitat classification and survey techniques and have conducted detailed habitat assessment for a number of developments including national road projects.

The woodland assessment surveys described in this report have been undertaken with reference to the following guidelines:

- > National Roads Authority (2009) Guidelines for assessment of ecological impacts of national road schemes (Revision 2, June 2009), Dublin, Ireland.
- Perrin, P.M, Martin, J.R., Barron, S.J., O'Neill, F.H., McNutt, K.E. & Delaney, A.M. (2008). National Survey of Native Woodlands 2003-2008: Volume I: Main report. Report submitted to National Parks & Wildlife Service, Dublin.
- Perrin, P.M, Martin, J.R., Barron, S.J., O'Neill, F.H., McNutt, K.E. & Delaney, A.M. (2008). National Survey of Native Woodlands 2003-2008: Volume II: Woodland classification. Report submitted to National Parks & Wildlife Service, Dublin.

The conclusions and any recommendations based on the results of the surveys are provided in Section Five.



the actual wooded area was assessed; gravel-covered forest tracks/roads, car parks etc. were not included when assigning scores to the categories.

Vegetation communities: Vegetation communities were identified and classified using the system of Fossitt (2000) and Perrin (2008). Major variations in the woodland vegetation were regarded as different communities even if they were encompassed by a single category using Fossitt (2000). The distribution of vegetation communities at each site was described in the site notes and marked on 1:5,000 vector maps, as were any changes to the site boundary. The proportion of the woodland area allotted to each Fossitt category was noted. The woodland composition was assessed based on the canopy layer, shrub/low woody layer and herb layer and the Domin scale was used to quantify the frequency of species within each vegetation layer.

Additional Attributes: Additional attributes such as bare ground, leaf litter, invasive species, exposed rocks, dead wood etc. were recorded. The surrounding land cover observed during the field survey was recorded for each site using categories defined by Fossitt (2000) and Perrin (2008).



3. **DESK STUDY RESULTS**

3.1 NPWS GIS Dataset Records

A review of the NPWS GIS Article 17 datasets and the National Survey of Native Woodlands 2003-2008 and Long-established Woodland datasets was conducted on the 13th May 2020. The datasets were downloaded and overlaid on the Study Area. There were no records for Annex I habitats or long-established woodland habitats within the Study Area.

A large block of Annex I Alluvial Woodland 91E0 is located approximately 1km to the south of the study area. This area was surveyed as part of the National Survey of Native Woodlands and is referenced as site 1800 (Perrin 2008). The site was surveyed in 2007. This site is also recorded in the long-established woodland database.

The most up to date GIS spatial datasets for European designated sites were downloaded from the NPWS website (www.npws.ie) on the 13/05/2020. The eastern extent of the proposed study area overlaps with the River Moy SAC (Site Code 002298) and Lough Conn and Lough Cullin SPA (Site Code 004228). Detailed conservation objective are available from the River Moy SAC and can be downloaded at <u>www.npws.ie</u>. Generic conservation objectives are available for Lough and Lough Cullin SPA.

3.2 **Teagasc Soils**

The Teagasc soils map (<u>http://gis.teagasc.ie/soils/</u>) was downloaded and consulted on the 13th of May 2020 to determine the underlying soil type associated with the study area. The dominant soil association within the study area, to the west of the R315, is Shallow well drained mineral soils dominated by renzinas and lithosols derived from mainly calcareous parent materials. To the east of the R315 is a mixture of Shallow well drained mineral, raised peat, and mineral poorly drained with Lacustrine type soils approaching the shores of Lough Conn.



4.

FIELD STUDY RESULTS

The study area was visited on the 6th of May 2015, 18th of May 2016 and 24th of July 2019. Habitat extents were mapped with a Garmin GPS. The woodlands in the study area occur in the townlands of Cartrongilbert, Mullenmore North, Mullenmore South and Gortnaraby. The woodland plots, dominated by Willow, Alder and occasional Ash, were classified as Wet-willow-alder-ash Woodland (WN6) and the woodland plots dominated by Sycamore was classified as Mixed Broadleaved Woodland (WD1) with a Riparian Woodland (WN5) fringe for part of its length. Sycamore was occasionally recorded from the woodland plots near Lough Conn but the prevalence of this species receded on the approach to the boundary of the River Moy SAC and the species was largely absent within the SAC boundary.

The woodland areas within the study area were assessed to determine if they had any correspondence with the Annex I Priority Habitat Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)* [91E0]. The survey followed the methodology and assessment criteria outlined in Perrin (2008).

The woodlands were assessed at eleven relevé locations to determine if the habitat corresponded to Annex I habitat status and to identify if the habitat was in favorable conservation condition. The results of the assessment are provided in the sections below. A map showing the relevé locations is provided as Figure 4.1. Relevés 01, 02 and 09 are located north of the western site boundary, relevés 03-05 are located to the east and outside the boundary of the River Moy SAC and relevés 06-08 are located within the boundary of the SAC. Relevé 10 and Relevé 11 are located downstream of the works area, 2.8km and 4.8km respectively, in the townland of Knockglass.



4.1 **Relevé 1**

Table 4-1 Relevé 01 details

Attributes	Details	Photograph
Grid Reference	E113535 N317003	
Date	06/05/2015	
Relevé Area	10 m × 10 m	





Table 4-2 Relevé 01 survey results

Site Description		Species	Common Name	Cover (abundance) (Domin Scale)
		Trees and woody species		
Altitude 1	15-20 m			
		Acer pseudoplatanus	Sycamore	7
Aspect	West			
		Sambucus nigra	Elder	3
Topography S	Steep slope			
		Salix spp.	Willow	7
Soil moisture regime	Moderately free draining			
]	The woodland floods during high			
Hydrological features v	water events			
I	Extensive cutting of trees by	Herbs ferns & Bryophytes		
Management	roadside and significant			
ł	ouild-up of brash			-
	_	Caltha palustris	Marsh Marigold	2
Grazing regime I	None			2
- 10		Chrysosplenium oppositifolium	Opposite-leaved Golden-saxifrage	3
Internal features	None of note			
I I I	Fine Woody debris and brash by	Equisetum sp.	Horsetail	2
Dead wood r	roadside			
D 1 11 11	NT / A	Geum rivale	Water Avens	1
Rocks and boulders	N/A		D 11	0
	NT / A	Rubus truticosus agg.	Bramble	3
Stones and Gravel	N/A	TT 1 1 1.		
		Heracleum sphondylium	Hogweed	3
Bare Soil (DAFOR)	0	TT 1 11.	т	
		Hedera helix	Ivy	4
Litter (DAFOR)	J	4	147 1 A	
		Anemone nemorosa	wood Anemone	Э
Bryophyte (DAFOR)	5	T7 ·		0
		v eronica sp.	Speedwell sp.	2
Herb (DAFOR)	U	Mada	147	
T 1 .		Mentha aquatica	water Mint	2
Low woody species				



Site Description		Species	Common Name	Cover (abundance) (Domin Scale)
Invasive Species	Sycamore. Japanese Knotweed recorded outside releve	Geranium robertianum	Herb Robert	3
		Taraxacum officinale	Dandelion	1
		Urtica dioica	Nettle	2
		Anthriscus sylvestris	Cow Parsley	4
		Angelica sylvestris	Wild Angelica	5
		Rumex hydrolapathum	Water Dock	1
		Scrophularia auriculata	Water Figwort	3
		Galium aparine	Cleavers	2
		Cardamine sp.	Bittercress sp.	2
		Arum maculatum	Lords and Ladies	2
		Agrostis sp.	Bent grass sp.	3
		Ranunculus ficaria	Lesser celandine	2



Table 4-3 Relevé 01. Alluvial woodland [91E0] structure and functions assessment criteria (as per Perrin 2008)

Positive indicator species		Negative indicator species	
Trees & woody species		Non-native tree species	
Alnus glutinosa		Acer pseudoplatanus	~
Betula pubescens		Non-native conifer spp.	
Crataegus monogyna		Other:	
Fraxinus excelsior			
Salix cinerea	✓	Non-native shrub species	
Herbs & ferns		Cotoneaster spp.	
Ranunculus repens		Prunus laurocerasus	
Agrostis stolonifera		Rhododendron ponticum	
Angelica sylvestris	~	Symphoricarpos albus	
Filipendula ulmaria		Cornus sericea	
Galium palustre		Other:	
Iris pseudacorus			
		Pass = No negative indicator species recorded	
Mentha aquatica	~		Fail
Phalaris arundinacea		Structural data	
Rumex sanguineus		Median canopy height >7m	~
Urtica dioica	~	Total canopy cover >30% of plot	~
Mosses & liverworts		Target species >50% of canopy	~
Calliergonella cuspidata		Total Shrub layer cover 10-50%	x
Hypnum cupressiforme		Field layer $\geq 20\%$ cover and ≥ 20 cm high	~
Kindbergia praelonga		Pass = all five criteria met	Fail
Ulota bruchii			
Ulota crispa			
Pass = $F.$ excelsior/Alnus glutinosa/ $S.$			
present Other Stop data	Fail		
Evidence of bark stripping (present = fail) % bryophyte cover (pass = >4%)			Pass



This relevé was recorded on the eastern bank of the River Moy. Woodland in this area is formed on a steep bank that leads up to the public road. This area is dominated by species including ash, hazel and hawthorn (*Crataegus monogyna*) and with a ground flora of ivy (*Hedera helix*) with hart's tongue fern (*Asplenium scolopendrium*) and the occasional occurrence of species including wood avens (*Geum urbanum*), dandelion (*Taraxicum officinale agg*.) and seedlings of ash, sycamore and hawthorn. This woodland is classified as Mixed Broadleaved Woodland (WD1).

The assessment area does not correspond to the Annex I Habitat 91E0 *Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* as it fails on 75% of the assessment criteria including diversity of positive indicator species, invasive species and structure.

The size of the woodland plot is significantly lower than the minimum woodland survey area, of 0.98ha, as per Perrin (2008) and the strip of woodland does not extend 20 from the riverbank. The woodland is on a steep sloping embankment and subject to damaging activities including tree cutting and dumping. There are also a number of Invasive species present in the wider area.



4.2 **Relevé 2**

Table 4-4 Relevé 02 details

Attributes	Details	Photograph
Grid Reference	E113591 N317081 06/05/2015	
Date		
Date Relevé Area	10 m × 10 m	



Table 4-5 Relevé 02 survey results

Site Description		Species	Common Name	Cover (abundance) (Domin Scale)	
		Trees and woody species			
Altitude	15-20 m				
		Acer pseudoplatanus	Sycamore	6	
Aspect	West				
		Sambucus nigra	Elder	4	
Topography	Steep slope				
		Salix spp.	Willow	7	
Soil moisture					
regime	Moderately free draining		A 1		
TT 1 1 · 1		Fraxinus excelsior	Ash	6	
Hydrological	The woodland floods during high water				
leatures	Events	Alaura alutinosa	Alder	2	
	roadside and significant	Annus giunnosa	Alder	5	
Management	build-up of brash				
Grazing					
regime	None				
		Herbs ferns & Bryophytes			
Internal					
features	None of note				
	Fine Woody debris and brash by	Viola sp.	Violet	1	
Dead wood	roadside				
		Chrysosplenium oppositifolium	Opposite-leaved Golden-saxifrage	4	
Rocks and					
boulders	N/A			-	
~ .		Equisetum sp.	Horsetail	2	
Stones and	27/4				
Gravel	N/A				
D C. 1		Geum rivale	water Avens	4	
(DAFOR)	0				
(DAFOR)		Rubus fruticosus 200	Bramble	1	
Litter		Rubus nuncosus agg.	Diamole	1	
(DAFOR)	0				



Site Description		Species	Common Name	Cover (abundance) (Domin Scale)
Bryophyte (DAFOR)	0	Heracleum sphondylium	Hogweed	5
Herb (DAFOR)	D	Hedera helix	Ivy	1
Low woody species (DAFOR)	0	Anemone nemorosa	Wood Anemone	5
Invasive Species	Sycamore. Japanese Knotweed recorded outside releve	Veronica sp.	Speedwell sp.	2
		Mentha aquatica	Water Mint	2
		Geranium robertianum	Herb Robert	3
		Taraxacum officinale	Dandelion	1
		Urtica dioica	Nettle	2
		Anthriscus sylvestris	Cow Parsley	4
		Angelica sylvestris	Angelica	8
		Ranunculus ficaria	Lesser celandine	1
		Scrophularia auriculata	Water Figwort	1
		Agrostis sp.	Bent grass sp.	2
		Cardamine sp.	Bittercress sp.	1
		Arum maculatum	Lords and Ladies	1



Table 4-6 Relevé 02. Alluvial woodland [91E0] structure and functions assessment criteria (as per Perrin 2008)

Positive indicator species		Negative indicator species	
Trees & woody species		Non-native tree species	
Alnus glutinosa	~	Acer pseudoplatanus	1
Betula pubescens		Non-native conifer spp.	
Crataegus monogyna		Other:	
Fraxinus excelsior	~		
Salix cinerea	~	Non-native shrub species	
Herbs & ferns		Cotoneaster spp.	
Ranunculus repens		Prunus laurocerasus	
A grostis stolonifera		Rhododendron ponticum	
Angelica sylvestris	1	Symphoricarpos albus	
Filinendula ulmaria		Cornus serices	
		Other	
	, v		
		Pass = No negative indicator species	
Mentha aquatica	~	recorded	Fail
Phalaris arundinacea		Structural data	r
Rumex sanguineus		Median canopy height ≻7m	✓
Urtica dioica		Total canopy cover >30% of plot	~
Mosses & liverworts		Target species >50% of canopy	~
Calliergonella cuspidata		Total Shrub layer cover 10-50%	x
Hypnum cupressiforme		Field layer $\geq 20\%$ cover and ≥ 20 cm high	~
Kindbergia praelonga		Pass = all five criteria met	Fail
Ulota bruchii			
Ulota crispa			
Pass = <i>F. excelsior/Alnus glutinosa/</i>			
S. cinerea plus ≥ 6 of the listed species present	Fail		
Other Stop data			
Evidence of bark stripping (present = fail) % bryophyte cover (pass = >4%)			Pass

The assessment area does not correspond to the Annex I Habitat 91E0 *Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* as it fails on 75% of the assessment criteria including diversity of Positive indicator species, invasive species and structure.

The size of the woodland plot is significantly lower than the minimum woodland survey area, of 0.98ha, as per Perrin (2008) and the strip of woodland does not extend 20 from the riverbank. The woodland is on a steep sloping embankment and subject to damaging activities including tree cutting and dumping. There are also a number of invasive species present in the wider area.



4.3 **Relevé 3**

Table 4-7 Relevé 03 Details

Attributes	Details	Photograph
Grid reference:	E114256 N316504	
Date:	18/05/2016	
Relevé area:	20 m × 20 m	



Table 4-8 Relevé 03 Results

Site Description		Species	Common name	Cover abundance (Domin Scale)
Altitude	14 m	Trees and woody species		
Aspect	-	Alnus glutinosa	Alder	1
Topography	Relatively flat	Fraxinus excelsior	Ash	1
Soil moisture regime	Waterlogged	Salix cinerea	Grey Willow	10
Hydrological features	Woodland is waterlogged and appears to flood, stream runs through woodland area			
Management	None of note	Herbs ferns & Bryophytes		
Grazing regime	None	Caltha palustris	Marsh Marigold	2
Internal features	None of note	Chrysosplenium oppositifolium	Opposite-leaved Golden-saxifrage	1
Dead wood	Fine woody debris	Equisetum sp.	Horsetail	4
Rocks and boulders	N/A	Carex paniculata	Tussock Sedge	5
Stones and gravel	N/A	Rubus fruticosus agg.	Bramble	5
Bare soil	50%	Dryopteris sp.	Fern	1
Litter	10%	Hedera helix	Ivy	6
Bryophyte	7%	Lonicera periclymenum	Honeysuckle	2
Herb	85%	Galium palustre	Marsh Bedstraw	1



Low woody species	10%	Mentha aquatica	Water Mint	1
Invasive species	None	Geranium robertianum	Herb Robert	1
		Comarum palustre	Marsh cinquefoil	1
		lungue officies	Soft Push	1
				1
		Cardamine pratensis	Cuckoo Flower	1
		Calliergonella cuspidate	-	4
		Hypnum cupressiforme	-	
		Ulota spp.	-	



Table 4-9 Relevé 03. Alluvial woodland [91E0] structure and functions assessment criteria (as per Perrin 2008)

Positive indicator species		Negative indicator species	
Trees & woody species		Non-native tree species	
Alnus glutinosa	~	Acer pseudoplatanus	
Betula pubescens		Non-native conifer spp.	
Crataegus monogyna		Other:	
Fraxinus excelsior	~		
Salix cinerea	~	Non-native shrub species	
Herbs & ferns		Cotoneaster spp.	
Ranunculus repens		Prunus laurocerasus	
Agrostis stolonifera		Rhododendron ponticum	
Angelica sulvestris		Symphonicarpos albus	
Filipendula ulmaria		Corrus serices	
Colium polystro		Other	
	, v		
		Pass = No negative indicator species	
Mentha aquatica	~	recorded	Pass
Phalaris arundinacea		Structural data	
Rumex sanguineus		Median canopy height ≻7m	✓
Urtica dioica		Total canopy cover >30% of plot	1
Mosses & liverworts		Target species ≻50% of canopy	~
Calliergonella cuspidata	~	Total Shrub layer cover 10-50%	~
Hypnum cupressiforme	~	Field layer $\geq 20\%$ cover and ≥ 20 cm high	~
Kindbergia praelonga		Pass = all five criteria met	Pass
Ulota bruchii	✓		
Ulota crispa	~		
Pass = F. excelsior/Alnus glutinosa/			
S. cinerea plus ≥ 6 of the listed species			
Other Stop data	Pass		
Evidence of bark stripping (present = fail) % bryophyte cover (pass = >4%)			Pass



The assessment area corresponds to the Annex I habitat Alluvial forests with *Alnus glutinosa* and *Fraxinus* excelsior (*Alno-Padion, Alnion incanae, Salicion albae*)* [91E0]. The woodland is in favourable conservation condition. The woodland appears to be subject to flooding from the adjacent ponds and the River.



4.4 **Relevé 4**

Table 4-10 Relevé 04 Details

Attributes	Details	Photograph
Grid reference:	E114307 N316470	
Date:	18/05/2016	
Relevé area:	20 m × 20 m	



Table 4-11 Relevé 04 Results

				Cover abundance
Site Description		Species	Common name	(Domin Scale)
Altitude	13 m	Trees and woody species		
Aspect	-	Salix cinerea	Grey Willow	7
Topography	-Relatively flat	Fraxinus excelsior	Ash	4
		Crataegus monogyna	Hawthorn	1
Soil moisture regime	Partially wet underfoot			
Hydrological features	Woodland appears to flood, streams run through woodland area	Herbs, ferns and Bryophytes		
Management	None of note	Filipendula ulmaria	Meadowsweet	7
Grazing regime	None	Iris pseudacorus	Yellow Iris	4
Internal features	Streams and river present	Chrysosplenium oppositifolium	Opposite-leaved Golden-saxifrage	4
Dead wood	Fine woody debris	Rubus fruticosus agg.	Bramble	3
Rocks and boulders	N/A	Geranium robertianum	Herb Robert	1
Stones and gravel	N/A	Hedera helix	Ivy	2
Bare soil	30%	Lonicera periclymenum	Honeysuckle	1
Litter	5%	Arum maculatum	Lords & Ladies	1
Bryophyte	4%	Asplenium scolopendrium	Hart's-tongue Fern	1



Herb	90%	Urtica dioica	Nettle	4
Low woody species	5%	Rumex sanguineus	Wood Dock	4
Invasive species	None	Agrostis stolonifera	Creeping Bent	3
		Angelica sylvestris	Angelica	4
		Drvopteris sp.	-	1
		Calliergonella cuspidata	-	
		Hypnum cupressiforme	-	
		Ulota spp.	-	



Table 4-12 Relevé 04. Alluvial woodland [91E0] structure and functions assessment criteria (as per Perrin 2008)

Positive indicator species		Negative indicator species	
Trees & woody species		Non-native tree species	
Alnus glutinosa		Acer pseudoplatanus	
Betula pubescens		Non-native conifer spp.	
Crataegus monogyna	~	Other:	
Fraxinus excelsior	~		
Salix cinerea	~	Non-native shrub species	
Herbs & ferns		Cotoneaster spp.	
Ranunculus repens		Prunus laurocerasus	
Agrostis stolonifera	✓	Rhododendron ponticum	
Angelica sylvestris	✓	Symphoricarpos albus	
Filipendula ulmaria	✓	Cornus sericea	
Galium palustre		Other:	
Iris pseudacorus	✓		
		Pass = No negative indicator species recorded	
Mentha aquatica			Pass
Phalaris arundinacea		Structural data	
Rumex sanguineus	✓	Median canopy height ≻7m	~
Urtica dioica	✓	Total canopy cover >30% of plot	\checkmark
Mosses & liverworts		Target species ≻50% of canopy	√
Calliergonella cuspidata	✓	Total Shrub layer cover 10-50%	~
Hypnum cupressiforme	~	Field layer \geq 20% cover and \geq 20 cm high	~
Kindbergia praelonga		Pass = all five criteria met	Pass
Ulota bruchii	✓		
Ulota crispa	✓		
Pass = F. excelsior/Alnus glutinosa/			
S. cinerea plus ≥ 6 of the listed species	7		
Other Stop data	Pass		
Evidence of bark stripping (present = fail) % bryophyte cover (pass = >4%)			Pass



The assessment area corresponds to the Annex I habitat Alluvial forests with *Alnus glutinosa* and *Fraxinus* excelsior (*Alno-Padion, Alnion incanae, Salicion albae*)* [91E0]. The woodland is in favorable conservation condition. The woodland appears to be subject to flooding from the adjacent ponds and the River.



4.5 **Relevé 5**

Table 4-13 Relevé 05 Details

Attributes	Details	Photograph
Grid reference:	E114502 N316389	
Date:	18/05/2016	
Relevé area:	20 m × 20 m	



Table 4-14 Relevé 05 Results

Site Description		Species	Common name	Cover abundance (Domin Scale)
Altitude	13 m	Trees and woody species		
Aspect	-	Salix cinerea	Grey Willow	6
Topography	-Relatively flat	Alnus glutinosa	Alder	8
Soil moisture regime	Partially wet underfoot	Fraxinus excelsior	Ash	2
Hydrological features	The woodland shows signs of flood and is located approximately 50m from Lough Conn	Acer pseudoplatanus	Sycamore	1
Management	None of note	Herbs, ferns and Bryophytes		
Grazing regime	None	Taraxacum officinale agg.	Dandelion	4
Internal features	-	Iris pseudacorus	Yellow Iris	4
Dead wood	Fine woody debris	Filipendula ulmaria	Meadowsweet	4
Rocks and boulders	N/A	Ranunculus repens	Creeping Buttercup	2
Stones and gravel	N/A	Anthoxanthum odoratum	Sweet Vernal	1
Bare soil	10%	Molinia caerulea	Purple Moor-grass	2



Litter	10%	Rumex acetosa	Common Sorrel	1
Bryophyte	5%	Agrostis stolonifera	Creeping Bent	7
Herb	85%	Rubus fruticosus agg.	Bramble	4
Low woody species	-	Potentilla erecta	Tormentil	1
Invasive species	None	Glyceria fluitans	Floating Sweet-grass	4
		Equisetum sp.	Horsetail	2
		Chrysosplenium oppositifolium	Opposite-leaved Golden-saxifrage	2
		Cardamine flexuosa	Wavy Bittercress	1
		Solanum dulcamara	Woody nightshade	1
		Ranunculus repens	Creeping Buttercup	2
		Ranunculus acris	Meadow Buttercup	2
		Lathyris pratensis	Meadow vetchling	1
		Veronica chamaedrys	Germander Speedwell	1
		Galium aparine	Cleavers	1
		Mentha aquatica	Water mint	1
		Lysimachia vulgaris	Yellow Loosestrife	1



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	Geranium robertianum	Herb Robert	1
	Calliergonella cuspidata	-	
	Hypnum cupressiforme	-	
	Ulota spp.	-	



Positive indicator species		Negative indicator species	
Trees & woody species		Non-native tree species	
Alnus glutinosa	~	Acer pseudoplatanus	~
Betula pubescens		Non-native conifer spp.	
Crataegus monogyna		Other:	
Fraxinus excelsior	~		
Salix cinerea	~	Non-native shrub species	
Herbs & ferns		Cotoneaster spp.	
Ranunculus repens	\checkmark	Prunus laurocerasus	
Agrostis stolonifera	✓	Rhododendron ponticum	
Angelica sylvestris		Symphoricarpos albus	
Filipendula ulmaria	✓	Cornus sericea	
Galium palustre		Other:	
Iris pseudacorus	~		
Mentha aquatica	\checkmark	Pass = No negative indicator species recorded	Fail
Phalaris arundinacea		Structural data	
Rumex sanguineus		Median canopy height ≻7m	~
Urtica dioica		Total canopy cover >30% of plot	~
Mosses & liverworts		Target species >50% of canopy	~
Calliergonella cuspidata	✓	Total Shrub layer cover 10-50%	~
Hypnum cupressiforme	\checkmark	Field layer $\geq 20\%$ cover and ≥ 20 cm high	~
Kindbergia praelonga		Pass = all five criteria met	Pass
Ulota bruchii	~		
Ulota crispa	~		
Pass = <i>F. excelsior/Alnus glutinosa/S.</i> <i>cinerea</i> plus ≥ 6 of the listed species	Page		
Other Stop data	1 ass		
Evidence of bark stripping (present = fai % bryophyte cover (pass = >4%)	il)		Pass

Table 4-15 Relevé 05 Alluvial woodland [91E0] structure and functions assessment criteria (as per Perrin 2008)



Based on the above assessment, the Wet willow-alder-ash Woodland was found to correspond to the Annex I habitat Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)* [91E0]. A sapling *Acer pseudoplatanus* was recorded from the relevé and therefore the plot failed the assessment in relation to the presence of a non-native indicator species. The presence of one Acer *pseudoplatanus* sapling was not considered to detract from the overall favourable conservation condition of the woodland relevé. The woodland appears to be subject to flooding from the adjacent ponds and the River.



4.6 **Relevé 6**

Table 4-16 Relevé 06 Details

Attributes	Details	Photograph
Grid reference:	E114680 N316367	
Date:	18/05/2016	
Relevé area:	20 m × 20 m	



Site Description		Species	Common name	Cover abundance (Domin Scale)
Altitude	13 m	Trees and woody species		
Aspect	-	Salix cinerea	Grey Willow	6
		Alnus glutinosa	Alder	8
Topography	-Relatively flat	Fraxinus excelsior	Ash	1
Soil moisture regime	Partially wet underfoot	Herbs, ferns and Bryophytes	· ·	
Hydrological features	The woodland shows signs of flood and is located approximately 250m from Lough Conn	Filipendula ulmaria	Meadowsweet	7
Management	None of note	Caltha palustris	Marsh Marigold	4
Grazing regime	None	Equisetum sp.	Horsetail	2
Internal features	-	Galium palustre	Marsh Bedstraw	1
Dead wood	Fine woody debris	Iris pseudacorus	Yellow Iris	4
Rocks and boulders	N/A	Rubus fruticosus agg.	Bramble	6
Stones and gravel	N/A	Carex paniculata	Tussock sedge	2
Bare soil	2%	Carex remota	Remote Sedge	1
Litter	10%	Mentha aquatica	Water Mint	2



Bryonhyte	30%	luncus offices	Soft Bush	1
Буорнусе	30%	Juncus enuses	Soft Rush	1
Herb	90%	Ranunculus repens	Creeping Buttercup	1
Low woody species	-	Angelica sylvestris	Angelica	1
Invasive species	None	Agrostis stolonifera	Creeping Bent	3
		Alisma plantago-aquatica	Water Plantain	1
		Valeriana officinalis	Valerian	1
		Lysimachia vulgaris	Yellow Loosestrife	1
		Cardamine pratensis	Cuckoo Flower	1
		Calliergonella cuspidata	-	
		Hypnum cupressiforme	-	
		Ulota spp.	-	



Table 4-18 Relevé 06. Alluvial woodland [91E0] structure and functions assessment criteria (as per Perrin 2008)

Positive indicator species		Negative indicator species	
Trees & woody species		Non-native tree species	
Alnus glutinosa	~	Acer pseudoplatanus	
Betula pubescens		Non-native conifer spp.	
Crataegus monogyna		Other:	
Fraxinus excelsior	~		
Salix cinerea	~	Non-native shrub species	
Herbs & ferns		Cotoneaster spp.	
Ranunculus repens	~	Prunus laurocerasus	
Agrostis stolonifera	✓	Rhododendron ponticum	
Angelica sylvestris	✓	Symphoricarpos albus	
Filipendula ulmaria	✓	Cornus sericea	
Galium palustre	~	Other:	
Iris pseudacorus	~		
Mentha aquatica	1	Pass = No negative indicator species recorded	Pass
Phalaris arundinacea		Structural data	
Rumex sanguineus		Median canopy height ≻7m	\checkmark
Urtica dioica		Total canopy cover >30% of plot	~
Mosses & liverworts		Target species >50% of canopy	~
Calliergonella cuspidata	~	Total Shrub layer cover 10-50%	~
Hypnum cupressiforme	~	Field layer $\geq 20\%$ cover and ≥ 20 cm high	~
Kindbergia praelonga		Pass = all five criteria met	Pass
Ulota bruchii	~		
Ulota crispa	~		
Pass = <i>F. excelsior/Alnus glutinosa/ S. cinerea</i> plus ≥6 of the listed species present	Pass		
Other Stop data			
Evidence of bark stripping (present = fail) % bryophyte cover (pass = >4%)			Pass



4.7 **Relevé 7**

Table 4-19 Relevé 07 Details

Attributes	Details	Photograph
Grid reference:	E114895 N316495	
Date:	18/05/2016	
Relevé area:	20 m × 20 m	



Table 4-20 Relevé 07 Results				
Site Description		Species	Common name	Cover abundance (Domin Scale)
Altitude	13 m	Trees and woody species		
Aspect	-	Salix cinerea	Grey Willow	8
Topography	Relatively flat	Alnus glutinosa	Alder	5
		Herbs, ferns and Bryophytes	·	
		Filipendula ulmaria	Meadowsweet	6
Soil moisture regime	Partially wet underfoot	Iris pseudacorus	Yellow Iris	3
	The woodland shows signs of flood and is located approximately 50m			
Hydrological features	from Lough Conn	Caltha palustris	Marsh Marigold	5
Management	None of note	Phalaris arundinacea	Reed-canary Grass	4
Grazing regime	None	Ranunculus repens	Creeping Buttercup	4
Internal features	-	Mentha aquatica	Water Mint	4
Dead wood	Fine woody debris	Galium palustre	Marsh Bedstraw	4
Rocks and boulders	N/A	Equisetum sp.	Horsetail	2
Stones and gravel	N/A	Veronica beccabunga	Brooklime	1
Bare soil	10%	Agrostis stolonifera	Creeping Bent	3
Litter	10%	Carex nigra	Common Sedge	4



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Bryophyte	5%	Hypnum cupressiforme	-	
Herb	85%	Ulota spp.	-	
Low woody species	-			
Invasive species	None			



Table 4-21 Relevé 07. Alluvial woodland [91E0] structure and functions assessment criteria (as per Perrin 2008)

Positive indicator species		Negative indicator species	
Trees & woody species		Non-native tree species	
Alnus glutinosa	✓	Acer pseudoplatanus	
Betula pubescens		Non-native conifer spp.	
Crataegus monogyna		Other:	
Fraxinus excelsior			
Salix cinerea	✓	Non-native shrub species	
Herbs & ferns		Cotoneaster spp.	
Ranunculus repens	~	Prunus laurocerasus	
Agrostis stolonifera	~	Rhododendron ponticum	
Angelica sylvestris		Symphoricarpos albus	
Filipendula ulmaria	~	Cornus sericea	
Galium palustre	~	Other:	
Iris pseudacorus	~		
		Pass = No negative indicator species recorded	_
Mentha aquatica	~		Pass
Phalaris arundinacea	√	Structural data	
Rumex sanguineus		Median canopy height ≻7m	✓
Urtica dioica		Total canopy cover >30% of plot	~
Mosses & liverworts		Target species ≻50% of canopy	~
Calliergonella cuspidata		Total Shrub layer cover 10-50%	~
Hypnum cupressiforme	~	Field layer $\geq 20\%$ cover and ≥ 20 cm high	~
Kindbergia praelonga		Pass = all five criteria met	Pass
Ulota bruchii			
Ulota crispa			
Pass = <i>F. excelsior/Alnus glutinosa/ S. cinerea plus</i> ≥6 of the listed species present	Pass		
Other Stop data Evidence of bark stripping (present = f	ail): % hrvonhvt	P = cover (pass = >4%)	Page



Based on the above assessment, the Wet willow-alder-ash Woodland was found to correspond to the Annex I habitat Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)* [91E0] as it passes all the required assessment criteria. The woodland is in favorable conservation condition. This section of the woodland is located within the boundary of the River Moy SAC.



4.8 **Relevé 8**

Table 4-22 Relevé 08 Details

Attributes	Details	Photograph
Grid reference:	E114885 N316543	
Date:	18/05/2016	
Relevé area:	20 m × 20 m	



Table 4-23 Relevé 08 Results

Site Description		Species	Common name	Cover abundance (Domin Scale)
Altitude	13 m	Trees and woody species		
Aspect	-	Salix cinerea	Grey Willow	7
Topography	-Relatively flat	Alnus glutinosa	Alder	7
Soil moisture regime	Partially wet underfoot	Herbs, ferns and Bryophytes		
Hydrological features	The woodland shows signs of flooding and is located approximately 35m from Lough Conn	Carex nigra	Common Sedge	5
Management	None of note	Caltha palustris	Marsh Marigold	4
Grazing regime	None	Hydrocotyle vulgaris	Marsh Pennywort	4
Internal features	-	Filipendula ulmaria	Meadowsweet	5
Dead wood	Fine woody debris	Galium palustre	Marsh Bedstraw	4
Rocks and boulders	N/A	Juncus effuses	Soft Rush	4
Stones and gravel	N/A	Iris pseudacorus	Yellow Iris	4
Bare soil	5%	Agrostis stolonifera	Creeping Bent	5
Litter	5%	Mentha aquatica	Water Mint	4



Bruncheste	409/	DL - la - in a mun d'an ann	Dead commercian	F
Бгуорпуtе	40%	Phalans arunoinacea	Reed-canary Grass	3
Herb	90%	Hypnum cupressiforme	-	
Low woody species	-	Ulota spp.	-	
Invasive species	None			



Table 4-24 Relevé 08. Alluvial woodland [91E0] structure and functions assessment criteria (as per Perrin 2008)

Positive indicator species		Negative indicator species	
Trees & woody species		Non-native tree species	
Alnus glutinosa	~	Acer pseudoplatanus	
Betula pubescens		Non-native conifer spp.	
Crataegus monogyna		Other:	
Fraxinus excelsior			
Salix cinerea	~	Non-native shrub species	
		Cotoneaster spp.	
Herbs & ferns		Prunus laurocerasus	
Agrostis stolonifera	~	Rhododendron ponticum	
Angelica sylvestris		Symphoricarpos albus	
Filipendula ulmaria	~	Cornus sericea	
Galium palustre	~	Other:	
Iris pseudacorus	✓		
		Pass = No negative indicator species	
Mentha aquatica	✓		Pass
Phalaris arundinacea	✓	Structural data	
Rumex sanguineus		Median canopy height ≻7m	√
Urtica dioica		Total canopy cover >30% of plot	✓
Mosses & liverworts		Target species ≻50% of canopy	1
Calliergonella cuspidata		Total Shrub layer cover 10-50%	1
Hypnum cupressiforme	~	Field layer $\geq 20\%$ cover and ≥ 20 cm high	~
Kindbergia praelonga		Pass = all five criteria met	Pass
Ulota bruchii	~		
Ulota crispa	~		
Pass = F. excelsior/Alnus glutinosa/			
S. cinerea plus ≥ 6 of the listed species	-		
Other Stop data	Pass		
Evidence of bark stripping (present = fail) % bryophyte cover (pass = >4%)			Pass



Based on the above assessment, the Wet willow-alder-ash Woodland was found to correspond to the Annex I habitat Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)* [91E0] as it passes all the required assessment criteria. The woodland is in favorable conservation condition. This section of the woodland is located within the boundary of the River Moy SAC.



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4.9 **Relevé 9**

Table 4-25 Relevé 09 details

Attributes	Details	Photograph
Grid Reference	E113527 N316923	
Date	24/07/2019	
Relevé Area	10 m × 10 m	



Table 4-26 Relevé 09 survey results

	Species	Common Name	Cover (abundance) (Domin Scale)
	Trees and woody species Canopy		
21m			
	Canopy		
West			
	Fraxinus excelsior	Ash	6
Moderately Steep slope			
	Corylus avellana	Hazel	4
Deposition from flooding			
The woodland floods during high	Crataegus monogyna	Hawthorn	4
water events			
Roadside hedge on the other side of	Understory		
releve			
		TT 1	-
N.	Corylus avellana	Hazel	5
None			4
	Euonymus europaeus	Spindle	4
None of note	T: 111		
0			
0		T T	0
NT / A	Hedera helix	Ivy	8
N/A	<u> </u>		
N/A	Aspienium scolopendrium	Harts tongue tern	Э
N/A	<u>C</u>	II. demonstration	2
N/A	Crataegus monogyna	Hawthorn sapling	3
IV/A	Colium anarina	Clease	9
0	Ganun aparme	Cleavers	2
0	Fravinus avcalsion	Ash sanling	4
0	TTaxinus excession	Ash saping	4
0	Scrophyloria auriculata	Water Figuert	+
D		water rigwort	,
D	Tarayagum officinala	Dandalian	+
	тагахасши ошешане	Danuenon	т
0			
	21m West Moderately Steep slope Deposition from flooding The woodland floods during high water events Roadside hedge on the other side of releve None None of note O N/A N/A N/A N/A O O	Species 21m Trees and woody species Canopy 21m Canopy West Fraxinus excelsior Moderately Steep slope Corylus avellana Deposition from flooding Crataegus monogyna The woodland floods during high water events Crataegus monogyna Roadside hedge on the other side of releve Understory None Euonymus europaeus None of note Field layer None of note Galium scolopendrium N/A Galium aparine N/A Galium aparine O Fraxinus excelsior O Trataxacum officinale	Species Common Name 21m Trees and woody species Canopy West Canopy Moderately Steep slope Fraxinus excelsior Ash Deposition from flooding Corylus avellana Hazel The woodland floods during high water events Carataegus monogyna Hawthorn Roadside hedge on the other side of releve Corylus avellana Hazel None Corylus avellana Hazel None Corylus avellana Hazel None Corylus avellana Hazel None Field layer Spindle O Field layer Spindle N/A Asplenium scolopendrium Harst tongue fern N/A Cataegus monogyna Hawthorn sapling N/A Galium aparine Cleavers O Fredi averia Asplenium scolopendrium N/A Fraxinus excelsior Ash sapling O Fraxinus excelsior Ash sapling O Traxacum officinale Dandelion



Site Description		Species	Common Name	Cover (abundance) (Domin Scale)
Invasive Species	Sycamore	Acer pseudoplatanus	Sycamore seedlings	+
Average canopy	10	Geum urbanum	Wood Avens	1
neigin		Arum maculatum	Lords and ladies	+
		Brachypodium sylvaticum	False brome	+
		Filipendula ulmaria	Meadowsweet	1
		Rosa canina	Dog rose	+
		Carex sylvatica	Wood sedge	+
		Veronica chamaedrys	Germander speedwell	+
		Rubus ulmifolius	Blackberry	+
		Euonymus europaeus	Spindle (sapling)	+
		Anthriscus sylvestris	Cow parsley	1
		Hypericum androsaemum	Tutsan	+
		Heracleum sphondylium	Hogweed	+
		Bryophytes		
		Climacium dendroides		6
		Eurhynchium striatum		5



Site Description	Species	Common Name	Cover (abundance) (Domin Scale)
	Thuidium tamariscinum.		1



Table 4-27 Relevé 09. Alluvial woodland [91E0] structure and functions assessment criteria (as per Perrin 2008)

Positive indicator species		Negative indicator species	
Trees & woody species		Non-native tree species	
Alnus glutinosa		Acer pseudoplatanus	1
Betula pubescens		Non-native conifer spp.	
Crataegus monogyna	✓	Other:	
Fraxinus excelsior	~		
Salix cinerea		Non-native shrub species	
Herbs & ferns		Cotoneaster spp.	
Ranunculus repens		Prunus laurocerasus	
Agrostis stolonifera		Rhododendron ponticum	
Angelica sylvestris		Symphoricarpos albus	
Filipendula ulmaria	✓	Cornus sericea	
Galium nalustre		Other	
Iris pseudacorus			
		Pass = No negative indicator species	
Mentha aquatica			Fail
Phalaris arundinacea		Structural data	
Rumex sanguineus		Median canopy height ≻7m	
Urtica dioica		Total canopy cover >30% of plot	
Mosses & liverworts		Target species ≻50% of canopy	
Calliergonella cuspidata		Total Shrub layer cover 10-50%	
Hypnum cupressiforme		Field layer $\geq 20\%$ cover and ≥ 20 cm high	
Kindbergia praelonga		Pass = all five criteria met	Fail
Ulota bruchii			
Ulota crispa			
Pass = F. excelsior/Alnus glutinosa/S.			
<i>cinerea</i> plus ≥6 of the listed species present	Fail		
Other Stop data			
Evidence of bark stripping (present = fail) % bryophyte cover (pass = >4%)			Pass



This relevé was recorded on the eastern bank of the River Moy. Woodland in this area is formed on a steep bank that leads up to the public road. This woodland is classified as Mixed Broadleaved Woodland (WD1). This area is dominated by species including ash (*Fraxinus excelsior*), hazel (*Corylus avellana*) and hawthorn (*Crataegus monogyna*) and with a ground flora of ivy (*Hedera helix*) with hart's tongue fern (*Asplenium scolopendrium*) and the occasional occurrence of species including wood avens (*Geum urbanum*), meadowsweet (*Filipendula ulmaria*), ash and hawthorn saplings.

The assessment area does not correspond to the Annex I Habitat 91E0 *Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* as it fails on 75% of the assessment criteria including diversity of positive indicator species, invasive species and structure.

The size of the woodland plot is significantly lower than the minimum woodland survey area, of 0.98ha, as per Perrin (2008) and the strip of woodland does not extend 20 from the riverbank. The woodland is on a steep sloping embankment and subject to damaging activities including tree cutting and dumping.



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4.10 **Relevé 10**

Table 4-28 Relevé 10 details

Attributes	Details	Photograph
Grid Reference	E114354 N319258	
Date	24/07/2019	
Date Relevé Area	10 m × 10 m	



Table 4-29 Relevé 10 survey results

Site Description		Species	Common Name	Cover (abundance) (Domin Scale)
		Trees and woody species Canopy		
Altitude	16m			
		Canopy		
Aspect	West			
		Fraxinus excelsior	Ash	5
Topography	Moderate slope			
	Deposition from flooding.	Salix spp.	Willow	5
	Approximately half of the			
Soil moisture regime	relevé occurs in low lying			
	wetter soil.			
	Subject to occasional	Alnus glutinosa	Alder	5
Hydrological features	inundation from river.			
		Understory		
Management	None			
	Deer tracks and deer scat	Salix spp.	Willow	4
	present. However, no			
Grazing regime	evidence of significant			
	grazing.			
		Crataegus monogyna	Hawthorn	3
Internal features	None of note			
		Field layer		
Dead wood	F		Lee	1
		Galium aparine	Cleavers	3
Rocks and boulders	N/A			
		Geranium robertianum	Herb Robert	+
Stones and Gravel	N/A			
		Filipendula ulmaria	Meadowsweet	5
Bare Soil (DAFOR)	N/A			
		Circaea lutetiana	Enchanters nightshade	3
Litter (DAFOR)	0			
		Chrysosplenium oppositifolium	Opposite-leaved golden-saxifrage	4
Bryophyte (DAFOR)	F			
		Geum urbanum	Wood avens	<1
Herb (DAFOR)	Α			

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Site Description		Species	Common Name	Cover (abundance) (Domin Scale)
Low woody species (DAFOR)	0	Urtica dioica	Nettle	4
Invasive Species	None	Hedera helix	Ivy	6
Average canopy height	8m	Asplenium scolopendrium	Harts tongue fern	+
		Rumex sanguineus	Wood dock	3
		Veronica chamaedrys	Germander speedwell	3
		Brachypodium sylvaticum	False brome	4
		Scrophularia auriculata	Water figwort	3
		Rubus ulmifolius	Blackberry	5
		Ranunculus repens	Creeping buttercup	3
		Iris pseudacorus	Yellow iris	3
		Leontodon spp.	Hawkweed	+
		Anthriscus sylvestris	Cow parsley	3
		Angelica sylvestris	Wild angelica	3
		Valeriana dioica	Marsh valerian	+
		Salix spp.	Willow	3
		Poa trivialis	Rough meadow-grass	+



Site Description	Species	Common Name	Cover (abundance) (Domin Scale)
	Oenanthe crocata	Hemlock water-dropwort	3
	Aegopodium podagraria	Ground elder	4
	Calystegia sepium	Hedge bindweed	3
	Deschampsia cespitosa	Tufted hair-grass	3
	Jacobaea aquatica	Marsh ragwort	3
	Heracleum sphondylium	Hogweed	3
	Carex remota	Remote sedge	3
	Hypericum androsaemum	Tutsan	+
	Dryopteris dilitata	Broad buckler-fern	3
	Fraxinus excelsior	Ash	3
	Bryophytes		
	Fissidens spp.		4
	Eurhynchium striatum		4
	Kindbergia praelonga		3
	Plagiogonum spp.		4



Table 4-30 Relevé 10 Alluvial woodland [91E0] structure and functions assessment criteria (as per Perrin 2008)

Positive indicator species		Negative indicator species	
Trees & woody species		Non-native tree species	
Alnus glutinosa	✓	Acer pseudoplatanus	
Betula pubescens		Non-native conifer spp.	
Crataegus monogyna		Other:	
Fraxinus excelsior	~		
Salix cinerea	~	Non-native shrub species	
Herbs & ferns		Cotoneaster spp.	
Ranunculus repens	~	Prunus laurocerasus	
Agrostis stolonifera		Rhododendron ponticum	
Angelica sylvestris	~	Symphoricarpos albus	
Filipendula ulmaria	~	Cornus sericea	
Galium palustre		Other:	
Iris pseudacorus	~		
		Pass = No negative indicator species recorded	_
Mentha aquatica			Pass
Phalaris arundinacea		Structural data	
Rumex sanguineus	✓	Median canopy height ≻7m	✓
Urtica dioica	✓	Total canopy cover >30% of plot	~
Mosses & liverworts		Target species ≻50% of canopy	Fail
Calliergonella cuspidata		Total Shrub layer cover 10-50%	Fail
Hypnum cupressiforme		Field layer $\geq 20\%$ cover and ≥ 20 cm high	~
Kindbergia praelonga	~	Pass = all five criteria met	Fail
Ulota bruchii			
Ulota crispa			
Pass = <i>F. excelsior/Alnus glutinosa/S.</i> <i>cinerea plus</i> \geq 6 of the listed species present	Pass		
Other Stop data Evidence of bark stripping (present = fa	ail): % bryophyte	cover (pass = >4%)	Pass



The Wet willow-alder-ash Woodland was found to correspond to the Annex I habitat Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)* [91E0] as it passes on 75% of the required assessment criteria in terms of positive indicator species, lack of negative indicators and bryophyte cover. The woodland is in favourable conservation condition.



4.11 **Relevé 11**

Table 4-31 Relevé 11 details

Attributes	Details	Photograph
Grid Reference	E115055 N320251	
Date	24/07/2019	
Relevé Area	10 m × 10 m	



Table 4-32 Relevé 11 survey results

Site Description		Species	Common Name	Cover (abundance) (Domin Scale)	
		Trees and woody species Canopy			
Altitude	15m				
		Canopy			
Aspect	West				
		Salix cinerea	Grey willow	4	
Topography	Relatively Flat				
	Subject to occasional inundation from	Fraxinus excelsior	Ash	6	
Soil moisture regime	river.	A	<u><u></u></u>	r	
Undrological factures	Subject to occasional inundation from	Acer pseudopialanus	Sycamore	5	
Trydrological leatures	livel.	Facus subseties	Booch	4	
Management	None	Tagus sylvauca	Deech	Ŧ	
Management		Alnus olutinosa	Alder	4	
Internal features	None of note	Timus gradnosa			
		Ouercus robur	Oak	4	
Dead wood	F	\sim			
		Understory			
Rocks and boulders	N/A				
		Crataegus monogyna	Hawthorn	4	
Stones and Gravel	N/A				
		Fraxinus excelsior	Ash	4	
Bare Soil (DAFOR)	0				
		Acer pseudoplatanus	Sycamore	3	
Litter (DAFOR)	0				
	-	Field layer			
Bryophyte (DAFOR)	F .				
		Kanunculus acris	Meadow buttercup	+	
Herb (DAFOR)	Α	D	C	4	
T		Kanunculus repens	Creeping buttercup	4	
(DAFOR)	0				
		Acer pseudoplatanus	Sycamore	3	
Invasive Species	Sycamore			C .	



Site Description		Species	Common Name	Cover (abundance) (Domin Scale)
Average canopy height	12m	Geranium robertianum	Herb Robert	4
Grazing	Evidence of trampling, but no evidence of grazing pressure.	Caltha palustris	Marsh marigold	3
		Carex remota	Remote sedge	4
		Circaea lutetiana	Enchanters nightshade	5
		Filipendula ulmaria	Meadowsweet	4
		Urtica dioica	Nettle	5
		Stachys sylvatica	Hedge woundwort	+
		Chrysosplenium oppositifolium	Opposite-leaved golden-saxifrage	3
		Geum urbanum	Wood avens	3
		Hedera helix	Ivy	7
		Rubus fruticosus agg.	Bramble	3
		Asplenium scolopendrium	Harts tongue fern	4
		Rumex sanguineus	Wood dock	3
		Veronica chamaedrys	Germander speedwell	3
		Dryopteris dilitata	Broad buckler-fern	4
		Brachypodium sylvaticum	False brome	<1



Site Description		Species	Common Name	Cover (abundance) (Domin Scale)
		Deschampsia cespitosa	Tufted hair-grass	<1
		Taraxacum officinale agg.	Dandelion	+
		Sanicula europaea	Wood sanicle	+
		Salix cinerea	Grey willow	3
		Galium aparine	Cleavers	3
		Fraxinus excelsior	Ash	3
		Poa trivialis	Rough meadow-grass	+
		Fagus sylvatica	Beech (seedling)	+
		Bryophytes		
		Plagiomnium undulatum		4
		Thamnobryum alopecurum		5
		Eurhynchium striatum		4
		Kindbergia praelonga		5
		Fissidens spp.		3
		Hypnum spp.		<1



Table 4-33 Relevé 11 Alluvial woodland [91E0] structure and functions assessment criteria (as per Perrin 2008)

Positive indicator species		Negative indicator species	
Trees & woody species		Non-native tree species	
Alnus glutinosa		Acer pseudoplatanus	\checkmark
Betula pubescens		Non-native conifer spp.	
Crataegus monogyna	✓	Other: Fagus sylvatica	~
Fraxinus excelsior	✓		
Salix cinerea		Non-native shrub species	
Herbs & ferns		Cotoneaster spp.	
Ranunculus repens	√	Prunus laurocerasus	
Agrostis stolonifera	√	Rhododendron ponticum	
Angelica sylvestris		Symphoricarpos albus	
Filipendula ulmaria	√	Cornus sericea	
Galium palustre		Other:	
Iris pseudacorus			
		Pass = No negative indicator species recorded	
Mentha aquatica			FAIL
Phalaris arundinacea		Structural data	
Rumex sanguineus	~	Median canopy height ≻7m	✓
Urtica dioica	√	Total canopy cover >30% of plot	~
Ranunculus repens	✓	Target species >50% of canopy	x
Mosses & liverworts		Total Shrub layer cover 10-50%	✓
Calliergonella cuspidata		Field layer $\geq 20\%$ cover and ≥ 20 cm high	\checkmark
Hypnum cupressiforme		Pass = all five criteria met	FAIL
Kindbergia praelonga			
Ulota bruchii			
Ulota crispa			
Pass = F. excelsior/Alnus glutinosa/S.			
<i>cinerea</i> plus ≥6 of the listed species present Other Stop data	Pass		
Evidence of bark stripping (present = fail) % bryophyte cover (pass = >4%)			PASS



The Wet willow-alder-ash Woodland was found to correspond to the Annex I habitat Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)* [91E0].

Although the assessment failed to meet on 50% of the assessment criteria, due to the presence of negative indicator species beech (*Fagus sylvatica*) and Sycamore (*Acer pseudoplatanus*) and due to the structure of the woodland. However, on balance the woodland does correspond to alluvial woodland as the area is located close to the river, is located on flat deep soils and is subject to regular inundation.



5. **BIBLIOGRAPHY**

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