



## APPENDIX 6-1

### ALLUVIAL WOODLAND REPORT



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The Hodson Bay Waterfront Park Project is co-funded by the Government of Ireland and the European Union through the EU Just Transition Fund

# **91E0 Alluvial Forest Condition Assessment Report**

Hodson Bay Waterfront  
Park, Co. Roscommon





## DOCUMENT DETAILS

Client: **Roscommon County Council**

Project Title: **Hodson Bay Waterfront Park, Co. Roscommon**

Project Number: **241220**

Document Title: **91E0 Alluvial Forest Condition Assessment Report**

Document File Name: **Appendix 6-1 – 91E0 Alluvial Forest Condition Assessment Report – F – 2026.08.04 – 241220**

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| Rev | Status | Date       | Author(s) | Approved By |
|-----|--------|------------|-----------|-------------|
| 01  | Final  | 04/08/2026 | TOC/NR    | AvdGM       |
|     |        |            |           |             |
|     |        |            |           |             |
|     |        |            |           |             |



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# 1. INTRODUCTION

## 1.1 Context

MKO was commissioned to undertake condition assessments of areas of potential *91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)*, listed in Annex I of the EU Habitats Directive and included as a Qualifying Interest of Lough Ree SAC [Site code: 000440]. Surveys aimed to provide an evaluation and assessment of this habitat occurring within and in the vicinity of the Proposed Development at Hodson Bay, Co. Roscommon.

Conditions assessments of potential 91E0 alluvial forest focused on areas of the habitat occurring within the Proposed Development. Surveys included detailed botanical surveys of the areas of potential 91E0 habitat using methodology as outlined in Irish Wildlife Manual No. 71, '*Results of monitoring survey of old sessile oak woods and alluvial forests*' (O'Neill & Barron, 2013).

Areas of potential Annex I 91E0 habitat were identified within the Proposed Development Site during multi-disciplinary ecological walkover survey on 29th May 2025, with detailed condition assessments of these areas conducted on 28th July 2025. Detailed condition assessment surveys were conducted by Timothy O' Ceallaigh (B.Sc.). Detailed methodologies and guidance followed during these surveys are outlined below.

## 2. SURVEY METHODS

### 2.1 Dedicated Habitat and Vegetation Composition Surveys

The habitat assessment surveys described in this report have been undertaken with reference to the following guidelines and interpretation documents:

- Commission of the European Communities (2013) *Interpretation manual of European Union habitats*. Eur 28. European Commission DG Environment.
- NPWS (2025). *The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview. Unpublished NPWS report*. Edited by: Domhnall Finch, Aoife Delaney, Fionnuala O'Neill and Deirdre Lynn.
- O'Neill, F.H. & Barron, S.J. (2013) Results of monitoring survey of old sessile oak woods and alluvial forests. Irish Wildlife Manuals, No. 71. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.
- Plant nomenclature for vascular plants follows 'New Flora of the British Isles' (Stace, 2010).

### 2.2 Alluvial forest Condition Assessment

Detailed habitat classification and assessment was undertaken by MKO at targeted locations identified as areas of potential Annex I alluvial forest both within the Proposed Development Site and within Lough Ree SAC [Site code: 000440] adjacent and in the vicinity of the Proposed Development Site, with relevés and condition habitat assessment undertaken at each of the identified survey sites to assess habitat conformity to the 91E0 alluvial forest Annex I habitat.

Botanical assessment was carried out using methods detailed in Ó' Neill and Barron (2013). This included species composition including target species, indicator species (woody, ferns, herbs and bryophytes) and negative indicator species, as well as woodland structure and function, including grazing pressure, tree regeneration, tree size class and the presence of deadwood.

Condition assessment was conducted at 5 no. monitoring plots. Where possible, condition assessment was carried out in 20 m x 20 m plots. Where this was not possible due to insufficient overall area of the identified woodland habitats, 10 m x 10 m plots, as well as linear 10 m x 2 m (along the lake margins north of the existing Baysports facility) were carried out. Due to the fragmented, non-continuous nature and small area of alluvial woodland habitat within the Proposed Development Site, plot sizes were variable. Additionally, the overall small area size of woodland habitat limited assessment of these habitats on a four-plot level. Therefore, assessments were made at the individual plot level, but not four plot level, as detailed by Ó'Neill and Barron. For the individual plot assessment, eight out of ten criteria needed to pass to achieve an overall pass.

Table 2-1 provides a summary of the assessment criteria and required passing criteria for each assessment. The results of these condition assessments are presented in Section 2 of this report. A representative photograph was also taken for each of the areas of this habitat recorded. The locations of all condition assessments conducted for alluvial forest are shown in

Figure 2-1 within Section 2 of this report.

Table 2-1. Assessment Criteria and Associated Pass Criteria for each

| Assessment Criteria        | Passing criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Positive indicator species | <p>Positive indicator species for 91E0 woodlands:</p> <ul style="list-style-type: none"> <li>➤ Target species: <ul style="list-style-type: none"> <li>○ <i>Alnus glutinosa</i></li> <li>○ <i>Fraxinus excelsior</i></li> <li>○ <i>Salix cinerea</i></li> <li>○ <i>Salix spp.</i></li> </ul> </li> <li>➤ Other woody species: <ul style="list-style-type: none"> <li>○ <i>Betula pubescens</i></li> <li>○ <i>Crataegus monogyna</i></li> <li>○ <i>Solanum dulcamara</i> (2012 only)</li> <li>○ <i>Viburnum opulus</i></li> </ul> </li> <li>➤ Herbs &amp; Ferns: <ul style="list-style-type: none"> <li>○ <i>Agrostis stolonifera</i></li> <li>○ <i>Angelica sylvestris</i></li> <li>○ <i>Carex remota</i></li> <li>○ <i>Filipendula ulmaria</i></li> <li>○ <i>Galium palustre</i></li> <li>○ <i>Iris pseudacorus</i></li> <li>○ <i>Lycopus europaeus</i> (2012 only)</li> <li>○ <i>Mentha aquatica</i></li> <li>○ <i>Phalaris arundinacea</i></li> <li>○ <i>Ranunculus repens</i></li> <li>○ <i>Rumex sanguineus</i></li> <li>○ <i>Urtica dioica</i></li> </ul> </li> <li>➤ Mosses &amp; Liverworts: <ul style="list-style-type: none"> <li>○ <i>Calliergonella cuspidata</i></li> <li>○ <i>Climacium dendroides</i></li> <li>○ <i>Thamnobryum alopecurum</i></li> </ul> </li> </ul> <p>Habitats must display at least 1 target species and <math>\geq 6</math> positive species to achieve a pass</p> |
| Negative species cover     | <p>Negative indicator species for 91E0 woodlands:</p> <ul style="list-style-type: none"> <li>➤ <i>Acer pseudoplatanus</i></li> <li>➤ <i>Fagus sylvatica</i></li> <li>➤ <i>Picea sitchensis</i></li> <li>➤ <i>Larix decidua</i></li> <li>➤ <i>Cotoneaster sp.</i></li> <li>➤ <i>Prunus laurocerasus</i></li> <li>➤ <i>Rhododendron ponticum</i></li> <li>➤ <i>Symphoricarpos albus</i></li> <li>➤ <i>Cornus sericea</i></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

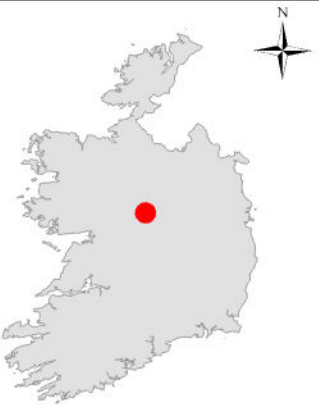
|                                        |                                                                                                                                                                                                                                                                                               |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                        | Negative species cover must constitute $\leq 10\%$ cover of the plot to achieve a pass                                                                                                                                                                                                        |
| Negative species regeneration          | The regeneration of negative species must be absent in order to achieve a pass                                                                                                                                                                                                                |
| Medium canopy height                   | Medium canopy height must be $\geq 7$ m to achieve a pass                                                                                                                                                                                                                                     |
| Total canopy cover                     | Total canopy cover must be $\geq 30\%$ of the plot to achieve a pass                                                                                                                                                                                                                          |
| Proportion of target species in canopy | The proportion of target species in the canopy must make up $\geq 50\%$ of the plot to achieve a pass                                                                                                                                                                                         |
| Native shrub layer cover               | Native shrub layer cover must make up 10 – 75% of the plot to achieve a pass                                                                                                                                                                                                                  |
| Native field layer                     | Native field layer must cover $\geq 20\%$ of the plot to achieve a pass                                                                                                                                                                                                                       |
| Bryophyte cover                        | Bryophyte cover must constitute $\geq 4\%$ to achieve a pass                                                                                                                                                                                                                                  |
| Grazing pressure                       | <p>All 5 grazing pressure indicators must be absent to achieve a pass:</p> <ul style="list-style-type: none"> <li>➤ Topiary effect on shrubs and young trees</li> <li>➤ Browse line on mature trees</li> <li>➤ Abundant dung</li> <li>➤ Recent bark stripping</li> <li>➤ Trampling</li> </ul> |
| Plot level assessment                  | 8 of the 10 criteria to achieve a Pass                                                                                                                                                                                                                                                        |



Map Legend

-  Proposed Development Site
-  [91E0] Alluvial forest condition assessment survey locations

Spatial Reference  
Name: IRENET95 Irish Transverse Mercator  
Datum: IRENET95  
Projection: Transverse Mercator



SITE LOCATION - NOT TO SCALE

Drawing Title  
Location of alluvial forest condition assessment surveys

Project Title  
Hodson Bay Waterfront Park and Marina  
Redevelopment, Co. Roscommon

|             |             |            |
|-------------|-------------|------------|
| Project No. | Drawing No. | Scale      |
| 241220      | Figure 2-1  | 1:8,000    |
| Drawn By    | Checked By  | Date       |
| BOC         | AvdGM       | 11/08/2026 |



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3.

## **RESULTS**

The results of the 91E0 condition assessments are presented in the following sections. A summary figure of all the alluvial forest monitoring plots is presented in

Figure 2-1 above.

During surveys carried out on the 28<sup>th</sup> of July 2025, five areas of 91E0 alluvial forest were recorded within the Proposed Development Site. The five areas of 91E0 were recorded in areas of lake shore, in conjunction with an outer buffer of wetland habitats such as Reed and large sedge swamp (FS1). All areas of 91E0 habitat showed signs of hydrological inundation at the time of survey.

Areas of 91E0 occurred in fragmented, non-continuous plots of varied sizes, with the largest areas of habitat conforming to 91E0 habitat at monitoring plots 1 and 5. Plots 2, 3 and 4 occurred in smaller, often linear areas of woodland, with some level of connectivity between plots 2, plot 3, and plot 4. Trees were of small-medium trunk diameter, although the drier areas contained some larger trees. A healthy understory and field layer was usually present, with relatively low moss abundance across all five plots. Grazing pressure was absent across all five plots, with healthy native regeneration recorded. The occurrence of negative indicator species was low overall, with only two species recorded across all five plots.

Details on survey results at each plot are described below, with a summary of plot assessment in

Table 3-1 below. All five monitoring plots passed the condition assessment for 91E0 alluvial forest habitat at individual plot level assessment. Consequently, all five monitoring plots are considered to conform to Annex I 91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) habitat.

Table 3-1. A summary of individual plot level assessment results

| Assessment Criteria                    | Plot 1 | Plot 2 | Plot 3 | Plot 4 | Plot 5 |
|----------------------------------------|--------|--------|--------|--------|--------|
| Positive indicator species             | Pass   | Pass   | Pass   | Pass   | Pass   |
| Negative species cover                 | Pass   | Pass   | Pass   | Pass   | Pass   |
| Negative species regeneration          | Pass   | Pass   | Pass   | Pass   | Pass   |
| Medium canopy height                   | Pass   | Fail   | Fail   | Fail   | Pass   |
| Total canopy cover                     | Pass   | Pass   | Pass   | Pass   | Pass   |
| Proportion of target species in canopy | Pass   | Pass   | Pass   | Pass   | Pass   |
| Native shrub layer cover               | Pass   | Pass   | Pass   | Pass   | Pass   |
| Native field layer                     | Pass   | Pass   | Pass   | Pass   | Pass   |
| Bryophyte cover                        | Fail   | Pass   | Fail   | Fail   | Pass   |
| Grazing pressure                       | Pass   | Pass   | Pass   | Pass   | Pass   |
| Plot level assessment                  | Pass   | Pass   | Pass   | Pass   | Pass   |

Plot one was carried out in the area of woodland to the north of the Proposed Development, located outside of the Proposed Development Site. At plot 1, the canopy largely consisted of grey willow (*Salix cinerea*) as well as occasional ash (*Fraxinus excelsior*). Larger trees were present further away from the lakeshore, whilst fallen deadwood was frequent. A healthy shrub layer consisting of hawthorn (*Crataegus monogyna*), guelder rose (*Viburnum opulus*) and alder buckthorn (*Frangula alnus*) was recorded. A field layer consisting of creeping bent (*Agrostis stolonifera*), remote sedge (*Carex remota*), wild angelica (*Anglica sylvestris*), meadow-sweet (*Filipendula ulmaria*), mint (*Mentha aquatica*), reed-canary grass (*Phalaris arundinacea*), purple loosestrife, (*Lythrum salicaria*), yellow loosestrife (*Lysimachia vulgaris*), common reed (*Phragmites australis*), yellow iris (*Iris pseudacorus*), marsh horsetail (*Equisetum palustre*), bramble (*Rubus fruticosus agg.*), common sedge (*Carex nigra*), and bladder sedge (*Carex vesicaria*) were recorded. The moss *Thamnobryum alopecurum* occurred frequently in the rockier areas as well as scattered *Kindbergia praelonga* and *Plagionium sp.* Trees contained abundant moss epiphytes such as *Neckera complanata*, *Ulota sp.*, and *Orthotrichum sp.* The negative indicator species sycamore (*Acer pseudoplatanus*) occurred in small amounts to the edge of the plot one.



Plate 3-1. A representative image of 91E0 monitoring plot 1

## 3.2

**Plot 2**

Plot two was recorded in an area of linear alluvial forest which extends directly along the lake edge to the north of the Proposed Development Site, north of the location of the Proposed Water Sports Pavillion. The canopy consisted of grey willow (*Salix cinerea*), ash (*Fraxinus excelsior*) with oak (*Quercus robur*) in the drier areas. Varied sized trees as well as fallen deadwood was recorded from plot two. An abundant shrub layer consisting of hawthorn (*Crataegus monogyna*), guelder rose (*Viburnum opulus*), crab apple (*Malus sylvestris*) and alder buckthorn (*Frangula alnus*) was recorded. A field layer consisting of creeping bent (*Agrostis stolonifera*), wild angelica (*Angelica sylvestris*), meadow-sweet (*Filipendula ulmaria*), mint (*Mentha aquatica*), reed-canary grass (*Phalaris arundinacea*), horsetails (*Equisetum* sp.), purple loosestrife, (*Lythrum salicaria*), yellow loosestrife (*Lysimachia vulgaris*), yellow iris (*Iris pseudacorus*), marsh ragwort (*Jacobaea aquatica*) was recorded. The moss species *Thamnobryum alopecurum*, *Calliergonella cuspidata* and *Kindbergia praelonga* were also present in plot two.



Plate 3-2. A representative image of 91E0 monitoring plot 2

## 3.3

**Plot 3**

Plot three was recorded in a small woodland which extended back into the shoreline, north of the Proposed Development Site and location of the Proposed Water Sports Pavillion Building. The canopy consisted of grey willow (*Salix cinerea*) and ash (*Fraxinus excelsior*). A mix of tree sizes and fallen deadwood was recorded from this area. A shrub layer consisting of hawthorn (*Crataegus monogyna*), guelder rose (*Viburnum opulus*), crab apple (*Malus sylvestris*) and alder buckthorn (*Frangula alnus*) was recorded. A field layer consisting of creeping bent (*Agrostis stolonifera*), (*Phragmites australis*), gipsywort (*Lycopus europaeus*), meadow-sweet (*Filipendula ulmaria*), mint (*Mentha aquatica*), marsh horsetail (*Equisetum palustre*), purple loosestrife (*Lythrum salicaria*), yellow loosestrife (*Lysimachia vulgaris*), greater willow-herb (*Epilobium hirsutum*), marsh ragwort (*Jacobaea aquatica*), water forget-me-not (*Myosotis scorpioides*), with the moss *Kindbergia praelonga* also recorded occasionally in the area.



Plate 3-3. A representative image of 91E0 monitoring plot 3

3.4

## Plot 4

Plot four was recorded along a linear area of woodland habitat area along the lake edge, north of the location of the Proposed Water Sports Pavillion. The canopy consisted of grey willow (*Salix cinerea*) and ash (*Fraxinus excelsior*). A mix of tree sizes was recorded. Some rotten stumps as well as frequent fallen deadwood were recorded from this area. A shrub layer consisting of hawthorn (*Crataegus monogyna*), crab apple (*Malus sylvestris*) and alder buckthorn (*Frangula alnus*) was recorded. A field layer consisting of creeping bent (*Agrostis stolonifera*), wild angelica (*Angelica sylvestris*), common reed (*Phragmites australis*), gipsywort (*Lycopus europaeus*), meadow-sweet (*Filipendula ulmaria*), mint (*Mentha aquatica*), marsh bedstraw (*Galium palustre*), field horsetail (*Equisetum arvensis*), field bindweed (*Calystegia sepium*), Stone bramble (*Rubus saxatilis*), purple loosestrife, (*Lythrum salicaria*), yellow loosestrife (*Lysimachia vulgaris*), greater willow-herb (*Epilobium hirsutum*), marsh ragwort (*Jacobaea aquatica*), creeping bent (*Ranunculus repens*), water forget-me-not (*Myosotis scorpioides*) were recorded.



Plate 3-4. A representative image of 91E0 monitoring plot 4

3.5

## Plot 5

Plot five was recorded from within a woodland area along the lake edge, south of the existing marina. The canopy consisted of grey willow (*Salix cinerea*) alder (*Alnus glutinosa*) and ash (*Fraxinus excelsior*). A diverse mix of tree sizes was recorded as well as frequent fallen deadwood. A shrub layer consisting of guelder rose (*Viburnum opulus*), hawthorn (*Crataegus monogyna*), and alder buckthorn (*Frangula alnus*) was recorded. The field layer consisted of creeping bent (*Agrostis stolonifera*), wild angelica (*Angelica sylvestris*), common reed (*Phragmites australis*), gipsywort (*Lycopus europaeus*), meadow-sweet (*Filipendula ulmaria*), mint (*Mentha aquatica*), horsetails (*Equisetum sp.*), purple loosestrife, (*Lythrum salicaria*), yellow loosestrife (*Lysimachia vulgaris*), lesser skullcap (*Scutellaria minor*), marsh ragwort (*Jacobaea aquatica*) and creeping bent (*Ranunculus repens*). The moss species *Calliergonella cuspidata* and *Kindbergia praelonga* were recorded occasionally from the area. The negative indicator species red osier-dogwood (*Cornus sericea*) occurred in the form of a single plant.



Plate 3-5. A representative image of 91E0 monitoring plot 5

4.

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