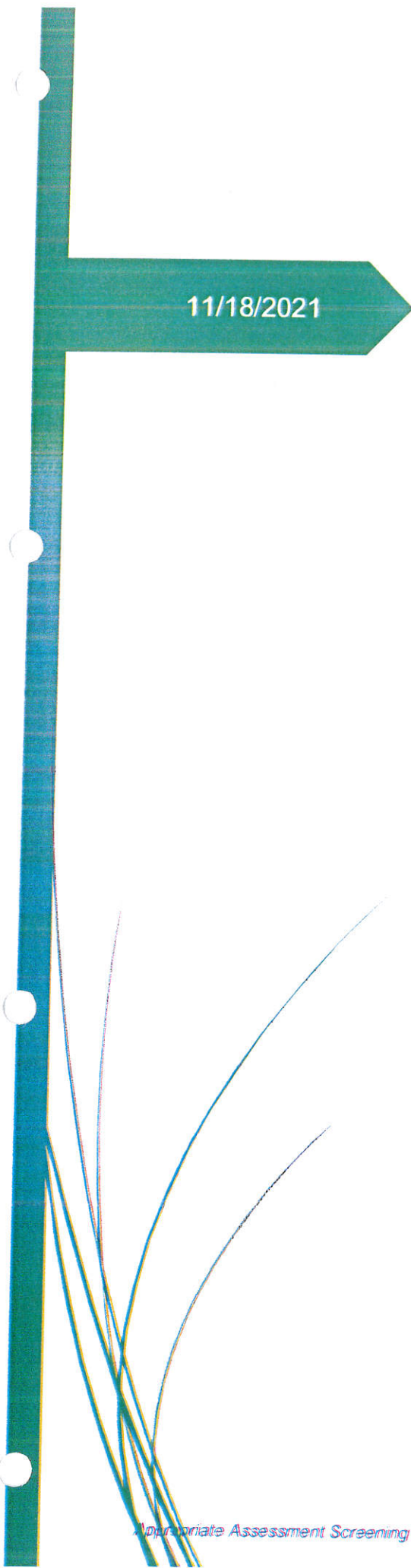


**Appropriate Screening Assessment  
and NIS Assessment Statement**



**Enviro Farm** Ltd





11/18/2021

# Appropriate Assessment

Richard Kennedy

# **HABITAT DIRECTIVE APPROPRIATE ASSESSMENT SCREENING REPORT (STAGE 1):**

**Planning Application for the Proposed Erection of an On-Farm Horticulture Building, 2x Water Storage Tank Systems, Cold Storage Building, Agricultural Access Laneway, and Hardstanding Areas, Ancillary Site Works and Additional Landscaping Located Upon Lands at Carns, Aclare, Ballymote, Co.Sligo, Ireland, F91AY92.**

**Client:** Richard Kennedy  
Carns, Aclare,  
Ballymote, Co Sligo  
F91 AY92

**Site Location:** Lislea,  
Aclare,  
Co Sligo

**Prepared By:** Siobhan Ward,  
Doontas, Killasser,  
Swinford, Co Mayo.  
MSc Organic Agriculture.  
MSc Environmental Protection.  
MSC AgInnovation  
Member of CIEEM,  
ESAI, ACA.

**Report Ref:** AA Screening- Richard Kennedy.

**Date:** 18/11/2021

## **1. Introduction**

### **1.1 Foreword**

Ms. Siobhan Ward, PgDip Environmental Protection, MSc Organic Agriculture, Consultant at Ward Agricultural & Environmental Consultants Ltd has been engaged by Patrick Harte on behalf of Richard Kennedy to carry out a stage 1 Appropriate Assessment Screening Report, as detailed below in relation to the following proposed development:

Application by Richard Kennedy for Construction of:

- Planning Application for the Proposed Erection of an On-Farm Horticulture Building, 2x Water Storage Tank Systems, Cold Storage Building, Agricultural Access Laneway, and Hardstanding Areas, Ancillary Site Works and Additional Landscaping

at Lislea, Aclare, Co. Sligo.

This report has been prepared by an experienced Agricultural & Environmental Consultant with over 7 years professional experience to evaluate ecological receptors in the vicinity of the site.

Potential impacts from the proposed work activities, which may affect designated sites (Natura 2000) in view of any Natura 2000 site's qualifying interests and conservation objectives are also considered.

### **1.2 Project Description**

This application is for Planning Application for the Proposed Erection of an On-Farm Horticulture Building, 2x Water Storage Tank Systems, Cold Storage Building, Agricultural Access Laneway, and Hardstanding Areas, Ancillary Site Works and Additional Landscaping. This is an Horticultural development and falls in the classes of intensive agriculture or food production. There is already a dry shed and farmyard area here and this is an extension of the existing farming activities on the farm at present.

The development will involve building an On-Farm Horticulture Building, 2x Water Storage Tank Systems, Cold Storage Building and ancillary works.



## Site Location maps



Figure 1.2.1: OS Discovery Series Site Location Map (site marked in red)



Figure 1.2.2: Aerial photograph of the site (Source: S. Ward)

## **2. Background to Appropriate Assessment.**

With the introduction of the Birds Directive in 1979 and the Habitats Directive in 1992 came the obligation to establish the Natura 2000 network of sites of highest biodiversity importance for rare and threatened habitats and species across the EU. In Ireland, the Natura 2000 network of European sites comprises Special Areas of Conservation (SAC's) and Special Protection Areas (SPA's).

Appropriate Assessment (AA) involves a case-by-case examination of the implications of a development for the Natura 2000 site and its conservation objectives. This may be presented in the form of a Natura Impact Statement. In general terms, implicit in Article 6(3) of the Habitats Directive is an obligation to put concern for potential effects on Natura 2000 sites at the forefront of every decision made in relation to plans and projects at all stages.

Each step in the assessment process precedes and provides a basis for other steps. The results at each step must be documented and recorded carefully so there is full traceability and transparency of the decisions made. They also determine the decisions that ultimately may be made in relation to approval or refusal of a plan or project. AA is not a prohibition on new development or activities but involves a case-by-case examination of the implications for the Natura 2000 site and its conservation objectives.

In the preparation of this report, careful attention has been made to fully document and reference all the site selection and suitability assessment procedures as they chronologically occurred. This is in accordance with the principles of Appropriate Assessment.

## **3. Screening for Appropriate Assessment**

Screening for Appropriate Assessment is the first stage and critical test of Appropriate Assessment and the question is asked whether the development is considered to have a significant impact on a designated Natura 2000 site. The purpose of screening is to determine, based on a preliminary assessment and objective criteria, whether:

- i) a plan or project is directly connected to or necessary for the management of the site, and ii) whether a plan or project, alone and in combination with other plans or projects, could have significant effects on a Natura 2000 site in view of the site's conservation objectives.

As most projects will not be related to point (i) above, this will virtually always be irrelevant but with regards to point (ii) if the answer is no, then the process is complete and full appropriate assessment is not required. Screening therefore is the process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3) of the Habitats Directive.

*Appropriate Assessment Screening Report Stage 1 – Richard Kennedy, Carns, Aclare, Co Sligo A91 AY92.*



Screening should be undertaken without the inclusion of mitigation, unless potential impacts clearly can be avoided through the modification or redesign of the plan or project, in which case the screening process is repeated on the altered plan.

#### 4. References

The following references and source material have been referred to our used in the preparation of this screening assessment:

- Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (2001)
- Birds Directive (79/409/EEC)
- Environment Heritage and Local Government (10 December 2009) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities, Dublin.
- Environment Heritage and Local Government (March 11, 2010) Circular NPW 1/10 & PSSP 2/10: Appropriate Assessment under Article 6 of the Habitats Directive: guidance for Planning Authorities, Dublin.
- Environment Heritage and Local Government: Circular LG/08 Water Services Investment and Rural Water: Protection of Natural Heritage and National Monuments Programmes
- Environmental Protection Agency (n.d.) Wastewater Discharge Licensing - Appropriate Assessment - Note on Appropriate Assessments for the purposes of the Wastewater Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007) Wexford, EPA.
- Environmental Protection Agency (2000) Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, Wexford, EPA.
- European Communities (Natural Habitats) Regulations, 1997 (S.I. No. 94 of 1997) (which has been amended twice, S.I. No. 233 of 1998 & S.I. No. 378 of 2005).
- Gardiner, M. J. & T. Radford. (1980). Soil Associations of Ireland and their Land Use Potential: Explanatory Bulletin to Soil Map of Ireland. Dublin. An Foras Taluntais. □ Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC. Clarification of the concepts of: Alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the Commission (2007)
- Habitats Directive (92/43/EEC)
- National Parks and Wildlife Service Website – [www.npws.ie](http://www.npws.ie): Site Synopsis and Mapping Data for Natura 2000 Sites.
- Wastewater Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007)

## **5. Methodology for Appropriate Assessment**

### **5.1 Stage One - Screening for Appropriate Assessment**

The Habitats Directive does not set out clear guidance on the exact format that a screening exercise for an appropriate assessment should follow. However, there is guidance provided in two references in carrying out a Screening Report.

The first reference is the following:

- Environment Heritage and Local Government: *Circular LG/08 Water Services Investment and Rural Water: Protection of Natural Heritage and National Monuments Programmes*. This is outlined on pages 30 – 35 of the Environment Heritage and Local Government publication: *Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities*, Published 10 December 2009.

In this document, screening for appropriate assessment involves the following:

#### **Description of Plan or Project**

The first element is a description of the plan or project, including its nature, size, and location, and possible or likely effects, and draft policies, objectives, land use zonings and associated strategies in the case of plans.

#### **Natura 2000 Sites**

The second element is an examination of what Natura 2000 sites may be affected. These sites should be identified and listed, bearing in mind the potential for a plan or project, whether it is within or outside a Natura 2000 site, to have direct, indirect or cumulative effects, and taking a precautionary approach so that a site is included if doubt exists. Plans or projects that are outside the boundaries of a site may still have effects on that site. The approach to screening is likely to differ somewhat for plans and projects, depending on scale and on the likely effects, but the following should be included:

- Any Natura 2000 sites within or adjacent to the plan or project area
- Any Natura 2000 sites within the likely zone of impact of the plan or project. A distance of 15km is currently recommended in the case of plans, and derives from UK guidance (Scott Wilson *et al.*, 2006). For projects, the distance could be much less than 15km, and in some cases less than 100m, but this must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects



- Natura 2000 sites that are more than 15km from the plan or project area depending on the likely impacts of the plan or project, and the sensitivities of the ecological receptors, bearing in mind the precautionary principle. In the case of sites with water dependent habitats or species, and a plan or project that could affect water quality or quantity, for example, it may be necessary to consider the full extent of the upstream and/or downstream catchment.

Site synopses, which are summary descriptions of the key conservation interests of sites, and SAC datasheets with lists of qualifying interests for these sites are available from the NPWS website: [www.npws.ie](http://www.npws.ie). Other information and data, such as Natura 2000 standard data forms and conservation objectives, can be requested from NPWS via the Data Request facility at <http://www.npws.ie/en/media/Media.6687,en.doc>. Listings of the Special Conservation Interests are currently in preparation for SPAs and will be available shortly. Other information available from the NPWS website that may be of relevance includes Species Action Plans, Conservation Management Plans (for a limited number of sites only), Freshwater Pearl Mussel sub-basin management plans, and species reports.

### Assessment of Likely Effects

The task of establishing whether the plan or project is likely to have an effect on a Natura 2000 site or sites is based on a preliminary impact assessment using available information and data, including that outlined above, and other available environmental information (e.g. water quality data), supplemented as necessary by local site information and ecological surveys. This is followed by a determination of whether there is a risk that the effects identified could be significant. This need not be a lengthy exercise. **A precautionary approach is fundamental, and, in cases of uncertainty, it should be assumed the effects could be significant.** Examples of significance indicators from Commission guidance (EC, 2002) are listed in the table below; this document also summarises four case study examples of assessment of significance outcomes for projects. As a guide, any element of a plan or project that has the potential to affect the conservation objectives of a Natura 2000 site, including its structure and function, should be considered significant (EC, 2006).

Impact type	Significance indicator
Loss of habitat area	Percentage of loss
Fragmentation	Duration or permanence, level in relation to original extent
Disturbance	Duration or permanence, distance from site
Species population density	Timescale for replacement
Water resource	Relative change
Water quality	Relative change in key indicative chemicals and other elements

Examples of significance indicators (from EC (2002), Box 4)

Some examples of effects that are likely to be significant are:

- Any impact on an Annex I habitat
- Causing reduction in the area of the habitat or Natura 2000 site
- Causing direct or indirect damage to the physical quality of the environment (e.g. water quality and supply, soil compaction) in the Natura 2000 site
- Causing serious or ongoing disturbance to species or habitats for which the Natura 2000 site is selected (e.g. increased noise, illumination, and human activity)
- Causing direct or indirect damage to the size, characteristics, or reproductive ability of populations on the Natura 2000 site
- Interfering with mitigation measures put in place for other plans or projects

As the underlying intention of the in-combination provision is to take account of cumulative effects, and as these effects often only occur over time, plans or projects that are completed, approved but uncompleted, or proposed (but not yet approved) should be considered in this context (EC, 2002). All likely sources of effects arising from the plan or project under consideration should be considered together with other sources of effects in the existing environment and any other effects likely to arise from proposed or permitted plans or projects.

### **Screening Conclusion and Statement**

The findings and conclusions of the screening process should be documented, with the necessary supporting evidence and objective criteria. This is of particular importance in cases where the AA process ends at the screening stage because the conclusion is that no significant effects are likely. Screening can result in the following possible conclusions or outcomes:

1. **AA is not required.** Screening, followed by consultation and agreement with the NPWS, establishes that the plan or project is directly connected with or necessary to the nature conservation management of the site.
2. **No potential for significant effects/AA is not required.** Screening establishes that there is no potential for significant effects and the project or plan can proceed as proposed. However, no changes may be made after this as this will invalidate the findings of screening. Documentation of the AA screening process, including conclusions reached and how decisions were made, must be kept on file.
3. **Significant effects are certain, likely, or uncertain.** The plan or project **must either proceed to Stage 2 (AA), or be rejected.** Rejection of a plan or project that is too potentially damaging and/or inappropriate ends the process and negates any need to proceed to Stage 2 (AA). Another possible option is to recommence the screening process with a modified plan or project that removes or avoids elements that posed obvious risks. This highlights the iterative process of screening a plan or project when



new alternatives that may not have any impact are being considered. However, repeated, or complicated screening exercises are not recommended as they point to the risk of significant effects and the need for Stage 2 (AA).

The safeguards set out in Article 6(3) and (4) of the Habitats Directive are triggered not by certainty but by the possibility of significant effects. Thus, in line with the precautionary principle, it is unacceptable to fail to undertake an appropriate assessment on the basis that it is not certain that there are significant effects.

The reference which has been used for guidance in compiling this screening report is:

Environmental Protection Agency (n.d.) *Wastewater Discharge Licensing - Appropriate Assessment - Note on Appropriate Assessments for the purposes of the Wastewater Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007)* Wexford, EPA.

In this document, screening for appropriate assessment involves the following:

**Step 1: Management of the site**

Is the project directly connected with or necessary to the management of the site?

**Step 2: Description of the project or plan**

Identify all the elements of the project or plan alone or in combination with other plans or projects that have the potential for having significant effects on the site. The geographical scope of the plan or project as well as the European Sites that may be affected must be identified. The European Site or Sites that could be affected should be described.

A project may not in itself have a significant effect on a European Site, however, in combination with other plans or projects (existing and planned) it may result in a significant effect on a European Site.

**Step 3: Characteristics of the site**

This step requires identification of the impacts of the project on a European Site by characterising the site as a whole or those areas where impacts are most likely to occur. In addition to consideration of the cumulative effects on a European Site, consideration must also be given to direct, indirect, short, and long-term, isolated and interactive effects.

#### **Step 4: Assessment of significance**

The assessment of the likelihood of significant effects of a proposed or existing plan or project on a European Site should be completed. If no significant effects are likely then no further assessment is required prior to the authorisation of the plan or project. There must be no reasonable scientific doubt that the plan or project does not influence a European Site. This decision should be reasoned and recorded. If significant effects are likely then an appropriate assessment must be carried out. In addition, if the likelihood of significant effects is in doubt then the **precautionary principle** applies, and an appropriate assessment must be carried out.

#### **5.2 Stage Two: Appropriate Assessment**

This is the consideration of the impact of the project or plan on the integrity of the Natura 2000 site, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. The competent Authority drafts the AA.

#### **5.3 Stage Three: Assessment of Alternative Solutions**

This is the process which examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site.

#### **5.4 Stage Four: Imperative Reasons of Overriding Public Interest (IROPI)**

Stage 4 of Appropriate Assessment is the main derogation process of Article 6(4) of the Habitats Directive which examines whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project that will have adverse effects on the integrity of a Natura 2000 site to proceed in cases where it has been established that no less damaging alternative solution exists. This stage requires an affirmative answer to both questions below in order for a plan or project to go ahead in the absence of alternative solutions.

- Are there imperative reasons of overriding public interest?
- Are there human health or safety considerations or important environmental benefits?



**6. Screening Process for the Proposed Development of an On-Farm Horticulture Building, 2x Water Storage Tank Systems, Cold Storage Building, Agricultural Access Laneway, and Hardstanding Areas, Ancillary Site Works and Additional Landscaping at Lislea, Aclare, Co. Sligo.**

**6.1 Step 1: Management of the site**

*Question:* Is the plan or project directly connected with or necessary to the management of the Natura 2000 site?

*Answer:* yes

**6.2 Step 2: Description of the project or plan**

This has been set out in detail in Section 1.2 of this report, including the location of the site and the description of the existing and proposed site. This is a Horticultural development and does fall the classes of intensive agriculture or food production.

**6.3 Step 3: Characteristics of the Site**

The proposed development site **is not** located within a Natura 2000 site (i.e. SAC or SPA).

The closest point of the proposed site boundary **On-Farm Horticulture Building, 2x Water Storage Tank Systems, Cold Storage Building**, is over 450 metres to the boundary of The river Moy SAC (Site Code: 002298). It should be noted that there is a small tributary of the River Eignagh passes by the site 66.11m distance.

There are a further six SAC sites within 15km of the proposed development.

Site Name	Site code	Distance from development
Lough Nabrickkeagh Bog	000634	3.68 km
Lough Hoe Bog	000633	3.82 km
Cloongoonagh Bog	001657	3.94 km
Ox Mountain Bogs	002006	5.35 km
Moylough Turlough	001677	12.3 km
Turloughmore (Sligo)	000637	12.8 km

Table 1: All SAC sites within 15km of the site and distance from site to SAC



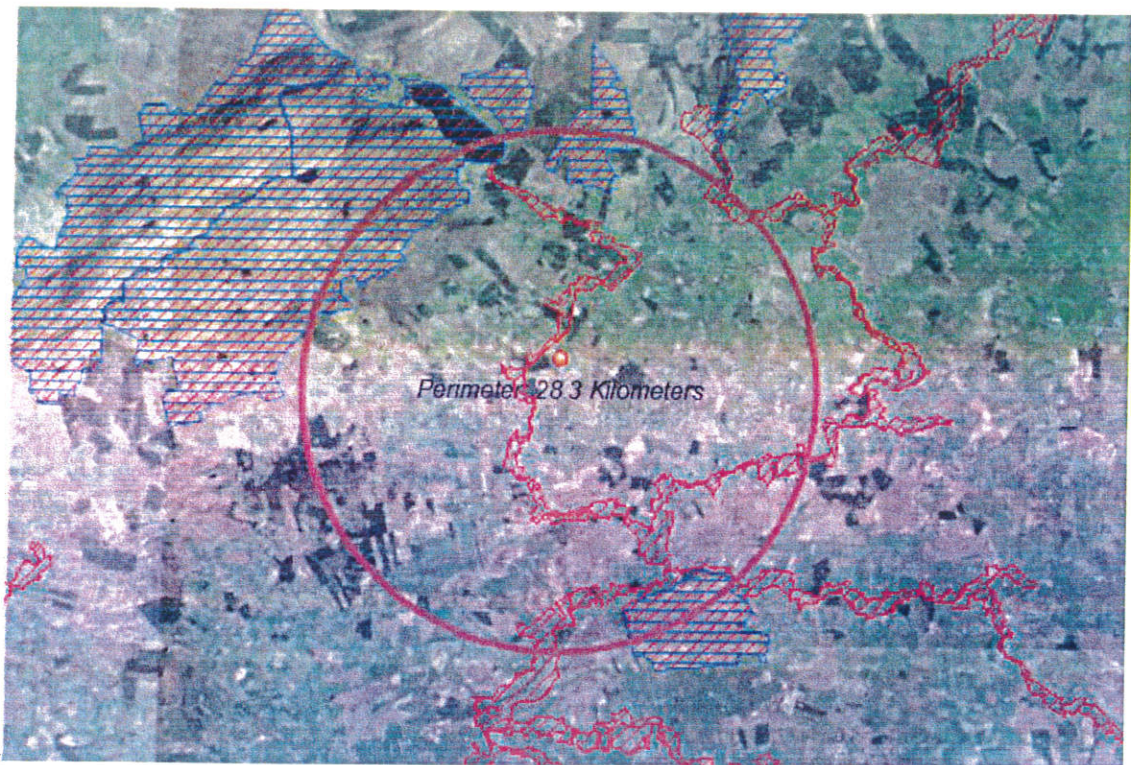


Figure 6.1 All the SAC sites within 15 km of the site, red dot is the site

There is one direct connection between the development site and the Natura 2000 site and the link is one stream on the development site which could act as a direct link to the Natura 2000 Site. See figure 6.3.1

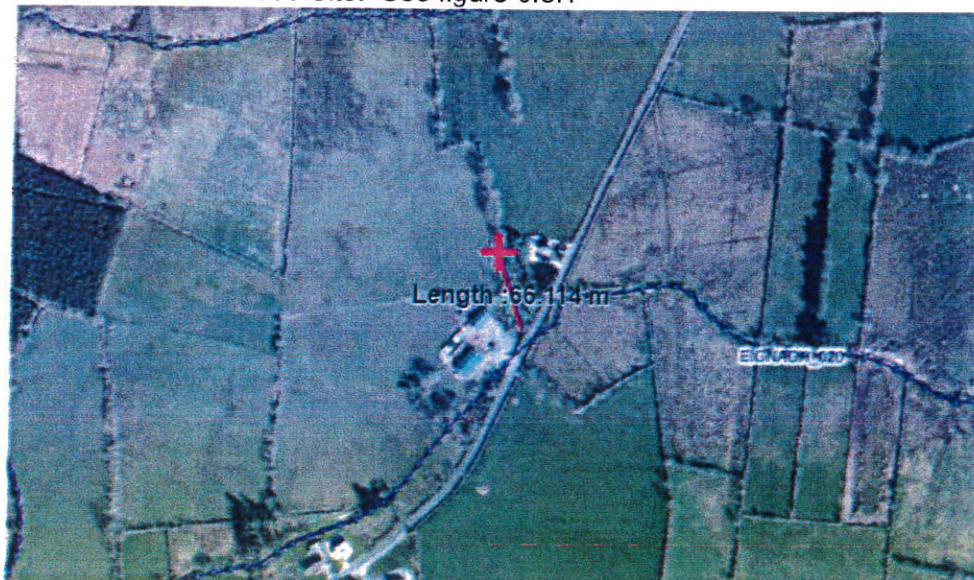


Figure 6.3.1: Tributary of the river Eignagh, 66.114m from the site,

This has been confirmed through consultation with the NPWS website and their SAC and SPA maps and biodiversityireland.ie. The map presented as **Figure 6.3.** shows the existing site outlined in red in relation to the River Moy SAC



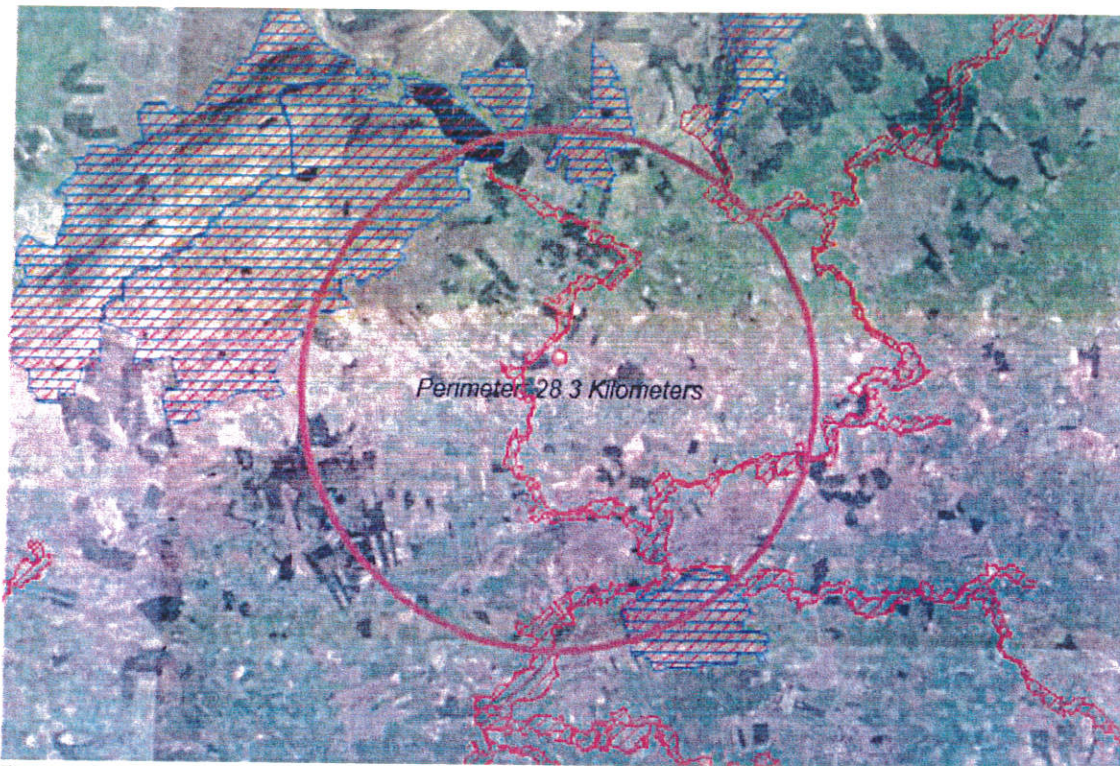


Figure 6.3.1: Map showing the Site at Lislea Aclare Co Sligo, all SAC's within 15km of the site. Site is marked in red

This information is then presented in **Table 6.3.1** which summarises the Stage 1 Appropriate Assessment Screening information.

Table 6.3.1: Natura 2000 Sites Screened against the Development at the Site at Lislea, Aclare Co Sligo

Name	Site Code	Designation	Qualifying Interests	Distance from the site (km)	Screen in/out/uncertainty
<b>River Moy SAC</b>	002298	SAC	<p>Lowland hay meadows [6510].</p> <p>Active raised bogs [7110].</p> <p>Degraded raised bogs still capable of natural regeneration [7120].</p> <p>Depressions on peat substrates of the [7150].</p> <p>Alkaline fens [7230].</p> <p>Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0].</p> <p>Alluvial forests with Alnus glutinosa and Fraxinus excelsior ( [91E0].</p> <p>White-clawed Crayfish [1092].</p> <p>Sea Lamprey [1095].</p> <p>Brook Lamprey[1096].</p> <p>Salmon [1106].</p> <p>Otter [1355].</p>	460m west of the site	<p><b>Uncertainty</b></p> <p>While the site is suitably removed from SAC, there is a stream 66.11m from the site the flows into the River Eignagh, part of the SAC. This forms a direct connection with the site. It is possible that some likely significant impacts upon Annex I Habitats or Annex II Species. The development site is roads and horticultural structures. No habitats on site are listed as part of the qualifying interests of the SAC site. Possibility of direct/indirect impacts from storm water drainage or wastewater as the stream is very close to the site.</p>
<b>Lough Hoe Bog</b>	000633	SAC	<p>Oligotrophic waters containing very few minerals of sandy plains. [3110].</p> <p>Blanket bogs (* if active bog) [7130].</p> <p>Geyer's Whorl Snail[1013].</p> <p>White-clawed Crayfish) [1092]</p>	3.82km	<p>Site is suitably removed from SAC and is an horticultural building There is no connection between the sites with intervening agricultural fields and roads. No likely significant impacts upon Annex I Habitats or Annex II Species. No likelihood of any disturbance to wildlife. The development site is roads and horticultural structures. No habitats on site are listed as part of the qualifying interests of the SAC site. No indirect significant impacts from storm water drainage or wastewater as all necessary measures are incorporated into the development to safeguard water quality.</p>

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Cloongoonagh Bog.	001657	Proposed NHA	7110] Active raised bogs* [7120] Degraded raised bogs still capable of natural regeneration [7150] Depressions on peat substrates of the Rhynchosporion [7230] Alkaline fens.	3.94 km	Site is suitably removed from SAC and is an horticultural building There is no connection between the sites with intervening agricultural fields and roads. No likely significant impacts upon Annex I Habitats or Annex II Species. No likelihood of any disturbance to wildlife. The development site is roads and horticultural structures. No habitats on site are listed as part of the qualifying interests of the SAC site. No indirect significant impacts from storm water drainage or wastewater as all necessary measures are incorporated into the development to safeguard water quality.
Ox Mountain Bog	0020006	SAC	Oligotrophic waters containing very few minerals of sandy plains. [3110]. Natural dystrophic lakes and ponds [3160]. Northern Atlantic wet heaths with Erica tetralix [4010]. European dry heaths [4030]. Blanket bogs (* if active bog) [7130]. Transition mires and quaking bogs [7140]. Depressions on peat substrates of the Rhynchosporion [7150]. Geyer's Whorl Snail [1013]. Saxifraga hirculus (Marsh Saxifrage) [1528].	5.35km	Site is suitably removed from SAC and is an horticultural building There is no connection between the sites with intervening agricultural fields and roads. No likely significant impacts upon Annex I Habitats or Annex II Species. No likelihood of any disturbance to wildlife. The development site is roads and horticultural structures. No habitats on site are listed as part of the qualifying interests of the SAC site. No indirect significant impacts from storm water drainage or wastewater as all necessary measures are incorporated into the development to safeguard water quality.

The development will involve building Horticulture Building, 2x Water Storage Tank Systems, Cold Storage Building and ancillary works. Rainwater will be harvested and used on site. No processing of food will take place on site.

The ecology of the agricultural development site Lislea, Aclare, Co Sligo has been described in accordance with Fossit, J.A., 2000. *A Guide to Habitats in Ireland*, The Heritage Council, Kilkenny. The aerial photo showing the proposed site outlined in red is shown in **Figure 1.2.4**.

The whole of the development site (within the red site boundary) consists of a typical improved agricultural field which is **Improved Agricultural Grassland (GA1)** –. Part of this field will be used for siting the new horticultural structures (see site plans with planning application). This is currently grazed by livestock with a short sward.

The improved grassland is relatively species poor as is expected and dominated by Yorkshire fog *Holcus lanatus* and Perennial rye grass *Lolium perenne*. There are also the following occasional plants: Docks (*Rumex spp.*), Dandelion (*Taraxacum agg.*); Ragwort (*Senecio jacobaea*), Thistles (*Cirsium spp.*); Clover (*Trifolium repens* and *Trifolium pratense*); Chickweed (*Stellaria media*); Rushes (*Juncus spp.*); Nettle (*Urtica urica*), and field Mosses, This existing habitat type has no particular ecological conservation value.

There is also another small habitat type on-site which is a non-priority habitat namely: **Buildings and artificial surfaces BL3**. This broad category incorporates areas of built land and all buildings and includes areas of land that are covered with artificial surfaces of tarmac, cement, paving stones etc (e.g. roads, car park, paths, driveways etc.). It should be noted that the existing farmyard lies between the site and the stream.

None of the habitats on the proposed development site are priority habitats and none of the habitats or species found within the site at Lislea, Aclare, Co Sligo are listed as being the qualifying interest for the closest SAC Sites – River Moy SAC (Site code 002298) site boundary and Lough Hoe Bog SAC (Site Code 000633).

No protected species are found within the red site boundary which are worthy of specific conservation. Using the uncertainty principal the proposed development could negatively impact upon the any Natura 2000 site.

The site habitat description has demonstrated that the non-priority habitats on-site have no particular ecological conservation value and do not form the basis of designation of the River Moy SAC (Site code 002298) site boundary and Lough Hoe Bog SAC (Site Code 000633). and therefore do not form a part of these Natura 2000 sites in terms of feeding grounds; species regeneration or any other intrinsic link.

#### 6.4 Step 4: Assessment of Significance

The following table is based on a table taken from the Box 4 of EC (2002) and sets out examples of significance indicators. This is being used as an impact prediction to assess the potential for significant impacts – River Moy SAC (Site code 002298) site boundary and Lough Hoe Bog SAC (Site Code 000633). from the proposed horticultural development at the site at Lislea, Aclare, Co. Sligo.



Impact Type	Significance Indicator for this Site
Loss of Habitat Area	No Loss to any part of Natura 2000 Site
Fragmentation	No fragmentation to Natura 2000 Site
Disturbance	No Direct or Indirect disturbance to Natura 2000 Site
Species Population Density	No Change or Replacement of Species Population
Water Resource	No relative change to surface waters
Water Quality	No significant direct or indirect impact

The conclusions of the assessment of impacts upon the listed Natura 2000 sites has shown that there will be no significant direct impacts upon any Natura 2000 sites identified by the proposed development at Lislea, Aclare, Co Sligo.

## 6.5 Conservation Objectives

### 6.5.1 Qualifying Interests

The qualifying interests for the Natura 2000 sites are listed in **Table 6.3.1**. The Site Synopsis (source NPWS) for the closest Natura 2000 site, River Moy SAC (Site code 002298) site boundary and Lough Hoe Bog SAC (Site Code 000633). is included as **Appendix 1**

### 6.5.2 Conservation Objectives

The following are the generic Conservation Objectives for Natura 2000 Sites taken from the Conservation Management Plans for the Natura 2000 sites:

- To maintain the Annex, I habitats for which the SAC and SPA has been selected at favourable conservation status.
- To maintain the Annex II species for which the SAC and SPA has been selected at favourable conservation status.
- To establish the extent, species richness and biodiversity of the entire sites.
- To establish effective liaison and co-operation with landowners, legal users, and relevant authorities.

### 6.6.1 Assessment of Likely Significant Effects (If Any) on Natura 2000 Site by the Proposed Project

#### ☐ Any impact on an Annex I habitat

The proposed horticultural development site at Lislea, Aclare, Co Sligo is outside of any Annex 1 designated habitat and there will be no direct. However, due to a small stream being so close to the site **there is uncertainty** that there will be no indirect significant impacts on the Natura 2000 site or its Annex 1 habitats.

Therefore, it can be concluded that the proposed development could directly/indirectly effect the maintenance of Annex I habitats for which the SAC has been selected at favourable conservation status.

**□ Causing reduction in the area of the habitat or Natura 2000 site**

The proposed horticultural development at Lislea, Aclare, Co Sligo will occur on improved agricultural land which is a non-priority habitat. The intervening distance of 460 metres to the SAC and physical separation by fields, structures and roads road will **not create any loss of area** of the Natura 2000 sites because of the proposed development.

**□ Causing direct or indirect damage to the physical quality of the environment (e.g. water quality and supply, soil compaction) in the Natura 2000 site**

There will be no direct damage to the physical quality of the environment with the proposed development site. The proposed site is outside of any Annex 1 designated habitat and there will be no significant impacts on the Natura 2000 sites or their Annex 1 habitats.

There could be direct/indirect effects means by surface water as there is a small stream close to the development site.

**□ Causing serious or ongoing disturbance to species or habitats for which the Natura 2000 site is selected (e.g. increased noise, illumination, and human activity)**

There will be no serious or on-going disturbance to species or habitats for which the Natura 2000 sites have been selected. The existing site which is an existing improved agricultural field with existing agricultural structures. The proposed development is an extension to the existing agricultural structures. However it should be noted that there maybe direct/indirect effects during the constriction of the development.

Normal industry construction techniques will be employed at the site.

**□ Causing direct or indirect damage to the size, characteristics, or reproductive ability of populations on the Natura 2000 site**

The proposed development at this site could have direct impacts to the size, characteristics, or reproductive ability of populations on the Natura 2000 sites. The proximity of the stream to site does cause **uncertainty of direct/indirect damage** All necessary design requirements have been incorporated into the design of the site and design specification which meet the Department of Agriculture highest standards.

**□ Interfering with mitigation measures put in place for other plans or projects**



The proposed development at this site will have no direct or indirect impacts upon mitigation measures put in place for other plans or projects. The proposed development is considered reasonable and well thought out and sensitive to the existing agricultural site at this location and is an extension to the existing use of the land.

#### **□ Potential Cumulative Effects from Other Plans or Projects upon Natura 2000 Site**

The proposed development at this site at Lislea, Aclare, Co Sligo could possibly have significant negative direct/indirect upon River Moy SAC (Site code 002298) site boundary and Lough Hoe Bog SAC (Site Code 000633). There have been planning permission granted of the construction of a dry bedded roundhouse cattle shed with effluent collection tank. The development will not create a cumulative impact upon the Natura 2000 site in combination with any other plans or projects.

#### **6.7 Have the Conservation Objectives Been Met**

It is reasonable to determine that the conservation objectives of a European Site will be met if its habitats and species are maintained at a favourable conservation status. Given that the proposed horticultural development at the site at Lislea, Aclare, Co Sligo could possibly have direct/indirect impacts upon the Annex 1 Habitats or Annex II Species, it is concluded that the conservation objectives of the River Moy SAC (Site code 002298) site boundary and Lough Hoe Bog SAC (Site Code 000633) may be effected by allowing the proposed development to proceed. The uncertainty of direct/indirect impacts due to the proximity of the small stream must be kept to the front of the mind.

#### **6.8 Mitigation Measures**

The impact prediction of the proposed development on the conservation objectives of the Natura 2000 sites have determined that there could possibly be some significant negative impacts upon the habitats or species or surface water of any Natura 2000 Site or the birdlife of these sites.

It is considered that some mitigation measures are required, to mitigate any impacts.

### **7. Conclusions of AA Screening Report**

The findings and conclusions of the screening process and the appropriate assessment have been fully documented, with the necessary supporting evidence and objective criteria. The AA Screening conclusions are that the proposed agricultural development at Lislea, Aclare, Co Sligo will:

1. Could possible have significant direct/indirect impacts upon surface water quality either during the construction phase or the post construction phase. The proposed horticultural development should not cause deterioration of water quality, which will have a negative impact upon any Natura 2000 sites and all necessary design considerations have been incorporated into the horticultural development to

ensure that there can be no direct impacts upon the River Moy SAC (Site code 002298) site boundary and Lough Hoe Bog SAC (Site Code 000633).

2. There will be no loss of any Natura 2000 site **area** (SAC or SPA site area). There should possibly be no loss of Annex I habitats; or Annex II species upon which the Natura 2000 site qualifies for its protected SAC status because of permitting the proposed development to proceed. However it is impossible to rule this out of the assessment.
3. There will be no cumulative impact upon any Natura 2000 sites in combination with other plans or projects.
4. The proposed development at this site should or may not compromise the maintenance of Annex I habitats for which any Natura 2000 sites have been selected at favourable conservation status. However it is impossible to rule this out of the assessment.
5. It is concluded that the conservation objectives of the Natura 2000 sites screened during this report, will be met, as the habitats and species will be maintained at a favourable conservation status.
6. Due to the uncertainty of direct/indirect impacts due to the proximity of the stream running close to the site 66.11m to the north.

**The project can therefore cannot be screened out of any further stages of Appropriate Assessment and a Stage 2 NIS is recommended for this development.**

Yours sincerely,

*Siobhan Ward*

Siobhan Ward  
MSc Organic Agriculture,  
MSc Environmental Protection.  
MSc Ag-Innovation





## SITE SYNOPSIS

**Site Name: River Moy SAC**

**Site Code: 002298**

This site comprises almost the entire freshwater element of the River Moy and its tributaries including both Loughs Conn and Cullin. The system drains a catchment area of 805 sq. km. Most of the site is in Co. Mayo, though parts are in west Sligo and north Roscommon. Apart from the Moy itself, other rivers included within the site are the Deel, Bar Deel, Castlehill, Addergoole, Clydagh and Manulla on the west side, and the Glenree, Yellow, Strade, Gweeston, Trimogue, Sonnagh, Mullaghane, Owengarve, Eighnagh and Owenaher on the east side. The underlying geology is Carboniferous Limestone for the most part, though Carboniferous Sandstone is present at the extreme west of the site, with Dalradian Quartzites and schists at the south-west. Some of the tributaries at the east, the south of Lough Conn and all of Lough Cullin are underlain by granite. There are many towns adjacent to but not within the site. These include Ballina, Crossmolina, Foxford, Swinford, Kiltimagh and Charlestown.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (\* = priority; numbers in brackets are Natura 2000 codes):

- [6510] Lowland Hay Meadows
- [7110] Raised Bog (Active)\*
- [7120] Degraded Raised Bog
- [7150] Rhynchosporion Vegetation
- [7230] Alkaline Fens
- [91A0] Old Oak Woodlands
- [91E0] Alluvial Forests\*
- [1092] White-clawed Crayfish (*Austropotamobius pallipes*)
- [1095] Sea Lamprey (*Petromyzon marinus*)
- [1096] Brook Lamprey (*Lampetra planeri*)
- [1106] Atlantic Salmon (*Salmo salar*)
- [1355] Otter (*Lutra lutra*)

Oak woodlands are found on the slopes and rising ground around the southern shores of Loughs Conn and Cullin. Sessile Oak (*Quercus petraea*) is the dominant tree species, with an understorey of Holly (*Ilex aquifolium*), Hazel (*Corylus avellana*) and Downy Birch (*Betula pubescens*), with some Ash (*Fraxinus excelsior*). Additional species are associated with the lakeshore such as Rock Whitebeam (*Sorbus rupicola*).

Aspen (*Populus tremula*), Silver Birch (*B. pendula*) and the shrubs Guelder-rose (*Viburnum opulus*), Buckthorn (*Rhamnus catharticus*) and Spindle (*Euonymus europaeus*). The ground flora is usually composed of Bilberry (*Vaccinium myrtillus*), Great Wood-rush (*Luzula sylvatica*), Wood-sorrel (*Oxalis acetosella*), buckler-ferns (*Dryopteris aemula* and *D. dilatata*), Hard Fern (*Blechnum spicant*), Common Cow-wheat (*Melampyrum pratense*) and Bracken (*Pteridium aquilinum*). The rare Narrow-leaved Helleborine (*Cephalanthera longifolia*), protected under the Flora (Protection) Order, 2015, occurs in association with the woodlands. Also found in these woodlands is the snail *Spermoda lamellata*, a species associated with old natural woodlands.

Alluvial woodland occurs at several locations along the shores of the lakes but is particularly well developed along the river at Coryosla Bridge. Principal tree species are willows (including *Salix cinerea* subsp. *oleifolia*) and Alder (*Alnus glutinosa*). Herbaceous species include Royal Fern (*Osmunda regalis*), Meadowsweet (*Filipendula ulmaria*) and Reed Canary-grass (*Phalaris arundinacea*). The woods are flooded by seasonal fluctuations in lake level.

On higher ground adjacent to the woodlands is blanket bog with scattered shrubs and trees on the drier areas. The rocky knolls often bear Juniper (*Juniperus communis*) or Gorse (*Ulex europaeus*), with some unusual rare herb species such as Intermediate Wintergreen (*Pyrola media*) and Lesser Twayblade (*Listera cordata*).

Within the site are a number of raised bogs including those at Kilgarriff, Gowlaun, Derrynabrock, Tawnaghbeg and Cloongoonagh. These are examples of raised bogs at the north-western edge of the spectrum and possess many of the species typical of such in Ireland, including an abundance of Bog Asphodel (*Narthecium ossifragum*), Carnation Sedge (*Carex panicea*) and the moss *Campylopus atrovirens*. Some of the bogs include significant areas of active raised bog habitat. Well developed pool and hummock systems with quaking mats of bog mosses (*Sphagnum* spp.), Bog Asphodel and White Beaked-sedge (*Rhynchospora alba*) are present. Many of the pools contain a diversity of plant species, including Bogbean (*Menyanthes trifoliata*), the bog moss *Sphagnum cuspidatum*, *Campylopus atrovirens*, Common Cottongrass (*Eriophorum angustifolium*), Great Sundew (*Drosera anglica*) and occasional Lesser Bladderwort (*Utricularia minor*). Several of the hummock-forming mosses (*Sphagnum fuscum* and *S. imbricatum*) which occur here are quite rare in this region and add to the scientific interest of the bogs within the overall site.

Depressions on the bogs, pool edges and erosion channels, where the vegetation is dominated by White Beaked-sedge comprise the habitat 'Rhynchosporion vegetation'. Associated species in this habitat at the site include Bog Asphodel, sundews, Deergrass (*Scirpus cespitosus*) and Carnation Sedge.

Degraded raised bog is present where the hydrology of the uncut bogs has been affected by peat cutting and other land use activities in the surrounding area, such as afforestation and associated drainage, and also the Moy arterial drainage. Species typical of the active raised bog habitat may still be present but the relative



abundances differ. A typical example of the degraded habitat, where drying has occurred at the edge of the high bog, contains an abundance and more uniform cover of Heather (*Calluna vulgaris*), Carnation Sedge, Deergrass and sometimes Bog-myrtle (*Myrica gale*). Occurring in association with the uncut high bog are areas of wet regenerating cutover bog with species such as Common Cottongrass, bog mosses and sundew, while on the drier areas, the vegetation is mostly dominated by Purple Moor-grass (*Molinia caerulea*). Natural regeneration with peat-forming capability will be possible over time with some restorative measures.

Alkaline fen is considered to be well developed within the site. An extensive stand occurs as part of a wetland complex at Mannin and Island Lakes on the Glora River. Key diagnostic species of the *Schoenus* association characteristic of rich fens include the bryophytes *Campylium stellatum*, *Anzura pinguis* and *Scorpidium scorpioides*, and the herbaceous species Long-stalked Yellow-sedge (*Carex lepidocarpa*), Grass-of-parnassus (*Parnassia palustris*) and Common Butterwort (*Pinguicula vulgaris*). Other fen species include Black Bog-rush (*Schoenus nigricans*), Purple Moor-grass, Marsh Helleborine (*Epipactis palustris*), Meadow Thistle (*Cirsium dissectum*) and Blunt-flowered Rush (*Juncus subnodulosus*). The rare moss *Bryum uliginosum* occurs on exposed marl at a ditch to the east of Island Lake.

This site is one of the most important in the country for the habitat 'lowland hay meadow'. Just over 9ha of the habitat were recorded by the Grassland Monitoring Survey (2013-2017) within the River Moy SAC, with significant areas found adjacent also. In 2017, indicator species for this habitat such as Meadow Foxtail (*Alopecurus pratensis*), Knapweed (*Centaurea nigra*), Meadowsweet, Cat's-ear (*Hypochaeris radicata*), Meadow Vetchling (*Lathyrus pratensis*), Autumn Hawkbit (*Leontodon autumnalis*), Oxeye Daisy (*Leucanthemum vulgare*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Ribwort Plantain (*Plantago lanceolata*), Self-heal (*Prunella vulgaris*), Meadow Buttercup (*Ranunculus acris*), Yellow-rattle (*Rhinanthus minor*), Great Burnet (*Sanguisorba officinalis*) and Red Clover (*Trifolium pratense*) were recorded. Great Burnet is of particular note, being a rare species in Ireland. It is listed on the Flora (Protection) Order, 2015, and the recent Red Data List for Vascular Plants categorise it as 'Vulnerable'. There are multiple landowners managing individual areas of lowland hay meadow at this site. Currently, some management is fully appropriate, but in some areas management has increased in intensity, or in some other way moved away from traditional lowland hay meadow management (including abandonment). Thus the main threat to the habitat at the site is changing agricultural use, and also abandonment.

The open water of Loughs Conn and Cullin is moderately hard with relatively low colour and good transparency. The phytoplankton of the lake is dominated by diatoms and blue-green algae and there is evidence that the latter group is more common now than in former years. This indicates that nutrient inflow is occurring. The changes in Lough Conn appear to represent an early phase in the eutrophication process. Stoneworts still present include *Chara aspera*, *C. delicatula* and *Nitella cf. opaca*. Other plants found in the shallower portions include pondweed species (*Potamogeton* spp.). Where there is a peat influence Intermediate Bladderwort

(*Utricularia intermedia*) is characteristic, while Water Lobelia (*Lobelia dortmanna*) often grows in sand. Narrow reedbeds and patches of Yellow Water-lily (*Nuphar lutea*) occur in some of the bays.

Drainage of the Moy in the 1960s lowered the level of the lakes, exposing wide areas of stony shoreline and wet grassland, which are liable to flooding in winter. This increased the habitat diversity of the shoreline and created a number of marginal wetlands, including fens and marshes. Plant species of note in the lake-margin include Heath Cudweed (*Omalotheca sylvatica*), Great Burnet and Irish Lady's-tresses (*Spiranthes romanoffiana*). These three species are listed on the Irish Red Data list and are protected under the Flora (Protection) Order, 2015.

Other habitats present within the site include wet grassland dominated by rushes (*Juncus* spp.) grading into species-rich marsh in which sedges are common. Among the other species found in this habitat are Yellow Iris (*Iris pseudacorus*), Water Mint (*Mentha aquatica*), Purple Loosestrife (*Lythrum salicaria*) and Soft Rush (*Juncus effusus*).

Rusty Willow (*Salix cinerea* subsp. *oleifolia*) scrub and pockets of wet woodland dominated by Alder (*Alnus glutinosa*) have become established in places throughout the site. Ash (*Fraxinus excelsior*) and Downy Birch (*Betula pubescens*) are common in the latter and the ground flora is typical of wet woodland with Meadowsweet, Wild Angelica (*Angelica sylvestris*), Yellow Iris, horsetails (*Equisetum* spp.) and occasional tussocks of Greater Tussock-sedge (*Carex paniculata*).

Small pockets of conifer plantation, close to the lakes and along the strip both sides of the rivers, are included in the site.

The Moy system is one of Ireland's premier salmon waters and it also encompasses two of Ireland's best lake trout fisheries in Loughs Conn and Cullin. Although the Atlantic Salmon (*Salmo salar*) is still fished commercially in Ireland, it is considered to be endangered or locally threatened elsewhere in Europe and is listed on Annex II of the E.U. Habitats Directive. The Moy is a most productive catchment in salmon terms and this can be attributed to its being a fingered system with a multiplicity of 1<sup>st</sup> to 5<sup>th</sup> order tributaries which are large enough to support salmonids < 2 years of age while at the same time being too small to support significant adult trout numbers and are therefore highly productive in salmonid nursery terms.

Salmon run the Moy every month of the year. Both multi-sea-winter fish and grilse are present. The salmon fishing season is 1<sup>st</sup> February to 30<sup>th</sup> September. The peak of the spring fishing is in April and the grilse begin running in early May. The average weight of the spring fish is 9 lb and the grilse range from about 3-7 lb. In general spring fish are found more frequently in the rivers at the western extent of the Moy system.

The Arctic Char (*Salvelinus alpinus*), an interesting relict species from the last ice age, which is listed as threatened in the Irish Red Data Book has been recorded from



Lough Conn and in only a few other lakes in Ireland. The latest reports suggest that it may now have disappeared from the site.

The site is also important for the presence of four other species listed on Annex II of the E.U. Habitats Directive, namely Sea Lamprey, Brook Lamprey, Otter and White-clawed Crayfish. The Sea Lamprey is regularly encountered in the lower stretches of the river around Ballina, while the Otter and White-clawed Crayfish are widespread throughout the system. In addition, the site also supports many of the mammal species occurring in Ireland. Those which are listed in the Irish Red Data Book include Pine Marten, Badger, Irish Hare and Daubenton's Bat. Common Frog, another Red Data Book species, also occurs within the site.

Loughs Conn and Cullin support important concentrations of wintering waterfowl and both are designated Special Protection Areas (SPAs). A nationally important population of the Annex I species Greenland White-fronted Goose (average 113 over 6 winters 1994/95 to 1999/00) is centred on Lough Conn. Whooper Swans also occur (numbers range between 25 to 50), along with nationally important populations of Tufted Duck 635, Goldeneye 189 and Coot 464. A range of other species occur on the lakes in regionally important concentrations, notably Wigeon 303, Teal 154, Mallard 225, Pochard 182, Lapwing >1,000 and Curlew 464. Golden Plover also frequent the lakes, with numbers ranging between 700 and 1,000.

Loughs Conn and Cullin are one of the few breeding sites for Common Scoter in Ireland. Breeding has occurred on Lough Conn since about the 1940s when about 20-30 pairs were known. A census in 1983 recorded 29 pairs. Breeding was first proved on Lough Cullin in 1983 when 24 pairs were recorded. In 1995, 24-26 pairs were recorded at Lough Conn and 5 pairs at Lough Cullin. The latest survey in 1999 gives a total of 30 birds for both lakes, comprising only 5 pairs, 18 unpaired males and 2 unpaired females. The reason for the decline is not known but may be due to predation by mink, possible changes in food supply and/or redistribution to other sites. The Common Scoter is a Red Listed species.

Agriculture, with particular emphasis on grazing, is the main land use along the Moy. Much of the grassland is unimproved but improved grassland and silage fields are also present. The spreading of slurry and fertiliser poses a threat to the water quality of this salmonid river and to the large lakes. Fishing is the main tourist attraction on the Moy and there are a large number of Angler Associations, some with a number of beats. Fishing stands and styles have been erected in places. The North Western Regional Fishery Board have erected fencing along selected stretches of the river as part of their salmonid enhancement programme. Other aspects of tourism are concentrated around Loughs Conn and Cullin.

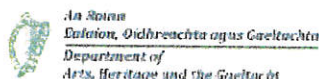
Afforestation has occurred in the past around the shores of Loughs Conn and Cullin. The coniferous trees are due for harvesting shortly. It is proposed to replant with native tree species in this area. Forestry is also present along many of the tributaries and in particular along the headwaters of the Deel. Forestry poses a threat in that sedimentation and acidification can occur. Sedimentation can cover the gravel beds

resulting in a loss of suitable spawning grounds. The Moy was arterially dredged in the 1960s. Water levels have been reduced since that time. This is particularly evident along the shores of Loughs Conn and Cullin and in the canal-like appearance of some river stretches. Ongoing maintenance dredging is carried out along stretches of the river system where the gradient is low. This is extremely destructive to salmonid habitat in the area.

The site supports populations of several species listed on Annex II of the E.U. Habitats Directive, and habitats listed on Annex I of this Directive, as well as examples of other important habitats. The presence of a fine example of broadleaved woodland in this part of the country increases the overall habitat diversity and adds to the ecological value of the site, as does the presence of the range of nationally rare and Red Data Book plant and animal species.



APPENDIX 2: Site Synopsis for Lough Hoe Bog SAC (Site code 000633) (Source NPWS)



**SITE SYNOPSIS**

**Site Name: Lough Hoe Bog SAC**

**Site Code: 000633**

Lough Hoe Bog is an extensive area of undulating montane blanket bog and heath-covered rocky ridges on a lake-studded plateau in the Ox (Slieve Gamph) Mountains. It straddles the Mayo/Sligo county boundary. The underlying geology is of granite, gneiss and schist. The northern boundary of the site encompasses Lough Talt on the Tobercurry to Ballina Road, which is 13 km from Tobercurry and 17 km from Ballina.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (\* = priority; numbers in brackets are Natura 2000 codes):

- [3110] Oligotrophic Waters containing very few minerals
- [7130] Blanket Bogs (Active)\*
- [1013] Geyer's Whorl Snail (*Vertigo geyeri*)
- [1092] White-clawed Crayfish (*Austropotamobius pallipes*)

The plateau top is covered by a thin layer of blanket bog with areas of shallow inter-connecting pools. Hummocks are large and are formed from the mosses *Sphagnum papillosum* and *Racomitrium lanuginosum*, and Heather (*Calluna vulgaris*). The pools contain the bog moss *S. auriculatum*, Common Cottongrass (*Eriophorum angustifolium*) and Bogbean (*Menyanthes trifoliata*). In the drier areas, Deergrass (*Scirpus cespitosus*) and Hare's-tail Cottongrass (*E. vaginatum*) are abundant. In places, blanket bog grades into wet heath vegetation, while dry heath occurs on some of the steeper slopes and rocky outcrops.

There are numerous oligotrophic (nutrient-poor) lakes found on the site. Plant species colonising these lakes include Bottle Sedge (*Carex rostrata*), Water Lobelia (*Lobelia dortmanna*), Bog Pondweed (*Potamogeton polygonifolius*) and rushes (*Juncus bulbosus* and *J. effusus*), amongst others. The rocky lake shores are frequently colonised by Common Yellow-sedge (*Carex demissa*) and wood-rush (*Luzula* sp.). Floating mats of vegetation, consisting mainly of Bogbean and Bog Pondweed have developed at the ends of some lakes, while Bulrush (*Typha latifolia*), Common Reed (*Phragmites australis*), Common Club-rush (*Scirpus lacustris*) and Water Horsetail (*Equisetum fluviatile*) are the main emergent species at the lake edges.

There are three large rivers on the site, two in the south and the third to the north - the Lough Hoe River. Species commonly occurring by these rivers include Water Mint (*Mentha aquatica*), Selfheal (*Prunella vulgaris*), Bracken (*Pteridium aquilinum*) and Bog Pimpernel (*Anagallis tenella*). To the south of the river flowing from Lough Hoe

is an area with numerous hollows, 5-10 m in diameter. These areas are dominated by Soft Rush (*Juncus effusus*), Star Sedge (*Carex echinata*), Wavy Hair-grass (*Deschampsia flexuosa*), Bell Heather (*Erica cinerea*) and Mat-grass (*Nardus stricta*). At the southern end of Lough Nalackagh there are areas of poorly developed inter-connecting pools, while another such pool system is found towards the north-west of the same lake.

The rare Oak Fern (*Gymnocarpium dryopteris*) has been recorded from near Lough Talt, but it has not been seen there in recent years.

The wetland snail, *Vertigo geyeri*, occurs in marsh vegetation on the shore on Lough Talt. This is a very rare, glacial relict species which is known in Ireland from only a small number of sites. It is rare and threatened in Europe and is listed on Annex II of the E.U. Habitats Directive. The presence in Lough Talt of a population of White-clawed Crayfish (*Austropotamobius pallipes*), a species also listed on Annex II of the E.U. Habitats Directive is also notable. Lough Talt also supports a population of the rare and threatened Red Data Book fish species, Arctic Char.

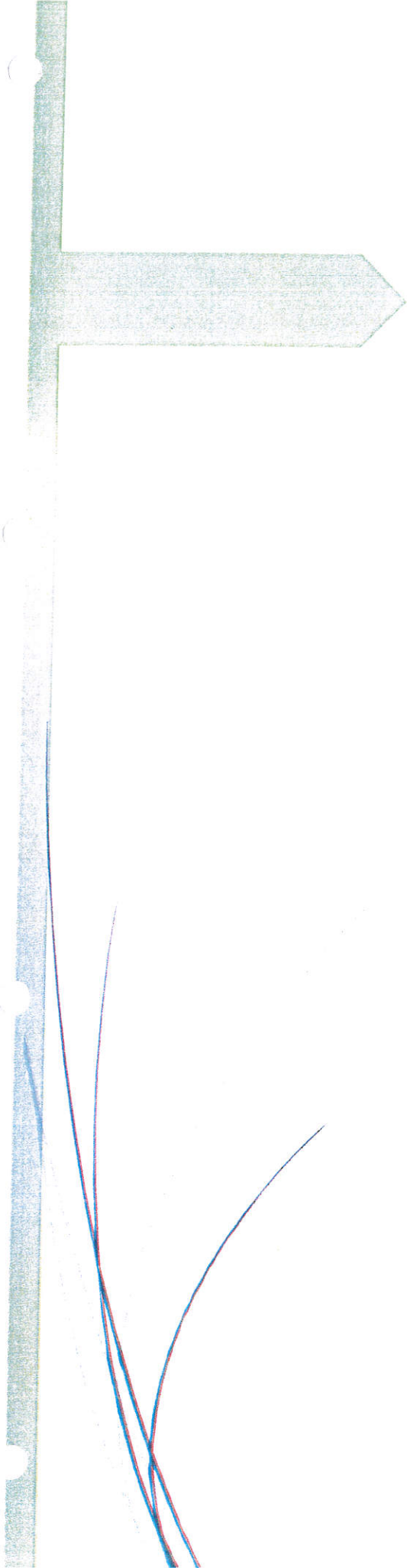
An island in the lake formerly held a mixed colony of Common Gulls and Black-headed Gulls (46 and 280 individuals, respectively, in 1977/78). By 1992 this colony had all but disappeared, with only 4 pairs of the former species remaining.

Grazing (by cattle and sheep) and turbary are the major land use activities in evidence on the site. Lough Hoe Bog is particularly vulnerable to afforestation, turbary and over-stocking. Despite some localised peat erosion and evidence of over-stocking, most of the site is relatively intact.

Lough Hoe Bog contains a large area of good quality blanket bog, a habitat that is becoming increasingly rare in Ireland. The site also contains good quality examples of oligotrophic lakes. Both of these habitats are listed on Annex II of the E.U. Habitats Directive. The presence of several rare species, and in particular the E.U. Habitats Directive Annex II listed *Vertigo geyeri* and *Austropotamobius pallipes*, adds to the conservation significance of the site.







Stage 2 Appropriate Assessment, Natura Impact Statement For Proposed Erection of an On-Farm Horticulture Building, 2x Water Storage Tank Systems, Cold Storage Building, Agricultural Access Laneway, and Hardstanding Areas, Ancillary Site Works and Additional Landscaping at Lislea, Aclare, Co. Sligo, Republic of Ireland.

Siobhan Ward

Ward Agricultural And Environmental Consultants Ltd.



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## 1.0 INTRODUCTION

Ward Agricultural and Environmental Consultants Ltd has been commissioned by Mr Richard Kennedy to prepare a Natura Impact Statement (NIS) for the proposed development Erection of an On-Farm Horticulture Building, 2x Water Storage Tank Systems, Cold Storage Building, Agricultural Access Laneway, and Hardstanding Areas, Ancillary Site Works and Additional Landscaping (i.e. the project) at Lislea, Aclare, Co. Sligo, Republic of Ireland (see Figure 1 for the location of project site and Figure 2 for an aerial view of the project site).

In accordance with Article 6(3) of the Habitats Directive, as transposed into Irish law by Regulation 42(1) and Part 5 of the European Communities (Birds and Natural Habitats) Regulations 2011 — 2015 (i.e. the "Habitats Regulations") and Part XAB of the Planning and Development Act, 2000 (as amended) (i.e. the "Planning and Development Act"), a Screening Report for Appropriate Assessment (AA) was prepared to assess whether it could or could not be ruled out, on the basis of objective information, that the project, either individually or in combination with other plans or projects, was likely to have a significant effect on any European Sites.

The Screening Report for Appropriate Assessment was prepared by Ward Agricultural and Environmental Consultants Ltd and is provided under separate cover to this NIS. The Screening Report for Appropriate Assessment concluded, in view of best scientific knowledge and the conservation objectives of the European Sites occurring within the zone of influence of the project, that, in the absence of appropriate mitigation, it could not be ruled out at the screening stage that the project would not result in significant negative effects to 1 European site, River Moy Special Area of Conservation (SAC). The conclusion of the Screening Report was informed by a highly precautionary approach and adopted a worst-case scenario. Such an approach was adopted to ensure consistency with the extremely low threshold for triggering likely significant effects, as determined in both European and Irish case law and Section 177U of the Planning and Development Act. On the basis of that conclusion, it has been determined that AA is required in order to assess the implications of the project for those this European Site. In accordance with Section 177T of the Planning and Development Act, a NIS of the project has been prepared in order to assist the competent authority, in this case Sligo County Council, in carrying out its Appropriate Assessment. This NIS provides an examination, analysis and evaluation of the likely impacts from the project, both individually and in

combination with other plans and projects, in view of best scientific knowledge and the conservation objectives of the European Sites concerned. It also prescribes appropriate mitigation to ensure that the project will not adversely affect the integrity of those sites identified as being at risk of likely significant effects. Finally, it provides complete, precise and definitive findings, which are capable of removing all reasonable scientific doubt as to the absence of adverse effects on the integrity of the European sites concerned.

## 1.1 SUMMARY OF SCREENING REPORT FOR APPROPRIATE ASSESSMENT

The Screening Report identified seven European Sites as occurring within a 15km radius of the project site (Figure 1 shows the location of these sites with respect to the project site). No other sites at a greater distance than 15km were included during the screening as it was noted that any European Site at such a distance from the project site would not occur within its zone of influence and there would be no potential for any interactions between a European Site at such distances and the project. River Moy SAC is around 450m to the south-west of the proposed development. There is a small stream, a tributary of the River Eighnagh running 66.11m north of the site. **Using the “Precautionary principal” the uncertainty that this pathway will have no direct or indirect effects on the Natura 2000 site, River Moy SAC, cannot be ruled out.** This consideration was based on the distance between the project site and this European Site and, more importantly, the presence of one pathway that could connect the project site to this European Sites and their features of interest.

Site Name	Site code	Distance from development
Lough Nabrickkeagh Bog	000634	3.68 km (upstream)
Lough Hoe Bog	000633	3.82 km (upstream)
Cloongoonagh Bog	001657	3.94 km (downstream)
Ox Mountain Bogs	002006	5.35 km (upstream)
Moylough Turlough	001677	12.3 km
Turloughmore (Sligo)	000637	12.8 km

Table 1: All SAC sites within 15km of the site and distance from site to SAC



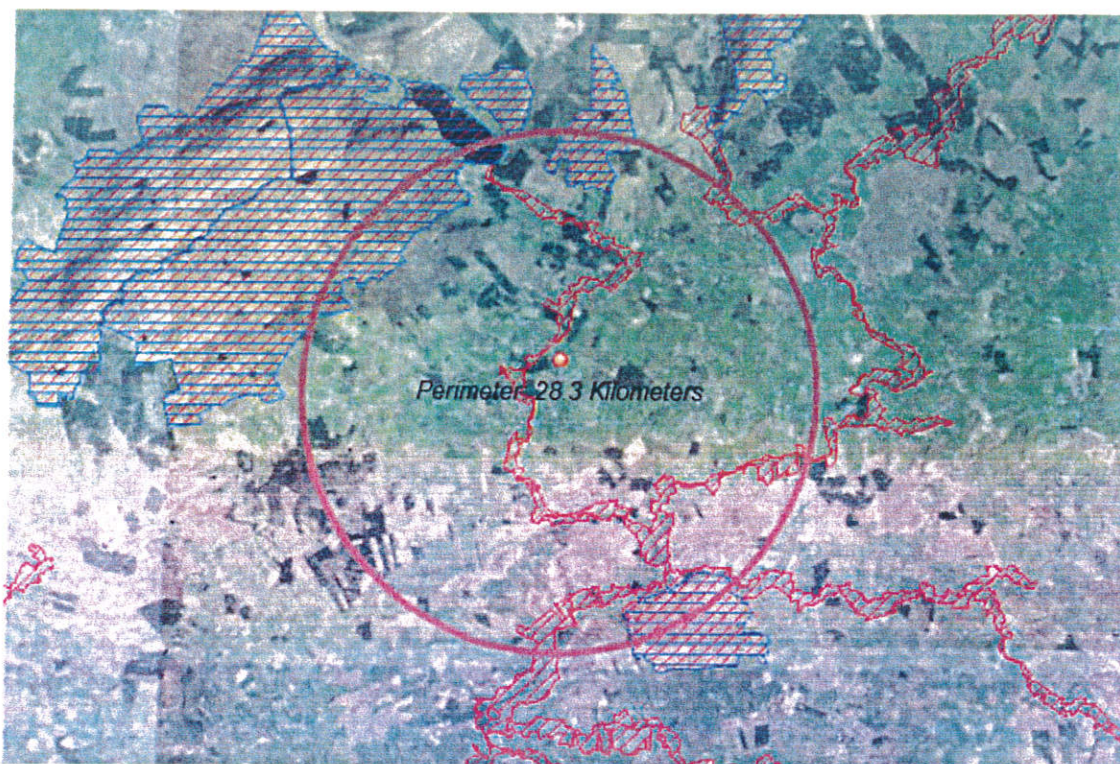


Figure 1. Site location and the 7 European sites with 15km of the project (Zone of influence)

One European Site, River Moy SAC, identified as occurring within the zone of influence of the project. The River Eighnagh passes around 450m to the southwest of the proposed development as it flows towards the SAC, which is around 3km downstream of the proposed scheme. **There is therefore a potential for effects**, arising from the development, to have an impact on the designation features and/or conservation objectives of the Natura 2000 site.

## 1.2 SUMMARY OF SITE DESIGNATION RIVER MOY SAC.

River Moy has been designated as a SAC for the following features:

- Lowland hay meadows.
- Active raised bogs.
- Degraded raised bogs still capable of natural regeneration.
- Depressions on peat substrates of the Rhynchosporion
- Alkaline fens.
- Old sessile oak woods with Ilex and Blechnum in the British Isles.
- Alluvial forests with Alnus glutinosa and Fraxinus excelsior.
- White-clawed Crayfish.
- Sea Lamprey.
- Brook Lamprey.
- Salmon.
- Otter.

The SAC is of national importance as there is a priority habitat on the site under the Habitats Directive: **Active Raised Bog**

### **1.1.2 CONSERVATION OBJECTIVES**

Conservation objectives for the SAC are:

- To restore the favourable conservation condition of Active raised bogs in River Moy SAC.
- The long-term aim for Degraded raised bogs still capable of natural regeneration is that its peat-forming capability is re-established; therefore, the conservation objective for this habitat is inherently linked to that of Active raised bogs.
- Depressions on peat substrates of the Rhynchosporion is an integral part of good quality Active raised bogs: therefore, the conservation objective for this habitat is inherently linked to that of Active raised bogs.
- To maintain the favourable conservation condition of Alkaline fens in River Moy SAC.
- To maintain the favourable conservation condition of Old sessile oak woods with Ilex and Blechnum in the British Isles in River Moy SAC.
- To maintain the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in River Moy SAC.
- To maintain the favourable conservation condition of White-clawed Crayfish in River Moy SAC.
- To maintain the favourable conservation condition of Sea Lamprey in River Moy SAC.
- To maintain the favourable conservation condition of Brook Lamprey in River Moy SAC.
- To maintain the favourable conservation condition of Salmon in River Moy SAC.
- To maintain the favourable conservation condition of Otter in River Moy SAC.

### **1.1.3 SITE VISIT**

This assessment is a 70% desk-based exercise and a site visit was carried out in November 2021. This approach is in part a response to travel restrictions imposed as a result of the Covid pandemic.



#### **1.1.4 CURRENT MANAGEMENT**

Land within the proposed development site is managed for agriculture. The greater part of the site comprises agricultural grassland, There is a line of mature trees behind the site marking the west boundary of the site. The site is situated behind an existing farmyard.

#### **1.1.5 PROJECT DESCRIPTION**

This application is for Planning Application for the Proposed Erection of an On-Farm Horticulture Building, 2x Water Storage Tank Systems, Cold Storage Building, Agricultural Access Laneway, and Hardstanding Areas, Ancillary Site Works and Additional Landscaping. This is an Horticultural development and falls in the classes of intensive agriculture or food production. There is already a dry shed and farmyard area here and this is an extension of the existing farming activities on the farm at present. Rainwater harvesting will be carried out onsite and the water will be used in the horticultural buildings to water the plants. This development will work on Organic principles, by using no chemical fertilisers, herbicides or pesticides. The development will use robotics, data analysis and Artificial intelligence to enable the development to grow vegetables and salads. All watering and weeding will be carried out using robotics. All waste will be removed off site and composted. AgBotic is a 'SmartFarm,' meaning it uses new technology to mass produce vegetables without harmful emissions. This method of farming is called regenerative.



Figure 2: interior view of On Farm Horticultural unit.

**1.1.5.2.** Surface water will be directed into the existing drainage system and will ultimately enter the River Moy. As previously stated, Rainwater harvesting will play a major part in the development. It is envisaged that there will be minimum surface water after construction to enter the existing drainage system.



## 2. DISCUSSION

2.2. The proposed project is directly connected with or necessary to the management of the Natura 2000 site.

2.3. The likely significance of effects of the proposed project on the Natura 2000 sites and their conservation objectives have been assessed taking into account the source-pathway-receptor model. The source is defined as the individual elements of the proposed project that have the potential to impact on a Natura 2000 site, its qualifying features and its conservation objectives. The pathway is defined as the means or route by which a source can migrate to the receptor. The receptor is defined as the Natura 2000 site and its qualifying features. Each element can exist independently; however, a potential impact is created where there is a linkage between the source, pathway and receptor.

2.4. A source of potential effects on biodiversity receptors may arise from the production of pollutants during construction, including silts, hydrocarbons and airborne emissions. The area under consideration is around 450m from the River Eighnagh, which is part of the River Moy SAC, there is a small stream, a tributary of the River Eighnagh running 66.11m north of the site, and the site is separated from the river by a farm road, extensive agricultural grassland, existing farmyard and buildings. The river is not likely to be sufficiently remote from the proposed development to be insulated from pollutants that may be produced on the site during construction. The scheme will result in an increase in the area of impermeable ground at the site. Drainage during and following construction will use the existing stormwater infrastructure. Potential pollutants are therefore likely to be retained within the site or to be attenuated by dispersion or infiltration. Surface water directed into the existing drainage system will ultimately enter the River Eighnagh. There are likely to be adverse impacts on the River Moy as a result of construction of the project and therefore downstream effects on the River Moy SAC

2.5. Receptors that must be considered are both the habitat and species designation features of the Natura site. The distance of the proposed development from the EPS means that there are likely to be effects on any designated wetland habitats and species designation features arising from the scheme. There maybe a significant change in water quality or volume discharging into

the system and there will could possibly change from the present position with regard to effects on the Natura sites and their conservation objectives.

2.6. A significant escape of pollutants may have an unknown, possibly toxic or sub-toxic, effect on the designation species, with impacts on the ability of the site to support those species that forage in the site. This effect would be contrary to the conservation objective of maintaining the range, timing and intensity of use of areas within the SAC, particularly the priority habitats Active Raised Bogs.

<b>Name of Project or Plan.</b>	Proposed Planning Application for the Proposed Erection of an On-Farm Horticulture Building, 2x Water Storage Tank Systems, Cold Storage Building, Agricultural Access Laneway, and Hardstanding Areas, Ancillary Site Works and Additional Landscaping.
<b>Project reference (Planning ref. etc.):</b>	
<b>Name and location of Natura 2000 site.</b>	River Moy SAC
<b>Natura 2000 site features:</b>	<ul style="list-style-type: none"> <li>• Lowland hay meadows.</li> <li>• Active raised bogs.</li> <li>• Degraded raised bogs still capable of natural regeneration.</li> <li>• Depressions on peat substrates of the Rhynchosporion.</li> <li>• Alkaline fens.</li> <li>• Old sessile oak woods with Ilex and Blechnum in the British Isles.</li> <li>• Alluvial forests with Alnus glutinosa and Fraxinus excelsior.</li> <li>• White-clawed Crayfish.</li> <li>• Sea Lamprey.</li> <li>• Brook Lamprey.</li> <li>• Salmon.</li> <li>• Otter.</li> </ul>
<b>Description of the Project or Plan.</b> <b>Size and scale;</b> <b>Land-take;</b> <b>Distance from Natura 2000 site or key features of the site;</b> <b>Resource requirements (water abstraction etc);</b> <b>Emission (disposal to land, water or air);</b> <b>Excavation requirements;</b> <b>Transportation requirements;</b> <b>Duration of construction, operation, decommissioning etc;</b>	<b>Description of Project:</b> Construction of the horticulture facility which will include: <ul style="list-style-type: none"> <li>• 1 On- farm horticulture building</li> <li>• 2 water storage tank systems</li> <li>• 1 cold storage building</li> <li>• 1 wash and preparation area</li> <li>• 1 seed and input area</li> </ul>



Other.	<ul style="list-style-type: none"> <li>• 1 staff facility area</li> <li>• 1 staff car park with EV charging station</li> <li>• 1 hard standing area</li> <li>• 1 access roadway and landscaping</li> <li>• 1 x 1.5m retaining wall</li> </ul> <p><b><u>Size and scale</u></b></p> <p>The site covers approximately 0.75ha.</p> <p><b><u>Land-take:</u></b> None</p> <p><b><u>Distance from Natura 2000 site or key features of the site:</u></b> The proposed development is around 450m to the southeast of the SAC., but there is a small stream, a tributary of the River Eigheagh, which is part of the SAC, running close to the site, 66.11m</p>
Is the proposal directly connected with or necessary to management of the site for conservation of N2K features? If yes proceed no further.	yes
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.	Surface water bearing fugitive amounts of sediments and, potentially, hydrocarbons from the site will discharge into stormwater drains and ultimately into the River Eigheagh, which is connected to waters of the SAC. Any accidental discharge of wastewater may flow into the River Eigheagh, , which is connected to waters of the SAC.

Table 2: Test of likely significance – River Moy SAC

N2K Feature: Mention all features	Describe any likely direct or indirect effects to the N2K features arising as a result of: loss; reduction of habitat area; disturbance; habitat or species fragmentation; reduction in species density; changes in key indicators of conservation value (e.g. water quality, climate change).	*Effect Significant/Not Significant/Uncertain? Why?
<ul style="list-style-type: none"> <li>• Lowland hay meadows.</li> <li>• Active raised bogs.</li> <li>• Degraded raised bogs still capable of natural regeneration.</li> <li>• Depressions on peat substrates of the Rhynchosporion.</li> <li>• Alkaline fens.</li> <li>• Old sessile oak woods with Ilex and</li> </ul>	Surface water bearing fugitive amounts of sediments and, potentially, hydrocarbons from the site will discharge into stormwater drains and ultimately into the River Eigheagh, which is connected to waters of the SAC. Any accidental discharge of wastewater may flow into the River Eigheagh, which is connected to waters of the SAC.	<p><b>Significance:</b></p> <p>The proposed development is 450m away from the SAC, but a small stream that flows directly into the SAC is 66.11 m away from the site. Dilution effects resulting from deposition and entrainment in riverine sediments upstream of the SAC and attenuation in flowing river waters of any escaped pollutants will likely prevent significant toxic effects on aquatic populations. A significant escape of pollutants may have an unknown, possibly toxic or sub-toxic, effect on some aquatic species.</p>

<p>Blechnum in the British Isles.</p> <ul style="list-style-type: none"> <li>• Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i>.</li> <li>• White-clawed Crayfish.</li> <li>• Sea Lamprey.</li> <li>• Brook Lamprey.</li> <li>• Salmon.</li> <li>• Otter.</li> </ul>		
Active Raise Bogs (Priority habitat)	Pollutants derived from discharged stormwater have the potential to have impacts on riverine vegetation through toxic, sub-toxic and blanketing effects, resulting in changes in plant community structure and invertebrate population density, respectively.	<b>Not Significant</b> The proposed development is remote from Active Raised Bog habitats of the SAC where they are present. Dilution effects resulting from deposition and entrainment in riverine sediments upstream of the SAC and attenuation in flowing river waters of any escaped pollutants will likely prevent significant additional eutrophic effects on habitats in the SAC. It is unlikely that the conservation objective of maintaining the Active Raised Bog will be adversely affected by possible contamination events.

Describe any potential effects on the Natura 2000 site as a whole in terms of: interference with the key relationships that define the structure or function of the site	Effect considered significant/non-significant: Finding of No significant effects Matrix
While the site is suitably removed from SAC, there is a stream 66.11m from the site the flows into the River Eignagh, part of the SAC. There is no visibly apparent connection between the sites with intervening agricultural fields and roads. There is likely to be significant impacts upon Annex I Habitats or Annex II Species.. The development site is roads and horticultural structures. No habitats on site are listed as part of the qualifying interests of the SAC site. <b>Possibility of indirect/indirect impacts from storm water drainage or wastewater as the stream is very close to the site.</b>	<b>Significant.</b> The proposed development is remote from those parts of the SPA where the designation species are present, but the extent and intensity of any significant pollution is unknown. Possibility of indirect impacts from storm water drainage or wastewater as the stream is very close to the site.
<b>Provide details of any other projects or plans that together with the project or plan being assessed could (directly or indirectly) affect the site.</b>	<b>Provide details of any likely in-combination effects and quantify their significance -</b>
There have been planning permission granted of the construction of a dry bedded roundhouse cattle shed with effluent collection tank.	<b>Not significant.</b> The development will not create a cumulative impact upon the Natura 2000 site in combination with any other plans or projects.



As the Stage 1 – Screening Report found that Possibility of indirect impacts from storm water drainage or wastewater or during the construction phase of the project could have a indirect significant effect on the River Moy SAC, a Stage 2 AA is recommended.

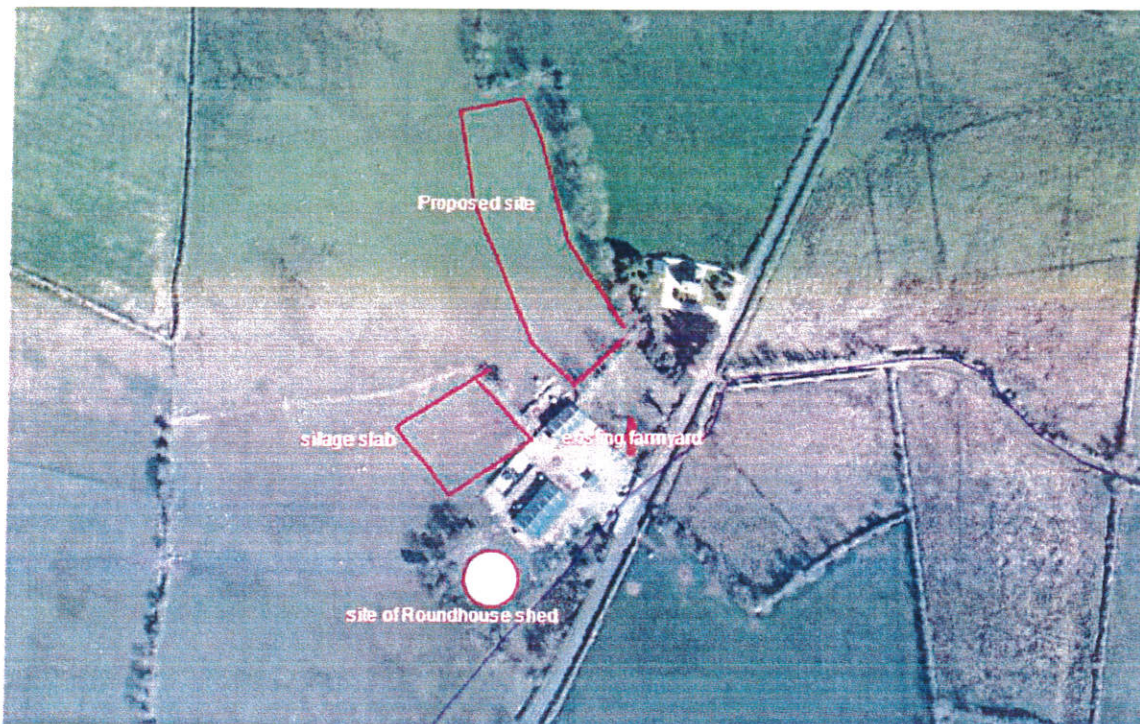


Figure 3: Aerial photo of the site.

### 3. NEXT STEPS FOR THE PROJECT IN THE AA SCREEN PROCESS.

Stage 1 — Screening: This stage defines the proposed plan, establishes whether the proposed Plan is necessary for the conservation management of the European Site and assesses the likelihood of the plan to have a significant effect, alone or in combination with other plans or projects upon a European site.

Stage 2 — Appropriate Assessment: If a plan or project is likely to have a significant affect an Appropriate Assessment must be undertaken. In this stage the impact of the plan or project to the Conservation Objectives of the European Site is assessed. The outcome of this assessment will establish whether the plan will have an adverse effect upon the integrity of the European Site.

Stage 3 — Assessment of Alternative Solutions: If it is concluded that, subsequent to the implementation of mitigation measures, a plan has an adverse impact upon the integrity of a

European Site it must be objectively concluded that no alternative solutions exist before the plan can proceed.

Stage 4 — Where no alternative solutions exist and where adverse impacts remain but imperative reasons of overriding public interest (IROPI) exist for the implementation of a plan or project an assessment of compensatory measures that will effectively offset the damage to the European Site will be necessary.

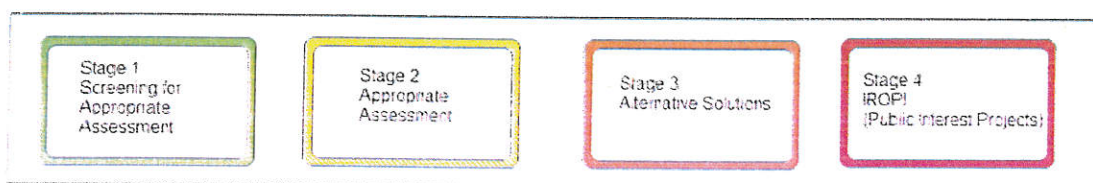


Figure 4: Stages of Appropriate Assessments

#### 4. STAGE 2: APPROPRIATE ASSESSMENT.

The EC Guidance Assessment Criteria for a Stage Two Appropriate Assessment seeks the following information:

1. A description of the elements of the project that are likely to give rise to significant effects to the European site.
2. The setting out of the Conservations Objectives of the site.
3. A description of how the project will effect key species and key habitats.
4. A description of how the integrity of the site (determined by structure and function and conservation objectives) is likely to be affected by the project ( e.g. loss of habitat, disturbance, disruption, chemical changes, hydrological changes etc).
5. A description of the mitigation measures that are to be introduced to avoid, reduce or remedy the adverse effects on the integrity of the European site.

This NIS addresses each of these items, but prior to doing so, the following sections provide a description of the product; a description at and surrounding the footprint of the project site and a brief description of the River Moy SAC.



## 5. PROJECT DESCRIPTION

### 5.1. OVERVIEW

The planning application comprises a number of separate but interrelated elements within the site plan which constitute one overall process. It consists of On-Farm Horticulture Building, 2x Water Storage Tank Systems, Cold Storage Building and ancillary works, which includes of an indoor growing facility, staff area, washing and preparation area, plant area, car park, hard standing and landscaping. Rainwater harvest will take place on site.

Stages required in respect of the development:

1. Levelling of site to commence construction.
2. Connection to public supplies.
3. Groundworks and excavations.
4. Concrete pour foundations constructed.
5. Construction of building, including retaining wall.
6. Gravel fill to be imported to finish off driveways etc.
7. Planting of trees and hedging.
8. Widening of existing entrance to farmyard.

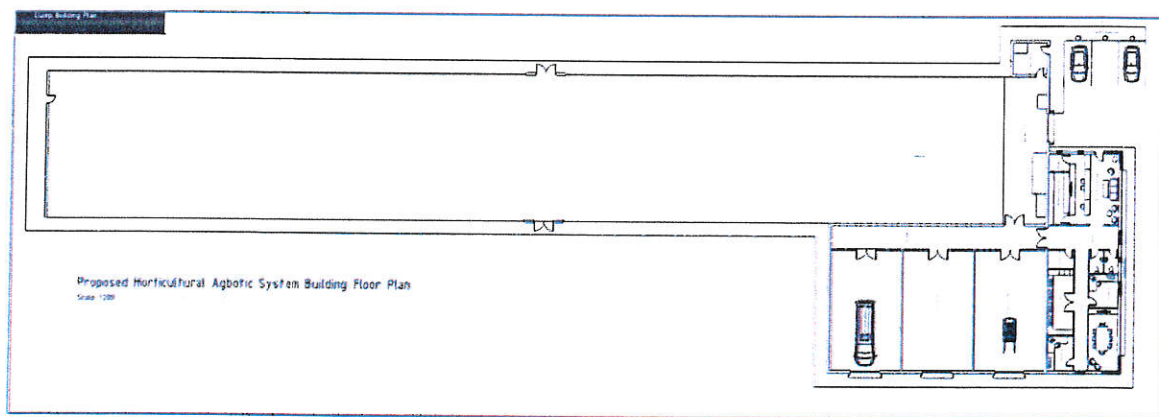


Figure 5: Internal layout of Proposed On-Farm horticulture building



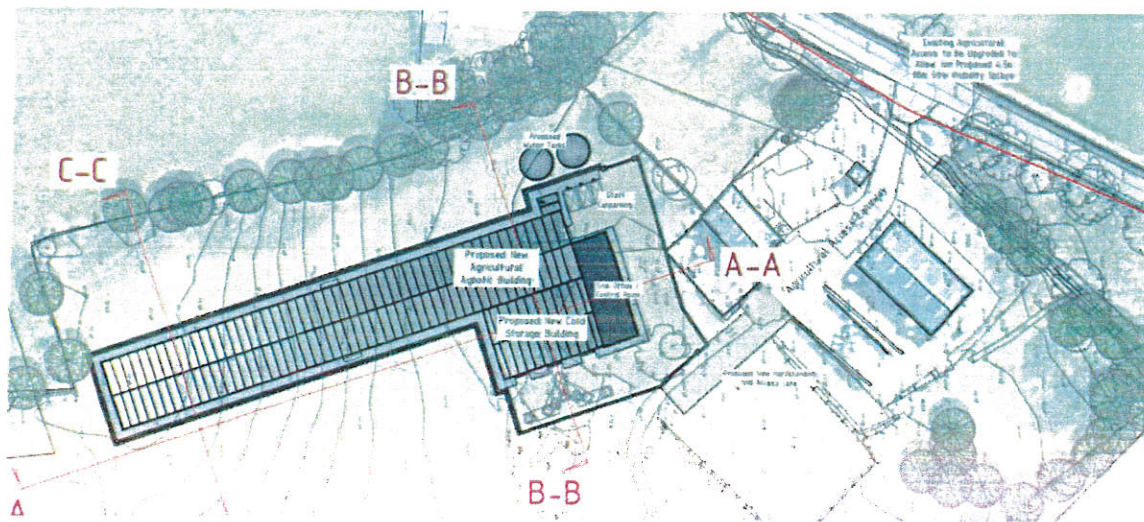


Figure 6: Proposed external layout of On-farm Horticulture building

## 5.2. OPERATION PROCESS DESCRIPTION

Seeds will enter the plant at the seed and input area, they will be planted in the horticulture area in soil. The robots will weed, feed and harvest the plants. All the plants will be harvested, washed and packaged the wash and preparation area and stored in the cold storage area until sale. Water from the washing of the harvested produce will be recycled for further use. It is estimated that the fresh veg will be harvested every six weeks, with a continual sow and harvest system in place. The produce beds will be topped up with fresh compost after every harvesting. The lifecycle of the product beds is 7.5yrs. After their lifecycle is complete, the soil will be transported off site to an AD plant or composting facility. All waste produce, of which it is estimated that there will be less than 1%, will be transported to an AD plant or composting facility.

## 6. BASELINE DESCRIPTION

### 6.1 DESCRIPTION OF THE SITE LOCATION.

The site comprises of 0.75ha, in the townland of Lislea, 0.10km west of Aclare village South Co Sligo. The proposed development will be located within the boundary of an existing beef farm. The site is accessed from a local road 'The Low Road', off the R294. The project is going to use the existing entrance into the farm yard for site access. The site is bounded to the north by existing farm buildings, and to the east by a mature hedge, west and south by agricultural fields. The greater part of the site is comprised of agricultural grassland. The site includes an intact hedge which marks the eastern boundary of the site. The soils on the site are

classified as fine loamy drift with limestone. The site is located within the Moy\_SC\_020 Sub-Catchment 34\_7 which has an ecological status of good in water quality.



Figure7: Catchment map

A stream flows to the north of the site, this is a minor tributary of the Eighnagh, which flows into the River Moy reaches the sea near Killala, The latest Q-value result for monitoring close to this location assigned a Q-value 5 at the bridge in Aclare village which is indicative of high water quality. The River Waterbody Water Framework Directive status for the River Moy has all been classified as High. The River Moy SAC is located 450m south of the site.



## 6.2 Description of the River Moy SAC

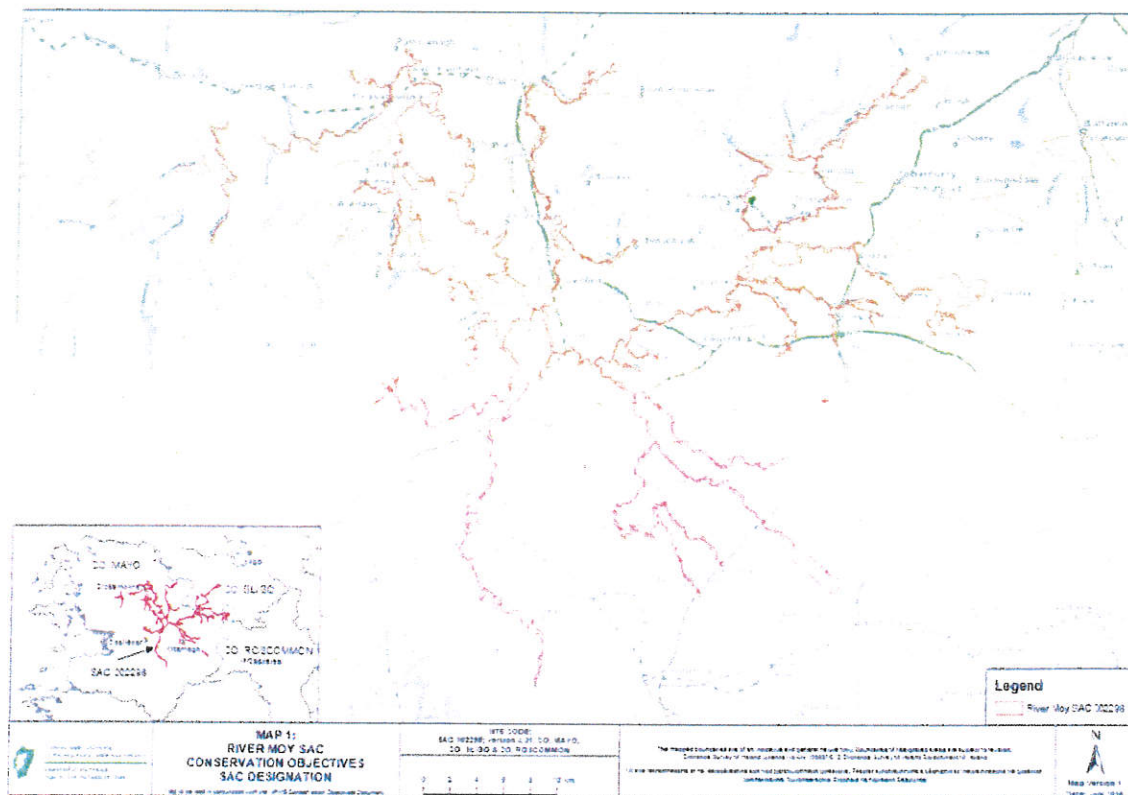


Figure 8: Map of the River Moy Sac, site is marked in green.

([https://www.npws.ie/sites/default/files/protected-sites/conservation\\_objectives/CO002298.pdf](https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002298.pdf)).

This site comprises almost the entire freshwater element of the Moy and its tributaries, including both Lough Conn and Lough Cullin. The system drains a catchment area of 805 km<sup>2</sup>. Most of the site is in Co. Mayo though parts are in west Sligo and north Roscommon. The underlying geology is Carboniferous Limestone for the most part though Carboniferous Sandstone is present at the extreme west of the site with Dalradian Quartzites and schists at the south west. The river and its various tributaries rise in a number of locations some of which are upland areas dominated by blanket bog and heath. Throughout most of its course however the river flows through low-lying countryside where most of the adjoining land consists of agricultural grassland. The river eventually reaches the sea at Ballina where it flows into Killala Bay. To the west of Lough Cullin the river passes through areas where the bedrock is dominated by silicious rocks such as granite and here the character of the adjoining land changes to one where blanket bog and heath are important components of the landscape. In addition to river and lake habitats, the site contains adjoining habitats of ecological interest such as raised bogs, heath, wet grassland and deciduous woodland. Small pockets of conifer plantations, close to the lakes



and along parts of the rivers, are included. Improved grassland is also included where it occurs along the river channels.

This extensive site contains good examples of the Annex 1 habitats active raised bog, degraded raised bog, Rhynchosporion vegetation, alkaline fen, lowland hay meadows, alluvial woodland and old oak woodlands. The raised bog areas present constitute the most north-westerly examples of raised bog in Ireland, with the most important examples occurring at Derrynabrock and Tawnaghbeg. Alkaline fen is particularly well developed at Mannin and Island Lakes, an excellent example of old oak woodland is to be found just east of Pontoon along the shores of Loughs Conn and Cullin. This represents one of the largest stands of oak woodland in western Ireland. Water quality of the river channels is generally good and the majority is classified as unpolluted. Species-rich lowland hay meadows are found in the river floodplain adjacent to the River Moy in the stretches approximately 5km both north and south from Foxford town, including westward to the eastern shores of Lough Cullin. The open waters of Loughs Conn and Cullin are moderately hard with relatively low colour and good transparency. Lough Conn, with a surface of 50km<sup>2</sup>, is classified as a mesotrophic system, while Lough Cullin (surface of 11 km<sup>2</sup>) is classified as an oligotrophic system. The rivers and lakes support important populations of *Lutra lutra*, *Austropotamobius pallipes*, *Lampetra planeri* and *Petromyzon marinus*. The Moy system is one of the most important in Ireland for *Salmo salar* and is an internationally renowned fishery. It also has important stocks of *Salmo trutta*. Lough Conn supports a nationally important population of *Anser albifrons flavirostris* and has regionally important numbers of *Cygnus cygnus* and *Pluvialis apricaria* (all Annex I Bird Directive species). The lakes support a range of other wintering waterfowl, notably nationally important populations of *Aythya fuligula* and *Bucephala clangula*. Lough Conn /Cullin represents one of only 4 breeding sites in Ireland for *Melanitta nigra*, which in Ireland is at the south-west end of its European range. The population, however, has seriously declined in recent years. A range of mammals listed in the Red Data Book occur within the site, including *Martes martes* and *Myotis daubentonii*. At least five Red Data Book plant species occur, including *Cephalanthera longifolia* and *Spiranthes romanzoffiana*.

The site is a Special Area of Conservation (SAC) under the E.U. Birds Directive, of special conservation interest for the following habitats and species:

- Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*).
- Active raised bogs.

- Degraded raised bogs still capable of natural regeneration.
- Depressions on peat substrates of the Rhynchosporion.
- Alkaline fens.
- Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles
- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae).
- *Austropotamobius pallipes* (White-clawed Crayfish).
- *Petromyzon marinus* (Sea Lamprey).
- *Lampetra planeri* (Brook Lamprey).
- *Salmo salar* (Salmon).
- *Lutra lutra* (Otter).

This is an important site for Active Raised Bogs, a priority habitat under the Habitats Directive.

### **6.3. DOCUMENTED THREATS AND PRESSURES.**

A review of the NPWS Natura 2000 Return form for this SAC indicates that there are 5 threats or pressures of a high impact identified as negatively affecting the conservation status of this SAC

A02.01 - Agricultural intensification.

H01.05 - Diffuse pollution to surface waters due to agricultural and forestry activities.

B05 - Use of fertilizers (forestry).

B01 - Forest planting on open ground.

I01 - Invasive non-native species

For medium impact threats and pressures have been identified and these are as follows:

C01.03 - Peat extraction.

D04.02 - aerodrome, heliport.

Of these threats and pressures none are relevant to the project.

### **6.4. CONSERVATION OBJECTIVES.**

The site specific Conservation Objectives for the River Moy SAC aim to maintain the favourable conservation status of its special conservation interest. The site specific Conservation Objectives for these species & habitats occurring within the zone of influence of the project are outline below:

- To restore the favourable conservation condition of Active raised bogs in River Moy SAC. The long-term aim for Degraded raised bogs still capable of natural regeneration is that its peat-forming capability is re-established; the conservation objective for this habitat is inherently linked to that of Active raised bogs. Depressions on peat substrates of the Rhynchosporion is an integral part of good quality Active raised bogs.

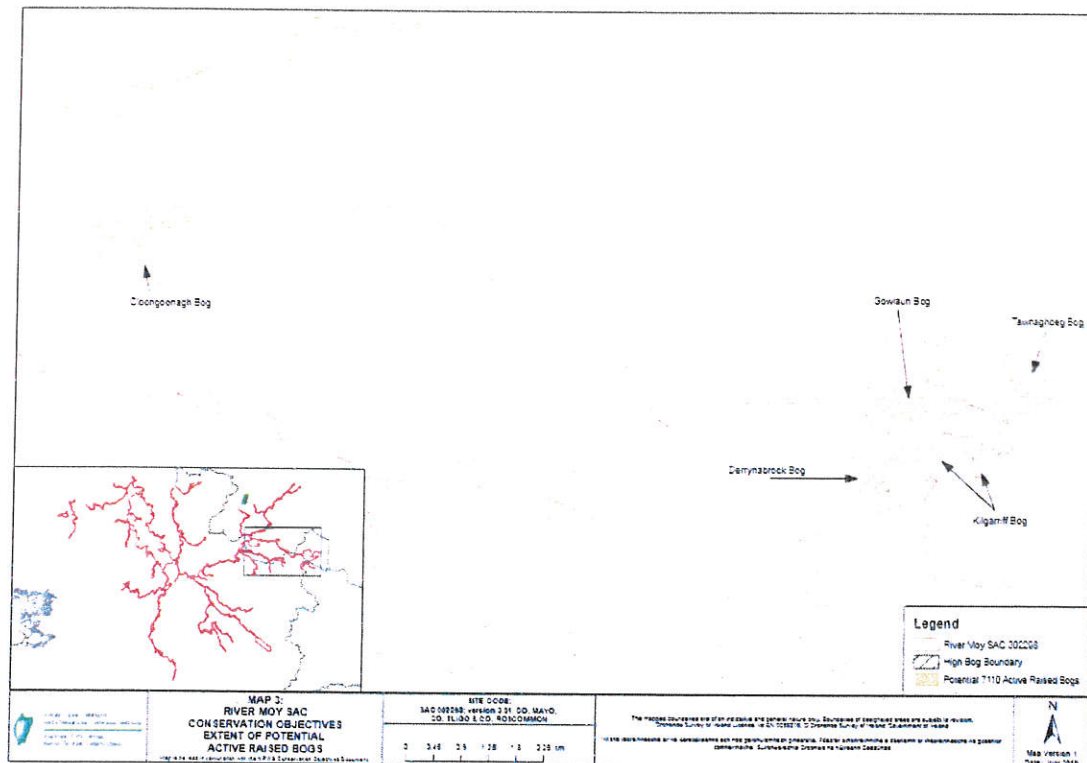


Figure 9: Active raised Bog in the River Moy SAC, site is marked in green.

([https://www.npws.ie/sites/default/files/protected-sites/conservation\\_objectives\\_CO002298.pdf](https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives_CO002298.pdf)).

- To maintain the favourable conservation condition of Alkaline fens in River Moy SAC.
- To maintain the favourable conservation condition of Old sessile oak woods with Ilex and Blechnum in the British Isles in River Moy SAC.



- To maintain the favourable conservation condition of Alluvial forests with *Alnus lutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae) in Moy SAC.

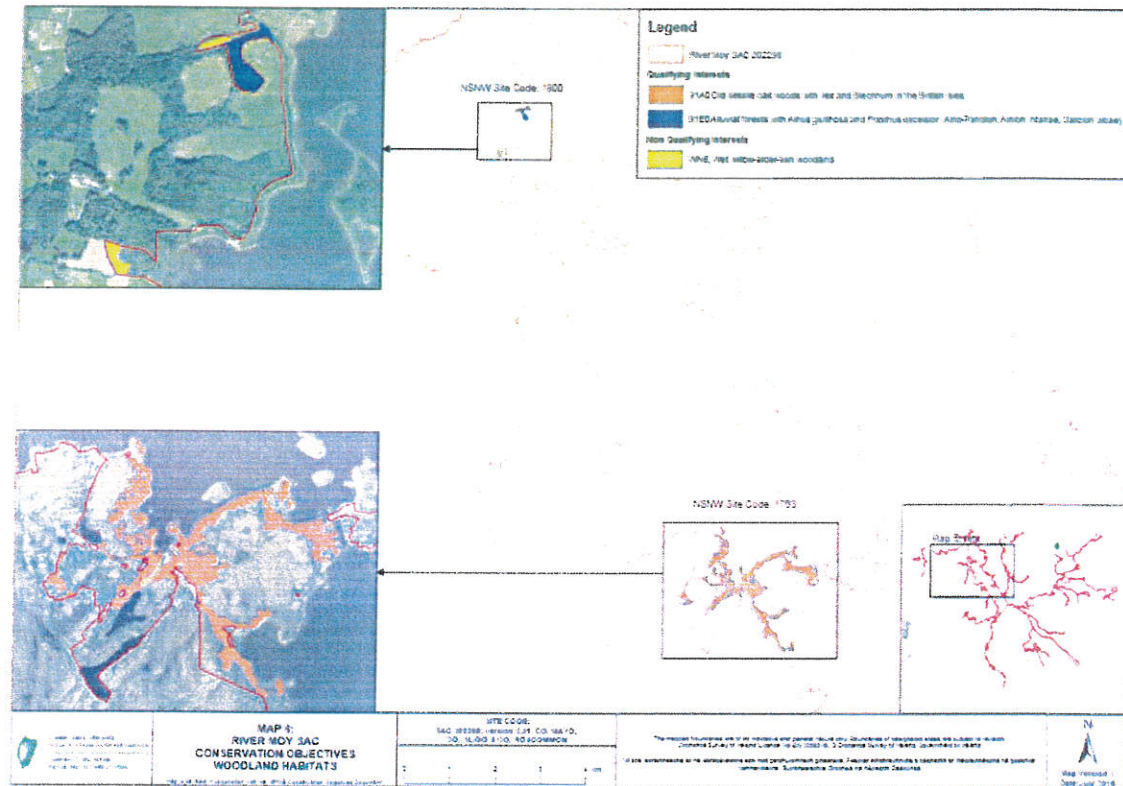


Figure 10: Woodland Habitats in the SAC, site is marked in Green.

([https://www.npws.ie/sites/default/files/protected-sites/conservation\\_objectives/C0002298.pdf](https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/C0002298.pdf)).

- To maintain the favourable conservation condition of Sea Lamprey in River Moy SAC.
- To maintain the favourable conservation condition of Brook Lamprey in River Moy SAC.
- To maintain the favourable conservation condition of Salmon in River Moy SAC.

- To maintain the favourable conservation condition of White-clawed Crayfish in River Moy SAC.



Figure 11: White tailed Crayfish habitats in the SAC, site is marked in green.

([https://www.npws.ie/sites/default/files/protected-sites/conservation\\_objectives/CO002298.pdf](https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002298.pdf)).

- To maintain the favourable conservation condition of Otter in River Moy SAC.

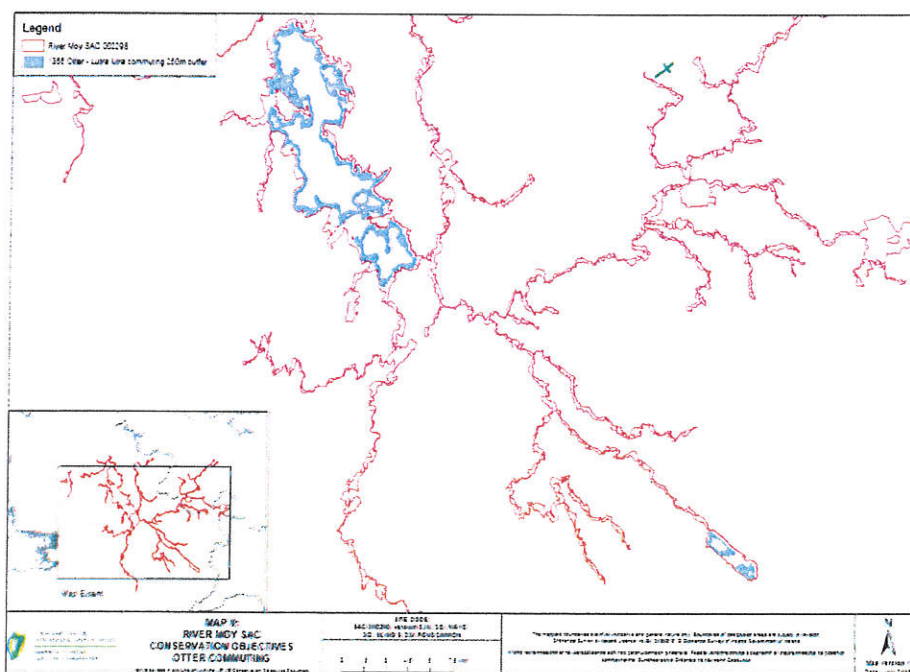


Figure 12: Otter habitats and commuting in the SAC, site is marked in green.

([https://www.npws.ie/sites/default/files/protected-sites/conservation\\_objectives/CO002298.pdf](https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002298.pdf)).

## 7. CONSIDERATION OF POLLUTION IMPACTS TO EUROPEAN SITES.

### 7.1. Surface water runoff

The potential impacts that may arise as a result of surface water runoff relate to the discharge of contaminated surface water from the project site during the construction phase and operation phase to the River Moy SAC. The discharge of any contaminated surface water from the project site to the estuary, via the existing drainage ditch pathway that drains from the project site into a tributary of the River Eighneagh to the SAC will, in the absence of suitable safeguards, **have the potential to result in pollution in the River Moy SAC**. The potential for such discharges to result in a localised deterioration of water quality and negative impacts to the status habitats, species, flora and fauna of the SAC is examined in this section.

The source of potential contaminated surface water runoff during the construction phase will include earthworks associated with vegetation stripping and excavations. Earthworks will denude surfaces and have the potential to generate silt-laden surface water runoff from the project site. Potentially contaminating materials such as oils, fuels, lubricants, other construction-related solutions and cement-based products will be used on site during the construction phase and the potential will exist for the accidental emission of such material via surface water runoff to the Nanny Eighnagh and on downstream to the River Moy.

During the operation phase surface water generated at the project site will naturally discharge via the proposed surface water pathway to the River Moy SAC.

The significance of the impact of the uncontrolled release of contaminants from the project site to the River Moy SAC and its priority habitats and associated flora and fauna will depend upon the frequency of the release and the concentration of contaminating materials in surface water discharging from the site and the sensitivity and/or resilience of the habitat types occurring at and in the vicinity of the surface water pathway outfall. The volume of surface water runoff draining from the project site will represent a miniscule fraction of the overall volume of water within the Moy catchment and draining to the Moy SAC. As such, the low volumes of runoff are likely to be rapidly diluted and distributed within this river waterbody. In a worst-case scenario the ongoing discharge of waters with high concentrations of contaminating substances could over time lead to the deposition of such contaminants in the habitats in the immediate vicinity of the River Moy outfall. The toxic effect of contaminants released to the SAC on



feeding, growth, development and reproduction are known to cascade and bioaccumulate throughout the food chain affecting fauna, fish, as well as bird species that rely on such habitats (Ferrando, 2015).

The exposure of fauna, including birds and mammals, to such contaminants can result in disturbance and stress effects. Upon detection of such contaminants species may simply move away from the affected area, with the potential to result in a decline in the distribution of bird species within the SAC. Such an effect would have the potential to undermine the conservation status of wetland habitats occurring downstream of the project site within the SAC. It should be emphasized that the likelihood of this happening on a regular basis is minimum. It is during the construction phase that this is more likely to occur.

#### **8.0. DESCRIPTION OF HOW THE PROJECT COULD AFFECT KEY HABITATS AND SPECIES.**

A NIS is required to assess the potential for impacts to the integrity of a European Site, with respect to the site's structure and function and its Conservation Objectives. The structural and functional elements of a European Site to maintain the favourable conservation status of qualifying features of interest are embedded into the list of detailed site-specific conservation objectives (SSCOs) for each of the site's interest features. As such a European Sites' SSCO's represent the parameters against which a project's potential to adversely affect the integrity of a European Sites should be considered.

Table 3 lists the Conservation Objectives attributes and targets for each of special conservation interests of the River Moy SAC and examines the potential for the project to result in adverse effects to these attributes and targets. It is noted that the appraisal outlined in Table 4 has been completed without any regard to the mitigation measures that will be implemented as part of the project. These mitigation measures are considered later in Section 8 below.

Attribute No.	Attribute	Target	Consideration of likely significant effects
1. Active Raised Bogs Priority Habitat	Habitat area	Restore area of active raised bog to 132.4ha, subject to natural processes	The discharge of polluted storm water or the accidental spillage of feedstock to the Eighnagh stream and downstream to the River Moy SAC will have the potential to undermine water quality of the river. Adverse effects to water quality of the river, will in turn have the potential to undermine the habitats, flora, and fauna of the SAC. Such adverse effects could, over time, result in a decline in the long-term population trend supported by the sections of the SAC surrounding the project site and discharge locations.

2. Alkaline fens	Habitat area	Area stable or increasing, subject to natural processes	For reasons outlined for Attribute No. 1 and in Section 4 above, the discharge of inadequately treated and contaminated storm water will have the potential to undermine the targets for this attribute.
3. Old sessile oak woods with Ilex and Blechnum in the British Isles	Habitat area	Area stable or increasing, subject to natural processes	For reasons outlined for Attribute No. 1 and in Section 4 above, the discharge of inadequately treated and contaminated storm water will have the potential to undermine the targets for this attribute.
4. Alluvial forests with Alnus glutinosa and Fraxinus excelsior	Habitat area	Area stable or increasing, subject to natural processes	For reasons outlined for Attribute No. 1 and in Section 4 above, the discharge of inadequately treated and contaminated storm water will have the potential to undermine the targets for this attribute.
5. White-clawed Crayfish Austropotamobius pallipes	Distribution Occurrence Found in Moy Tributaries	No reduction from baseline. Juveniles and/or females with eggs in all occupied tributaries. No alien crayfish species	The discharge of polluted storm water or the accidental spillage of feedstock to the Eighnagh stream and downstream to the River Moy SAC will have the potential to undermine water quality of the river. Adverse effects to water quality of the river, will in turn have the potential to undermine the habitats, flora, and fauna of the SAC. Such adverse effects could, over time, result in a decline in the long-term population trend supported by the sections of the SAC surrounding the project site and discharge locations.
6. Sea Lamprey Petromyzon marinus	Distribution: extent of anadromy	Greater than 75% of main stem length of rivers accessible from estuary.	The adjacent Killala Bay/Moy Estuary SAC (site code: 000485) encompasses the estuarine elements of sea lamprey habitat. It is highly unlikely that harm will be caused to this habitat by the project.
7. Brook Lamprey Lampetra planeri	Distribution:	Access to all watercourses down to first order streams. Mean catchment juvenile density of brook/river lamprey at least 2/m <sup>2</sup> . No decline in extent and distribution of spawning beds	Silting habitat is essential for larval lamprey. Juveniles burrow in areas of fine sediment in still water. Sediment from the ground works in the site preparation has the potential to effect these spawning beds.
8. Salmon Salmo salar	Distribution: extent of anadromy	100% of river channels down to second order accessible from estuary	At least Q4 at all sites sampled by EPA. The sample point closest to the site is measure Q5, the project is unlikely to change the Q status
9. Otter Lutra lutra	Distribution. Extent of terrestrial habitat	No significant decline. Area mapped and calculated as 1068.8ha	As seen from the Otter distribution map, it is highly unlikely that the project will affect the otter habitat.

Table 3: Conservation Objectives attributes and targets

## 8.1. A DESCRIPTION OF HOW THE INTEGRITY OF THE SITE IS LIKE TO BE AFFECTED BY THE PROJECT.

EU Guidelines (2001) recommend as part of a Stage 2 Appropriate Assessment that a checklist of site integrity is carried out (see Table 7.1). This aids in establishing the nature of potential adverse effects to the integrity of the European Sites, as defined by the conservation objectives of special conservation interests occurring within the zone of influence of the project.

Conservation Objectives	
Does the Project have the potential to:	
Cause delays in progress towards achieving the conservation objectives Of the site	Yes. In the absence of mitigation, the project will have the potential to contribute to water quality perturbations downstream in the River Moy SAC and undermine the status of bog habitats and their role in supporting special conservation interest of the SAC.
Interrupt progress towards achieving the conservation Objectives of the site	Yes. See response to first question above.
Disrupt those factors that help to maintain the favourable conditions of the site	Yes. See response to first question above.
Interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site.	Yes. See response to first question above.
Cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	Yes. See response to first question above.
Change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	Yes. The discharge of potentially contaminated surface water from the project site to qualifying habitats and their communities could contribute to a localised effect to the keystone fauna communities occurring downstream of the Project.
Interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	Yes. The discharge of potentially contaminated surface water from the project site could result in a decrease in the diversity of key fauna communities supported by habitats occurring in the SAC
Reduce the area of key habitats?	Yes. The prolonged discharge of potentially contaminated surface water runoff from the project site to the River Eeighneagh section of the River Moy SAC could contribute to a reduction in the extent of key communities supported by habitats and undermine the status of these habitats for special conservation interest of the SAC
Reduce the population of key species?	Yes. See response to questions above.
Change the balance between key species?	Yes.
Reduce diversity of the site?	Yes. See response to the question above.
Result in fragmentation?	No
Result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding, etc.)?	Yes. Any prolonged discharge of polluted surface water runoff from the project site to qualifying habitats will have the potential to result in the reduction of key communities supported by these habitats.

Table 4: Check list of site integrity



## **9. A DESCRIPTION AND EVALUATION OF MITIGATION MEASURES.**

Section 4 above has provided an examination of the elements that were identified during the screening of the project as requiring further consideration. This examination has found that the project will not result in a significant adverse impact to the status of habitats, or species. Nevertheless, targeted mitigation measures that will further eliminate the potential for the project to discharge contaminated surface water from the project site to the SAC are detailed in this Section.

### **9.1. CONSTRUCTION PHASE MEASURES TO PROTECT SURFACE WATER.**

The following measures will be implemented during the construction phase of the project to minimise the potential for surface water contamination:

- The civil engineering contractor engaged to construct the proposed development will provide a method statement for all earthworks. This statement will be reviewed by suitably qualified and competent persons and will include the mitigation measures outlined in this report.
- Prior to the commencement of any earthworks, the work corridor will be pegged and machinery will be restricted to movement within a specified working corridor to avoid soil contamination and compaction over the greater site area.
- No bedrock will be removed from the site, any rock removed from the foundation excavations will be reused on site.
- Bedrock, if encountered will be exposed for a short-term period only during the construction phase prior to foundation pouring.
- The underlying bedrock at the proposed location is close to the surface. To ensure the aquifer is protected during the proposed development works, the bedrock at the proposed development site will be sealed or lined by laying a proprietary geosynthetic clay liner where infrastructure is to be provided directly on top of bedrock or where the thickness of the sub-formation overburden is less than 0.6m.
- Drainage and associated pollution control measures should be implemented on site before the main body of construction activity commences. Where possible drainage control should be installed during seasonally dry ground conditions.
- On site re-fuelling of machinery at the Proposed Development Site will be carried out within a specific designated area. All site machinery will also carry

fuel absorbent material and pads in the event of any accidental spillages. There shall not be any refuelling within a 20m buffer of the main land drain on site. Measures such as drip trays and fuel absorbent mats will be used during all refuelling operations.

- Fuels stored at the Proposed Development Site will be minimised. Any storage areas will be bunded appropriately for the fuel storage volume for the time period of the construction.
- Any groundwater seepage/ingress that may be encountered in the weathered bedrock/mineral subsoil should be intercepted by an interceptor drain and diverted to the constructed drainage system for pollution control attenuation prior to discharge.
- All construction plant will be regularly inspected for leaks and fitness for purpose.
- An emergency plan for the construction phase to deal with accidental spillages will be drafted and contained within an Environmental Management Plan developed for the construction phase of the project. Spill kits will be available to deal with accidental spillages at the Proposed Development Site.
- Temporary storage of any spoil or other similar loose material that could potentially be washed out by rain will be located in areas where release of suspended solids into the land drain is not possible.
- Silt fences will be placed down-gradient of all construction areas. Silt fences are effective at removing heavy settleable solids. This will act to prevent entry to the land drain of sand and gravel sized sediment, released from excavation of mineral sub-soils of glacial and glaciofluvial origin, and entrained in surface water run-off. Inspection and maintenance of these structures during construction phase is critical to their functioning to stated purpose. They will remain in place throughout the construction phase. The silt fences will be installed in line with CIRIA guidance. The presence of the silt fence will prevent the discharge of silt-laden surface water runoff to the Eighnagh stream and the hydrological pathway connecting the project site to the River Moy
- Silt bags will be used where small to medium volumes of water need to be pumped from excavations. As water is pumped through the bag, most of the sediment is retained by the geotextile fabric allowing filtered water to pass through. Silt bags will be used with natural vegetation filters geotextile fabric allowing filtered water to pass through. Silt bags will be used with natural vegetation filters.

- The works programme will also take account of weather forecasts and predicted rainfall in particular. Large excavations and movements of soil/subsoil or vegetation stripping will be suspended or scaled back if heavy rain is forecast. The extent to which works will be scaled back or suspended will relate directly to the amount of rainfall forecast. Using the safe threshold rainfall values detailed following will allow work to be safely controlled (from a water quality perspective) in the event of forecasting of an impending high intensity rainfall event. Works will be suspended if forecasting suggests any of the following is likely to occur: - mm/hr (i.e. high intensity local rainfall events); - >25 mm in any 24 hour period (heavy frontal rainfall lasting most of the day); or, - >half the monthly average rainfall in any 7 days duration. Prior to works being suspended, the following control measures should be completed:

1. Secure all open excavations;
2. Provide temporary or emergency drainage to prevent back-up of surface run-off;
3. Avoid working during heavy rainfall and a suitable duration after heavy events to ensure drainage systems are not overloaded.

## **9.2. OPERATION PHASE.**

The operation phase mitigation measures to be implemented for the project that are of relevance to this NIS and the River Moy SAC relate to those measures that will manage surface water runoff. The following measures will be implemented during the operation phase to manage surface water runoff:

- Dedicated covered and drained hardstanding area for material deliveries and storage with drainage linked to the foul sewer.
- Specific designated areas for oil storage and refuelling within the proposed site. Storage tanks will comply with current legislation and be bunded, with bunds to be sized to 110% of the tank.
- On site re-fuelling of machinery at the Proposed Development Site will be carried out within a specific designated area.
- An emergency plan for the operational phase to address accidental spillages will be drafted and contained within an Environmental Management Plan developed for the



operational phase of the project. Spill kits will be available to deal with accidental spillages at the Proposed Development Site.

- A Sustainable Urban Drainage System (SUDS) will be designed and incorporated into the sites' drainage layout. The design will capture stormwater runoff during major rainfall events, and release the excess water gradually, preventing downstream flooding.

## **10. EVALUATION OF MEASURES.**

The examination of the project and its potential to result in adverse effects to the River Moy SAC has found that in the event of the discharge of contaminated surface water runoff from the proposed On Farm Horticulture site during the construction phase or operation phase, such runoff will have the potential to result in negative effects to the habitats and species occurring in the River Moy SAC. Mitigation measures have been outlined above that will aim to eliminate the potential for the project to result in the emission of contaminated surface water runoff and its discharge downstream into the River Moy. The mitigation measures outlined to manage and treat surface water runoff are in line with best practice methods for managing surface water runoff at construction sites and during the operation phase of project. These measures have undergone extensive and rigorous monitoring for their effectiveness at development sites where they have previously been applied to ensure adverse environmental impacts are avoided.

The results of this monitoring and the recommendation of these measures as standard best practice guidelines is based upon their high degree of success in ensuring negative environmental impacts are avoided.

## **11.0 CONCLUSION.**

This NIS presents an analysis of the potential for the project to result in adverse impacts to the River Moy SAC. An evaluation of the potential impact of discharges of surface drainage waters, generated during the construction phase and operation phase has been completed.

During the evaluation of potential impacts associated with the discharge of surface drainage waters it was found that, in the absence of mitigation measures, the potential will exist for contaminants to be released from the project site to the River Moy SAC. In the absence of

mitigation measures the potential exists for the project to result in the emission of nutrient enriched and otherwise polluted surface water runoff to the River Moy SAC.

Mitigation measures have been outlined in this NIS that aim to eliminate the potential for the construction phase or operation phase of the project to release nutrient enriched or otherwise contaminated surface water from the project site to the River Moy SAC.

With the implementation of these measures, the potential for the release of such emissions to the estuary will be avoided.

Based upon the information provided in this NIS, it is the considered view of its the authors that it can be concluded by Sligo County Council that the project, alone or in-combination with other plans or projects, will not result in significant adverse effects to the integrity and conservation status of European Sites in view of their Conservation Objectives and on the basis of best scientific evidence and there is no reasonable scientific doubt as to that conclusion.

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