Consideration of Afforestation

Statutory Overview

The United Nations Framework Convention on Climate Change, the Kyoto Protocol, the Paris Agreement and the recent Glasgow Climate Pact have as their ultimate objective the stabilisation of greenhouse gas concentrations in the atmosphere at a level that will prevent dangerous human interference with the climate system, in a time frame which allows ecosystems to adapt naturally and enables sustainable development.

The Forest Service of the Department of Agriculture, Food & the Marine is Ireland's national forest authority. It is responsible for national forest policy, the promotion of private forestry, the administration of the forest consent system and forestry support schemes, forest health and protection, the control of felling, and the promotion of research in forestry and forest products.

The strategic goal of Ireland's forest policy is: "To develop an internationally competitive and sustainable forest sector that provides a full range of economic, environmental and social benefits to society and which accords with the Forest Europe definition of sustainable forest management."[1] Benefits accruing from this policy are an increase in the sustainable production of forest biomass for use in domestic markets and for renewable energy production, and an increase in levels of carbon sequestration contributing towards climate change mitigation.

The level of forest cover in Ireland is at 11% which is well below the European average of 38%. National forest policy has a goal of increasing Ireland's forest cover to 18% of total land area. Further policies underpinning this goal are a national afforestation programme of at least 8,000 hectares per annum and a requirement to replant areas following final harvesting of tree crops ("clearfelling")[2]. Where areas are being permanently clearfelled arising from a change in land use (for example, during wind farm construction), forest policy dictates that these must be replaced by afforestation of an alternative site on a hectare-per-hectare basis anywhere in the State (see Section 5.3 of the Forest Service Felling and Reforestation Policy[3] as shown in Appendix 1 - note only Infrastructure or Construction felling proposed for this project).

Areas of forestry proposed to be permanently clearfelled for this wind farm are located in upland, marginal land locations. Some of these areas are of low forest productivity due to the nature of the environment and will be replaced by alternative afforestation which will be of higher forest productivity, corresponding to the latest afforestation guidelines, thus providing increased carbon sequestration.

The clearfelling of trees in the State requires a felling licence. The legislative provisions governing such licences are set out in the Forestry Act 2014 (as amended) and the Forestry Regulations 2017 (as amended).

The associated afforestation of alternative lands equivalent in area to lands being permanently clearfelled (in this case, for wind farm construction) can occur anywhere in the State and is also subject to licencing by the Forest Service ('afforestation licencing').

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1 https://www.agriculture.gov.ie/media/migration/forestry/forestpolicyreviewforestsproductsandpeople/00487%20Forestry%20Review%20-%20web%2022.7.14.pdf

2 https://www.irishstatutebook.ie/eli/2014/act/31/section/17/enacted/en/html#sec17

3 https://assets.gov.ie/96814/4830fc08-0227-4504-83fa-2fd90a7942f2.pdf

Section 11(d) of the Forestry Act requires the Minister, in the performance of his functions, to determine whether screening for EIA or AA is required and whether EIA or AA are required and, if so, to ensure that they are carried out. This obligation applies to both forestry felling and afforestation licencing.

As the Board is aware section 34(13) and section 37H(6) of the Planning and Development Act 2000 (as amended) make clear that a person is not entitled to carry out a development merely because they have obtained planning permission, i.e. the planning permission does not obviate the need to have all other statutory and legal consents required to carry out the proposed development.

Afforestation Licence

The requirements for afforestation licencing are set out in the Forestry Regulations 2017 - this includes consideration of EIA and AA as set out in parts 7 and 8 respectively. Further detail is set out in the Environmental Requirements for Afforestation (DAFM, 2016)[4], copy included in Appendix 2. This ensures that afforestation takes place in a way that complies with environmental legislation and enhances the contribution new woodlands and forests can make to the environment and to the provision of ecosystem services, such as water protection and landscape enhancement.

The typical environmental effects of afforestation include potential effects on biodiversity, soils and geology, hydrology and hydrogeology, cultural heritage, landscape and visual, and air and climate.

In regard to biodiversity there are potential effects on existing habitats and species present at and in the vicinity of the site. In regard to soils and geology there are potential effects on the existing soil environment resulting from ground preparation, the construction of drains and tree planting. In relation to hydrology and hydrogeology there are potential effects on existing drainage patterns and water quality during site preparation. In relation to cultural heritage there are potential effects on the known and unknown cultural heritage features in the environment. In relation to landscape and visual there are potential effects on visual amenity and the landscape character of the area. In relation to air and climate there are potential effects on atmospheric carbon balances. There are also potential effects on the existing land use.

As part of the comprehensive environmental review and documentation to support any licence application, any potential negative effects arising are fully considered and avoided where possible or reduced where appropriate to an acceptable standard through mitigation measures. With careful management, and mitigation measures such as careful site selection, set-back from streams, careful drainage design and management, etc. afforestation can be carried out at appropriate locations without significant effects on the environment or adverse effects on the integrity of European sites. Before a license is granted the Minister as competent authority will carry out an EIA, if required, for the purposes of the EIA Directive and an appropriate assessment, if required, for the purposes of the Habitats Directive.

The Environmental Requirements for Afforestation sets out the typical sequence of tasks to be undertaken in order to proceed with afforestation activities (pre-application design, Forest Service licencing, site works and on-going management). It identifies key environmental issues namely water, biodiversity, archaeology, and landscape and sets objectives for their protection during design as follows:

[4] https://www.gov.ie/en/publication/642e6-forestry/#environmental-requirements

Water Objective:	To protect water and aquatic habitats and species, during afforestation and throughout the remainder of the forest rotation.
Biodiversity Objectives:	To ensure that afforestation does not adversely impact designated conservation areas, protected habitats, or protected species of fauna or flora and their habitat. To enhance the biodiversity value of the new forest throughout its rotation.
Archaeology and built heritage objective:	To seek to ensure that proposed afforestation development projects do not adversely impact directly or indirectly on known or suspected archaeological sites and monuments or on other important built heritage structures or features. This includes protecting their amenities and where relevant, their wider landscape setting, in particular, their relationship with other roughly contemporary or determinably linked sites, monuments, structures or features. Where afforestation is approved near known or suspected archaeological sites and monuments or other important built heritage structures or features, to seek to ensure that: (i) appropriate exclusion zones, fencing, access paths and other relevant measures are incorporated into the project design; (ii) there is an appropriate response should any previously unrecorded archaeological site, monument, object, structure or feature be discovered during site work; and (iii) any approved design is sympathetic to and provides an appropriate visual setting for such sites, monuments, structures or features.
Landscape Objective:	To ensure that the proposed forest is designed so that it is visually acceptable and in keeping with landscape and amenity sensitivities.

Design considerations and parameters are also set out in the document and include for example:

- Examination of the proximity and connectivity of the lands to Designated Conservation Areas or Priority 8 Freshwater Pearl Mussel Catchment areas
- Examination for the presence of Protected Habitats or Protected Species of fauna or flora and their habitat
- Retention of Protected Areas as well as other notable biodiversity features such as existing hedgerows, existing broadleaf scrub/woodland, veteran trees or other ecologically important features such as water flushes, etc.
- Provision of water setbacks, appropriate site drainage design and acceptable ground cultivation techniques to protect aquatic zones both during afforestation and throughout the remainder of the forest rotation
- Provision of other environmental setbacks (unplanted/undisturbed open spaces) to buffer retained habitats, archaeological features, public roads or ROWs, cultural features or utilised buildings
- Identification and protection of any existing (or later discovered) archaeological or cultural features, including setbacks, provision for future access to/protection of the site by fencing
- Sensitive planting design so that the proposed forest is visually acceptable and in keeping with the local landscape and local amenities

It should be noted that the granting of all afforestation licences is subject to conditions, including environmental conditions, that must be adhered to.

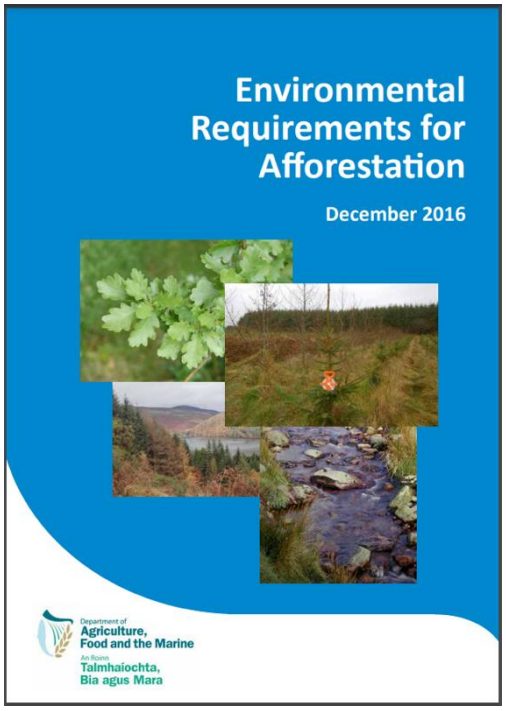

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Figure 1: Forest Standards Manual Nov. 2015; Environmental Requirements for Afforestation Dec 2016.

Consideration of Afforestation in the Context of Planning Submissions

The developer is seeking a ten-year planning permission which incorporates time to secure a grid connection agreement, a route to market (RESS or equivalent Power Purchase Agreement), select the preferred equipment suppliers and put the necessary capital funding in place to allow construction and delivery to commence. This application for planning permission considers the environmental impacts of the felling activities required to deliver the project infrastructure and operate the proposed wind farm.

While the environmental impacts of the felling activities are considered at this application stage it is noted the felling of trees at the site for the purposes of the wind farm is subject to and can only occur following the grant of a felling licence by the Forest Service. Planning permission for the project may not be granted or, if granted, may have amendments introduced by condition(s). Therefore, the extent of felling required to be licensed for the purpose of giving effect to the windfarm project can only be determined once planning permission for the windfarm project has been granted. Furthermore, it will be a condition of the felling licence that an equivalent area of land required to be felled shall be replanted as per Forest Service Felling and Reforestation Policy. Thus, the extent of the lands required for afforestation can also only be known once planning permission has been granted for the windfarm project. In these circumstances, the application for the licence can, in practical terms, only be made once planning permission has been granted.

It is, in any event, environmentally prudent to progress the felling and afforestation licences closest to the time when the proposed felling activities are required, rather than long in advance during the wind farm planning submission stage, when the project programme remains uncertain and the exact areas cannot be fully confirmed. If a licence was obtained prior to seeking and/or obtaining planning

permission, it is highly likely that any licencing approvals sought from the Forest Service would have expired before it could be taken up due to the time required for the planning processes and post-planning delivery preparations. The Forest Service Afforestation Licences expire after 3 years from when they are consented.

Critically given the dynamic nature of the receiving environment, the identification and licensing of alternative afforestation lands at a later point in time (post planning consent) has the added benefit of ensuring that the licensing process fully reflects current legislative requirements, and, more importantly, the most up-to-date environmental information and that the cumulative / in-combination assessment considers the wider environmental impacts at that point in time

As mentioned above, key environmental issues relating to afforestation include water, soils, biodiversity, archaeology, landscape and climate. Each is subject to regular updates in terms of best practice, guidelines, standards and national policies. For example, the EPA regularly update the water quality status of rivers across the country, and planning authorities review their landscape strategies in line with their review of County Development Plans every six years. Delaying the identification of alternative afforestation lands until such time as they are required enables identification of optimum lands available (from an environmental) perspective for afforestation at that time.

In light of the foregoing and for the purposes of this project, the developer commits that the location of any replanting (alternative afforestation) associated with the project will be greater than 10km from the wind farm site and also outside any potential hydrological pathways of connectivity i.e. outside the catchment within which the proposed project is located. On this basis, it is reasonable to conclude that there will be no more than imperceptible indirect or in-combination effects associated with the replanting.

In addition, the developer commits to not commencing the project until both a felling and afforestation licence(s) is in place and therefore (as discussed above) this ensures the afforested lands are identified, assessed and licenced appropriately by the relevant consenting authority.

References

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Annex A

Section 5.3 of the Felling and Reforestation Policy (DAFM, 2017)

5.3 Supporting renewable energy and energy security

5.3.1 Overview

The development of renewables is at the heart of the Government's energy policy, as laid out in the document *Strategy for Renewable Energy: 2012-2020* (Department of Communications, Energy & Natural Resources, 2012). Under Directive 2009/28/EC, Ireland is legally obliged to ensure that by 2020 at least 16% of all energy consumed in the State is from renewable sources. Ireland must ensure that there is a steady, progressive and measurable increase between now and the year 2020, in the amount of renewable energy consumed in the electricity, heat and transport sectors, commensurate with the achievement of the national target.

Underpinning the Government's energy and economic policy objectives are five Strategic Goals reflecting the key dimensions of the renewable energy challenge to 2020. The first Strategic Goal refers to wind and aims to have "*Progressively more renewable electricity from onshore and offshore wind power for the domestic and export markets.*"

It is Forest Service policy to facilitate wind energy as much as possible within the context of sustainable forest management and efforts to expand the national forest estate.

5.3.2 Policy on felling licences for wind farm development

Where a developer intends to construct a wind farm that is within or partially within a forest or that will require tree felling, it is extremely important that the developer consults the Forest Service at the *earliest possible stage* of the project. This may help to develop a collaborative approach that will ensure that all forestry issues are identified and mitigated at the earliest opportunity.

In line with general Forest Service policy, where grant-aided forestry is to be used for wind farm development, any grants and premiums already paid out by the Forest Service in relation to the areas felled for the turbine bases, roads and infrastructure must be repaid where the forest is still in receipt of afforestation premiums and / or still in contract under the Afforestation Scheme.

Photo 8 *A wind farm within a forest plantation. Forest Service policy is to facilitate wind energy within the context of SFM and the expansion of the national forest estate.*

Wind farm construction typically encompasses three categories of tree felling: infrastructure; construction; and turbulence. Each category requires a felling licence. Table 6 and the following sections detail the specific requirements regarding each category. Also, Case Study 2 provides for three worked examples of wind farm development, and associated licensing issues.

5.3.2.1 General requirements

Notwithstanding any requirement for the wind farm developer to produce an Environmental Impact Statement (EIS) in respect of the development and the requirement to assess the impact of tree felling / reforestation proposals in an EIS, when felling licence applications are made, the Forest Service may require the developer to report on the potential loss of soil and biomass CO_2, and the reduction in productivity of the forest area associated with different wind farm forest management and landscape plans. Potential impacts to be reported on and assessed may also include site stability, water quality, habitats and species, landscape, archaeology, and other issues that may be deemed appropriate by the Forest Service.

If Planning Permission has been granted for the development by the local authority or by an Bord Pleanála, a copy of the full Planning Permission should be submitted to support the felling licence application. Also, if an EIS or a Natura Impact Statement have been prepared, these need to be submitted to support the felling licence application.

Table 6 Requirements for each category of felling associated with wind farm development, regarding reforestation, alternative afforestation, and the refunding of grant and premiums.

Category of tree felling		Reforestation of felled area required?	Alternative afforestation required? (See Note 1)	Refunding of grant & premiums required? (See Note 2)
Infrastructure felling		No	Yes	Yes
Construction felling		Yes	No	No
Turbulence felling	≤20 ha	Yes	No	No
	>20 ha	Yes	Yes, 10% turbulence fell area – see Section 5.3.2.4	No

Note 1 If 'YES', the alternative site must be of an area equivalent in size. Section 5.7 sets out the procedures required. If the forest area proposed for permanent removal is still in receipt of premiums and / or is still in contract under the Afforestation Grant & Premium Scheme, the alternative site may be eligible under the Afforestation Grant & Premium Scheme.

Note 2 If 'YES', the refunding of any afforestation grants and premiums already paid out by the Forest Service is required if the forest area proposed for permanent removal is still in receipt of premiums and / or is still in contract under the Afforestation Grant & Premium Scheme. Also, if 'YES' or 'NO', if premiums are still being paid, premium payments on the area will cease.

5.3.2.2 Infrastructure felling

Infrastructural felling relates to trees that are permanently removed from the site in order to make way for infrastructure associated with the wind farm, such as access roads and turbine bases.

For infrastructure felling, the afforestation of alternative land and the repayment of grant and premium payments are required – see Table 6 and Section 5.7 for details. In addition, where the infrastructure fell area is still in receipt of premiums, then premium payments will cease, i.e. the felled area will not continue to receive premium payments.

5.3.2.3 Construction felling

During the construction phase of the wind farm development, there are forest areas that require the temporary removal of tree cover to facilitate construction, e.g. 'borrow pits' for stone. Once construction is completed, the land is reforested.

For construction felling, the afforestation of alternative land and the repayment of grant and premium payments are not required – see Table 6. In addition, where the construction fell area is still in receipt of premiums, then premium payments will cease, i.e. the felled area will not continue to receive premium payments.

5.3.2.4 Turbulence felling

Turbulence felling is deemed to be felling in the vicinity of turbines for the purpose of avoiding air turbulence that can be created by the forest canopy. It is carried out in order to increase the efficiency of the turbine by reducing turbulence in the airflow, and to reduce vibrations through the turbine blades, thereby lowering stress on the turbine components.

Turbine manufacturers assess the forest layout, age profile and management plans for the forest along with topography and wind mast data. Based on that assessment, some manufacturers will require turbulence felling as part of the terms of supplying turbines for a particular site. In the case of many wind farms, the manufacturer's requirements are therefore not known until late in the planning of the project, as no turbine will have been selected. In general, manufacturers recommend that tree height is restricted within 300 metres, in the dominant wind direction.

Turbulence felling may be allowed in certain cases, and subject to reforestation requirements. For completeness and to ensure that the EIS itself is valid, it is important that the EIS takes into account the maximum turbulence felling that could potentially occur under the project.

Felling Licence requirements in relation to turbulence felling include the following:

1. The repayment of afforestation grants and premiums already paid out by the Forest Service is not required. In addition, where the turbulence fell area is still in receipt of premiums, then premium payments will cease, i.e. the felled area will not continue to receive premium payments.
2. The granting of a licence for a turbulence felling will be subject to the normal checks carried out by the Forest Service in respect of silvicultural, environmental and landscape considerations, etc. A felling coupe is defined for this purpose as a contiguous or adjacent area, any part of which is felled in a 2 (calendar) year period.
3. A distinction is made between turbulence felling ≤20 ha and >20 ha. Excluding the area

for the turbine bases, etc. from the limit, the 20 ha limit specified in this section is a total limit for the entire wind farm development. The limit is not interpreted as 20 ha per turbine or any other interpretation that is deemed by the Minister to be in excess of a total of 20 ha per wind farm development. In terms of reforestation, the following applies:

- Where the felling coupe area for turbulence felling is less than or equal to 20 ha, this is considered consistent with sustainable forest management. Where the cumulative total area of 20 ha or less is adjacent to one or more turbines and it is proposed to fell this area in accordance with normal good forest practice, such felling will not be considered turbulence felling. There is no requirement to afforest additional land. The area where the trees are being felled must be reforested.

Case Study 2: Windfarm development

The following tables provide examples of typical windfarm applications.

Site 1 Sitka spruce, 10 yrs. Reforest with North Coastal Lodgepole pine.

Felling type	Area (ha)	Reforest felled site	Alternative afforestation	Refund Afforestation Grant & Premium
Infrastructure	10	No	Yes (10 ha)	Yes
Construction	2	Yes	No	No
Turbulence	35	Yes	Yes (3.5 ha)	No

Site 2 Sitka spruce, 25 yrs. Reforest with Sitka spruce.

Felling type	Area (ha)	Reforest felled site	Alternative afforestation	Refund Afforestation Grant & Premium
Infrastructure	5	No	Yes (5 ha)	No
Construction	0.5	Yes	No	No
Turbulence	16	Yes	No	No

Site 3 Sitka spruce, 14 yrs. Reforest with Sitka spruce.

Felling type	Area (ha)	Reforest felled site	Alternative afforestation	Refund Afforestation Grant & Premium
Infrastructure	5	No	Yes (5ha)	Yes
Construction	0.5	Yes	No	No
Turbulence	16	Yes	No	No

- Where the felling coupe area for turbulence felling is greater than 20 ha, the applicant is required to reforest the area. In addition, 10% of the turbulence felling coupe area must be afforested on an alternative site to allow for the increase in soil carbon emissions at afforestation and the loss of potential carbon sequestration due to the proposed method of forest management. See Section 5.7 for details regarding the afforestation procedure.
- Subsequent to a licence being granted for 20 ha or less, any cumulative felling applied for above the 20 ha limit will be considered to be turbulence felling. Therefore, the original area of 20 hectares or less that was licensed will also then be regarded as turbulence felling. For example, if 20 hectares are felled in the first year and a further 12 hectares of felling is applied for in (e.g.) Year 3, then the additional 12 ha (if granted) and the original 20 ha will be treated as 32 ha of turbulence felling. The rules for turbulence felling will then apply to all 32 ha.

5.4 Commercial development

The conversion of forest land to built land (e.g. a housing estate or an industrial park) is considered deforestation, and the owner must first obtain a felling licence. The afforestation of alternative land and the refunding of grant and premium payments are required – see Table 5 and Section 5.7 for details.

The only exceptions to the reforestation requirement relate to small community-based projects and family homes, as set out below:

- The reforestation requirement may not apply in the case of deforestation of less than or equal to 3 ha in area, proposed for the purpose of facilitating a project that provides value to the surrounding community, such as a community centre and a playing field for schools. However, the refunding of grant and premium payments is required – see Table 5.

  Where community projects require deforestation of an area greater than 3 ha, these will be assessed on a case-by-case basis, based on the general principle that the portion of the area above 3 ha will need to be matched by afforestation on alternative land.

- Landowners who have afforested their holdings are permitted to deforest an area less than or equal to 0.5 ha, for the purpose of building a home for him- / herself or for an immediate family member (i.e. husband, wife, son, daughter, parents, brother or sister). However, the refunding of grant and premium payments is required – see Table 5.

  Note, any subsequent deforestation greater than 0.5 ha in area and within 30 metres of the original fell area, will need to be offset by afforestation of an equivalent area at an alternative site.

5.5 Conversion to agricultural land

The Forest Service may consider conversion to agricultural land in limited instances, having regard to the scale and character of the area proposed for deforestation. The conversion of forest land to agricultural land is considered deforestation, and the owner must first obtain a felling licence. The afforestation of alternative land and the refunding of grant and premium payments are required – see Table 5 and Section 5.7 for details.

Annex B

Environmental Requirements for Afforestation (DAFM, 2016)

An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine

Environmental Requirements for Afforestation

Working Document v.31Aug23

gov.ie/forestry

August 2023

The Department of Agriculture, Food and the Marine is responsible for ensuring the development of forestry within Ireland in a manner and to a scale that maximises its contribution to national socio-economic well-being on a sustainable basis that is compatible with the protection of the environment. Its strategic objectives are:

1. To foster the efficient and sustainable development of forestry
2. To increase quality planting
3. To promote the planting of diverse tree species
4. To improve the level of farmer participation in forestry
5. To promote research and training in the sector 6. To encourage increased employment in the sector

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All photos by DAFM unless otherwise stated.

Illustrations by Aislinn Adams

August 2023

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Section 1: Introduction

1.1 Context

As set out in Ireland's Forest Strategy 2022-2030, the over-riding objective between now and 2030 is to radically and urgently expand the national forest estate on both public and private land in a manner that will deliver lasting benefits for climate change, biodiversity, wood production, economic development, employment and quality of life. A key part in chieving this expansion in Ireland's national forest resource is the provision of financial supports for farmers and landowners to create new forests on their land. The Afforestation Scheme, made available under the Forestry Programme 2023-27, offers attractive grants and premiums to develop a range of forest types, ranging from native woodland to agroforestry to multi-species forest plantations. This scheme represents part of the wider Forestry Programme 2023-27, funded by the Irish Government and subject to State Aid conditions.

As the consenting authority for afforestation, the Department of Agriculture, Food & the Marine (DAFM) must ensure that all afforestation (both grant-aided and non grant-aided) takes place in a way that complies with environmental legislation and State Aid conditions underpinning the Programme, and enhances the contribution new forests can make to the environment and to the provision of ecosystem services, such as carbon capture, water protection and landscape enhancement.

The overall aim of these *Environmental Requirements for Afforestation* is to ensure that the establishment of new forests are carried out in a way that is compatible with the protection and enhancement of our environment, including water quality, biodiversity, archaeology and landscape. (Sites proposed for afforestation must also meet requirements regarding eligible soil types and site fertility, as set out in DAFM's *Land Types for Afforestation*. This assessment is carried out by the Registered Forester ***before*** advancing to application stage, and sites that do not meet such requirements must not be submitted to DAFM for consideration.)

In assessing an application for afforestation, DAFM considers potential impacts across a range of issues and sensitivities and applies the necessary procedures regarding Appropriate Assessment and Environmental Impact Assessment. The following lists the primary components of the legal, regulatory and funding framework that apply:

- Forestry Regulations 2017 (S.I.191 of 2017), as amended
- Forestry Programme 2023-2027
- State Aid conditions set by the European Commission and underpinning the Forestry Programme 2023-27
- Legislation, both national and European, regarding species and habitats, water and the wider environment (including the various EU Directives regarding birds, habitats, water and Environmental Impact Assessment)
- Legislation regarding archaeology and built heritage, including the National Monuments Acts 1930 to 2014
- DAFM requirements, procedures and protocols, including: the requirements regarding soil type and fertility set out in *Land Types for Afforestation*; the terms and conditions of the Afforestation Scheme (if grant aid is being sought), the *Forestry Standards Manual*; and various guidelines and protocols regarding particular sensitivities (e.g. the protection of surface waters from acidification).

Any licence (with or without grant aid) for afforestation is conditional on adherence to the measures set out in these *Environmental Requirements for Afforestation*, to the conditions of licence issued, and to the standards and procedures set out in the *Forestry Standards Manual*. Where a parallel approval for grant aid has been issued, the Afforestation Scheme Terms & Conditions also apply.

Any divergence from the measures set out in these Requirements must be fully described in the initial application and depicted clearly on the Biodiversity Map and Habitat Map, for consideration by DAFM.

Sensitively sited, designed and established plantations adding to Ireland's expanding forest resource.

1.2 About these Environmental Requirements

The *Environmental Requirements for Afforestation* are set out according to three distinct stages in the development of a new forest, i.e.

- Pre-Application Design
- Site Works
- Ongoing Management

The Requirements reflect the typical activities undertaken by an Applicant and their Registered Forester during each stage, and the corresponding environmental requirements that apply.

1.3 Key sensitivities

As a result of the feedback arising from public consultation on the national implementation plan for the Forestry Programme 2023-27 and as the basis of State Aid approval from the European Commission, particular focus has been placed on key sensitivities potentially impacted by inappropriate afforestation. These in include the following:

- organic soils and associated carbon budgets
- high nature value farmland
- the top 8 freshwater pearl mussel catchments
- breeding waders, including curlew

The response to each of these is set out in several key elements of the assessment process, namely:

- the procedure encapsulated by the Land Types for Afforestation document in relation to soil types and fertility;
- the submission of the Biodiversity Map and the Habitat Map with the application;
- the Environmental Considerations table completed by the Registered Forester as part of the application process, and processes that stem from that, and
- particular checks undertake by DAFM, involving expert forestry and ecological input.

The above sensitivities and corresponding elements of the assessment process are in addition to the existing range of checks regarding water, biodiversity, archaeology, landscape, local infrastructure, etc., as represented by other parts of the Environmental Considerations table completed as part of the application process for afforestation.

Section 2: Design

2.1 Overview

During Stage 1: Pre-Application Design and assuming the site has satisfied the requirements regarding soil type and site fertility (as per *Land Types for Afforestation*), the Registered Forester assesses the site and undertakes various checks, and subsequently designs the afforestation proposal in a way that addresses the various environmental features and sensitivities identified. This design is then reflected in the subsequent application (Form 1) for technical approval (and financial approval, if sought) submitted to the DAFM for assessment. Please note, it is the responsibility of the Applicant to provide the relevant information needed to enable the DAFM to make a full assessment of the application. This includes key maps including the Biodiversity Map and the Habitat Map, any supplementary reports arising from the completion of the Environmental Considerations table on iNET, and any further information required (FIR) requests issued by DAFM.

2.2 Background checks

The online iNET system provides the primary source of information to Registered Foresters regarding potential sensitivities regarding water, designated sites, archaeology, etc. Of particular importance is the Environmental Considerations table, which must be completed. Through a series of questions, this table assists the Forester in identifying key environmental sensitivities, and also sets out the prescribed response if particular sensitivities arise. This may involve the exclusion of areas of the site from the application, or the submission of a report providing more detailed information to enable DAFM to undertake its assessment.

While most of the spatial layers cited are available to Registered Foresters within iNET, some are hidden due to the heightened sensitivity regarding species conservation, while others can only be found elsewhere. The guidance note accompanying the Environmental Considerations table provides further details. Dialogue with the Applicant may also reveal more subtle sensitivities that might exist.

Where possible, the application should be tailored in such a way as to avoid any potential impact with the sensitivity(-ies) involved. Potentially, this may also shorten and streamline the assessment process.

2.3 Basic requirements at design stage

The basic design-stage requirements in relation to water, biodiversity, archaeology and landscape are set out below. Note the following:

- If faced with a particularly sensitive and complex site in relation to a particular environmental feature or sensitivity (or combination thereof), a Registered Forester may propose measures above and beyond the minimum requirements set out in this document. Examples include wider-than-normal water setbacks due to a downstream Special Area of Conservation (SAC).
- Furthermore, the engagement of a relevant expert (e.g. hydrologist, ecologist, ornithologist, archaeologist, landscape architect) early in the process, to assess the feature / sensitivity and to propose appropriate measures will result in a more refined application and may avoid complexities and delays in the application process. For example, it may avoid the need for the DAFM to seek further information, and may allay the concerns of local people and

statutory consultees. Again, the Environmental Considerations table on iNET will also stipulate specialist input in relation to certain situations.

- An individual site or part of a site may be deemed eligible from a soil type and site fertility perspective (as per the Land Types for Afforestation) but may be unsuitable from an environmental perspective. This may become apparent to Registered Foresters at the early design stage, following their onsite assessment and background checks. ***In such cases, do not submit the application.***

2.4 Water

Objective:

To protect water and aquatic habitats and species, during afforestation and throughout the remainder of the forest rotation.

The Registered Forester must assess the potential risk of sedimentation and nutrient runoff entering into 'receiving waters' (streams, rivers, lakes), both during afforestation and throughout the remainder of the rotation, and adapt the forest design and planned operations accordingly. Key factors include soil type, slope, available pathways for water, the erodibility of the soil and subsoil, downstream (and in the case of mobile species, upstream) designated sites such as SACs and SPAs, fisheries sensitivities, drinking water sources and the status objective of the waterbody itself. Regarding the latter, particular regard is needed if the proposed afforestation site is within the sub-basin of a high status objective waterbody or a waterbody at risk of decline in status, and / or where forestry is listed as a pressure on waterbody status.

A number of water-related questions must be answered by the Registered Forester when completing the Environmental Considerations section of the application on iNET. These are mainly to identify water sensitivities to be aware of when designing the project, in relation to FT selection, water setbacks, contingency planning, etc. (Questions regarding freshwater pearl mussel are dealt with under Section 7.)

If the site overlaps with an area designated as being acid sensitive (in relation to surface waters), the Acid Sensitivity Protocol applies, stipulating water sampling and subsequent analysis (see Forestry Standards Manual for details, including the thresholds that dictate whether the application can be submitted).

DAFM will refer the application to Inland Fisheries Ireland if the site is:

- greater than 5 ha and wholly or partially within an area identified as being sensitive for fisheries; or
- greater than 40 ha and wholly outside of those areas identified as being sensitive to fisheries;

Establishing whether or not the following situations apply will also build up a picture of the degree of water sensitivity:

- Is the site greater than 10 hectares and within a catchment area of Local Authority designated water scheme?

- Is the project area within a Zone of Contribution, Source Protection Area or 250 m buffer for a drinking water abstraction?
- Is the project area within a High Status Objective Waterbody? (If so, a wider water setback is required – see Table 4.)
- Is the project area within a waterbody where forestry is characterised as a pressure by the EPA (alone or alongside other pressures)?
- Is the project area within or immediately upstream of a River Waterbody deemed 'At Risk' or subject to Review under the relevant River Basin Management Plan?
- Is the project area within or immediately upstream of a River Waterbody, the status of which has been classed as 'Bad' or 'Moderate' under the current River Basin Management Plan?
- Is the project area within or immediately upstream of a Lake Waterbody deemed 'At Risk' or subject to Review under the relevant River Basin Management Plan?
- Is the project area within or immediately upstream of a Lake Waterbody the status of which has been classed as 'Bad' to 'Moderate' under the relevant River Basin Management Plan?

2.4.1 Water setback

A key element in the protection of water is the water setback. A water setback(*) is an area of a defined width, positioned adjoining the water features defined in Table 1, and left largely undisturbed during afforestation and throughout the remainder of the rotation, specifically for the protection of water. All new drains installed as part of the afforestation project must terminate in sediment traps *outside* the water setback. The relevant setback for each water feature is set out in Section 2.8.

(* Formerly referred to as 'aquatic buffer zone'.)

During site assessment, identify and map (on the required Biodiversity Map) the water features defined in Table 1, each of which require a water setback.

Table 1 Water features requiring water setbacks.

Type of water feature	**Definition**
Aquatic zone	Any natural river, stream or lake (but not an artificial drain) illustrated on an Ordnance Survey 6 inch map. These are typically indicated by a directional arrow along their length. (Note: The EPA water layer on iNET may not capture all aquatic zones onsite.)
Relevant watercourse (RW)	Any other watercourse that has the potential to act as a pathway for the movement of significant amounts of sediment and/or nutrients from the site to an aquatic zone. Relevant watercourses are often artificial. They include existing drains & channels & other potential pathways that may contain flowing water during & immediately after rainfall. Note, not every watercourse may be a 'relevant watercourse'. For example, a well-vegetated agricultural drain on moderately sloping ground may not be a relevant watercourse.
Hotspot	An area (often localised) that is a potential source for sediment / nutrient loss during afforestation and / or future forestry operations. Examples include soft wet ground, flushes and springs, and pockets where machine access is difficult due to low ground-bearing capacity.
Water abstraction point	Abstraction point of any surface waters, borehole, spring or well used for the abstraction of water for human consumption in a water scheme.

2.4.2 Drainage and cultivation

Drainage and cultivation are often necessary on many afforestation sites, to enable establishment. Typical methods include conventional mounding, ripping, inverted mounding and scrap mounding. Key factors are as follows:

- Carefully assess the site and tailor any proposed drainage and cultivation to the conditions on-the-ground within each plot, keeping interventions to the minimum needed to ensure successful establishment. Where possible, select the species to the existing site conditions (including existing drainage, both natural and artificial, e.g. old field drains), as this may rule out the need for drainage. (The various FTs relating to native woodland creation utilise this approach, through the use of the Native Woodland Framework procedure.)
- It is critical that water collected within mound drains flows slowly, both during afforestation and throughout the remainder of the forest rotation. This minimises the potential for erosion and the transport of sediments and nutrients to receiving waters. This requires an assessment of soil, slope and likely rainfall, and the selection and refinement of the most appropriate option(s), incorporating correct drain alignment, spacing and depth, and the proper deployment of sediment traps. Refer to the *Forestry Standards Manual* for specifications regarding drains, sediment traps, mounding, ripping, etc. Additional

information is contained in the *Forest Road Manual* and *Forest Drainage Engineering: A Design Manual*. For details on operational safeguards (e.g. sediment trap distribution), see Section 3.7.1.

- Any new drains, such as those associated with conventional mounding, must terminate in an appropriately-sized sediment trap located *outside* the water setback. New drains *must not* enter into or traverse the water setback itself. Additional silt traps must be placed along the course of the drain, and cut-off drains must be used as appropriate. Do not rely on a single silt trap placed at the end of a drain.
- Match drainage and cultivation to the specific conditions that exist in different parts of the site, selecting the least intensive options and specifications needed to successfully establish and grow the forest. Where site conditions allow (e.g. on naturally free-draining sites), consideration should first be given to the least impacting techniques, such as ripping and inverted mounding. In water-sensitive parts of the site, inverted mounding or simple pit planting should be considered.
- The drainage and cultivation proposed for different plots must be determined during the design stage and accurately depicted on the submitted Biodiversity Map. Also depict any additional safeguards deemed necessary (see Section 3.7.1).
- Of particular concern are steep slopes capable of generating higher water velocities, and old land drains and other possible pathways that may become reactivated. Also of particular concern is the capacity of the new drainage network to withstand high rainfall events, without the failure of sediment traps and water setbacks.

2.4.3 Water crossings

Water features may need to be crossed for site development works and ongoing site management. Crossings may be temporary in nature or may comprise permanent structures intended to link in with a future forest road.

The following requirements apply:

- Any work in an aquatic zone should be limited to the period May to September, inclusive.
- Crossings should be designed so that:
    - the number of crossings over a given aquatic zone is minimised;
    - disruption to the bank, bed and adjacent water setback is minimised;
    - the water flow is crossed at a right angle;
    - cement or uncured concrete is kept out of the aquatic zone, with 'cast-in-place' concrete isolated from any water which might enter the aquatic zone, until the concrete is cured;
    - local stone is used for bridge kerbs and end treatments for culverts;
    - all timber treatment is carried out off-site.
- If planning a permanent structure intended to link in with a future forest road, consider whether or not the location of the crossing is environmentally appropriate for that future use.
- Bridge construction is necessary where culverts may restrict fish migration (see Inland Fisheries Ireland *Guidelines on Protection of Fisheries During Construction Works In and Adjacent to Waters* (2016)).
    - All supports and buttresses should be completely out of the stream.

- Do not create shallow or shooting flow at the bridge aprons, to ensure that water velocities do not impede fish movement.

- Fords are not desirable and should only be used where the design is approved by Inland Fisheries Ireland.
- All culverts should be embedded and of sufficient size to carry normal flow, to accommodate 25-year storm events, and to avoid blockages and washouts. Ends should be tapered to match the embankment slope. If greater than 1.0 metre in diameter, culverts should be buried to a depth of 30 cm or 20% of their height (whichever is greater) below the streambed, and the original bed material placed in the culvert.

If proposing a crossing, submit full design details with the afforestation application, and clearly indicate the proposed location on the Biodiversity Map. Also provide details regarding removal and site restoration, where the proposed crossing is temporary in nature.

A well-defined water setback early in the afforestation process, with natural ground vegetation emerging.

2.5 Biodiversity

Objectives:

- **To ensure that afforestation does not adversely impact designated conservation areas, protected habitats, breeding waders, High Nature Value farmland, or protected species of fauna or flora and their habitat.**
- **To enhance the biodiversity value of the new forest.**

Biodiversity is the variety of living organisms, including: (i) the diversity of species; (ii) the genetic diversity or variation within the species; and (iii) the ecosystems in which species live. Broadleaf and mixed forests, when appropriately located, designed and managed, can contribute greatly to biodiversity, both within their boundaries and as wildlife corridors and refuges in the wider landscape.

DAFM applies a wide range of procedures in relation to biodiversity, including ecological assessment, referral to National Parks & Wildlife Service, and the application of various protocols regarding

protected habitats and species. Core to this is the quality of the biodiversity-related information provided with the application (including the Biodiversity Map, Habitat Map and required reports stemming from the completion of relevant questions under the Environmental Considerations section on iNET) ***and*** how project design has taken any related sensitivities into account. Also core is the application of appropriate assessment screening, and if deemed necessary, appropriate assessment, in relation to potential impacts on SACs and SPA, as required under Article 6(3) of the Habitats Directive, and transposing legislation, primarily S.I.477 of 2011.

Wider requirements and provisions under the Forestry Programme also promote the protection and enhancement of biodiversity in relation to afforestation:

- The national 50% broadleaf planting target.
- The requirement for at least 20% broadleaf content within each afforestation project.
- The focus on native forest within the Afforestation Scheme, as demonstrated by the number of related Forest Types available (to allow for a variety of situations and applicant types).

This is in addition to the wide range of other, non-afforestation related schemes under the Forestry Programme, where biodiversity and the protection of water is to the fore (e.g. the Native Woodland Conservation Scheme, supports for CCF and the replacement of conifer stands with native woodland).

2.5.1 Biodiversity sensitivities

To summarise DAFM policy regarding afforestation, biodiversity and legally protected habitats and species, the following described relevant questions in the Environmental Considerations section on iNET. In any case where a report is stipulated, this report will be assessed by DAFM as part of the application. See Appendix B for guidance for Registered Foresters.

Habitats

- Wetland habitats listed in the Irish Wetland Types – An Identification Guide and Field Survey Manual (Irish Ramsar Wetlands Committee, 2018) must not be planted. ABE rules may allow small areas to be included as ABEs. Section 4 of the document gives visual examples of the various wetland habitats in landscape settings and lists the corresponding habitat classification according to Fossitt (2000) and / or the habitat type listed under Annex I of the EU Habitats Directive.
- Areas overlapping with the Wetland Survey of Ireland must not be planted. ABE rules may allow small areas to be included as ABEs.

Birds (including SPAs)

- Sites within SPAs are ineligible and must not be submitted.
- Any part of a site overlapping with a SPA is ineligible and must be excluded from the application.
- Areas wholly within the 1.5 km buffer of a Curlew breeding site are ineligible and must not be submitted. (This will be indicated on iNET, drawing from a confidential dataset.)
- Any part of a site overlapping with the 1.5 km area of a Curlew breeding site is ineligible and must be excluded from the application. (This will be indicated on iNET, drawing from a confidential dataset.)

- If the site wholly or partly within the foraging range of a Special Conservation Interest of a SPA, as per DAFM's Bird Foraging Table, the application must be accompanied by a report describing the suitability of the habitat(s) on site for foraging by the species in question.
- If the site wholly or partly within the Bird Watch Ireland (BWI) Breeding Wader Hotspot map, the Registered Forester then identifies the species of wader (Curlew, Dunlin, Lapwing, Golden Plover, Snipe or Redshank) recorded in the locality of the site (by looking at the BWI hotspot maps for these individual species). Once the relevant species is identified, the application must be accompanied by one of the following: (i) where the habitat is not suitable for the species in question, a report is required, supporting this finding; OR (ii) where the habitat is suitable for the species in question, an Ornithological Report is required, setting out the rationale as to why planting can take place, despite this finding.
- Sites wholly within a section of a Hen Harrier High Likelihood Nesting Area (HLNA) that extends outside of a SPA designated for breeding Hen Harrier, are ineligible and must not be submitted. (This will be indicated on iNET, drawing from a confidential dataset.)
- Any part of a site overlapping with a Hen Harrier High Likelihood Nesting Area (HLNA) that extends outside of a SPA is ineligible and must be excluded from the application. (This will be indicated on iNET, drawing from a confidential dataset.)
- Sites wholly or partly within the Current Distribution and Breeding Distribution for Hen Harrier (as recorded in the current NPWS Article 12 Report) must be accompanied by a report setting out the rationale as to why afforestation can take place, despite this overlap?

Other designated areas

- Sites wholly or partially with a SAC must be accompanied by a Natura Impact Statement, following DAFM guidance and framework for same – see the Forestry Standards Manual appendices.
- If the site is wholly or partially within a NHA, the application must be accompanied by consent from the Minister for Housing, Local Government and Heritage (i.e. a completed Notifiable Action Form) and a report setting out the rationale as to why afforestation can take place, despite this overlap.
- If the site is wholly or partially within a proposed NHA, a Nature Reserve, or a National Park, the application must be accompanied by a report setting out the rationale as to why afforestation can take place, despite this overlap.

High nature value farmland (HNVf)

If the site is within a high nature value farmland area (score of 0.5 SD or greater), the following applies. Also see Appendix A for further details.

- If the site wholly comprises intensively-managed farmland, the application must be companies by a report supporting this conclusion.
- If the site includes any extensively managed farmland, the application must be accompanied by a habitat survey (using Fossitt's classification) and a species survey (following the R+N methodology). In addition, the following apply:
- If the site overlaps with the Irish Semi-Natural Grasslands Survey layer, a report is required describing how afforestation is compatible with this sensitivity.
- If the site contains area(s) having the characteristics of an Annex 1 habitat(s), such areas cannot be planted. See ABE rules regarding eligibility for inclusion as an ABE. If not eligible, exclude from the application.

- If the site overlaps with the BWI Farmland Birds Hotspot map the particular species of concern noted within the grid? If yes, and the site contains habitat suitable for the species, an ornithological report is required stating how the proposed afforestation is compatible with species' conservation. If the site doesn't contain suitable habitat for the species in question, a report is required supporting this conclusion.

In relation to sites outside of HNV farmland (score less than 0.5 SD:

- If the site overlaps with Irish Semi-Natural Grasslands Survey layer, the application must be accompanied by a report setting out the rationale as to why afforestation can take place, despite this overlap.
- If the site contains Annex 1 habitat, the area of Annex 1 habitat involved must not be planted. ABE rules may allow inclusion as an ABE.

Freshwater pearl mussel

- Sites within any part of a top 8 FPM catchment are ineligible and must not be submitted.
- Any part of a site overlapping with a top 8 FPM catchment is ineligible and must be excluded from the application.
- Sites within the 6 km zone associated with any of the other 19 SACs designated for FPM typically require a completed Form, A and Form B to be submitted with the ap[plication. (Small exceptions apply - see Forestry & FPM Requirements.

Other biodiversity considerations

Other biodiversity issues can arise not directly addressed by the Environmental Considerations. For example, In areas within the range of the Marsh Fritillary butterfly, if a field assessment identifies that an area may be potential habitat, a survey for Marsh Fritillary is required. If larval webs are found, the area is excluded from the application.

Potential sensitivities are represented by the following questions:

- Is there an Annex IV species (e.g. otter, Kerry slug and bats) or its habitat (if in the species range) known to be present or observed within the plot(s)?
- Is there an Annex II species (e.g. Killarney Fern, Yellow Marsh Saxifrage and River Lamprey) and / or its habitat known to be present or observed within the plot(s)?
- Is the application located on sandstone geology in West Cork or Kerry, as illustrated in Figure 1 of the Forest Service *Forestry & Kerry Slug Guidelines*?
- Is there a population of a species protected under the Flora (Protection) Order 2015 (S.I.356 of 2015) known to be present or observed within the plot(s)?

An affirmative answer in each case will necessitate the submission of a report detailing the issue and setting out justification for the project to proceed in light of the sensitivity, and any relevant mitigation included.

2.5.2 Areas for Biodiversity Enhancement

In addition to the selection of appropriate Forest Type(s) for the project, the use of Areas for Biodiversity Enhancement (ABEs) is a key tool in designing the afforestation for biodiversity.

ABEs comprise environmental setbacks, future operational areas and retained habitats, as described below. Consequently whilst in some cases their primary function may not be for biodiversity, they play a role in promoting biodiversity, mainly through the provision of largely-undisturbed open spaces and structural diversity (including edge habitats between the open space and the adjoining forest canopy).

An **environmental setback** is a (largely) unplanted and undisturbed open space of a defined width (as set out in Section 2.8) installed to protect a particular environmental feature or sensitivity. Different types apply (as listed below) depending on the feature or sensitivity involved:

- water setback
- retained habitat setback
- archaeological setback
- public road setback
- utilised building setback
- landscape setback

In addition to their main protective role, these environmental setbacks are important biodiversity features in their own right, providing open and edge habitats along the forest margin. This role can be enhanced further through simple design and additional planting (see Section 3.5.4).

A **future operational area** is an open space left unplanted in order to facilitate the future management of the plantation (e.g. a rideline) or to accommodate future infrastructure (e.g. a forest road or landing bay). In addition to their primary management function, these operational areas are also important biodiversity features in their own right, and this value can be enhanced further through simple design and additional planting.

A **retained habitat** is an existing onsite habitat selected for retention within the future forest. These can be area-based features (e.g. a localised flush), linear features (e.g. a hedgerow) or point features (e.g. a veteran tree). Design must aim to protect and enhance these habitats throughout the forest rotation, and to allow associated native flora and fauna to develop. This may involve the addition of a habitat setback, to prevent future impacts (e.g. overshadowing) from the growing forest canopy – see Section 2.8 for details.

(Note, it may be necessary to exclude from the afforestation application, areas containing certain habitats or species that require grazing to persist. Otherwise, these areas will become overgrown as the result of fencing.)

Ensure that future operational areas for future forest roads do not overlap with environmental setbacks for water and archaeology, and retained habitats.

Tables 2 and 3 list the various features that are eligible as ABEs for the purpose of grant and premium calculation.

Table 2 Site features and their eligibility as ABEs. (Also see Table 3 regarding woody habitats.)

Site features	**Eligible as ABE?**
Water setback	Yes
Retained habitat setback	Yes
Archaeological setback	Yes
Public road setback	Yes
Utilised building setback	Yes
Landscape setback	Yes
Hedgerows and other woody habitats	See Table 3
Newly-created lakes / reservoirs developed as part of application	Yes
Railway setbacks	Yes
Drains	Yes
Future operational areas left for planned forest roads, turning bays, ridelines, etc.	Yes
Unplantable areas	No
Areas of shallow, rocky soil	No
Rock and scree	No
Aquatic zones (as defined in Table 1)	No
Rights-of-way held by 3rd parties	No
Areas with turbary or grazing rights held by 3rd parties	No
Major water mains	No
Power line corridors	No
Gas pipeline corridors	No
Public roads	No
Other features	If deemed appropriate by DAFM

Table 3 Woody habitat types, their eligibility as ABEs, and available options.

Type of woody habitat	**Eligibility as ABE and available options**(*)	**Comment**
Area of scrub (e.g. elder) and non-high forest species (e.g. blackthorn, hawthorn, willow) **NOTE:** Areas of scrub that meet the requirements of FT5: Emergent Forest may be submitted under that FT as discrete plots.	Eligible as ABE. Therefore, either: ➢ include as retained habitat; OR ➢ exclude from the application.	Non-high forest species often have a high biodiversity value.
Individual high forest trees (e.g. oak, ash, beech, birch, pine)	Eligible as ABE. Therefore, include as retained habitat (i.e. point features).	Individual trees such as these can have a high biodiversity value.
Areas of high forest trees (see above examples) less than 0.1 ha in size	Eligible as ABE. Therefore, either: ➢ include as retained habitat; OR ➢ exclude from the application.	Groups comprising trees such as these can have a high biodiversity value.
Areas of high forest trees (see above examples) 0.1 ha or greater in size	Not eligible as ABE. Therefore, exclude from the application.	Such areas meet the definition of a forest, and existing forests cannot receive afforestation payments.
Hedgerows	Eligible as ABE. ➢ In all cases, retain the hedgerow <u>and</u> ensure that any trees planted within 7 m of its centreline are native broadleaf species suited to the immediate site conditions. ➢ If the hedgerow is deemed 'important'(see Section 2.5.4)), apply a 5 m habitat setback, as measured from the hedgerow's centreline. Apply this 5 m setback on both sides, if located <u>*within*</u> the project area. ➢ Otherwise, no setback.	
Rhododendron / laurel	Not eligible as ABE. Therefore, either: ➢ clear (using best practice guidelines) and plant, OR ➢ exclude from the application.	These are non-native invasive species and must not be retained as ABE.
* Each relevant option can be applied to all of the corresponding woody habitat type onsite, or to different sections of it.		

2.5.3 ABE criteria

ABE eligibility criteria are as follows:

- Where ABEs add up to more than 15% of the total area planted, the claim area must be reduced accordingly, as set out in the *Forestry Standards Manual*.
- ABEs must comprise areas suitable for planting (i.e. that would satisfy the Land Types for Afforestation conditions) but where this potential foregone for the purpose of retaining habitats and creating open spaces in order to (*inter alia*) promote biodiversity within the future forest. In some cases, areas that are suitable for planting but where planting is excluded for the purpose of safeguarding a protected habitat or species, may also be accepted as ABEs. Areas that are unsuitable for planting are not eligible as ABEs.
- ABEs must be an integral part of the site. For example, an ABE plot cannot be in an adjoining field / land parcel or in a separate plot away from the main area of the plantation.
- Applicants must not remove habitats prior to submission of the afforestation application. ***Otherwise, the application may be refused.***
- The submitted Biodiversity Map must show any proposed ABEs (i.e. environmental setbacks, future operational areas and retained habitats) as Bio Plots or as linear or point features, adhering to mapping rules. The *Forestry Standards Manual* sets out the mapping requirements. It is critical that the Biodiversity Map accurately depicts all relevant environmental features and sensitivities (including biodiversity features), proposed cultivation and drainage (if required), and the location of setbacks and other protective measures.

  (* A basic level of ecological assessment by the Registered Forester will help to identify which habitats will have the greatest biodiversity value.)
- The area retained as ABE and the calculable ABE area differ as the calculable area takes into account the future canopy cover of planted trees, as their canopy extends into the setback itself. A setback distance refers to the distance from certain environmental features to the nearest planted tree at time of planting. It is reasonable to assume that the canopy of trees will often extend 5 metres into adjoining open spaces. Therefore, in calculating the area of any particular ABE, the width of that ABE can be reduced by 5 metres, to reflect the fact that the actual canopy area as the trees approach maturity will be approx. 5 metres from the original planting position. For example, if an aquatic zone within an application is 30 m in length and the setback distance is 10 m, the calculable ABE is 150 m (i.e. 30 m x 5 m). On-the-ground, however, the first line of trees is planted 10 m from the aquatic zone.

2.5.4 Hedgerows

Hedgerow networks are one of the most widespread semi-natural habitats in the countryside, due to their extent, connectivity, structure and composition. In addition to their biodiversity value, hedgerows form part of the cultural and historic heritage of the country and are important landscape features. As such, they must be regarded carefully during pre-application design and subsequent site works.

All hedgerows must be retained. In general, do not break through hedgerows during afforestation. Similarly, do not use hedgerow trees as makeshift straining posts for fence lines. Furthermore, only plant native broadleaf species suited to the immediate site conditions, within 7 m of all hedgerows.

Important hedgerows, as informed by their quality in terms of age, species composition and structure, landscape importance, and other attributes (e.g. townland boundary) must have a 5 m wide habitat setback, as measured from its centre line (and applied on both sides of the hedgerow, if within the proposed afforestation site. A habitat setback can also be considered in relation to

other hedgerows onsite, to ensure their continued presence as the surrounding canopy develops. Other situations may arise where a hedgerow setback is desirable, e.g. to create a future wind-firm edge to enable staggered felling later, or to realise the potential role of a hedgerow as part of water management onsite. Hedgerows with setbacks will also act as links and corridors for many species of flora and fauna between other areas of semi-natural habitat within the wider landscape. Therefore, consider applying setbacks to one or more contiguous lengths of hedgerow that run from one side of the afforestation site to the other, to promote this habitat connectivity

In calculating the ABE area for hedgerows, consideration must be given to the future canopy of the forest. Foresters must estimate the area the hedgerow will occupy when the forests are approaching maturity. Therefore, a small hedgerow with newly planted trees on each side will not give rise to ABE area. Conversely, a large hedgerow with existing large mature trees will give rise to ABE area, as will a hedgerow where the 5 m wide habitat setback has been applied

2.6 Archaeology and built heritage

Objectives:

- **To seek to ensure that proposed afforestation development projects do not adversely impact directly or indirectly on known or suspected archaeological sites and monuments or on other important built heritage structures or features. This includes protecting their amenities and where relevant, their wider landscape setting, in particular, their relationship with other roughly contemporary or determinably linked sites, monuments, structures or features.**
- **Where afforestation is approved near known or suspected archaeological sites and monuments or other important built heritage structures or features, to seek to ensure that: (i) appropriate exclusion zones, fencing, access paths and other relevant measures are incorporated into the project design; (ii) there is an appropriate response should any previously unrecorded archaeological site, monument, object, structure or feature be discovered during site work; and (iii) any approved design is sympathetic to and provides an appropriate visual setting for such sites, monuments, structures or features.**

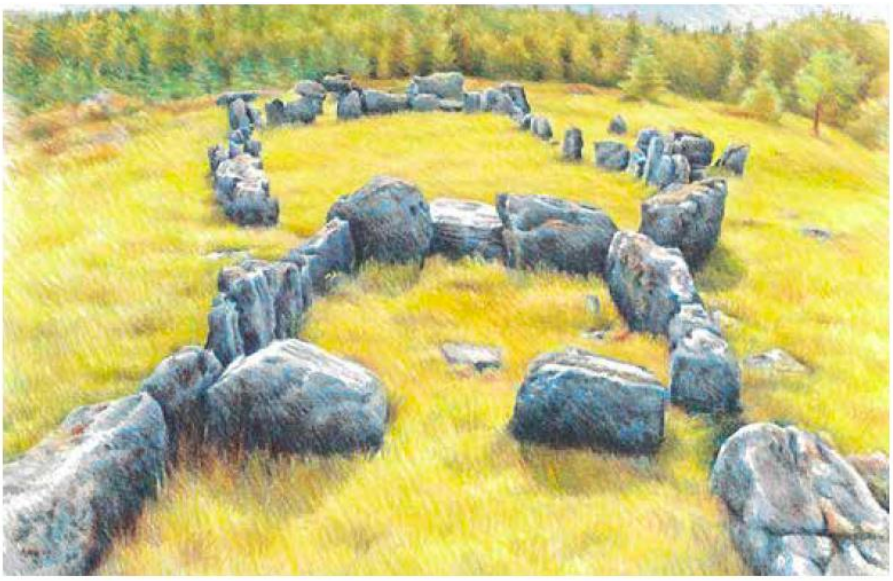
2.6.1 Potential impacts

The Irish countryside is rich in the physical remains of human activity stretching back over the millennia. These vary from the more obvious and iconic monument types such as megalithic tombs, standing stones, ringforts, crannógs, churches and graveyards, burial grounds and medieval castles, to the less well-known and less visible or entirely below-ground surface monument types such as ancient timber and gravel roadways (toghers), cooking places (fulachta fiadh) and settlement sites. All archaeological sites and monuments can have or may survive solely as associated artefacts and features. Examples include stone or metal tools, pottery sherds, post holes or refuse pits. These are often only uncovered during ploughing, drainage works, construction or turf cutting.

Archaeological sites and monuments and other important built heritage structures and features are part of our national heritage. There is a wealth of information to be gathered from such sites, monuments, structures and features, both from those which are visible above the ground and from those which have little or no surface expression. In addition to their educational value in terms of informing current and future generations and visitors about the history and development of our

culture and society, they are also important recreational and tourism resources at local, regional and national levels.

A central court tomb, Magheraghanrush or Deerpark, Co. Sligo (Coillte property). (Illustration by Aislinn Adams)



2.6.2 Procedures

Land proposed for afforestation may contain or be located adjacent to archaeological sites and monuments and built heritage structures and features. For the purpose of these Requirements, these are grouped into three categories:

- **'Designated' archaeological sites and monuments,** which include those: entered onto the Record of Monuments and Places (RMP) or the Register of Historic Monuments (RHM); National Monuments in the ownership or the guardianship of the Minister for Arts, Heritage, Regional, Rural & Gaeltacht Affairs or a Local Authority; or those subject to a Preservation Order (PO) or a Temporary Preservation Order (TPO). Also included are sites and monuments newly discovered at the pre-application design stage or during the site works stage, post-approval. Examples include megalithic tombs, cairns, barrows, mounds, ringforts, enclosures, churches and graveyards, castles, tower houses and children's burial grounds.
- **'Designated' buildings and structures or parts of structures which form part of the architectural heritage and which are of special interest**, i.e. those entered onto the Record of Protected Structures (RPS) in the relevant County Development Plan or those entered into the National Inventory of Architectural Heritage (NIAH). Examples include vernacular cottages and houses, country houses and lodges, designed gardens and parklands, parish churches, historic creameries, military fortifications, mine engine houses, water mills, canals, locks and lock houses, and old school houses.
- **'Non-designated' built heritage structures**, e.g. lime kilns, sheep folds, creamery stands, stiles, townland boundaries, pumps and pump houses, mill ponds, and derelict dwellings / farm buildings.

Given the nature of afforestation (site selection, ground preparation operations, canopy development, and making provisions for future management operations), the potential for damage to our archaeological and built heritage clearly exists. For example, soil cultivation and drainage works can directly or indirectly disturb or impact both upstanding and sub-surface archaeological

sites and monuments and associated features and artefacts. Even the digging of drains and sediment traps near such sites or monuments may cause organic deposits and artefacts (e.g. structural timbers, wooden artefacts or leather) preserved by anaerobic conditions to decay quicker as the soil deposit dries out. Similarly, changes caused to soil chemistry (e.g. from needle fall) may cause metal artefacts or ceramics to decay quicker.

The early identification of the nature, extent, setting, visual envelope and linkages of archaeological sites and monuments or other important built heritage structures or features, and the incorporation of these considerations both at the pre-application design stage and during site works (where afforestation is approved near known or suspected archaeological sites and monuments) will help to avoid or minimise the risk of damage.

Examples of measures to avoid, reduce or mitigate adverse impacts include:

- avoidance of areas of known or suspected elevated archaeological potential;
- incorporation of appropriate archaeological setbacks;
- access routes;
- unplanted lines of sight;
- arranging for in-works supervisory safeguards such as archaeological monitoring; and
- the sensitive design of the forest edge adjoining archaeological setbacks, to provide an appropriate setting.

The Registered Forester must identify known archaeological sites and monuments or other important built heritage structures or features, on and adjoining a site proposed for afforestation, through review of the relevant layers on iNET, and through a thorough onsite assessment.

The Forester should also utilise readily accessible sources of information. For example, the online digital service - the Historic Environment Viewer - provided by the Department of Arts, Heritage, Regional, Rural & Gaeltacht Affairs, facilitates access to the databases of the National Monuments Service (NMS) Sites and Monuments Record (SMR) and the NIAH. In addition, the RPS for each county is normally accessible on-line, and can usually be found as an appendix to the published County Development Plan. See the *Forestry Standards Manual* for further details.

Where possible, include all reference numbers (e.g. RMP number) on the Biodiversity Map submitted with the application. Doing so may expedite the DAFM assessment of the application.

Once the various archaeological sites and monuments and other important built heritage structures or features (including those both 'designated' and 'non-designated') have been identified, the relevant minimum archaeological setbacks detailed in Section 2.8 apply, as well as any other measures proposed to address considerations such as the nature, extent, setting, visual envelope and linkages of these sites, monuments, structures or features.

2.6.3 Conditions attached to or further information required in approvals

As a general rule, the archaeological conditions that may be attached to any approval for afforestation will be taken from, but are not limited to, one or more of a tiered hierarchy of archaeological mitigation responses. These include:

- archaeological setbacks (including fenced-off exclusion zones);
- access routes;
- unplanted lines of sight;
- increasing the size of the archaeological setbacks;
- the exclusion of a larger area or areas of archaeological potential;

- archaeological monitoring of specified areas by an independent archaeological consultant retained by the Applicant or the Registered Forester;
- refusal of either part or all of the development, pending the consideration by the DAFM and NMS of an archaeological assessment and an archaeological impact statement prepared by an independent archaeological consultant retained by the Applicant or the Registered Forester; or
- refusal after submission, where warranted due to significant adverse impacts that are evident at the very outset of the DAFM assessment, or which become so as the assessment continues.

Note, as explained above, where it is evident to the DAFM at the outset or where it becomes evident as the assessment progresses, that a proposed development is likely to have significant adverse impacts on archaeological, historical or cultural sites or features, and which in its opinion cannot be adequately addressed by conditions based on the tiered hierarchy of archaeological mitigation responses listed above, the application may be refused entirely.

Ogham Stone, Knickeen, Co. Wicklow (Coillte property).

2.6.4 Archaeological finds at the pre-application design stage

Note that, during the onsite assessment or with local knowledge, the Registered Forester may also encounter a previously unrecorded archaeological site or monument at the pre-application design stage. If discovered, the location of any new or suspected new archaeological site or monument must be included on the Biodiversity Map, and a clear reference included in the map's table legend. Furthermore, a clear description must be provided in the 'Other Environmental Considerations' section of the Afforestation Application Form 1.

DAFM will consider such reports as part of its assessment of the application. Following referral to the NMS, it may impose one or more relevant archaeological conditions, with a default position being to favour preservation *in situ* of any new archaeological site or monument so identified (in accordance with the principles and approach as set out in Part III of *Framework and Principles for the Protection of the Archaeological Heritage* (Department of Arts, Heritage, Gaeltacht and the Islands, 1999)).

Where an archaeological object is discovered at this stage, it must by law be reported within a reasonable time period (and not longer than 96 hours) to the Garda Síochána or the National Museum of Ireland. Also, unless there is reasonable cause to believe that removal or interference is necessary to preserve it or to keep it safe, it must not be disturbed. The unsupervised recovery of archaeological objects by untrained persons can greatly diminish or entirely eliminate any knowledge or research value that might be gained from a particular discovery. It is important that, wherever possible, archaeological objects are recovered in a structured scientific manner, with careful recording made of their association with other objects, structures, features and soil layers.

(Note, see Section 3.8 for details regarding archaeological finds discovered during site works.)

2.7 Landscape

Objective:

To ensure that the proposed forest is designed so that it is visually acceptable and in keeping with landscape and amenity sensitivities.

The predominantly open landscape of Ireland is a result of the progressive clearance of the natural woodland cover through the centuries, primarily for agriculture. In such an open landscape, afforestation is a major change. Registered Foresters should therefore apply attention to shape, scale, species diversity, margins, open spaces and views, to ensure that the new forest complements the character of the landscape, and to avoid intrusive and monotonous plantations. Careful design of forests at the pre-application design stage is important, as only limited improvements can be made later on.

The emphasis placed on native forest creation within the Forestry Programme 2023-2027, and the use of the underpinning Native Woodland Framework (see *Forestry Standards Manual*), will ensure that areas planted under the relevant FTs will involve native woodland types and species in keeping with local site parameters such a soil, elevation and vegetation patterns. Such forests should therefore be largely sympathetic to the landscapes into which they are planted. However, awareness of the wider landscape and possible landscape impacts still need careful consideration.

The Registered Forester should consult with the relevant County Development Plan (both Draft and Final Plans), which will identify areas of particular landscape sensitivity and important views. The Registered Forester should also view the site from various vantage points and approaches, to identify how best to design the forest(*).

(* Within sensitive landscapes, it may be advisable for Registered Foresters to submit a series of photographs of the site, as viewed from various approach roads and local vantage points, together with an OS Discovery map indicating where each photo was taken. This will enable DAFM to assess how the afforestation will fit into the landscape, as viewed from these positions. Some digital cameras and smartphones have a function to take panoramic photographs, which are ideally suited for this purpose.)

Landscape-related questions within the Environmental Considerations section on iNET will assist in identifying sensitivities regarding landscape, amenity and recreation:

- If the site is within an area identified in the relevant County Development Plan as being sensitive for landscape / visual amenity, provide details with the application of the landscape sensitivity involved, citing the County Development Plan and section(s) / map(s) therein of relevance.

- If the site is within an area identified in the relevant County Development Plan as being sensitive for recreational / amenity purposes, provide details of the recreational / amenity sensitivity involved, citing the County Development Plan and section(s) / map(s) therein of relevance.
- If there is the potential for the project to impact on any locally-important amenity that may not be officially designated but still used and enjoyed by the local community, provide details with the application, for consideration by DAFM.

2.7.1 Design principles

Achieving an acceptable landscape design in response to landscape sensitivities identified can be a subjective exercise. However, the following measures can be applied as required, taking account of the size of the proposed plantation, its position in the landscape, and its visibility from key vantage points, near and far. For example, a plantation on a visible hillside within a sensitive landscape will require a greater degree of design compared to a plantation within a lowland area with hedgerows, where measures may be limited to well-designed setbacks adjoining dwellings and public roads.

It is important that any measure applied is done so at an appropriate scale, in order to have the desired impact.

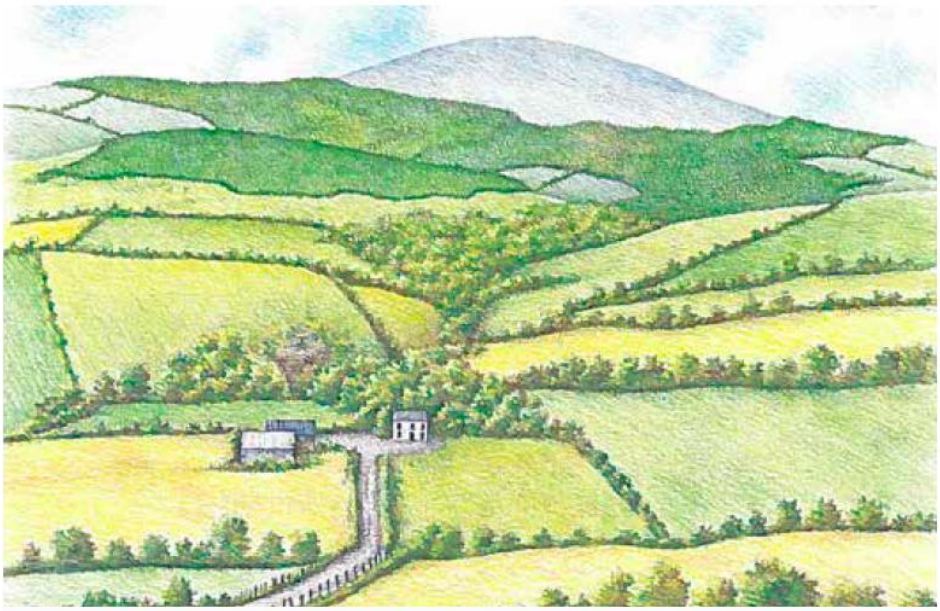
When appropriately sited and with sensitive layout and design, new woodlands and forests make a significant contribution to the landscape. (Photo Gillian Mills)

Shape

- Shape is the dominant landscape feature. It refers to the forest outline and also to the pattern of different species within it.
- Overall straight or horizontal lines and geometric or regular shapes should be avoided, where possible. These are often imposed by property boundaries, but can be mitigated by landscape setbacks (see Section 2.8).
- The planting of single, small groups and irregular belts of native species (e.g. birch, rowan, oak and Scots pine, as site conditions allow) along the forest edge or within any environmental setback will also add visual interest – see Sections 3.5.3 and 3.5.4.

- On hillsides, planting should conform to the overall pattern in the landscape, whether natural landforms or field patterns, and follow the same rounded or irregular shapes.
- Large open landscapes are more suited to relatively large forested areas, while smaller and more regular shapes fit in better within a lowland pattern of fields and hedgerows.

Shape, margins and diversity are key considerations in forest landscape design. (Illustration by Aislinn Adams)



Margins

- Avoid abrupt margins between the forest and open ground, between different species and between different Forest Type (FT) plots.
- On sites approaching the skyline, the upper margin should be in line with the predominant landscape characteristics, be they irregular or smooth. Avoid leaving a narrow parallel band of open ground near the skyline. The open ground should reflect the scale of the hill or ridge. At lower points, planting can be carried right over the skyline.
- In more upland areas, long straight vertical boundaries should be avoided. Instead, a diagonal trend should be maintained.
- Along highly visible forest margins, localised areas of spruce and pine trees towards the outer 10-15 metres of the forest can be planted at wider and irregular spacing. This measure, when used in conjunction with forest edge planting, can promote the sense of a natural tree line, therefore softening the external margin.
- In lowland areas, straight boundaries can be acceptable where they reflect the agricultural field pattern.
- On lower margins, plantations can be blended into the agricultural landscape by introducing and extending broadleaf plots (and additional broadleaves) upwards in amongst the conifer plot, especially following hollows in the landform.

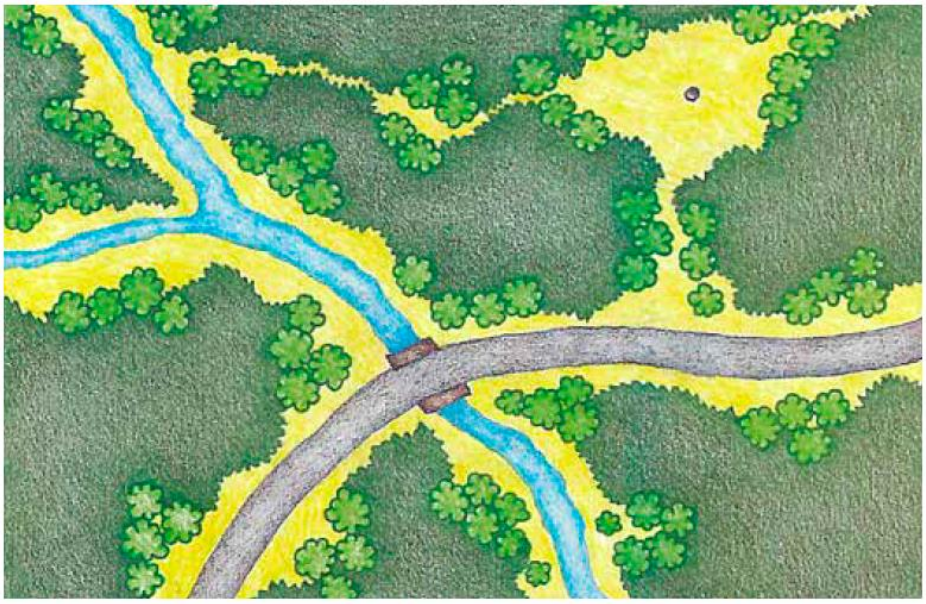
Diversity

- Diversity can be promoted by using a variety of species and by incorporated and reinforcing open spaces and retained habitats.
- Too much variety, however, should be avoided. It is usually desirable that one species dominates by about two-thirds.
- To be considered eligible under the Afforestation Scheme, the proposed plantation must have a minimum of 20% broadleaves, either as plots of minimum width and / or as single, small groups and irregular belts of additional broadleaves. Furthermore, each plot must comply with one of the Forest Types (FTs) described in the *Forestry Standards Manual*, and its corresponding requirements, including species composition.
- Promote an interlocking pattern along the margin between plots of different species. This can be achieved by extending groups and single trees of one species into the other, within the scope allowed under the FT rules involved.
- Avoid creating long rows of single species or rows or blocks of alternate species.
- Avoid species boundaries crossing the skyline.
- Plot outlines and group planting should follow ground vegetation patterns – this will help maintain a natural appearance.
- Reinforce the outline of retained woody habitats, by planting broadleaves in adjoining tongues or groups.
- The planting of single, small groups and irregular belts of native species (e.g. birch, rowan, oak and Scots pine, as site conditions allow) along the forest edge or within any environmental setback will add visual interest – see Sections 3.5.3 and 3.5.4.

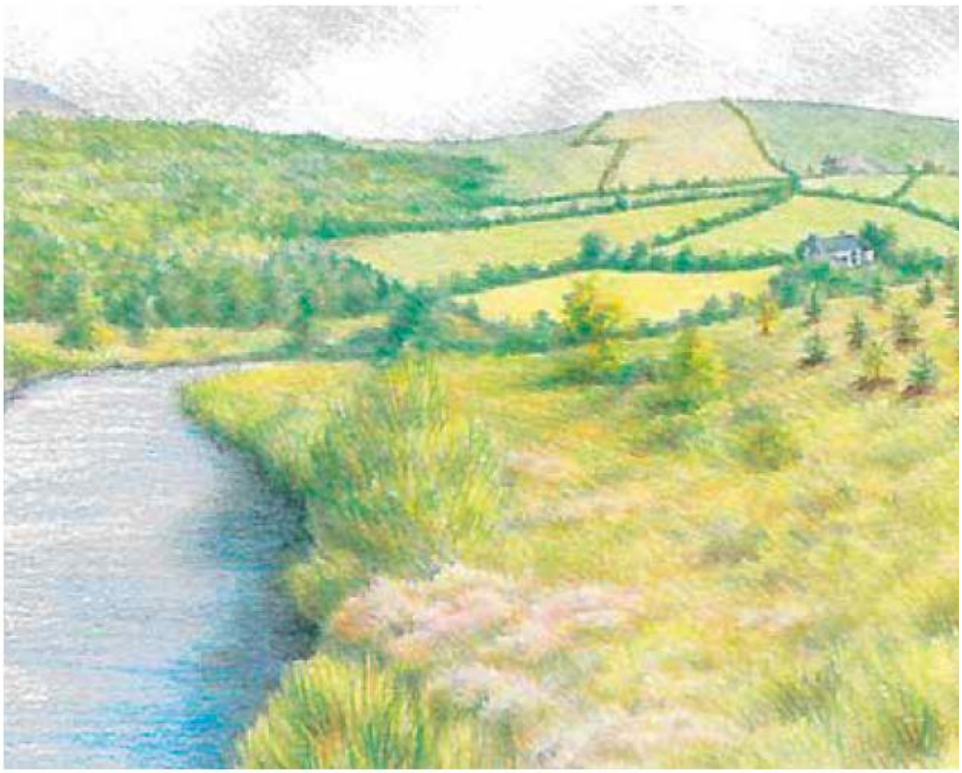
Environmental setbacks and future operational areas

Within the overall plantation boundary, the pattern created by environmental setbacks and future operation areas must be taken into account. The layout and design of these open spaces is set out in Table 4. As an overall measure, where these features intersect with each other, introduce appropriately scaled bell mouths in order to eliminate stark junctions and corners that may be visible from outside the plantation. The use of forest edge planting and environmental setback planting (see Sections 3.5.3 and 3.5.4) can also soften harsh angles.

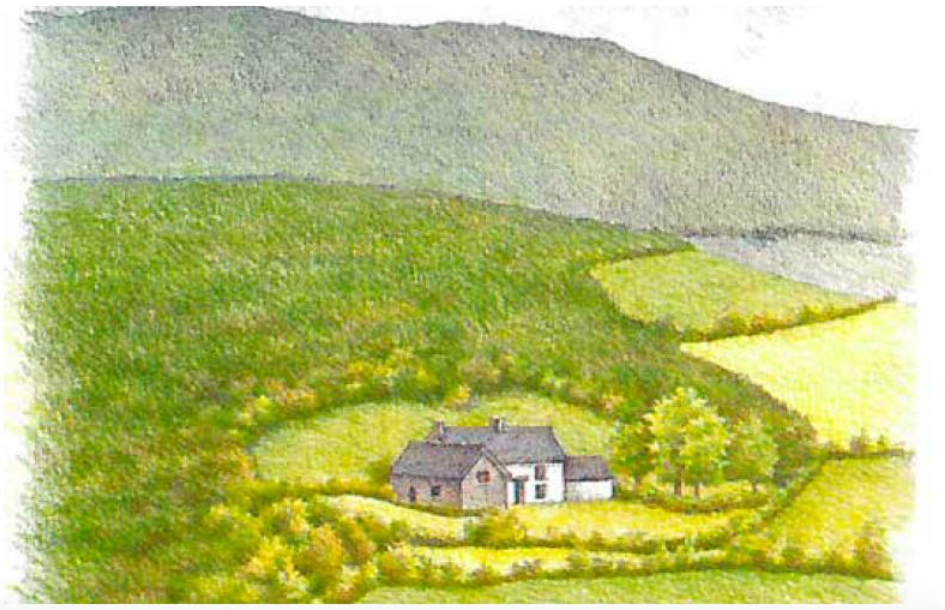
Integrate environmental setbacks and future operational areas, to create a more natural landscape design. (Illustration by Aislinn Adams)



Water setbacks and setbacks from other environmental features and sensitivities are a key part of forest design. (Illustration by Aislinn Adams)



Appropriate setbacks from dwellings, deigned with appropriate edge planting with native broadleaf species, will avoid overshadowing and a sense of isolation. (Illustration by Aislinn Adams)



Other considerations

Where possible, ridelines and firebreaks through forests should follow landform and make use of natural features. They should follow an irregular route that avoids dividing a plantation into equal parts, and they should not be sited at right angles or parallel to contours.

Landscape setbacks and appropriate edge design for public roads and dwellings are important – see Section 2.8 for requirements.

2.8 Environmental setbacks

An environmental setback is a (largely) unplanted and undisturbed open space of a defined width, installed to protect a particular environmental feature or sensitivity. Different types apply, depending on the feature or sensitivity involved, e.g.

- water setback
- retained habitat setback
- archaeological setback
- public road setback
- utilised building setback
- landscape setback

Table 4 describes the minimum setback width (as measured horizontally) and setback treatment for each of the above. Note, DAFM may stipulate, on a site-specific basis, greater setback widths than those prescribed, or setbacks in relation to other types of features or sensitivities (e.g. swallow holes).

In all cases:

- Where different setbacks overlap, the greater setback width applies.
- The setbacks described in Table 4 are eligible as ABEs.
- In general, setbacks are to remain undisturbed at afforestation and throughout the remainder of the rotation, and allowed to develop naturally. Setbacks will typically develop a sward of natural ground vegetation accompanied over time by (potentially) pockets of native woody growth.
- The ongoing treatment of setbacks during Site Works and Ongoing Site Management are detailed in those chapters.

Water setbacks and setbacks from other environmental features and sensitivities are a key part of forest design. (Illustration by Aislinn Adams)

Table 4 Environmental setback type and purpose, and corresponding minimum setback distance and additional design requirements.
Note, all setbacks are measured in metres *horizontally*.

WATER SETBACK

Purpose: To create at the outset, a buffer of natural ground vegetation positioned between defined water features and the forest crop and associated operations, in order to protect water quality and aquatic ecosystems from possible sediment and nutrient runoff from the site at afforestation and throughout the remainder of the forest rotation.

Minimum setback width, as measured from the nearest bank / edge of the water feature, as observed on-the-ground (setback applies to each side of the water feature, e.g. to both banks of an aquatic zone):

Aquatic zone (as per Table 1):

Slope leading to the aquatic zone (apply as appropriate, where slope varies over the site)	**Setback width**	**Setback width for soils with peat component, and for sites within the subbasin of high status objective waterbodies (see note opposite)**
Moderate (even to 1-in-7 / 0-15%)	10 metre	20 metre
Steep (1-in-7 to 1-in-3 / 15-30%)	15 metre	25 metre
Very steep (1-in-3 / >30%)	20 metre	25 metre

Relevant watercourse: 5 metre

Hotspot: 5 metre

Drinking water abstraction point: 20 metre

Additional design:

- Widen the water setback at various points along its length, to include adjoining wet hollows and other low-lying areas where water gravitates towards as it drains from the land.
- Based on the immediate landform / topography, vary the setback to avoid artificial lines and to create a naturally undulating forest edge.

NOTE, if the afforestation site is within the catchment area of a high status objective waterbody, the required setback width (as per the 3rd column opposite) can be reduced by 10 metres (from the landward side) if an appropriate native forest (e.g. FT1) plot is included instead of this 10 m strip. For example, where a 25 m setback applies, this can be reduced to 15 m by applying the following sequence: aquatic zone → 15 m unplanted water setback → native forest FT plot. Specific requirements for the native forest FT used, apply – see Forestry Standards Manual.

HABITAT SETBACK

Purpose: To create adequate space adjoining a retained habitat to avoid or reduce any impacts arising from the emerging forest and its canopy.

Different habitats identified as retained habitats (either as biodiversity plots or as linear or point biodiversity features) may require an unplanted habitat setback to prevent undue impact (such as shading) from the emerging forest. Setback width depends on the habitat and the potential impact(s). Apply careful design, e.g. focus the habitat setback mainly on the south-western, southern and south-eastern side of the habitat, to minimise the blockage of sunlight as the adjoining forest canopy grows. Note that the retained habitat itself must remain undisturbed (unless otherwise agreed or prescribed).

ARCHAEOLOGICAL SETBACK

Purpose: To physically separate the archaeological site or monument or other important built heritage structures or features from afforestation works, the emerging forest, and future forest operations.

Site, monument, building, structure	**Minimum setback from the outermost extent of the archaeological site, monument, important built heritage structures or features, as evident onsite**
'Designated' archaeological sites and monuments (see note opposite)	20 metre exclusion zone
'Designated' buildings and structures or parts thereof which form part of the architectural heritage and which are of special interest (see note opposite)	30 metre exclusion zone for upstanding structures (e.g. building) Otherwise, 20 metre exclusion zone
Non-designated built heritage structures, e.g. lime kilns, sheep folds, creamery stands, stiles, pumps and pump houses, mill ponds, and derelict dwellings / farm buildings	10 metre unplanted setback (demarcating fencing not required) Where there is a cluster of such structures (e.g. a ruined dwelling and a number of out-buildings, often enclosed in a yard or by a boundary wall), the 10 metre unplanted setback to be measured from the enclosing boundary wall, or edges of the outermost buildings. Where there are associated features such as boundary walls, mill races, or historic foot paths, 5 metre unplanted setbacks may also be applied to those features. Similarly for townland boundaries.

NOTE, for designated archaeological sites and monuments and for designated buildings and structures (as defined in Section 2.6), the following applies:

- It is essential that the full extent (i.e. the outermost extent) of these features is known, so that the exclusion zone can be correctly identified. Where there is any doubt, the Registered Forester should seek advice from the relevant designating authority or the Forest Service Archaeologist.
- The boundary of the exclusion zone must be clearly demarcated by fencing, and pedestrian access routes must also be maintained or established (see Section 3.5.1 for details).

PUBLIC ROAD SETBACK

Purpose: To ensure adequate clearance to prevent tunnelling along the public road, to retain sightlines, and to create visual diversity for road users.

Minimum setback, as measured from the surfaced edge of the public road:	***Additional design:***
10 metre (average, within any one application) (For conifer plots, note the additional requirement regarding edge planting – see Section 3.5.3.)	➢ Based on the immediate landform / topography, vary the setback to avoid artificial lines and to create a naturally undulating forest edge. ➢ Provisions for future extractions should be planned and associated open spaces retained along the forest edge. Retain locally important views from the public road, by introducing open spaces through the forest. Also introduce open spaces that highlight natural features visible along the roadside. Increase setback, where appropriate, to allow for greater visibility at bends in the road.

UTILISED BUILDING SETBACK

Purpose: To prevent encroachment and isolation, the blocking of light and the curtailment of views in relation to dwellings, associated buildings, and roofed farm buildings.

Minimum setback, as measured from the outer wall of the roofed building:

Dwelling houses:

- 60 metre minimum
- Smaller setback allowable (to a minimum of 30 metre), if written agreement of the neighbouring dweller is provided at Form 1 stage

Roofed farm buildings: 10 m

Temporary buildings (e.g. timber sheds, kennels & buildings less than 25 m^2): No setback required

Additional design:

- Setback distance is most critical when a building is surrounded by forest on two or more sides.
- Based on the immediate landform / topography, vary the setback to avoid artificial lines and to create a naturally undulating forest edge.
- Consider retaining locally important views from the dwelling, by introducing open spaces through the forest. Also introduce open spaces that highlight natural features visible from the dwelling.
- In relation to setbacks from dwellings, setback planting is encouraged within the 30 m to 60 m zone, if agreed to by the neighbouring dweller.

LANDSCAPE SETBACK

Purpose: To disrupt artificially straight lines and sharp angles along other visible sections of the plantation's outer perimeter, and to create stronger visual 'tie-in' with adjoining hedgerows and other semi-natural / natural features.

Setback and design as appropriate. Will vary, depending on site details – see Section 2.7.

2.9 Future operational areas

Future operational areas are areas left unplanted in order to facilitate the future management of the plantation (e.g. a rideline) or to accommodate future infrastructure (e.g. a forest road or landing bay). In addition to their primary management function, these operational areas are also important biodiversity features in their own right, and this value can be enhanced further through simple design and additional planting. The following applies:

- Edge design should take account of good landscaping practices and the local topography. Avoid creating an unnaturally straight forest edge. Instead, taking account of the immediate landform, create a more naturally undulating edge.
- Where possible, orientate in an east-west direction, to maximise sunlight throughout the day and the seasons.

2.10 Open spaces and deer management

Forest design at afforestation should incorporate measures to facilitate future deer management. Environment setbacks and future operational areas may provide suitable open spaces to apply control, complete with appropriate shooting positions and safe back stops. However, these may need to be augmented by additional future operational areas, specifically for this purpose. Also, in the case of open spaces likely to be used for deer management purposes, avoid landscape and biodiversity planting within these spaces and along the adjoining forest edge, in order to retain clear lines of sight.

For further details, see the Woodlands of Ireland information note *The management of deer in native woodlands*.[1]

A deer hide overlooking an open space. During afforestation, incorporate features that will facilitate deer management in the future.

[1] Höna, S., Nugent, C., Burkitt, T. & Little, D. 2018. The Management of Deer in Native Woodlands. Native Woodland Information Note 7. Woodlands of Ireland. www.woodlandsofireland.com/publications

2.11 Site inputs

At design stage, planned site inputs such as fertilisers and herbicides should be tailored to the specific requirements of each plot. Aim to achieve successful establishment with the minimal level of artificial inputs possible.

Regarding fertilisers, phosphorus (P) is the main nutrient fertiliser applied at afforestation, with nitrogen (N) and potassium (K) occasionally applied as remedial fertilisation. Note that peaty soils have a very low capacity to bind phosphorus. Slow-release formulations may be appropriate on more sensitive parts of the site.

The afforestation application must detail:

- the proposed fertiliser type and application rate; and
- the proposed method of vegetation control (including herbicide type and application rate, if applicable).

Note that further operational safeguards regarding fertiliser and herbicide application are set out in Section 3.7.

2.11.1 Residues, emissions and waste

A related issue concerns residues, emissions or waste expected to arise from the project, and this is addressed by questions in the Environmental Considerations table on iNET.

- If there are any residues, emissions or waste expected to arise from the project that are likely to have significant effects on the environment, a report must accompany the application, setting out how it is intended prevent, reduce, or manage residues, emissions or waste from the project.
- To the extent of the information available, if there are any residues, emissions or waste expected to arise from the project, details must be provided with the application.
- If there are any significant effects on the environment likely from those residues, emissions or waste from the project, the application must be accompanied by a report setting out how it is intended prevent, reduce, or manage residues, emissions or waste from the project.

2.12 Further environmental assessment

Stage 1: Design culminates in the submission of a Form 1 for afforestation approval. This triggers DAFM's assessment of the proposal. In some situations, DAFM may seek specific environmental information regarding the proposal, before it can continue with its assessment. In such cases, a request for further information will be sent to the Applicant and his / her Registered Forester.

The information sought may entail the following, which typically involve the input of a specialist:

- Ecological Report
- Archaeological Assessment / Archaeological Impact Statement
- Water Management Plan
- Visual Impact Assessment
- NATURA Impact Statement (NIS)
- Environmental Impact Assessment Report (EIA Report)

Section 3: Site Works

3.1 Overview

Stage 2: Site Works spans the period between the receipt of the technical approval for afforestation up to the completion of initial site works and (where grant-aided) Form 2 submission.

The technical approval will set out conditions that must be adhered to. If uncertainty exists regarding any condition, contact DAFM for clarity before proceeding with any work.

Note the following:

- In the case of applications under the Afforestation Scheme, in order to be eligible for grant aid, site works can only commence on receipt of the financial approval. In the case of non-grant aided afforestation, sites works can only commence after the 14-day stay prescribed in the technical approval letter, to allow a window for possible appeals against DAFM's decision. (If an appeal is received, this stay will be extended.)
- The Registered Forester must secure written DAFM agreement before pursing any material change to a project post-approval. Not doing so may invalidate the technical approval and the financial approval (where relevant) issued.

3.2 Site management

The Registered Forester must ensure that all operators are fully aware of, and properly implement, all relevant measures set out in these Requirements and all environmental conditions attached to the technical approval issued. This should be carried out *via* onsite management and supervision. So-called 'tool box' meetings are encouraged, whereby the Registered Forester reviews the various sensitivities and safeguards during an onsite meeting with the operators, before operations commence.

Onsite activities should also be reviewed periodically during the site works, to ensure that related safeguards are in place and that any contingency planning called upon (see below) is functioning.

3.3 Oversight by other specialists

Conditions attached to the technical approval may stipulate the onsite presence of a specialist during site works. For example, a condition may stipulate the archaeological monitoring of specified areas. Archaeological monitoring involves having a suitably qualified archaeologist present during certain operations, or during the course of the carrying out of certain parts of approved development works, in order to identify and protect archaeological deposits, features or objects that may be uncovered or otherwise impacted by those operations. In such cases:

- an independent archaeological consultant must be retained by the Applicant or Registered Forester to carry out the monitoring;
- as set out in Section 3.8, the archaeologist will be empowered by the approval conditions to stop any works in the immediate area of any new discoveries *inter alia*, so as to ensure the timely notification of the relevant authorities, the proper recording of any exposed archaeological material, and the preservation by record or preservation *in situ* of the elements of the archaeological heritage, as appropriate;
- there will be a condition requiring the archaeological consultant to submit a full report on the results of the archaeological monitoring (including any discoveries made and any

subsequent archaeological work undertaken) to the DAFM, the NMS and the National Museum of Ireland; and

- failure to ensure that the archaeological monitoring is undertaken during the course of the carrying out of the specified parts of approved development or to submit the required report on this monitoring before or at latest at Form 2 stage, may be deemed to be:
    - a breach of the statutory approval for afforestation; and / or
    - a breach of the specific environmental conditions attached to the approval for grant aid and may: (i) delay the progress of the Form 2 (Application for 1st Grant Instalment); and (ii) be subject to a penalty.

Sanctions may also apply, as set out in the *Terms & Conditions for the Registration of Foresters and Forestry Companies*.

3.4 Contingency measures

Ensure that an adequate contingency plan is prepared. This plan must clearly inform operators how to react and who to contact, should an unexpected event arise that may create a risk to the environment, e.g. a period of intense rainfall, an accidental spillage of chemicals, the discovery of an unidentified archaeological site, monument or object. The plan should be readily available onsite and all operators should be made familiar with its content.

Appendix C of DAFM's *Standards for Felling & Reforestation* (2019) includes a template contingency plan for forestry operations that can be adapt for use on afforestation sites.

3.5 Treatment of setbacks

As set out in Stage 1: Design, the following setbacks, comprising (largely) unplanted and undisturbed open spaces of a defined width, are required to protect different environmental features and sensitivities:

- water setbacks
- retained habitat setbacks
- archaeological setbacks
- public road setbacks
- utilised building setbacks
- landscape setbacks

See Table 4 for setback widths and design details. The treatment of these setbacks during Stage 2: Site Works is set out below.

The Registered Forester must ensure that all operators are aware of the importance of any environmental setbacks required onsite, their location and extent, and what is and is not permitted within them (as per Table 5 below). An environmental setback must not be used for any forest operation or for any other purpose which could compromise its protective function or which could damage the environmental feature or sensitivity being protected.

Under the* Forestry Schemes Penalty Schedules*, failure to adhere to the required environmental setbacks can incur significant penalties.

3.5.1 Installing environmental setbacks

It is good forest practice to mark out environmental setbacks *before* operations commence, to avoid incursions. The following guidance applies:

- Mark off the setback using temporary markers, e.g. posts or bamboos with hi-vis tape, securely driven into the soil with approximately 1.5 metres remaining visible above ground.
- Marker spacing will vary depending on setback shape, e.g. 10 metre spacing for setbacks which vary in width; 30 metre spacing for long linear setbacks.
- Linear setbacks (e.g. archaeological sight lines) can be demarcated by markers set along the centre line.
- Also use markers to indicate the position of any additional enhancement planting proposed along the forest edge or within the setback itself (see below).

Note that specific requirements apply regarding 'designated' archaeological sites and monuments and 'designated' buildings and structures or parts of structures which form part of the architectural heritage and which are of special interest:

- Unless the conditions attached to the technical approval specify otherwise, erect a permanent fence comprising two strands of plain wire on the outer edge of the archaeological / built heritage exclusion zone. Adhere to the standard DAFM fencing specifications, including the use of IS 436 stakes (see the *Forestry Standards Manual*)(*). Note, where the outer edge of an archaeological monument / built heritage structure or feature is not evident on-the-ground, the advice of the Forest Service Archaeology and Built Heritage Section or a consultant archaeologist retained by the Applicant or her / his Registered Forester should be sought.

  (*This fence must be stock proof, if it represents an external boundary of the plantation.)
- Existing access routes to an archaeological site must be left unplanted and undisturbed, and must be left open for pedestrian access by archaeological officials throughout the rotation. If there is no existing access route, leave an unplanted 4 m wide route suitable for pedestrian access from the direction nearest public road, forest road or track.

3.5.2 Subsequent treatment

Table 5 details what is and is not permitted within the various environmental setbacks.

Table 5 Treatment of environmental setbacks during site works. Note, if setbacks overlap, the more environmentally stringent set of requirements apply.

	Operation						
Setback type	***Forest edge planting***	***Environmental setback planting***	***Demarcation fencing with stakes and wire***	***Machine traffic***	***Cultivation / Drainage***	***Fertiliser application / Vegetation management***	***Temporary onsite storage of fertiliser, fuel, etc. associated with afforestation***
Water setback	Encouraged – see Section 3.5.3.	Encouraged – see Section 3.5.4.	Not required	Exclude	Exclude. New drains must not enter into or traverse the water setback, or discharge directly into the aquatic zone or into an existing drain (with an exception detailed in Section 3.7.1).	Permitted if required to establish setback planting, based on the following requirements: ➢ Fertiliser application limited to the manual application of an appropriate slow-release formulation into the planting pit. ➢ Regarding vegetation management, herbicide use is prohibited. Use non-herbicide methods instead, such as trampling, mulches and mats.	Exclude
Habitat setback	Encouraged – see Section 3.5.3.	Exclude	Not required	Exclude	Exclude	Exclude	Exclude
Archaeological setback	Encouraged – see Section 3.5.3.	Exclude	Required for designated archaeological features – see Section 3.5.1 for details.	Exclude	Exclude	Exclude	Exclude

Setback type	*Forest edge planting*	*Environmental setback planting*	*Demarcation fencing with stakes and wire*	*Machine traffic*	*Cultivation / Drainage*	*Fertiliser application / Vegetation management*	*Temporary onsite storage of fertiliser, fuel, etc. associated with afforestation*
Public road setback	Mandatory for roadside conifer plots – see Section 3.5.3.	Exclude	Not required	Permitted	Exclude	Exclude	Permitted, subject to safeguards under Section 3.7.5.
Utilised building setback	Mandatory for setbacks from dwellings – see Section 3.5.3.	In relation to setbacks from dwellings, setback planting is encouraged within the 30 m to 60 m zone, if agreed to by the neighbouring dweller. See Section 3.5.4.	Not required	Permitted	Exclude	Permitted if required to establish setback planting, based on the following requirements: ➢ Fertiliser application limited to the manual application of an appropriate slow-release formulation into the planting pit. ➢ Regarding vegetation management, herbicide use is prohibited. Use non-herbicide methods instead, such as trampling, mulches and mats.	Permitted, subject to safeguards under Section 3.7.5. However, if within a setback from a dwelling, exclude the preparation and storage of herbicides (and other pesticides, if used).
Landscape setback	Encouraged – see Section 3.5.3.	Encouraged – see Section 3.5.4.	Not required	Permitted	Permitted, for setback planting.	Permitted, for setback planting.	Permitted, subject to safeguards under Section 3.7.5.

3.5.3 Forest edge planting

- Forest edge planting comprises the planting of single, small groups and irregular belts of native species (e.g. birch, rowan, oak and Scots pine, as site conditions allow) along the outer edge of conifer FT plots, typically those adjoining environmental setbacks.
- This measure enhances the landscape and biodiversity value of the forest edge.
- Forest edge planting is mandatory within conifer plots adjoining:
    - utilised building setbacks created for dwellings; and
    - public road setbacks, where the strip 10 metres to 20 metres from the road must be planted with broadleaf trees, to give a minimum two-thirds coverage within this strip.
- Forest edge planting is encouraged in relation to all other environmental setbacks, as site conditions allow – see Table 5.
- Where applied, forest edge planting must not encroach into the environmental setback itself, in order to maintain the necessary setback width. Forest edge planting forms part of the FT plot.
- Where applied as single trees, ensure that the tree is adequately protected against grazing, using a standard tree shelter or a deer guard, as necessary.
- Where applied as groups, adopt a robust planting design using trees with compatible growth rates, planted with necessary protection against grazing. Group size may vary from 5-10 trees to 50 trees and over, depending on landscape scale. In deer-prone areas, wider spacing and the use of deer guards may be appropriate – specify details on the Certified Species Map.

Forest edge planting, using deer shelters.

3.5.4 Environmental setback planting

- Environmental setback planting comprises the planting of single, small groups and irregular belts of native species (e.g. birch, rowan, oak and Scots pine, as site conditions allow) within

an environmental setback. As per Table 5, environmental setback planting can take place within water setbacks, utilised buildings setbacks and landscape setbacks.

- This measure enhances the environmental role of the setback itself, e.g. planting within a landscape setback will create better visual 'tie-in' between the surrounding landscape and the forest edge.
- Apply environmental setback planting as per Table 5 and as site conditions allow.
- Where applied as single trees, ensure that the tree is adequately protected against grazing, using a standard tree shelter or a deer guard, as necessary.
- Where applied as groups, adopt a robust planting design using trees with compatible growth rates, planted with necessary protection against grazing. Group size may vary from 5-10 trees to 50 trees and over, depending on landscape scale. In deer-prone areas, wider spacing and the use of deer guards may be appropriate – specify details on the Certified Species Map.
- Environmental setback planting should not exceed 20% of the area of the setback (see Table 5). Such planting increases the planted area of the overall project and reduces the ABE percentage calculated for payment purposes. Table 5 specifies which environmental setbacks this planting is allowed in, i.e. water setbacks, utilised buildings setbacks and landscape setbacks.
- Note, setback planting may be counter-productive within water and landscape setbacks likely to be important for deer management, as the trees may obstruct sight lines over time.
- The following applies specifically in relation to planting within water setbacks:
    - Strategic planting within water setbacks may help to deliver direct in-stream ecosystem services such as bank stabilisation, cooling / shading, and food drop into the aquatic ecosystem.
    - Pursue water setback planting only where agreed in advance with Inland Fisheries Ireland and (where relevant) NPWS.
    - Machine traffic is not allowed within water setbacks, with the exception of a single pass for fencing. Other inputs such as drainage, cultivation, fertiliser application and herbicide control are also to be excluded (with some limited exceptions, as set out in Table 5).
    - Limit to single or small groups (5-10 trees) of native riparian species (birch, willow, and occasional alder and pedunculate oak) at strategic points within the water setback.
    - Such trees should be pit-planted and protected from grazing, as necessary.

3.6 Treatment of future operational areas

Treat future operational areas (as described in Section 2.5.2) as follows, to enhance their landscape and biodiversity value:

- As per good practice, mark out these areas before operations commence (see Section 3.5.1).
- Based on the immediate topography, vary their width to avoid artificially straight lines and to create a naturally undulating forest edge.
- Consider forest edge planting (see Section 3.5.3).

3.7 Operational safeguards

Mandatory measures to protect the environment during operations are set out below. Conditions attached to the technical approval may also contain additional measures that must be adhered to. Also note Section 3.1 (regarding material changes post-approval) and Section 3.4 (regarding contingency planning).

3.7.1 Drainage and cultivation

A key requirement regarding drainage and cultivation is the protection of aquatic zones (streams, rivers and lakes) from any sediment and nutrients contained in water draining off the site, both during afforestation and throughout the remainder of the forest rotation.

As previously outlined, carefully assess the site and tailor any proposed drainage and cultivation to the conditions on-the-ground within each plot, keeping interventions to the minimum needed to ensure successful establishment. Where possible, select the species to the existing site conditions (including existing drainage, both natural and artificial, e.g. old field drains), as this may rule out the need for drainage. (The various FTs relating to native woodland creation utilise this approach, through the use of the Native Woodland Framework procedure.)

The following measures apply.

- Review Section 2.4.2 regarding key factors dictating selection and design.
- It is critical that water collected in drains flows slowly, both during afforestation and throughout the remainder of the rotation.
- Adhere to the overall cultivation plan approved for the project, and to the specifications set out in the *Forestry Standards Manual*.
- Select machinery based on soil, drainage and slope, to minimise the risk of rutting.
- In relation to water setbacks for aquatic zones and other water features (see Section 2.8):
    - Ensure that all new drains end in an appropriately-sized sediment trap positioned outside of the water setback. This will allow discharged water to seep through the water setback, enabling ground vegetation to filter out sediments and nutrients.
    - Do not carry out any drainage and cultivation within the water setback itself.
    - No machinery is to enter water setbacks, with the exception of a single pass to erect fencing, if required.
    - New drains must not enter into or traverse the water setback, or discharge directly into the aquatic zone or into an existing drain.
- In general, do not carry out any drainage or cultivation within any other environmental setback. See Table 5 for details.

Conventional mounding (left) and invert mounding for more sensitive sites (right).

- Regarding sediment traps:
  - The number, design and size of sediment traps must be sufficient to protect against the sedimentation of any receiving aquatic zone during afforestation and throughout the remainder of the forest rotation.
  - In order to capture sediment as close to the source as possible, sediment traps must be installed throughout the drainage network. The number of sediment traps installed must reflect the risk of sediment becoming mobilised.
  - Sediment traps are required at the end of all new drains leading to the water setback. These sediment traps must be located outside the water setback.
  - Sediment traps should be located on level ground (where possible) and should be rectangular in nature, with the longer side orientated parallel to the flow.
  - Sediment traps can represent a site hazard and may require specific health and safety measures such as fencing.
  - Monitor sediment traps throughout operations. If sediment traps are filling up, clear out the built-up sediment and deposit it on level ground several meters away.
- Stop all drainage and cultivation operations during periods of rainfall, in situations where rainfall level and site conditions create the risk of sediment becoming mobilised onsite. Operations can only recommence once an adequate period of time has elapsed for the risk to abate. This safeguard is triggered by tracking weather forecasts and by contingency planning.
- Where the drainage network and sediment traps are under pressure and signs of failure are evident, additional measures will be required, often in the form of additional sediment traps. In complex situations, the input of a hydrologist or an engineer may be required.

In-drain sediment trap (left) and a sediment trap adjoining a water setback (foreground) (right).

Additional safeguards include the following:

- Small dams positioned within drains and comprising timber, stone or staked geotexile, can be used to slow water flow and to encourage sediment deposition. These should have a 'V' shape in their centre, to control the overflow of water and to prevent the scouring out of the sides of the channel during flood events.
- It may be necessary to install large settling ponds into which site drains flow. These settling ponds must be appropriately sized (i.e. sufficient to contain flow from high rainfall events), strategically located within the main body of the plantation and away from aquatic zones, and properly maintained.
- Favour plots of more species-diverse Forest Types in areas adjoining water setbacks, where site conditions allow.
- Design the drainage network in a way that will eliminate or reduce water-related risks during operations later in the forest rotation, e.g. roading, thinning.
- Develop windfirm edges within the forest (e.g. using ridelines or retained hedgerows with habitat setbacks) to enable the future harvesting of smaller coupe sizes over staggered periods of time.

3.7.2 Fertiliser application

- A key consideration regarding fertiliser application during site works is to eliminate the risk of run-off into receiving waters. The following apply:
- Match fertiliser type and application rate to specific plots – aim to achieve successful establishment with the minimal level of fertiliser input possible. Do not apply fertiliser if it is not needed.
- Where available, granular formulations should be used to reduce the potential for drift and wash-off into receiving waters.

- Fertiliser application is not permitted within the water setback(*) or within 20 metres of the aquatic zone, whichever is greatest. Manual fertiliser application only is permitted from this point back to 50 metres from the aquatic zone.

  (* Apart from some limited exceptions – see Table 5.)
- Do not apply fertiliser if heavy rainfall is predicted, or during heavy rainfall and / or high winds. Following heavy rainfall, commence application only after the site has dried out sufficiently for runoff not to pose a risk.
- Apply fertiliser manually, where possible.
- Consider using alternative slow-release fertilisers in more sensitive parts of the site.

3.7.3 Vegetation management using herbicides and other methods

- Vegetation management during afforestation typically involves the use of herbicide. Regarding the use of pesticides, including herbicides:
- The use of pesticides is governed by the European Communities (Sustainable Use of Pesticides) Regulations 2012 (S.I.155/2012). Users of pesticides should familiarise themselves with these Regulations and adhere to them.
- Only a registered professional user can apply pesticides authorised for professional use. A professional user is any person who applies / sprays professional use products (regardless of the quantity or method of application), including operators, technicians, employees and self-employed people, both in the farming and other sectors.
- All users of pesticide products registered for professional use must follow the principles of Good Plant Protection Practice, available for download at PRCD - Guidance (agriculture.gov.ie)
- Appendix I to the above Good Plant Protection Practice document sets out general principles of integrated pest management, which all professional users are required to follow. Appendix II sets out other legal requirements relating to the safe use of plant protection products.
- Any pesticide to be used in forestry must be approved for use in Ireland. Details of approved products can be checked on the Pesticide Control Service section of the DAFM website (see www.pcs.agriculture.gov.ie).

Herbicide application within the forestry context must follow the principles of Good Plant Protection Practice.

A key consideration regarding herbicide application during site works is to eliminate the risk of runoff into receiving waters. The following apply:

- Aim to achieve successful establishment with the minimal level of herbicide input possible. Do not apply herbicides if they are not required.
- Do not apply herbicide if heavy rainfall is predicted, or during heavy rainfall and / or high winds. Following heavy rainfall, only recommence application after the site has dried out sufficiently for runoff not to pose a risk.
- Fully adhere to the manufacturer's instructions and also measures set out in the DAFM Forest Protection Guidelines and Guidelines for the Use of Herbicides in Forestry.
- Do not apply herbicides within the following areas, relying instead on non-herbicide methods such as trampling, mulches and mats:
    - within the water setback or within 20 metres of the aquatic zone, whichever is greatest;
    - within the water setback of a relevant watercourse or hotspot;
    - within specified distances from different types of water abstraction points, as prescribed by S.I.155/2012 – see Table 6;
    - within 15 metres of a landscape feature known to be a groundwater vulnerable area, including karst areas, sinkholes and collapse features; or
    - within a utilised building setback created for a dwelling.
- Herbicides are not permitted in sites within SACs without completing a risk assessment (this may form part of a NIS, where sought).

Table 6 Distances from different types of water abstraction points, within which pesticide (including herbicide) application is prohibited under Schedule 2 of S.I.155/2012.

Type of abstraction point	***Prohibited distance (metres)***
Abstraction point of any surface waters, borehole, spring or well used for the abstraction of water for human consumption in a water scheme supplying 1 m^3 or less of water per day or serving 10 or less persons	5 m
Abstraction point of any surface waters, borehole, spring or well used for the abstraction of water for human consumption in a water scheme supplying 1 - 10 m^3 of water per day or serving 10 - 50 persons	25 m
Abstraction point of any surface waters, borehole, spring or well used for the abstraction of water for human consumption in a water scheme supplying 10 m^3 or more of water per day or serving 50 - 500 persons	100 m
Abstraction point of any surface waters, borehole, spring or well used for the abstraction of water for human consumption in a water scheme supplying 100 m^3 or more of water per day or serving 500 or more persons	200 m

3.7.4 Other pesticide use

Other pesticides may be needed on rare occasions within the context of afforestation. In such cases, the above requirements regarding herbicides apply at a minimum, and more stringent measures may also be required. Regarding the risk of Pine Weevil outbreak (e.g. an afforestation site adjoining a recent conifer clearfell), any necessary dipping of planting stock must be carried out off-site in the forest nursery, with onsite application permitted only in response to an ongoing outbreak. Alternative control measures are encouraged, e.g. the use of larger planting stock.

3.7.5 Preparation, storage and use of potentially hazardous material

Spillage or leakage of fertilisers, herbicides (and other pesticides), fuel and machine oils can be highly damaging to the environment, especially water. The following apply regarding these materials:

- Minimise onsite storage and preparation.
- If unavoidable, store and prepare (if relevant) at a dry, elevated location at least 50 metres from any aquatic zone and at least 20 metres from all other water features (as listed in Table 1). This also applies to all machine refuelling, maintenance and repair work.
- Do not discharge any substance into an aquatic zone, relevant watercourse or hotspot, or into any drain or sediment trap.
- Do not rinse out containers onsite.
- Do not clean equipment within 50 metre of any aquatic zone or within 20 metres of any other water feature (as listed in Table 1). All wash waters must be disposed of carefully.
- Collect and retain spent machine oil for appropriate disposal off-site.
- Remove all empty fertiliser bags, pesticide and oil containers, and all general refuse, from the site during and after site works, for appropriate disposal off-site.

- Regarding pesticides (including herbicides), adhere to the principles of Good Plant Protection Practice (see Section 3.7.3) and to relevant sections of the *Forest Protection Guidelines* and *Guidelines for the Use of Herbicides in Forestry*.

3.8 Archaeological finds discovered during site works

Previously unidentified archaeological sites or artefacts may be exposed during the course of site work, particularly during cultivation and drainage. These include artefact scatters, objects such as pottery, flint and other stone artefacts, bronze or iron tools and quern stones, as well as burials and structural features such as the foundations of buried structures or trackways. For example, the presence of a spread of black soil or charcoal and burnt and heat-shattered stone is likely to indicate the presence of a levelled cooking place (i.e. a *fulacht fiadh*) or other human activity in the past.

If an archaeological find is discovered, the following applies:

- The Garda Síochána, the National Museum of Ireland or the National Monuments Service must be notified immediately.
- The archaeological object(s) or feature(s) must be left undisturbed. A minimum exclusion zone 20 metres in radius centred on its location, and preferably larger, must be immediately created until the site of the find has been investigated.
- Where an archaeological object is discovered other than by a qualified archaeologist operating under an excavation licence issued by the NMS, it must be reported in the same way as described in the Section 2.6.4.
- Where feasible, all operations should be switched to some other part of the afforestation site, as far away as practically possible, until the investigation is complete.

As outlined above, clear contingency planning must be in place covering the possibility whereby an unidentified archaeological site or object is discovered during site works.

3.9 Burning

Note that, under the Wildlife (Amendment) Act 2000, it is an offence to cut, grub, burn or otherwise destroy, during the period 1st March to the 31st August inclusive, any vegetation growing on any land not then cultivated.

Landowners wishing to carry out legally permitted prescribed burning must notify in writing all forest owners within one mile of the wood, and the local Garda station, between 7 and 35 days in advance of the burning operation. All burning operations should be notified to the Fire Service, via the control centre by telephoning 112/999 *before* burning commences. Landowners found burning illegally could face fines, imprisonment and Single Farm Payment penalties, where applicable.

Furthermore, under no circumstances should such material be burned on or near a known or suspected archaeological site or monument or other important built heritage structure or feature or within the archaeological setback / exclusion zone, as this could cause damage to the site, monument, structure or feature as well as to underlying archaeological deposits.

For further details, see the DAFM *Prescribed Burning: Code of Practice – Ireland* (https://www.gov.ie/en/publication/01773-fire-management/)

3.10 Form 2 submission

Where the project has received financial approval and the 1st grant instalment is being sought, the Registered Forester must walk the site within 2 months prior to submitting the relevant Form 2, and satisfy her- / himself that the plantation is compliant (inter alia) with all relevant measures set out in

these Requirements and with all environmental conditions attached to the technical approval issued. If not, rectify any outstanding issue(s) before submitting the Form 2.

As set out in the Forestry Standards Manual, a subsequent DAFM inspection may stipulate remedial works is cases where the plantation is not compliant.

Section 4: Ongoing Management

4.1 Overview

Stage 3: Ongoing Management spans the period from the completion of initial site works (and payment of the 1st grant instalment, if grant-aided) up to Year 15 (i.e. the end of the premium period, if applicable).

During this part of the forest rotation, there are generally no major site inputs required. However, basic environmental measures apply, in addition to any specific conditions attached to the original approval. Other silvicultural requirements also apply during the premium payment period, as set out in the Forestry Standards Manual (e.g. the maintenance of stocking levels, fence lines and fire breaks, fertiliser application) all of which must be carried out appropriately to prevent environmental impacts.

Key will be the ongoing monitoring of the site, to ensure compliance with silvicultural and environmental standards, requirements and conditions and also to check that potential threats to the environment do not emerge (particularly in relation to drains and sediment traps) and that various protective measures (principally setbacks) are functioning as intended.

4.2 Site inputs

Site inputs during Stage 3 are generally limited to the first 4 years up to submission of the Form 3 (if grant-aided). At this point, the forest should be fully established(*), with all plots having at least 90% of the original stocking spread evenly throughout the plot, with originally approved species represented proportionately, and with trees free from competing vegetation and free-growing (see the Forestry Standards Manual). Such inputs include herbicide application and possible fertiliser application, if nutrient deficiencies arise. Both inputs must adhere to measures set out in Sections 3.7.2 and 3.7.3 of these Requirements. (*Note, establishment may take longer on some sites.)

Regarding fertiliser application, assess exact requirements through a foliage analysis, following the procedures set out in the *Forestry Standards Manual*.

Ensure that any necessary filling-in prior to Form 3 submission reflects the diversity of the original planting, in relation to biodiversity and landscape.

4.3 Drains and sediment traps

Check drains and sediment traps regularly up to Year 4 and periodically thereafter, particularly during and after heavy rainfall, in order to assess how effectively they are working.

If sediment traps are filling up, clear out the built-up sediment and dispose of it on level ground several meters away. Where the drainage network and sediment traps are under pressure and signs of failure are evident, additional measures will be required, often in the form of additional sediment traps. In complex situations, the input of a hydrologist or an engineer may be required.

In most cases, drains will stabilise and ‘green-up’ with colonising vegetation over time.

4.4 Treatment of setbacks

As set out in Stage 1: Design and Stage 2: Site Works, the following setbacks, comprising (largely) unplanted and undisturbed open spaces of a defined width, are required to protect different environmental features and sensitivities:

- water setbacks
- retained habitat setbacks
- archaeological setbacks
- public road setbacks
- utilised building setbacks
- landscape setbacks

The treatment of these setbacks during Stage 3: Ongoing Management is as follows:

1. The intended protective function of these setbacks must be maintained throughout this stage of the forest's development. This generally entails leaving these areas undisturbed and allowing natural ground vegetation to develop. Management may be required in some cases, e.g. to control woody growth within a setback adjoining a dwelling, to retain an important view or to prevent fire risk.
2. Monitor the development of forest edge planting and environmental setback planting (where undertaken) and maintain trees as appropriate (e.g. vegetation management, replacement of mortalities, adjustment and eventual removal of tree shelters) until the trees are established and free of grazing pressure.
3. Adhere to the specifications set out in Table 5 regarding permitted operations within setbacks.
4. The type of natural vegetation that will emerge within the various setbacks will vary according to soil, elevation, aspect, grazing pressure, etc. On most sites, a mosaic of natural ground vegetation and pockets of woody growth will typically emerge throughout this stage.
5. Monitor and apply appropriate control to prevent the colonisation of setbacks by rhododendron and other exotic invasives. This requirement also applies to paths required in relation to 'designated' archaeological sites and monuments and 'designated' buildings and structures, to maintain access by archaeological officials.
6. The colonisation of the water setback with exotic invasives, in particular, Japanese knotweed, Himalayan balsam and rhododendron, is of significant concern regarding water quality. Where best practice involves herbicide use, consult with Inland Fisheries Ireland and other relevant bodies in advance. Controlling such species is difficult and expensive, and often requires a wider catchment approach for progress to be sustained.

Note, points 2 and 5 above also apply to the treatment of future operational areas (see Section 2.9) during this stage of the rotation.

A well-established water setback adjoining a broadleaf plot.

Appendix A
High Nature Value Farmland

Introduction

There are three types of High Nature Value farmland (HNVf), as defined by Andersen et al. (2003).

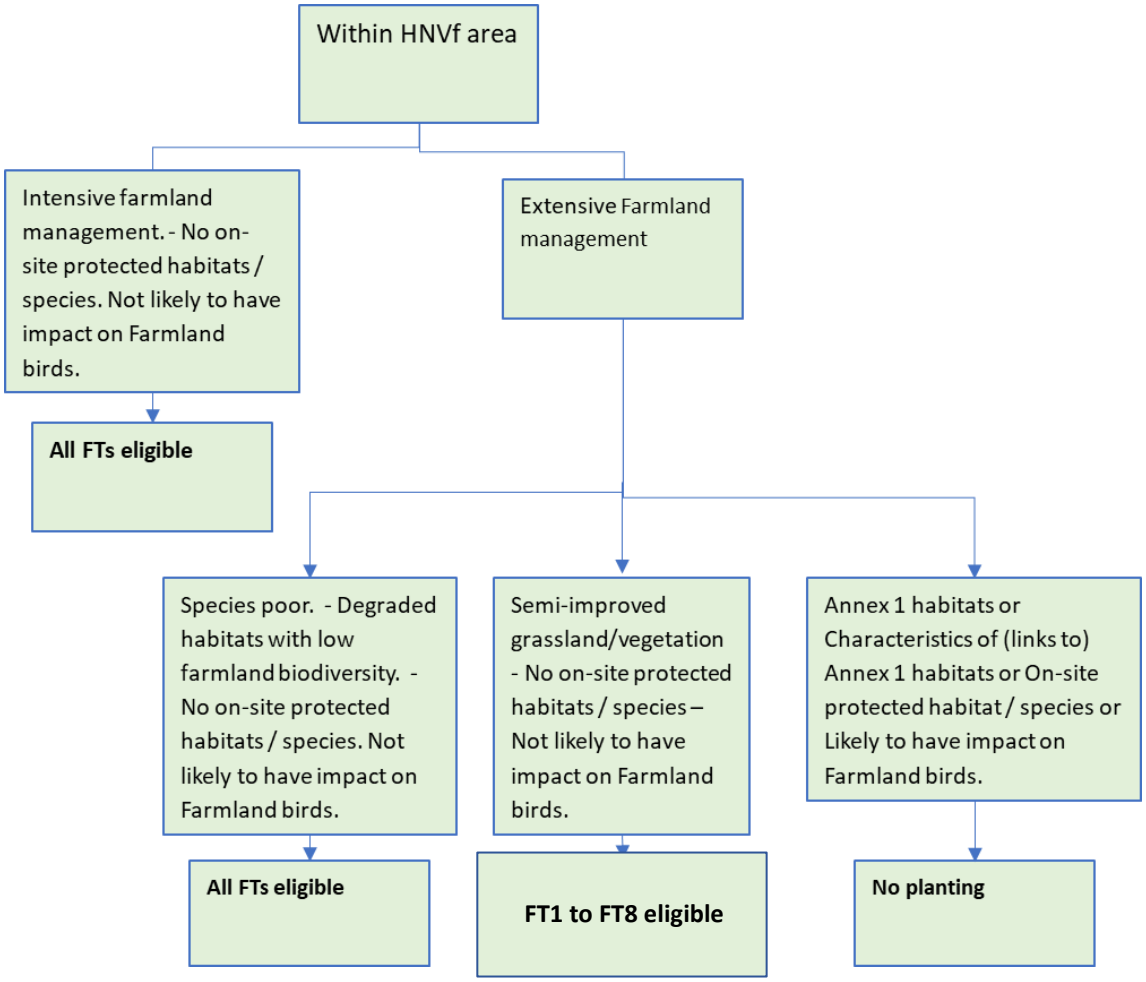
- Type 1: Farmland with a high proportion of semi-natural vegetation.
- Type 2: Farmland dominated by low intensity agriculture or a mosaic of semi-natural and cultivated land and small-scale features.
- Type 3: Farmland supporting rare species or a high proportion of European or world populations.

Matin *et al.* (2020) provides an indicative map of HNVf in Ireland. Area identified as having a value of 0.5 SD HNVf is now incorporated into iNET and iFORIS. Where applications overlap with the HNV farmland layer, the Applicant is required to provide additional information.

Based on consideration of evidence of the presence of HNV farmland and other relevant information, decisions on afforestation projects will avoid significant negative effects on HNV farmland and its associated biodiversity, and the ecosystem services it provides. These include cumulative negative effects at the landscape level.

Assessment of HNVf

The following flowchart sets out the rationale to be applied, in relation to HNV farmland and afforestation.



Where the application lies within a High Nature Value Farmland likelihood area (an area which has a score of equal to or greater than 0.5 SD as per the HNVf map compiled by Matin *et al.*), further information is required, as outlined under (i) to (iv) below:

i. Habitat survey classification according to Fossitt (2000), to include information on those parts of the project area containing Annex 1 habitats or habitat with characteristics of (or 'links to') Annex I habitats, and / or areas of semi-improved grassland, species-poor areas, etc. (Where the site supports rare / protected plant species, or rare / protected animal species, an appropriate survey is required).
ii. Species survey, as per the R+N methodology and scoring. (Note: This is not required for intensive farmland).
iii. A report where there is an overlap with the National Semi-Natural Grasslands layer.
iv. A report where the site overlaps a Birdwatch Ireland Farmland Bird Hotspot map.

Impact on Farmland Birds

If the project area overlaps the Farmland Bird layer(*), an assessment must be made regarding the suitability of the habitat for the particular species of concern. If the habitat is suitable for one or more of the listed species of concern(**), then an ornithology report must be submitted. Where this report confirms that the afforestation will not have a significant impact on the species, and where DAFM accepts this assessment, the application can proceed.

* Figure 7 of 'Farmland Bird Hotspot Mapping – Phase 2 – Project Report', Kennedy *et al.* (2022).

** Table 1 of 'Farmland Bird Hotspot Mapping – Phase 2 – Project Report', Kennedy *et al.* (2022).

Determination of the Forest Type for afforestation

- **All FTs eligible:** All FTs are eligible where the project area is under intensive farmland, where there are no onsite protected habitats / species, and where the proposed afforestation is not likely to have an impact on farmland birds. All FTs will also be eligible in extensive farmland areas that are deemed to be species-poor, with degraded habitats with low farmland biodiversity, which do not have on-site protected habitats / species, and where the project is not likely to impact farmland birds, as determined above.
- **FT1 to FT8 eligible:** FT1 to FT8 will be eligible in areas where there is semi-improved grassland/vegetation present, where there are no on-site protected habitats / species, and where the project is not likely to impact farmland birds, as determined above.
- **No Planting:** No planting will be permitted where there are Annex 1 habitats, areas with characteristics of (links to) Annex 1 habitats, or where there are onsite protected habitats / species, or where the project is likely to impact farmland birds, as determined above.

Definitions

Extensive farmland management: Typified by no ploughing, little to no re-seeding, little to no fertilisation, low stocking densities, low to no chemical use, maintenance of field boundaries and it may or may not be drained. Can appear species-poor at times, e.g. following cutting for silage, but is likely to recover. Where this is suspected, checking the edges and verges can reveal / indicate species richness. May fall under the category of High Nature Value Farmland and may contain areas of Annex I quality habitats.

Intensive farmland management: Improved grasslands, hedgerows may or may not be present, drainage channels are likely to be maintained regularly, fertiliser is likely to regularly be applied. Intensive agriculture can involve ploughing, re-seeding, fertilising, high stocking rates, use of biocides and field boundary removal. Semi-natural habitats are unlikely to be present or if present may be in more inaccessible locations. More likely to be species poor.

Species poor: Habitat dominated by one or a few species (often perennial ryegrass *Lolium perenne*), may include white clover, docks, thistles, nettles and/or other individually resilient species. Frequently found in areas managed for amenity value or on intensively managed farmland. Unlikely to significantly contribute any ecosystem services or provide significant value to biodiversity in general. Species poor habitats can grade into species rich habitats where land management practices change.

Figure 1 HNVf Map (Matin *et al.*, 2020).

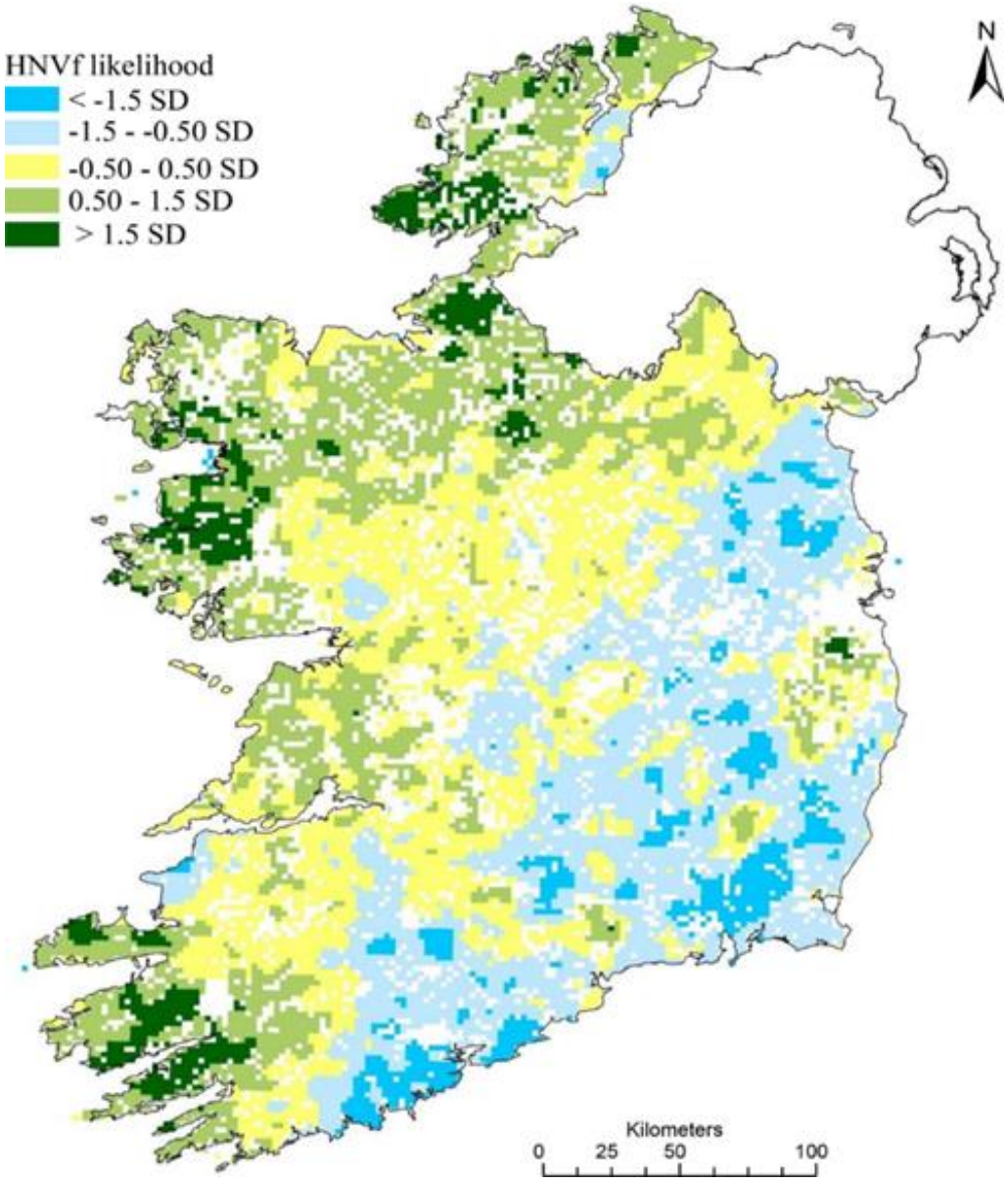


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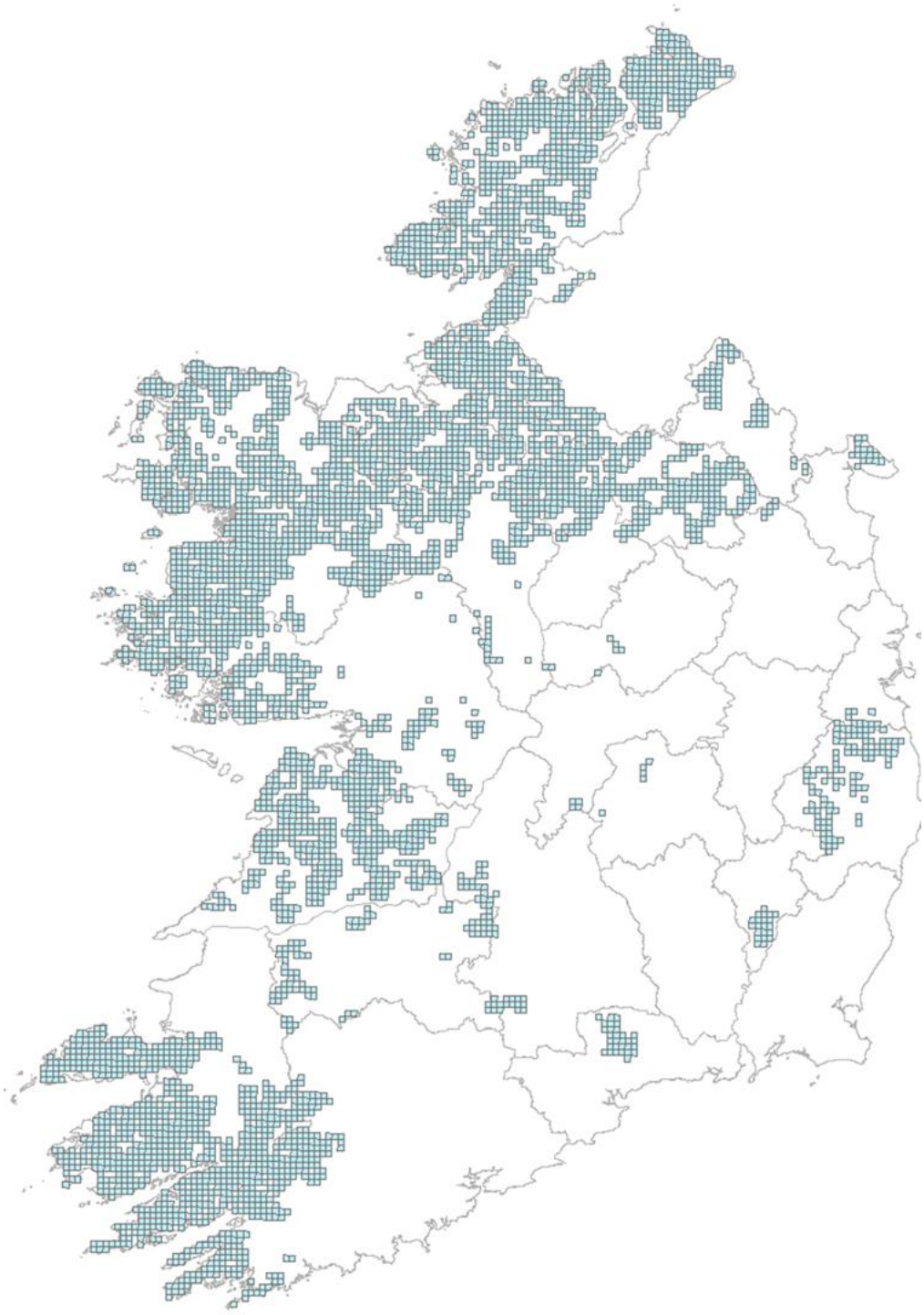
Figure 2 The HNVf Map, as it appears in INET and IFORIS.



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Appendix B

Environmental Considerations – Guidance for Registered Foresters

The following appendix lists (in the left hand column) the various questions in the Environmental Considerations section of iNET, and gives guidance (in the right hand column) in relation to the questions asked and the necessary responses based on the answers to those questions. The Environmental Considerations are structured according to a range of sensitivities upon which, inappropriate afforestation may impact.

The purpose of the Environmental Considerations section is to fully align the assessment process with the environmental legislation, in particular Schedule 1 of S.I. No. 191 2017 (which transposes Annex IIA of the EIA Directive), and with the State Aid conditions underpinning the new Forestry Programme. They also serve to structure the various checks Registered Foresters are required to undertake in relation to these key sensitivities. Many of these checks involve the Registered Forester consulting various GIS layers on iNET, and adding this to knowledge gained from his / her assessment of the proposed project area. A minority of checks involve necessitate scrutiny of information outside of iFORIS (e.g. relevant County Development Plans). The guidance also stipulates various reports to be carried out, depending on (in most cases) overlap with the sensitivity involved (e.g. SAC, the known presence of protected bird species within the surrounding 10 km x 10 km grid). These reports are in addition to required mapping (including the Biodiversity Map and the Habitat Map), and are to be compiled by an individual who can demonstrate expertise by qualification(s) and competence in relation to the nature of the sensitivity involved.

Please note, this appendix is a working document, and further updated versions will issue, to improve on the guidance. Therefore, DAFM welcomes all feedback and will consider any amendments proposed by Applicants, Registered Foresters, Professional Ecologists, and by other relevant parties.

1.	**INELIGIBLE PROJECTS**	
1.1	Is project area wholly within a Curlew breeding buffer?	Under the Forestry Programme 2023-2027, and in keeping with State Aid conditions, DAFM policy is that afforestation within 1.5 km from a Curlew breeding site is not appropriate. This restriction is in light of the rapid decline of native breeding, and intended to prevent direct disturbance and to ensure that new forests do not provide habitat for predators, close to the breeding site. NPWS provides DAFM with information on curlew breeding sites. Due to its sensitive nature, this information, together with the 1.5 km buffer, is kept confidential. iNET undertakes a spatial check and if the entire project area lies within a 1.5 km curlew breeding buffer, this is indicated. In such cases, the project area is not eligible for afforestation.
1.2	Is the project area wholly within a SPA?	Under the Forestry Programme 2023-2027, and in keeping with State Aid conditions, DAFM policy is that afforestation within a Special Protection Area (SPA) is not appropriate. Consult the SPA layer on iNET. If the project area is wholly within a SPA, it is not eligible for afforestation.
1.3	Is the project area wholly within one of the top eight Freshwater Pearl Mussel catchments?	Under the Forestry Programme 2023-2027, and in keeping with State Aid conditions, afforestation will not be permitted in any of the top 8 freshwater pearl mussel catchments, due to concerns regarding evapotranspiration and impact on hydrology.. Consult the 'FPM Top Eight Catchments' layer on iNET. If the project area is wholly within one of these catchments, it is not eligible for afforestation.
1.4	Is the R+N score for the entire site less than 6.0?	Under the Forestry Programme 2023-2027, and in keeping with State Aid conditions, DAFM policy is that afforestation on sites with an R+N score of less than 6 is not approriate. R+N score is a measure of site fertility, based on plant species present on site. Full details regarding the R+N score and the methodology for assessing it are set out in DAFM's Land Types for Afforestation document. If the entire project area proposed for afforestation has an R+N score less than 6.0, it is not eligible for afforestation.

2.	SIZE OF THE PROJECT AREA	
2.1	Is the project area 50 hectares (ha) or greater?	If 'yes', an Environmental Impact Assessment Report (EIA Report) must accompanied the application. As stipulated in S.I. No. 191 of 2017, as amended, an EIA Report must be submitted with any application, where the project area is 50 ha or greater. Schedule 4 of S.I. No. 191 of 2017 sets out the information to be provided by the Applicant in the EIA Report. Additional information may also be requested by DAFM. DAFM undertakes the EIA in accordance with the EIA Directive (as amended) and transposing legislation, taking into account the submitted EIA Report, other information submitted by the Applicant, and/or reports and advice prepared by DAFM specialists.

3.	SOIL AND WETLANDS	
3.1	Do all parts of the site meet the R+N score of 6.0 or greater?	If part(s) of the site has a R+N score of less than 6, the area involved must be excluded from the application. See DAFM's Land Types for Afforestation document for full details.
3.2	Does all of the project area contain the following eligible soil types, either individually or in combination with each other?: • mineral soil • organo-mineral soil with a peat depth of less than or equal to 30 cm • modified fen or modified cutaway raised bog that meets the requirements of the Native Woodland Type and is possible to progress without drainage	Undertake an onsite soil survey and consult available soil data (including available layers on iNET) to identify the soil type(s) on site. Also see DAFM's Land Types for Afforestation (Section 2) and associated appendix for further details regarding the eligible soil types listed opposite, and the methodology for identifying the second two categories, in particular. If 'no', then either (i) or (ii) applies: (i) If all of the site comprises soils other than those listed, the site is considered unsuitable for afforestation. (ii) If parts of the site comprise soils other than those listed, exclude these areas from the application, and continue on and respond to Qus. 3.2.1, 3.2.2 and 3.2.3, to indicate which of the eligible soil types are present.

		If 'yes', i.e. all of the site comprises one, two or all three of the soil types listed, respond to Qus. 3.2.1, 3.2.2 and 3.2.3, to indicate which of the eligible soil types are present.
3.2.1	Does the project area contain mineral soil?	If so, tick 'yes'.
3.2.2	Does the project area contain organo-mineral soil with a peat depth of less than or equal to 30 cm?	If so, tick 'yes'.
3.2.3	Does the project area contain modified fen or modified cutaway raised bog that meets the requirements of the Native Woodland Type and possible to progress without drainage?	If so, tick 'yes'. Note: The area(s) identified as meeting this soil type and associated requirement regarding native woodland FTs and nil drainage, must be earmarked for one (or more) of the native woodland FTs. Furthermore, during site development for afforestation, additional drainage (i.e. the mechanical cultivation (soil disturbance) of the soil to lower the water table) must not take place in this area(s). The purpose of restriction is to limit soil disturbance/oxidation, which leads to a loss of carbon.
3.3	Does the project contain wetland habitats listed in the Irish Wetland Types – An Identification Guide and Field Survey Manual (Irish Ramsar Wetlands Committee, 2018)?	A PDF version of the cited document is available at: RESOURCES - IRWC Outputs - Irish Ramsar Wetlands Committee (irishwetlands.ie) Note: Section 4 of the cited document gives visual examples of wetlands in landscape settings and lists the corresponding Fossitt habitats to each of the 'Ramsar' wetland habitats. If the site contains a listed wetland habitat(s), the area involved must not be planted - see ABE rules regarding eligibility for inclusion as an ABE.
3.4	Does the project contain an area-listed in the Wetland Survey of Ireland?	Consult the 'Irish Wetlands' layer on iNET. If the site contains an area included in the Wetland Survey of Ireland, the application must be accompanied by a report giving details of the overlap and setting out justification for this project to proceed in light of this sensitivity, and any relevant mitigation included. For further details, see www.wetlandsurveys.ie

4.	WATER	
4.1	Is the project area within an area designated as being potentially acid sensitive in relation to surface waters?	DAFM operates a protocol developed with the EPA and COFORD and designed to protect surface waters from acidification in areas of the country characterised by geology with a limited buffering capacity. This protocol involves water sampling and subsequent analysis – full details are set out as an appendix in the Forestry Standards Manual. Note: water sampling is not required where the proposed afforestation project comprises native woodland and / or agro-forestry only. Consult the relevant layer on iNET. If the project area is within an acid sensitive area, follow the procedures set out in the Forestry Standards Manual regarding water sampling and analysis, and submit results. If Yes and the project comprises native woodland and / or agroforestry only, (in which case, sampling is not required), state this for clarity.
4.2	Is the project area greater than 5 ha and wholly or partially within an area identified as being sensitive for fisheries?	DAFM operates a protocol whereby afforestation applications in areas deemed by Inland Fisheries Ireland as being sensitive. See Forestry Standards Manual appendices for details. As set out, referral to IFI takes place in defined situations (as reflected by the questions) and responses received are considered by DAFM as part of its assessment of the project. . Consult the relevant layer on iNET and respond to both questions accordingly.
4.3	Is the project area greater than 40 ha and wholly outside of those areas identified as being sensitive to fisheries?	
4.4	Is the project area greater than 10 hectares and within a catchment area of Local Authority designated water scheme?	If the project is 10 ha or more (digitised area), consult the Irish Water and NFGWS* spatial data layers on iNET. If overlap occurs, tick 'yes'. A 'yes' response triggers a referral to the relevant Local Authority. (* National Federation of Group water Schemes)
4.5	Is the project area within a Zone of Contribution, Source Protection Area or 250 m buffer for a drinking water abstraction point?	Consult the relevant layers on iNET (i.e. Ground Water Abstraction Catchments, Group Water Abstraction Points 250m Buffer, and Group Water Zone of Contribution) and tick 'yes' if overlap occurs. A 'yes' response triggers a referral to the relevant Local Authority.

4.6	Is the project area within the subbasin of a High Status Objective Waterbody?	The remainder of this section relates to the Water Framework Directive and specifically, to the current National River Basin Management Plan. The responses to these questions will indicate the sensitivity of relevant river and lake waterbodies, including waterbodies with a high status objective waterbodies, those at risk of decline, and those where forestry is listed as a pressure (either alone or together with other land uses) (as assessed by the EPA as part of its national characterisation of waterbodies, a process that feeds into the development of the current RBMP.) Of particular note is the 'High Status Objective Waterbody' layer. If the project area overlaps with the subbasin of such a waterbody, additional requirements apply regarding the water setback, as detailed in Table 4 of the Environmental Requirements for Afforestation. Consult the relevant layers on iNET and respond to each question individually.
4.7	Is the project area in the subbasin of a waterbody where forestry is characterised as a pressure by the EPA (alone or alongside other pressures)?	See the following layers on iNET: 'River Waterbody Forestry Pressure' 'Lake Waterbody Forestry Pressure' 'Ground Waterbody Forestry Pressure'
4.8	Is the project area within or immediately upstream of the subbasin of a River Waterbody deemed 'At Risk' or subject to Review under the relevant River Basin Management Plan?	See the 'At Risk/Review River Waterbodies' layer on iNET.
4.9	Is the project area within or immediately upstream of the subbasin of a River Waterbody, the status of which has been classed as 'Bad' or 'Moderate' under the current River Basin Management Plan?	See the 'River Waterbody Ecological Status Bad/Moderate' layer.
4.10	Is the project area within or immediately upstream of the subbasin of a Lake Waterbody deemed 'At Risk' or subject to Review under the relevant River Basin Management Plan?	See the 'At Risk/Review Lake Waterbodies' layer.

4.11	Is the project area within or immediately upstream of the subbasin of a Lake Waterbody, the status of which has been classed as 'Bad' to 'Moderate' under the relevant River Basin Management Plan?	See the 'Lake Waterbody Ecological Status Bad/Moderate' layer.

5.	**BIRDS & SPECIAL PROTECTION AREAS (SPAs)**	
5.1	Is the project area partially within a SPA?	Check iNET to see if the project partially overlaps with a Special Protection Area (SPA), a European Site designated under the Birds Directive and Habitats Directive for the protection of certain species of birds (or 'Special Conservation Interests'). If overlap occurs, the area within the SPA must be excluded from the application. Revise the project to exclude the area involved.
5.2	Is project area partially within a Curlew breeding buffer?	DAFM policy is that afforestation within 1.5 km from a curlew breeding site is not appropriate. See Q1.1 for details. Due to the confidential nature of this dataset, this question is answered spatially by iNET. Where overlap occurs, the following text will appear: "Project area is partially within the 1.5 km Curlew breeding buffer." Revise the project to exclude the area involved. Contact with DAFM may be necessary to acquire an indication of the extent and nature of the overlap.
5.3	Is the project area wholly or partially within the foraging range of a Special Conservation Interest of a SPA, as per the Bird Foraging Table?	Measure the distance from the nearest point of the SPA and the point of the project furthest away from that SPA. Then, identify the Special Conservation Interests for that SPA in question (as detailed on the NPWS website – see webpage for the SPA). Having identified the SPAs involved, consult the relevant entries in the Birds Foraging Table to see if overlap occurs. ➢ If overlap occurs and the site of the proposed project includes suitable foraging habitat for that SCI(s), a report is required detailing justification as to why it should proceed, in light of this sensitivity.

		➢ If overlap occurs and the site does not include suitable foraging habitat for the SCI(s) involve, a report is required clearly stating this and setting out the supporting rationale.
5.4	Is the project area wholly or partially within the BirdWatch Ireland (BWI) Breeding Wader Hotspot map?	Procedures are in place under the Forestry Programme 2023-2027, to ensure that afforestation does not impact on particular breeding that are of conservation concern (or 'Red listed'). The species involved are Dunlin, Lapwing, Golden Plover, Snipe or Redshank (with Curlew addressed specifically by the 1.5 buffer). Consult the 'BWI Breeding Wader Hotspots' on iNET to see if overlap occurs, and to what extent. If overlap with part(s) of the site occurs, continue to Q5.4.1.
5.4.1	Does the project area contain suitable habitat for Dunlin, Lapwing, Golden Plover, Snipe or Redshank? (Identify by overlaying BWI hotspot maps for individual species).	Consult the relevant layers on iNET, i.e. '10 km Grid – Dunlin', '10 km Grid - Golden Plover', etc. to establish which of the species involved is known to occur within the 10 km x 10 km grid containing the project area. (Note: Two or more species may be involved.) Then, assess whether the site contains suitable habitat for that species. If 'yes', an ornithological report is required, setting out justification for this project to proceed in light of this sensitivity, and any associated mitigation. If 'no', a report is required, giving details as to how this assessment was arrived at.
5.5	Is the project area wholly or partially within a section of any Hen Harrier High Likelihood Nesting Area (HLNA) that extends outside of a SPA designated for breeding Hen Harriers?	Due to the confidential nature of this dataset, this question is answered spatially by iNET. Where overlap occurs, the following text will appear: "Project area is wholly or partially within a section of a Hen Harrier High Likelihood Nesting Area (HLNA) that extends outside of a SPA designated for breeding Hen Harriers." The Hen Harrier HLNA layer is confidential (for species protection purposes) and is based on a dataset collated and supplied by NPWS from various sources. Afforestation within this area may lead to the disturbance of breeding birds and may impact available foraging habitat for breeding birds. If overlap occurs, the application must be accompanied by a report, setting out justification for the project to proceed (including any mitigation proposed in response to this sensitivity). Contact with DAFM may be necessary to acquire an indication of the extent and nature of the overlap.

5.6	Is the project area wholly or partially within the Current Distribution and Breeding Distribution for Hen Harrier, as recorded in the current NPWS Article 12 Report?	The Article 12 report and data, published by NPWS as a requirement under the Birds Directive, details information regarding the distribution of certain protected bird species outside of SPAs. Included are regionally important areas for Hen Harrier, and if overlap occurs, DAFM will have to consider the potential impact of the afforestation project on known breeding sites and available foraging habitat. Consult the 'Hen Harrier Breeding Distribution' layer on iNET. If overlap occurs, answer 'yes', the application must be accompanied by a report providing relevant details (see NPWS's Article 12 webpage and linked information) and setting out justification for the project to proceed (including any mitigation proposed in response to this sensitivity).

6.	**OTHER AREAS DESIGNATED FOR NATURE CONSERVATION** Note, SPAs dealt with under Section 5: Birds.	
6.1	Is the project area partially or wholly within a SAC?	Check iNET to see if the project overlaps with a Special Area of Conservation (SAC), designated under the Habitats Directive and transposing legislation to protect certain habitats ('Annex 1 habitats') and species ('Annex 2 species'). If overlap occurs, application must be accompanied by a Natura Impact Statement (NIS), which will be considered by DAFM as it undertake an appropriate assessment. See Appendix of the Forestry Standards Manual for information on NISs and a NIS framework document, which must be adhered to when compiling the NIS. Note, referral to NPWS also takes place where overlap occurs, and DAFM considers any response received as part of its assessment of the application.
6.2	Is the project area partially or wholly within a NHA?	Under Regulation 19 of the Wildlife (amendment) Act 2000 certain works within National Heritage Areas (NHAs) require the permission of the Minister for Housing, Local Government, and Heritage. Check the NHA layer on iNET. If overlap occurs, consult the relevant NPWS webpage for the NHA in question and download and submit a Notifiable Action Form to NPWS.

		Once a completed Notifiable Action Form is received from NPWS, this form must be submitted with the application, alongside a report setting out justification for this project to proceed in light of this sensitivity, and any relevant mitigation included. Note, referral to NPWS also takes place where overlap occurs, and DAFM considers any response received as part of its assessment of the application.
6.3	Is the project area partially or wholly within a proposed NHA, a Nature Reserve, or a National Park?	Check each of these layers on iNET. If overlap occurs, consult the relevant NPWS webpages detailing the designated area, and submit a report setting out justification for this project to proceed in light of this sensitivity, and any relevant mitigation included. Note, referral to NPWS also takes place where overlap occurs, and DAFM considers any response received as part of its assessment of the application.

7.	**FRESHWATER PEARL MUSSEL (FPM)**	
7.1	Is the project area partially within one of the top eight FPM catchments?	Afforestation within any of the top 8 FPM catchments is not permitted, due to concerns regarding impacts of evapotranspiration on hydrology, and subsequent detrimental impacts on FPM. Check the 'FPM Top Eight Catchments' layer on iNET to see if overlap with any of the top 8 FPM catchments occurs. If so, area within the catchment must be excluded from the application.
7.2	Is the project area partially or wholly within the catchment of any of the other 19 SACs designed for FPM?	Consult iNET and tick 'Yes' or 'No', as appropriate.
7.3	Is the project area within the 6 km zone associated with any of the other 19 SACs designated for FPM?	Consult the FPM 6 km Zone layer on iNET. If overlap occurs, submit a completed Form A and Form B with the application – see Site Assessment and Mitigation Measures, pages 40 & 41 of the Forestry & FPM Requirements (DAFM 2008).
7.3.1	Based on the criteria set out in the Forestry & FPM Requirements, are completed Forms A and B required?	

8.	HIGH NATURE VALUE FARMLAND (HNVf)	
8.1	Is the project area within a HNVf area with a score of 0.5 SD or greater?	For details on HNV farmland, see Martin *et al.* (2020). Consult the High Nature Value Farmland layer on iNET. If overlap occurs, continue to Q8.2. Otherwise, continue to Section 9.
8.2	Does the project area wholly comprise intensively-managed farmland?	If the site wholly comprises intensively managed farmland, and assuming (i) no overlap with the Semi-Natural Grasslands layer, (ii) no links to Annex I habitats and (iii) no overlap with BirdWatch Ireland's Farmland Birds Hotspot map, the application must be accompanied by a report supporting this assessment. Then, continue to Section 10. **However,** if any of the above three sensitivities arise, the project area must be regarded as extensively managed farmland. In such cases, proceed to Qu8.3, answer 'yes' and continue as directed.
8.3	Does the project area include any extensively managed farmland?	If the site contains any extensively managed farmland, DAFM requires information regarding the habitats onsite. Therefore, undertake a habitat survey (using Level 3 habitat classification in Fossitt's Guide to habitats in Ireland), and a species survey, following the methodology for R+N scoring in the Land Types for Afforestation document. Assess whether the site is species-rich or species-poor. The results of both must then be submitted to DAFM in a report with the application. Also respond to the follow-on questions in this section regarding the Irish Semi-Natural Grasslands Survey layer, Annex 1 habitats and farmland birds.
8.3.1	Does the project area overlap with the Irish Semi-Natural Grasslands Survey layer?	Consult the 'Irish Semi-Natural Grasslands Survey 2007-2012' layer on iNET. If overlap occurs, the application must be accompanied by a report setting out justification for this project to proceed in light of this sensitivity, and any relevant mitigation included.
8.3.2	Does the project area contain an area(s) having the characteristics of an Annex I habitat(s)?	Of the 230 habitats listed under Annex 1 of the Habitats Directive, only 59 occur in Ireland. Furthermore, only a small number of these are likely to overlap with the types of sites considered for afforestation, especially in light of the new requirements regarding soil type and fertility, as set out in the current Land Types for Afforestation document. Fossitt's A Guide to Habitats in Ireland includes possible links between the habitats classified and Annex 1 habitats.

		If Annex 1 habitat is present on the site, it must not be planted. Consult ABE rules to see if it is eligible for inclusion in the project perimeter and an Area of Biodiversity Enhancement.
8.3.3	Does the project areas overlap with the BirdWatch Ireland Farmland Birds Hotspot map?	Consult the 'BWI Farmland Bird Hotspots ' layer on iNET. If overlap occurs, investigate to identify the recorded species within the 10 km x 10 km grid containing the project area, and continue to Q8.3.3.1.
8.3.3.1	Does the project contain suitable habitat for the particular species of concern?	Assess if the site contains suitable habitat for the farmland species identified. If 'no', submit a report supporting this assessment. If 'yes', a report is required, setting out justification for this project to proceed in light of this sensitivity, and any associated mitigation.

9.	**OTHER HABITATS (Complete this section only if Qu.8.1 is 'NO').** **Note:** This section is only completed if the project area is <u>not</u> within a HNVf area with a score of 0.5 SD or greater.	
9.1	Does the project area overlap with the Irish Semi-Natural Grasslands Survey layer?	Semi-natural grasslands are important biodiversity reservoirs and perform a range of ecosystem services. The ISGS took place between 2007 and 2012 and surveyed a 1,192 grassland sites covering 23,1881.1ha of land. Consult the 'Irish Semi-Natural Grasslands Survey 2007-2012' layer on iNET. If overlap occurs, submit a report setting out justification for the project to proceed, and any associated mitigation.
9.2	Does the project area contain Annex I habitat(s)?	There are 59 Annex 1 habitats in Ireland, listed under Annex 1 of the Habitats Directive. However, only a small number of these are likely to overlap with the types of sites considered for afforestation, especially in light of the new requirements regarding soil type and fertility, as set out in the current Land Types for Afforestation document. Fossitt's A Guide to Habitats in Ireland includes possible links between the habitats classified and Annex 1 habitats. If Annex 1 habitat is present on the site, it must not be planted. Consult ABE rules to see if it is eligible for including in the project perimeter and an Area of Biodiversity Enhancement.

10.	**ARCHAEOLOGY AND BUILT HERITAGE** **Note:** Any overlap will result in a necessary referral to the Archaeology and Built Heritage Section within the Forestry Inspectorate, and onward referral to the National Monuments Service where statutorily required or considered warranted.	
10.1	Does the project area contain or adjoin a listed archaeological site or monument?	Consult the relevant NMS Monuments layers on iNET.
10.2	Does the project area contain or adjoin a listed archaeological site or monument with intensive public usage, e.g. a National Monument in State or Local Authority Ownership, in Guardianship or with a Preservation Order, or an abbey, church, graveyard or children's burial ground?	These are sites and monuments where there is likely to be a regular pattern of either local or tourist visits. These can include National Monuments, a monument near a 'Way-Marked Way' walking route or other walking route such as the 'Pilgrims Path series', a monument on a local tourist map or with important local religious or cultural significance and where there is regular or seasonal attendance. National Monuments in State or Local Authority Ownership or Guardianship or with a Preservation Order, which are usually distinguished on the ground by a small concrete pillar or plaque on the wall with a Fógra or Notice on it. Many National Monuments vested in 40s, 50s, and 60s will have a traditional 'green and white' signpost or a more recently erected 'brown and white' Local Authority signpost. Most National Monument are high visibility upstanding Prehistoric monuments such as megalithic tombs and stone circles or Early Christian and Medieval structures and sites such as Castles, Abbeys, Churches, or monastic burial grounds and enclosures. Many National Monuments are included in popular tourist guidebooks such as Harbison's Guide to the National and Historic Monuments of Ireland.
10.3	Is the project area adjacent, i.e. within 200 m of, a listed archaeological site or monument?	Consult the relevant NMS Monuments layers on iNET.
10.4	Is the project area within or adjoining an Archaeological Area, a Zone of Archaeological Amenity, a World Heritage Site, a site on the Tentative List of World Heritage Sites, or a historic battlefield?	An 'Archaeological Area' means an area listed as such in the Register of Historic Monuments (RHM) under the National Monuments (Amendments) Act 1987. Consult the relevant NMS Monuments layers on iNET, as all such areas are captured in the NMS Monuments 2007 layer. A 'Zone of Archaeological Amenity' or 'Zone of Archaeological Potential' is an area that has been identified by the National Monuments Service as being important for the protection and preservation of an archaeological site or monument or group or related archaeological sites or monuments as well

		as the integrity of their setting or settings. The list is issued on a non-statutory basis to the various Local Authorities, which in turn incorporate them into their respective County Development Plan. Pending the preparation of a national spatial dataset, the relevant County Council Development Plan will need to be consulted in relation to both Architectural Conservation Areas (ACAs) and Protected Structures for certainty. A 'World Heritage Site' means a site inscribed on the World Heritage List under the UNESCO World Heritage Convention. A 'Tentative World Heritage Site' means a site the State considers demonstrates potential Outstanding Universal Value to humanity and is suitable for nomination to the World Heritage List. Details of the 'World Heritage Sites' and 'Tentative World Heritage Sites' in Ireland can be obtained here: Tentative Property Archives - World Heritage Ireland There are two main sources of information for battlefield locations: (i) battlefields listed by the National Monuments Service in its SMR database and its Historic Environment Viewer (HEV); and (ii) battlefields depicted on the OSI 1:50,000 scale Discovery Map. Consult the relevant NMS Monuments layers and OSI 1:50,000 scale Discovery Map on iNET.
10.5	Does the project area contain or adjoin a Protected Structure or a building or structure in the National Inventory of Architectural Heritage?	Consult the relevant National Inventory of Architectural Heritage (NIAH) layer on iNET. There is a considerable coincidence between buildings and structures listed in the NIAH and Protected Structures in the relevant County Council Development Plan. However, pending the preparation of a national RPS and rural ACA spatial dataset, the relevant County Council Development Plan will need to be consulted in relation to both Architectural Conservation Areas and Records of Protected Structures for certainty.
10.6	Is the project area within or adjoining a rural Architectural Conservation Area?	As with Protected Structures, pending the preparation of a national spatial dataset, the relevant County Council Development Plan may need to be consulted in relation to Architectural Conservation Areas.

11.	LANDSCAPE & AMENITY	
11.1	Is the project area within an area identified in the relevant County Development Plan as being sensitive for landscape / amenity?	Consult the 'CDP – Landscape Jan 2023' layer on iNET, and where an overlap occurs, investigate supporting details in the relevant County Development Plan. Give details in the free text box provided (or alternatively, submit a report), citing the section(s) / map(s) therein of relevance and If 'yes', provide details in the free text box provided (or alternatively, submit a report), setting out justification for the project to proceed, and any associated mitigation.
11.2	Is there potential for the project to impact on any locally-important amenity that may not be officially designated but still used and enjoyed by the local community?	Based on local knowledge, including that of the Applicant and the Registered Forester, through direct experience, local papers, media, history, etc. If 'yes', provide details in the free text box provided (or alternatively, submit a report), setting out justification for the project to proceed, and any associated mitigation.

12	OTHER ENVIRONMENTAL CONSIDERATIONS	
12.1	In addition to the various environmental sensitivities identified during the course of completing the above questions, are there any other environmental considerations pertaining to the proposed project area?	Environmental sensitivities may exist other than those detailed about. Examples in relation to specific species include marsh fritillary, small white orchid, or an undesignated FPM population). If so, answer 'yes' and detail in the free text box provided or alternatively, detail in an appropriate report (this may avoid DAFM having to request a follow-up report). Where relevant, set out justification for the project to proceed, and any associated mitigation.

<table>
<tr><td>13.</td><td colspan="2">Description of aspects of the environment that are likely to be significantly affected by the afforestation project</td></tr>
<tr><td></td><td>Considering:
a) the characteristics of the project, as summarised above and detailed in the application;
b) the location of the project, with particular regard to the environmental sensitivity of geographical areas identified above that could be affected; and
c) the type and characteristics of potential impacts;
and where these matters are further elaborated upon in Schedule 3 of the Forestry Regulations 2017, are any of the following likely to be significantly affected by the project?</td><td rowspan="9">The EIA Directive (as amended) permits Member States to make the determination whether or not certain classes of project require an EIA on a case-by-case basis. This includes initial afforestation and in Ireland it applies to all initial afforestation projects less than 50 ha in size. (Projects 50 ha or more must undergo an EIA, and DAFM requires the submission of an EIA Report with the application.)
The EIA Directive (Article 4(4)) also requires Applicants for such projects to submit certain information about the project with the application, which DAFM must then have regard to when making that determination.
The specific information requirements are set out in Annex IIA of the Directive and transposed by Schedule 1 of S.I. No. 191 of 2017. It requires of the Applicant to:
➢ Take into account the available results of other relevant assessments of the effects on the environment carried out pursuant to Union legislation other than the EIA Directive;
This could include: (i) the Water Framework Directive (e.g. waterbody status); (ii) the Habitats Directive (e.g. Conservation Objectives of a particular SAC); or (iii) the SEA Directive (2001/42/EC) and whether local land use plans (e.g. County Development Plans) contain specific reservations against the project type.
➢ Compile the information taking into account the criteria set out in Annex III of the Directive and transposed by Schedule 3 of S.I. No. 191 of 2017. That schedule speaks to sensitivities which may arise from the characteristics of the project, the location of</td></tr>
<tr><td>13.1</td><td>Wetlands, riparian areas, or river mouths?</td></tr>
<tr><td>13.2</td><td>Coastal zones and the marine environment?</td></tr>
<tr><td>13.3</td><td>Mountain and forest areas?</td></tr>
<tr><td>13.4</td><td>NHAs, pNHAs, SACs, SPAs, Nature Reserves or National Parks?</td></tr>
<tr><td>13.5</td><td>Environmental quality standards, laid down in EU legislation and relevant to the project, or in which it is considered that there is such a failure?</td></tr>
<tr><td>13.6</td><td>Densely populated areas?</td></tr>
<tr><td>13.7</td><td>Landscapes and sites of historical, cultural or archaeological significance?</td></tr>
<tr><td colspan="2"></td></tr>
</table>

		the project; and/or the type and characteristics of potential impacts. At their discretion, the Applicant may also provide a description of any features of the project, and/or measures envisaged, to avoid or prevent what might otherwise be significant adverse effects on the environment. DAFM is entitled to take such details into account. The information submitted by the Applicant is intended to assist DAFM in assessing the project as to the need for a sub-threshold EIA in the light of the selection criteria laid down in Annex III / Schedule 4. However, it is a 'good faith' assessment and submission by the Applicant. Responsibility ultimately rests with DAFM to ensure all relevant information requirements are fulfilled before making its determination. **If 'yes' to any of the above Qus. 13.1 to 13.7, the application must be accompanied by a report (see guidance) setting out how it is intended prevent, reduce, or manage potential impacts from the project.**
13.8	To the extent of the information available, are any residues, emissions or waste expected to arise from the project?	**Information on Waste, Emissions and Residues** A processing residue is a substance that is not the end product(s) that a production process directly seeks to produce. It is not a primary aim of the production process and the process has not been deliberately modified to produce it. In the Industrial Emissions Directive, an 'emission' is defined as the direct or indirect release of substances, vibrations, heat or noise from individual or diffuse sources in the project, into air, water or land. EU law requires that all waste must be treated in an environmentally sound manner. Waste is defined as any substance or object which the holder discards or intends to or is required to discard. Examples of waste recovery include: (i) recycling; (ii) use as a fuel or other means to generate energy; or (iii) land spreading as a fertiliser if done properly in accordance with a plan.
13.8.1	Are any significant effects on the environment likely from those residues, emissions or waste from the project?	

		Examples that are not waste include: (i) uncontaminated soil and other naturally occurring material excavated in construction operations for certain use on the site of origin; and (ii) saw dust that the holder plans to use beneficially, or which the holder intends to sell for use for animal bedding or to make MDF. The foregoing may include, but are not limited, to: ➢ Planting bags, which may be recovered for re-use by the nursey. ➢ Oil and oil containers, which are required to be stored correctly and removed following operations. ➢ Fuel and fuel containers, which are required to be stored correctly and removed following operations. ➢ Any other fluid containers, which are required to be stored correctly and removed following operations. ➢ Lop-and-top and brash created or used during the operational phase of the project, which can be re-used as a nutrient source. Further information regarding good environmental practice with regard to waste and residues can be found in the *Environmental Requirements for Afforestation* 3.7.5. If 'yes' to Qu.13.8, will the residues, emissions or waste produced have a significant environmental effect. If so, a report is required, detailing measures that will be taken to prevent, reduce, or manage the residues, emissions or waste outlined above.
13.9	To the extent of the information available, are any significant effects on the environment expected to result from the project through the use of natural resources, in particular soil, land, water and biodiversity?	Using the available information regarding the site and surrounding area, combined with the intended project works and submitted documentation, answer the question to the best of your ability. If 'yes', the application must be accompanied by a report setting out how it is intended prevent, reduce, or manage any significant effects on the environment expected to result from the project through the use of natural resources, in particular soil, land, water and biodiversity.

14.	**Mitigation Measures**	
14.1	In coming to the conclusions on the likelihood of significant effects on the environment resulting from the project, has account been taken of any mitigation measures intended to avoid or effectively reduce impacts?	In <u>your</u> assessment of the project's influence on the environment, have you taken into account proposed mitigation measures to influence your assessment? Mitigation measures include any planned actions to reduce the environmental effects of the project.
14.1.1	If YES, are the mitigation measures referred to standard mitigation measures which have been incorporated into the project design?	Standard mitigations are those outlined in the forest policy, in the individual scheme documents, and also in any associated requirements, standards and guidance (including but not limited to the *Environmental Requirements for Afforestation*).
14.1.1.1	**Which of the following standard mitigation measures have been incorporated into the project design? (Note, specifics regarding widths, locations, etc. must be identified on the submitted Biodiversity Map.)**	
	Water setback(s), in relation to aquatic zones, relevant watercourses, water-related hotspots, and water abstraction points, on and adjoining the project area	
	Habitat setback(s), in relation to existing habitats on and adjoining the project area (including hedgerows)	
	Archaeology setback(s), in relation to archaeology and built heritage features on or adjoining the site	
	Public road setback(s)	
	Utilised building setback(s)	
	Landscape setback(s)	
	Planting of native broadleaves within 7 m of all hedgerows	
	Planting of additional rows of broadleaves to reinforce setback(s)	
	Retention of rights-of-way held by 3rd parties	
	Exclusion of areas with turbary or grazing rights held by 3rd parties	

	Exclusion of major water mains corridors	
	Exclusion of powerline corridors	
	Exclusion of gas pipeline corridors	
14.2	Have any non-standard mitigation measures been incorporated into the project design?	A non-standard mitigations is any mitigation that is not outlined in the forest policy, in the individual scheme documents, and also in any associated requirements, standards and guidance (including but not limited to the *Environmental Requirements for Afforestation*). If 'yes' to Qu14.2, specify the non-standard mitigation measures involved, and identify on the submitted Biodiversity Map.

end

An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine