

Ireland's Forestry Programme 2014-2020

Appropriate Assessment (AA) Natura Impact Statement



Report by: Helen Davies BSc MSc CEnv MIEMA ACIEEM
Checked by: Chris Forster Brown MSc MCIEEM

Date: October 2014

Submitted to:
Rosalind Henry
RSM McClure Watters
Number One
Lanyon Quay
Belfast
BT1 3LG

Prepared by:
ADAS UK Ltd
11D Milton Park
Milton
Abingdon
Oxfordshire
OX14 4RS

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1. INTRODUCTION

1.1. Purpose of this Natura Impact Statement

- 1.1.1. ADAS has been instructed by the Department of Agriculture, Food and the Marine (DAFM) to carry out an Appropriate Assessment (AA) for Ireland's Forestry Programme (FP) 2014-2020.
- 1.1.2. The process of AA was introduced under Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive), transposed into Irish domestic law through the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) as amended in 2013. These Regulations also transpose Council Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (the Birds Directive).
- 1.1.3. The obligation to undertake AA derives specifically from Article 6(3) and 6(4) of the Habitats Directive, and both involve a number of steps and tests that need to be applied in sequential order. Article 6(3) is concerned with the strict protection of sites, while Article 6(4) is the procedure for allowing derogation from this strict protection in certain restricted circumstances. Similarly, Regulation 42 of the European Communities (Birds and Natural Habitats) Regulations 2011 sets out the requirements for undertaking AA. Each step in the four stage assessment process precedes and provides a basis for other steps. The results at each step must be documented and recorded carefully so there is full traceability and transparency of the decisions made.
- 1.1.4. The purpose of AA is to protect sites designated as Special Areas of Conservation (SACs; under the Habitats Directive) and Special Protection Areas (SPAs; under the Birds Directive) – collectively known as Natura 2000 sites – including maintaining the integrity of the European important species and habitats for which they were designated. AA is not a prohibition on new development or activities but involves a case-by-case examination of the implications for each Natura 2000 site, its qualifying features and its conservation objectives. In general terms, implicit in Article 6(3) is an obligation to put concern for potential effects on Natura 2000 sites

at the forefront of every decision made in relation to plans and projects at all stages, including decisions to provide funding or other support.

1.1.5. Once the screening stage has demonstrated that AA is required, then the current normal practice is that the proponent of the plan or project prepares and submits information necessary to undertake the AA to the competent authority in the form of a Natura Impact Statement (NIS). DAFM is the responsible authority for decision-making with regard to the screening and appropriate assessment for the FP. However, public authorities that wish to adopt a plan or programme are required to submit a NIS and any other evidence to the Minister for Arts, Heritage and the Gaeltacht (Regulation 42) not later than six weeks before it proposes to adopt or undertake the plan or project to which the NIS and evidence relates. DAFM must take into account any submissions made by the Minister for AHG.

1.2. Structure of this Statement

1.2.1. The areas considered in this NIS, and their location in the report, are as follows:

- Approach to the AA, screening conclusions and direction provided by DAHG – Chapter 2;
- Description of the FP, and characteristics of the FP area – Chapter 3;
- Identification of relevant Natura 2000 sites, and compilation of information on their qualifying interests and conservation objectives – Chapter 4;
- Assessment of potential impacts on the qualifying interests of Ireland's Natura 2000 sites (direct, indirect and in-combination) – Chapter 5;
- Mitigation measures – Chapter 6; and
- Summary and conclusions – Chapter 7.

2. APPROACH TO THE APPROPRIATE ASSESSMENT

2.1. Best Practice Guidance

2.1.1. Our AA approach takes into account the procedures provided under the following guidance documents:

- DEHLG (2009) Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities;
- DEHLG (2010) Circular NPW 1/10 & PSSP 2/10; and
- Forest Service (2012) Forest Service Appropriate Assessment Procedure (FS AAP) Information Note.

2.1.2. We have also referred to the following UK and EU guidance documents:

- EC (2014) Natura 2000 and Forests: Frequently asked questions. A Guidance Document (Draft);
- EC (2001) Assessment of plans and projects significantly affecting Natura 2000 Sites: Methodological Guidance on the Provisions of Article 6(3) and 6(4) of the Habitats Directive;
- DCLG (2006) Planning for the Protection of European Sites: Appropriate Assessment (Draft);
- David Tyldesley and Associates (for Natural England) (2009) The Habitats Regulations Assessment of Local Development Documents; and
- Therivel, R. (2009) Appropriate assessment of plans in England, Environmental Impact Assessment Review 29(4), pp. 261-272.

2.2. The AA Process

2.2.1. The guidance produced by DEHLG (2009) sets out a four stage process for carrying out AA. These stages are shown in Figure 2.1 below and described in the following sections.

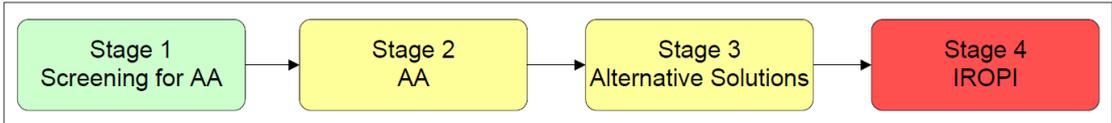


Figure 2.1: Stages in the AA Process



2.3. Stage 1 - Screening for AA

2.3.1. Screening is the process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3):

- Whether a plan or project is directly connected to or necessary for the management of the site; and
- Whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on a Natura 2000 site in view of its conservation objectives.

2.3.2. If the effects are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 (AA). Screening should be undertaken without the inclusion of mitigation, unless potential impacts can clearly be avoided through the modification or redesign of the plan or project, in which case the screening process is repeated on the altered plan. The greatest level of evidence and justification will be needed in circumstances when the process ends at screening stage on grounds of no impact.

2.3.3. This stage involves identification of Natura 2000 sites and their qualifying interests and conservation objectives, as well as a review of the likely measures to be included in the FP. A preliminary impact assessment is carried out to screen the FP's measures for the likelihood of significant effects. This process also identifies whether the FP is likely to have in-combination effects with other plans and programmes on Natura 2000 sites.

2.3.4. To document potential effects, a classification system derived from the Tyldesley draft guidance (2009) is thought to be useful. The four categories are as follows:

- Category A: FP measures that would have no negative effect on a Natura 2000 site at all;
- Category B: FP measures that could have an effect, but the likelihood is there would be no significant negative effect on a Natura 2000 site either alone or in combination with other elements of the same plan, or other plans or projects;

- Category C: FP measures that could or would be likely to have a significant effect alone and will require the plan to be subject to an appropriate assessment before the plan may be adopted;
- Category D: FP measures that would be likely to have a significant effect in combination with other elements of the same plan, or other plans or projects and will require the plan to be subject to an appropriate assessment before the plan may be adopted.

2.4. Stage 2 - Appropriate Assessment

2.4.1. As stated in Regulation 42 of the European Communities (Bird and Natural Habitats) Regulations 2011:

Where a public authority is required to conduct an Appropriate Assessment pursuant to paragraph (6) in relation to a plan or project that it proposes to undertake or adopt, it shall—

- (a) prepare a Natura Impact Statement,
- (b) compile any other evidence including, but not limited to, scientific evidence that is required for the purposes of the Appropriate Assessment, and
- (c) submit a Natura Impact Statement together with evidence compiled under subparagraph (b) to the Minister not later than six weeks before it proposes to adopt or undertake the plan or project to which the Natura Impact Statement and evidence relates.

2.4.2. This stage considers whether the plan or project, alone or in combination with other projects or plans, will have adverse effects on the integrity of a Natura 2000 site, and includes any mitigation measures necessary to avoid, reduce or offset negative effects. Any possible implications for the affected site(s) in view of the site(s)' conservation objectives will be identified and characterised.

2.4.3. A project may have a significant effect on a Natura 2000 site if it:

- Reduces the area of an Annex I habitat, the habitat of an Annex II species, or the overall Natura 2000 site;
- Damages the physical quality of the environment (e.g. water quality and supply, soil compaction) within the Natura 2000 site;

- Causes serious or ongoing disturbance to species or habitats for which the Natura 2000 site is designated, e.g. increased noise or human activity;
- Results in direct or indirect damage to the size, characteristics or reproductive ability of populations within the Natura 2000 site; or
- Interferes with mitigation measures put in place for other plans or projects.

2.4.4. The assessment considers how the effect on the integrity of sites could be avoided or improved by changes to the FP measures. Depending on the outcome of the impact prediction and feasibility of changing the FP measures, mitigation measures may need to be formulated to minimise the negative impacts of the FP. If the final assessment is negative, i.e. adverse effects on the integrity of a site cannot be excluded, then the process must proceed to Stage 3, or the plan or project should be abandoned.

2.4.5. An earlier version of this Natura Impact Statement was presented for public and statutory consultation over the period 10th September to 13th October 2014 alongside the consultation draft versions of the FP and the SEA Environmental Report. The NIS has fed into the SEA Consultation Environmental Report and was discussed alongside the SEA at a stakeholder workshop on 7th October 2014.

2.5. Stages 3 and 4 - Alternative Solutions and IROPI

2.5.1. Stage 3 examines any alternative solutions or options that could enable the plan to proceed without adverse effects on the integrity of a Natura 2000 site. If Stage 3 is deemed necessary, it would involve identification of alternative solutions (undertaken in conjunction with DAFM) and assessment of these as per the methodology set out for Stage 2. Demonstrating that no viable alternative solutions exist, or that all reasonable alternatives have been considered and assessed, and that the least damaging option is the one that has been selected, is necessary to progress to Stage 4.

2.5.2. Stage 4 is the main derogation process of Article 6(4) which examines whether there are imperative reasons of overriding public interest (IROPI, i.e. relating to human health or public safety reasons) for allowing a plan or project that will have adverse effects on the integrity of a Natura 2000 site to proceed in cases where it has been established that no less damaging alternative solution exists. The extra protection measures for Annex I priority habitats come into effect when making the

IROPI case. Compensatory measures must be proposed and assessed; these must be practical, implementable, likely to succeed, proportionate and enforceable, and they must be approved by the Minister.

2.5.3. As revealed later in this NIS, the AA process (undertaken in collaboration with DAFM and DAHG), has successfully identified, assessed and mitigated all adverse effects to the extent that no negative impact on the integrity of the Natura 2000 sites will occur. It is therefore not necessary to proceed to Stage 3.

2.6. Results of the Screening Process

2.6.1. A Screening Statement, the main output of Stage 1 of the AA process, was produced in May 2014 and sent to the DAHG as the relevant statutory consultee. The conclusion of the screening process was that the FP, both alone and in combination with other plans and programmes, could possibly have significant effects on Natura 2000 sites (in view of their conservation objectives) depending on where and how certain measures are implemented. As such, it was considered that a Stage 2 Appropriate Assessment is required for Measures 1, 2 and 5. More detail on the conclusion of the Screening Process undertaken in May 2014 is provided in the table below.

Table 2.1: Screening of FP Measures

Proposed FP Measure	Likely Impact on Natura 2000 Sites, Habitats and Species	Screening Verdict
1. Afforestation and Creation of Woodlands	<p>Afforestation will mainly occur on improved agricultural land, with mineral soils. Additional opportunities may also exist on brownfield sites such as closed landfills and former industrial areas. As the majority will comprise coniferous plantation this is likely to reduce biodiversity as habitat is lost and species displaced or otherwise affected. For example, afforestation in unimproved habitat in the uplands can lead to detrimental impacts on upland wading birds, in particular Dunlin and Golden Plover. Afforestation can result in a decrease in water availability through drainage of wet soils, and contamination of surface and ground water through diffuse pollution (especially if fertilisers are used), acidification, eutrophication, siltation and sedimentation. These issues can also arise at the end of the forest cycle during and after clearfelling. Clearfelling can also increase water availability which may cause flooding. However, depending on the type and quality of the previous habitat, the planting of trees can improve water infiltration rates, water quality and biodiversity.</p> <p>NWS establishment using native species (Oak and Alder) can create more effective filtration systems in buffer zones associated with Freshwater Pearl Mussel.</p>	Category C – screened in

Proposed FP Measure	Likely Impact on Natura 2000 Sites, Habitats and Species	Screening Verdict
	<p>Agro-forestry can increase the abundance of pollinating insects, provide habitat for many species and improve connectivity across the landscape. Sedimentation and runoff may also decline, whilst there will be less need for drainage and application of nutrients, benefiting aquatic habitats.</p> <p>Forestry for fibre will have similar effects to afforestation, though mainly deciduous species will be used. The regular harvesting means that the risk of soil erosion, eutrophication, sedimentation and pollutants discharging to waters is greater, however.</p> <p>Coniferous afforestation can also provide habitat in the early plantation years (<15 years) for Hen Harrier, Merlin and Nightjar</p>	
2. Investments improving the Resilience and Environmental value of Forestry: NeighbourWood Scheme	Improving the provision and quality of and access to local woodlands may reduce recreational pressure on Natura 2000 sites. This scheme is also likely to improve the quality of the existing habitat, though this should be determined on a case by case basis and sensitive or valuable areas avoided.	Category C – screened in
3. Investments in Infrastructure: Forest Road Scheme	<p>Roads built for first thinning operations in existing plantation conifer forests may add to the biodiversity by breaking up the canopy and bringing more light to the forest floor but may also increase access for predators, which can have both a positive and negative effect. However, construction works (and the resulting thinning operations) are likely to cause disturbance of woodland species, whilst there is also some concern over fragmentation effects in broadleaf forests.</p> <p>Construction works can also cause changes to soil structure and composition, sedimentation and changes in hydraulic conditions. There are particular concerns where forest roads cross small watercourses as many aquatic species are particularly vulnerable to pollutants.</p> <p>This in turn, could exacerbate potential diffuse pollution which would be detrimental to a range of fish species, to Otter and to Freshwater Pearl Mussel</p>	Category C – screened in
4. Prevention and Restoration of Damage to Forests: Reconstitution Scheme	The removal and destruction of trees infected by contagious pathogens will be beneficial as it will stop the spread into and across Natura 2000 sites. Restoration works following other damage will cause some level of disturbance, however no more so than the original source of the damage.	Category C – screened in
5. Investments improving the Resilience and Environmental value of Forestry: Woodland Improvement (Thinning and Tending- Broadleaves)	Thinning and tending of broadleaves may add to the biodiversity of existing forests by breaking up the canopy, bringing more light to the forest floor. However, thinning may cause disturbance and temporary loss of habitat for woodland species. In particular, thinning may be detrimental to populations of Kerry Slug. Furthermore, the felling of malformed and over mature trees, which are often excellent habitats for a range of rare species, may conflict with biodiversity aims. Felling operations may also impact on adjacent watercourses through sedimentation and eutrophication. Both these would be detrimental to a range of fish species, to Otter and to Freshwater Pearl Mussel.	Category D – screened in
6. Investments improving the Resilience and environmental value of Forests: Native	The measure aims to restore, preserve and enhance woodland biodiversity where the forest is predominantly native and/or in Natura 2000 areas or where water quality	Category C – screened in

Proposed FP Measure	Likely Impact on Natura 2000 Sites, Habitats and Species	Screening Verdict
Woodland (Conservation) Scheme	can be improved. Initial disturbance effects would be outweighed by the overall benefit to biodiversity.	
7. Knowledge Transfer and Information Actions	No impacts are anticipated.	Category A – screened out
8. Setting up of Producer Groups	No impacts are anticipated.	Category A – screened out
9. Innovative Forestry Technology	It is not yet known what technologies may develop over the course of the FP, however it is unlikely that there would be any significant impact on Natura 2000 sites.	Category B – screened out
10. Forest Environment and Climate Services: Forest Genetic Reproductive Material	There could be beneficial effects of improving the quality of broadleaved planting stock.	Category B – screened out
11. Forest Management Plans	No impacts are anticipated.	Category A – screened out

2.6.2. A response was received from DAHG on the Screening Statement on 13th June 2014. The main point arising from this response was the following:

“It is this Department’s view that a number of the ‘screened out’ measures may in fact significantly affect Natura 2000 sites... and the Programme as a whole should be screened in and appropriately assessed. To do otherwise will result in an under-assessment of the full range of significant effects on Natura 2000 sites and their conservation objectives, and insufficient identification of the mitigation required”.

2.6.3. Appendix A sets out the response in full and explains how each comment has been addressed in this Natura Impact Statement.

3. IRELAND'S FORESTRY PROGRAMME

3.1. Background to the FP

3.1.1. "Europe 2020, a strategy for smart, sustainable and inclusive growth" sets the strategic views of the Union for the next programming period. It defines precise objectives and corresponding targets for the Union at the horizon 2020. All Union policies (including CAP) are expected to contribute to Europe 2020 objectives and targets. The Common Strategic Framework sets the strategic vision of the Union for the use of five funds provided for under the EU's Cohesion Policy, Rural Development Policy and the Maritime and Fisheries Policy (European Structural and Investment Funds known as ESI funds).

3.1.2. The Common Provisions Regulation (CPR) represents the common strategic guidelines of the Union for all the ESI funds for the next programming period. In this way the five funds will better contribute to reaching the Europe 2020 objectives for smart, sustainable and inclusive growth. The CPR aims to achieve this through the setting of 11 thematic objectives, some of which are linked to the six priorities and focus areas set out in the Rural Development Regulations (RDR). These priorities are as follows:

- Fostering knowledge transfer and innovation in agriculture, forestry, and rural areas;
- Enhancing farm viability and competitiveness of all types of agriculture in all regions and promoting innovative farm technologies and the sustainable management of forest;
- Promoting food chain organisation, including processing and marketing of agricultural products, animal welfare and risk management in agriculture;
- Restoring, preserving and enhancing ecosystems related to agriculture and forestry;
- Promoting resource efficiency and supporting the shift towards a low carbon and climate resilient economy in agriculture, food and forestry sectors; and
- Promoting social inclusion, poverty reduction and economic development in rural areas.

3.1.3. DAFM has carried out a Needs Analysis which has identified four specific needs of Ireland's forestry sector. These are:

- Increase forest cover;
- Increase the production of forest biomass to meet renewable energy targets;
- Support forest holders to actively manage their plantations; and
- Maximise the environmental and social benefits of new and existing forests.

3.2. Overview of the FP Measures

3.2.1. To meet the needs of Ireland's forestry sector along with the priorities of the CPR and the RDR, DAFM has produced a performance framework of measures and associated schemes for the next 6 years as part of the new Forestry Programme. These measures are:

- i) Afforestation and Creation of Woodland: Support for establishment and premium payments for creation of new forests. This measure includes commercial afforestation, agroforestry, forestry for fibre, and native woodland establishment the latter focused on important native woodland types and opportunities for habitat linkage, and on environmentally sensitive areas, with a view to realising wider ecosystem services such as water protection.
- ii) NeighbourWood Scheme: Provides support for the development of attractive 'close-to-home' woodland amenities for public access. Aimed primarily at local authorities.
- iii) Forest Roads: Support for the construction of forest roads is provided under this measure.
- iv) Reconstitution Scheme: Support for forest holder to restore and retain forests following significant damage by natural causes.
- v) Woodland Improvement (Thinning and Tending): This scheme provides support for forest management operations for broadleaf woodlands and actions within existing forests, which effect structural changes aimed at protecting and enhancing water quality and other environmental sensitivities.
- vi) Native Woodland Conservation: Supports the protection and enhancement of existing native woodlands and where appropriate, the conversion of conifer forests to native woodlands focused on important native woodland types and opportunities for habitat linkage, and on environmentally

sensitive areas, with a view to realising wider ecosystem services such as water protection.

- vii) Knowledge Transfer and Innovation: Supports the setting up of knowledge transfer groups, continuous professional development and training.
- viii) Producer Groups: Support is provided under this measure to help forest holders to work together to create a critical mass for forestry operations and mobilising timber.
- ix) Innovative Forestry Technology: Support for early adopters of new technology, e.g. variable tyre systems, inventory equipment.
- x) Forest Genetic Reproductive Material: Annual payment towards the cost of managing and conserving registered seed stands and establishing seed orchards.
- xi) Forest Management Plans: Support for forest holders to prepare management plans for their forest holdings.

3.2.2. Additional details on objectives are provided in Table 3.1 below.

Table 3.1: Description and Objectives of FP Measures

Description of Measure (and schemes)	Objectives	Allocation and Targets (2015-2020)																																																
Measure 1: Afforestation and Creation of Woodlands																																																		
<p>One of the aims of Ireland's forest policy is to encourage planting by private landholders. The principal means of encouraging land holders to plant has been the provision of grants to cover the cost of afforestation, and an annual forest premium to compensate for income foregone as a result of converting farm land to forest. This measure will consume a large proportion of the FP funding.</p> <p>The proposal for the afforestation and creation of woodlands measure is to combine it with climate services, forest environment and agroforestry conservation measures. There are also possibilities for linking the development of Forest Management Plans (FMP) into this measure for all forests above 5ha which reach 12 years of age as a condition of support (currently 10ha for conifers and 5ha for broadleaves). Under Irish legislation, EIA is mandatory for initial afforestation which would involve an area of 50 hectares or more.</p> <p>Grant/Premium Categories (GPCs) for this Measure are as follows:</p> <table border="1" data-bbox="201 667 1412 1157"> <thead> <tr> <th>GPC</th> <th>Total available funding € / ha</th> <th>Annual premium € / ha</th> <th>Duration (years)</th> </tr> </thead> <tbody> <tr> <td>1 – Unenclosed*</td> <td>2,600</td> <td>185</td> <td>15</td> </tr> <tr> <td>2 - Sitka spruce/ lodgepole pine*</td> <td>3,545</td> <td>440</td> <td>15</td> </tr> <tr> <td>3 – 10% Diverse Conifer</td> <td>3,650</td> <td>510</td> <td>15</td> </tr> <tr> <td>4 – Diverse Conifer</td> <td>3,965</td> <td>560</td> <td>15</td> </tr> <tr> <td>5 – Broadleaf</td> <td>5,435</td> <td>575</td> <td>15</td> </tr> <tr> <td>6 – Oak / Beech</td> <td>5,750</td> <td>615</td> <td>15</td> </tr> <tr> <td>7 – Beech</td> <td>5,750</td> <td>615</td> <td>15</td> </tr> <tr> <td>8 – Alder</td> <td>3,860</td> <td>575</td> <td>15</td> </tr> <tr> <td>9 & 10 – Native Woodland Establishment</td> <td>5,435-5,750</td> <td>635</td> <td>15</td> </tr> <tr> <td>11 – Agroforestry</td> <td>4,450</td> <td>260</td> <td>5</td> </tr> <tr> <td>12 – Forestry for Fibre</td> <td>2,450</td> <td>180</td> <td>10</td> </tr> </tbody> </table> <p>* All plantations regardless of size must include 10% broadleaves</p> <p>The measure will consist of the following 4 schemes:</p> <p>A. Afforestation Scheme The proposed afforestation scheme aims to increase the area under forest in Ireland from its current low base of 10.7% (EU-27 average 37%); to contribute, inter alia, towards climate change mitigation; to produce commercial timber; to provide a sustainable source of roundwood for wood product manufacture; to provide biomass for energy production; to provide sustainable jobs in the rural economy.</p> <p>B. Native Woodlands Establishment Scheme This Scheme, now captured under a new Grant & Premium Category (GPC 9 &10), provides opportunities to protect and expand Ireland's native woodland resource and associated biodiversity and is a key biodiversity measure within Ireland's national forest policy. It also supports a wide range of other benefits and functions arising from native woodlands, relating to landscape, cultural heritage, wood and non-wood products and services, the practice of traditional woodland management techniques, environmental education, and carbon sequestration. Additionally it aims to improve water and land management and contribute to meeting the Water Framework Directive objectives and to improve soil stability and water quality including high status waters through native riparian woodland development. Regarding site requirements, each site under GPC9 must be capable of supporting the vigorous growth and sustainable long term development of the most appropriate native woodland type(s) identified for the site. Certain afforestation sites will be required to include a GPC 9 &10 plot as part of the forest design, focused on water quality.</p> <p>C. Agroforestry Scheme This scheme has not previously featured in Ireland's forestry support mechanisms and there is little experience of agroforestry in Ireland. Initially, therefore, the measure will be targeted at silvopastoral agroforestry systems which combine forestry and pasture. Acceptable broadleaf species will include oak, sycamore and cherry. Other species,</p>	GPC	Total available funding € / ha	Annual premium € / ha	Duration (years)	1 – Unenclosed*	2,600	185	15	2 - Sitka spruce/ lodgepole pine*	3,545	440	15	3 – 10% Diverse Conifer	3,650	510	15	4 – Diverse Conifer	3,965	560	15	5 – Broadleaf	5,435	575	15	6 – Oak / Beech	5,750	615	15	7 – Beech	5,750	615	15	8 – Alder	3,860	575	15	9 & 10 – Native Woodland Establishment	5,435-5,750	635	15	11 – Agroforestry	4,450	260	5	12 – Forestry for Fibre	2,450	180	10	<p>The objectives of the Schemes are as follows:</p> <p>Afforestation Scheme</p> <ul style="list-style-type: none"> Contribute towards meeting Ireland's forest cover target of 18% by 2046; Establish up to 8,290 ha of new forests per annum; To provide at least 30% of the area afforested with broadleaved species (at national level) which will include Areas for Biodiversity Enhancement (ABEs); Plant larger average forest areas with greater access to the public road network; Increase average yield class, based on use of superior growing stock planted on better quality land; Encourage forest management practices that restore, preserve and enhance forest biodiversity; Develop a forest-based biomass resource and generally encourage its use in domestic and commercial markets; Foster carbon sequestration and climate change mitigation; and Provide a resource which will contribute to long term sustainable development in the rural economy. <p>Native Woodlands Establishment Scheme</p> <ul style="list-style-type: none"> Increase the area of native woodland; Encourage a diverse range of native woodland types and increase woodland biodiversity, in keeping with site type and ecology; Introduce a forestry land use option for farmers in environmentally sensitive areas, including NATURA sites, acid sensitive areas (as agreed with the EPA and detailed in Forest Service Circular 04/13 of 2013), high status waterbodies, Freshwater Pearl Mussel catchments and highly sensitive landscapes. Promote the use of native woodland creation to deliver wider ecosystem services such as water quality, soil stabilisation, habitat connectivity at a landscape level, etc. Provide the opportunity for compatible wood production for woodland owners, where appropriate and using 'close-to-nature' silviculture. <p>Agroforestry Scheme</p> <ul style="list-style-type: none"> Establish agroforestry as a realistic land use option for future programmes; Increase the economic output per land unit; Increase biodiversity; Produce high quality hardwood timber where appropriate; Protect water quality by reducing surface water runoff and protect erosion of riverbanks; Encourage continuous cover forestry and close-to-nature silvicultural techniques; and Enhance the quality and diversity of landscapes. <p>Forestry for Fibre Scheme</p> <ul style="list-style-type: none"> Develop a wood energy resource and encourage increased wood energy production at farm level and usage at national level; The GPC is targeted at growing productive species on fertile sites capable of providing wood biomass yields in the region of 150-300 cubic metres per ha over a 10-15 year period. <p>Areas of Biodiversity Enhancement Providing opportunities for woodland</p>	<p>Indicative Allocation:</p> <ul style="list-style-type: none"> Afforestation = €173.4m NWS (Est) = €16.5m Agroforestry = €0.97m Forestry for Fibre = €8.6m <p>Scheme Targets:</p> <ul style="list-style-type: none"> Afforestation = 37,215 ha NWS (Est) = 2,700 ha Agroforestry = 195 ha Forestry for Fibre = 3,300 ha <p>RDR Focus Areas: 4(a) & 5(e)</p>
GPC	Total available funding € / ha	Annual premium € / ha	Duration (years)																																															
1 – Unenclosed*	2,600	185	15																																															
2 - Sitka spruce/ lodgepole pine*	3,545	440	15																																															
3 – 10% Diverse Conifer	3,650	510	15																																															
4 – Diverse Conifer	3,965	560	15																																															
5 – Broadleaf	5,435	575	15																																															
6 – Oak / Beech	5,750	615	15																																															
7 – Beech	5,750	615	15																																															
8 – Alder	3,860	575	15																																															
9 & 10 – Native Woodland Establishment	5,435-5,750	635	15																																															
11 – Agroforestry	4,450	260	5																																															
12 – Forestry for Fibre	2,450	180	10																																															

Description of Measure (and schemes)	Objectives	Allocation and Targets (2015-2020)
<p>including conifers will be considered on a site-by-site basis. Ideally, sites under the Agroforestry Scheme should contain free-draining mineral soils and should have no requirement for additional drainage. In general, sites suitable for agroforestry should not require additional fertiliser for tree growth, apart from the possibility of manual application at the base of individual trees at establishment. Land classified by the Department as 'unimproved/unenclosed' will not be eligible for support under the scheme. Agroforestry must remain under forestry indefinitely and therefore is subject to a re-planting obligation.</p> <p>D. Forestry for Fibre Scheme</p> <p>This scheme has not previously featured in Ireland's forestry support mechanisms, but is needed to meet a forecasted supply-demand gap for fibre for energy and other wood product applications that will be arising over the next two decades. Eligible species are Italian Alder, Hybrid Aspen, Eucalyptus and Poplar. Preference will be given to applications that propose to use improved genetic material. Support for short rotation coppicing, Christmas trees or fast growing trees is not provided for under this scheme. Regarding site requirements, sites must be below 200 m in elevation, enclosed, and with free-draining arable or pasture soils or surface water gleys without a peat layer. Therefore the habitats to be afforested will be predominantly improved agricultural land and arable fields. Once land is planted under the Forestry for Fibre Scheme, it must remain under forestry indefinitely and therefore is subject to a re-planting obligation.</p> <p>Ensuring Afforestation in suitable sites</p> <p>Decisions regarding the suitability of sites for afforestation will be supported by the Indicative Forest Statement (IFS) for Ireland. The IFS is a map-based approach which integrates the many different spatial datasets contained within the Department's iFORIS system which take account of a wide range of environmental factors and other opportunities and constraints (for example soil productivity, landscape, water quality, archaeology, biodiversity, and fisheries and acid sensitive areas). These datasets are regularly updated as new spatial data becomes available. (More detail on the IFS can be seen in Section 1.4 of this report).</p> <p>The selection of species to be planted, of areas and methods to be used, shall avoid the inappropriate afforestation of sensitive habitats such as peat lands and wetlands and negative effects on areas of high ecological value including areas under high natural value farming. Forest Service Circular 10/2010 'Changes to Afforestation Grant & Premium Schemes 2011' introduced restrictions on the afforestation of unenclosed / unimproved land, typically comprising upland sites and peat sites. Under the circular, the amount of unenclosed land in any application for financial approval cannot exceed 20% of the total area. On sites designated as Natura 2000 pursuant to the Habitats Directive and the Birds Directive only afforestation consistent with the conservation objectives of the sites concerned shall be allowed. This is determined by the implementation of the Forest Service AAP and referral process to NPWS. All afforestation applications within Natura 2000 sites are referred to NPWS for comment and these comments are taken into account by the FS District Inspector when making a decision regarding the application. Currently there is a policy of no afforestation within Hen Harrier SPAs, pending the formulation of the Threat Response Plan (TRP) for the species, led by NPWS.</p> <p>New forests planted under this measure will be established and maintained in a way that enhances the landscape. In order to ensure that these benefits are delivered, applicants must comply with the Department's Guidelines on Forestry and the Landscape. Hedgerows must be considered carefully when considering forestry activities and the impacts these activities may have on these important landscape features. Hedgerows must also be maintained and not allowed to become invasive thereby reducing the utilisable area of the field. Landowners considering planting trees are encouraged to retain scrub. In relation to landmark trees, the Tree Register of Ireland (TROI) is a database of Irish trees containing over 10,000 entries.</p> <p>Where afforestation development, forest road development, or felling licence applications falls within 200 m of a designated archaeological site or monument, i.e. a recorded monument, applications are identified for referral to the National Monuments Service. The imposition of a hierarchy of relevant archaeological conditions with approvals and the emphasis on preservation in situ of any archaeological remains identified fully accords with the principles and approach as set out in Part III of DAHG's <i>Framework and Principles for the Protection of the Archaeological Heritage</i>.</p> <p>Considerable scope exists for the use of woodlands and forests to proactively contribute to protecting and enhancing water quality. The benefits are potentially greatest for the planting of riparian and floodplain woodland, which can help to reduce diffuse pollution, protect river morphology, moderate stream temperature and aid flood risk management. The Forest Service promotes the delivery of this ecosystem service, primarily through the Native Woodland Scheme which is a suitable option for water-sensitive areas such as FPM catchments, acid sensitive areas, fisheries sensitive areas and high status waterbodies. Specifically, new native woodland established under the scheme on sites adjoining watercourses and elsewhere within catchments, creates natural habitats that act as permanent and stable buffers <i>vis-à-vis</i> water quality. Any proposed planting site (contiguous) with lakes, rivers, streams or drains with continuously flowing</p>	<p>biodiversity is one of the objectives of the programme. In relation to the Afforestation Scheme, NWS Est. and the Forestry for Fibre Scheme, this will be achieved through the creation of Areas of Biodiversity Enhancement (ABEs). ABEs would comprise approximately 15% of individual grant aided afforestation projects which are greater than 10 hectares. In sites less than 10 hectares in area, the open space element of ABEs should be designed in conjunction with neighbouring land use and may be reduced. The following areas are eligible: open space for landscape and biodiversity; hedgerows; scrub; buffers along aquatic zones; archaeological sites and exclusion zones; created lakes/reservoirs; former REPS habitats; public road setback areas; railway setback strips; ridelines and drains; internal roads and turning bay setback areas; dwelling house/associated building setback area. During the lifetime of the programme applicants will be asked to identify ABEs on site at Form one stage of the afforestation measure. This will be supported by ecological training for foresters.</p>	

Description of Measure (and schemes)	Objectives	Allocation and Targets (2015-2020)
<p>water are subject to the Forest Service's <i>Forestry and Water Guidelines</i>.</p> <p>A key measure (particularly relating to the Afforestation Scheme) is the exclusion of the aquatic buffer zone (10-25m) from all types of pesticide application, unless undertaken with the explicit agreement of relevant bodies to achieve specific environmental aims. Similarly, fertiliser (usually phosphorus, but occasionally nitrogen or potassium) should not be applied within the buffer zone or within 20m of an aquatic zone, whichever is greatest, whilst fertilisers should be prepared and securely stored under shelter on a dry, elevated site at least 50 m from the nearest aquatic zone. Applications for aerial fertilisation are assessed by District Inspectors based on iFORIS and an assessment of the silvicultural requirements of the crop and the environmental sensitivities of the site. Screening is applied in relation to SACs and SPAs, following the Forest Service Appropriate Assessment Procedure.</p>		
Measure 2: Investments improving the Resilience and Environmental value of Forestry: NeighbourWood Scheme		
<p>The proposed NeighbourWood Scheme will provide support for the development of new and existing "close-to-home" woodland or "NeighbourWoods" for public access, education, recreation and enjoyment on land in or near villages, towns and cities. The NeighbourWood Scheme is subject to specific standards and criteria (see below), and requires an explicit management plan. The NeighbourWoods Scheme is aimed primarily at local authorities and private landholders, working in partnership with local communities. Other landholders may be considered on a case-by-case basis.</p> <p>The proposed scheme will provide financial support (on a cost-basis) under three separate elements:</p> <p>A. Silvicultural enhancement of <u>existing</u> amenity forests – total grant of €5,000/ha B. Establishment of <u>new</u> NeighbourWoods – total grant of €5,000/ha C. Installation and upgrade of appropriate recreational facilities within existing or new amenity woodlands – total grant of €3,800/ha for the first 10ha, and €2,300/ha thereafter (up to 40ha).</p> <p>In order for both public and private entities to be eligible for funding the following criteria apply;</p> <ul style="list-style-type: none"> • There must be a clear potential for the development of an attractive amenity woodland that will be strategically located, easily accessible and well-used by local people. Relevant factors will include the suitability of location, the level of existing use, attractive features, local interest, linkage with wider walking routes and other amenities, etc. • The project must adhere to good practice regarding amenity woodland design, establishment and management, as set out in <i>Forest Recreation in Ireland: A Guide for Forest Owners and Managers</i> and <i>Amenity Trees and Woodlands: A Guide to their Management in Ireland</i>. • The project must be developed <i>in partnership with</i> the local community and (where relevant) with specific recreational user groups. This partnership must be clearly demonstrated at the application stage. • The woodland must be open to the general public throughout the year. Apart from fees for car parking and other basic services, access must be free-of-charge. • Particular emphasis is to be placed on providing reasonable access-for-all, to enable people of different ages and abilities to use and enjoy the neighbourwood. • Projects funded under the NeighbourWood Scheme are strongly encouraged to adopt and display the seven principles of Leave No Trace, the national outdoor ethics code, on information boards, booklets, websites, etc. • In the case of applications on privately owned land, the applicant must provide a declaration that the amenity will be maintained and access provided for a period of at least 10 years. • A Forest Service Registered Forester is required to prepare the application and to oversee subsequent work. This individual will have experience of working with Forest Service grant schemes and will be aware of the relevant procedures, standards and environmental guidelines. <p>Due to the focus of most NeighbourWood Scheme projects on native woodland planting or restoration, the NeighbourWood Scheme will be amended to state that such areas will be funded under the NWS Conservation, and that NWS Cons. requirements will apply. Such projects can still apply for NeighbourWood Scheme Element 3 (Facilities) over the entire area. This mechanism does not compromise the target of achieving 10 NeighbourWood Scheme projects per year, but facilities the transfer of a portion of the NeighbourWood Scheme budget to NWS Conservation. A total of 50% of the NeighbourWood Scheme budget has been transferred to NWS Conservation, meaning that up to 10 NeighbourWood projects per year can be funded up to a maximum of €17,500 for non-native woodland work under Element 1 (Enhancement) and Element 2 (Creation), and for Element 3 (Facilities).</p>	<p>The objectives of the Scheme are to:</p> <ul style="list-style-type: none"> • Provide increased recreational space and associated health benefits to the general public; • Support the creation of new public amenity forests and forest ecosystems; • Support investment in the provision of facilities to encourage greater public use of forests; • Increase the educational function of forests; • Support actions aimed at protecting and enhancing forests and forest ecosystems located close to population centres; • Enhance protection of waterbodies and watercourses adjacent to the proposed woods; and • Encourage increased public participation in outdoor activities. 	<p>Indicative Allocation: €1.05m</p> <p>Scheme Targets: 30-60 projects</p> <p>RDR Focus Areas: 4(a) & 5(e)</p>
Measure 3: Investments in Infrastructure: Forest Road Scheme		
<p>The Teagasc Forestry Development Unit report (2007) clearly shows the importance of thinnings to forestry revenues. It shows that the NPV of timber revenues is higher for those forestry areas that have had thinnings carried out compared to</p>	<p>The objectives of the Scheme are to:</p> <ul style="list-style-type: none"> • Stimulate the mobilisation of roundwood from forests and thereby contribute 	<p>Indicative Allocation: €27.6m</p>

Description of Measure (and schemes)	Objectives	Allocation and Targets (2015-2020)
<p>those that have not. In addition to providing revenue from the sale of the materials obtained from thinning, thinnings also enable the timber to grow better and more productively so that at harvest time the revenues received are greater. In 2012 the National Forest Inventory showed that 23% of the national estate had reached thinning stage but had not been thinned.</p> <p>Grant aided road density will generally be 20m/ha of the area served, not necessarily the area subject to the forest management operation. A maximum of 100% of total costs of building forest roads will be funded subject to the maximum payment of up to €40/m. In order to be eligible for a road grant 20% of the forest must be thinned within three years of receiving the 1st instalment. This will be a condition of receiving the 2nd grant. Forests must also be thinned on time.</p> <p>A Special construction works (SCW) grant is being introduced at a maximum of 50 % of the cost subject to a maximum of €5,000 per application, whichever is the smaller. The objective of this provision is primarily aimed at facilitating the construction of forest roads in environmentally sensitive sites to limit any potential adverse impact from harvesting operations and in particular the potential for sedimentation of any nearby watercourses. Where it is shown that such works do not have a positive environmental benefit, aid will be refused and consent for construction work will be considered without grant aid. SCW may apply for large culverts, permanent bridge and where the forest areas served exceed 5ha. SCW works must be specified, drawn up and supervised by a qualified civil engineer, and must satisfy at least 1 of the following criteria: Crossing required to protect watercourses e.g. fisheries considerations, freshwater pearl mussel; Protection of Natura 2000 sites; Required to prevent siltation and erosion; Environmental benefit to works proposed.</p> <p>All road construction works shall be undertaken in compliance with the Forest Road Manual (COFORD) unless the Forest Service has approved otherwise. An Environmental Impact Statement (EIS) must be submitted in respect of any forest road construction project which exceeds 2,000 metres in length. An EIS may also be required for road projects below the 2,000 metre threshold if the Department feels that the project is likely to have a significant environmental effect. It is a basic requirement of this scheme that any infrastructure funded should be open to the public for recreational use without charge. However, such access may be restricted where it is necessary to protect sensitive areas, or where vandalism or dumping is an issue, or to ensure the proper and safe use of the infrastructure.</p> <p>The Forest Road Manual includes practices and guidelines to ensure that all phases in the construction of forest roads are carried out in a manner that is compatible with environmental values and sustainable forest management. Roads funded under the new programme must adhere to these rules. In relation to the protection of water quality specifically, referral procedures similar to those for afforestation are also in place for forest road applications. The referral process is detailed in Chapter 11 'Environmental Protection and Controls – Consultation Process' and Appendix 21 'Areas Potentially Sensitive to Fisheries' of the Forestry Schemes Manual.</p>	<p>to employment and economic activity;</p> <ul style="list-style-type: none"> • Provide funding for the construction of forest roads and associated infrastructure such as bell-mouths, turn-tables, drains, culverts and bridges; • Improve the economic value and competitiveness of the forest resource; • Provide access for emergency vehicles; • Provide access for equipment and transport vehicles to facilitate harvesting operations; • Increase the forest road infrastructure by constructing in excess of 110km per year thereby servicing up to 34,500 ha of forest area for future clearfelling and thinning operations over the course of the programme; • Thin and clearfell in line with the "All Ireland Roundwood Production Forecast 2011-2028"; • Achieve net realisable volume production of 4.6million m³ per annum by 2020 and 7-8 million m³ by 2028; • Increase the biodiversity value of commercial forests. <p>Forestry and water quality guidelines set out strict operational rules for building roads so that water quality is protected, e.g.</p> <ul style="list-style-type: none"> • Roads should be located at least 50 m from an aquatic zone, where possible. • Road layout should aim to direct off-road traffic away from streams. If there is no other option but to cross an aquatic zone, construct an appropriate bridge or culvert. • Where possible, roads should follow the natural contours of the terrain. • All ancillary drainage associated with road construction should be designed to divert water away from buffer zones and should not be allowed to discharge directly into aquatic zones. Sediment traps will be necessary. Roadside drains should not directly intercept run-off from higher ground. Cut-off drains should be constructed to a flat gradient at least 5 m back from the upper edge of the road formation, to avoid erosion. • Carry out construction during dry weather, where practical, ideally from April to October. 	<p>Scheme Targets:</p> <ul style="list-style-type: none"> • 690 km • 600 SCW applications <p>RDR Focus Areas: 2(a) & 2(b)</p>
Measure 4: Prevention and Restoration of Damage to Forests: Reconstitution Scheme		
<p>The purpose of this scheme is to restore and retain forests and forest ecosystems following significant damage by natural causes. Support under Forest Reconstitution would be available to private forest holders only. The scheme would contribute to the costs of restoring forest potential as a result of damage, or potential damage, from disease outbreaks. The scheme would also support the removal and destruction of trees infected by contagious pathogens, or trees likely to be so infected. Support may also be considered towards the restoration of forests damaged by other natural causes, catastrophic events and/or climate change related events, such as frost, deer, grey squirrel and vole, where more than 20% of the forest potential has been damaged.</p> <p>Calculation of the 20% damage threshold will be by area where significant damage has occurred. Significant damage for the purposes of the scheme will mean death or irremediable damage of 20% or more of the trees in the relevant plantation covered by the one contract number or forest block. It will also include the removal of host species for disease such as <i>Rhododendron</i> in the spread of <i>Phytophthora ramorum</i>. Reconstitution measures will include replanting where appropriate, removal of infected material or host species where required.</p> <p>It is also envisaged that the scheme will be tailored to address specific threats and will form part of an integrated pest management control response. A reconstitution scheme currently exists for forests affected by <i>Chalara fraxinea</i> (Ash dieback disease) and it is envisaged that a similar scheme will be developed to deal with forests damaged by <i>Phytophthora ramorum</i>.</p> <p>Grant assistance will be in respect of costs necessarily incurred in the reconstitution of a forest, subject to the maximum limit laid down as follows: €3,000 for conifers; €4,700 for broadleaves. Support shall be to all private forests.</p>	<p>The objectives of the Scheme are to:</p> <ul style="list-style-type: none"> • Support the restoration of forest potential arising from damage by natural events and the introduction of protective infrastructure in forests. • Support the development and promotion of forestry through the incorporation of practices that restore, preserve and enhance biodiversity. <p>Specific objectives are dependent on occurrences of pest and disease outbreaks and other natural occurrences.</p>	<p>Indicative Allocation: €4.67m</p> <p>Scheme Targets: 1,200 ha</p> <p>RDR Focus Areas: 4(a)</p>

Description of Measure (and schemes)	Objectives	Allocation and Targets (2015-2020)
Environmental issues are similar to those set out under the afforestation and creation of woodland measure.		
Measure 5: Investments improving the Resilience and Environmental value of Forestry: Woodland Improvement (Thinning and Tending- Broadleaves)		
<p>Element 1: Thinning and Tending - Broadleaves</p> <p>This scheme will provide financial support to forest holders towards the cost of woodland improvement works associated with tending and thinning of broadleaf forests planted since 1980 and enhancing the environmental qualities of existing predominantly broadleaf forests.</p> <p>The aim of Element 1 is to stimulate investment in the improvement, protection and development of broadleaf woodlands and forests for a range of functions, including: healthy tree growth, landscape improvement, biodiversity enhancement, soil protection and water protection. These aims will be achieved through improvement felling of malformed and over mature trees; felling of additional trees to release potential crop trees (PCT); pruning to improve stem quality; thinning or re-spacing to promote growth and management and re-spacing of natural regeneration.</p> <p>A fixed grant of up to €750 per hectare will be available under the Scheme. An additional cost based grant will be available under the Scheme for brushing operations to improve access to forests for manual application of fertiliser, if required, to a maximum of €750 per hectare on a case-by-case basis.</p> <p>Support will be available for the following operations:</p> <ul style="list-style-type: none"> • Improvement felling of malformed and over mature trees; • Felling of additional trees to release potential crop trees (PCT); • Thinning or re-spacing to promote growth; • Management and re-spacing of natural regeneration; • Clearing buffer areas around sites and monument which may have become overgrown; and • Improving access for manual fertilisation (cost based grant). <p>Element 2: Environmental Enhancement</p> <p>The aim of Element 2 is to support various actions within existing forests, which effect structural changes that will proactively protect and enhance water quality, archaeological sites, habitats and species, sensitive landscapes and other environmental features.</p> <p>A fixed grant of up to €750 per hectare will be available under the Scheme subject to a maximum of €20,000 per application. Support will be available for the following operations:</p> <ul style="list-style-type: none"> • The installation of silt traps and appropriate blocking of existing forest drains, to protect water quality and aquatic ecosystems and species. • The retro-fitting, reinstatement or enhancement of setbacks and other open areas within existing forests, for environmental reasons. This includes aquatic buffer zones, and archaeological exclusion zones and related access paths and setbacks introduced along prominent forest edges, to soften landscape impact. • Enrichment planting of appropriate species to enhance the delivery of ecosystem services (e.g. the planting of groups of broadleaves and / or diverse conifers along highly visible forest edges for landscaping, or the planting of single or small groups of native riparian species within the aquatic buffer zone, for bank stabilisation and in-stream benefits). • The application of silvicultural treatments (e.g. heavy thinning, ring-barking) to encourage greater ground vegetation cover along aquatic zones well in advance of final clearfell. <p>Thinning benefits biodiversity by enabling more light to reach the forest floor, contributing to shrub and ground flora abundance. By opening up tree crowns to light, thinning also promotes higher levels of tree seed production which favours natural regeneration systems and close-to-nature silviculture. Early thinning has been shown to improve forest stability and its overall resilience in terms of wind damage and other risk factors. Thinning also improves the vitality of forests allowing them to sequester more carbon. In addition, thinning opens up forest areas for walking and other recreational uses and improve the visual amenity of forests. Similarly, the measure can be used to introduce, reinstate (where overgrown) or increase (where originally too small) the exclusion zone around archaeological features within forests, thereby creating greater separation distance between these features and surrounding forestry operations. Related access tracks can also be created or reinstated. The measure can also be used to diversify artificially-straight or angled forest edges which are prominent in, and negatively impact, the landscape, through the planting of groups of appropriate species (broadleaved and / or diverse conifers) along the forest edge.</p>	<p>The aim of Element 1 of the scheme is to stimulate investment in the improvement, protection and development of young broadleaf forests for a range of functions, including:</p> <ul style="list-style-type: none"> • Timber production; • Encourage healthy tree growth; and • Landscape enhancement; <p>The aim of Element 2 of the scheme is to enhance the environmental function of existing forests, including:</p> <ul style="list-style-type: none"> • Soil and water protection; • Protection of archaeological sites, vulnerable habitats and species, and sensitive landscapes; and • Improve biodiversity function. <p>The aim will be to support the environmental enhancement of 1,000 ha of forests each year under the programme.</p>	<p>Indicative Allocation: €6.75m</p> <p>Scheme Targets: 9,000 ha</p> <p>RDR Focus Areas: 4(a)</p>

Description of Measure (and schemes)	Objectives	Allocation and Targets (2015-2020)																			
Measure 6: Investments improving the Resilience and environmental value of Forests: Native Woodland Conservation Scheme																					
<p>The Native Woodland Conservation Scheme will support the protection and enhancement of existing native woodland habitats. The scheme is primarily focused on the application of appropriate restorative management of existing native woodlands, but can also include the conversion of existing non-native woodlands (including conifer forests) to native woodland, on important ecological sites (e.g. conifer forests within the Priority 8 Freshwater Pearl Mussel catchments).</p> <p>A strong priority will be placed on important native woodland types and opportunities for habitat linkage, and on environmentally sensitive areas, with a view to realising wider ecosystem services such as water protection. NWS Conservation operates alongside Native Woodland Establishment GPC 9 & 10 (see Measure 1) as parallel components of the overall Native Woodland Scheme package.</p> <p>Eligible operations include the following:</p> <ul style="list-style-type: none"> • Preparation of a site-specific Native Woodland Plan by a NWS Participating Ecologist and NWS Participating Forester; • Purchase of suitable native planting stock; • Ground preparation, where appropriate (e.g. light scarification to facilitate natural regeneration); • Forest protection (fencing, tree guards and other measures); • Clearance of non-commercial woody growth (where ecologically appropriate) and invasive exotic species such as laurel and rhododendron; • Costs associated with non-commercial tree felling, where appropriate (e.g. tree felling on highly sensitive parts of the site, where alternative, non-conventional techniques are required); • Woodland rejuvenation (including understory and coupe planting, natural regeneration works and filling-in); • Maintenance (including vegetation management); • Woodland edge management; • Maintenance of open spaces, rides and glades; • Re-spacing; • The restoration (subject to limits) of former coppice or coppice-with-standards woodland to active coppice management; and • Other appropriate operations, where agreed in advance with the Forest Service. <p>Under the scheme, between 18% and 20% of the woodland may comprise Areas of Biodiversity Enhancement (ABEs). The scheme aims to support the conservation of suitable areas of 'scrub', which constitutes emergent native woodland. Such sites would have enhanced biodiversity value, having derived from natural regeneration from onsite and local sources.</p> <p>Grant assistance could be available in respect of 100% of the total approved costs incurred, subject to the maximum limit as follows:</p> <table border="1" data-bbox="201 1444 1540 1675"> <thead> <tr> <th>Owner type</th> <th></th> <th>Total grant / ha (€)</th> <th>Annual premiums (€)</th> <th>Total targets for this scheme</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Private land owner</td> <td>Existing 'high forest' woodland</td> <td>5,000</td> <td>350 /ha /yr</td> <td>520 ha</td> </tr> <tr> <td>Emergent native woodland</td> <td>2,500</td> <td>350 /ha /yr</td> <td>360 ha</td> </tr> <tr> <td>Public land owner</td> <td></td> <td>2,500</td> <td></td> <td>1,070 ha</td> </tr> </tbody> </table> <p>Annual premiums are available for 7 years at a rate of To private forest owners only and support is subject to ongoing implementation of a Native Woodland Plan. The premium is aimed at maintaining and improving the environmental stability of forests where the protective and ecological role of these forests is of public interest and where the cost of maintenance and improvement measures exceeds the income from these forests.</p> <p>The target is to establish 1,950 ha of NWS Conservation, with a particular focus on the targeted application of the scheme on key native woodland types where ecosystem services in relation to biodiversity and water quality can be maximised, e.g. appropriate restoration management within a SAC-designated woodland, or the conversion of conifer</p>	Owner type		Total grant / ha (€)	Annual premiums (€)	Total targets for this scheme	Private land owner	Existing 'high forest' woodland	5,000	350 /ha /yr	520 ha	Emergent native woodland	2,500	350 /ha /yr	360 ha	Public land owner		2,500		1,070 ha	<p>The objectives of the Scheme are to:</p> <ul style="list-style-type: none"> • Restore, conserve and enhance woodland biodiversity, including in Natura 2000 areas; • Enhance the quality and diversity of landscapes; • Aid the development and promotion of forestry through the incorporation of practices that restore, preserve and enhance biodiversity; • Improve water and land management and contribute to meeting the Water Framework Directive objectives; • Protect and sustain Ireland's native woodland resource and associated biodiversity on a long term basis; • Conserve native genetic biodiversity; • Improve water quality through native riparian woodland development; • Increase Ireland's native woodland cover to contribute positively towards climate change mitigation; • Promote the use of close to nature forestry and traditional woodland management systems and related woodcrafts; • Contribute to long term carbon sequestration; and • Encourage the use of wood and non-wood products, where compatible with native woodland biodiversity. 	<p>Indicative Allocation: €7.26m</p> <p>Scheme Targets: 1,950 ha</p> <p>RDR Focus Areas: 4(a) & 5(e)</p>
Owner type		Total grant / ha (€)	Annual premiums (€)	Total targets for this scheme																	
Private land owner	Existing 'high forest' woodland	5,000	350 /ha /yr	520 ha																	
	Emergent native woodland	2,500	350 /ha /yr	360 ha																	
Public land owner		2,500		1,070 ha																	

Description of Measure (and schemes)	Objectives	Allocation and Targets (2015-2020)
high forest to native woodland at strategic locations within one of the priority 8 FPM catchments.		
Measure 7: Knowledge Transfer and Information Actions		
<p>There are four strands under this measure as follows:</p> <p>A. Knowledge Transfer Groups (KTG) KTGs will each be managed by an accredited facilitator, approved by DAFM, who can either be Teagasc or private professionals; they would need to be trained to a FETAC-accredited standard in order to operate a group. The group should however have access to a registered forester when required. The aim of this scheme will be to maximise the potential for knowledge and skill transfer to forest owners, thereby stimulating proactive management and appropriate tending, thinning and harvesting interventions. The Scheme will focus primarily on 5 areas: silviculture; financial management; forest health; environmental awareness to include water quality and biodiversity; and finally timber harvesting/marketing. In the initial year, all participants will be required to complete a Going Forward Action Plan. Facilitators will be required to ensure that all members of KTG's participate fully in the Programme.</p> <p>B. Continued Professional Development (CPD) Support will be provided for the organisation of a formal continuous professional development structure. This will involve putting in place a process of certification whereby individuals can submit a record of forestry training, seminars or field visits attended during the year. These records will then be accessed by the CPD body who will evaluate the training undertaken and decide whether the training merits the award of CPD certification. The scheme is not restricted by number or membership of any organisation. The CPD certification will be voluntary. The advantage of this scheme for individuals operating in the field of forestry is that they will be able to present themselves as being CPD certified..</p> <p>C. Targeted Training Training for private forest holders, professional foresters and forest machine operatives. For private forest holders the main focus would be on forest management while training for machine operators would include harvesting and forwarding. Health and safety, environmental legislation\ guidelines, forestry scheme rules and conditions, silvicultural requirements, new FMP format, continuous cover forestry, native woodlands training, as well as forest health could all feature as part of any potential training programme for forestry. This support could also include provisions for training courses around forestry schemes, procedures, guidelines and environmental directives.</p> <p>D. Advisory Services Support for advisory services will be targeted at individual forest holders and farmers. Advisory services will be delivered in the form of clinics, field days, information meetings, workshops, events such as "Talking Timber" and conferences. Advisors will need to have the appropriate qualifications and skills to undertake this role. The cost per advice will be limited to €1,500.</p> <p>This measure will provide opportunities for environmentally focus topics for discussion, training and advice. For example advisory service will include advice to forest holders on the relevant obligations under the Habitats Directive, the Birds Directive and the Water Framework Directive. There are possibilities for combining this measure with the Producer Groups and Innovative Forestry Technology measures.</p>	<p>Objectives for these schemes include:</p> <ul style="list-style-type: none"> • Maximise the potential for knowledge and skill transfer to forest owners; • Allow forest holders to enhance their competitiveness and resource efficiency and improve their environmental performance while at the same time contributing to the sustainability of the rural economy. • Bring innovators and researchers together with forest holders to look at the specific topics of interest and concern. • Establish a CPD certification structure for all registered foresters; • Ensure that there are sufficient numbers of adequately trained harvesting (including chainsaw) and forwarding operatives; • Ensure that thinning takes place on time, roundwood production targets are reached, new format of draft FMP proposed being submitted, minimal accidents in forest operations, and reduced pilot cases from the EU re. breaches of habitats directive. • Ensure that the appropriate support is available to forest holders to enable the maximum financial return to be generated from the forest resource in a sustainable manner consistent with legislation and guidelines. 	<p>Indicative Allocation: €9m (includes Measure 8)</p> <p>Scheme Targets: Fund 1,000 forest holders per year</p> <p>RDR Focus Areas: 1(a), (b) & (c)</p>
Measure 8: Setting up of Producer Groups		
<p>Financial support will be provided towards the cost of establishing forest producer groups in a manner consistent with rules set out in the RDR. A specific objective of the scheme would be to increase the number of new producer groups over the programme period. The objective set for this target is 13. Funding is limited to start ups only.</p> <p>Beneficiaries would need to submit a detailed business plan providing a description of the project, including objectives, timelines and projected expenditure. Aid is limited to a maximum of €500,000 per group and may not be granted for the start-up of new producer groups or producer organisations in a geographical area where, in the opinion of the Competent Authority, the objectives of the business plan submitted by the new producer group or producer organisation are already being fulfilled by an established producer group or producer organisation operating in that geographical area.</p> <p>Producer groups can help reduce the impacts of road building and harvesting on soil and neighbouring water courses by coordinating these activities within a producer group structure. These will minimise the impacts on the environment by ensuring that activities are planned in a coordinated fashion, lessening the amount of traffic and disturbance that might</p>	<p>Broad objectives under this measure would include the following;</p> <ul style="list-style-type: none"> • Encourage private forest holders to management their forest jointly on a geographical basis; • Create economies of scale to reduce management and marketing costs and improve the viability of private forests; • Increased viability will encourage holders to actively manage their forests; • Increase knowledge transfer between forest holders and registered foresters particularly to ensure that their operations protect and enhance the environment; • Bring more privately owned timber resource to the market; • Increase thinning rates will maximise the quality and value of the final harvest; • Help ensure a constant supply of quality timber to sawmills and processors; 	<p>Indicative Allocation: see Measure 7</p> <p>Scheme Targets: Create 13 new groups over the programming period</p> <p>RDR Focus Areas: 3(a)</p>

Description of Measure (and schemes)	Objectives	Allocation and Targets (2015-2020)
occur if forest owners operated independently from one another.	and <ul style="list-style-type: none"> Promote the use of cooperative road construction between multiple forest owners. 	
Measure 9: Innovative Forest Technology		
<p>Grants of up to 40% of eligible expenditure could be made available under this measure. Projects eligible for support will be determined by competitive selection process under a Call for Proposals. Applicants will be required to submit a detailed business plan providing a description of the project, including the objectives of the project, timelines and projected expenditure. A final report on the outcome of the project will also be required.</p> <p>The type of technologies envisaged are not harvesting machines themselves but could relate to harvesting technology in general. What is envisaged is support for smaller scale technologies which are applicable to private forest holders, producer groups, forest contractors and haulage operators. For example consideration may be given to aid variable tyre pressure systems to enable access to forests on low quality roads where haulage operators have to access multiple forest properties. Forest inventory technologies could also be considered where such technologies are innovative and show potential to provide low costs option to private forest holders for assessing the value and productivity of their forest holdings.</p> <p>In order to be eligible for support for this scheme, proposals should ensure (e.g. in the business plan from the applicant) that the investments will contribute to the improvement of the economic value of forests in one or more holdings. In the case of machinery for example, it has to be ensured that they will be used efficiently. Approximately 20-30 projects will be funded per annum</p>	Support for the introduction of new technologies for use in private forests has the potential to reduce management costs and improve accuracy in terms of forest management outputs. Objectives could be measured by the number of new technologies adopted by forest holders, producer groups and contracting companies.	<p>Indicative Allocation: €0.9m</p> <p>Scheme Targets: 180 projects funded</p> <p>RDR Focus Areas: 5(e)</p>
Measure 10: Forest Environment and Climate Services: Forest Genetic Reproductive Material		
<p>The scheme will provide funding towards the costs related to the following:</p> <p>A. Management and conservation of broadleaf seed stands; and B. Establishment of new production areas such as seed orchards (including broadleaf and conifer).</p> <p>In relation to a) above eligible costs will include provision for access paths, fencing, control of ground vegetation and thinning to open up crowns for greater levels of seed production. Funding is therefore not based on actual seed production (by weight) but on the basis of the area of an existing seed stand which is already registered but not in production. Costs may also include income forgone. A payment of up to €1,500 per seed stand paid on the basis of invoices received up to 2020 or so long as the area is registered as a seed stand, i.e. for a maximum of 6 years, whichever is the lesser. The aim of this work will be to get the seed stands back into production. The target group will be forest holders and nurseries.</p> <p>The establishment of new seed orchards (clonal and seedling) will also be supported under this scheme for both conifer and broadleaves. The rules governing the granting of this aid will be based on Measure 1: Afforestation and Creation of Woodlands. The scheme will be cost based with funding provided up to a maximum of 50% of the cost of establishment. An annual maintenance payment will be available for 10 years at a rate of €500/annum.</p> <p>Support for both seed stands and seed orchards will depend on the level of seed production, the quality of seed produced and the demand for seed of particular species. 30 ha is the maximum area eligible for both seed stands and orchards. The level of support will be €200/ha per annum up to 2020. For seed stands or seed orchards forest management plan must be presented prior to funding under this measure. Public and private forest-holders will be eligible for support.</p> <p>Environmental benefits delivered by this measure can be summarised as:</p> <ul style="list-style-type: none"> Sourcing plants derived from locally produced seed will reduce the risk of disease occurrences caused by imported plants. The <i>Chalara fraxinia</i> outbreak was linked to imported plants; Plants produced from local seed sources are more suited to the local climate and are therefore more resilient to events associated with climate change; Seed stands and seed orchards can produce superior plants and forests, sequestering more carbon and producing more timber which in turn can be used to displace more fossil fuel; Establishing seed orchards can be used as a continuation of existing seed or clonal research and therefore bring to fruition research carried out on resilience, productivity and wood quality. 	The primary objectives are to increase productivity and improve the quality of new planting stock; increase self-sufficiency in tree seed production; provide for in-situ and ex-situ conservation of forest genetic resources; and provide breeding populations of designated broadleaf and conifer species (e.g. alder, birch, oak, sycamore, Scots pine, Sitka spruce).	<p>Indicative Allocation: €0.42m</p> <p>Scheme Targets: 2,100 ha supported</p> <p>RDR Focus Areas: 4(a)</p>

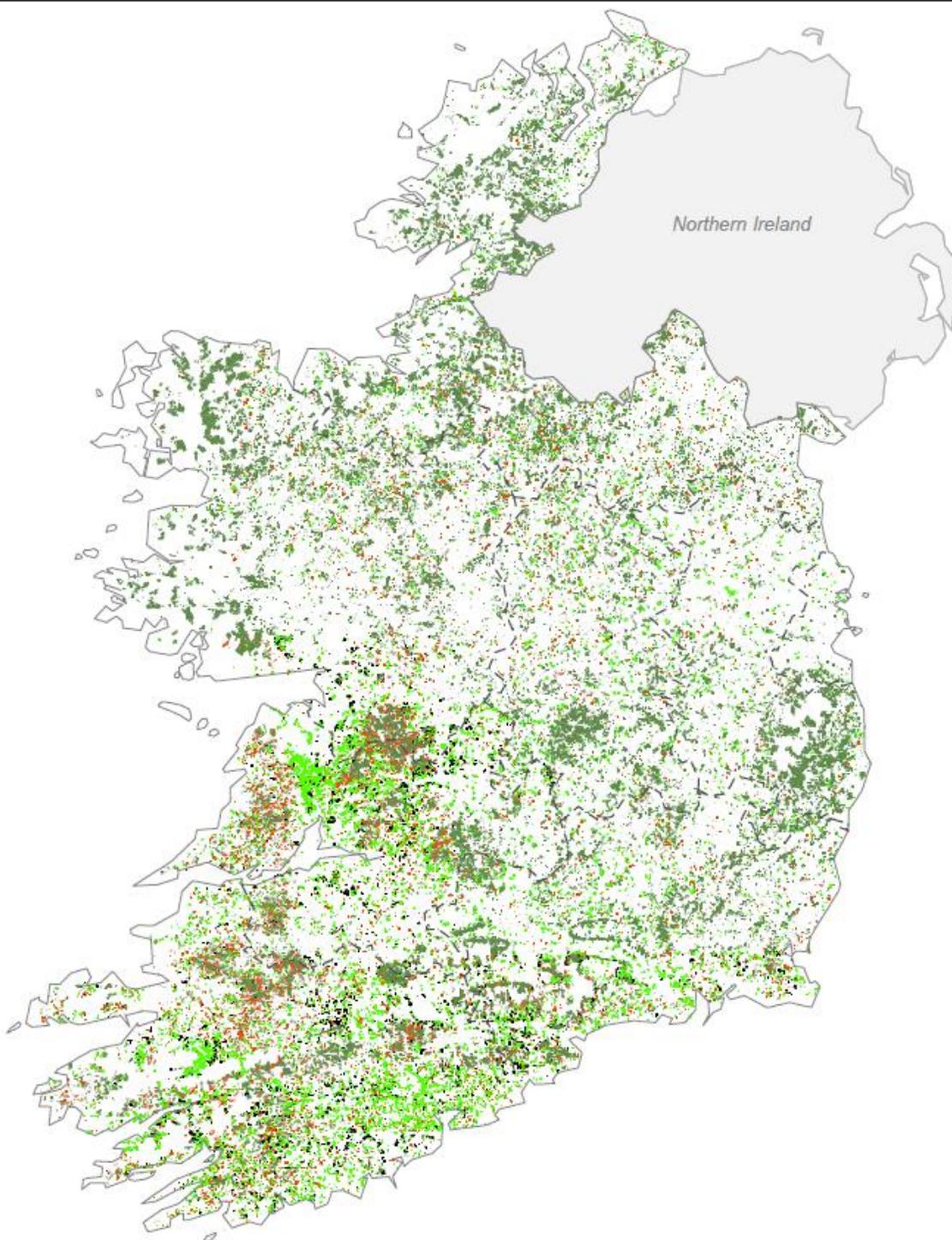
Description of Measure (and schemes)	Objectives	Allocation and Targets (2015-2020)
Measure 11: Forest Management Plans		
<p>The Management Plan provides details on the future management of the forest detailing information such as a stocking assessment, nutrient assessment, average height and yield class, planting year, and the projected years for first thinning(s) and clearfell for each plot. The plan will also set out relevant measures regarding the protection and enhancement of the wider environment, primarily based on any environmental conditions attached to approval, but also incorporating, where possible, readily-achievable measures which can deliver additional environmental benefits. Historical sites and monuments along with other environmental designations should also be recorded in the FMP. The plan must be prepared by a forester registered with the Department following a field assessment to record and update data relating to species, areas, plot boundaries and any associated changes, on a certified species map. FMPs must adhere to the principles of sustainable forest management.</p> <p>All grant-aided forests must submit a Forest Management Plan for both broadleaf or conifer plantations at year 12 for areas of 5 hectares or greater. The midterm review or earlier if budgets allow, will look at supporting private non grant aided forest as well.. This might happen when the online Forest Management Plan IFORIS module has been developed.</p>	<p>The aim of this scheme is to encourage the submission of FMPs for all forests over 5ha when the plantation reaches 12years.</p> <p>There is a need to encourage all forest owners to develop these plans, particularly in support of felling licence applications where appropriate.</p> <p>With the right management, forests can produce a range of services and products (wood and non-wood forest products) in a way that is sustainable. FMP's are an important tool in helping to achieve sustainable forest management.</p>	<p>Indicative Allocation: €1.8m</p> <p>Scheme Targets: 6,000 plans</p> <p>RDR Focus Areas: 4(a) & 5(a)</p>

3.3. Characteristics of the FP Area

- 3.3.1. The geographical area of the FP covers the territory of the Republic of Ireland. However, as recommended by DEHLG guidance (2009), the AA takes into account trans-boundary impacts where it is identified that FP measures have the potential to impact on Natura 2000 sites in Northern Ireland.
- 3.3.2. In 2012, forest cover in Ireland stood at 10.7% (738,000ha), making it, along with Malta and the Netherlands, the least wooded country in the EU, where the average forest cover is 37%. This low level of forest cover impacts on the economic, environmental and social wellbeing of the country. In economic terms, it increases Ireland's dependence on imported wood products and fuels, and reduces opportunities for the development of renewable energy technologies. In environmental terms, it affects the extent and quality of forest ecosystems and reduces the benefits that appropriately managed forests can provide in terms of, for example, nature conservation, flood alleviation, water quality, carbon sequestration and climate change mitigation.
- 3.3.3. The introduction of the State/EU funded forestry grant and annual payment schemes in the 1980s led to private landowners, rather than just the state, planting significant amount of forest and now 46% of Ireland's forest estate is privately owned (Forest Policy Review Group, 2013b).
- 3.3.4. Approximately 74% of Ireland's national forest estate is commercial conifer plantations and is dominated by non-native species. Ireland's native conifer species includes yew and Scots pine. The proportion of broadleaf forest is approximately now 26%, having increased by 1% between 2006 and 2012, and can mainly be found in the southwest of the country, especially in counties Clare and Cork. The Forest Land Cover map (Figure 3.1) shows the location of broadleaf, coniferous and mixed woodlands across the country. In 2012 the National Forest Inventory showed that 23% of the national estate had reached thinning stage but had not been thinned.

Forestry Programme Republic of Ireland

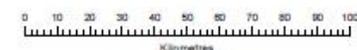
Figure 3.1 - Forest Land Cover



- Broadleaf
- Coniferous
- Mixed Forest (Young & Mature)
- Other

NOTE: 'Other' includes DAFM classes Unknown, Unenclosed Land, Threshold Land, PGA- Young Unknown (1998), Other Forest (1998), Cleared 1998 and BIO-Biodiversity.

Drawn by P. Taylor 02/06/2014, Verified by H. Davies 02/06/2014



Scale 1:1,000,000 at A3 size

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4. NATURA 2000 SITES IN IRELAND

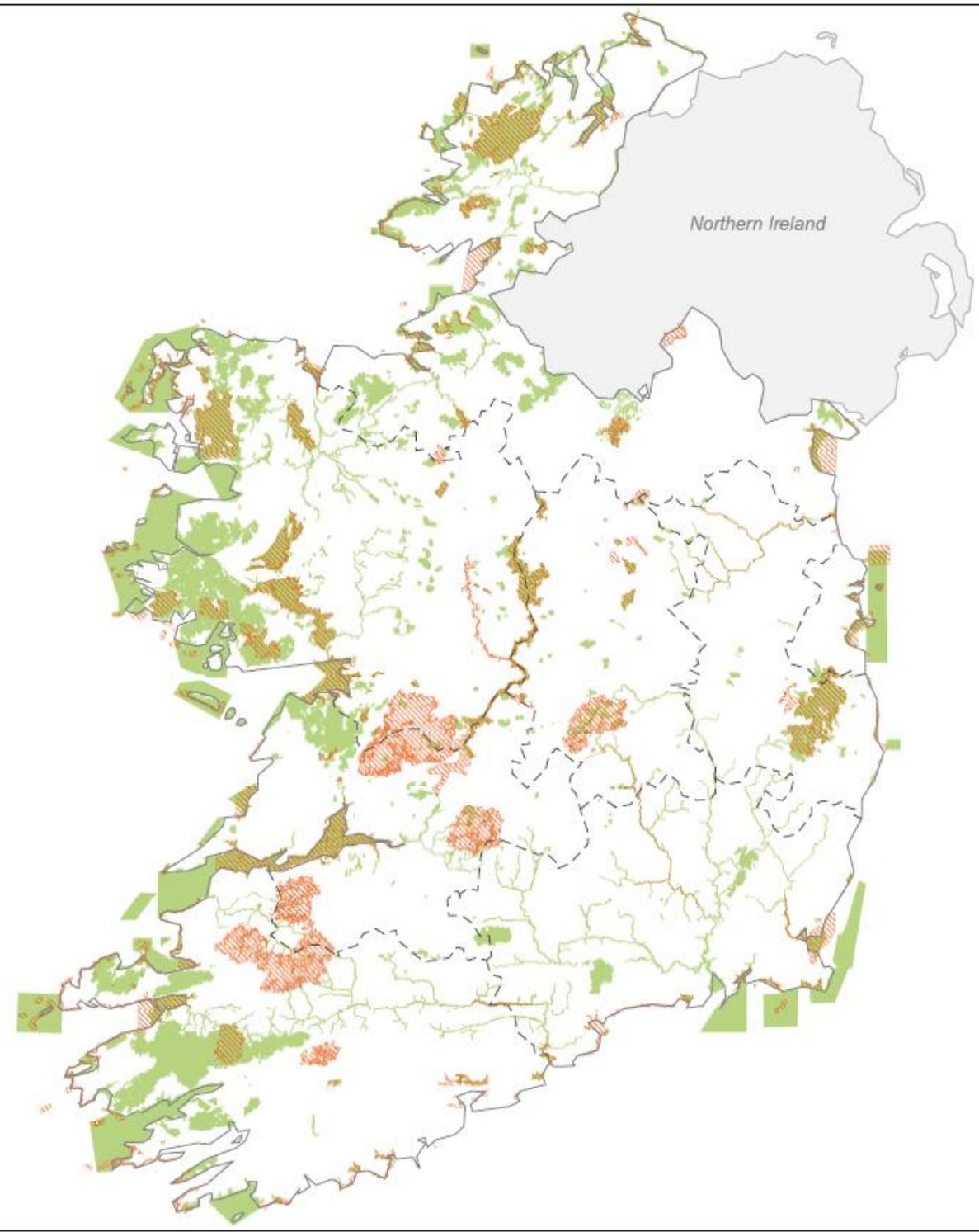
4.1. Natura 2000 Sites and Qualifying Features

- 4.1.1. Special Areas of Conservation (SACs, including candidate SACs) are sites designated under the Habitats Directive, requiring the conservation of important, rare or threatened habitats and species (other than birds) across Europe. Special Protection Areas (SPAs, including proposed SPAs) are sites designated under the Birds Directive to conserve certain migratory or rare birds and their habitats. Those sites designated as SACs and/or SPAs are collectively known as Natura 2000 sites.
- 4.1.2. Qualifying features of interest for SACs include European important habitats listed on Annex I of the Habitats Directive (including priority types which are in danger of disappearance), and European important species, as listed on Annex II. For SPAs, qualifying features are those bird species listed on Annex I of the Birds Directive; “wetlands and waterbirds” is also a qualifying interest for many SPAs.
- 4.1.3. All European sites have conservation objectives that are general in nature, while a programme for establishing site-specific objectives is in progress. Conservation objectives for SACs and SPAs are intended to ensure that the Annex I habitats, Annex I birds and/or Annex II species present onsite (the qualifying interests) are maintained in or restored to a favourable condition. Appropriate assessments are to be undertaken in view of such conservation objectives.
- 4.1.4. A significant proportion of the country is considered to be of prime importance for nature conservation; this comprises (in 2014) 423 SACs and 154 SPAs. The areas designated as SACs in Ireland cover an area of approximately 1,350,000 hectares (roughly 53% is land, the remainder being marine or large lakes). Ireland’s SPA network encompasses over 570,000 hectares of marine and terrestrial habitats. Ireland’s Natura 2000 sites are mapped in Figure 4.1.

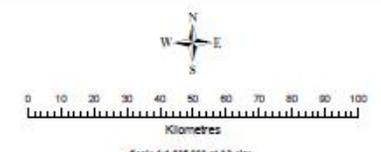
Forestry Programme Republic of Ireland

Figure 4.1 - Natura 2000 Sites

-  Special Protection Area
-  Special Area of Conservation



Drawn by P. Taylor 02/06/2014, Verified by H. Davies 02/06/2014



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- 4.1.5. Ireland has a significant number of European important habitats totalling 58 of those listed in Annex I of the Habitats Directive. Of these, 16 are deemed to be priority habitats, including limestone pavements, machair, turloughs and active peatlands. Of Ireland's SACs, 65 have at least one woodland habitat listed as a qualifying feature, whilst 36 SACs have woodland as the predominant habitat type (half of these are located in the particularly wooded counties of Cork, Galway and Wicklow).
- 4.1.6. The 25 Irish species which must be afforded protection through Annex II of the Habitats Directive include Atlantic Salmon, Otter, Freshwater Pearl Mussel, Marsh Fritillary Butterfly, Kerry Slug and Killarney Fern. There are also 25 bird species that currently occur in Ireland on a regular basis that are protected through the Birds Directive; over 60% of these belong to the breeding seabird and wintering waterbird groups. This has in part led to the situation that the majority (> 80%) of Ireland's SPAs are designated for these two bird groups. Other species listed on Annex I of the Birds Directive for which SPAs have been designated in Ireland include Chough, Peregrine, Hen Harrier, Corncrake, Kingfisher, Merlin, Golden Plover, Dunlin and Merlin.

4.2. The State of Ireland's Habitat and Species

- 4.2.1. Every six years, Member States of the European Union are required to report on the conservation status of all habitats and species listed on the annexes of the Habitats Directive using a standardised assessment format. This has revealed that only 7% of habitats and 39% of species listed under the Habitats Directive are considered to be in a favourable state; forests, peatlands, grasslands, freshwater habitats, dunes, fish, molluscs and the natterjack toad are faring particularly badly. Three out of the four Annex I forest habitats present in Ireland have been assessed as being in bad conservation status (old oak woodlands; residual alluvial woodlands; yew woodlands) and one in poor status (bog woodland); none are in good conservation status (DAHG, 2013).
- 4.2.2. A number of factors are causing this pattern and are threatening the valuable habitats and species of Ireland. The EPA's report Ireland's Environment: An Assessment (2012) highlighted direct habitat damage such as peat cutting, wetland drainage/reclamation and infrastructural development; overgrazing and

undergrazing; water pollution particularly from nutrients and silt; invasive alien species; and recreation to be the key pressures.

4.2.3. The environmental issues regarding forests fall into two categories: drivers of forestry policy such as climate change, inclusion of native species and recreational demands and problems arising from forest expansion and increased levels of harvesting (Forest Policy Review Group, 2013). Forestry is not listed as one of the key threats to protected habitats or annex species in the NPWS report 'The status of EU protected habitat species in Ireland' (2013), but is identified as a pressure on both. Forestry has potential to adversely impact on protected species such as the Freshwater Pearl Mussel and the Hen Harrier, and on important habitats such as active raised bogs and blanket bogs, particularly with regard to direct pressures from inappropriate forest operations, as well as habitat fragmentation and connectivity.

4.3. Relevant Sites, Habitats and Species

- 4.3.1. As revealed in the Screening Statement, the DEHLG Guidelines (2009) state that any Natura 2000 sites within or adjacent to the plan or project area should be screened. However, the FP applies to the whole territory of the Republic of Ireland; forest and supporting habitats are widespread across the country, and the measures are applicable to forest owners, farmers and other land owners. It was therefore not possible to screen out any Natura 2000 sites on a geographical basis, whilst it is also unfeasible to assess Natura 2000 sites at a national scale.
- 4.3.2. An appropriate assessment should focus exclusively on the qualifying interests of Natura 2000 sites (i.e. the reasons for which the sites are designated) and must consider any impacts on the conservation objectives of the site. Forestry activities are more likely to affect certain habitats and species than others. This screening process therefore identified which qualifying features of Natura 2000 sites are currently under pressure from forestry activities, and which are thought likely to be under threat in future. This information was obtained from the Forest Service, the Prioritised Action Framework (PAF) for Natura 2000 report (DAHG, 2013) and the Status of EU Protected Habitats and Species in Ireland reports (NPWS, 2013).
- 4.3.3. A key Annex II species of relevance to forestry activities in Ireland is the Freshwater Pearl Mussel. A total of 19 SACs have the Freshwater Pearl Mussel

listed as a qualifying feature. The Freshwater Pearl Mussel is protected under Annex II and Annex V of the Habitats Directive. There are two types of the mussel; *Margaritifera margaritifera* which is the more common species and present in 139 of Ireland's rivers and *Margaritifera durrovensis* which is unique to Ireland and extremely rare, only being present in the River Nore. The species is listed as critically endangered in the Republic of Ireland; eight catchments have thus been prioritised for their conservation in Ireland. Proposals have been made for detailed forest management plans for each priority catchment, as forestry activities represent a potential source for sediment and nutrients that can enter the watercourse, causing death of the mussels and deterioration of habitat quality for the species (Forest Policy Review Group, 2013a).

- 4.3.4. Similar potential sources of impact exist for a range of fish species such as Lampreys and, in particular, Atlantic Salmon. Whilst the Lampreys are currently considered to be in favourable condition, localised impacts of even small-scale forestry operations could have detrimental effects on populations (e.g. bank re-alignment, culverting, bridging). Impacts on Atlantic Salmon can be caused from artificial planting on open ground (in particular, non-native trees), forest replanting and the use of fertilisers and diffuse pollution to surface waters due to forestry activities. Forestry is unlikely to have impacts on other species of Annex 1 fish e.g. Shads, as these are found much further down river.
- 4.3.5. The Otter (*Lutra lutra*) is an Annex IV species under the Habitats Directive and is strictly protected wherever it occurs. The main threats from forestry are loss of riparian habitats, water pollution leading to reduced prey availability and disturbance of resting and breeding places (holts and couches). Any activity near a watercourse including scarification, drainage, scrub clearance, tree planting, felling and forest road development, are likely to impact on the species or its habitat. The Forestry and Otter Guidelines (Forest Service, 2009) provide advice on how to undertake a site assessment to determine if otters are present before commencing forestry operations, and the actions to be taken if evidence of otters is found.
- 4.3.6. The Kerry slug (*Geomalacus maculosus*), is another Annex IV species under the Habitats Directive. The Kerry slug has a restricted distribution, usually occurring in

three general habitat types of deciduous woodland (usually *Quercus* dominated), blanket bog or unimproved open moor and lakes shores in areas of sandstone geology in west Cork and Kerry. However, in 2010 the species was identified on granite outcrops and on the trunks of conifer trees at a site near Oughterard, Co. Galway. The main threat to the species from forestry activities is loss of habitat through planting, loss of scrub, loss of mature woodland and the spread of exotic species such as *Rhododendron ponticum* into its semi-natural woodland habitat. *Rhododendron* results in heavy shading of areas and the subsequent loss of food plants. The Forestry and Kerry Slug Guidelines (Forest Service, 2009) provide advice on how to undertake a site assessment to determine if Kerry slug is present before commencing forestry operations, and actions to be taken if evidence of species is found.

- 4.3.7. Marsh Fritillary can suffer local extinction due to inappropriate planting of (potentially unknown) areas where this species is present. Marsh Fritillary exists in meta-populations (i.e. smaller populations intrinsically linked). The loss of individual populations can thus have ramifications for the wider population.
- 4.3.8. Certain species of bats listed on Annex 1, are particularly tied to woodland areas. For example, Brown Long-eared Bat and Leisler's Bat are both species that frequently roost in trees, and inappropriate felling or 'tidying up' of mature trees could result in detrimental impacts to these species.
- 4.3.9. A key bird species of relevance to forestry activities in Ireland is the Hen Harrier, a species for which 6 SPAs have been designated. The Hen Harrier is classed as vulnerable at a European scale (Forest Policy Review Group, 2013a). Afforestation and associated works have put pressure on the bird species as it has removed significant areas of suitable habitat, consisting of bogs and heaths and extensive farmland. As a result the species has had to adapt to nest in young conifer plantations, however, evidence suggests that nests in second rotation forests have low breeding success. Such impacts, in particular, the loss of moorland habitats to afforestation, can also have impacts on breeding upland waders such as Dunlin and Golden Plover and other birds of prey such as Short-eared Owl.
- 4.3.10. Kingfisher is a species that could suffer from the sedimentation and/or pollution of watercourses. Nightjar is also a species (similar to Hen Harrier) that breeds in

initial clearfell forestry (< 15 years in age). However, forestry habitat can rapidly become unsuitable for the species as trees reach a certain height.

4.3.11. Natura 2000 sites with the Annex I habitats, Annex II or IV species¹ or Annex I bird species listed in Table 4.1² could potentially be adversely affected by the FP.

Table 4.1: Annex Habitats and Species with the potential to be affected by Forestry Activities

Annex I Habitats	Annex II/IV Species and Annex I Birds
Forests	Invertebrates
91A0 Old sessile oak woods with Ilex and Blechnum in British Isles	1016 Desmoulin's whorl snail (<i>Vertigo moulinsiana</i>)
91D0 Bog woodland	1024 Kerry slug (<i>Geomalacus maculosus</i>)
91e0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)	1029 Freshwater pearl mussel (<i>Margaritifera margaritifera</i>)
91J0 <i>Taxus baccata</i> woods of the British Isles	1990 Nore Freshwater Pearl Mussel (<i>Margaritifera durrovensis</i>)
Rocky habitats	1065 Marsh fritillary (<i>Euphydryas aurinia</i>)
8240 Limestone pavements	1013 Geyer's whorl snail (<i>Vertigo geyeri</i>)
8310 Caves not open to the public	1014 Narrow mouthed whorl snail (<i>vertigo angustior</i>)
Peatlands	1092 White clawed cray fish (<i>Austroptamobius pallipes</i>)
7110 Active raised bogs	Mammals
7120 Degraded raised bogs still capable of natural regeneration	1303 Lesser horseshoe bat (<i>Rhinolophus hipposideros</i>)
7130 Blanket bog (*active only)	1309 Common pipstrelle (<i>Pipistrellus pipistrellus</i>)
7140 Transition mires and quaking bogs	1314 Daubenton's bat (<i>Myotis daubentonii</i>)
7150 Depressions on peat substrates of the <i>Rhynchosporion</i>	1317 Nathusius' pipistrelle (<i>Pipistrellus nathusii</i>)
7210 Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>	1322 Natterer's bat (<i>Myotis nattereri</i>)
7220 Petrifying springs with tufa formation (<i>Cratoneurion</i>)	1326 Brown long-eared bat (<i>Plecotus auritus</i>)
Grasslands	1330 Whiskered bat (<i>Myotis mystacinus</i>)
6230 Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)	1331 Leisler's bat (<i>Nyctalus leisleri</i>)

¹ Species listed under Annex IV of the Habitats Directive – may not be required to designate SACs for them but they are strictly protected wherever they occur (inside and outside designated areas).

² This list of species and habitats was initially derived from NPWS¹ report on The Status of EU Protected Habitats and Species in Ireland (2013) and later amended by the Forest Service.

6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinia caerulea</i>)	5009 Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>)
6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometea) (*important orchid sites)	1320 Brandt's bat (<i>Myotis brandtii</i>)
6510 Lowland hay meadows (<i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i>)	1355 Otter (<i>Lutra lutra</i>)
Heath and scrub	Plants
4010 Northern Atlantic wet heaths with <i>Erica tetralix</i>	1393 Slender green moss (<i>Drepanocladus vernicosus</i>)
4030 European dry heaths	1421 Killarney Fern (<i>Trichomanes speciosum</i>)
4060 Alpine and Boreal heaths	1528 Marsh Saxifrage (<i>Saxifraga hirculus</i>)
5130 <i>Juniperus communis</i> formations on heaths or calcareous grasslands	1833 Slender naiad (<i>Najas flexilis</i>)
Freshwater habitats	Birds
3110 Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>)	A082 Hen Harrier (<i>Circus cyaneus</i>)
3130 Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoëto-Nanojuncetea</i>	A098 Merlin (<i>Falco columbarius</i>)
3140 Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp.	A103 Peregrine (<i>Falco peregrinus</i>)
3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition-type vegetation	A122 Corncrake (<i>Crex crex</i>)
3160 Natural dystrophic lakes and ponds	A224 Nightjar (<i>Caprimulgus europaeus</i>)
3180 Turloughs	A229 Kingfisher (<i>Alcedo atthis</i>)
3260 Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation	A346 Chough (<i>Pyrrhocorax pyrrhocorax</i>)
3270 Rivers with muddy banks with <i>Chenopodion rubri</i> p.p. and <i>Bidention</i> p.p. vegetation	A216 Snowy owl (<i>Nyctea scandiaca</i>)
6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	A222 Short-eared owl (<i>Asio flammeus</i>)
Dunes	A041 Greenland Whitefronted Goose (<i>Anser albifrons flavirostris</i>)
2170 Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salix arenariae</i>)	A396 Barnacle Goose (<i>Branta leucopsis</i>)
21a0 Machairs (* in Ireland)	A038 Whooper Swan (<i>Cygnus cygnus</i>)
Coastal habitats	A037 Bewick's Swan (<i>Cygnus bewickii</i>)
1230 Vegetated sea cliffs of the Atlantic and Baltic coasts	A140 Golden Plover (<i>Pluvialis apricaria</i>)
Fish	A151 Ruff (<i>Philomachus pugnax</i>)
1096 Brook lamprey (<i>Lampetra planeri</i>)	A166 Wood Sandpiper (<i>Tringa glareola</i>)
1099 River lamprey (<i>Lampetra fluviatilis</i>)	A149 Dunlin (<i>Calidris alpina</i>)

1106 Atlantic salmon (<i>Salmo salar</i>)	Herpetiles
1095 Sea lamprey (<i>Petromyzon marinus</i>)	1202 Natterjack toad (<i>Bufo calamita</i>)
5046 Killarney shad (<i>Alosa fallax killarnensis</i>)	

5. LIKELY EFFECTS OF THE FP

5.1. Overview

5.1.1. The Forest Service is Ireland's national forest authority with responsibility for overseeing the development of public and private forestry in Ireland. Through a licensing and consent system, the Forest Service regulates the main forestry activities and adherence to a range of standards, guidelines and requirements is mandatory.

- European Communities (Forest Consent & Assessment) Regulations 2010 (S.I. No. 558 of 2010, as amended by S.I. No. 442 of 2012) – approval required for afforestation of any area >0.1 ha, forest road construction and ancillary works;
- Forestry Act 1946 (Part IV) – felling licence required for tree felling;
- European Communities (Aerial Fertilisation) (Forestry) Regulations 2012 (S.I. No. 125 of 2011) – licence required for aerial fertilisation of forests;
- European Communities (Birds & Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011);
- European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003);
- Forest Service (2000) Irish National Forest Standard - outlines the basic criteria and indicators relating to the implementation of Sustainable Forest Management in Ireland;
- Forest Service (2012) Appropriate Assessment Procedure (AAP) – Information Notes C and D apply regarding Hen Harrier and Freshwater Pearl Mussel;
- Forest Service (2008) Forestry and Freshwater Pearl Mussel Requirements;
- Forest Service (2000) Forest Biodiversity Guidelines;
- Forest Service (2000) Forestry and Water Quality Guidelines;
- Forest Service (2000) Forest Harvesting and the Environment Guidelines;
- Forest Service (2000) Forest Protection Guidelines;
- Forest Service (2008) Forestry and Aerial Fertilisation Guidelines;

- Forest Service (2009) Forestry and Otter Guidelines;
- Forest Service (2009) Forestry and Kerry Slug Guidelines;
- Forest Service / EPA / COFORD (amended 2013) Protocol for the determination of the acid sensitivity of surface water in acid sensitive areas (ASAs) – allows Native Woodland Establishment Scheme applications within ASAs, without requirement for water sampling (enclosed land only).

5.1.2. As revealed in the Screening Statement, these procedures and controls mean that the risk of adverse impacts on Natura 2000 sites should be minimal. However, given the existing threats and future pressures that habitats and species face as a result of forestry activities (DAHG, 2013), there is concern that controls may be insufficient to mitigate the risk of impacting on Natura sites and their associated habitats or species. Furthermore, it has been suggested that some of these controls may not be fulfilling their requirements (Environmental Pillar, 2014).

5.1.3. In particular there are concerns regarding Measures 1 (Afforestation and Creation of Woodlands), 3 (Forest Road Scheme), 4 (Reconstitution Scheme) and 5 (Thinning and Tending Broadleaves), and to a lesser extent Measures 2 (NeighbourWood Scheme) and 6 Native Woodland (Conservation) Scheme, as set out below.

Measure 1 – Afforestation and Creation of Woodlands

5.1.4. Afforestation will mainly occur on improved agricultural land, with mineral soils. Additional opportunities may also exist on brownfield sites such as closed landfills and former industrial areas. As the majority will comprise coniferous plantation this could potentially reduce biodiversity as habitat is lost and species displaced or otherwise affected. Afforestation can result in a decrease in water availability through drainage of wet soils, and contamination of surface and ground water through diffuse pollution (especially if fertilisers are used), acidification, eutrophication and sedimentation. These issues can also arise at the end of the forest cycle during and after clearfelling. Clearfelling can also lead to increased water availability which may cause flooding. The Forestry for Fibre scheme will have similar effects to the Afforestation scheme, though mainly deciduous species will be used. The regular harvesting means that the risk of soil erosion, eutrophication, sedimentation and pollutants discharging to waters is greater,

however. EIA is mandatory for forestry plantings over 50ha. However, this could mean that smaller important areas (potentially supporting Marsh Fritillary or other European Protected Species or birds) may be planted. This risk is increased where forestry grants are paid to individuals for planting schemes where the individual has little ecological knowledge.

Measure 2 – NeighbourWood Scheme

- 5.1.5. Opening up existing urban or peri-urban woodlands to recreation and silvicultural activities could cause disturbance effects for protected species. The creation of new NeighbourWoods could also cause a loss of habitat or deterioration in habitat quality, depending on the previous use of the site and its ecological sensitivity/value.

Measure 3 – Investments in Infrastructure: Forest Road Scheme

- 5.1.6. The construction works associated with road building (and the resulting thinning operations) are likely to cause disturbance of species which utilise woodlands or occur near woodland habitats, whilst fragmentation effects may also be a concern, especially in broadleaf forests. Construction works can also cause changes to soil structure and composition, sedimentation and changes in hydraulic conditions. There are particular concerns where forest roads cross small watercourses as many aquatic species are particularly vulnerable to pollutants and changes in water quality. The opening up of 'new' areas of forestry with roads will also encourage additional users of these areas. These may include those with a high disturbance impact such as off road dirt bikes.

Measure 4 – Prevention and Restoration of Damage to Forests: Reconstitution Scheme

- 5.1.7. Restoration works (including tree removal and re-planting) following significant damage by natural causes is likely to cause additional disturbance to habitats and species, the extent to which will depend on the ecological sensitivity of the forest site (including sensitive species) in question and the noise levels associated with particular operations. Removal of damaged trees and replanting can lead to soil erosion and sedimentation, while decaying vegetation left on site can lead to nutrient enrichment of nearby aquatic zones.

5.1.8. The removal or pruning of over-mature or malformed trees could have detrimental impacts on biodiversity, including a range of lichen species and saproxylic invertebrates. However, provision of deadwood is a requirement in the Forest Biodiversity Guidelines. Perhaps more relevant in the context of this NIS is the potential impact on Annex II bat species such as Brown Long-eared Bat and Leisler's Bat, which both favour holes in (usually) over-mature timber.

5.1.9. The option of not restoring damaged forests could be considered where this may benefit the conservation objectives of a Natura site.

Measure 5 – Woodland Improvement (Thinning & Tending Broadleaves)

5.1.10. Thinning activities may cause disturbance and temporary loss of habitat for woodland species. Furthermore, the felling of malformed and over mature trees, which are often excellent habitats for a range of rare species including Saproxylic beetles and Kerry slug, particularly in Natura sites where woodland is a qualifying interest, may conflict with biodiversity aims. This also applies to Annex II bat species, especially those that breed and roost in holes in over-mature trees (e.g. Leisler's).

Measure 6 - Native Woodland (Conservation) Scheme

5.1.11. Overall this Scheme will have significant benefits for biodiversity, particularly when applied to Natura sites where woodland is a qualifying interest. However, there will be some disturbance effects during the conversion of existing non-native forests to native woodlands. The felling of plantation forestry could have impacts on species such as the Kerry Slug, which in some areas is found in coniferous forestry.

5.2. Direct Impacts

5.2.1. The following direct impacts could occur, where afforestation is planned in or near a Natura 2000 site (i.e. as a result of Measure 1):

5.2.2. Loss of Annex I habitat. This could be loss of habitat within Natura 2000 sites or immediately adjacent to the boundary of Natura sites (and in effect, contiguous with the habitat interest within the site). Loss of habitat could occur as a result of inappropriate areas being chosen for afforestation. This in turn could result from the misidentification or classification of areas targeted for afforestation. For

example, areas of heath, and in particular wet heath, are potentially of high ecological value. This is underlined by the fact that examples of both these habitat types – European dry heaths and Northern Atlantic wet heaths with *Erica tetralix* – are Annex I habitat types.

- 5.2.3. Destruction of habitat, both within and outside of designated sites, can also have direct impacts on Annex I (Birds Directive) and Annex II (Habitats Directive) species, through loss of, in particular, breeding habitat. This applies in particular to bird species such as Hen Harrier and Merlin, but also to upland breeding waders such as Dunlin and Golden Plover. It could also apply to Otter (destruction of breeding or resting places), Kerry slug and marsh fritillary. This last for example is tied to areas of grassland with devil's-bit scabious. Such a habitat type tends to occur on wet mineral soils, which are specifically targeted for afforestation. Marsh Fritillary also occurs in (often small) meta-populations, which are vulnerable to local extinction as a result of habitat loss and fragmentation.
- 5.2.4. Removal of malformed or over mature broadleaves. This could cause impacts on species associated with rotten and decaying timber, and in particular, on some (saproxylic) beetle species and lichens associated with sap runs, knotholes, etc. The range of invertebrates and lichens found on over mature timber is often high and removal of such timber may conflict with biodiversity. Similarly, over mature trees are often those targeted as roost sites by bats such as Leisler's and Brown Long-eared.
- 5.2.5. However it should be noted that there have been significant changes to the FP since the version assessed at the Screening stage, largely in response to the SEA and AA findings and comments received from the EPA and DAHG following the first consultation event in April 2014. The FP now states in Measure 1:

The selection of species to be planted, of areas and methods to be used, shall avoid the inappropriate afforestation of sensitive habitats such as peat lands and wetlands and negative effects on areas of high ecological value including areas under high natural value farming. On sites designated as Natura 2000 pursuant to the Habitats Directive and the Birds Directive only afforestation consistent with the management objectives of the sites concerned shall be allowed. Decisions regarding the suitability of sites for afforestation will be supported by the Indicative

Forest Strategy (IFS) for Ireland. The IFS is a map-based approach which integrates many different spatial datasets which take account of a wide range of environmental factors and other opportunities and constraints (for example soil productivity, landscape, water quality, archaeology, biodiversity, and fisheries and acid sensitive areas).

- 5.2.6. Significant adverse effects on Natura 2000 sites, or habitats or species protected under the Habitats or Birds Directives, arising directly from Measure 1 of the FP are thus unlikely.

5.3. Indirect impacts

- 5.3.1. Disturbance impacts on Natura sites could occur as a result of any of Measures 1 to 6. Annex I (Birds Directive) raptors (Hen Harrier, Merlin and Peregrine), breeding waders (Golden Plover, Dunlin), wintering waterfowl (Whooper Swan, Greenland white-fronted geese) and Otter could all be vulnerable to the effects of noise from forestry operations. This could result from machinery involved in planting, though also through forestry thinning operations. Raptors are particularly vulnerable during the early stages of their breeding cycle, though remain more faithful to nests once chicks have hatched. Increases in human activity associated with forestry activities could also result in disturbance impacts. This is particularly the case in otherwise remote areas where species are perhaps not so used to the presence of humans, and thus less likely in the context of NeighbourWoods.
- 5.3.2. Afforestation (Measure 1) of areas close to Natura sites could provide additional habitat for predators including Fox, Badger, Pine Marten and common raptors such as Buzzard. Forestry plantation provides both breeding and denning sites for these species, but also perching sites for birds of prey and corvids. Ground nesting birds such as Hen Harrier, Merlin, Golden Plover, Dunlin and potentially Nightjar could be vulnerable to predation by Fox, Pine Marten and Badger.
- 5.3.3. As stated in Section 5.2 above, the changes to Measure 1 regarding the appropriate siting of afforestation to avoid sensitive habitats such as peatlands and wet heath, to avoid negative effects on areas of high ecological value, and to only allow afforestation that is consistent with the management objectives of the Natura 2000 sites concerned, should mean that there are no indirect effects relating to disturbance from this Measure. However, there is uncertainty about the

disturbance effects of some of the other forestry activities proposed through the FP; without mitigation, Measures 3 and 5 could cause disturbance of Annex I (Birds Directive) and Annex II (Habitats Directive) species. Consequently, the timing of forestry operations carried out under these measures is important.

- 5.3.4. Fragmentation effects may also occur, especially where roads are constructed in broadleaf forests or where afforestation bisects priority habitat or else causes a barrier to species dispersal. Other possible indirect effects of Measures 1 and 3 include acidification of soil from nearby/adjacent coniferous afforestation, and risks of changes to watercourse hydromorphology as a result of increases in drainage, increased run-off from forest roads etc. These may all affect European sites a significant distance downstream, as well as those immediately adjacent.
- 5.3.5. A number of Annex II (Habitats Directive) species have the potential to be adversely affected by afforestation, road building or management operations (Measures 1 – 6) if suspended solids in the form of mud, silt or pollutants enter watercourses, contributing to nutrient enrichment and sedimentation. This could adversely affect species by killing them or covering and clogging their spawning grounds and reducing the clarity, quality, and oxygen content of the waters. Atlantic Salmon in particular require 'clean' gravel for spawning. Freshwater Pearl Mussel (both species) could be negatively impacted by increased siltation. Pollution in the form of oil, petrol and other chemicals could introduce toxic elements into watercourses or water bodies potentially affecting these and other species (e.g. Lampreys). Soil disturbance and waste vegetation created during afforestation could potentially enter watercourses and eventually find their way downstream; these may contribute to siltation deposition, change the chemical and pH status of watercourses and lead to physical and aesthetic pollution. Changes in pH could have an effect on aquatic plants such as Slender Naiad, which have exacting habitat parameters.
- 5.3.6. All aquatic life is vulnerable to pollution, be it particulates of silt or petrochemicals, and the effects of an incident in any one area can be carried many kilometres downstream. It is also important to realise that areas remote from watercourses will eventually drain into streams. Such areas may be buffered by dry land, but

there is still a risk, particularly after heavy rain events, for pollutants to find their way into watercourses.

5.3.7. Afforestation on or close to blanket bogs and wet heaths could have detrimental drainage effects. De-watering, compaction and changes in biological or chemical composition can all occur in peat bodies as a result of afforestation. All these will result in changes in the composition of peatland vegetation and have knock-on effects on associated species.

5.3.8. In terms of water quality, Measure 1 now states:

Any proposed planting site (contiguous) with lakes, rivers, streams or drains with continuously flowing water are subject to the Forest Service's Forestry and Water Guidelines. A key measure is the exclusion of the aquatic buffer zone from all types of pesticide application, unless undertaken with the explicit agreement of relevant bodies to achieve specific environmental aims. Similarly, Fertiliser (usually phosphorus, but occasionally nitrogen or potassium) should not be applied within the buffer zone or within 20m of an aquatic zone, whichever is greatest, whilst fertilisers should be prepared and securely stored under shelter on a dry, elevated site at least 50 m from the nearest aquatic zone.

5.3.9. The Native Woodlands (Establishment) Scheme in particular aims to improve water and land management, contribute to meeting the Water Framework Directive objectives, and improve soil stability and water quality including high status waters through native woodland development, especially riparian woodland. Measure 3 seeks to minimise impacts on the water environment by providing a grant of €5,000 per forest road application for special construction works (e.g. large culverts and tunnels) that reduce the potential for sedimentation of any nearby watercourses. Measure 2 has a specific objective to enhance protection of waterbodies and watercourses adjacent to the proposed NeighbourWoods, and Measure 5 aims to protect soil and water during thinning and other woodland improvement works. Finally, Measure 6 specifically seeks an improvement in the conservation status of Freshwater Pearl Mussel in the 8 priority catchments.

5.3.10. Significant adverse effects on Natura 2000 sites, or habitats or species protected under the Habitats or Birds Directives, arising indirectly through impacts on water

quality (Measures 1-6) of the FP are thus unlikely, subject to the appropriate measures and controls being implemented.

5.4. Cumulative Impacts

- 5.4.1. Cumulative impacts are likely to be of more significance in relation to species and habitats of very limited occurrence. This is because these are more prone to overall extinction due to their limited populations or habitat requirements. This could apply to habitats which by definition are of very restricted extent, such as petrifying springs with tufa formation (prone to changes in pH) and to species with very small populations in Ireland such as the Freshwater Pearl Mussel *Margaritifera durrovensis*, which is critically endangered and unique to Ireland, and Nightjar. Marsh Fritillary is another species that is highly prone to local extinctions (often as a result of drainage), the cumulative impact of which can lead to overall deleterious population effects and local extinctions.
- 5.4.2. Cumulative impacts will also be more significant for those species for which Ireland is a key area of distribution within Europe. This would apply to the Freshwater Pearl Mussel *Margaritifera margaritifera* and the Slender Naiad.
- 5.4.3. The SEA Environmental Report revealed that the combination of afforestation (Measure 1), silvicultural enhancement and increased recreation within NeighbourWoods (Measure 2), construction of roads (Measure 3), reconstitution of damaged forests (Measure 4), and thinning and felling (Measure 5) could all result in increased disturbance to wildlife and loss and fragmentation of habitats. Loss of habitat is likely to be off-set to some degree by Measure 1b (Native Woodland Establishment Scheme) and Measure 6 (Native Woodland Conservation Scheme) which are likely to result in an increase in high quality semi-natural habitat. However, it is not yet known whether the ecological value of habitat likely to be lost (improved agricultural land with mineral soils and brownfield sites) will be lower or higher than the forest habitat that replaces it.
- 5.4.4. Cumulative effects of the FP measures on ecology are thought to be uncertain, but given the overall emphasis of the FP on protecting and enhancing biodiversity, these are unlikely to be significant. To ensure this is the case, impacts on Natura 2000 sites and their conservation status should be considered on a site-by-site basis.

- 5.4.5. DAHG has suggested that particular attention should be given to the cumulative effects of the Programme with the previous programme and existing forestry estate, noting the pressure forestry currently applies to some Annexed habitats and species, the current “unfavourable” status of many of these, and the requirement to restore to favourable conservation condition. Premiums for afforestation schemes, native woodland establishment schemes and FEPS approved under previous Forestry Programmes (between 1994 and 2013) will amount to approximately €400 million over the period 2015-2020.
- 5.4.6. These programmes did contain some provisions with respect to the protection of designated habitats and species. Forest Service Guidelines regarding biodiversity, water quality, and the environment have been in place in 2000. Meanwhile, the IFS was put in place during the previous programme (DAFF, 2008). This established a process to avoid inappropriate afforestation where this might affect SACs, SPAs, and water quality (with implications for aquatic Annex II species). However, in general these schemes had less strict requirements than the new Programme with regards to protected habitats and species.
- 5.4.7. With the strengthening of existing safeguards and far greater beneficial measures in the FP 2014-2020, it is thought that significant adverse in-combination effects with previously approved afforestation schemes will be unlikely. Moreover, Measure 5 (Element 2) of the Woodland Improvement Scheme and Measure 6 (NWS Conservation) have specific elements which may counteract adverse impacts from previous programmes. These include:
- i. Support for operations to install silt traps, drainage blocks, aquatic buffer zones and riparian planting under Measure 5 (El. 2), all of which will improve water quality in existing forests with corresponding benefits for aquatic species including Freshwater Pearl Mussel.
 - ii. Support for conversion of existing coniferous forests to native woodland on important ecological sites such as Priority 8 Freshwater Pearl Mussel catchments under Measure 6.
- 5.4.8. Additional mitigation proposed in the SEA of the FP 2014-2020 also recommends that land adjoining Natura 2000 sites be considered within the screening process for afforestation to avoid impacts on ecological networks. This may also help to

limit cumulative effects with previous programmes which might compromise these networks. Finally, project specific Appropriate Assessment would also consider cumulative effects.

5.5. In-Combination Effects

5.5.1. Assessing the possible adverse effects the FP may have on Natura 2000 sites and/or its qualifying features in combination with other plans or projects is a key part of the AA process.

5.5.2. Plans and programmes that could potentially have negative impacts on Natura 2000 sites in-combination with the FP are listed below:

- Border Regional Authority (2010) Regional Planning Guidelines 2010-2022;
- Mid-West Regional Authority (2010) Mid-West Regional Planning Guidelines 2010-2022;
- South-West Regional Authority (2010) Regional Planning Guidelines 2010-2022;
- DAFM (2014a) The Rural Development Programme (RDP) 2014 – 2020;
- DAFM (2013) Food Harvest 2020;
- DAHG (2014) National Raised Bog SAC Management Plan: Draft for Consultation;
- NPWS (2011) Draft National Peatlands Strategy; and
- Department of Public Expenditure and Reform (2011) Infrastructure and Capital Investment 2012-2016: Medium Term Exchequer Framework.

5.5.3. As discussed in Section 6.5 of the SEA Environmental Report (ADAS, 2014) with effective mitigation measures in place it is unlikely for there to be significant in-combination effects with any of these plans on Natura 2000 sites or on the qualifying features for which these sites were designated. For example, regarding Food Harvest 2020, where intensification or land use pattern may impact on a Natura 2000 site, individual appropriate assessments would be required. This is also required under the Draft National Raised Bog SAC Management Plan which could impact on hydrology and water quality, along with other mitigation measures as proposed through the Plan's Environmental Report.

- 5.5.4. DAHG has concerns over the potential policy interaction between the level of incentives provided within the RDP to support farming in Natura sites and other areas of high nature value and those provided to incentivise forestry in the same areas, and whether they interact in a manner that supports the conservation objectives of the sites, or are potentially contrary to them.
- 5.5.5. The RDP describes a number of measures for rural development, including Knowledge Transfer Groups, CPD for Advisors, Targeted AHW Advisory Service, Bioenergy Scheme, TAMS II, GLAS Traditional Farm Buildings, GLAS / GLAS +, Organic Farming Scheme, Areas of Natural Constraint, European Innovation Partnerships, Support for Collaborative Farming, Locally Led Agri-Environment Schemes, Beef Data and Genomics Programme, LEADER. Almost 40% of the proposed funding under the RDP is to be allocated to the “Green Low-Carbon Agri-Environment Scheme” (GLAS), whilst 35% is to be allocated to “Areas of Natural Constraint” (ANCs).
- 5.5.6. The Bioenergy Scheme is particularly relevant to the FP as it supports the establishment of energy crops for use in renewable energy production. The objective of the scheme is to increase the area of energy crops planted. The SEA of the RDP stated that the Bioenergy Scheme could result in further habitat loss, wildlife disturbance and possible damage to cultural heritage/ archaeological sites and monuments, depending on where energy crops are planted and harvested, though energy crops can support a wide diversity of invertebrates and birds in particular. If the published best practice guidelines are followed for the growing and harvesting of Willow and Miscanthus the overall impact of the RDP in supporting this initiative is environmentally positive.
- 5.5.7. The purpose of the GLAS measure is to promote ways of using agricultural land that are compatible with: the protection and improvement of the environment and achieving water quality, climate change, and biodiversity objectives; the conservation of high nature value farmed environments both within and outside designated Nature 2000 sites; the use of nutrient management planning in farming practice, and; fostering knowledge transfer in the area of sustainable environmental farming systems. The first tier of entry to the scheme includes farms with “priority environmental assets” which would include those containing Natura

2000 habitats and species. By contrast, the schemes which incentivise afforestation within the FP impose a number of restrictions on these sites. As such, it would seem unlikely that farms covering Natura 2000 sites or species would choose the afforestation schemes in combination with GLAS. Even if they did, requirements under both Programmes with regards to ecology have similar objectives and are unlikely to conflict. In any case, a project level AA process would be required, which would identify local management issues.

5.5.8. Locally Led Agri-Environment schemes focus on specific issues, including the protection of Freshwater Pearl Mussel sites. The FP 2014-2020 also includes numerous measures aimed at these sites, and as such any in-combination effects would likely be positive.

5.5.9. The ANC Scheme is aimed at farms which face significant handicaps due to remoteness, topography, and soil conditions. It aims to: ensure continued agricultural land use, thereby contributing to the maintenance of a viable rural society; maintain the countryside, and; maintain and promote sustainable farming systems, which in particular take account of environmental protection requirements. The protection of Natura 2000 sites and species under this scheme will follow the Cross-Compliance requirements of the Single Payment Scheme (in particular SMR1 and SMR5). Again, given the additional restrictions imposed on afforestation of Natura 2000 sites it would seem unlikely that farmers with this constraint in an ANC area would choose to afforest at these sites. However, even if they did, the strict requirements of the FP 2014-2020 would ensure that only suitable afforestation could take place, which would be subject to a project level AA process.

5.5.10. The TAMS II scheme is targeted at farmers who intend to intensify or expand agricultural production and as such is unlikely to be applied on the same sites where material afforestation would take place. However, even if it were, and Natura 2000 habitats or species were present then both the TAMS II and the afforestation scheme would be subject to a project level AA process and requisite mitigation.

5.5.11. The other schemes in the Draft RDP are unlikely to affect Natura 2000 habitats or species in isolation or in combination with the FP 2014-2020.

5.5.12. In fact, the SEA of the Irish RDP concludes that, when viewed in its totality, the RDP has little potential to result in any adverse environmental consequences of note (DAFM, 2014b). To the contrary, the RDP has the potential to deliver an overall positive contribution to Ireland's environment and to the communities that environment supports. Considering the above measures, it is considered unlikely for there to be significant in-combination effects between the RDP and the FP.

6. MITIGATION

6.1. Mitigation Measures

- 6.1.1. As suggested in the SEA Environmental Report, it is recommended that all Forest Service Guidance produced in 2000 is updated to reflect current best practice and legislation. New guidance should be scientifically robust and consider the interactions between forestry and the Annexed habitats and species, where relevant.
- 6.1.2. A key mitigation measure is to ensure that individual forestry proposals are subject to assessment of their potential impacts prior to consent or licence. This is achieved through implementation of the Forest Service Appropriate Assessment Procedure. Where habitat identification or classification is in doubt or where expert advice is required, in-house or external ecological advice should be sought. These procedures should be augmented by internal training of Forest Service staff in appropriate habitat and species identification and in suitable mitigation techniques.
- 6.1.3. Areas targeted by the FP as a whole should be assessed in terms of their proximity to Natura sites and in particular to those species and habitats of specific vulnerability to impacts, as identified above. Regarding the Freshwater Pearl Mussel, the (unpublished draft) Forest Management Plan for Priority Freshwater Pearl Mussel Catchments (Forest Service, 2013) should be adhered to once published, though it cannot be assumed at this stage that it will fully mitigate the potential effects of the FP on this species. Training in Freshwater Pearl Mussel identification and mitigation techniques should therefore be provided to all relevant internal staff.
- 6.1.4. Areas of wetland Annex I habitats or other water habitats such as blanket mire, Atlantic wet heath, Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*), Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoëto-Nanojuncetea*, Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp., Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition*-type vegetation, Natural dystrophic lakes and ponds and Turloughs should all be avoided by afforestation projects. These areas are likely to be avoided as they are inappropriate for planting on productivity grounds and/or have restrictions placed due to being unenclosed land.

However identification of these habitats is required to ensure that afforestation is avoided and adequate buffer zones should be applied to avoid ex-situ impacts where afforestation occurs outside these areas. Relevant studies of direct and indirect impacts should be made available to staff. This should include an appreciation of appropriate buffer zones (e.g. in terms of disturbance effects on Annex II (Habitats Directive) and Annex I (Birds Directive) species. Scientific literature on habitat buffer zones should also be made available (e.g. the hydrological effects of forestry on peatlands). Training in the identification of these habitats will supplement existing in-house measures

- 6.1.5. The locations of breeding Annex I bird species within Natura sites may be known, and these too should be avoided by afforestation programmes. In-house or external ecological advice should be sought and available datasets from NPWS and other interested individuals interrogated to identify these locations. If necessary, further surveys may need to be undertaken on a site-by-site basis. Disturbance effects on Annex I bird species can be controlled through the avoidance of operations in known areas during the breeding or wintering season. As is the case with other mitigation measures, where gaps are identified, these procedures should be supplemented with training in the identification of Annex I habitats and Annex II species (Habitats Directive) and Annex I species (Birds Directive).
- 6.1.6. A review is needed of data and information gaps to establish what is currently known about the locations of Annex I habitats and species – surveys and training carried out through the FP should inform this. Ideally all qualifying interests/species should be reviewed on a site-by-site basis where Natura 2000 sites may be affected to ensure that their conservation status status (as set out in Ireland's recent reports on Article 12 of the Birds Directive and Article 17 of the Habitats Directive) will not be adversely affected.
- 6.1.7. Indirect effects on watercourses can potentially be reduced through the use of sedimentation controls, such as those listed below. However the as yet unpublished HYDROFOR project has recently called their effectiveness into question. A review of research on these sedimentation controls should therefore take place before implementation to determine their efficacy.

- Cut-off ditches and/or geotextile silt-fences installed at suitable locations around excavations or exposed ground and stockpiles or watercourses to prevent the uncontrolled release of sediments from forestry operations.
- The gradient of drains should be as flat as possible to avoid high velocities and erosion during storm events. Site access points when in use, should be regularly cleaned to prevent build-up of mud.
- Earth movement during forest road construction should be controlled to reduce the risk of construction silt being mobilised by site run-off.
- Properly contained wheel wash facilities should be used where required, to isolate sediment rich run-off.
- Removal of silt from site run-off through a suitably designed surface water drainage system incorporating settlement facilities before discharge of clean water to a nearby surface watercourse.
- Acidification can be avoided through water testing in accordance with the protocol for the determination of acid sensitivity of surface water in the context of afforestation, before projects are considered for approval.
- Suitable buffer zones should be applied, the extent of which should be determined by slope gradient, to reduce nutrient runoff and avoid eutrophication of water courses.

6.1.8. Additional mitigation measures relating specifically to FP Measures other than afforestation are listed below.

Measure 2 – NeighbourWood Scheme

6.1.9. Identify whether Annex I habitats, Annex I Birds or Annex II species are present, seek in-house ecological or external ecological advice and interrogate NPWS datasheets. Implement the FS AAP. If required, surveys should be carried out before works begin, particularly if these are likely to occur at sensitive times of year (e.g. breeding season). Provide appropriate training and education in the identification of relevant habitats and species, where this is lacking or is inadequate.

Measure 3 – Investments in Infrastructure: Forest Road Scheme

6.1.10. Avoid licensing access to forestry land located in peatland areas or other sensitive areas where Annex I habitats, Annex I Birds or Annex II species may be present without first assessing the risk through the FS AAP and, if necessary, carrying out surveys to determine that the impact will not be significantly adverse.

Measure 4 – Prevention and Restoration of Damage to Forests: Reconstitution Scheme

6.1.11. There is a critical need to ensure that methods of removing trees after damage from natural causes (such as storms) and any re-planting do not cause further damage within Natura sites. This must be addressed on a case-by-case basis; where disease, pest or storm damage occurs in high nature value sites or sensitive areas, then the need for felling and replanting should be assessed and only undertaken if necessary.

Measure 5 – Woodland Improvement (Thinning & Tending Broadleaves)

6.1.12. Avoid felling and thinning where Annex I habitats, Annex I Birds or Annex II species may be present without first identifying if these habitats or species are present through advice from NPWS and carrying out surveys if required to determine that the impact will not be significantly adverse. If such species are present, avoid sensitive times of year and follow FS AAP and biodiversity guidelines. The felling of malformed and over mature trees should be avoided where these provide important habitats; if these must be felled, they should be left on the forest floor as deadwood habitat, where possible.

Measure 6 - Native Woodland (Conservation) Scheme

6.1.13. Surveys should be carried out prior to conversion of plantation woodlands to native woodlands, particularly if these are likely to occur at sensitive times of year (e.g. breeding season), as Annex I bird species such as Hen Harriers and Nightjars are known to nest in young conifer plantation in the absence of more suitable habitat. Furthermore, the Hen Harrier Threat Response Plan, which is due to be published in June 2015, should be adhered to for all forestry operations.

6.2. Monitoring

6.2.1. In order to ensure that adverse effects are indeed minimised and that mitigation is effective, monitoring will need to be carried out. As set out in the SEA

Environmental Report, indicators that DAFM could consider to monitor the impact of the FP on Natura 2000 species and habitats are listed below.

- Applicants for afforestation schemes will be obliged to keep records of the main species (flora and fauna) that they seek to promote. This should include any protected species identified on the site at project level. These records should be monitored against national / regional / local targets where available.
- Monitor land use of statutory and non-statutory designated sites during the course of the programme to ensure that conversion to woodland is not adversely impacting other important habitats on a landscape scale.
- Monitor land use change due to FP relative to pre-programme and likely baseline evolution. This should include metrics such as total area of forest, total area of forest by cover type and scheme type (broadleaf, coniferous, NWS, NeighbourWood, Reconstitution scheme) forest road, previous habitat loss. This should be monitored against FP or national targets as appropriate.
- Monitor water quality of catchments where FP work takes place against WFD targets.
- Applicants for all afforestation schemes will already need to keep records of the main species (flora and fauna) that their project will promote. These should be monitored against national/regional/local targets for protected species using metrics such as:
 - Area of Native Woodland (annual target and overall target of 30% broadleaf cover)
 - Percentage of designated woodland sites in favourable or unfavourable recovering condition
 - Progress against local and national BAP targets
 - Proportion of BAP species/habitats listed as increasing or stable status
 - Area of woodland with active, approved Forest Management Plans
 - Performance against metrics for woodland birds, and woodland structure and composition (e.g. shrub cover, no of species, deadwood, old growth)
 - Conservation status of freshwater pearl mussel in 8 priority catchments
- Monitor performance against total hectares of broadleaf woodlands thinned.

- Performance against ABE, NWS, and Agro-forestry targets set under the FP must be monitored.
- Prevalence of tree disease, pests, and invasive species should also be monitored.

7. SUMMARY AND CONCLUSION

7.1. Appropriate Assessment Findings

- 7.1.1. A thorough review of the FP has taken place, and all Measures were assessed in terms of their potential for impacts on Natura 2000 sites. Measures were reviewed with respect to direct, indirect and cumulative impacts. It was determined that Measures 1 – 6 in particular have the potential to have detrimental impacts on Natura 2000 sites. Of these, Measures 1, 2, 3 and 5 had the potential for causing the greatest impact on Natura 2000 sites. Despite this, it was felt that existing safeguards built into Measures 1 – 6, as well as best practice measures adopted by the Forest Service, means that the majority of impacts should be avoided.
- 7.1.2. A key recommendation is that all proposed forestry projects should be subject to an assessment of their impacts and the proximity of Natura 2000 habitats and species should be taken into account when proposals are generated. This is particularly important for Natura species and habitats of restricted distribution, of particular sensitivity or for which Ireland is a key European stronghold. Where data gaps exist, either in terms of the known distribution of Natura 2000 habitats and species, or in the knowledge of Forest Service staff, these should be addressed through relevant education programmes in identification and assessment of habitats and species, and ideally through further research and survey work.
- 7.1.3. As suggested in the SEA Environmental Report, it is recommended that all Forest Service Guidance produced in 2000 is updated to reflect current best practice and legislation. New guidance should be scientifically robust and consider the interactions between forestry and the Annexed habitats and species, where relevant. Furthermore, the efficacy of individual mitigation measures should be considered at site level as they won't necessarily be suitable or effective in all cases. It needs to be clearly explained and reflected within the FP how the mitigation will be developed at both strategic and site level.
- 7.1.4. Finally, there should be transparency and auditability of the system for control/enforcement of these mitigation measures, including the development of indicators for the assessment of their effectiveness. This will be carried out through monitoring (see Section 6.2).

7.2. Integration of Appropriate Assessment, SEA and the FP

- 7.2.1. Appropriate Assessment of the FP has been incorporated into the plan-making process and has informed the FP at all stages with changes being made as necessary to minimise potential for impacts to Natura 2000 sites as well as to maximize potential positive effects. An earlier version of this Natura Impact Statement was presented for public and statutory consultation over the period 10th September to 13th October 2014 alongside the consultation draft versions of the FP and the SEA Environmental Report. Responses received that are of relevance to the AA, and how these have been addressed, are presented in Appendix B.
- 7.2.2. Initial reviews of the proposed high-level programme of conservation measures within the FP indicated that there is a risk of adverse effects on the integrity of Natura 2000 sites unless appropriate mitigation is applied. The approach to mitigation within this Natura Impact Statement clearly indicates that the measures will be subject to individual site-specific Appropriate Assessment during 2015-20 in relation to applications for consent and/or licence for afforestation, road building, reconstitution, thinning and felling, and in full compliance with Article 6(3) and (4) of the Habitats Directive, to ensure that the measures undertaken will not have an adverse effect on the integrity of a Natura 2000 site.

7.3. Conclusion

- 7.3.1. The likely impacts to the integrity of the Natura 2000 network that could arise from the conservation measures proposed in the FP have been examined. The FP has fully integrated the findings of the AA throughout. The implementation of the measures in the FP will not have any significant adverse effects upon the integrity of any Natura 2000 site provided the mitigation identified during the project-level Appropriate Assessments being carried out during 2015-20 is implemented, and that the likely efficacy of this mitigation is investigated prior to approval of the grant applications.

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APPENDIX A: AA SCREENING CONSULTATION RESPONSES

Comment ref.	Page of letter	Screening Report ref.	Comment	Action carried out to address comment
Organisation & contact: Department of Arts, Heritage and the Gaeltacht (Michael Murphy, Development Applications Unit) Date received: 13 June 2014				
1	7	Section 6	<p><u>Assessment screening statement</u></p> <p>This Department agrees with the general conclusion of the Screening for Appropriate Assessment in Section 6, that the Forestry Programme 201-2020 may have significant effects on Natura 2000 sites and that an appropriate assessment is required. However, this Department does not agree with the conclusion that only Measures1 (Afforestation and Creation of Woodlands), 2 (Investments in Road Infrastructure: Forest Road Scheme) and 5 (Improving the Resilience and Environmental Value of Forestry: Woodland Improvement Thinning and tending-Broadleaves) should be screened in. It is this Department's view that other Measures may also significantly affect Natura 2000 sites and the Programme as a whole should be screened in and appropriately assessed. To do otherwise will result in an under-assessment of the full range of significant effects on Natura 2000 sites and their conservation objectives, and insufficient identification of the mitigation required.</p>	All Measures have now been reviewed again for their relevance to the FP. It is agreed that some of these other measures may have a significant effect on Natura 2000 sites. These have now been assessed and are addressed in the Natura Impact Statement

2	7	Section 4	<p>Mitigation measures</p> <p>Measure 3: Prevention and Restoration of Damage to Forests: Reconstitution Scheme it is stated in Table 5.1 that <i>“The removal and destruction of trees infected by contagious pathogens will be beneficial as it will stop the spread into and across Natura 2000 sites. Restoration works following other damage will cause some level of disturbance, however no more so than the original source of the damage”</i>. This statement underestimates the sensitive ecological context of many of Ireland’s afforested sites, and the critical need to ensure that methods of removing trees after damage from natural causes (such as storms) and any re-planting do not cause further damage. It should also be borne in mind that this Measure could be applied to forestry plantations that pre-date any legal requirement for environmental assessment, and so it cannot be assumed that restoration works, including planting, will not further damage Natura 2000 sites.</p> <p>Similarly, the other measures screened out may also affect Natura 2000 sites if not designed and implemented appropriately. Also statements about the balance of potentially negative effects being outweighed are not substantiated and do not provide a sound basis for screening out e.g. for Measure 6: “Initial disturbance effects would be outweighed by the overall benefit to biodiversity” or for Measure 4: “the scheme is also likely to improve the quality of the existing habitat, though this should be determined on a case by case basis and sensitive or valuable areas avoided”.</p> <p>As it is this Department’s view that a number of the “screened out” measures may in fact significantly affect Natura 2000 sites.</p>	<p>As stated above, all measures have now been reviewed again for relevance. It is agreed that restoration works could result in damage, as well as have other impacts, such as disturbance. This is now addressed in the Natura Impact Statement</p>
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3	7	4.3.3	<p>It is indicated in Section 4.3.3, that Annexed habitats and species have been screened in for further assessment, based on this Department's Prioritised Action Framework and Article 17 report. Please be advised that these reports were not intended to be used as the basis for the screenings for appropriate assessment i.e. the identification of whether plans and programmes may significantly affect the conservation objectives of a site. Rather, consideration needs to be given to the Programme in question, the likely impacts of that Programme and the effects it may have on conservation objectives in order to screen. Thus, it is advised that the Measures proposed in the programme are considered in that context i.e. how they may affect the maintenance and/or restoration of the species and habitats for which sites are designated. These findings should be revisited in light of these comments.</p>	<p>The Forestry Programme has now been reviewed in its entirety in relation to its likely impacts on all Natura habitats and species. The Programme has been reviewed with respect to how the Measures may affect the maintenance and/or restoration of the species and habitats for which sites are designated.</p>
4	8	6.1.2 2.5.2	<p><u>Screening and Assessment</u> To clarify the regulatory context for this assessment, please refer to Regulation 42 of the European Communities (Birds and Natural Habitats Regulations) 2011. Public authorities that wish to adopt a plan or programme are required to consult with the Minister for Arts, Heritage and the Gaeltacht (Regulation 42) prior to completing their appropriate assessment for that plan or programme. DAFM is the responsible authority for decision-making with regard to the screening, and appropriate assessment, whereas it is can be inferred from the text in 6.1.2 that this responsibility lies with this Department, which is not the case. It is requested that this be clarified in the forthcoming Natura Impact Statement and in DAFM's own appropriate assessment, as well as in Section 2.5.2. The requirements for screenings for AA and for AA, as set out in Regulation 42 should also be reflected in the introductory sections, up to and including 2.6.1.</p>	<p>This has been amended in Section 1 and 2 of the Natura Impact Statement</p>

5	9	Sections 4.1.2, 4.2	<p>Natura 2000 Sites in Ireland4.1.2 A figure from the 2002 National Biodiversity Plan stating that “10% of the country is considered to be of prime importance for nature conservation” is conflated with current numbers of designated sites under the Birds and Habitats Directives. These figures are not directly related to each other as a proportion of those sites were identified as required for designation after 2002.4.2.4 It is stated that the species of most relevance to forestry activities are the Freshwater Pearl Mussel, and the hen harrier but this statement does not adequately reflect the sensitivity of other Annexed habitats and species to this activity and to the Proposed Programme. Information sources, publications etc referred to in the section on the Environmental Report should be reviewed to inform the Natura Impact Statement that is to be prepared and to identify adequately the significance of effects of the proposed Programme on Natura 2000 sites. The source of the information in Table 4.3 should be referenced, and this Department’s most recent Article 17 used.4.2 This Section does not refer adequately to the qualifying interests and conservation objectives for SACs and SPAs. For instance, “Wetlands and Waterbirds” is also a qualifying interest for many SPAs. Meanwhile, all European sites have conservation objectives that are general in nature, while a programme for establishing site-specific objectives is in progress. Objectives are generally to maintain or restore the qualifying interests/species of conservation interest. Appropriate assessments are to be undertaken in view of such conservation objectives.</p>	These comments have been addressed in relevant sections of the Natura Impact Statement.
6	9	Section 4.3.3	<p>Duplicated information It is indicated in Section 4.3.3 (table 4.3), that Annexed habitats and species have been screened in for further assessment... (Table 4.3 page 35, but please note there is also a Table 4.3 page 25)</p>	Comment noted.

APPENDIX B: STATUTORY PUBLIC CONSULTATION RESPONSES

Comment ref.	Page of letter	Report ref.	Comment	Action carried out to address comment
Organisation & contact: Northern Ireland Environment Agency (Dr Mark Hammond, SEA Co-ordinator) Date received: 10 Oct 2014				
1	1	AA	<p>We note that trans-boundary impacts have been taken into account where it was identified that the FP measures have the potential to impact on Natura 2000 sites in NI. Generic impacts on feature species and habitats have been considered and potential impacts have been identified in both the NIS and associated SEA. We note that recommendation that all forestry projects should be subject to an assessment of their impacts and the proximity of Natura 2000 habitats and species should be taken into account when proposals are generated. We consider that such assessments should also consider proximity of an impacts on Natura 2000 sites in NI. The DOENI would be keen to engage in further consultations and information sharing to ensure that Natura 2000 sites in NI are considered in relation to future proposals and that any potential adverse impacts are avoided or minimised.</p>	<p>We would expect downstream projects to take into consideration trans-boundary impacts as standard practice. DOENI would be one of the consultees.</p> <p>It is our understanding that DOENI are supplying GIS datasets of Natura 2000 sites (amongst other data) to FS which will be uploaded into iFORIS and will thus inform the site selection process for forestry projects.</p>
Organisation & contact: Department of Arts, Heritage and the Gaeltacht (Muiris Ó Conchúir, Development Applications Unit) Date received: 14 Oct 2014				
1	2	AA	<p>Clarification on the Competent Authority (DAFM) for the Appropriate Assessment of the Forestry Programme 2014-2020. DAFM is advised that Section 2.6.1 of the AA Screening states that this Department is the competent authority for the AA Screening “A Screening Statement... was produced in May 2014 and sent to the DAHG as the competent authority”. As previously advised, DAFM (not DAHG) is the competent authority for the appropriate assessment for the Forestry Programme 2014-2020, pursuant to Regulation 42 of the European Communities (Birds and Natural Habitats) Regulations 2011. As such, DAFM is responsible for concluding the appropriate assessment, and must adopt the Programme only after concluding that the Programme will not adversely affect the integrity of European sites. DAFM is also advised that under Regulation 61, records of appropriate assessments are to be kept for at least 12 years.</p>	<p>Amended in this report. Otherwise for DAFM to address.</p>
2	2	AA	<p>Conclusions of and revisions to the Natura Impact Statement The Department previously advised that more consideration needs to be given to the implications of the Programme for the conservation objectives of European sites, including at the screening stage, but now most importantly, in the undertaking of the</p>	<p>A more in-depth review of potential impacts, direct and indirect and on the efficacy of mitigation has been carried out.</p>

			appropriate assessment. Reference is made to the information on which the screening is based having been obtained “from the Forest Service, the Prioritised Action Framework (PAF) for Natura 2000 report (DAHG, 2013) and the Status of EU Protected Habitats and Species in Ireland reports (NPWS, 2013)”. On the basis of this, and on review of the NIS submitted, the Department is concerned that insufficient consideration has been given to the impacts of the Forestry Programme on the conservation objectives for European sites, and that insufficient analysis has been undertaken to robustly demonstrate that the mitigation proposed is sufficient to ensure no adverse effects on site integrity will arise.	
3	2	AA	It is also noted that Table 2.1 indicates that the Neighbourhood Scheme has been screened out, but later text suggests that it has been further considered in the NIS, as it has the potential to affect European sites. As previously expressed, the Department is of the view that the whole Programme should be considered in the Appropriate Assessment, to ensure its full effects are considered and addressed.	Table 2.1 has been revised to screen in the Neighbourhood Scheme as it has the potential to affect European sites. Agree that all aspects of the Programme could have effects, though Measures 1-6 have been investigated in more detail as there is greater concern over these measures.
4	2	AA	<p>Impacts Arising from Forestry: The identification of potential Direct and Indirect Impacts does not appear to have been established systematically for all Annexed habitats and species, and reference in the text is made to only a subsection of those species and habitats that may be affected, in Table 4.1 of the NIS. The reasons for excluding other habitats and species are not provided.</p> <p>Indirect impacts that do not appear to have been considered include habitat fragmentation, acidification of soil from nearby/adjacent forestry, risks of changes to watercourse hydromorphology as a result of increases in drainage, increased run-off from forest roads etc. These may all affect European sites a significant distance downstream, as well as those immediately adjacent.</p> <p>Furthermore, no reference is made within the NIS to the current status of these Annexed habitats and species (it is referenced briefly in the SEA) and while acknowledging the sensitivity of the Freshwater Pearl Mussel and the hen harrier to forestry activities, very little attention is paid to the other Annex I species of the Birds Directive that may be affected, or to other Habitats Directive Annexed species</p>	<p>The source of the information within Table 4.1 has been added. Other indirect impacts such as habitat fragmentation, soil acidification, changes to watercourse hydromorphology, etc had been referred to in the overview (Section 5.1) though these have also now been referenced in Section 5.3.</p> <p>Other Annexed habitats and species have now been assessed for their potential to be directly or indirectly impacted by the Programme, whilst baseline information from the SEA has been added in Chapter 4.</p>
5	3	AA	<p>Mitigation The proposed programme measures and associated mitigation are not demonstrated to be sufficient to address the effects that may occur to sites, particularly when</p>	Proposed mitigation measures have been strengthened to include more emphasis on the

			considered in-combination with the existing forestry estate and its management. Emphasis should be placed on supporting the design of the measures and the mitigation (such as extent of buffer zones) with scientific data and information, particularly in view of the noted concerns about their efficacy in ameliorating potential effects	use of scientific data and ecological training of those involved in forestry.
6	3	AA Sec 6	The Department notes that in Section 6.1.2 of the NIS, a key mitigation for the FWPM is adherence to the as yet unpublished draft Forest Management Plan for Priority Freshwater Pearl Mussel Catchments. Currently the detail of the Plan is not yet known to this Department, though it is understood that it is not planned to permit any further afforestation in the "Top 8" FWPM catchments, except for Native Woodland, but that reforestation may be considered for its appropriateness. The Department welcomes the imminent publication of the draft Plan, but in the absence of further detail and assessment, is of the view that it is premature to conclude that the Plan will fully mitigate the potential effects of the Forestry Programme on FWPM in European sites.	Agree that the unpublished draft Forest Management Plan cannot be interpreted at this stage as fully mitigating the potential effects of the FP on FWPM, so some caution must be applied.
7	3	AA Sec 6	Section 6.1.3 of the NIS includes a commitment that a range of Annexed habitats shall be avoided by afforestation projects, with the caveat that "identification of these habitats is required to ensure that afforestation is avoided and adequate buffer zones should be applied to avoid ex-situ impacts where afforestation occurs outside these areas". It is unclear how or whether this information gap will be addressed before the commencement of the new Programme, and whether sufficient scientific information is currently available to adequately identify the size of the buffer zones required.	It is considered that sufficient scientific information is available for the majority of species and habitats to identify buffer zones.
8	3	AA Sec 6	Mitigation set out in Section 6.1.4 states that "The locations of breeding Annex I bird species within Natura sites are likely to be well known and these too should be avoided by afforestation programmes." It is unfortunately not the case that such breeding sites are well known and current available data from this Department should not be considered to be a sufficient evidence-base for the identification of all such breeding sites. It is expected that further research and survey work would be required to ensure all such sites are avoided, rather than solely "advice" or the existing data-sets of this Department.	This text has been reworded; the potential for further surveys and training has been added.
9	3	AA Sec 6	In Section 6.1.5, a reliance on standard sedimentation controls is expressed, without any presentation of scientific evidence or data of their effectiveness or reliability, which is a particular concern in light of recent research by the Hydrofor project, which would call their effectiveness into question.	This section has been amended to suggest that review of research on sedimentation controls should take place to determine their efficacy.
10	3	AA Sec 6	In the following sections, there appears to be a reliance on existing data or available advice (as opposed to be research and survey work) to be sufficient to identify whether Annexed habitats and species may be present and affected by the Forestry Programme. It is this Department's view that such data and information gaps should be reviewed more strategically and greater consideration given to the role the Forestry Programme should in filling those gaps, to inform its sectoral development and in	Agreed that a review is needed of data and information gaps to establish what is currently known and the known locations of Annex 1 habitats and species. Forestry Programme to play a

			researching, designing and developing the necessary mitigation. The ongoing enhancement of in-house capacity should also be considered.	key role in filling these information gaps. Training/employment of individuals within the forestry department should be considered, in order that these gaps can be filled.
11	3	AA Sec 6	With regard to hen harrier, a commitment to the integration of the Hen Harrier Threat Response Plan within the Programme on its completion (expected June 2015), would also be welcomed.	Agreed, text added.
12	3	AA Sec 6	Without a more considered and scientifically robust assessment of the interactions between forestry and the Annexed habitats and species and commitment to its delivery in clear timeframes, it is unclear if the proposed mitigation in Section 6 of the NIS will be sufficient to address the range of impacts that may arise. Generally, greater detail is required on how the mitigation measures will be developed, with specific commitments to timing of delivery e.g. updating and roll-out of the Forest Service Guidelines. As noted in the NIS, it is important that the mitigation be reflected fully within the Programme itself as a key aspect of its delivery.	More acknowledgement of limitations of knowledge of interactions between forestry and Annexed habitats and species have been made. More emphasis on mitigation (and its limitations), information gaps and the need for further research and survey.
13	3	AA Sec 6	Thus, the Department is of the view that it is premature at this point to conclude that the proposed mitigation is sufficient to ensure that the Programme will not adversely affect the integrity of European sites.	Caveats with regard to the efficacy of mitigation have been added.
15	4	AA	Recommendations on Revision of the NIS Identify the full range of impacts that may arise from all the Programme measures	Additional impacts have been reported as appropriate.
16	4	AA	Consider how these will or may affect all qualifying interests/species of conservation interest, particularly in view of their current conservation status (as set out in Ireland's recent reports on Article 12 of the Birds Directive and Article 17 of the Habitats Directive) and with due regard to the range of attributes that have been established through this Department's programme of establishing site-specific conservation objectives (www.npws.ie).	It has been recommended to DAFM that all qualifying interests/species be reviewed on a site-by-site basis where Natura 2000 sites may be affected.
17	4	AA Sec 5.4-5.5	More in-depth consideration of the projects and programmes that may work "in-combination" with the Forestry Programme and give rise to significant negative effects on sites, particularly in view of their current conservation condition. Particular attention should be given to the cumulative effects of the Programme with the previous programme and existing forestry estate, noting the pressure forestry currently applies to some Annexed habitats and species, the current "unfavourable" status of many of same, and the requirement to restore to favourable conservation condition. Consideration should also be given to the policy interaction between the level of incentives provided within the Rural Development Programme to support farming in Natura sites and other areas of high nature value and those provided to incentivise	Greater consideration of cumulative impacts, and the interaction between these and the species/habitats (taking into account their current status) has now been made in the NIS. Consideration has also been given to existing afforestation commitments and the RDP.

			forestry in the same areas, and whether they interact in a manner that supports the conservation objectives of the sites, or are potentially contrary to them.	
18	4	AA	Clearer linkage of mitigation design and demonstration of its effectiveness (including scientific analysis and information) to the effects that may arise. It needs to be clearly explained and reflected within the Programme how the mitigation will be developed, and when it will be ready for application, as this may affect the ability to roll-out aspects of the Programme with immediate effect.	Comments have been added to Sec 6 and 7 regarding the need for more in depth analysis of the efficacy of mitigation measures an how this mitigation will be developed.
19	4	AA	Transparency and auditability of the system for control/enforcement of these measures, including the development of indicators for the assessment of their effectiveness.	A section has been introduced on monitoring measures.
22	4	AA	The Department would also welcome a commitment in the Programme to further research and development of effective mitigation measures, including for species other than the FWPM and hen harrier that may be affected by forestry.	This is now stated in section 2.2 of the FP