

# **Draft Plan for Forests and Freshwater Pearl Mussel in Ireland**

## **Natura Impact Statement**



Planning & Environmental Consultants

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# 1 INTRODUCTION

## 1.1 Background

McCarthy Keville O'Sullivan Ltd. (MKO) has been appointed to provide the information necessary to allow the competent authority to conduct an Appropriate Assessment in accordance with the requirement of Article 6(3) of the Habitats Directive (Directive 92/43) of the proposed Plan for Forests and Freshwater Pearl Mussel (FPM) in Ireland.

As the consenting authority for key forestry activities, the Department of Agriculture Food and the Marine (DAFM), through the Forest Service (FS-DAFM), has direct responsibilities to ensure that forestry activities are conducted in compliance with Article 6 of the Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (as amended) (hereafter referred to as the Habitats Directive). The Habitats Directive is transposed into Irish Law through Regulations 27, 42 and 61 of the European Communities (Birds & Natural Habitats) Regulations 2011 (SI no.477 of 2011) and Part XAB of the Planning and Plan Act 2000 (as inserted by S57 of the planning and plan (amendment) act 2010)

The draft Plan applies to the catchments of 26 SACs designed for FPM, plus the hydrological catchment of the Owentaraglin subcatchment within the Munster Blackwater Catchment. It aims to ensure that all forestry activities regulated by DAFM under the Forestry Act 2014 are undertaken in a manner that does not threaten the achievement of the conservation objectives for the SACs involved, namely "*To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.*"

This will be achieved through the application of a tailored Forest Management Framework to identify the level of risk associated with an individual site, and to match operations appropriate to that risk. The framework will operate within the context of a significantly enhanced 'baseline' level of protection for water and aquatic habitats and species, as set out in the DAFM document *Forests & Water: Achieving the Objectives under Ireland's River Basin Management Plan 2018-2021: Programme of Measures for Forestry to Protect & Enhance Water*. This linkage is outlined below. As such, readers of the Plan for Forests and FPM in Ireland should also refer to the Forest & Water document.

This document was prepared in accordance with the European Commission guidance document *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 92/43/EEC* (EC, 2001) and the Department of the Environment's Guidance on the Appropriate Assessment of Plans and Projects in Ireland (December 2009, amended February 2010).

In addition to the guidelines referenced above, the following relevant guidance was considered in preparation of this report:

1. DoEHLG (2010) *Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities*. Department of the Environment, Heritage and Local Government,
2. European Communities (2000) *Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC*, Office for Official Publications of the European Communities, Luxembourg. European Commission,

3. *Directive 92/43/EEC*, Office for Official Publications of the European Communities, Luxembourg. European Commission,
4. EC (2007) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – *Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission*. European Commission,
5. EC (2013) *Interpretation Manual of European Union Habitats. Version EUR 28*. European Commission

## 1.2 The Role of the FS-DAFM

As the national forest authority, the Forest Service of Department of Agriculture, Food & the Marine (FS-DAFM) has numerous responsibilities in relation to forest activity in Ireland. Principally, it regulates key forest activities undertaken within both the private sector and by Coillte Teoranta (The Irish Forestry Board), via new regulations enacting forestry act 2014 (SI No. 191 of 2017, which came into force in May 2017) regarding afforestation and forest road construction, thinning & felling / replanting and aerial fertilisation). The Forest Service also has a direct role under the Birds & Habitats Directives (transposed under S.I.477/2011), the Water Framework Directive (transposed principally under S.I.722/2003), climate change commitments, etc.

Another key role of the Forest Service is the promotion of appropriate and sustainable forestry, and this is achieved through various grant schemes operated by the Forest Service for afforestation, native woodland establishment, forest road construction, tending and thinning, and forest recreational development under the current State-funded Forestry programme 2014-2020. The Forest Service also undertakes the National Forest Inventory, to record and assess the composition and condition of the entire forest estate, both public and private, at national level, in order to provide information to monitor Sustainable Forest Management (SFM) and data to support forest policy, specifically in relation to volume, biomass/carbon, forest area, species composition and forest structure, forest biodiversity, and forest health and vitality. The Forest Service also plays a central role in relation to forest protection and forest reproductive material.

Throughout its regulatory and promotional role, the Forest Service is guided by the principles of Sustainable Forest Management, defined in 1993 at the pan-European Ministerial Conference on the Protection of Forests in Europe (MCPFE) as:

*"The stewardship and use of forest lands in a way and at a rate that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil now and in the future relevant ecological, economic and social functions at local, national and global levels and that does not cause damage to other ecosystems."*

## 1.3 Background to European Sites

The Habitats Directive (Directive 92/43/EEC) (together with the Birds Directive (Directive 2009/147/EC)) form the cornerstone of Europe's nature conservation policy. It is built around two pillars: the Natura 2000 network of protected sites and the strict system of species protection. All in all the directive protects over 1,000 animal and plant species and over 200 "habitat types" (e.g. special types of forests, meadows, wetlands, etc.), which are of European importance.

With the introduction of the EU Habitats Directive (92/43/EEC) and Birds Directive (79/409/EEC) which were transposed into Irish law under S.I. No. 94/1997 *European*

*Communities (Birds and Natural Habitats) Regulations 1997*, the European Union formally recognised the significance of protecting rare and endangered species of flora and fauna, and also, as if not more importantly, their habitats. The 1997 Regulations and their amendments were subsequently revised and consolidated in S.I. No. 477/2011- *European Communities (Birds and Natural Habitats) Regulations 2011*. This legislation requires the establishment and conservation of a network of sites of particular conservation value that are to be termed ‘European Sites’.

#### **Habitats Directive/Special Areas of Conservation**

Articles 3 – 9 of the EU Habitats Directive (92/43/EEC) provide the EU legislative framework for protecting rare and endangered species of flora and fauna, and habitats. **Annex I** of the Directive lists habitat types whose conservation requires the designation of **Special Areas of Conservation (SAC)**. Priority habitats, such as Turloughs, which are in danger of disappearing within the EU territory are also listed in Annex I. **Annex II** of the Directive lists animal and plant species (e.g. Marsh Fritillary, Atlantic Salmon, and Killarney Fern) whose conservation also requires the designation of **SAC**. **Annex IV** lists animal and plant species in need of strict protection such as Lesser Horseshoe Bat and Otter, and **Annex V** lists animal and plant species whose taking in the wild and exploitation may be subject to management measures. In Ireland, species listed under Annex V include Irish Hare, Common Frog and Pine Marten.

Species can be listed in more than one Annex, as is the case with Otter and Lesser Horseshoe Bat which are listed on both **Annex II** and **Annex IV**.

#### **Birds Directive/Special Protection Areas**

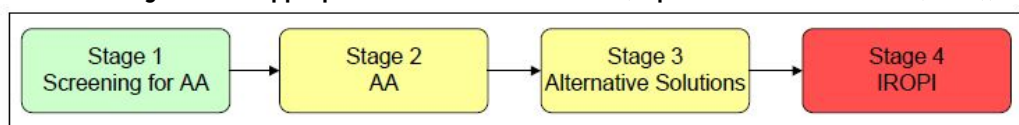
Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds (Birds Directive) has been substantially amended several times. In the interests of clarity and rationality the said Directive was codified in 2009 and is now cited as Directive 2009/147/EC. The Directive instructs Member States to take measures to maintain populations of all bird species naturally occurring in the wild state in the EU (**Article 2**). Such measures may include the maintenance and/or re-establishment of habitats in order to sustain these bird populations (**Article 3**).

A subset of bird species has been identified in the Directive and is listed in **Annex I** as requiring special conservation measures in relation to their habitats. These species have been listed on account of inter alia: their risk of extinction; vulnerability to specific changes in their habitat; and/or due to their relatively small population size or restricted distribution. **Special Protection Areas (SPAs)** are to be identified and classified for these Annex I listed species and for regularly occurring migratory species, paying particular attention to the protection of wetlands (**Article 4**).

## **1.4 Habitats Directive Appropriate Assessment Process**

The EC methodological guidance (EC, 2001) promotes a four stage process to complete AA and outlines issues and tests at each stage. The process is iterative: the outcome of each successive stage will determine whether a further stage in the AA process is required. The four stages are illustrated on Plate 1.1.

**Plate 1.1: Stages of the Appropriate Assessment Process (reproduced from DoEHLG (2010))**



**Stage 1: Screening** – According to the Department of the Environment, Heritage and Local Government Guidelines, issued in December 2009 and updated in 2010, on the implementation of Article 6(3) of the Habitats Directive as transposed into Irish Law under the European Communities (Natural Habitats) Regulations, 1997 (G.I. 94/1997), Regulation 42 of the *European Communities (Birds & Natural Habitats) Regulations 2011 (SI No. 477 of 2011)* and Part XAB of the Planning and Development Act 2000 (as inserted by S57 of the Planning and Development (Amendment) Act 2010), screening is required to examine the potential effects of all projects or plans, either alone or in combination with other projects or plans, upon the conservation objectives of European Sites. This stage identifies whether the project is directly connected to or necessary for the management of a European Site and identifies whether the project is likely to have a significant effect upon a European Site either alone or in combination with other plans and projects in light of best scientific knowledge, objective evidence and the conservation objectives of the site. Where it cannot be excluded that there will be a significant effect on a European site, either alone or in combination with other plans or projects, then the relevant European site or sites must be brought forward to Stage 2 (Appropriate Assessment).

**Stage 2: Appropriate Assessment** – Where it cannot be excluded that there will be a significant effect on a European site, either alone or in combination with other plans or projects, as a result of the proposed plan or project, a Habitats Directive Appropriate Assessment must be conducted by the competent authority, based on objective scientific information in the form of a Natura Impact Statement. This stage involves assessing whether the project or plan will have an adverse impact on the integrity of the identified European Site(s) either alone or in combination with other projects or plans in light of best scientific knowledge, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts. If adequate mitigation is proposed to ensure no adverse impacts on European Sites, then the process may end at this stage. If the assessment is negative, *i.e.* adverse effects on the integrity of a site cannot be excluded; the process must consider Alternatives (Stage 3) or proceed to Stage 4.

**Stage 3: Assessment of Alternative Solutions** – this process examines alternative ways of achieving the objectives of the project that avoid adverse impacts on the integrity of the European Sites. This assessment may be carried out concurrently with Stage 2 in order to find the most appropriate solution. If no alternatives exist or all alternatives would result in an adverse impact on the integrity of any European Site(s), the process either moves to Stage 4 or the project is abandoned. Assessment Where Adverse Impacts Remain is an assessment of compensatory measures where, in the light of an assessment of IROPI, it is deemed that the project or plan should proceed.

**Stage 4: IROPI** – The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures. First, the project should aim to avoid any impacts on European Sites by identifying possible impacts early in the process and writing the plan in order to avoid such impacts. Second, mitigation measures should be applied, if necessary, during the AA process to the point where no adverse impacts on the site(s) remain. If the plan is still likely to result in impacts on European Sites, and no further practicable mitigation is possible, then it must be rejected. If no alternative solutions are identified and the plan is required *for imperative reasons of overriding public interest* (IROPI) under Article 6(4) of the Habitats Directive, then compensation measures are required for any remaining adverse effect.

## 1.5 Conservation Objectives

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

The generic conservation objective applicable to Special Areas of Conservation is as follows

*“To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or Annex II species for which the SAC has been selected.”*

The generic conservation objective applicable to Special Protection Areas is as follows

*“To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for the SPA.”*

To acknowledge the importance of Ireland's wetlands to wintering waterbirds, “Wetland and Waterbirds” may be included as a Special Conservation Interest for some SPAs that have been designated for wintering waterbirds and that contain a wetland site of significant importance to one or more of the species of special Conservation Interest. In such instances a second conservation Objective is set:



*“To maintain or restore the favourable conservation condition of the wetland habits at the SPA as a resources for the regularly occurring migratory waterbirds that use it.”*

## 1.6 Impact Prediction

The methodology for the assessment of impacts is derived from the Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of *Article 6(3) and (4) Guidance Document*. When describing changes/activities and impacts on ecosystem structure and function, the types of impacts that are commonly presented include;

- direct and indirect impacts,
- short- and long-term impacts
- construction, operational and decommissioning impacts, and
- isolated, interactive and cumulative impacts.

Impacts that could potentially occur through the implementation of the project can be categorised under a number of impact categories as outlined in the EC 2002 document as follows:

- Loss/Reduction of habitat area,
- Disturbance to key species,
- Habitat or species fragmentation,
- Reduction in species density, and
- Changes in key indicators of conservation value such as decrease in water quality and quantity.

As per EC, 2002, the meaning of integrity is defined as follows;

*‘The integrity of a site involves its ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the site’s conservation objectives’ (MN2000, paragraph 4.6(3))’.*

The assessment of potential adverse impacts follows the precautionary principle as detailed in Article 191 of the Treaty on the Functioning of the European Union (EU). It aims at ensuring a higher level of environmental protection through preventative decision-taking in the case of risk and underpins the Habitats Directive (DoEHLG 2010). The precautionary principle is the underlying concept of sustainable development which implies that prudent action be taken to protect the environment even in the absence of scientific certainty (DoEHLG 2010).

## 1.7 Screening Summary

A Screening for Appropriate Assessment for the project has been prepared and is provided in **Appendix 1**.

Table 2.1 of the Appropriate Assessment Screening Report lists the European sites in the likely zone of impact of the proposed plan implementation area. European sites which overlapped with the proposed Plan Implementation Zones (i.e. 27 FPM SAC catchments) are screened in automatically based on the potential for direct impacts to the Qualifying Interests/Special Conservation Interests of the designated sites. Sites with identified/potential connectivity (i.e. surface water, ground water, proximity (15km)) were also screened in. The screening assessment utilises a precautionary approach given the lack of detailed project level specific information within the Plan Implementation Zones.

The Screening Report concludes as follows:

*“It cannot be excluded, in view of best scientific knowledge and in view of the conservation objectives of the European sites, that the proposed plan, individually or in combination with other plans and projects, would have a significant effect on the identified European Sites. Consequently a Stage II Appropriate Assessment of the proposed plan is required and a Natura Impact Statement shall be prepared. ”*

## 2 CONTENT AND CONTEXT OF THE FPM PLAN

### 2.1 Proposed Plan for Forests and Freshwater Pearl Mussel

#### 2.1.1 Objective

The objective of the proposed Plan is to eliminate, reduce or mitigate diffuse pollution and maintain a more natural hydrological regime arising from forest activities undertaken within each of the 27 FPM Catchments, to ensure that these activities do not threaten the achievement of the conservation objectives for the SACs involved, namely "*To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.*"

#### 2.1.2 Structure of the Plan

A key component of the Plan is the development of a new Forestry & FPM Forest Management Framework. This new Framework will replace the existing system for regulating forestry activities in the FPM catchments i.e. the Forest & FPM Requirements (2008) document. The new system will apply to all forest activities regulated by DAFM under the Forestry Act 2014, with or without grant aid (i.e. afforestation, forest road construction, felling and aerial fertilisation), where overlap with a FPM catchment occurs.

The area of the Plan extends to the hydrological catchment of 26 SACs designed for FPM, plus the hydrological subcatchment of the Owentaraglin within the Munster Blackwater Catchment (see Table 2.2 of the Plan). (Note, on commencement of the Plan, the 6 km zone underpinning the *Forestry & FPM Requirements* (2008) will no longer apply.)

The Framework applies to applications involving sites within or partially within the area of the Plan. These catchments are assigned 'Water Sensitivity Category C' (see Table 3.3 of the *Forests & Water* document), as indicated by a dedicated layer in the GIS MapViewer in iFORIS (for Forestry Inspectors and Administration) and iNET (for Registered Foresters).

The function of the Framework is to enable Applicants and Registered Foresters to evaluate the degree of sensitivity regarding FPM, and to select the most appropriate option(s) regarding the activity in question. This will result in applications appropriately tailored to the sensitivities regarding FPM, pre-submission to DAFM and as early in the planning process as possible.

A key component of the Forest & FPM Management Framework is the DAFM's Appropriate Assessment Procedure (AAP). The AAP represents the primary mechanism for ensuring that all forestry operations are consistent with the protection of FPM within the area of the plan.

All applications within or partially within the area of the Plan will be subjected to 100% field inspection by District Forestry Inspectors throughout the lifetime of this Plan. All applications will also be referred internally to the Forestry Inspector Ecologist and an appointed Forestry Inspector with a coordinating role regarding the Water Framework Directive and other water-related issues, for recommendations.

Subsequently, the project can only be licensed by DAFM if it has ascertained: *via* AA screening that there is no possibility of the project having a significant effect on the conservation objectives of a Natura site; or *via* Appropriate Assessment (if required), that the project will not adversely effect the Natura site. Key throughout is that the project does not threaten the achievement of the conservation objectives for each SAC in relation to FPM (alongside those relating to other qualifying interests and alongside other legal responsibilities. e.g. those under the WFD).

The Forestry & FPM Management Framework is applied within the context of, and in addition to, the enhanced baseline level of protection for water, as set out in the DAFM document *Forests & Water: Achieving Objectives under Ireland's River Basin Management Plan 2018-2021* (2018). Regulatory and promotional measures of particular relevance are: Forestry Act 2014 and associated Forestry Regulations 2017, the Land Types for Afforestation procedure, the Environmental Requirements for Afforestation, the Reforestation Objectives system, the Native Woodland Scheme funding package and proposed Environmental Enhancement of Forests Scheme, the Woodlands for Water measures; and DAFM's application process (as set out in Section 7 of *Forests & Water*).

The model presented in Section 5 of the Plan, comprising water setbacks and Continuous Cover Forestry zones, will form the basic model to be achieved under the Plan, primarily through forest restructuring and afforestation. This outcome, realised at a site level and coalescing into a significant landscape feature at the subcatchment level, is designed to eliminate potential negative impacts arising from forestry and other land uses, while maximising the contribution woodlands and forests make to water quality and aquatic ecosystems in general, and FPM in particular.

As set out in Section 1.3 of the Plan, DAFM can only act within its regulatory and promotional remit. It cannot compel landowner or forest owners to undertake activities, and must await the submission of applications for the various forestry activities, before it can act. However, as outlined, it can encourage certain developments through targeted supports such as the NWS Establishment. (Possible parallel processes involving (i) a programme of conversion / buffer retro-fitting by Coillte; and (ii) the targeting of sites where particular problems or opportunities exists. As these are undefined, they have been excluded from the Plan and hence from above.)

In summary, Table 2.1 outlines the four key measures comprising the proposed Plan:

**Table 2.1 Summary of Key Plan Measures**

| Measure   | Proposal  |
|---|---|
| <b>Forests &amp; FPM Management Framework</b>           | The Plan for Forests & FPM in Ireland will be implemented through the application of the Forest & FPM Management Framework. The function of this framework is to enable applicants and Registered Foresters to evaluate the degree of sensitivity regarding FPM, and to select the most appropriate approach regarding the operation in question. This results in applications appropriately tailored to the sensitivities regarding FPM, which then enter the DAFM evaluation process. |
| <b>Proposed Model for Forests within FPM Catchments</b> | A central driver of this Plan is a model for forestry within the area of the Plan, to be achieved principally through appropriate afforestation and forest restructuring at the clearfell / reforestation stage, and delivering a permanent semi-natural buffer along watercourses comprising an undisturbed setback and native woodland habitat realised with minimum site inputs  |

| Measure                               | Proposal   |
|---------------------------------------|--|
|                                       | and to be managed under continuous cover forestry (CCF). This model will be realised at a site level, eventually coalescing into a landscape feature at a subcatchment level.  |
| <b>Awareness Raising and Training</b> | Once the Plan is finalised, DAFM will instigate a campaign to promote awareness amongst Registered Foresters, contractors and forest owners, via circulars to the trade, articles in relevant publications and a tailored information brochure, and through direct training.   |
| <b>Monitoring</b>                     | Licence applications within FPM catchments will be subjected to a higher level of site inspection by DAFM. Three levels of monitoring are proposed: <ul style="list-style-type: none"> <li>▪ onsite monitoring by the Applicant;</li> <li>▪ onsite monitoring by the DAFM; and</li> <li>▪ overall monitoring of the Plan.</li> </ul> |

### 2.1.3 Model

A central component of this Plan is a model for forestry within the Plan's area, achieved principally through appropriate afforestation and forest restructuring at the clearfell / reforestation stage, and delivering a permanent and semi-natural buffer along the watercourse comprising an undisturbed water setback and a CCF zone typically comprising native woodland, realised with minimum site inputs. These features combined deliver a wide range of ecosystem services that directly benefit water quality and the aquatic habitat for FPM, namely:

- reduction in sediment mobilisation and runoff into watercourses
- interception of nutrient runoff into watercourses
- bank stabilisation
- food input into the aquatic ecosystem
- shading / cooling
- regulation of floodwater
- mitigating acidification

This model is set out in detail in Section 5 of the proposed Plan.

### 2.1.4 Linkage between Forests & Water and the Draft FPM Plan

This Plan for Forests & FPM in Ireland operates within the context of a significantly enhanced 'baseline' level of protection for water, as set out in the DAFM document *Forests & Water: Supporting the Achievement of Objectives under Ireland's River Basin Management Plan 2018-2021*. *Forests & Water* sets out how the DAFM and the wider forest sector will fulfil their role in achieving the objectives under the 2<sup>nd</sup> cycle of the Water Framework Directive (WFD), as set out in the River Basin Management Plan for Ireland 2018-2021 (RBMP), prepared by the Department of Housing, Planning & Local Government. This enhanced baseline involves legislation, policy, regulation, promotion and research, and provides a far greater range of targeted measures to underpin the implementation of the Plan.

Section 3 of *Forests & Water* is a key section, setting out how the forest sector is to fulfil its responsibilities regarding the achievement of the objectives and priorities under the RBMP. It presents the basic toolbox of measures on hand (summarised below in Table 2.2 and relevance in greater detail in Sections 4-16 of the *Forests &*

*Water* document). Several of these tools have been tailored specifically to provide necessary functionality to support the implementation of the Plan (e.g. the NWS package, the Felling & Reforestation Policy and accompanying Reforestation Objectives procedure).

Section 3 of *Forests & Water* then describes how these measures are to be mobilised, via:

- Inter-agency coordination
- Training and peer-to-peer learning
- Involvement in Areas for Action programme
- The targeting of individual sites for the protection and enhancement of water
- Protocol for handling acute forestry and water incidents; and
- The assessment of forest licence applications

These measures significantly enhance the baseline level of protection regarding water, aquatic habitats and aquatic species, and also create opportunities whereby forestry can be used to enhance water quality. It is within this improved context that this draft Plan for Forests and FPM in Ireland resides. Specifically, provisions under the Plan come into force in relation to applications for forest licensing / grant approval under Water Sensitivity Category C – see Table 3.3 of *Forests & Water* document.

**Table 2.2. Summary of water related components underpinning DAFM input into realization of River Basin Management Plans**

| Component of water-related toolbox                  | Relevance to the River Basin Management Plan  |
|---|---|
| <b>Forestry Act 2014</b>                            | This Act, commenced by the Forestry Regulations 2017 (S.I.191 of 2017), integrates the protection of the environment and associated EU and national legislation into the central licensing process regulating the key forestry activities of afforestation, tree felling, forest road works and the aerial fertilisation of forests.                            |
| <b>Forest Policy and Funding</b>                    | Changes in Ireland's forest policy and funding (as represented by EU funding rules and the Forestry Programme 2014-2020) recognise the water-related ecosystem services woodlands and forests can deliver, and further integrate the protection of water and aquatic ecosystems into State funding for forestry.  |
| <b>Scheme Rules</b>                                 | Any forestry activity receiving grant aid is subject to particular scheme rules. These incorporate the protection of the environment and outline consequences, where breaches occur.  |
| <b>Application Process</b>                          | The DAFM forestry application process provides a solid platform for assessing applications for S.I. 191/2017 Licences and grant support in relation to regulated forest activities. A core consideration throughout is compatibility with the protection of water and the aquatic ecosystems and species. Please see Table 1.2 of the plan for further details. |
| <b>Land Types for Afforestation</b>                 | This procedure, introduced in March 2016, rules out afforestation on a range of water-sensitive site types, thereby eliminating potential pressures on water associated with this land use.   |
| <b>Environmental Requirements for Afforestation</b> | These requirements, released in December 2016, consolidate and update environmental safeguards relating to afforestation previously contained in the DAFM 'guidelines' for water, archaeology, landscape and  |

| Component of water-related toolbox                           | Relevance to the River Basin Management Plan  |
|--|---|
|  | <p>biodiversity. The Requirements enhance the baseline protection regarding water, with the water setback representing an important feature</p> <p>Corresponding Environmental Requirements for Felling &amp; Reforestation in preparation</p>  |
| <b>Reforestation Objectives and permanent forest removal</b> | <p>The DAFM document Felling &amp; Reforestation Policy (2017) sets out a series of Reforestation Objectives, each with a particular application and set of prescriptions. Two of these, 'Reforestation for Continuous Cover Forest' (CCF) and 'Reforestation for Biodiversity &amp; Water Protection' (BIO), are highly relevant to the site-specific restructuring of existing forests at clearfelling / reforestation stage, to protect water.</p> <p>The same document also clarifies situations where permanent tree removal may be acceptable in relation to protected habitats, species and water.</p> |
| <b>Research and Demonstration</b>                            | <p>Recent and ongoing research and demonstration projects are directly influencing policy and practice regarding forests and water.</p> <p>These include (inter alia) FORMMAR, HYDROFOR, CROW, HYDROFOR and KerryLIFE.</p>  |
| <b>Draft Plan for Forests &amp; FPM in Ireland</b>           | <p>In line with the national conservation strategy, DAFM is currently developing a draft Plan for Forests and Freshwater Pearl Mussel (FPM) in Ireland. This plan, once implemented, will have direct relevance in relation to high ecological status (HEs) objective water bodies.</p>   |
| <b>Native Woodland Scheme Package</b>                        | <p>This grant package provides support to farmers and other landowners to establish new native woodland and to restore existing native woodland (including conversion from conifer forest to native woodland), to protect and enhance water and aquatic ecosystems.</p>   |
| <b>Agro-forestry Scheme</b>                                  | <p>Agro-forestry, supported under GPC 11 of the Afforestation Scheme, facilitates forestry and agriculture on the same piece of land and has a potential role in protecting waters from agricultural pressure.</p>  |
| <b>Environmental Enhancement of Forests Scheme</b>           | <p>Those proposed grant scheme is designed to encourage forest owners to undertake particular works within existing forests and during current rotation, to achieve structural changes and to improve the environmental 'footprint' of those forests regarding impacts on (<i>inter alia</i>) water quality.</p>  |
| <b>Woodland for Water</b>                                    | <p>The Woodlands for Water measure highlights to the wider 'water community' the use of the native woodland and associated setbacks to protect water and aquatic ecosystems, through delivery of various water-related ecosystem services including:</p> <ul style="list-style-type: none"> <li>• Reduction in sediment mobilisation and runoff into watercourses</li> <li>• Interception of nutrient runoff into watercourses</li> <li>• Bank stabilisation</li> <li>• Food input into the aquatic ecosystem</li> <li>• Shading/cooling</li> </ul>   |

| Component of water-related toolbox | Relevance to the River Basin Management Plan   |
|------------------------------------|--|
|                                    | <ul style="list-style-type: none"> <li>• Regulation of floodwater</li> <li>• Riparian restoration</li> </ul> |

### 2.1.5 Links with Water Framework Directive and the Habitats Directive

The main aim of the plan is to ensure that forestry does not prevent (either alone or in combination with other factors) the achievement of favourable status by the FPM species in Ireland. This plan hopes to achieve these aims by ensuring that forestry does not contribute as a diffuse source to water quality in each catchment not achieving good status, and where possible or feasible, it is hoped that forestry will contribute toward the improvement of water quality, and ultimately the achievement of good status in all 27 water catchments containing FPM around Ireland.

The Water Framework Directive primarily aims to ensure that the water quality in all water bodies achieves and/or maintains good status. Where there are water bodies to which multiple standards and objectives are applicable, then the most stringent will apply.

There are many water-dependent Natura 2000 sites designated under the Habitats Directive and Birds Directive. These sites can be dependent on either groundwater or surface water, and may be designated as a result of Annex I habitats or Annex II Species from the Habitats Directive, or due to the use of the site by Annex I bird species from the Birds Directive (which may be water birds or migratory birds). The implementation of the plan will contribute to the maintenance, and possibly the improvement of water conditions within the designated sites with water dependent Qualifying Interests. Those Natura 2000 sites that are designated as Special Areas of Conservation due to the presence of FPM have the potential to benefit from the plan.

### 2.1.6 Forestry & FPM Management Framework

#### 2.1.6.1 Introduction

The draft Plan for Forests & FPM in Ireland will be implemented through the application of the Forest Management Framework. Section 4 of the FRM Draft Plan sets out how this Forest Management Framework will operate.

In summary, Applicants and Registered Foresters (where relevant) are guided through a process whereby they evaluate, at a site level and prior to the application for S.I.191/2017 licensing and grant approval, the degree of sensitivity regarding FPM, and subsequently select the most appropriate approach regarding the development in question (afforestation, tree felling, etc.), to take account of this degree of sensitivity.

This process takes place through the completion by the Applicant and the Registered Forester of the Site Risk & Operation Form. The overall aim is to identify site risk and contributing factors, and to tailor the proposed forestry development accordingly, as early in the planning process as possible.

#### 2.1.6.2 New Management Framework - The Process

##### 2.1.6.2.1 Step 1: Assessing Site Risk



It is planned that a Site Risk Form will be used for the first step of an application to the FS-DAFM for any forestry-related activities (e.g. afforestation, clearfelling, etc.). An example of this Site Risk Form is included in Appendix A of the Plan. This will be an additional step that will be carried out only in the 27 catchments that are associated with SACs designated for the presence of FPM. The aim of this site risk assessment is to aid the applicant and the forester to identify any risks onsite (in relation to the protection of catchment SACs), and to select the most appropriate options and (if necessary) mitigation measures required for the completion of the forestry activity. Proximity of the forest site to populations of FPM is excluded as a consideration for the risk assessment.

#### **2.1.6.2.2 Step 2: Identifying Appropriate Options**

Once the site risks (and their level) have been identified using the risk assessment form, the most appropriate options relating to the relevant forestry activity must be selected to remove or mitigate against that risk. This step is also over and above the standard practice which would be carried out for forestry sites located outside the 27 FPM catchments.

A Site Operation Form will be used to guide the forester and applicant through the process of selecting the best option(s) from the Forestry Operation Tables (which can be seen as Appendix A of the Plan).

These tables contain a wide range of options ranging from standard forestry practice to practices for high risk sites, and they are separated into several categories:

- Afforestation and thicket stage
- Thinning and clearfell
- Post-clearfell, including reforestation
- Forest access (including forest roading)
- Sediment and nutrient control
- Control of deer, fire and invasive species
- Monitoring and contingency planning

The main categories from above are intended to be flexible and modular in nature, and different options can be applied to certain zones/areas of a site. All of the options are focused on FPM, and although it is recognised that consideration will have to be given to other factors (such as site stability and quality, cost, other qualifying interests of local designated sites, etc.), the Forest Service can only permit an activity if they are satisfied that it will not threaten the achievement of designated site conservation objectives (alone or in combination with other activities).

Some considerations for the selection of the preferred option(s) are discussed below:

#### **Afforestation & thicket stage**

On high sensitivity sites within any of the 27 FPM catchments, it is envisaged that afforestation will be either not permitted or restricted to native woodland only. Although the thicket stage of forestry rotation is generally characterised to be a period of non-intervention, but various options can be pursued to restructure existing thicket stage forests, to minimise future risks to the FPM.

#### **Thinning and clearfelling**

Site assessments will need to be carried out for areas proposed for thinning, and a plan put in place. While some cases may require a restricted or no thinning policy (if conditions increase the risk of sediment release), standard thinning plans and

techniques are likely to be useable in most sites. The most sensitive parts of sites may use techniques such as manual felling and cable extraction.

#### **Post-clearfelling (and reforestation)**

For reforestation, the same principles (e.g. use of wide water setbacks, CCF zones, and where applicable areas for commercial conifer forestry) apply as are used for afforestation. Natural regeneration should be encouraged and managed where suitable and viable. Consideration should also be given to the option of leaving some areas free of replanting, or for marginal fertility soils, low density planting in lieu of fertiliser application.

#### **2.1.6.2.3 Step 3: Submission to the Forest Service and subsequent assessment**

The application is made to the FS-DAFM including the Site Risk Form and the Site Operation Form for assessment. This assessment includes:

- GIS-based desk survey
- Site inspection
- Referral to bodies such as NPWS, Inland Fisheries Ireland, etc. (if required)
- Application of FS-DAFM AA procedure and EIA screening

All applications will undergo AA screening with the FS-DAFM, and this process will ensure that the site activities will not have any significant negative impacts. A project (or site works) can have a significant impact on a Natura 2000 if:

- It reduces the area of an Annex I habitat, the area of a habitat supporting an Annex II species or the area of the overall Natura 2000 site
- It damages the quality of the environment within the Natura 2000 site
- It causes ongoing or serious disturbance to the species and/or habitats for which the Natura 2000 site is selected
- It directly or indirectly damages the size, characteristics or reproductive ability of populations within the Natura 2000 site
- It interferes with mitigation measures used for other plans or projects

Where there is uncertainty as to whether the development will cause a significant effect (either alone or in combination with other plans and/or projects) as described above, either as a result of insufficient information or a complex site, then the project/works must undergo appropriate assessment, meaning that a Natura Impact Statement (NIS) must be prepared. This assessment is carried out by a FS district inspector, and it is based on a site inspection and referral to the FS ecologist as required. The project will only be granted if, following this assessment, the FS is satisfied that the project (either alone or in combination with other plans and/or projects) will not prevent the maintenance or restoration of the favourable conservation condition of the habitats or species (including FPM) for which the site has been designated.

Licence applications within FPM catchments will, under the new Framework, be subjected to a higher level of site inspection by DAFM. Any application for consent which includes works to an area described as Moderate or High Risk sites will be subject to a site inspection by FS-DAFM.

#### **2.1.7 Schematic Model of the proposed Plan**

The proposed Draft Plan is simplified in the form of a schematic diagram (Figure 2.1) which illustrates the model upon which the Plan is based. The features which can be employed on any site are not limited to the following list, but instead, the features are

given in the plan as examples of what can be used to protect the watercourses. The features described in the plan for FPM in Ireland are:

- Water setback
- Continuous Cover Forestry Zone
- Commercial Forest Zone (or other)
- Drain treatment
- Natural vegetation within the water setback
- Tree cover within the water setback

### **Water Setback**

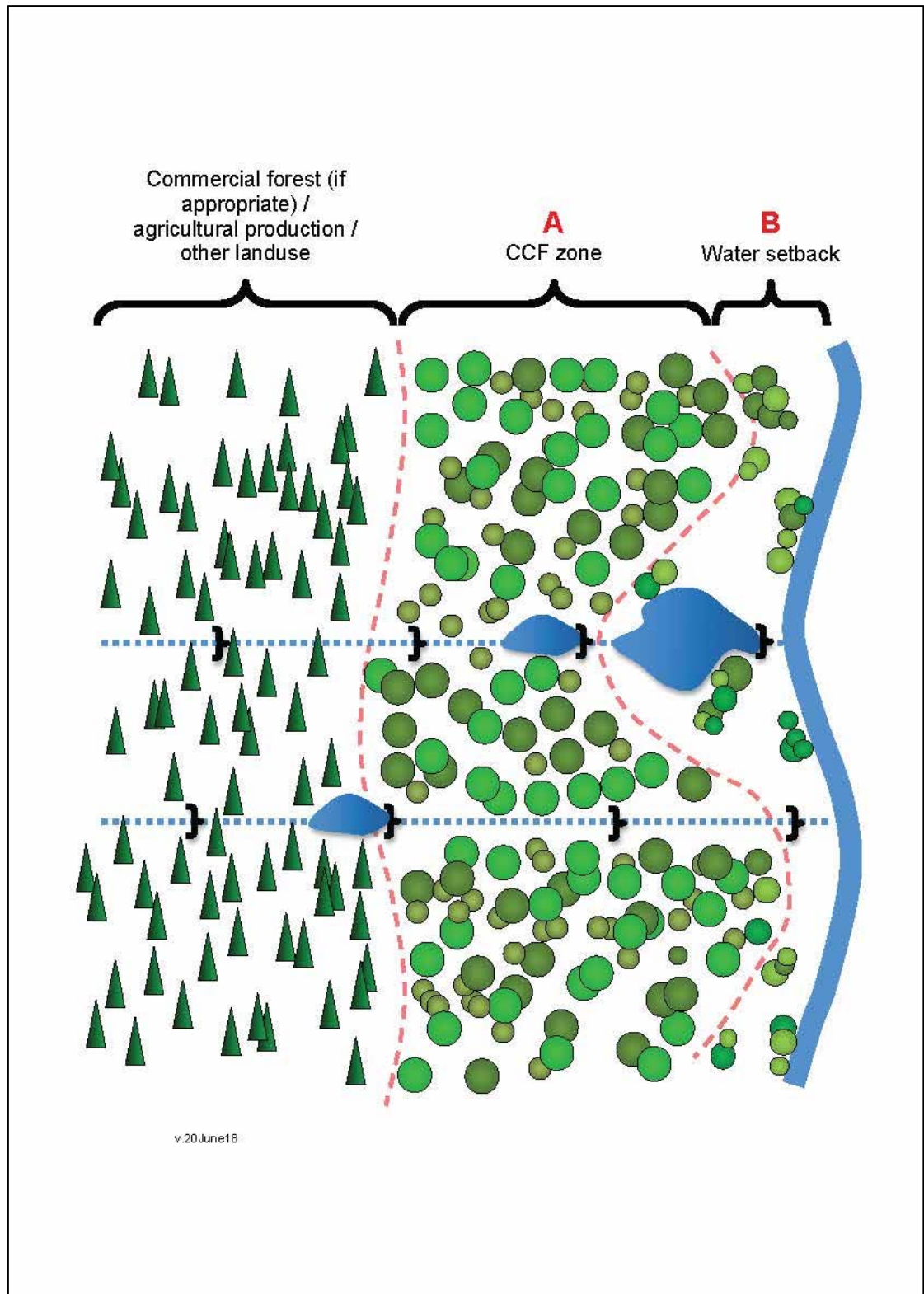
The water setback directly adjoining the watercourse itself and is aimed at separating the watercourse from forest operations and to intercept sediment and nutrient runoff into receiving waters. This feature is described in the Woodland for Water document (within the context of the afforestation, but also applicable to reforestation). In summary, the purpose of the water setback is to create at the outset, a buffer of natural ground vegetation positioned between defined water features (Aquatic zones, relevant watercourses, hotspots and water abstraction points) and the forest crop and associated operations, in order to protect water quality and aquatic ecosystems from possible sediment and nutrient runoff from the site as well as slowing the flow at afforestation (or reforestation) and throughout the remainder of the forest rotation. The water setback is incorporated during afforestation, and also at reforestation stage on existing forest land, where the existing forest was previously planted up to the water's edge.

At afforestation stage, the water setback must not be crossed by new drains. At reforestation stage, the introduction of the water setback may be accompanied by hydrologically-informed slow-water damming within existing drains and other potential pathways, to reinstate natural wet conditions. In both cases, this enables ponding and the filtering out of sediments / nutrients, before the flow enters into the receiving waters.

The required width of the water setback at afforestation is set out in Table 5 of the Environmental Requirements for Afforestation. Note, however, that wider water setbacks of up to 50 metres or greater may be sought under the Forest & FPM Management Framework set out in this draft Plan, depending on site sensitivities. Adopting this requirement as the minimum width, the actual width of the water setback on-the-ground can then be increased at various points along its length, to increase the degree of safeguard at specific locations onsite, as informed by site-level hydrology. For example, the Environmental Requirements for Afforestation stipulate the following:

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

Varying the width of the water setback (particularly in relation to sunlight) will also increase the biodiversity 'edge effect' between the (predominantly) open habitat within the water setback and the adjoining Low Impact Silvicultural Zone (see below).



**Figure 2.1 Schematic diagram of the proposed forest structure adjacent to watercourses.**

### **Continuous Cover Forestry Zone**

The Continuous Cover Forestry (CCF) Zone will typically comprise native woodland, created at either afforestation or reforestation, using the Native Woodland Scheme Package, to realise the most appropriate native woodland type for the site. The resulting native woodland canopy will be subject to low impact silviculture systems, (i.e. shelterwood, selection or coppicing). The CCF zone could also be realised through

gradual transformation from a single-aged canopy (if stable), using CCF silviculture, with possible support from the proposed CCF Scheme under the Forestry programme).

In all of the above approached, recent publications entitled Management Guidelines for Ireland's Native Woodlands (Cross & Collins, 2017) and Pro Silva Silviculture: Guidelines on Continuous Cover Forestry / Close to Nature Forestry Management Practices (Sanchez, 2017) will be highly relevant. The CCF Zone, together with the water setback (including 'setback planting' (\*) – see Figure 2.1), are intended to deliver various water-related ecosystem services outlined in the Woodland for Water document.

Other options may exist, including the long-term retention of the existing crop and reforestation with non-native species suited to CCF management. Where sought by the owner as a co-objective and where appropriate to the site (in relation to soil conditions, fertility, slope, overall water sensitivity, etc.), this zone may be subjected to wood production under CCF conditions and using appropriate extraction systems. However, the key focus will remain on low impact operations to complement the water setback and to protect the watercourse itself. The minimum width of the CCF Zone will be 20 m. However, depending on the outcome of the Forest & FPM Management Framework, the actual width may be 100 m or greater

#### **Commercial Forest Zone (or other)**

In low risk areas of the site disconnected from the watercourse, appropriate afforestation or reforestation (as relevant) with commercial forest species and subsequent commercial forest management, can be pursued, but with ongoing cognisance of the position of the site within the FPM Catchment.

#### **Drain Treatment**

In the case of reforestation sites, existing forest drains will be treated in order to disrupt direct pathways to the watercourse. This may include drain blocking or slow-water damming. Such treatment will be applied strategically outside (i.e. upslope) of the water setback, to disconnect historic forest drains from receiving waters and to prevent direct discharge into the aquatic zone. Water percolates overland from the point of the blockage, resulting in silt and nutrient capture. Drain blocking / slow-water damming will slow water and reduce possible nutrient and sediment inputs into watercourses. It will result in the reinstatement of natural draining conditions and may result in the creation of pocket wetlands, which will act as settlement ponds and aid in silt and nutrient capture.

Drain blocking and slow-water damming within main and feeder drains can be achieved through various methods, e.g. direct drain blocking using soil or logs positioned directly into sections of the drain, or a combination of fabric dams and silt traps. This operation must be hydrologically-informed, to achieve the intended aim and to avoid unforeseen consequences such as canopy instability and the creation of unwanted pathways for water to flow from source to receptor. Similar treatment may also be applied to existing land drains in the case of afforestation. However, where existing drains are well-vegetated and stable, the above treatment is not envisaged.

#### **Natural Vegetation Within the Water Setback**

The treatment of the water setback is set out in the Woodland for Water document. Natural vegetation will be allowed to develop undisturbed within the water setback, complimented by setback planting with single or small groups of native tree species. Over time, a mosaic of mixed natural habitats will emerge, typically comprising native riparian scrub, single trees, marsh, wet grassland, pocket wetland and other natural

habitats and plant communities. This requires ongoing monitoring and possible interventions, in agreement with the relevant statutory bodies, to control unwanted invasives (e.g. regenerating conifers, rhododendron) and to prevent excessive tunnelling of the watercourse by native trees, and to enable access for anglers (where relevant).

#### **Tree cover within the water setback**

Tree cover within the water setback can include:

- Existing native broadleaf trees onsite. In the case of reforestation, these may be retained from the previous rotation, but may require pollarding to prevent windblow (which may give rise to sediment release from upturned root plates so close to the watercourse, or direct disruption of the watercourse by the falling tree). In the case of afforestation, these may be trees already present onsite. In both cases, these act as important seed sources.
- As set out in the Woodland for Water document, setback planting may be undertaken, whereby individual or groups of appropriate native riparian species (e.g. alder, willow, birch, rowan, oak) are strategically planted within the water setback to form 10-20% tree cover, in order to deliver direct instream benefits (e.g. bank stabilisation, cooling / shading, food input into the aquatic ecosystem).

### **2.1.8 Awareness Raising and Training**

Once the draft Plan is finalised, DAFM will instigate a campaign to promote awareness amongst foresters, contractors and forest owners, via circulars to the trade, articles in relevant publications and a tailored information brochure. The overall aims of this awareness-raising are as follows:

- To increase awareness amongst the forestry sector of FPM and its rarity, and the significance of Ireland's population at the European level. The link between the species' presence and the high quality nature of the catchment's streams, rivers and lakes, will be highlighted.
- To outline the species' extreme sensitivity to potential impacts arising from forests and forestry activity, particularly in relation to nutrients and siltation running of sites into receiving waters.
- To outline the beneficial role woodlands and forests can play in protecting water quality and conserving the species. The Woodlands for Water approach and the model outlined in Section 2.2.2 of this draft Plan, will be central to this message.
- To outline the scope and objectives of the Plan, i.e. to ensure that forestry and forest-related activities within the catchment do not impact negatively on FPM, and where possible, are deployed proactively as a tool to protect and enhance water quality.
- To outline the key mechanisms involved in realising this, i.e. the Forestry & FPM Management Framework and the availability of support under the NWS package, the incoming Environmental Enhancement of Forests Scheme, and the proposed Continuous Cover Forestry Scheme.
- To promote awareness of the range of appropriate forestry practices on various sites, ranging from high risk sites (e.g. native woodland creation through natural regeneration) to low risk sites (e.g. commercial forestry, with enhanced safeguards).

The DAFM will host training events for Forestry Inspectors, Registered Foresters and Forestry Companies and key forest contractors operating within each FPM catchment.

Training events undertaken in 2017 in relation to Annex 1 habitats and environmental setbacks on afforestation sites, demonstrate the effectiveness of this approach. Preparation for training will include the production of a guidance document focused on presenting case studies and examples of good (and bad) practice, and this document will be further refined and re-issued, as the training programme progresses.

Training for Registered Foresters and contractors will be practical in nature, and will focus on the following:

- the extreme sensitivity of FPM to nutrient enrichment, siltation, pollution and hydrological change;
- inappropriate forestry practices that can impact severely on the species, and appropriate practices that are compatible and proactive regarding FPM conservation and the protection and enhancement of water quality;
- the use of the Forest & FPM Management Framework as the key decision-making tool for forest management within the catchments;
- the use, under the framework, of the . SITE RISK & OPERATIONS FORM and the Options Table, to guide risk assessment and the selection of the most appropriate forest management option(s), based on site sensitivity;
- basic training ref. water monitoring (equipment, interpretation) and mitigation measures; and
- the various regulatory and promotional tools to realise change, including licence conditions and the availability of funding under the Native Woodland Scheme (see Part B of the *Forests & Water* document).

The model set out in Section 5 of the Plan will form a central part of this training, by highlighting the required outcome of the Plan whereby all forests within each catchment will be accompanied by permanent, semi-natural buffer along aquatic zones, designed and managed to protect water quality and FPM.

These training events will stress the need to tailor applications before submission to DAFM, and the mechanisms that will otherwise be deployed, e.g. the potential requirement for a NATURA Impact Statement (NIS).

These training events will take place at a suitable location based on FPM catchment clusters, and may incorporate a field element.

Further training events are also envisaged in the medium to long term, using sites that have undergone appropriate treatment in relation to FPM, including demonstration sites treated under the KerryLIFE project.

### 2.1.9 Monitoring

A regime of during- and post-operation inspections by the Forest Service will take place on the site of the forestry works, along with the catchment-level monitoring of overall progress towards achieving appropriate forest restructuring brought about by this approach.

It is proposed that this would be carried out by three levels of monitoring:

- Onsite monitoring by the Applicant
- Onsite monitoring by the FS-DAFM
- Overall monitoring of the forestry & FPM plan

### **Onsite monitoring**

Monitoring will regularly be carried out by applicants onsite, and will reflect the risk involved with the activity. Such monitoring will be specified as necessary via the site licensing process. Other measures that can be utilised in this process include the presence of an onsite clerk of works and the use of toolbox talks to ensure all onsite workers are aware of the risks, preventative measures, etc.

The FS-DAFM will undertake onsite spot check inspections during operations/works to ensure compliance with the conditions given in the license, or may review the monitoring data submitted by the applicant (e.g. Surface water monitoring results). Should any exceedances be identified, then a response will be initiated from the FS-DAFM, which could include the halting of works onsite, implementation of suitable mitigation measures and/or the input of a FPM ecologist if required. Post works inspections will also be carried out to ensure mitigation measures have been installed correctly. All FS-DAFM field inspections will be unannounced, and will initially be of a high number, particularly in high risk areas (in relation to watercourse proximity, soil and slope. Lower risk sites will have a lower inspection frequency/intensity, and inspections may be adjusted based on findings (e.g. high risk sites with good compliance levels will have a reduced inspection intensity).

Should non-compliance be an issue onsite, there are a number of options available to the FS-DAFM, including:

- Revoking of licenses
- Withholding of grants and premiums until remedial works are carried out
- Financial penalties
- Established sanctions via FS registered forester system (e.g. increased inspection intensity)
- Legal action/prosecution

### **Overall monitoring of the draft Plan**

Existing sections (forestry inspectorate, felling section and the approvals section) of the FS will have key roles in the oversight and monitoring of the overall plan. Forest Service personnel will be assigned to the following roles:

- Organise the roll-out and awareness raising for the FPM Management Framework
- Internal co-ordination for the plan in the FS and other divisions of the DAFM
- Coordination with relevant bodies (e.g. NPWS, Inland Fisheries Ireland, etc.)
- Ensure engagement of FPM ecologist and hydrologist to aid the inspectorate
- Provide ongoing support to forestry inspectors, administration, registered foresters and forest owners
- Provide progress updates on implementing the plan
- Quality control through all stages of the process
- Monitoring for progress

It is envisaged that direct monitoring of FPM population will take place to monitor the effects of implementing the plan. In addition, there are a number of indicators that will be monitored to track progress within each catchment. These indicators include:

- The area of new native woodland established on both greenfield sites adjoining watercourses and through reforestation of former conifer forest



- Length and area of new water setbacks installed both during forest rotations and also at reforestation stage
- Area of former conifer forest converted from clearfell system to CCF system
- Area of conifer forest converted to widely-spaced pine forest
- Area of conifer forest that is deforested to open habitats

The above monitoring will feed back to refine and improve the FPM Management Framework.

### 3 CONSULTATION

Scoping is the process of determining the content, depth and extent of topics to be covered in the proposed plan. This process is conducted by contacting the relevant authorities and Non-Governmental Organisations (NGOs) with interest in the specific aspects of the environment likely to be affected by the proposed plan. These organisations are invited to submit comments on the scope of the plan and the specific standards of information they require. Comprehensive and timely scoping helps ensure that the plan refers to all relevant aspects of the proposed plan and its potential effects on the environment and provides initial feedback in the early stages of the project, when alterations are still easily incorporated into the design.

A Scoping Document, providing details of the proposed plan and the proposed scope of the Environmental Report, and inviting the comments and input of consultees, was prepared by McCarthy Keville O'Sullivan (MKO). Scoping consultation was carried out between December 2015 and January 2016 for the initial draft of the Plan for Forests and Freshwater Pearl Mussel in Ireland. As required by the SEA Directive, this was carried out with the relevant statutory consultees, who were sent the above-mentioned scoping document. Those bodies included in the consultation were:

- Environmental Protection Agency (EPA)
- Department of Communication, Energy, and Natural Resources (DCENR)
- Department of Agriculture, Food and Marine (DAFM)
- Department of the Environment, Community and Local Government (DECLG)
- Department of Arts, Heritage and the Gaeltacht (DAU-DAHG)
- Northern Ireland Environment Agency (NIEA)

#### 3.1.1 Scoping Consultation Responses

Table 3.1 presents a summary of consultee responses. Copies of all scoping responses are included in **Appendix 2** of this NIS. The recommendations of the consultees have informed the plan preparation process and the contents of both the plan and the NIS.

**Table 3.1 Scoping Response Summary**

| No. | Consultee   | Scoping Response Received    |
|-----|---|------------------------------|
| 1   | Environmental Protection Agency                               | Reply received 05/02/16      |
| 2   | Department of Agriculture, Food and Marine                    | Reply received 18/01/16      |
| 3   | Department of Arts, Heritage and the Gaeltacht                | Reply received 05/02/16      |
| 4   | Department of the Environment, Community and Local Government | No response received to date |
| 5   | Department of Communications, Energy and Natural Resources    | No response received to date |
| 6   | Northern Ireland Environment Agency                           | Reply received 05/02/16      |
| 7   | Loughs Agency   | No response received to date |

Appendix 2-1 of the Environmental Report presents the key points from the scoping responses which have been received at the time of writing this document (6<sup>th</sup> July 2018), and notes where they have been addressed in this SEA and the Environmental Report. If further responses are received, the comments of the consultees will be considered in the implementation of the plan.

## 4 IMPACT ASSESSMENT & MITIGATION

The AA Screening Report that is included as **Appendix 1** of this document screens in the potential for significant effects on a number of SACs and SPAs.

The proposed plan is strategic in nature and while it is specific to the 27 FPM catchments it does not specify a magnitude for site specific future land use and development. The plan does not specify any land take. Where the plan has the potential to influence any other plans or project in a manner that could potentially impact on European Sites as a result of land-take, any elements associated with its implementation will be subject to Appropriate Assessment (or Screening) where necessary.

**Table 4.1. Impact Assessment**

| Measure   | Proposal   | Mitigation   | Residual Impact (Post mitigation)   |
|---|--|--|---|
| <b>Forests &amp; FPM Management Framework</b>           | The draft Plan for Forests & FPM in Ireland will be implemented through the application of the Forest Management Framework i.e. through the Forest Service consenting system. The function of the Framework is to enable Applicants and Registered Foresters to evaluate the degree of sensitivity regarding FPM, and to select the most appropriate approach regarding the operation in question. This results in applications appropriately tailored to the sensitivities regarding FPM, which then enter the DAFM evaluation process. | Applications to DAFM for licensing for afforestation, forest road construction, thinning and clearfelling / replanting within any of the 27 FPM Catchments can only advance where: <ul style="list-style-type: none"> <li>The DAFM has ascertained that the project, individually or in combination with other plans or projects is not likely to have a significant effect on/adversely affect the integrity of any European site.</li> </ul> | The implementation of the Management Framework, will not adversely affect the integrity of any European site. |
| <b>Proposed Model for Forests within FPM Catchments</b> | A central driver of this Plan is a model for forestry within 27 catchments achieved principally through appropriate afforestation and forest restructuring at the clearfell / reforestation stage, and delivering a permanent  | Applications to DAFM for licensing for afforestation, forest road construction, thinning and clearfelling / replanting within any of the 27 FPM Catchments can only  | The implementation of the proposed model will not adversely affect the integrity of any European site.        |

| Measure                               | Proposal   | Mitigation   | Residual Impact (Post mitigation)   |
|---------------------------------------|--|--|---|
|                                       | buffer along watercourses comprising an undisturbed setback and native woodland habitat realised with minimum site inputs and to be managed under continuous cover forestry.   | advance where: <ul style="list-style-type: none"> <li>The DAFM has ascertained that the project, individually or in combination with other plans or projects is not likely to have a significant effect on/adversely affect the integrity of any European site.</li> </ul> |   |
| <b>Awareness Raising and Training</b> | Once the draft Plan is finalised, DAFM will instigate a campaign to promote awareness amongst foresters, contractors and forest owners, via circulars to the trade, articles in relevant publications and a tailored information brochure.   | The proposal relates to knowledge transfer and training.   | The implementation of the measure will not adversely affect the integrity of any European site. |
| <b>Monitoring</b>                     | Licence applications within FPM catchments will be subjected to a higher level of site inspection by DAFM. Three levels of monitoring are proposed: <ul style="list-style-type: none"> <li>onsite monitoring by the Applicant;</li> <li>onsite monitoring by the DAFM; and</li> <li>overall monitoring of the draft Plan.</li> </ul> | Project will have to subject to the appropriate assessment process at approval stage. This proposal relates to increased monitoring of activities located within the 27 FPM catchments to ensure that  | The implementation of the measure will not adversely affect the integrity of any European site. |

#### **4.1.1 Recommended Appropriate Assessment Procedure**

As required under the Habitats Directive and as set out under S.I.477 of 2011, on receipt of any application for licensing and / or grant approval, DAFM (as the consenting authority) must undertake 'screening' to assess whether or not the project - either individually or in combination with other plans or projects - is likely to have a significant effect on a SAC or SPA (whether surrounding, adjoining or remote), in view of both the conservation objectives of that Natura site and best scientific knowledge.

If a significant effect is likely or where uncertainty exists, DAFM must seek a Natura Impact Statement (NIS) from the applicant. Upon receipt of the NIS, it will undertake an 'appropriate assessment', primarily to gauge the nature of the impact and the effectiveness of any avoidance, amelioration or mitigation measures proposed to avoid adverse effects on the integrity of the Natura site(s) concerned.

Screening for appropriate assessment, and the appropriate assessment itself, will be carried out in accordance with Regulation 42 of the European Communities (Birds & Natural Habitats) Regulations 2011. When carrying out the appropriate assessment (if required), the Department must include a determination under Article 6(3) of the Habitats Directive as to whether or not the project would adversely affect the integrity of the Natura site(s) concerned. The assessment carried out under Article 6(3) cannot have any deficiencies or data / information gaps and must contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of a project on the Natura site(s) concerned.

DAFM can approve the application only after it has ascertained – either at screening or at appropriate assessment – that the project, individually or in combination with other plans or projects is not likely to have a significant effect on/adversely affect the integrity of any European site.

## 5 CUMULATIVE IMPACTS

### 5.1 Relationship with Other Relevant Plans and Programmes

Assessment material for the CIA was compiled on the relevant planning and sectoral plans/programmes. The material gathered comprised National Plans, Regional Plans and Guidance as well as the relevant Development and Local Area Plans as set out below.

The FPM Plan sits within a hierarchy of legislation, plans, programmes and strategies, which include international, EU, national, regional and local levels. The principle requirements in relation to international Plans and Programmes have been incorporated into the national and regional Plans and Programmes.

The FPM Plan, which must comply with relevant higher-level legislation, plans and strategic actions and may, in turn, guide lower level strategic actions.

#### **International and European Plans/Programmes:**

- Directive 2000/60/EC Water Framework Directive
- Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive)
- Directive 2009/147/EC on the conservation of wild birds
- EU Biodiversity Strategy
- EC (2013) New Forest Strategy
- Europe 2020, A Strategy for Smart, Sustainable and Inclusive Growth
- European Commission's Effort Sharing Regulation (2021-30)
- European Communities (Aerial Fertilisation) (Forestry) Regulations 2012
- European Communities (Birds & Natural Habitats) Regulations 2011
- European Communities (Forest Consent & Assessment) Regulations 2010 (as amended)
- European Communities (Water Policy) Regulations 2003
- European Union (EU) Directive on the Promotion of the Use of Energy from Renewable Sources (Directive 2009/28/EC)
- EU (2013) Environmental Liabilities Directive (2013/30/EU)
- United Nations (2012). Doha Amendment to the Kyoto Protocol. United Nations Framework Convention on Climate Change.

#### **National Plans/Programmes**

- A Strategy for Native Woodlands in Ireland 2016-2020 - Woodlands of Ireland
- COFORD (2004) Forest Road Manual
- COFORD Mobilising Ireland's forest resource
- DAFM (2015) Forestry Programme 2014-2020
- DAFM (2016) Statement of Strategy 2016 – 2019
- DAFM (2015) Foodwise 2025
- DAFM (2014) The Rural Development Programme (RDP) 2014 – 2020;
- DAFM (2013) Food Harvest 2020
- DAFM Forests, products and people Ireland's forest policy – a renewed vision
- DAHG (2014) National Raised Bog SAC Management Plan: Draft for Consultation
- DARDNI (2014) Rural Development Programme 2014 – 2020
- DCENR (2014) Draft Bioenergy Plan

- Department of Public Expenditure and Reform (2011) Infrastructure and Capital Investment 2012-2016: Medium Term Exchequer Framework
- DECLG (2012) National Climate Change Adaptation Framework: Building Resilience to Climate Change
- Second Cycle of the WFD River Basin Management Plans
- DRDNI (2010) Regional Development Strategy 2035
- EPA (2016) Ireland's Environment - An Assessment
- Forest Service (2014) Forestry and Aerial Fertilisation Requirements
- Forest Service (2012) Appropriate Assessment Procedure (AAP)
- Forest Service (2009) Forestry and Otter Guidelines
- Forest Service (2009) Forestry and Kerry Slug Guidelines
- Forest Service (2008) Forestry and Freshwater Pearl Mussel Requirements
- Forest Service (2000) Irish National Forest Standard
- Forest Service (2000) Forestry and Water Quality Guidelines;
- Forest Service (2000) Forest Protection Guidelines
- Forest Service (2000) Forest Harvesting and the Environment Guidelines
- Forest Service (2000) Forest Biodiversity Guidelines
- Forest Service (2000) Code of Best Forest Practice
- Forest Service / EPA / COFORD (amended 2013) Protocol for the determination of the acid sensitivity of surface water in acid sensitive areas (ASAs)
- Forestry Act 1946 (Part IV)
- Ireland's Prioritised Action Framework (PAF) For NATURA 2000
- National Biodiversity Action Plan 2017 – 2021
- National Landscape Strategy for Ireland 2015 – 2025
- National Mitigation Plan
- NPWS (2011) Draft National Peatlands Strategy.

#### **Regional Plans and Programmes:**

- Border Regional Authority (2010) Regional Planning Guidelines 2010-2022;
- Dublin Regional Authority and Mid-East Regional Authority (2010) Regional Planning Guidelines for the Greater Dublin Area 2010-2022
- Mid-West Regional Authority (2010) Mid-West Regional Planning Guidelines 2010-2022;
- South-East Regional Authority (2010) Regional Planning Guidelines for the South-East Region 2010-2022
- South-West Regional Authority (2010) Regional Planning Guidelines 2010-2022;
- West Regional Authority (2010) Regional Planning Guidelines for the West Region 2010-2022

### **5.1.1 Discussion and Conclusions of In-Combination Impact Assessment**

Following consideration of the potential effects it is noted that the proposed FPM Plan on its own, will not result in any adverse effects on any European Site.

In reviewing the plans/programmes listed below, it was noted that none had objectives that could lead to adverse effects on the natural environment and many contained policies that actively promoted the protection of it. Many also had specific objectives to protect European Sites.

No potential for adverse cumulative impacts were identified when the proposed FPM Plan was considered in combination with any of the plans/programmes listed above.



## 6 CONCLUDING STATEMENT

### 6.1 Characteristics of the Proposed Plan

#### **Description of Project**

The FPM Plan is described in Section 2 of this report.

#### **Is the plan directly connected with or necessary to the management of the site?**

The plan is not directly connected with or necessary to the management of any European Site.

#### **Are there any other plans/projects or plans that together with the project being assessed could affect the site?**

As detailed above in Section 5, the proposed FPM Plan will have no individual or in combination impacts on any European site in any regard.

### 6.2 Assessment of Significance of Effects

#### **Describe how the project is likely to affect the Natura 2000 sites**

There will be no adverse effect on any European site as a result of the implementation of the proposed FPM Plan.

Applications to DAFM for licensing (with or without grant aid, if relevant) for afforestation, forest road construction, thinning and clearfelling / replanting within any of the 27 FPM Catchments can only advance where:

- the Applicant and the Registered Forester have assessed individual site sensitivity regarding FPM and have tailored the proposal accordingly (either at initial application stage using the Forest Management Framework or arising from a Natura Impact Statement); and
- The DAFM has ascertained that the project, individually or in combination with other plans or projects is not likely to have a significant effect on/adversely affect the integrity of any European site.

### 6.3 Data Collected to Carry Out Assessment

**In preparation of the report, the following sources were used to gather information:**

- Review of NPWS published information on European Sites including Site Synopses, Natura 2000 Standard Data Forms, European Site mapping and Conservation Objectives for European Sites
- Review of other plans and projects within the area.

### 6.4 Integrity of the European Sites

Based on the objective information gathered and the predictions made about the changes that are likely to result from the implementation of the plan, the integrity of site checklist, as per Box 10 of EC, 2002, is completed in Table 6.1 below.

**Table 6.1 Integrity of site checklist and assessment for European Sites**

| Does the project have the potential to:  | Assessment  | Residual Impact: Yes/No |
|--|---|-------------------------|
| <b>Conservation objectives</b>   |   |                         |
| Cause delays in progress towards achieving the conservation objectives of the site?  | Implementation of the Plan will not cause delays or interrupt progress towards achieving the conservation objectives of the European Sites.   | No                      |
| Interrupt progress towards achieving the conservation objectives of the site?  |   | No                      |
| Disrupt those factors that help to maintain the favourable conditions of the site?   | Implementation of the Plan will not disrupt those factors that help to maintain the favourable conditions of the site European Sites.   | No                      |
| Interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?                         | Implementation of the Plan will not interfere with the balance, distribution and density of key species that are the indicators of the favourable condition European Sites.                                     | No                      |
| <b>Other Indicators</b>  |   |                         |
| Cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?                         | Implementation of the Plan will not cause changes to the structure and function of the habitats or ecosystems of any European Sites.  | No                      |
| Change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site? |   | No                      |
| Interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?   | No potential significant impacts on any QI of any European site has been identified.  | No                      |
| Reduce the area of key habitats?   | There will be no reduction in area of key habitat.  | No                      |
| Reduce the population of key species?  | Implementation of the Plan will not reduce the population of key species or change the balance between Key species. The plan is not anticipated to result in a reduction in diversity within any European site. | No                      |
| Change the balance between key species?  |   | No                      |

| Does the project have the potential to:  | Assessment   | Residual Impact: Yes/No |
|--|--|-------------------------|
| Reduce diversity of the site?  |  | No                      |
| Result in disturbance that could affect population size or density or the balance between key species? |  | No                      |
| Result in fragmentation?   | Implementation of the Plan will not results in fragmentation.              | No                      |
| Result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding, etc.)?  | No Key features will be lost as a result of the implementation of the plan | No                      |

## 6.5 Conclusion

It can be concluded, on the basis of objective scientific information, that the proposed plan, individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site.

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# Appendix 1

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## Appropriate Assessment Screening Report



## **Article 6(3) Screening Assessment**

# **Plan for Forests and Freshwater Pearl Mussel in Ireland**



Planning & Environmental Consultants

## DOCUMENT DETAILS

**Client:** Forest Service- Department of  
Agriculture, Food and the Marine

**Project title:** AA Screening - Proposed Plan for Forests  
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|     |        |            |                              |           |              |

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# 1 INTRODUCTION

## 1.1 General Introduction

McCarthy Keville O'Sullivan Ltd. (MKO) has been appointed to provide the information necessary to allow the competent authority to conduct an Appropriate Assessment Screening in accordance with the requirement of Article 6(3) of the Habitats Directive [Directive 92/43] of the proposed Plan for Forests and Freshwater Pearl Mussel (FPM) in Ireland.

This document was prepared in accordance with the European Commission guidance document *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 92/43/EEC* (EC, 2001) and the Department of the Environment's Guidance on the Appropriate Assessment of Plans and Projects in Ireland (December 2009, amended February 2010).

In addition to the guidelines referenced above, the following relevant guidance was considered in preparation of this report:

1. DoEHLG (2010) *Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities*. Department of the Environment, Heritage and Local Government,
2. European Communities (2000) *Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC*, Office for Official Publications of the European Communities, Luxembourg. European Commission,
3. *Directive 92/43/EEC*, Office for Official Publications of the European Communities, Luxembourg. European Commission,
4. EC (2007) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – *Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission*. European Commission,
5. EC (2013) *Interpretation Manual of European Union Habitats. Version EUR 28*. European Commission

## 1.2 The Role of the FS-DAFM and Context of the Plan

As the consenting authority for key forestry activities, the Department of Agriculture Food and the Marine (DAFM), through the Forest Service (FS-DAFM), has direct responsibilities to ensure that forestry activities are conducted in compliance with Article 6 of the Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (as amended) (hereafter referred to as the Habitats Directive). The Habitats Directive is transposed into Irish Law through Regulations 27, 42 and 61 of the European Communities (Birds & Natural Habitats) Regulations 2011 (SI no.477 of 2011) and Part XAB of the Planning and Planning Act 2000 (as inserted by S57 of the planning and plan (amendment) act 2010)

The draft Plan applies to the catchments of 26 SACs designed for FPM, plus the hydrological catchment of the Owentaraglin catchment within the Munster Blackwater Catchment. It aims to ensure that all forestry activities regulated by DAFM under the Forestry Act 2014 are undertaken in a manner that does not threaten the achievement of the conservation objectives for the SACs involved,

namely " *To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.* "

This will be achieved through the application of a tailored Forest Management Framework to identify the level of risk associated with an individual site, and to match operations appropriate to that risk. The framework will operate within the context of a significantly enhanced 'baseline' level of protection for water and aquatic habitats and species, as set out in the DAFM document *Forests & Water: Achieving the Objectives under Ireland's River Basin Management Plan 2018-2021: Programme of Measures for Forestry to Protect & Enhance Water.*

## 2 IDENTIFICATION OF RELEVANT EUROPEAN SITES

### 2.1 Background to European Sites

The Habitats Directive (together with the Birds Directive) forms the cornerstone of Europe's nature conservation policy. It is built around two pillars: the Natura 2000 network of protected sites and the strict system of species protection. All in all the directive protects over 1,000 animal and plant species and over 200 "habitat types" (e.g. special types of forests, meadows, wetlands, etc.), which are of European importance.

With the introduction of the EU Habitats Directive (92/43/EEC) and Birds Directive (79/409/EEC) which were transposed into Irish law as S.I. No. 94/1997 *European Communities (Birds and Natural Habitats) Regulations 1997*, the European Union formally recognised the significance of protecting rare and endangered species of flora and fauna, and also, more importantly, their habitats. The 1997 Regulations and their amendments were subsequently revised and consolidated in S.I. No. 477/2011- *European Communities (Birds and Natural Habitats) Regulations 2011*. This legislation requires the establishment and conservation of a network of sites of particular conservation value that are to be termed 'European Sites'.

Articles 3 – 9 of the EU Habitats Directive (92/43/EEC) provide the EU legislative framework of protecting rare and endangered species of flora and fauna, and habitats. **Annex I** of the Directive lists habitat types whose conservation requires the designation of **Special Areas of Conservation** (SAC). Priority habitats, such as Turloughs, which are in danger of disappearing within the EU territory are also listed in Annex I. **Annex II** of the Directive lists animal and plant species (e.g. Marsh Fritillary, Salmon, and Killarney Fern) whose conservation also requires the designation of **Special Areas of Conservation**. **Annex IV** lists animal and plant species in need of strict protection such as Lesser Horseshoe Bat and Otter, and **Annex V** lists animal and plant species whose taking in the wild and exploitation may be subject to management measures. In Ireland, species listed under Annex V include Irish Hare, Common Frog and Pine Marten. Species can be listed in more than one Annex, as is the case with Otter and Lesser Horseshoe Bat which are listed on both **Annex II** and **Annex IV**.

Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds (Birds Directive) has been substantially amended several times. In the interests of clarity and rationality the said Directive was codified in 2009 and is now cited as Directive 2009/147/EC. The Directive instructs Member States to take measures to maintain populations of all bird species naturally occurring in the wild state in the EU (**Article 2**). Such measures may include the maintenance and/or re-establishment of habitats in order to sustain these bird populations (**Article 3**).

A subset of bird species have been identified in the Directive and are listed in **Annex I** as requiring special conservation measures in relation to their habitats. These species have been listed on account of inter alia: their risk of extinction; vulnerability to specific changes in their habitat; and/or due to their relatively small population size or restricted distribution. **Special Protection Areas** (SPAs) are to be identified and classified for these Annex I listed species and for regularly occurring migratory species, paying particular attention to the protection of wetlands (**Article 4**).

## 2.2 European Sites in the Likely Zone of Impact

Using the GIS software, MapInfo (Version 10.0), European sites within the likely zone of impact <sup>(1)</sup> of the Plan Implementation Zone (i.e. catchment of 26 SACs designed for FPM, plus the hydrological catchment of the Owentaraglin catchment within the Munster Blackwater Catchment) are) were identified. The following rationale was used to identify the likely zone of impact. Initially, sites within a 15 kilometre radius of the Plan Implementation Zone were identified (as per the NPWS Guidance (2010). In addition, using the precautionary principle, European Sites located outside the 15km buffer zone were also taken into account and assessed where potential pathways for impact were identified and particularly where hydrological connectivity could be established. In this case no potential for impacts on European Sites located outside the 15km buffer radius were identified.

Figures 2.1a and 2.1b show the location of the Plan Implementation Zone in relation to all European sites within the likely zone of impact as identified according to the criteria described above.

Table 2.1 below, lists all European Sites that were considered to be within the Likely Zone of Impact. The site synopses and conservation objectives of these sites, as per the NPWS website ([www.npws.ie](http://www.npws.ie)), were considered at the time of preparation of this report (January 2016). Details of these sites, including their distance from the Plan Implementation Zone, are provided in Table 2.1 below.

<sup>1</sup> Zone of likely impact is a term used in DoEHLG (2010). Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Revision, February, 2010. Department of the Environment, Heritage and Local Government. Zone of Influence is used in NRA documentation and Guidelines

# Legend



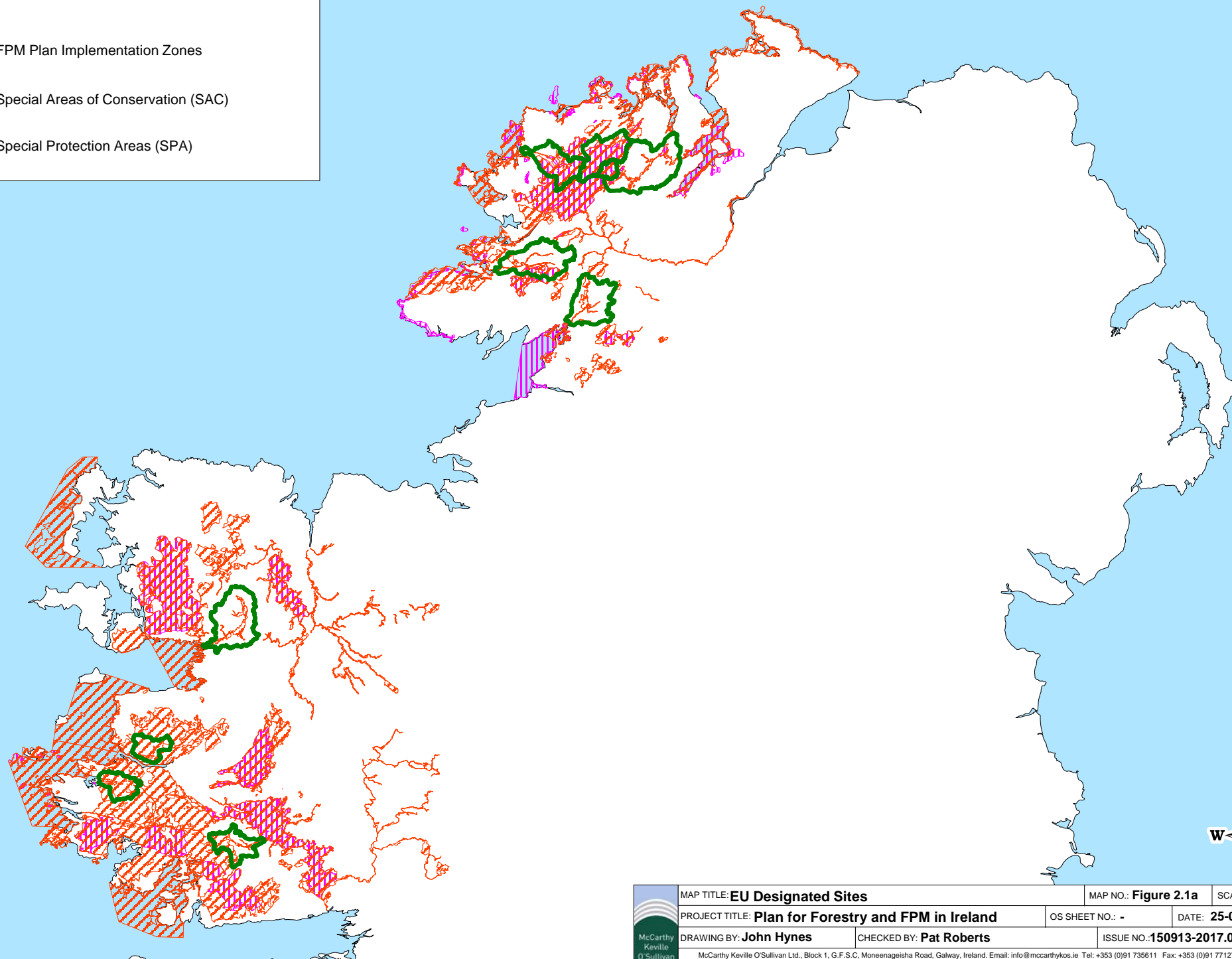
FPM Plan Implementation Zones



Special Areas of Conservation (SAC)



Special Protection Areas (SPA)



|  |   |                                |                                       |                         |
|--|---|--------------------------------|---------------------------------------|-------------------------|
| <br>McCarthy<br>Keville<br>O'Sullivan | MAP TITLE: <b>EU Designated Sites</b>   |                                | MAP NO.: <b>Figure 2.1a</b>           | SCALE: <b>1:1309000</b> |
|  | PROJECT TITLE: <b>Plan for Forestry and FPM in Ireland</b>  |                                | OS SHEET NO.: <b>-</b>                | DATE: <b>25-06-2018</b> |
|  | DRAWING BY: <b>John Hynes</b>   | CHECKED BY: <b>Pat Roberts</b> | ISSUE NO.: <b>150913-2017.06.25-F</b> |                         |
|  | McCarthy Keville O'Sullivan Ltd., Block 1, G.F.S.C, Moneenageisha Road, Galway, Ireland. Email: info@mccarthykos.ie Tel: +353 (0)91 735611 Fax: +353 (0)91 771279 |                                |                                       |                         |

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# Legend



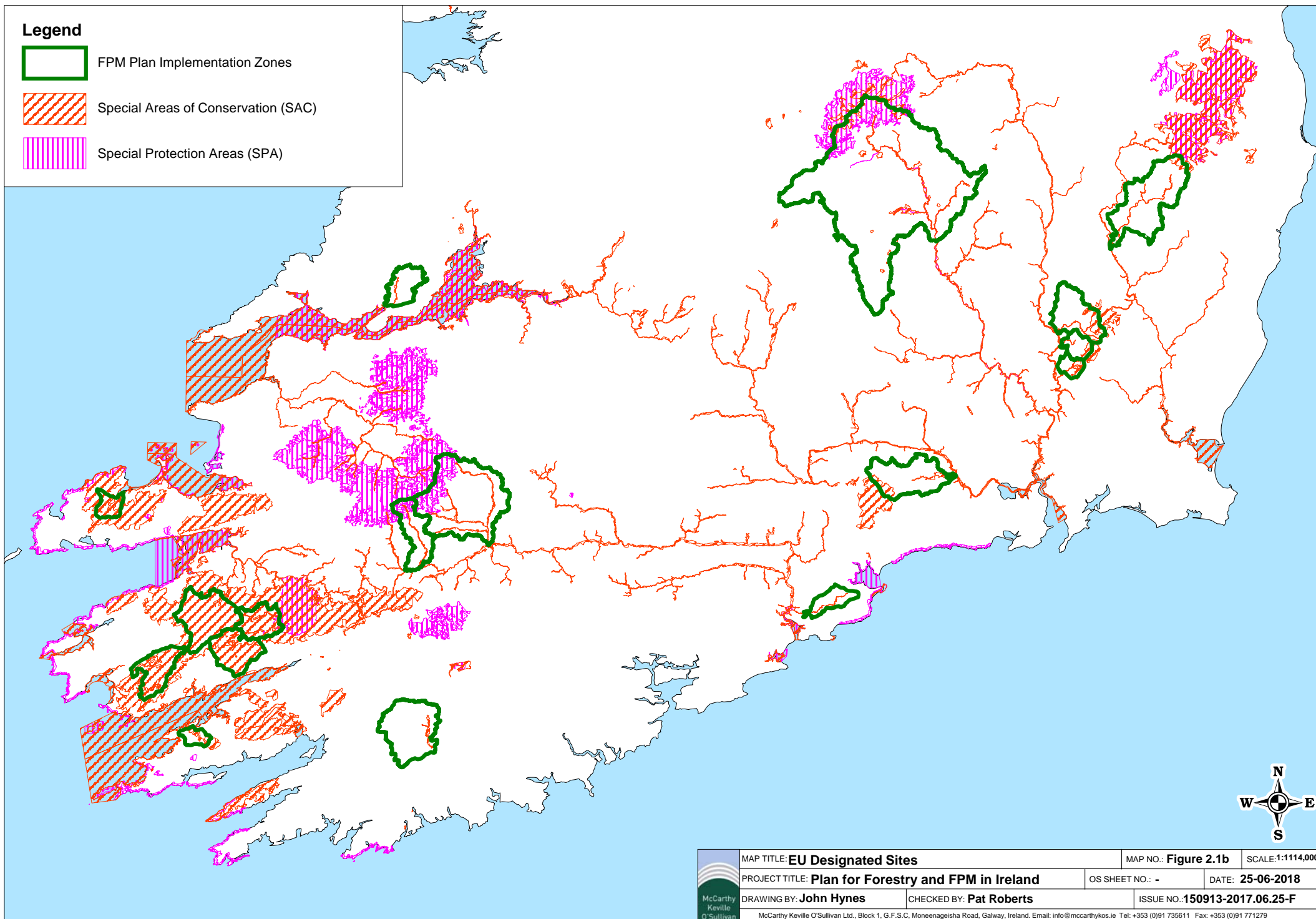
FPM Plan Implementation Zones



Special Areas of Conservation (SAC)



Special Protection Areas (SPA)



|  |   |                                |                                       |
|--|---|--------------------------------|---------------------------------------|
|  | MAP TITLE: <b>EU Designated Sites</b>   | MAP NO.: <b>Figure 2.1b</b>    | SCALE: <b>1:1114,000</b>              |
|  | PROJECT TITLE: <b>Plan for Forestry and FPM in Ireland</b>  | OS SHEET NO.: -                | DATE: <b>25-06-2018</b>               |
|  | DRAWING BY: <b>John Hynes</b>   | CHECKED BY: <b>Pat Roberts</b> | ISSUE NO.: <b>150913-2017.06.25-F</b> |
|  | <small>McCarthy Keville O'Sullivan Ltd., Block 1, G.F.S.C., Moneenageisha Road, Galway, Ireland. Email: info@mccarthykos.ie Tel: +353 (0)91 735611 Fax: +353 (0)91 771279</small> |                                |                                       |

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**Table 2.1. European Sites within the Likely Zone of Influence of the Plan Implementation Zone**

| European Site                                | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective  |
|--|---|---|---|
| <b>Special Areas of Conservation (SAC)</b>   |   |   |   |
| Ballyarr Wood SAC (Site Code 000116)         | 0.00  | <ul style="list-style-type: none"> <li>Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> </ul>  | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected'' (NPWS Generic version 6.0, 2018)</i></p> |
| Bandon River SAC (Site Code 002171)          | 0.00  | <ul style="list-style-type: none"> <li>Water courses of plain to montane levels with the Ranunculus fluitans and Callitriche-Batrachium vegetation [3260]</li> <li>Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnus incanae, Salix alba) [91E0]</li> <li>Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]</li> <li>Lampetra planeri (Brook Lamprey) [1096]</li> </ul> | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected'' (NPWS Generic version 6.0, 2018)</i></p> |
| Blackstairs Mountains SAC (Site Code 000770) | 0.00  | <ul style="list-style-type: none"> <li>Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>European dry heaths [4030]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected'' (NPWS</i></p>                            |

| European Site  | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective   |
|--|---|---|--|
|  |   |   | Generic version 6.0, 2018)   |
| Blackwater River (Cork/Waterford) SAC (Site Code 002170) | 0.00  | <ul style="list-style-type: none"> <li>• Estuaries [1130]</li> <li>• Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>• Perennial vegetation of stony banks [1220]</li> <li>• Salicornia and other annuals colonising mud and sand [1310]</li> <li>• Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]</li> <li>• Mediterranean salt meadows (Juncetalia maritimi) [1410]</li> <li>• Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation [3260]</li> <li>• Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> <li>• Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]</li> <li>• Taxus baccata woods of the British Isles [91J0]</li> <li>• Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]</li> <li>• Austropotamobius pallipes (White-clawed Crayfish) [1092]</li> <li>• Petromyzon marinus (Sea Lamprey) [1095]</li> <li>• Lampetra planeri (Brook Lamprey) [1096]</li> <li>• Lampetra fluviatilis (River Lamprey) [1099]</li> <li>• Alosa fallax fallax (Twaiite Shad) [1103]</li> <li>• Salmo salar (Salmon) [1106]</li> </ul> | Detailed conservation objectives for this site (Version 1, July 2012), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a> |

| European Site  | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)   | Conservation Objective  |
|--|---|--|---|
|  |   | <ul style="list-style-type: none"> <li>Lutra lutra (Otter) [1355]</li> <li>Trichomanes speciosum (Killarney Fern) [1421]</li> </ul>  |   |
| Blackwater River (Kerry) SAC (Site Code 002173)                      | 0.00  | <ul style="list-style-type: none"> <li>European dry heaths [4030]</li> <li>Geomalacus maculosus (Kerry Slug) [1024]</li> <li>Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]</li> <li>Salmo salar (Salmon) [1106]</li> <li>Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]</li> <li>Lutra lutra (Otter) [1355]</li> </ul>  | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected'' (NPWS Generic version 6.0, 2018)</i></p> |
| Clew Bay Complex SAC (Site Code 001482)                              | 0.00  | <ul style="list-style-type: none"> <li>Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>Coastal lagoons [1150]</li> <li>Large shallow inlets and bays [1160]</li> <li>Annual vegetation of drift lines [1210]</li> <li>Perennial vegetation of stony banks [1220]</li> <li>Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]</li> <li>Embryonic shifting dunes [2110]</li> <li>Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120]</li> <li>Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> <li>Vertigo geyeri (Geyer's Whorl Snail) [1013]</li> <li>Lutra lutra (Otter) [1355]</li> <li>Phoca vitulina (Common Seal) [1365]</li> </ul> | <p>Detailed conservation objectives for this site (Version 1, July 2011), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a></p>   |
| Cloghernagore Bog And Glenveagh National Park SAC (Site Code 002047) | 0.00  | <ul style="list-style-type: none"> <li>Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>Water courses of plain to montane levels with the</li> </ul>   | <p>Detailed conservation objectives for this site (Version 1, July 2017), were reviewed as part</p>   |

| European Site                             | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective  |
|---|---|---|---|
|   |   | <p>Ranunculus fluitantis and Callitriche-Batrachion vegetation [3260]</p> <ul style="list-style-type: none"> <li>Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>European dry heaths [4030]</li> <li>Alpine and Boreal heaths [4060]</li> <li>Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinia caerulea) [6410]</li> <li>Blanket bogs (* if active bog) [7130]</li> <li>Depressions on peat substrates of the Rhynchosporion [7150]</li> <li>Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> <li>Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]</li> <li>Salmo salar (Salmon) [1106]</li> <li>Lutra lutra (Otter) [1355]</li> <li>Trichomanes speciosum (Killarney Fern) [1421]</li> </ul> | of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>   |
| Comeragh Mountains SAC (Site Code 001952) | 0.0   | <ul style="list-style-type: none"> <li>Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoetes-Nanojuncetea [3130]</li> <li>Water courses of plain to montane levels with the Ranunculus fluitantis and Callitriche-Batrachion vegetation [3260]</li> <li>Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>European dry heaths [4030]</li> <li>Alpine and Boreal heaths [4060]</li> <li>Calcareous rocky slopes with chasmophytic vegetation [8210]</li> </ul>  | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |

| European Site                                | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective  |
|--|---|---|---|
|  |   | <ul style="list-style-type: none"> <li>Siliceous rocky slopes with chasmophytic vegetation [8220]</li> <li>Drepanocladus vernicosus (Slender Green Feather-moss) [1393]</li> </ul>  |   |
| Connemara Bog Complex SAC (Site Code 002034) | 0.00  | <ul style="list-style-type: none"> <li>Coastal lagoons [1150]</li> <li>Reefs [1170]</li> <li>Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>Natural dystrophic lakes and ponds [3160]</li> <li>Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation [3260]</li> <li>Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>European dry heaths [4030]</li> <li>Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410]</li> <li>Blanket bogs (* if active bog) [7130]</li> <li>Transition mires and quaking bogs [7140]</li> <li>Depressions on peat substrates of the Rhynchosporion [7150]</li> <li>Alkaline fens [7230]</li> <li>Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> <li>Euphydryas aurinia (Marsh Fritillary) [1065]</li> <li>Salmo salar (Salmon) [1106]</li> <li>Lutra lutra (Otter) [1355]</li> <li>Najas flexilis (Slender Naiad) [1833]</li> </ul> | Detailed conservation objectives for this site (Version 1, October 2015), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a> |
| Coolrain Bog SAC (Site Code 002332)          | 0.0   | <ul style="list-style-type: none"> <li>Active raised bogs [7110]</li> <li>Degraded raised bogs still capable of natural</li> </ul>  | Detailed conservation objectives for this site (Version 1, August 2016), were reviewed as   |

| European Site                                   | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective  |
|---|---|---|---|
|   |   | <ul style="list-style-type: none"> <li>regeneration [7120]</li> <li>Depressions on peat substrates of the Rhynchosporion [7150]</li> </ul>  | part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>  |
| Croaghonagh Bog SAC (Site Code 000129)          | 0.0   | <ul style="list-style-type: none"> <li>Blanket bogs (* if active bog) [7130]</li> </ul>   | Detailed conservation objectives for this site (Version 1, May 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>   |
| Cullahill Mountain SAC (Site Code 000831)       | 0.0   | <ul style="list-style-type: none"> <li>Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210]</li> </ul>  | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Fawnboy Bog/Lough Nacung SAC (Site Code 000140) | 0.00  | <ul style="list-style-type: none"> <li>Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>Blanket bogs (* if active bog) [7130]</li> <li>Depressions on peat substrates of the Rhynchosporion [7150]</li> <li>Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]</li> </ul> | Detailed conservation objectives for this site (Version 1, September 2016), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>   |
| Galmoy Fen SAC (Site Code 001858)               | 0.0   | <ul style="list-style-type: none"> <li>Alkaline fens [7230]</li> </ul>  | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS</p>                            |

| European Site                        | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective   |
|--------------------------------------|---|---|--|
|                                      |   |   | Generic version 6.0, 2018)   |
| Glanmore Bog SAC (Site Code 001879)  | 0.00  | <ul style="list-style-type: none"> <li>• Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>• Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation [3260]</li> <li>• Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>• Blanket bogs (* if active bog) [7130]</li> <li>• Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]</li> <li>• Trichomanes speciosum (Killarney Fern) [1421]</li> </ul>   | Detailed conservation objectives for this site (Version 1, July 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>   |
| Kenmare River SAC (Site Code 002158) | 0.00  | <ul style="list-style-type: none"> <li>• Large shallow inlets and bays [1160]</li> <li>• Reefs [1170]</li> <li>• Perennial vegetation of stony banks [1220]</li> <li>• Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]</li> <li>• Atlantic salt meadows (Glaucopuccinellietalia maritima) [1330]</li> <li>• Mediterranean salt meadows (Juncetalia maritimi) [1410]</li> <li>• Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120]</li> <li>• Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</li> <li>• European dry heaths [4030]</li> <li>• Calaminarian grasslands of the Violetalia calaminariae [6130]</li> <li>• Submerged or partially submerged sea caves [8330]</li> </ul> | Detailed conservation objectives for this site (Version 1, August 2013), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a> |



| European Site  | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective  |
|--|---|---|---|
|  |   | <ul style="list-style-type: none"> <li>• Vertigo angustior (Narrow-mouthed Whorl Snail) [1014]</li> <li>• Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]</li> <li>• Lutra lutra (Otter) [1355]</li> <li>• Phoca vitulina (Common Seal) [1365]</li> </ul>  |   |
| Killarney National Park, Macgillicuddy's Reeks And Caragh River Catchment SAC (Site Code 000365) | 0.00  | <ul style="list-style-type: none"> <li>• Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>• Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130]</li> <li>• Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation [3260]</li> <li>• Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>• European dry heaths [4030]</li> <li>• Alpine and Boreal heaths [4060]</li> <li>• Juniperus communis formations on heaths or calcareous grasslands [5130]</li> <li>• Calaminarian grasslands of the Violetalia calaminariae [6130]</li> <li>• Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410]</li> <li>• Blanket bogs (* if active bog) [7130]</li> <li>• Depressions on peat substrates of the Rhynchosporion [7150]</li> <li>• Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> <li>• Alluvial forests with Alnus glutinosa and Fraxinus</li> </ul> | Detailed conservation objectives for this site (Version 1, October 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a> |

| European Site                           | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective   |
|---|---|---|--|
|   |   | <ul style="list-style-type: none"> <li>excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]</li> <li>Taxus baccata woods of the British Isles [91J0]</li> <li>Geomalacus maculosus (Kerry Slug) [1024]</li> <li>Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]</li> <li>Euphydryas aurinia (Marsh Fritillary) [1065]</li> <li>Petromyzon marinus (Sea Lamprey) [1095]</li> <li>Lampetra planeri (Brook Lamprey) [1096]</li> <li>Lampetra fluviatilis (River Lamprey) [1099]</li> <li>Salmo salar (Salmon) [1106]</li> <li>Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]</li> <li>Lutra lutra (Otter) [1355]</li> <li>Trichomanes speciosum (Killarney Fern) [1421]</li> <li>Najas flexilis (Slender Naiad) [1833]</li> <li>Alosa fallax killarnensis (Killarney Shad) [5046]</li> <li>.</li> </ul> |  |
| Knockacoller Bog SAC (Site Code 002333) | 0.0   | <ul style="list-style-type: none"> <li>Active raised bogs [7110]</li> <li>Degraded raised bogs still capable of natural regeneration [7120]</li> <li>Depressions on peat substrates of the Rhynchosporion [7150]</li> </ul>   | Detailed conservation objectives for this site (Version 1, February 2016), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>   |
| Leannan River SAC (Site Code 002176)    | 0.0   | <ul style="list-style-type: none"> <li>Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]</li> <li>Salmo salar (Salmon) [1106]</li> <li>Lutra lutra (Otter) [1355]</li> <li>Najas flexilis (Slender Naiad) [1833]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS</p> |

| European Site                        | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)   | Conservation Objective  |
|--------------------------------------|---|--|---|
|                                      |   |  | Generic version 6.0, 2018)  |
| Lisbigney Bog SAC (Site Code 000869) | 0.0   | <ul style="list-style-type: none"> <li>• Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210]</li> <li>• Vertigo moulinsiana (Desmoulin's Whorl Snail) [1016]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected''</i> (NPWS Generic version 6.0, 2018)</p> |
| Lough Corrib SAC (Site Code 000297)  | 0.00  | <ul style="list-style-type: none"> <li>• Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>• Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]</li> <li>• Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation [3260]</li> <li>• Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210]</li> <li>• Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410]</li> <li>• Active raised bogs [7110]</li> <li>• Degraded raised bogs still capable of natural regeneration [7120]</li> <li>• Depressions on peat substrates of the Rhynchosporion [7150]</li> <li>• Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210]</li> </ul> | <p>Detailed conservation objectives for this site (Version 1, April 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a></p>  |

| European Site  | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective  |
|--|---|---|---|
|  |   | <ul style="list-style-type: none"> <li>• Petrifying springs with tufa formation (Cratoneurion) [7220]</li> <li>• Alkaline fens [7230]</li> <li>• Limestone pavements [8240]</li> <li>• Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> <li>• Bog woodland [91D0]</li> <li>• Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]</li> <li>• Austropotamobius pallipes (White-clawed Crayfish) [1092]</li> <li>• Petromyzon marinus (Sea Lamprey) [1095]</li> <li>• Lampetra planeri (Brook Lamprey) [1096]</li> <li>• Salmo salar (Salmon) [1106]</li> <li>• Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]</li> <li>• Lutra lutra (Otter) [1355]</li> <li>• Drepanocladus vernicosus (Slender Green Feather-moss) [1393]</li> <li>• Najas flexilis (Slender Naiad) [1833]</li> </ul> |   |
| Lough Eske And Ardnamona Wood SAC (Site Code 000163) | 0.0   | <ul style="list-style-type: none"> <li>• Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>• Petrifying springs with tufa formation (Cratoneurion) [7220]</li> <li>• Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> <li>• Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]</li> <li>• Salmo salar (Salmon) [1106]</li> </ul>  | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |

| European Site  | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective  |
|--|---|---|---|
|  |   | <ul style="list-style-type: none"> <li>• Trichomanes speciosum (Killarney Fern) [1421]</li> <li>•</li> </ul>  |   |
| Lough Nillan Bog (Carrickatlieve) SAC (Site Code 000165) | 0.00  | <ul style="list-style-type: none"> <li>• Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>• Blanket bogs (* if active bog) [7130]</li> </ul>  | Detailed conservation objectives for this site (Version 1, September 2016), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a> |
| Lower River Shannon SAC (Site Code 002165)               | 0.00  | <ul style="list-style-type: none"> <li>• Sandbanks which are slightly covered by sea water all the time [1110]</li> <li>• Estuaries [1130]</li> <li>• Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>• Coastal lagoons [1150]</li> <li>• Large shallow inlets and bays [1160]</li> <li>• Reefs [1170]</li> <li>• Perennial vegetation of stony banks [1220]</li> <li>• Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]</li> <li>• Salicornia and other annuals colonising mud and sand [1310]</li> <li>• Atlantic salt meadows (Glaucopuccinellietalia maritimae) [1330]</li> <li>• Mediterranean salt meadows (Juncetalia maritimi) [1410]</li> <li>• Water courses of plain to montane levels with the Ranunculus fluitantis and Callitriche-Batrachion vegetation [3260]</li> <li>• Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410]</li> <li>• Alluvial forests with Alnus glutinosa and Fraxinus</li> </ul> | Detailed conservation objectives for this site (Version 1, August 2012), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>    |

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|---|---|---|---|
|   |   | <ul style="list-style-type: none"> <li>excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]</li> <li>Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]</li> <li>Petromyzon marinus (Sea Lamprey) [1095]</li> <li>Lampetra planeri (Brook Lamprey) [1096]</li> <li>Lampetra fluviatilis (River Lamprey) [1099]</li> <li>Salmo salar (Salmon) [1106]</li> <li>Tursiops truncatus (Common Bottlenose Dolphin) [1349]</li> <li>Lutra lutra (Otter) [1355]</li> </ul>   |   |
| Lower River Suir SAC (Site Code 002137) | 0.00  | <ul style="list-style-type: none"> <li>Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]</li> <li>Mediterranean salt meadows (Juncetalia maritimi) [1410]</li> <li>Water courses of plain to montane levels with the Ranunculus fluitantis and Callitriche-Batrachion vegetation [3260]</li> <li>Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]</li> <li>Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> <li>Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]</li> <li>Taxus baccata woods of the British Isles [91J0]</li> <li>Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]</li> <li>Austropotamobius pallipes (White-clawed Crayfish) [1092]</li> </ul> | Detailed conservation objectives for this site (Version 1, March 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a> |

| European Site                             | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective  |
|---|---|---|---|
|   |   | <ul style="list-style-type: none"> <li>Petromyzon marinus (Sea Lamprey) [1095]</li> <li>Lampetra planeri (Brook Lamprey) [1096]</li> <li>Lampetra fluviatilis (River Lamprey) [1099]</li> <li>Alosa fallax fallax (Twaite Shad) [1103]</li> <li>Salmo salar (Salmon) [1106]</li> <li>Lutra lutra (Otter) [1355]</li> </ul>  |   |
| Maumturk Mountains SAC (Site Code 002008) | 0.0   | <ul style="list-style-type: none"> <li>Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>Alpine and Boreal heaths [4060]</li> <li>Blanket bogs (* if active bog) [7130]</li> <li>Depressions on peat substrates of the Rhynchosporion [7150]</li> <li>Siliceous rocky slopes with chasmophytic vegetation [8220]</li> <li>Salmo salar (Salmon) [1106]</li> <li>Najas flexilis (Slender Naiad) [1833]</li> </ul> | Detailed conservation objectives for this site (Version 1, July 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>  |
| Meenaguse Scragh SAC (Site Code 001880)   | 0.00  | <ul style="list-style-type: none"> <li>Northern Atlantic wet heaths with Erica tetralix [4010]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Mount Brandon SAC (Site Code 000375)      | 0.00  | <ul style="list-style-type: none"> <li>Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]</li> <li>Oligotrophic to mesotrophic standing waters with</li> </ul>   | Detailed conservation objectives for this site (Version 1, July 2016), were reviewed as part of the assessment and are available at   |

| European Site   | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective   |
|---|---|---|--|
|   |   | vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130] <ul style="list-style-type: none"> <li>Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>Alpine and Boreal heaths [4060]</li> <li>Blanket bogs (* if active bog) [7130]</li> <li>Calcareous rocky slopes with chasmophytic vegetation [8210]</li> <li>Siliceous rocky slopes with chasmophytic vegetation [8220]</li> <li>Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]</li> <li>Trichomanes speciosum (Killarney Fern) [1421]</li> </ul> | <a href="http://www.npws.ie">www.npws.ie</a>   |
| Muckish Mountain SAC (Site Code 001179)                 | 0.0   | <ul style="list-style-type: none"> <li>Alpine and Boreal heaths [4060]</li> <li>Siliceous rocky slopes with chasmophytic vegetation [8220]</li> </ul>   | This site has the generic conservation objective:<br><br><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected'' (NPWS Generic version 6.0, 2018)</i> |
| Mweelrea/Sheeffry/Erriff Complex SAC (Site Code 001932) | 0.00  | <ul style="list-style-type: none"> <li>Coastal lagoons [1150]</li> <li>Annual vegetation of drift lines [1210]</li> <li>Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]</li> <li>Mediterranean salt meadows (Juncetalia maritimi) [1410]</li> <li>Embryonic shifting dunes [2110]</li> <li>Shifting dunes along the shoreline with Ammophila</li> </ul>  | Detailed conservation objectives for this site (Version 1, October 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>  |



| European Site | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)   | Conservation Objective |
|---------------|---|--|------------------------|
|               |   | <p>arenaria (white dunes) [2120]</p> <ul style="list-style-type: none"> <li>• Atlantic decalcified fixed dunes (Calluno-Ulicetea) [2150]</li> <li>• Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (Salicion arenariae) [2170]</li> <li>• Machairs (* in Ireland) [21A0]</li> <li>• Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>• Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130]</li> <li>• Natural dystrophic lakes and ponds [3160]</li> <li>• Water courses of plain to montane levels with the Ranunculum fluitantis and Callitriche-Batrachion vegetation [3260]</li> <li>• Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010]</li> <li>• European dry heaths [4030]</li> <li>• Alpine and Boreal heaths [4060]</li> <li>• <i>Juniperus communis</i> formations on heaths or calcareous grasslands [5130]</li> <li>• Blanket bogs (* if active bog) [7130]</li> <li>• Transition mires and quaking bogs [7140]</li> <li>• Depressions on peat substrates of the Rhynchosporion [7150]</li> <li>• Petrifying springs with tufa formation (Cratoneurion) [7220]</li> <li>• Alkaline fens [7230]</li> <li>• Calcareous rocky slopes with chasmophytic vegetation [8210]</li> </ul> |                        |

| European Site                                      | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective  |
|--|---|---|---|
|  |   | <ul style="list-style-type: none"> <li>• Siliceous rocky slopes with chasmophytic vegetation [8220]</li> <li>• Vertigo geyeri (Geyer's Whorl Snail) [1013]</li> <li>• Vertigo angustior (Narrow-mouthed Whorl Snail) [1014]</li> <li>• Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]</li> <li>• Salmo salar (Salmon) [1106]</li> <li>• Lutra lutra (Otter) [1355]</li> <li>• Petalophyllum ralfsii (Petalwort) [1395]</li> <li>• Najas flexilis (Slender Naiad) [1833]</li> <li>•</li> </ul> |   |
| Newport River SAC (Site Code 002144)               | 0.00  | <ul style="list-style-type: none"> <li>• Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]</li> <li>• Salmo salar (Salmon) [1106]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected'' (NPWS Generic version 6.0, 2018)</i></p> |
| River Barrow And River Nore SAC (Site Code 002162) | 0.00  | <ul style="list-style-type: none"> <li>• Estuaries [1130]</li> <li>• Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>• Salicornia and other annuals colonising mud and sand [1310]</li> <li>• Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]</li> <li>• Mediterranean salt meadows (Juncetalia maritimi) [1410]</li> </ul>   | <p>Detailed conservation objectives for this site (Version 1, July 2011), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a></p>   |

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|-----------------------------------|---|--|--|
|                                   |   | <ul style="list-style-type: none"> <li>• Water courses of plain to montane levels with the <i>Ranunculus fluitans</i> and <i>Callitriche-Batrachion</i> vegetation [3260]</li> <li>• European dry heaths [4030]</li> <li>• Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]</li> <li>• Petrifying springs with tufa formation (Cratoneurion) [7220]</li> <li>• Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]</li> <li>• Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, <i>Alnus incana</i>, <i>Salix alba</i>) [91E0]</li> <li>• <i>Vertigo moulinsiana</i> (Desmoulin's Whorl Snail) [1016]</li> <li>• <i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029]</li> <li>• <i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092]</li> <li>• <i>Petromyzon marinus</i> (Sea Lamprey) [1095]</li> <li>• <i>Lampetra planeri</i> (Brook Lamprey) [1096]</li> <li>• <i>Lampetra fluviatilis</i> (River Lamprey) [1099]</li> <li>• <i>Alosa fallax fallax</i> (Twait Shad) [1103]</li> <li>• <i>Salmo salar</i> (Salmon) [1106]</li> <li>• <i>Lutra lutra</i> (Otter) [1355]</li> <li>• <i>Trichomanes speciosum</i> (Killarney Fern) [1421]</li> <li>• <i>Margaritifera durrovensis</i> (Nore Pearl Mussel) [1990]</li> </ul> |  |
| River Finn SAC (Site Code 002301) | 0.00  | <ul style="list-style-type: none"> <li>• Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) [3110]</li> <li>• Northern Atlantic wet heaths with <i>Erica tetralix</i></li> </ul>  | Detailed conservation objectives for this site (Version 1, May 2017), were reviewed as part of the assessment and are available at |

| European Site                                 | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective  |
|---|---|---|---|
|   |   | <p>[4010]</p> <ul style="list-style-type: none"> <li>Blanket bogs (* if active bog) [7130]</li> <li>Transition mires and quaking bogs [7140]</li> <li>Salmo salar (Salmon) [1106]</li> <li>Lutra lutra (Otter) [1355]</li> </ul>  | <a href="http://www.npws.ie">www.npws.ie</a>  |
| Slaney River Valley SAC (Site Code 000781)    | 0.00  | <ul style="list-style-type: none"> <li>Estuaries [1130]</li> <li>Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>Water courses of plain to montane levels with the Ranunculus fluitans and Callitriche-Batrachium vegetation [3260]</li> <li>Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> <li>Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnus incanae, Salix alba) [91E0]</li> <li>Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]</li> <li>Petromyzon marinus (Sea Lamprey) [1095]</li> <li>Lampetra planeri (Brook Lamprey) [1096]</li> <li>Lampetra fluviatilis (River Lamprey) [1099]</li> <li>Alosa fallax fallax (Twait Shad) [1103]</li> <li>Salmo salar (Salmon) [1106]</li> <li>Lutra lutra (Otter) [1355]</li> <li>Phoca vitulina (Common Seal) [1365]</li> </ul> | Detailed conservation objectives for this site (Version 1, October 2011), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>   |
| Slieve Bloom Mountains SAC (Site Code 000412) | 0.0   | <ul style="list-style-type: none"> <li>Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>Blanket bogs (* if active bog) [7130]</li> <li>Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnus incanae, Salix alba)</li> </ul>   | Detailed conservation objectives for this site (Version 1, September 2016), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a> |

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|--|---|--|---|
| Spahill And Clomantagh Hill SAC (Site Code 000849)     | 0.0   | <p>albae) [91E0]</p> <ul style="list-style-type: none"> <li>Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210]</li> </ul>  | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected'' (NPWS Generic version 6.0, 2018)</i></p> |
| The Twelve Bens/Garraun Complex SAC (Site Code 002031) | 0.00  | <ul style="list-style-type: none"> <li>Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>Alpine and Boreal heaths [4060]</li> <li>Blanket bogs (* if active bog) [7130]</li> <li>Depressions on peat substrates of the Rhynchosporion [7150]</li> <li>Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) [8110]</li> <li>Calcareous rocky slopes with chasmophytic vegetation [8210]</li> <li>Siliceous rocky slopes with chasmophytic vegetation [8220]</li> <li>Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> <li>Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]</li> <li>Salmo salar (Salmon) [1106]</li> <li>Lutra lutra (Otter) [1355]</li> <li>Najas flexilis (Slender Naiad) [1833]</li> </ul> | <p>Detailed conservation objectives for this site (Version 1, July 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a></p>   |

| European Site   | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)   | Conservation Objective   |
|---|---|--|--|
| Tralee Bay And Magharees Peninsula, West To Cloghane SAC (Site Code 002070) | 0.00  | <ul style="list-style-type: none"> <li>•</li> <li>• Estuaries [1130]</li> <li>• Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>• Coastal lagoons [1150]</li> <li>• Large shallow inlets and bays [1160]</li> <li>• Reefs [1170]</li> <li>• Annual vegetation of drift lines [1210]</li> <li>• Perennial vegetation of stony banks [1220]</li> <li>• Salicornia and other annuals colonising mud and sand [1310]</li> <li>• Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]</li> <li>• Mediterranean salt meadows (Juncetalia maritimi) [1410]</li> <li>• Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120]</li> <li>• Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</li> <li>• Dunes with Salix repens ssp. argentea (Salicion arenariae) [2170]</li> <li>• Humid dune slacks [2190]</li> <li>• Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410]</li> <li>• Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]</li> <li>• Lutra lutra (Otter) [1355]</li> <li>• Petalophyllum ralfsii (Petalwort) [1395]</li> <li>•</li> </ul> | Detailed conservation objectives for this site (Version 1, February 2014), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a> |

| European Site                                   | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective   |
|---|---|---|--|
| West Of Ardara/Maas Road SAC (Site Code 000197) | 0.00  | <ul style="list-style-type: none"> <li>• Estuaries [1130]</li> <li>• Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>• Large shallow inlets and bays [1160]</li> <li>• Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]</li> <li>• Mediterranean salt meadows (Juncetalia maritimi) [1410]</li> <li>• Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120]</li> <li>• Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</li> <li>• Decalcified fixed dunes with Empetrum nigrum [2140]</li> <li>• Atlantic decalcified fixed dunes (Calluno-Ulicetea) [2150]</li> <li>• Dunes with Salix repens ssp. argentea (Salicion arenariae) [2170]</li> <li>• Humid dune slacks [2190]</li> <li>• Machairs (* in Ireland) [21A0]</li> <li>• Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>• Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>• European dry heaths [4030]</li> <li>• Alpine and Boreal heaths [4060]</li> <li>• Juniperus communis formations on heaths or calcareous grasslands [5130]</li> <li>• Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210]</li> </ul> | Detailed conservation objectives for this site (Version 1, August 2015), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a> |

| European Site                            | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective   |
|--|---|---|--|
|  |   | <ul style="list-style-type: none"> <li>• Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410]</li> <li>• Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) [6510]</li> <li>• Blanket bogs (* if active bog) [7130]</li> <li>• Depressions on peat substrates of the Rhynchosporion [7150]</li> <li>• Alkaline fens [7230]</li> <li>• Vertigo geyeri (Geyer's Whorl Snail) [1013]</li> <li>• Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]</li> <li>• Euphydryas aurinia (Marsh Fritillary) [1065]</li> <li>• Salmo salar (Salmon) [1106]</li> <li>• Lutra lutra (Otter) [1355]</li> <li>• Phoca vitulina (Common Seal) [1365]</li> <li>• Petalophyllum ralfsii (Petalwort) [1395]</li> <li>• Najas flexilis (Slender Naiad) [1833]</li> </ul> |  |
| Wicklow Mountains SAC (Site Code 002122) | 0.0   | <ul style="list-style-type: none"> <li>• Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoetes-Nanojuncetea [3130]</li> <li>• Natural dystrophic lakes and ponds [3160]</li> <li>• Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>• European dry heaths [4030]</li> <li>• Alpine and Boreal heaths [4060]</li> <li>• Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230]</li> <li>• Blanket bogs (* if active bog) [7130]</li> <li>• Siliceous scree of the montane to snow levels</li> </ul>   | Detailed conservation objectives for this site (Version 1, July 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a> |



| European Site                                   | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective  |
|---|---|---|---|
|   |   | <p>(Androsacetalia alpinae and Galeopsietalia ladani) [8110]</p> <ul style="list-style-type: none"> <li>• Calcareous rocky slopes with chasmophytic vegetation [8210]</li> <li>• Siliceous rocky slopes with chasmophytic vegetation [8220]</li> <li>• Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> <li>• Lutra lutra (Otter) [1355]</li> </ul>  |   |
| Cleanderry Wood SAC (Site Code 001043)          | 0.05  | <ul style="list-style-type: none"> <li>• Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> <li>• Trichomanes speciosum (Killarney Fern) [1421]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Gweedore Bay And Islands SAC (Site Code 001141) | 0.07  | <ul style="list-style-type: none"> <li>• Coastal lagoons [1150]</li> <li>• Reefs [1170]</li> <li>• Perennial vegetation of stony banks [1220]</li> <li>• Mediterranean salt meadows (Juncetalia maritimi) [1410]</li> <li>• Embryonic shifting dunes [2110]</li> <li>• Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120]</li> <li>• Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</li> <li>• Decalcified fixed dunes with Empetrum nigrum [2140]</li> <li>• Atlantic decalcified fixed dunes (Calluno-Ulicetea)</li> </ul> | <p>Detailed conservation objectives for this site (Version 1, March 2015), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a></p>  |

| European Site                                | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective   |
|--|---|---|--|
|  |   | <ul style="list-style-type: none"> <li>[2150]</li> <li>Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (Salicion arenariae) [2170]</li> <li>Humid dune slacks [2190]</li> <li>Machairs (* in Ireland) [21A0]</li> <li>Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>European dry heaths [4030]</li> <li>Alpine and Boreal heaths [4060]</li> <li><i>Juniperus communis</i> formations on heaths or calcareous grasslands [5130]</li> <li><i>Lutra lutra</i> (Otter) [1355]</li> <li><i>Petalophyllum ralfsii</i> (Petalwort) [1395]</li> <li><i>Najas flexilis</i> (Slender Naiad) [1833]</li> </ul> |  |
| Donegal Bay (Murvagh) SAC (Site Code 000133) | 0.11  | <ul style="list-style-type: none"> <li>Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</li> <li>Humid dune slacks [2190]</li> <li><i>Phoca vitulina</i> (Common Seal) [1365]</li> </ul>   | Detailed conservation objectives for this site (Version 1, July 2012), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a> |
| Lough Swilly SAC (Site Code 002287)          | 0.29  | <ul style="list-style-type: none"> <li>Estuaries [1130]</li> <li>Coastal lagoons [1150]</li> <li>Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]</li> <li>Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]</li> <li><i>Lutra lutra</i> (Otter) [1355]</li> </ul>   | Detailed conservation objectives for this site (Version 1, July 2011), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a> |
| Mulroy Bay SAC (Site Code 002159)            | 0.37  | <ul style="list-style-type: none"> <li>Large shallow inlets and bays [1160]</li> <li>Reefs [1170]</li> <li><i>Lutra lutra</i> (Otter) [1355]</li> </ul>   | Detailed conservation objectives for this site (Version 1, October 2012), were reviewed as part of the assessment and are available at   |

| European Site   | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective  |
|---|---|---|---|
|   |   |   | <a href="http://www.npws.ie">www.npws.ie</a>  |
| Dunragh Loughs/Pettigo Plateau SAC (Site Code 001125)     | 0.47  | <ul style="list-style-type: none"> <li>Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>Blanket bogs (* if active bog) [7130]</li> </ul>  | Detailed conservation objectives for this site (Version 1, May 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>   |
| Old Domestic Building, Dromore Wood SAC (Site Code 00353) | 0.49  | <ul style="list-style-type: none"> <li>Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]</li> </ul>  | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Castlemaine Harbour SAC (Site Code 00343)                 | 0.67  | <ul style="list-style-type: none"> <li>Estuaries [1130]</li> <li>Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>Annual vegetation of drift lines [1210]</li> <li>Perennial vegetation of stony banks [1220]</li> <li>Salicornia and other annuals colonising mud and sand [1310]</li> <li>Atlantic salt meadows (Glauco-Puccinellietalia maritima) [1330]</li> <li>Mediterranean salt meadows (Juncetalia maritimi) [1410]</li> <li>Embryonic shifting dunes [2110]</li> <li>Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120]</li> </ul> | Detailed conservation objectives for this site (Version 1, July 2011), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>  |

| European Site                               | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)   | Conservation Objective   |
|---|---|--|--|
|   |   | <ul style="list-style-type: none"> <li>Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</li> <li>Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salicion arenariae</i>) [2170]</li> <li>Humid dune slacks [2190]</li> <li>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0]</li> <li><i>Petromyzon marinus</i> (Sea Lamprey) [1095]</li> <li><i>Lampetra fluviatilis</i> (River Lamprey) [1099]</li> <li><i>Salmo salar</i> (Salmon) [1106]</li> <li><i>Lutra lutra</i> (Otter) [1355]</li> <li><i>Petalophyllum ralfsii</i> (Petalwort) [1395]</li> </ul> |  |
| Meenaguse/Ardbane Bog SAC (Site Code 00172) | 0.68  | <ul style="list-style-type: none"> <li>Blanket bogs (* if active bog) [7130]</li> </ul>  | Detailed conservation objectives for this site (Version 1, May 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>  |
| Holdenstown Bog SAC (Site Code 001757)      | 1.1   | <ul style="list-style-type: none"> <li>Transition mires and quaking bogs [7140]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>‘To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected’</i> (NPWS Generic version 6.0, 2018)</p> |
| Sheephaven SAC (Site Code 001190)           | 1.20  | <ul style="list-style-type: none"> <li>Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>Atlantic salt meadows (<i>Glauco-Puccinellietalia</i></li> </ul>   | Detailed conservation objectives for this site (Version 1, September 2014), were reviewed as part of the assessment and are available  |

| European Site                                 | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)   | Conservation Objective  |
|---|---|--|---|
|   |   | <ul style="list-style-type: none"> <li>maritima) [1330]</li> <li>Mediterranean salt meadows (Juncetalia maritimi) [1410]</li> <li>Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120]</li> <li>Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</li> <li>Machairs (* in Ireland) [21A0]</li> <li>Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> <li>Petalophyllum ralfsii (Petalwort) [1395]</li> </ul> | at <a href="http://www.npws.ie">www.npws.ie</a>   |
| Tully Lough SAC (Site Code 002130)            | 1.28  | <ul style="list-style-type: none"> <li>Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>Najas flexilis (Slender Naiad) [1833]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected'' (NPWS Generic version 6.0, 2018)</i></p> |
| West Connacht Coast SAC (Site Code 002998)    | 1.30  | <ul style="list-style-type: none"> <li>Tursiops truncatus (Common Bottlenose Dolphin) [1349]</li> </ul>  | Detailed conservation objectives for this site (Version 1, November 2015), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>  |
| Owenduff/Nepin Complex SAC (Site Code 000534) | 1.4   | <ul style="list-style-type: none"> <li>Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130]</li> </ul>  | Detailed conservation objectives for this site (Version 1, July 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>  |

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|--|---|---|---|
|  |   | <ul style="list-style-type: none"> <li>Natural dystrophic lakes and ponds [3160]</li> <li>Water courses of plain to montane levels with the Ranunculus fluitantis and Callitriche-Batrachion vegetation [3260]</li> <li>Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>Alpine and Boreal heaths [4060]</li> <li>Juniperus communis formations on heaths or calcareous grasslands [5130]</li> <li>Blanket bogs (* if active bog) [7130]</li> <li>Transition mires and quaking bogs [7140]</li> <li>Salmo salar (Salmon) [1106]</li> <li>Lutra lutra (Otter) [1355]</li> <li>Drepanocladus vernicosus (Slender Green Feather-moss) [1393]</li> <li>Saxifraga hirculus (Marsh Saxifrage) [1528]</li> </ul> |   |
| Bellacorick Bog Complex SAC (Site Code 001922)             | 1.57  | <ul style="list-style-type: none"> <li>Natural dystrophic lakes and ponds [3160]</li> <li>Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>Blanket bogs (* if active bog) [7130]</li> <li>Depressions on peat substrates of the Rhynchosporion [7150]</li> <li>Alkaline fens [7230]</li> <li>Vertigo geyeri (Geyer's Whorl Snail) [1013]</li> <li>Saxifraga hirculus (Marsh Saxifrage) [1528]</li> </ul>  | Detailed conservation objectives for this site (Version 1, October 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a> |
| Ballinskelligs Bay And Inny Estuary SAC (Site Code 000335) | 1.64  | <ul style="list-style-type: none"> <li>Atlantic salt meadows (Glaucopuccinellietalia maritimae) [1330]</li> <li>Mediterranean salt meadows (Juncetalia maritimi) [1410]</li> <li>Petalophyllum ralfsii (Petalwort) [1395]</li> </ul>  | Detailed conservation objectives for this site (Version 1, May 2014), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>     |

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|--|---|---|--|
| River Moy SAC (Site Code 002298)                                     | 1.64  | <ul style="list-style-type: none"> <li>• Active raised bogs [7110]</li> <li>• Degraded raised bogs still capable of natural regeneration [7120]</li> <li>• Depressions on peat substrates of the Rhynchosporion [7150]</li> <li>• Alkaline fens [7230]</li> <li>• Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> <li>• Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]</li> <li>• Austropotamobius pallipes (White-clawed Crayfish) [1092]</li> <li>• Petromyzon marinus (Sea Lamprey) [1095]</li> <li>• Lampetra planeri (Brook Lamprey) [1096]</li> <li>• Salmo salar (Salmon) [1106]</li> <li>• Lutra lutra (Otter) [1355]</li> </ul> | Detailed conservation objectives for this site (Version 1, August 2016), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a> |
| Tully Mountain SAC (Site Code 000330)                                | 1.77  | <ul style="list-style-type: none"> <li>• European dry heaths [4030]</li> <li>• Alpine and Boreal heaths [4060]</li> </ul>   | Detailed conservation objectives for this site (Version 1, August 2016), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a> |
| Slieve Tooley/Tormore Island/Loughros Beg Bay SAC (Site Code 000190) | 1.98  | <ul style="list-style-type: none"> <li>• Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]</li> <li>• Embryonic shifting dunes [2110]</li> <li>• Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120]</li> <li>• Decalcified fixed dunes with Empetrum nigrum [2140]</li> <li>• Atlantic decalcified fixed dunes (Calluno-Ulicetea) [2150]</li> </ul>  | Detailed conservation objectives for this site (Version 1, August 2015), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a> |

| European Site                                      | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)   | Conservation Objective  |
|--|---|--|---|
|  |   | <ul style="list-style-type: none"> <li>Alpine and Boreal heaths [4060]</li> <li>Blanket bogs (* if active bog) [7130]</li> <li>Vertigo angustior (Narrow-mouthed Whorl Snail) [1014]</li> <li>Lutra lutra (Otter) [1355]</li> <li>Halichoerus grypus (Grey Seal) [1364]</li> </ul> |   |
| Nier Valley Woodlands SAC (Site Code 000668)       | 2.2   | <ul style="list-style-type: none"> <li>Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Helvick Head SAC (Site Code 000665)                | 3.11  | <ul style="list-style-type: none"> <li>Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]</li> <li>European dry heaths [4030]</li> </ul>  | <p>Detailed conservation objectives for this site (Version 1, November 2016), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a></p>   |
| Kilduff, Devilsbit Mountain SAC (Site Code 000934) | 3.6   | <ul style="list-style-type: none"> <li>European dry heaths [4030]</li> <li>Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230]</li> </ul>  | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Cloonee And Inchiquin                              | 3.62  | <ul style="list-style-type: none"> <li>Oligotrophic waters containing very few minerals of</li> </ul>  | <p>This site has the generic conservation</p>   |



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|--|---|---|--|
| Loughs, Uragh Wood SAC (Site Code 001342)        |   | <ul style="list-style-type: none"> <li>sandy plains (Littorelletalia uniflorae) [3110]</li> <li>Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> <li>Geomalacus maculosus (Kerry Slug) [1024]</li> <li>Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]</li> <li>Trichomanes speciosum (Killarney Fern) [1421]</li> <li>Najas flexilis (Slender Naiad) [1833]</li> </ul>   | <p>objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Gannivegil Bog SAC (Site Code 000142)            | 3.7   | <ul style="list-style-type: none"> <li>Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>Blanket bogs (* if active bog) [7130]</li> </ul>   | Detailed conservation objectives for this site (Version 1, May 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>  |
| Coolvoy Bog SAC (Site Code 001107)               | 3.9   | <ul style="list-style-type: none"> <li>Blanket bogs (* if active bog) [7130]</li> </ul>   | Detailed conservation objectives for this site (Version 1, May 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>  |
| Kilkieran Bay And Islands SAC (Site Code 002111) | 4.2   | <ul style="list-style-type: none"> <li>Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>Coastal lagoons [1150]</li> <li>Large shallow inlets and bays [1160]</li> <li>Reefs [1170]</li> <li>Atlantic salt meadows (Glauco-Puccinellietalia maritima) [1330]</li> <li>Mediterranean salt meadows (Juncetalia maritimi) [1410]</li> <li>Machairs (* in Ireland) [21A0]</li> <li>Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) [6510]</li> </ul> | Detailed conservation objectives for this site (Version 1, February 2014), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>                                       |

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|--|---|---|---|
|  |   | <ul style="list-style-type: none"> <li>Lutra lutra (Otter) [1355]</li> <li>Phoca vitulina (Common Seal) [1365]</li> <li>Najas flexilis (Slender Naiad) [1833]</li> </ul>  |   |
| Rusheenduff Lough SAC (Site Code 001311)                       | 4.26  | <ul style="list-style-type: none"> <li>Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>Najas flexilis (Slender Naiad) [1833]</li> </ul>  | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Ballyprior Grassland SAC (Site Code 002256)                    | 4.4   | <ul style="list-style-type: none"> <li>Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210]</li> </ul>  | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Lough Yganavan And Lough Nambrackdarrig SAC (Site Code 000370) | 4.64  | <ul style="list-style-type: none"> <li>Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</li> <li>Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>Geomalacus maculosus (Kerry Slug) [1024]</li> </ul> | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Meentygrannagh Bog SAC (Site Code 000173)                      | 4.93  | <ul style="list-style-type: none"> <li>Blanket bogs (* if active bog) [7130]</li> <li>Transition mires and quaking bogs [7140]</li> </ul>   | Detailed conservation objectives for this site (Version 1, May 2017), were reviewed as part   |

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|--|---|--|---|
|  |   | <ul style="list-style-type: none"> <li>Alkaline fens [7230]</li> <li>Drepanocladus vernicosus (Slender Green Feather-moss) [1393]</li> </ul>   | of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>   |
| Gortnandarragh Limestone Pavement SAC (Site Code 001271) | 5.08  | <ul style="list-style-type: none"> <li>Limestone pavements [8240]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Ballyness Bay SAC (Site Code 001090)                     | 5.15  | <ul style="list-style-type: none"> <li>Estuaries [1130]</li> <li>Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>Embryonic shifting dunes [2110]</li> <li>Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120]</li> <li>Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</li> <li>Humid dune slacks [2190]</li> <li>Vertigo geyeri (Geyer's Whorl Snail) [1013]</li> </ul>       | Detailed conservation objectives for this site (Version 1, May 2014), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>   |
| Caha Mountains SAC (Site Code 000093)                    | 5.54  | <ul style="list-style-type: none"> <li>Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoetes-Nanojuncetea [3130]</li> <li>Natural dystrophic lakes and ponds [3160]</li> <li>Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>Alpine and Boreal heaths [4060]</li> <li>Blanket bogs (* if active bog) [7130]</li> <li>Siliceous rocky slopes with chasmophytic vegetation</li> </ul> | Detailed conservation objectives for this site (Version 1, August 2016), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>  |

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|---|---|--|---|
|   |   | <ul style="list-style-type: none"> <li>[8220]</li> <li>• Geomalacus maculosus (Kerry Slug) [1024]</li> <li>• Trichomanes speciosum (Killarney Fern) [1421]</li> </ul>  |   |
| Ross Lake And Woods SAC (Site Code 001312)                | 5.74  | <ul style="list-style-type: none"> <li>• Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]</li> <li>• Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]</li> </ul>                       | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Old Domestic Building, Askive Wood SAC (Site Code 002098) | 5.80  | <ul style="list-style-type: none"> <li>• Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Ardmore Head SAC (Site Code 002123)                       | 5.86  | <ul style="list-style-type: none"> <li>• Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]</li> <li>• European dry heaths [4030]</li> </ul>  | <p>Detailed conservation objectives for this site (Version 1, November 2016), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a></p>   |
| Drongawn Lough SAC (Site Code 002187)                     | 5.87  | <ul style="list-style-type: none"> <li>• Coastal lagoons [1150]</li> </ul>   | <p>Detailed conservation objectives for this site (Version 1, September 2016), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a></p>  |

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|--|---|--|---|
| Mucksna Wood SAC (Site Code 001371)                              | 6.00  | <ul style="list-style-type: none"> <li>Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Cross Lough (Killadoon) SAC (Site Code 000484)                   | 6.37  | <ul style="list-style-type: none"> <li>Perennial vegetation of stony banks [1220]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Clonaslee Eskers and Derry Bog SAC (Site Code 000859)            | 6.4   | <ul style="list-style-type: none"> <li>Alkaline fens [7230]</li> <li>Vertigo geyeri (Geyer's Whorl Snail) [1013]</li> </ul>  | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Lough Cahasy, Lough Baun And Roonah Lough SAC (Site Code 001529) | 6.7   | <ul style="list-style-type: none"> <li>Coastal lagoons [1150]</li> <li>Perennial vegetation of stony banks [1220]</li> <li>Shifting dunes along the shoreline with Ammophila</li> </ul>                                | <p>Detailed conservation objectives for this site (Version 1, January 2017), were reviewed as part of the assessment and are available at</p>   |

| European Site                                  | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)   | Conservation Objective   |
|--|---|--|--|
|  |   | arenaria (white dunes) [2120]  | <a href="http://www.npws.ie">www.npws.ie</a>   |
| Horn Head And Rinclevan SAC (Site Code 000147) | 6.89  | <ul style="list-style-type: none"> <li>Embryonic shifting dunes [2110]</li> <li></li> <li>Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120]</li> <li></li> <li>Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</li> <li></li> <li>Dunes with Salix repens ssp. argentea (Salicion arenariae) [2170]</li> <li>Humid dune slacks [2190]</li> <li>Machairs (* in Ireland) [21A0]</li> <li>Vertigo geyeri (Geyer's Whorl Snail) [1013]</li> <li>Halichoerus grypus (Grey Seal) [1364]</li> <li>Petalophyllum ralfsii (Petalwort) [1395]</li> <li>Najas flexilis (Slender Naiad) [1833]</li> </ul> | Detailed conservation objectives for this site (Version 1, October 2014), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>  |
| Maulagowna Bog SAC (Site Code 001881)          | 6.94  | <ul style="list-style-type: none"> <li>Blanket bogs (* if active bog) [7130]</li> </ul>  | Detailed conservation objectives for this site (Version 1, May 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>  |
| Sessiagh Lough SAC (Site Code 000185)          | 7.41  | <ul style="list-style-type: none"> <li>Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>Najas flexilis (Slender Naiad) [1833]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS</p> |

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|--------------------------------------|---|--|---|
|                                      |   |  | Generic version 6.0, 2018)  |
| The Gearagh SAC (Site Code 000108)   | 7.46  | <ul style="list-style-type: none"> <li>Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]</li> <li>Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> <li>Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]</li> <li>Lutra lutra (Otter) [1355]</li> </ul> | Detailed conservation objectives for this site (Version 1, September 2016), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>   |
| Tamur Bog SAC (Site Code 001992)     | 7.6   | <ul style="list-style-type: none"> <li>Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>Blanket bogs (* if active bog) [7130]</li> <li>Depressions on peat substrates of the Rhynchosporion [7150]</li> </ul>  | Detailed conservation objectives for this site (Version 1, May 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>   |
| Durnesh Lough SAC (Site Code 000138) | 8.13  | <ul style="list-style-type: none"> <li>Coastal lagoons [1150]</li> <li></li> <li>Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410]</li> </ul>  | Detailed conservation objectives for this site (Version 1, October 2016), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>   |
| Glendine Wood SAC (Site Code 002324) | 8.58  | <ul style="list-style-type: none"> <li>Trichomanes speciosum (Killarney Fern) [1421]</li> </ul>  | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |

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|--|---|--|---|
| Ballintra SAC (Site Code 000115)           | 8.60  | <ul style="list-style-type: none"> <li>European dry heaths [4030]</li> <li>Limestone pavements [8240]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Knockanira House SAC (Site Code 002318)    | 8.7   | <ul style="list-style-type: none"> <li>Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Island Fen SAC (Site Code 002236)          | 8.8   | <ul style="list-style-type: none"> <li>Juniperus communis formations on heaths or calcareous grasslands [5130]</li> <li>Alkaline fens [7230]</li> </ul>  | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Kilgarvan Ice House SAC (Site Code 000364) | 8.99  | <ul style="list-style-type: none"> <li>Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]</li> </ul>   | <p>This site has the generic conservation objective:</p>  |



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|--|---|---|---|
|  |   |   | <i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)   |
| Ballymaglancy Cave, Cong SAC (Site Code 000474)      | 9.43  | <ul style="list-style-type: none"> <li>Caves not open to the public [8310]</li> <li>Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Tranarossan And Melmore Lough SAC (Site Code 000194) | 9.56  | <ul style="list-style-type: none"> <li>Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>Annual vegetation of drift lines [1210]</li> <li>Perennial vegetation of stony banks [1220]</li> <li>Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]</li> <li>Embryonic shifting dunes [2110]</li> <li>Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120]</li> <li>Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</li> <li>Decalcified fixed dunes with Empetrum nigrum [2140]</li> <li>Dunes with Salix repens ssp. argentea (Salicion arenariae) [2170]</li> <li>Machairs (* in Ireland) [21A0]</li> </ul> | Detailed conservation objectives for this site (Version 1, May 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>   |

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|--|---|--|---|
|  |   | <ul style="list-style-type: none"> <li>• Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]</li> <li>• European dry heaths [4030]</li> <li>• Alpine and Boreal heaths [4060]</li> <li>• Petalophyllum ralfsii (Petalwort) [1395]</li> </ul>                                  |   |
| Cloughmoyne SAC (Site Code 000479)                           | 9.62  | <ul style="list-style-type: none"> <li>• Limestone pavements [8240]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Ballymacoda (Clonpriest And Pillmore) SAC (Site Code 000077) | 9.69  | <ul style="list-style-type: none"> <li>• Estuaries [1130]</li> <li>• Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>• Salicornia and other annuals colonising mud and sand [1310]</li> <li>• Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]</li> </ul> | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Derryclogher (Knockboy) Bog SAC (Site Code 001873)           | 9.7   | <ul style="list-style-type: none"> <li>• Blanket bogs (* if active bog) [7130]</li> </ul>  | <p>Detailed conservation objectives for this site (Version 1, May 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a></p>  |
| Lough Carra/Mask Complex SAC (Site Code 001774)              | 9.8   | <ul style="list-style-type: none"> <li>• Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> </ul>  | <p>This site has the generic conservation objective:</p>  |

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|---|---|---|--|
|   |   | <ul style="list-style-type: none"> <li>• Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]</li> <li>• European dry heaths [4030]</li> <li>• Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210]</li> <li>• Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210]</li> <li>• Alkaline fens [7230]</li> <li>• Limestone pavements [8240]</li> <li>• Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]</li> <li>• Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]</li> <li>• Lutra lutra (Otter) [1355]</li> <li>• Drepanocladus vernicosus (Slender Green Feather-moss) [1393]</li> </ul> | <i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)                                      |
| Valencia Harbour/Portmagee Channel SAC (Site Code 002262) | 9.88  | <ul style="list-style-type: none"> <li>• Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>• Large shallow inlets and bays [1160]</li> <li>• Reefs [1170]</li> </ul>   | Detailed conservation objectives for this site (Version 1, October 2012), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>  |
| Barrigone SAC (Site Code 000432)                          | 10.06   | <ul style="list-style-type: none"> <li>• Juniperus communis formations on heaths or calcareous grasslands [5130]</li> <li>• Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210]</li> <li>• Limestone pavements [8240]</li> <li>• Euphydryas aurinia (Marsh Fritillary) [1065]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS</p> |

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|--|---|--|---|
|  |   |  | Generic version 6.0, 2018)  |
| Myross Wood SAC (Site Code 001070)           | 10.26   | <ul style="list-style-type: none"> <li>Trichomanes speciosum (Killarney Fern) [1421]</li> </ul>  | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Sheheree (Ardagh) Bog SAC (Site Code 000382) | 10.36   | <ul style="list-style-type: none"> <li>Active raised bogs [7110]</li> <li>Degraded raised bogs still capable of natural regeneration [7120]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Barnahallia Lough SAC (Site Code 002118)     | 10.39   | <ul style="list-style-type: none"> <li>Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>Najas flexilis (Slender Naiad) [1833]</li> </ul>                   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Rutland Island And Sound                     | 10.48   | <ul style="list-style-type: none"> <li>Coastal lagoons [1150]</li> </ul>   | Detailed conservation objectives for this site  |

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|---|---|--|--|
| SAC (Site Code 002283)                      |   | <ul style="list-style-type: none"> <li>• Large shallow inlets and bays [1160]</li> <li>• Reefs [1170]</li> <li>• Annual vegetation of drift lines [1210]</li> <li>• Embryonic shifting dunes [2110]</li> <li>• Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120]</li> <li>• Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</li> <li>• Humid dune slacks [2190]</li> <li>• <i>Phoca vitulina</i> (Common Seal) [1365]</li> </ul>   | (Version 1, October 2013), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>   |
| Slyne Head Peninsula SAC (Site Code 002074) | 10.51   | <ul style="list-style-type: none"> <li>• Coastal lagoons [1150]</li> <li>• Large shallow inlets and bays [1160]</li> <li>• Reefs [1170]</li> <li>• Annual vegetation of drift lines [1210]</li> <li>• Perennial vegetation of stony banks [1220]</li> <li>• Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>) [1330]</li> <li>• Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]</li> <li>• Embryonic shifting dunes [2110]</li> <li>• Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120]</li> <li>• Machairs (* in Ireland) [21A0]</li> <li>• Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) [3110]</li> <li>• Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. [3140]</li> <li>• European dry heaths [4030]</li> <li>• <i>Juniperus communis</i> formations on heaths or calcareous grasslands [5130]</li> </ul> | Detailed conservation objectives for this site (Version 1, February 2015), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a> |

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|---|---|--|---|
|   |   | <ul style="list-style-type: none"> <li>Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210]</li> <li>Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410]</li> <li>Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) [6510]</li> <li>Alkaline fens [7230]</li> <li>Petalophyllum ralfsii (Petalwort) [1395]</li> <li>Najas flexilis (Slender Naiad) [1833]</li> </ul> |   |
| Oldhead Wood SAC (Site Code 000532)     | 10.69   | <ul style="list-style-type: none"> <li>European dry heaths [4030]</li> <li>Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Kingstown Bay SAC (Site Code 002265)    | 10.73   | <ul style="list-style-type: none"> <li>Large shallow inlets and bays [1160]</li> </ul>   | <p>Detailed conservation objectives for this site (Version 1, August 2011), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a></p>   |
| Magharee Islands SAC (Site Code 002261) | 10.75   | <ul style="list-style-type: none"> <li>Reefs [1170]</li> </ul>   | <p>Detailed conservation objectives for this site (Version 1, December 2013), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a></p>   |

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|---|---|---|---|
| Lough Dahybaun SAC (Site Code 002177)               | 10.8  | <ul style="list-style-type: none"> <li>Najas flexilis (Slender Naiad) [1833]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Rosroe Bog SAC (Site Code 000324)                   | 10.87   | <ul style="list-style-type: none"> <li>Blanket bogs (* if active bog) [7130]</li> <li>Depressions on peat substrates of the Rhynchosporion [7150]</li> </ul>  | <p>Detailed conservation objectives for this site (Version 1, May 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a></p>  |
| Inishbofin And Inishshark SAC (Site Code 000278)    | 10.95   | <ul style="list-style-type: none"> <li>Coastal lagoons [1150]</li> <li>Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>European dry heaths [4030]</li> <li>Halichoerus grypus (Grey Seal) [1364]</li> </ul> | <p>Detailed conservation objectives for this site (Version 1, May 2015), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a></p>  |
| Mullaghanish Bog SAC (Site Code 001890)             | 11.07   | <ul style="list-style-type: none"> <li>Blanket bogs (* if active bog) [7130]</li> </ul>   | <p>Detailed conservation objectives for this site (Version 1, May 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a></p>  |
| Lough Golagh And Breesy Hill SAC (Site Code 002164) | 11.09   | <ul style="list-style-type: none"> <li>Blanket bogs (* if active bog) [7130]</li> </ul>   | <p>Detailed conservation objectives for this site (Version 1, May 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a></p>  |

| European Site                                      | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018) | Conservation Objective  |
|--|---|--|---|
| The Loughans SAC (Site Code 000407)                | 11.19   | <ul style="list-style-type: none"> <li>Turloughs [3180]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Lisduff Fen SAC (Site Code 002147)                 | 12.0  | <ul style="list-style-type: none"> <li>Petrifying springs with tufa formation (Cratoneurion) [7220]</li> <li>Alkaline fens [7230]</li> <li>Vertigo geyeri (Geyer's Whorl Snail) [1013]</li> </ul>                      | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Aughrusbeg Machair And Lake SAC (Site Code 001228) | 12.07   | <ul style="list-style-type: none"> <li>Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>Northern Atlantic wet heaths with Erica tetralix [4010]</li> </ul> | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Brackloon Woods SAC (Site                          | 12.1  | <ul style="list-style-type: none"> <li>Old sessile oak woods with Ilex and Blechnum in the</li> </ul>  | This site has the generic conservation  |



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|---|---|--|--|
| Code 000471)  |   | British Isles [91A0]   | objective:<br><br><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)  |
| Newhall And Edenvale Complex SAC (Site Code 002091) | 12.11   | <ul style="list-style-type: none"> <li>Caves not open to the public [8310]</li> <li>Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]</li> </ul>  | This site has the generic conservation objective:<br><br><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018) |
| Omey Island Machair SAC (Site Code 001309)          | 12.24   | <ul style="list-style-type: none"> <li>Machairs (* in Ireland) [21A0]</li> <li>Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]</li> <li>Petalophyllum ralfsii (Petalwort) [1395]</li> </ul> | Detailed conservation objectives for this site (Version 1, May 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>  |
| Mountmellick SAC (Site Code 002141)                 | 12.33   | <ul style="list-style-type: none"> <li>Vertigo moulinsiana (Desmoulin's Whorl Snail) [1016]</li> </ul>   | This site has the generic conservation objective:<br><br><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018) |

| European Site  | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)   | Conservation Objective   |
|--|---|--|--|
| Glengarriff Harbour And Woodland SAC (Site Code 000090)  | 12.45   | <ul style="list-style-type: none"> <li>• Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> <li>• Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]</li> <li>• Geomalacus maculosus (Kerry Slug) [1024]</li> <li>• Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]</li> <li>• Lutra lutra (Otter) [1355]</li> <li>• Phoca vitulina (Common Seal) [1365]</li> </ul>                           | Detailed conservation objectives for this site (Version 1, May 2015), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>      |
| Ballyhoorisky Point To Fanad Head SAC (Site Code 001975) | 12.57   | <ul style="list-style-type: none"> <li>• Perennial vegetation of stony banks [1220]</li> <li>• Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]</li> <li>• Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>• Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]</li> <li>• Vertigo angustior (Narrow-mouthed Whorl Snail) [1014]</li> <li>• Najas flexilis (Slender Naiad) [1833]</li> </ul> | Detailed conservation objectives for this site (Version 1, January 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>  |
| Sharavogue Bog SAC (Site Code 000585)                    | 12.6  | <ul style="list-style-type: none"> <li>• Active raised bogs [7110]</li> <li>• Degraded raised bogs still capable of natural regeneration [7120]</li> <li>• Depressions on peat substrates of the Rhynchosporion [7150]</li> </ul>  | Detailed conservation objectives for this site (Version 1, November 2015), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a> |
| Slieve Mish Mountains SAC (Site Code 002185)             | 12.68   | <ul style="list-style-type: none"> <li>• Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>• European dry heaths [4030]</li> <li>• Alpine and Boreal heaths [4060]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable</i></p>  |

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|---|---|--|--|
|   |   | <ul style="list-style-type: none"> <li>Siliceous rocky slopes with chasmophytic vegetation [8220]</li> <li>Trichomanes speciosum (Killarney Fern) [1421]</li> </ul>  | <i>conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.</i> ' (NPWS Generic version 6.0, 2018)  |
| Lough Nageage SAC (Site Code 002135)        | 13.2  | <ul style="list-style-type: none"> <li>Austropotamobius pallipes (White-clawed Crayfish) [1092]</li> </ul>   | This site has the generic conservation objective:<br><br><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018) |
| Lough Nagreany Dunes SAC (Site Code 000164) | 13.31   | <ul style="list-style-type: none"> <li>Embryonic shifting dunes [2110]</li> <li>Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</li> <li>Decalcified fixed dunes with Empetrum nigrum [2140]</li> <li>Atlantic decalcified fixed dunes (Calluno-Ulicetea) [2150]</li> <li>Dunes with Salix repens ssp. argentea (Salicion arenariae) [2170]</li> <li>Najas flexilis (Slender Naiad) [1833]</li> </ul> | Detailed conservation objectives for this site (Version 1, March 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>  |
| Termon Strand SAC (Site Code 001195)        | 13.32   | <ul style="list-style-type: none"> <li>Coastal lagoons [1150]</li> </ul>   | Detailed conservation objectives for this site (Version 1, September 2016), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>  |
| Hugginstown Fen SAC (Site Code 000404)      | 13.45   | <ul style="list-style-type: none"> <li>Alkaline fens [7230]</li> </ul>   | This site has the generic conservation objective:  |

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|--|---|--|---|
|  |   |  | <i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)   |
| Pouladatig Cave SAC (Site Code 000037)               | 13.6  | <ul style="list-style-type: none"> <li>Caves not open to the public [8310]</li> <li>Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]</li> </ul>  | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Cregduff Lough SAC (Site Code 001251)                | 13.66   | <ul style="list-style-type: none"> <li>Transition mires and quaking bogs [7140]</li> <li>Najas flexilis (Slender Naiad) [1833]</li> </ul>  | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Vale Of Clara (Rathdrum Wood) SAC (Site Code 000733) | 13.7  | <ul style="list-style-type: none"> <li>Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |

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|--|---|--|---|
|  |   |  | <i>which the SAC has been selected'.</i> (NPWS Generic version 6.0, 2018)   |
| Castletownshend SAC (Site Code 001547)       | 13.8  | <ul style="list-style-type: none"> <li>Trichomanes speciosum (Killarney Fern) [1421]</li> </ul>  | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected'.</i> (NPWS Generic version 6.0, 2018)</p> |
| Kildun Souterrain SAC (Site Code 002320)     | 13.85   | <ul style="list-style-type: none"> <li>Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected'.</i> (NPWS Generic version 6.0, 2018)</p> |
| North Inishowen Coast SAC (Site Code 002012) | 13.87   | <ul style="list-style-type: none"> <li>Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>Perennial vegetation of stony banks [1220]</li> <li>Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]</li> <li>Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</li> <li>Machairs (* in Ireland) [21A0]</li> <li>European dry heaths [4030]</li> </ul> | Detailed conservation objectives for this site (Version 1, September 2016), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>   |

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|--|---|---|---|
|  |   | <ul style="list-style-type: none"> <li>• Vertigo angustior (Narrow-mouthed Whorl Snail) [1014]</li> <li>• Lutra lutra (Otter) [1355]</li> </ul>   |   |
| Sheep's Head SAC (Site Code 000102)                          | 14.05   | <ul style="list-style-type: none"> <li>• Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>• European dry heaths [4030]</li> <li>• Geomalacus maculosus (Kerry Slug) [1024]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Old Domestic Building, Curraglass Wood SAC (Site Code 02041) | 14.07   | <ul style="list-style-type: none"> <li>• Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]</li> </ul>  | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Aran Island (Donegal) Cliffs SAC (Site Code 000111)          | 14.16   | <ul style="list-style-type: none"> <li>• Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]</li> <li>• European dry heaths [4030]</li> <li>• Alpine and Boreal heaths [4060]</li> <li>• Calcareous rocky slopes with chasmophytic vegetation [8210]</li> <li>• Siliceous rocky slopes with chasmophytic vegetation [8220]</li> </ul> | <p>Detailed conservation objectives for this site (Version 1, November 2016), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a></p>   |
| Glanlough Woods SAC (Site                                    | 14.18   | <ul style="list-style-type: none"> <li>• Rhinolophus hipposideros (Lesser Horseshoe Bat)</li> </ul>   | <p>This site has the generic conservation</p>   |

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|--|---|--|--|
| Code 002315)                             |   | [1303]   | objective:<br><br><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)  |
| Mocorha Lough SAC (Site Code 001536)     | 14.32   | <ul style="list-style-type: none"> <li>Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210]</li> </ul>   | This site has the generic conservation objective:<br><br><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018) |
| St. Gobnet's Wood SAC (Site Code 000106) | 14.34   | <ul style="list-style-type: none"> <li>Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</li> </ul>   | This site has the generic conservation objective:<br><br><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018) |
| Kindrum Lough SAC (Site Code 001151)     | 14.45   | <ul style="list-style-type: none"> <li>Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]</li> <li>Najas flexilis (Slender Naiad) [1833]</li> </ul>                   | This site has the generic conservation objective:<br><br><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018) |

| European Site                            | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)   | Conservation Objective  |
|--|---|--|---|
|  |   |  | <i>conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)  |
| Thomastown Quarry SAC (Site Code 002252) | 14.63   | <ul style="list-style-type: none"> <li>Petrifying springs with tufa formation (Cratoneurion) [7220]</li> </ul>   | <p>This site has the generic conservation objective:</p> <p><i>'To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.'</i> (NPWS Generic version 6.0, 2018)</p> |
| Dog's Bay SAC (Site Code 001257)         | 14.87   | <ul style="list-style-type: none"> <li>Annual vegetation of drift lines [1210]</li> <li>Embryonic shifting dunes [2110]</li> <li>Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120]</li> <li>Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</li> <li>European dry heaths [4030]</li> </ul>  | Detailed conservation objectives for this site (Version 1, March 2017), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>   |
| Corraun Plateau SAC (Site Code: 000485)  | 14.9  | <ul style="list-style-type: none"> <li>Northern Atlantic wet heaths with Erica tetralix [4010]</li> <li>European dry heaths [4030]</li> <li>Alpine and Boreal heaths [4060]</li> <li>Juniperus communis formations on heaths or calcareous grasslands [5130]</li> <li>Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) [8110]</li> </ul> | Detailed conservation objectives for this site (Version 1, August 2016), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>  |



| European Site   | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)   | Conservation Objective   |
|---|---|--|--|
|   |   | <ul style="list-style-type: none"> <li>Siliceous rocky slopes with chasmophytic vegetation [8220]</li> </ul>   |  |
| <b>Special Protected Areas (SPA)</b>                      |   |  |  |
| Derryveagh And Glendowan Mountains SPA (Site Code 004039) | 0.00  | <ul style="list-style-type: none"> <li>Red-throated Diver (Gavia stellata) [A001]</li> <li>Merlin (Falco columbarius) [A098]</li> <li>Peregrine (Falco peregrinus) [A103]</li> <li>Golden Plover (Pluvialis apricaria) [A140]</li> <li>Dunlin (Calidris alpina schinzii) [A466]</li> </ul> | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |
| Dingle Peninsula SPA (Site Code 004153)                   | 0.00  | <ul style="list-style-type: none"> <li>Fulmar (Fulmarus glacialis) [A009]</li> <li>Peregrine (Falco peregrinus) [A103]</li> <li>Chough (Pyrrhocorax pyrrhocorax) [A346]</li> </ul>   | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |
| Eirk Bog SPA (Site Code 004108)                           | 0.00  | <ul style="list-style-type: none"> <li>Greenland White-fronted Goose (Anser albifrons flavirostris) [A395]</li> </ul>  | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |
| Killarney National Park SPA (Site Code 004038)            | 0.00  | <ul style="list-style-type: none"> <li>Merlin (Falco columbarius) [A098]</li> <li>Greenland White-fronted Goose (Anser albifrons flavirostris) [A395]</li> </ul>   | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for</i>  |

| European Site                           | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective   |
|---|---|---|--|
|   |   |   | <i>this SPA. (NPWS Generic version 6.0, 2018)</i>  |
| Lough Corrib SPA (Site Code 004042)     | 0.00  | <ul style="list-style-type: none"> <li>Gadwall (Anas strepera) [A051]</li> <li>Shoveler (Anas clypeata) [A056]</li> <li>Pochard (Aythya ferina) [A059]</li> <li>Tufted Duck (Aythya fuligula) [A061]</li> <li>Common Scoter (Melanitta nigra) [A065]</li> <li>Hen Harrier (Circus cyaneus) [A082]</li> <li>Coot (Fulica atra) [A125]</li> <li>Golden Plover (Pluvialis apricaria) [A140]</li> <li>Black-headed Gull (Chroicocephalus ridibundus) [A179]</li> <li>Common Gull (Larus canus) [A182]</li> <li>Common Tern (Sterna hirundo) [A193]</li> <li>Arctic Tern (Sterna paradisaea) [A194]</li> <li>Greenland White-fronted Goose (Anser albifrons flavirostris) [A395]</li> <li>Wetland and Waterbirds [A999]</li> </ul> | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |
| Lough Fern SPA (Site Code 004060)       | 0.00  | <ul style="list-style-type: none"> <li>Pochard (Aythya ferina) [A059]</li> <li>Wetland and Waterbirds [A999]</li> </ul>   | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |
| Lough Nillan Bog SPA (Site Code 004110) | 0.00  | <ul style="list-style-type: none"> <li>Merlin (Falco columbarius) [A098]</li> <li>Golden Plover (Pluvialis apricaria) [A140]</li> <li>Greenland White-fronted Goose (Anser albifrons)</li> </ul>  | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species</i>   |

| European Site   | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective   |
|---|---|---|--|
|   |   | <ul style="list-style-type: none"> <li>flavirostris) [A395]</li> <li>Dunlin (Calidris alpina schinzii) [A466]</li> </ul>  | <i>listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i>   |
| River Nore SPA (Site Code 004233)                               | 0.00  | <ul style="list-style-type: none"> <li>Kingfisher (Alcedo atthis) [A229]</li> </ul>   | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |
| River Shannon and River Fergus Estuaries SPA (Site Code 004077) | 0.00  | <ul style="list-style-type: none"> <li>Cormorant (Phalacrocorax carbo) [A017]</li> <li>Whooper Swan (Cygnus cygnus) [A038]</li> <li>Light-bellied Brent Goose (Branta bernicla hrota) [A046]</li> <li>Shelduck (Tadorna tadorna) [A048]</li> <li>Wigeon (Anas penelope) [A050]</li> <li>Teal (Anas crecca) [A052]</li> <li>Pintail (Anas acuta) [A054]</li> <li>Shoveler (Anas clypeata) [A056]</li> <li>Scaup (Aythya marila) [A062]</li> <li>Ringed Plover (Charadrius hiaticula) [A137]</li> <li>Golden Plover (Pluvialis apricaria) [A140]</li> <li>Grey Plover (Pluvialis squatarola) [A141]</li> <li>Lapwing (Vanellus vanellus) [A142]</li> <li>Knot (Calidris canutus) [A143]</li> <li>Dunlin (Calidris alpina) [A149]</li> <li>Black-tailed Godwit (Limosa limosa) [A157]</li> <li>Curlew (Numenius arquata) [A160]</li> <li>Redshank (Tringa totanus) [A162 [A156]</li> </ul> | Detailed conservation objectives for this site (Version 1, September 2012), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>                              |

| European Site  | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective   |
|--|---|---|--|
|  |   | <ul style="list-style-type: none"> <li>• Bar-tailed Godwit (Limosa lapponica)</li> <li>• ]</li> <li>• Greenshank (Tringa nebularia) [A164]</li> <li>• Black-headed Gull (Chroicocephalus ridibundus) [A179]</li> <li>• Wetland and Waterbirds [A999]</li> </ul>   |  |
| Slieve Bloom Mountains SPA (Site Code 004160)  | 0.0   | <ul style="list-style-type: none"> <li>• Hen Harrier (Circus cyaneus) [A082]</li> </ul>   | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |
| Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (Site Code 004161) | 0.0   | <ul style="list-style-type: none"> <li>• Hen Harrier (Circus cyaneus) [A082]</li> </ul>   | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |
| West Donegal Coast SPA (Site Code 004150)  | 0.07  | <ul style="list-style-type: none"> <li>• Fulmar (Fulmarus glacialis) [A009]</li> <li>• Cormorant (Phalacrocorax carbo) [A017]</li> <li>• Shag (Phalacrocorax aristotelis) [A018]</li> <li>• Peregrine (Falco peregrinus) [A103]</li> <li>• Herring Gull (Larus argentatus) [A184]</li> <li>• Kittiwake (Rissa tridactyla) [A188]</li> <li>• Razorbill (Alca torda) [A200]</li> <li>• Chough (Pyrrhocorax pyrrhocorax) [A346]</li> </ul> | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |
| Donegal Bay SPA (Site Code   | 0.11  | <ul style="list-style-type: none"> <li>• Great Northern Diver (Gavia immer) [A003]</li> <li>• Light-bellied Brent Goose (Branta bernicla hrota)</li> </ul>  | Detailed conservation objectives for this site (Version 1, May 2012), were reviewed as part  |

| European Site                            | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective   |
|--|---|---|--|
| 004151)                                  |   | <ul style="list-style-type: none"> <li>[A046]</li> <li>Common Scoter (<i>Melanitta nigra</i>) [A065]</li> <li>Sanderling (<i>Calidris alba</i>) [A144]</li> <li>Wetland and Waterbirds [A999]</li> </ul>  | of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>  |
| Wicklow Mountains SPA (Site Code 004040) | 0.4   | <ul style="list-style-type: none"> <li>Merlin (<i>Falco columbarius</i>) [A098]</li> <li>Peregrine (<i>Falco peregrinus</i>) [A103]</li> </ul>  | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</i> (NPWS Generic version 6.0, 2018) |
| Lough Swilly SPA (Site Code 004075)      | 0.56  | <ul style="list-style-type: none"> <li>Great Crested Grebe (<i>Podiceps cristatus</i>) [A005]</li> <li>Grey Heron (<i>Ardea cinerea</i>) [A028]</li> <li>Whooper Swan (<i>Cygnus cygnus</i>) [A038]</li> <li>Greylag Goose (<i>Anser anser</i>) [A043]</li> <li>Shelduck (<i>Tadorna tadorna</i>) [A048]</li> <li>Wigeon (<i>Anas penelope</i>) [A050]</li> <li>Teal (<i>Anas crecca</i>) [A052]</li> <li>Mallard (<i>Anas platyrhynchos</i>) [A053]</li> <li>Shoveler (<i>Anas clypeata</i>) [A056]</li> <li>Scaup (<i>Aythya marila</i>) [A062]</li> <li>Goldeneye (<i>Bucephala clangula</i>) [A067]</li> <li>Red-breasted Merganser (<i>Mergus serrator</i>) [A069]</li> <li>Coot (<i>Fulica atra</i>) [A125]</li> <li>Oystercatcher (<i>Haematopus ostralegus</i>) [A130]</li> <li>Knot (<i>Calidris canutus</i>) [A143]</li> <li>Dunlin (<i>Calidris alpina</i>) [A149]</li> <li>Curlew (<i>Numenius arquata</i>) [A160]</li> <li>Redshank (<i>Tringa totanus</i>) [A162]</li> <li>Greenshank (<i>Tringa nebularia</i>) [A164]</li> </ul> | Detailed conservation objectives for this site (Version 1, June 2011), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>                                   |

| European Site                                | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)   | Conservation Objective   |
|--|---|--|--|
|  |   | <ul style="list-style-type: none"> <li>Black-headed Gull (Chroicocephalus ridibundus) [A179]</li> <li>Common Gull (Larus canus) [A182]</li> <li>Sandwich Tern (Sterna sandvicensis) [A191]</li> <li>Common Tern (Sterna hirundo) [A193]</li> <li>Greenland White-fronted Goose (Anser albifrons flavirostris) [A395]</li> <li>Wetland and Waterbirds [A999]</li> </ul>   |  |
| Illeannan SPA (Site Code 004221)             | 0.74  | <ul style="list-style-type: none"> <li>Sandwich Tern (Sterna sandvicensis) [A191]</li> </ul>   | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</i> (NPWS Generic version 6.0, 2018) |
| Connemara Bog Complex SPA (Site Code 004181) | 0.84  | <ul style="list-style-type: none"> <li>Cormorant (Phalacrocorax carbo) [A017]</li> <li>Merlin (Falco columbarius) [A098]</li> <li>Golden Plover (Pluvialis apricaria) [A140]</li> <li>Common Gull (Larus canus) [A182]</li> </ul>  | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</i> (NPWS Generic version 6.0, 2018) |
| Dungarvan Harbour SPA (Site Code 004032)     | 1.67  | <ul style="list-style-type: none"> <li>Great Crested Grebe (Podiceps cristatus) [A005]</li> <li>Light-bellied Brent Goose (Branta bernicla hrota) [A046]</li> <li>Shelduck (Tadorna tadorna) [A048]</li> <li>Red-breasted Merganser (Mergus serrator) [A069]</li> <li>Oystercatcher (Haematopus ostralegus) [A130]</li> <li>Golden Plover (Pluvialis apricaria) [A140]</li> <li>Grey Plover (Pluvialis squatarola) [A141]</li> </ul> | Detailed conservation objectives for this site (Version 1, January 2012), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>                                |

| European Site                                    | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)   | Conservation Objective   |
|--|---|--|--|
|  |   | <ul style="list-style-type: none"> <li>• Lapwing (<i>Vanellus vanellus</i>) [A142]</li> <li>• Knot (<i>Calidris canutus</i>) [A143]</li> <li>• Dunlin (<i>Calidris alpina</i>) [A149]</li> <li>• Black-tailed Godwit (<i>Limosa limosa</i>) [A156]</li> <li>• Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]</li> <li>• Curlew (<i>Numenius arquata</i>) [A160]</li> <li>• Redshank (<i>Tringa totanus</i>) [A162]</li> <li>• Turnstone (<i>Arenaria interpres</i>) [A169]</li> <li>• Wetland and Waterbirds [A999]</li> </ul>     |  |
| Blackwater Estuary SPA (Site Code 004028)        | 1.85  | <ul style="list-style-type: none"> <li>• Wigeon (<i>Anas penelope</i>) [A050]</li> <li>• Golden Plover (<i>Pluvialis apricaria</i>) [A140]</li> <li>• Lapwing (<i>Vanellus vanellus</i>) [A142]</li> <li>• Dunlin (<i>Calidris alpina</i>) [A149]</li> <li>• Black-tailed Godwit (<i>Limosa limosa</i>) [A156]</li> <li>• Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]</li> <li>• Curlew (<i>Numenius arquata</i>) [A160]</li> <li>• Redshank (<i>Tringa totanus</i>) [A162]</li> <li>• Wetland and Waterbirds [A999]</li> </ul> | Detailed conservation objectives for this site (Version 1, May 2012), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>                                    |
| Helvick Head to Ballyquin SPA (Site Code 004192) | 2.35  | <ul style="list-style-type: none"> <li>• Cormorant (<i>Phalacrocorax carbo</i>) [A017]</li> <li>• Peregrine (<i>Falco peregrinus</i>) [A103]</li> <li>• Herring Gull (<i>Larus argentatus</i>) [A184]</li> <li>• Kittiwake (<i>Rissa tridactyla</i>) [A188]</li> <li>• Chough (<i>Pyrrhocorax pyrrhocorax</i>) [A346]</li> </ul>   | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |
| Beara Peninsula SPA (Site Code 004155)           | 2.36  | <ul style="list-style-type: none"> <li>• Fulmar (<i>Fulmarus glacialis</i>) [A009]</li> <li>• Chough (<i>Pyrrhocorax pyrrhocorax</i>) [A346]</li> </ul>  | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |

| European Site   | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)   | Conservation Objective   |
|---|---|--|--|
| Pettigo Plateau Nature Reserve SPA (Site Code 004099) | 2.55  | <ul style="list-style-type: none"> <li>Greenland White-fronted Goose (Anser albifrons flavirostris) [A395]</li> </ul>  | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</i> (NPWS Generic version 6.0, 2018) |
| Sheskinmore Lough SPA (Site Code 004090)              | 2.60  | <ul style="list-style-type: none"> <li>Greenland White-fronted Goose (Anser albifrons flavirostris) [A395]</li> </ul>  | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</i> (NPWS Generic version 6.0, 2018) |
| Castlemaine Harbour SPA (Site Code 004029)            | 2.91  | <ul style="list-style-type: none"> <li>Red-throated Diver (Gavia stellata) [A001]</li> <li>Cormorant (Phalacrocorax carbo) [A017]</li> <li>Light-bellied Brent Goose (Branta bernicla hrota) [A046]</li> <li>Wigeon (Anas penelope) [A050]</li> <li>Mallard (Anas platyrhynchos) [A053]</li> <li>Pintail (Anas acuta) [A054]</li> <li>Scaup (Aythya marila) [A062]</li> <li>Common Scoter (Melanitta nigra) [A065]</li> <li>Oystercatcher (Haematopus ostralegus) [A130]</li> <li>Ringed Plover (Charadrius hiaticula) [A137]</li> <li>Sanderling (Calidris alba) [A144]</li> <li>Bar-tailed Godwit (Limosa lapponica) [A157]</li> <li>Redshank (Tringa totanus) [A162]</li> </ul> | Detailed conservation objectives for this site (Version 1, July 2011), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>                                   |



| European Site                                  | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)   | Conservation Objective   |
|--|---|--|--|
|  |   | <ul style="list-style-type: none"> <li>• Greenshank (<i>Tringa nebularia</i>) [A164]</li> <li>• Turnstone (<i>Arenaria interpres</i>) [A169]</li> <li>• Chough (<i>Pyrrhocorax pyrrhocorax</i>) [A346]</li> <li>• Wetland and Waterbirds [A999]</li> </ul>   |  |
| Owenduff/Nephin Complex SPA (Site Code 004098) | 2.99  | <ul style="list-style-type: none"> <li>• Merlin (<i>Falco columbarius</i>) [A098]</li> <li>• Golden Plover (<i>Pluvialis apricaria</i>) [A140]</li> </ul>  | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |
| West Donegal Islands SPA (Site Code 004230)    | 3.39  | <ul style="list-style-type: none"> <li>• Shag (<i>Phalacrocorax aristotelis</i>) [A018]</li> <li>• Barnacle Goose (<i>Branta leucopsis</i>) [A045]</li> <li>• Corncrake (<i>Crex crex</i>) [A122]</li> <li>• Common Gull (<i>Larus canus</i>) [A182]</li> <li>• Herring Gull (<i>Larus argentatus</i>) [A184]</li> </ul> | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |
| Iveragh Peninsula SPA (Site Code 004154)       | 3.51  | <ul style="list-style-type: none"> <li>• Fulmar (<i>Fulmarus glacialis</i>) [A009]</li> <li>• Peregrine (<i>Falco peregrinus</i>) [A103]</li> <li>• Kittiwake (<i>Rissa tridactyla</i>) [A188]</li> <li>• Guillemot (<i>Uria aalge</i>) [A199]</li> <li>• Chough (<i>Pyrrhocorax pyrrhocorax</i>) [A346]</li> </ul>      | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |
| Lough Derg (Donegal) SPA (Site Code 004057)    | 3.9   | <ul style="list-style-type: none"> <li>• Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183]</li> <li>• Herring Gull (<i>Larus argentatus</i>) [A184]</li> </ul>   | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |

| European Site                                      | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)   | Conservation Objective   |
|--|---|--|--|
| Lough Conn and Lough Cullin SPA (Site Code 004228) | 5.4   | <ul style="list-style-type: none"> <li>Tufted Duck (Aythya fuligula) [A061]</li> <li>Common Scoter (Melanitta nigra) [A065]</li> <li>Common Gull (Larus canus) [A182]</li> <li>Greenland White-fronted Goose (Anser albifrons flavirostris) [A395]</li> <li>Wetland and Waterbirds [A999]</li> </ul> | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |
| Inishkeel SPA (Site Code 004116)                   | 6.15  | <ul style="list-style-type: none"> <li>Barnacle Goose (Branta leucopsis) [A045]</li> </ul>   | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |
| Falcarragh to Meenlaragh SPA (Site Code 004149)    | 6.52  | <ul style="list-style-type: none"> <li>Corncrake (Crex crex) [A122]</li> </ul>   | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |
| Cross Lough (Killadoon) SPA (Site Code 004212)     | 6.61  | <ul style="list-style-type: none"> <li>Sandwich Tern (Sterna sandvicensis) [A191]</li> </ul>   | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |

| European Site                                  | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)   | Conservation Objective   |
|--|---|--|--|
| Tralee Bay Complex SPA (Site Code 004188)      | 6.81  | <ul style="list-style-type: none"> <li>Whooper Swan (Cygnus cygnus) [A038]</li> <li>Light-bellied Brent Goose (Branta bernicla hrota) [A046]</li> <li>Shelduck (Tadorna tadorna) [A048]</li> <li>Wigeon (Anas penelope) [A050]</li> <li>Teal (Anas crecca) [A052]</li> <li>Mallard (Anas platyrhynchos) [A053]</li> <li>Pintail (Anas acuta) [A054]</li> <li>Scaup (Aythya marila) [A062]</li> <li>Oystercatcher (Haematopus ostralegus) [A130]</li> <li>Ringed Plover (Charadrius hiaticula) [A137]</li> <li>Golden Plover (Pluvialis apricaria) [A140]</li> <li>Grey Plover (Pluvialis squatarola) [A141]</li> <li>Lapwing (Vanellus vanellus) [A142]</li> <li>Sanderling (Calidris alba) [A144]</li> <li>Dunlin (Calidris alpina) [A149]</li> <li>Black-tailed Godwit (Limosa limosa) [A156]</li> <li>Bar-tailed Godwit (Limosa lapponica) [A157]</li> <li>Curlew (Numenius arquata) [A160]</li> <li>Redshank (Tringa totanus) [A162]</li> <li>Turnstone (Arenaria interpres) [A169]</li> <li>Black-headed Gull (Chroicocephalus ridibundus) [A179]</li> <li>Common Gull (Larus canus) [A182]</li> <li>Wetland and Waterbirds [A999]</li> </ul> | Detailed conservation objectives for this site (Version 1, April 2014), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>                                  |
| Horn Head to Fanad Head SPA (Site Code 004194) | 7.06  | <ul style="list-style-type: none"> <li>Fulmar (Fulmarus glacialis) [A009]</li> <li>Cormorant (Phalacrocorax carbo) [A017]</li> <li>Shag (Phalacrocorax aristotelis) [A018]</li> <li>Barnacle Goose (Branta leucopsis) [A045]</li> <li>Peregrine (Falco peregrinus) [A103]</li> </ul>   | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |

| European Site                          | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)   | Conservation Objective   |
|--|---|--|--|
|  |   | <ul style="list-style-type: none"> <li>• Kittiwake (<i>Rissa tridactyla</i>) [A188]</li> <li>• Guillemot (<i>Uria aalge</i>) [A199]</li> <li>• Razorbill (<i>Alca torda</i>) [A200]</li> <li>• Chough (<i>Pyrrhocorax pyrrhocorax</i>) [A346]</li> <li>• Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395]</li> </ul>   |  |
| Ballymacoda Bay SPA (Site Code 004023) | 8.37  | <ul style="list-style-type: none"> <li>• Wigeon (<i>Anas penelope</i>) [A050]</li> <li>• Teal (<i>Anas crecca</i>) [A052]</li> <li>• Ringed Plover (<i>Charadrius hiaticula</i>) [A137]</li> <li>• Golden Plover (<i>Pluvialis apricaria</i>) [A140]</li> <li>• Grey Plover (<i>Pluvialis squatarola</i>) [A141]</li> <li>• Lapwing (<i>Vanellus vanellus</i>) [A142]</li> <li>• Sanderling (<i>Calidris alba</i>) [A144]</li> <li>• Dunlin (<i>Calidris alpina</i>) [A149]</li> <li>• Black-tailed Godwit (<i>Limosa limosa</i>) [A156]</li> <li>• Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]</li> <li>• Curlew (<i>Numenius arquata</i>) [A160]</li> <li>• Redshank (<i>Tringa totanus</i>) [A162]</li> <li>• Turnstone (<i>Arenaria interpres</i>) [A169]</li> <li>• Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179]</li> <li>• Common Gull (<i>Larus canus</i>) [A182]</li> <li>• Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183]</li> <li>• Wetland and Waterbirds [A999]</li> </ul> | Detailed conservation objectives for this site (Version 1, April 2014), were reviewed as part of the assessment and are available at <a href="http://www.npws.ie">www.npws.ie</a>                                  |
| Durnesh Lough SPA (Site Code 004145)   | 8.84  | <ul style="list-style-type: none"> <li>• Whooper Swan (<i>Cygnus cygnus</i>) [A038]</li> <li>• Greenland White-fronted Goose (<i>Anser albifrons flavirostris</i>) [A395]</li> </ul>   | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |

| European Site   | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)   | Conservation Objective  |
|---|---|--|---|
| The Gearagh SPA (Site Code 004109)                          | 9.30  | <ul style="list-style-type: none"> <li>• Wigeon (Anas penelope) [A050]</li> <li>• Teal (Anas crecca) [A052]</li> <li>• Mallard (Anas platyrhynchos) [A053]</li> <li>• Coot (Fulica atra) [A125]</li> <li>• Wetland and Waterbirds [A999]</li> </ul>  | <p>Generic Conservation Objectives:</p> <p><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</i></p> <p><i>To maintain or restore the favourable conservation condition of the wetland habitat at the SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.</i> (NPWS Generic version 6.0, 2018)</p> |
| Inishbofin, Inishdooley and Inishbeg SPA (Site Code 004083) | 9.64  | <ul style="list-style-type: none"> <li>• Barnacle Goose (Branta leucopsis) [A045]</li> <li>• Corncrake (Crex crex) [A122]</li> <li>• Common Gull (Larus canus) [A182]</li> <li>• Lesser Black-backed Gull (Larus fuscus) [A183]</li> <li>• Arctic Tern (Sterna paradisaea) [A194]</li> </ul>   | <p>Generic Conservation Objective:</p> <p><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</i></p>  |
| Lough Mask SPA (Site Code 004062)                           | 10.07   | <ul style="list-style-type: none"> <li>• Tufted Duck (Aythya fuligula) [A061]</li> <li>• Black-headed Gull (Chroicocephalus ridibundus) [A179]</li> <li>• Common Gull (Larus canus) [A182]</li> <li>• Lesser Black-backed Gull (Larus fuscus) [A183]</li> <li>• Common Tern (Sterna hirundo) [A193]</li> <li>• Greenland White-fronted Goose (Anser albifrons flavirostris) [A395]</li> <li>• Wetland and Waterbirds [A999]</li> </ul> | <p>Generic Conservation Objectives:</p> <p><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</i></p> <p><i>To maintain or restore the favourable conservation condition of the wetland habitat at the SPA as a resource for the regularly-</i></p>   |

| European Site  | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)  | Conservation Objective   |
|--|---|---|--|
|  |   |   | <i>occurring migratory waterbirds that utilise it.</i> (NPWS Generic version 6.0, 2018)  |
| Mullaghanish to Musheramore Mountains SPA (Site Code 004162) | 10.09   | <ul style="list-style-type: none"> <li>Hen Harrier (<i>Circus cyaneus</i>) [A082]</li> </ul>  | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</i> (NPWS Generic version 6.0, 2018) |
| Deenish Island and Scariff Island SPA (Site Code 004175)     | 10.40   | <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>) [A009]</li> <li>Manx Shearwater (<i>Puffinus puffinus</i>) [A013]</li> <li>Storm Petrel (<i>Hydrobates pelagicus</i>) [A014]</li> <li>Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183]</li> <li>Arctic Tern (<i>Sterna paradisaea</i>) [A194]</li> </ul> | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</i> (NPWS Generic version 6.0, 2018) |
| Mid-Waterford Coast SPA (Site Code 004193)                   | 10.68   | <ul style="list-style-type: none"> <li>Cormorant (<i>Phalacrocorax carbo</i>) [A017]</li> <li>Peregrine (<i>Falco peregrinus</i>) [A103]</li> <li>Herring Gull (<i>Larus argentatus</i>) [A184]</li> <li>Chough (<i>Pyrrhocorax pyrrhocorax</i>) [A346]</li> </ul>  | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</i> (NPWS Generic version 6.0, 2018) |
| High Island, Inishshark and Davillaun SPA (Site Code 004144) | 10.96   | <ul style="list-style-type: none"> <li>Fulmar (<i>Fulmarus glacialis</i>) [A009]</li> <li>Barnacle Goose (<i>Branta leucopsis</i>) [A045]</li> <li>Arctic Tern (<i>Sterna paradisaea</i>) [A194]</li> </ul>   | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</i> (NPWS Generic version 6.0, 2018) |

| European Site  | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018)   | Conservation Objective   |
|--|---|--|--|
| Magharee Islands SPA (Site Code 004125)                          | 11.43   | <ul style="list-style-type: none"> <li>Storm Petrel (<i>Hydrobates pelagicus</i>) [A014]</li> <li>Shag (<i>Phalacrocorax aristotelis</i>) [A018]</li> <li>Barnacle Goose (<i>Branta leucopsis</i>) [A045]</li> <li>Common Gull (<i>Larus canus</i>) [A182]</li> <li>Common Tern (<i>Sterna hirundo</i>) [A193]</li> <li>Arctic Tern (<i>Sterna paradisaea</i>) [A194]</li> <li>Little Tern (<i>Sterna albifrons</i>) [A195]</li> </ul> | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |
| Magharee Islands SPA (Site Code 004125)                          | 11.49   | <ul style="list-style-type: none"> <li>Barnacle Goose (<i>Branta leucopsis</i>) [A045]</li> <li>Herring Gull (<i>Larus argentatus</i>) [A184]</li> </ul>   | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |
| Greens Isle SPA (Site Code 004082)                               | 12.42   | <ul style="list-style-type: none"> <li>Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179]</li> <li>Common Gull (<i>Larus canus</i>) [A182]</li> <li>Sandwich Tern (<i>Sterna sandvicensis</i>) [A191]</li> </ul>   | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |
| Inishbofin, Omev Island and Turbot Island SPA (Site Code 004231) | 12.84   | <ul style="list-style-type: none"> <li>Corncrake (<i>Crex crex</i>) [A122]</li> </ul>  | Generic Conservation Objective:<br><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. (NPWS Generic version 6.0, 2018)</i> |

| European Site                                   | Distance from nearest FPM Plan Implementation Zone (km) | Qualifying Interests/Special Conservation Interests for which the European Site has been designated (Sourced from NPWS online Conservation Objectives, <a href="http://www.npws.ie">www.npws.ie</a> on the 06/07/2018) | Conservation Objective  |
|---|---|--|---|
| Kilcolman Bog SPA (Site Code 004095)            | 14.06   | <ul style="list-style-type: none"> <li>Whooper Swan (Cygnus cygnus) [A038]</li> <li>Teal (Anas crecca) [A052]</li> <li>Shoveler (Anas clypeata) [A056]</li> <li>Wetland and Waterbirds [A999]</li> </ul>               | <p>Generic Conservation Objectives:</p> <p><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</i></p> <p><i>To maintain or restore the favourable conservation condition of the wetland habitat at the SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.</i> (NPWS Generic version 6.0, 2018)</p> |
| Sheep's Head to Toe Head SPA (Site Code 004156) | 14.14   | <ul style="list-style-type: none"> <li>Peregrine (Falco peregrinus) [A103]</li> <li>Chough (Pyrrhocorax pyrrhocorax) [A346]</li> </ul>   | <p>Generic Conservation Objective:</p> <p><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</i></p>  |
| Poulaphouca Reservoir SPA (Site Code 004063)    | 14.36   | <ul style="list-style-type: none"> <li>Greylag Goose (Anser anser) [A043]</li> <li>Lesser Black-backed Gull (Larus fuscus) [A183]</li> </ul>   | <p>Generic Conservation Objective:</p> <p><i>To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.</i> (NPWS Generic version 6.0, 2018)</p>   |



### **3 ARTICLE 6(3) SCREENING ASSESSMENT AND CONCLUSIONS**

#### **3.1 Data Collected to Carry Out Assessment**

**In preparation of the assessment, the following sources were used to gather information:**

- Review of NPWS Site Synopses, European Site mapping and Conservation Objectives for European Sites
- Review of Proposed Plan details from the Forest Service
- Desk study and associated reporting prepared by John Hynes (B Sc. MSc.) and reviewed by Pat Roberts (B Sc. MCIEEM), McCarthy Keville O'Sullivan Ltd.

#### **3.2 Conclusions of Appropriate Assessment Screening**

Table 2.1 above list the European sites in the likely zone of impact of the proposed plan implementation area. European sites which overlapped with the proposed Plan Implementation Zones (i.e. catchment of 26 SACs designed for FPM, plus the hydrological catchment of the Owentaraglin catchment within the Munster Blackwater Catchment) are screened in automatically based on the potential for direct impacts to the Qualifying Interests/Special Conservation Interests of the designated sites. Sites with identified/potential connectivity (i.e. surface water, ground water, proximity (15km)) were also screened in. The screening assessment utilises a precautionary approach given the lack of detailed project level specific information within the Plan Implementation Zones.

It cannot be excluded, in view of best scientific knowledge and in view of the conservation objectives of the European sites, that the proposed plan, individually or in combination with other plans and projects, would have a significant effect on the identified European Sites. Consequently a Stage II Appropriate Assessment of the proposed plan is required and a Natura Impact Statement shall be prepared.

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## Appendix 2

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### Scoping Responses

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14<sup>th</sup> January 2016.

Re; The Plan for Forestry and Freshwater Pearl Mussel in Ireland

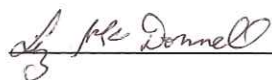
Dear Mr Watson,

I refer to your recent correspondence concerning the above. The Department of Agriculture, Food and the Marine has made a commitment in the Rural Development Plan to introduce a locally-led outputs-based scheme in 9 priority Freshwater Pearl Mussel catchments, identified by the National Parks and Wildlife Service.

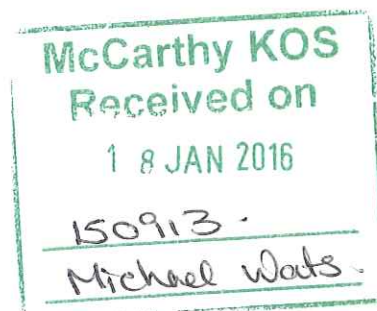
It is important that any such Freshwater Pearl Mussel Scheme is closely aligned with the Plan for Forestry and Freshwater Pearl Mussel.

I am also attaching general scoping recommendations from this Department.

Yours sincerely



Liz McDonnell  
Environmental Co-ordination Unit  
Climate Change and Bioenergy Division  
Department of Agriculture Food and the Marine  
Pavilion A  
Grattan Business Park  
Portlaoise  
Co. Laois  
057 8689915



## **SCOPING RECOMMENDATIONS FROM DEPARTMENT OF AGRICULTURE, FOOD AND THE MARINE**

Where SEA scoping indicates potential impacts on sea-fisheries and the marine environment, the following information should be taken into account in the SEA.

### **Relevant Legislation, Plans and Policies**

- Foreshore Acts 1933 to 2011
- Aquaculture Acts 1997 to 2006 (Fisheries (Amendment) Act 1997 and amendments)
- Sea Fisheries and Maritime Jurisdiction Act 2006 & Sea-Fisheries Regulations
- Fisheries Natura Plans & Declarations made under European Union (Birds and Natural Habitats) (Sea-fisheries) Regulations 2013 (online at <http://www.fishingnet.ie/sea-fisheriesinnaturaareas/natura2000sitesundermanagement/> )
- National Seafood Operational Programme (EMFF requirement) & National Strategic Plan for Aquaculture (CFP requirement) currently under preparation for 2014 – 2020
- Food Harvest 2020
- Harnessing Our Ocean Wealth – the national integrated marine plan for Ireland
- Implementation of pollution reduction programmes for designated shellfish waters (Shellfish Waters Directive 2006/113/EC)
- Classified Shellfish Production areas (classified for food safety and consumer protection purposes under Regulation (EC) No 854/2004)
- National Climate Change Adaptation Framework – particularly sector adaptation plans (including marine) due to undergo consultation in 2014.

### **Issues for consideration**

In the development of any Plans or Programmes due consideration should be given to:

- Potential impacts, both positive and negative, on marine environmental quality including potential impacts on designated Shellfish Growing Waters. Examples include, but are not limited to the following: increased sedimentation; re-suspension of contaminants; discharge of contaminants; and introduction of non-native or invasive species.
- Potential impacts , both positive and negative, on the microbiological quality of shellfish in Classified Shellfish Production areas
- Potential impacts on human health resulting from the placing on the market of microbiologically contaminated shellfish
- Potential impacts on commercially important fish and shellfish stocks, licensed aquaculture sites and areas of importance for fish / shellfish and fisheries e.g. spawning grounds, nursery areas
- Potential impacts on freshwater aquaculture operations including the requirement for water abstraction and capacity of the receiving waters to assimilate discharges
- Future designations of areas of importance to the Aquaculture & Fisheries Sector
- Relevant EU Directives and National Legislation in the area of Marine Spatial Planning

### **Potential Impacts on Sea-Fisheries & Aquaculture**

Major land-use changes can significantly impact the quality of the marine (particularly coastal) environment (e.g. sedimentation, hydrographic change, impacts on benthic eco-system, etc).

All aspects of the seafood sector rely on safe high quality water and assessment of potential impacts on water quality should include the seafood sector. To guarantee food safety the growing waters must attain certain standards. This is of relevance to the fishing and aquaculture sectors. In



freshwater aquaculture (on land) a continuity of supply is important to ensure animal welfare and quality. Water supplies in this instance are sourced from rivers, wells and occasionally from mains supplies.

The seafood processing sector also requires a safe and reliable water supply to support its operations.

Designated shellfish waters are very important to the shellfish sector in Ireland working to maintain standards in product safety and quality and enabling sale for direct consumption from many areas, reducing production costs and contributing to the good international reputation of the products. The role of filter-feeding shellfish as a nutrient sink thus helping to reduce eutrophication potential and improve water quality is also important to consider in assessments.

### **Sources of Marine Data**

Details of designated shellfish growing areas which are protected by law (2006/113/EC) are available at: <http://www.environ.ie/en/Environment/Water/WaterQuality/ShellfishWaterDirective/>

Details of Classified Shellfish Production areas (classified for food safety and consumer protection purposes under Regulation (EC) No 854/2004) are available on the Sea-Fisheries Protection Authority website: <http://www.sfpa.ie/>

The Marine Institute publishes a range of corporate reports, scientific and technical reports, peer reviewed articles and conference papers which are relevant to the SEA process. These can be found on the Marine Institute website: <http://www.marine.ie/home/Publications/> or Marine Institute Open Access Repository.

Relevant reports and on line GIS include:

- Shellfish Stocks and Fisheries Review 2011: An Assessment of Selected Stocks
- Atlas of Commercial Fisheries Around Ireland
- Atlas of Commercial Discarding
- Ireland's Marine Atlas

Information on the Initial Assessment of Ireland's marine waters, required under the Marine Strategy Framework Directive, is available at

<http://www.environ.ie/en/Environment/Water/WaterQuality/Marine/>

### **Who to Consult With**

DAFM – Policies, plans and legislation concerning sea-fisheries & aquaculture

SFPA – Competent Authority for Seafood Safety (classifications, monitoring & sanitary surveys) & Sea-fisheries Control

Marine Institute – Fisheries & Marine Environment

BIM – Seafood Development Agency

Consideration should also be given to consulting directly with the seafood sector. This may include regional inshore fisheries forums, Fisheries Local Action Groups, fisheries representative bodies, including producer organisations, local advisory committees, associations, co-operatives; seafood processors; aquaculture representative bodies, etc.

Version: December 2014





**An Roinn**  
**Ealaíon, Oidhreachta agus Gaeltachta**  
**Department of**  
**Arts, Heritage and the Gaeltacht**

Your Ref: 150913

Our Ref: **G Pre00389/2015**

*(Please quote in all related correspondence)*

05 February 2016

McCarthy Kelville O'Sullivan Ltd.  
Block 1, G.F.S.C.  
Moneenageisha Road  
Galway

Via email

|   |
|---|
| <b>Re: Strategic Environmental Assessment Draft Scoping Report Plan for Forestry and Freshwater Pearl Mussel in Ireland</b> |
|---|

A chara

The Department of Arts, Heritage and the Gaeltacht refers to the correspondence from the Forest Service of the Department of Agriculture, Food and the Marine in relation to its scoping for Strategic Environmental Assessment for its Plan for Forestry and Freshwater Pearl Mussel in Ireland, and its screening for Appropriate Assessment.

Outlined below are heritage-related observations of the Department under the stated heading(s).

### **Archaeology**

With respect to the cultural heritage section of the scoping report, the FS-DAFM has not listed the Shipwreck Inventory of Ireland as a primary source in relation to archaeological heritage. Historic wrecks are protected under the National Monuments Act 1930 – 2004 with the protection of underwater archaeology specifically addressed in 1987 and 1994 (Amendment) Acts. Section 3 (4) of the 1987 Act provides that a person shall not dive on, damage, or generally interfere with, any wreck which is more than one hundred years old or an archaeological object which is lying on, in or under the sea bed or on or in land covered by water except in accordance with a licence issued by the Minister for Arts, Heritage & Gaeltacht under Section 3 (5) of the Act. The National Monuments Service has compiled an inventory of shipwrecks for the coastal and inland waterways of Ireland, the records of which are stored in a shipwreck inventory database and housed in the UAU archive in Dublin. The Shipwreck Inventory of Ireland Database is the official register of historic shipwrecks protected under the National Monuments Acts with over 18,000 wrecks recorded to date. Works associated with forestry development, CFMPs or with the protection of the pearl mussel may have the potential to negatively impact known or potential submerged or buried

archaeology. There will be a need for an appropriate level of archaeological assessment if works are to take place in the vicinity of recorded monuments or protected wrecks.

There will be a need for an appropriate level of archaeological assessment if works are to take place in the vicinity of recorded monuments, near protected wrecks or on or near water courses. It is therefore recommended that this Department is consulted with regard to any potential works located at or near archaeological monuments or wrecks or any works which will significantly affect watercourses such as rivers, streams or lakes. This will enable the Department to make an informed archaeological recommendation before works proceed.

### **Architectural Heritage**

The Department notes that in Cultural Heritage, architectural heritage is described as a subset to archaeological heritage in Section 4.12 and with regard to the Heritage Act (1995). The Department's observation is that this section should refer to architectural heritage separately in the subsection and with reference to the primary legislation that protects it namely Part IV of the Planning and Development Act 2000 and the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999. Mention should be made of the local authorities' Records of Protected Structures and Architectural Conservation Areas (to which the 2000 Act relates) and to this Department's National Inventory of Architectural Heritage (to which the 1999 Act relates). In the Department's view this sub-section needs to be rewritten.

### **Nature Conservation**

The Department has the following observations in relation to nature conservation. In preparing this submission, the Department has regard to the following Forest Service documents:

- The Strategic Environmental Assessment Draft Scoping Report- received January 2016
- Article 6(3) Screening Assessment – received 1 February 2016.

While the Department previously informally received a "*Draft Catchment Forest Management Plan for Priority 8 Freshwater Pearl Mussel Catchments*" dated 13 May 2014, it has not reviewed that document to inform these observations as its current status is not known and may have been subject to further change, as stated on its cover, thus rendering it out-of-date.

The Department's observations are presented in the following format:

- A. The proposed scope of the "*Plan for Forestry and Freshwater Pearl Mussel in Ireland*"
- B. SEA Draft Scoping Report
- C. Article 6(3) Screening Assessment, and  
Appendix 1: Notes on the preparation and content of an NIS.  
Appendix 2: Explanatory Note and 16 Excel Files of Attributes for remaining 16 *M. margaritifera* Site-Specific Conservation Objectives (SSCOs).  
Appendix 3: List of NPWS commissioned reports on the Freshwater Pearl Mussel (*Margaritifera margaritifera*) 1995-present.

## **A. THE PROPOSED SCOPE AND OBJECTIVES OF THE PLAN FOR FORESTRY AND FRESHWATER PEARL MUSSEL IN IRELAND:**

The Plan, as described within the Scoping Report, appears to fall short of earlier commitments to the Commission in September 2011 and in 2012 and there are a number of technical aspects that would benefit from more detailed consideration. The Department expected that the proposed Plan would set out a vision and a strategic (yet specific) approach for forestry in these catchments and how its management will contribute to the restoration of the freshwater pearl mussel and its habitat to favourable conservation status, as is required under Article 3 of the Habitats Directive. On the basis of the documents circulated through this consultation process, the Department remains unclear as to how the plan will contribute to the restoration of the freshwater pearl mussel and its habitat to favourable conservation status.

For instance, earlier documents that set out an ambition for this Plan/CFMPs stated that it/they “*will critically inform the mechanisms through which site sensitivity and risk to FPM populations can be assessed and evaluated leading to the selection of appropriate forest management options – under the legislative, system and scheme control of the Forest Service. The initial task towards the development of Strategic Plans for Forestry is to complete a catchment characterisation through analysis and evaluation of FPM population status and assessment of forestry in terms of its type, age class, location and ownership within the catchment using information available from the DAFF forest inventory. These assessments will inform the final Strategic Plans for Forestry. The desk-based risk assessment will identify high risk sites and forest operations and will recommend a range of forest management measures on a site sensitivity basis. The recommended management measures for existing and future forests will produce the programme of forestry measures and strategies for each Strategic Plan for Forestry. The economic implications of the measures and strategies will be assessed prior to the development of the Strategic Plans for Forestry*”.

The Department also draws the Forest Service’s attention to the flow diagram presented to the European Commission in September 2011 as part of Ireland’s Pearl Mussel Conservation Strategy. Building on that Strategy and the Department’s understanding of commitments provided by DAFM - Forest Service to the European Commission under the freshwater pearl mussel pilot case, the Department’s view remains that:

1. The scope of the ecological implications of forestry for the pearl mussel that are proposed to be addressed in the Plan, and in revisions to the Appropriate Assessment Procedure (AAP), needs to be broadened, particularly (but not only) in considering the hydrological impacts arising from current and future forestry operations.
2. The proposed Plan for Forestry and Freshwater Pearl Mussel in Ireland, as described in the documents received December 2015-January 2016 does not appear to contain, nor is it proposed to contain, detailed, scientific risk assessments of forestry in the catchments,
3. It is not proposed to include or present a strategic plan for forestry in the catchments, and

4. As a result (of 1, 2. And 3), there is, as yet, insufficient detail available to conduct a strategic environmental assessment (SEA) and appropriate assessment (AA) of this draft plan.

The Department would also welcome clarification on the mechanism that will be used by the Forest Service to ensure that this Plan, and relevant findings of the SEA and AA, to inform any amendments to the Forestry Programme 2014-2020 that may be needed to allow it to achieve its objective. This question similarly arises in relation to Coillte's developing Business Area Unit Plans and the assessments that these are likely to require in order to comply with Article 6 of the Habitats Directive and the national transposing legislation.

The Department would be happy to meet with the Forest Service to discuss these, as well as the other matters raised below, in more detail, in order to help progress the development of the Plan and the revisions to the AAP.

## **B. Draft Scoping Report for Strategic Environmental Assessment**

The Department has the following observations to make on specific sections of the SEA Scoping Report. These are provided with a view to informing the development of the scope, objectives and content of the Plan/Catchment Forest Management Plans, the Forest Service's consenting procedures and the associated environmental assessments. The Forest Service is advised that the observations set out below on the ecological implications of the proposed Plan, and forestry activities contained within, should be used to inform both the SEA and the AA.

The documents provided to this Department refer interchangeably to "*the Plan*" (*Plan for Forestry and Freshwater Pearl Mussel in Ireland*) and to "*CFMPs*" (*Catchment Forest Management Plans*). It is unclear if the Forest Service intends to prepare one document that will be the "*Plan for Forestry and Freshwater Pearl Mussel in Ireland*", with discrete chapters or sections for each of the 8 priority catchments that will comprise the "*CFMPs*". As a result, the Department's observations also use the terms interchangeably; this would benefit from some clarification from the Forest Service in due course.

The numbering of Sections below mirrors those of the Sections within the documents provided by the Forest Service's consultants, McCarthy Keville O'Sullivan Ltd., to this Department. Matters relating to Appropriate Assessment are set out within the observations on the SEA Scoping Report, as the SEA Report includes sections on AA. The Department's observations on the Screening for Appropriate Assessment, received from the Forest Service's consultants on 1 February 2016, are set out separately.

### **Section 1.2 Freshwater Pearl Mussel Ecology and Status**

The Forest Service is advised that the Nore Freshwater Pearl Mussel captive breeding programme has been terminated and that there are no Nore pearl mussels (*Margaritifera margaritifera*) outside of the River Nore. Consequently, reference to extinction 'in the wild' is inappropriate, as extinction of the Nore population would mean extinction of the taxon. While it advocated captive breeding as an on-going measure for the Nore, the 2011 Conservation Strategy also cautioned that the Nore pearl mussel breeding programme had "*proven extremely challenging technically and the chances of success are low*", and highlighted failures in *Margaritifera* captive breeding from across Europe.

More detailed reflection of the status of *Margaritifera margaritifera* in the EU as reported in 2013 would be of benefit. See:

<http://bd.eionet.europa.eu/article17/reports2012/species/summary/> for further information.

### **S1.2.1 Current status**

The Forest Service's attention is drawn to the *detailed* species assessment for freshwater pearl mussel published in: NPWS (2013). *The Status of EU Protected Habitats and Species in Ireland. Species Assessments Volume 3, Version 1.1*. Unpublished Report, National Parks and Wildlife Services, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland. 62-83. Available at: <http://www.npws.ie/article-17-reports-0/article-17-reports-2013>

In particular, attention is drawn to the text on pressures and impacts, highlighting the importance of hydrological and morphological impacts, as well as impacts for sedimentation and nutrient-enrichment. NPWS (2013) states that "*The pressures impacting on Margaritifera margaritifera are often indirect, arising within the catchments of the occupied rivers, and can be broadly categorised into pollution and hydrological change*". The draft freshwater pearl mussel Sub-basin Management Plans (SBMPs) (available at: [http://www.wfdireland.ie/docs/5\\_FreshwaterPearlMusselPlans/](http://www.wfdireland.ie/docs/5_FreshwaterPearlMusselPlans/)) highlight the contribution of channelisation and drainage to the decline of the species in Ireland and detail the pressures and impacts associated with forestry in freshwater pearl mussel catchments. As well as sediment and nutrient enrichment owing to forest operations, hydrological changes associated with drainage and ground preparation, and losses of dissolved organic matter are highlighted. Further, site-specific information on pressures and impacts on freshwater pearl mussels is available from the many NPWS monitoring reports. A list of these is provided in Appendix 3 and these can be requested using the Department's data request form (see <http://www.npws.ie/maps-and-data/request-data>). The findings of the Interreg IVa project Practical Implementation of Freshwater Pearl Mussel Measures and on-going KerryLIFE project are two other examples of more recent sources of relevant information.

The Department is fully in agreement that rigorous, scientifically robust and fully implemented CFMPs are important, and for some catchments, critical, to the improvement of the species' future prospects. It should be noted, however, that the 2013 Habitats Directive Article 17 report concluded that the future prospects of the species are as follows: "*All of these considerations combined with the current bad status of the species' population and habitat quality and the on-going pressures from sectors such as agriculture and forestry, mean that the future prospects are considered bad.*"

### **S1.2.2 Legal protection and S1.2.3 Forest Service Responsibilities regarding Freshwater Pearl Mussel**

These sections omit reference to the responsibilities of the Forest Service pursuant to Regulation 27 of the European Communities (Birds and Natural Habitats) Regulations 2011. This Regulation gives effect to the obligations of Article 6 (2) of the Habitats Directive.

All public authorities, including the Department of Agriculture's Forest Service, "*having or exercising functions, including consent functions, which may or have implications for or effects on nature conservation shall exercise those functions in compliance with and, as*

*appropriate, so as to secure compliance with, the requirements of the Habitats Directive and the Birds Directive and these Regulations”.*

Public authorities shall also, amongst other things, *“take the appropriate steps to avoid, in European sites, the deterioration of natural habitats and the habitats of species as well as the disturbance of the species for which the areas have been designated in so far as such disturbance could be significant in relation to the objectives of the Habitats Directive.”*

These obligations relate not only to the Forest Service’s consent functions, but to any other functions of a public authority, such as the administration of grant schemes. Regulation 27 goes on to set out further obligations, and these should be used to inform the development of the Catchment Management Plans to ensure its compliance with same. These obligations are conferred upon all public authorities, as defined in Part 1 of the 2011 Regulations, and not solely on *regulatory* authorities, as may be inferred from the final statement in S1.2.2 and the final paragraph in S1.2.3.

It is stated in S1.2.3 that the Forest Service undertakes detailed assessments of every application and its potential impact on the environment. This assessment is stated as being a combination of *“field inspection and GIS-based desk assessment, EIA screening (and EIA, if required), AA screening (and Appropriate Assessment, if required), public consultation, referral to various statutory consultees and an objector’s appeal system.”* It is not this Department’s current understanding that the Forest Service undertakes a field inspection for every application submitted, as implied in this statement. The Department would welcome clarification on this as it has implications for recommendations it may make in future submissions on revisions to the Forest Service’s Appropriate Assessment Procedure.

The Department recalls that the Forestry Programme 2014-2020 also commits that, as part of its environmental mitigation measures, decisions on applications where Annex I habitats, Annex I birds or Annex II species may be affected will be informed by an ecological assessment. The Plan for Forestry and FPM and the revisions to the AAP should also reflect how this commitment is being operationalised and demonstrate how they will inform decision-making and assessment obligations. The *“post-activity checks”* referred to in S1.2.3 should also be expanded on e.g. inspection rate etc. as the effectiveness of compliance systems are a significant aspect of the on-going Freshwater Pearl Mussel Pilot Case.

### **S2.1.1 Background** *(to the Content and Context of the Catchment Forest Management Plans for Priority FPM Areas)* and **S2.1.2 Overview of Proposed Catchment Forest Management Plans**

The Department notes that some of the text in these Sections is out-of-date, for example, in relation to conservation status of the Bundorragha which has been in unfavourable conservation condition since 2012, as set out in the 2013 Article 17 Report. The Forest Service should use the most up-to-date scientific information and data available for the Environmental Report and Natura Impact Statement.

In S2.1.1, the principal cause of the species decline is referred to as *“sedimentation, with eutrophication also a significant factor”*. Localised pressures are also referred to, e.g. flow regulation and morphological changes to river beds and banks. Section 2.1.2 states that



*“The CFMPs will be developed in order to set out strategies and associated measures to eliminate, reduce or mitigate diffuse pollution arising from forestry, as a long-term land use ... and ensure that all forest activity undertaken within each catchment is fully compatible with - and where possible, proactively contributes towards - the protection of FPM and the restoration of favourable conservation status within these SACs”.* As explained above, these statements suggest an under-estimation of the role of hydrological change, and interactions between commercial non-native forestry plantations, associated drainage, ground cultivation methods and flow regulation, morphological changes to river beds and banks and freshwater pearl mussel habitat modification (both in-stream and supporting riparian habitats). The Plan will need to address a broader range of impacts arising from forestry than solely diffuse pollution issues if it is to achieve the commitment referred to above, and these will also need to be assessed for the purposes of the SEA and AA.

S2.1.2 also refers to the units of change for the CFMPs as being individual applications submitted for consent/license to, e.g. afforestation, forest road construction, thinning, clearfell and reforestation, which suggests a reactive rather than a proactive or strategic approach to protecting the freshwater pearl mussel and restoring it to favourable conservation status. Such a reliance on the implementation of the Forest Service's AAP at the project level means that:

1. There is no strategic plan for the management of on-going and potential impacts arising from existing conifer plantations in the catchments,
2. There is no strategic plan to prevent further forestry impacts from future afforestation and other operations,
3. The cumulative impacts of forestry are not or cannot be strategically assessed.

S2.1.2 sets out a number of the likely key components of the CFMPs. The Department recommends further useful components for inclusion as follows:

- A. Expansion of the scope of the proposed mapping exercise to include
  - i. Incorporation of the maps of the habitat of the freshwater pearl mussel to which the site's conservation objectives apply (the *FPM\_Habitat\_Classification\_* feature class/shapefile in the NPWS *Margaritifera* GeoDatabase). The objective is to restore these habitats in order to support the survival of adult, and particularly, juvenile mussels.
  - ii. the identification of areas where riparian or other habitats will or may need to be restored to achieve those objectives, specifically to restore hydrological function and/or reduce sediment and nutrient loads to water.
- B. Research and development programme e.g. to test, trial and demonstrate the efficiency of mitigation and restoration measures, to further develop understanding of the effects of forestry on the environment.
- C. Application of appropriate ecological and hydrological expertise to all relevant stages of decision-making e.g. in S2.1.2, it is stated that applications within the Priority 8 catchments will only advance where *“the applicant and the forester have assessed individual site sensitivity regarding FPM and have tailored the proposal accordingly (either at initial application stage or arising from a Natura Impact Statement)”*. The Department is concerned that such site assessments could be made in the absence

of ecological and possibly hydrological advice, and potentially in the absence of Natura Impact Statements and Appropriate Assessments. As well as this use of expertise at the practical operation level, the Department is concerned as to whether and how the necessary expertise will be used in scientific risk assessments at the strategic planning level, and how these will then inform site-level assessments. The Department will expand on this in the Section below on S2.2.

- D. The commitment to identify individual forest sites in which to initiate and effect change would also benefit from an explanation as to how this will be operationalised (and could be informed by the expansion of the mapping exercise as referred to above), and how it will contribute to the restoration of the species and avoid any further deterioration from forestry .

## **Section 2.2. Forestry and FPM Requirements**

The Forestry and FPM Requirements were developed between 2006 and 2008 by the Forest Service, with significant input from this Department and Coillte, in response to an infringement case (2004/4759) taken by the European Commission against Ireland. This infringement case followed a mussel kill in the Owenriff River, in which clear-felling was implicated. Ireland responded by imposing a moratorium on felling in SAC catchments. The Forest Service's Pearl Mussel Requirements were developed to allow forest operations to resume in these catchments.

The Requirements were seen as a mechanism for imposing stricter environmental standards (mainly on clear-felling) in sensitive pearl mussel catchments and for managing Irish forests out of situations arising from poor historical practices (*i.e.* planting right up to river banks, on peat, on steep slopes etc.). The Requirements were not designed to eliminate all risks from forestry to the pearl mussel, but rather to reduce those risks, and were not subject to an Article 6(3) assessment.

A working group comprising the Forest Service, NPWS (at the time, part of the Department of the Environment, Heritage and Local Government) and Coillte was established in early 2010 to review the 2008 *Forestry and Freshwater Pearl Mussel Requirements*, and to improve and extend the risk assessment methodology. The revision of these forms was intended as an interim measure for the period of 2011-2012 while the CFMPs were being developed. The revised clear-fell forms (previously Forms A & B of the original *Requirements*) were trialled by working group members at two proposed clear-fell properties in the Caragh and Kerry Blackwater pearl mussel catchments in November 2010. The revised forms were extended to cover the entire catchment (*i.e.* not just the 6km hydrological limit) for the priority catchments. The risk assessment methodology was improved at that time, and a greater emphasis placed on appropriate training, however, the Department continues to have concerns on the following aspects of the Requirements, notably:

1. There is a need for improved consideration of the available scientific literature and further input from specialists in hydrology, soil science and engineering,
2. There is a need for suitably qualified individuals (notably hydrologists and ecologists) to undertake the risk assessment,

3. They would benefit from further linkages between the risks and the appropriate management and mitigation responses,
4. There is a need for testing of the efficacy of the recommended management and mitigation measures,
5. The residual risks require further consideration,
6. There is a need for the inclusion of guidelines on the production of long-term, strategic plans for the forest unit,
7. There is a need for consideration of other qualifying features of SAC and SPA, or other protected species,
8. There is a need for further analysis of “*in-combination with other plans and projects*” and cumulative effects,
9. There is a need to develop a more considered analysis of the information submitted by an applicant and the making of a determination that no adverse effects on site integrity will arise, e.g. including expanding and applying indicators for effects on site integrity, elaborated on further below.
10. The level of site-specific detail documented is likely to be insufficient to inform an Article 6 (3) assessment or to provide the necessary information for site managers and operators.

With specific reference to the derivation and use of the 6km hydrological zone, the Forest Service should be cognisant of the fact that this does not constitute the full extent of the potential zone of influence of forest operations on FPM populations and does not ensure that there is no reasonable scientific doubt remaining as to whether adverse effects will arise on the integrity of a site, as stated in S2.2.1. With regard to it being informed by “*the distance over which the effects of sediment trap overflow have been observed*”, this Department is of the view that this is not a robust basis for concluding that no effects will arise further down the watercourse, as once the sediment is in the system, it will eventually work its way downstream and reach a FPM population or suitable FPM habitat and contribute to deteriorating conditions for the species.

It is also noted that it was informed by “*uncertainty with regard to P dynamics in Irish FPM streams (i.e. lack of site-specific data)*”- this rather indicates that a more precautionary approach is required, including assuming an influence the entire distance downstream rather than a selected distance.

### **S2.2.2 Overview of Proposed Requirements Element of the Proposed Plan**

It is stated that “*the intention [of revising the FPM Requirements] is to consider submissions received and to ensure that the new FPM requirements element of the proposed Plan addresses stakeholder concerns and introduces, where appropriate, new actions to protect FPM habitats*”. A number of revisions are envisaged and are set out in this section. The Department recommends that the objective of the revision process is more explicit in its

intention to ensure compliance with Article 6(3) of the Habitats Directive and national transposing legislation, to address the points set out in these observations for the previous Section, and to reflect relevant developing jurisprudence and best practice. Some examples of relevant jurisprudence include:

- Kelly v An Bord Pleanala (Judicial Review, Ireland, 2014) (procedural obligations)
- Sweetman v An Bord Pleanala (Case C-259/11) (2013) (adverse effects on integrity)
- Briels (2014) Case C-521/12 (mitigation and compensation)

Other developments in European jurisprudence are expected in the coming months, e.g. Grüne Liga v Freistat Sachsen and Orleans and Others -v- Vlaams Gewest, and may also be relevant to the Forest Service's AAP revision process.

### **Section 3: Strategic Environmental Assessment**

#### **S3.3 Appropriate Assessment**

The Department seeks clarification of how the conservation objectives, particularly the site-specific conservation objectives (SSCOs) for the freshwater pearl mussel, will be used to inform the development of the Plan/CFMPs and the Appropriate Assessment thereof. SSCO, while site-specific, also have general application as they utilise standard lists of attributes for each habitat/species. SSCO contains notes on these attributes and targets, and may be accompanied by supporting documents (note: *Margaritifera* SSCO do not have supporting documents, but do have very detailed notes and references). All published SSCO are available at <http://www.npws.ie/protected-sites/conservation-management-planning/conservation-objectives>). An Appropriate Assessment must focus on the potential effects on the conservation objectives of sites, by analysing and assessing how the plan or project could impact upon the relevant attributes and targets, in view of their current condition.

As per the response provided to the Commission for the EU pilot case on the freshwater pearl mussel (submitted on 23<sup>rd</sup> December 2015), as prepared by this Department and the Forest Service, SSCO tables have been prepared for all mussel sites and four have been published (*M. durrovensis* in SAC 2162, *M. margaritifera* in SACs 2165, 2170 and 197). The tables for the remaining 16 *M. margaritifera* SSCO are attached (Appendix 2 Excel file).

The SSCO for the freshwater pearl mussel SACs are “to restore the favourable conservation condition of the freshwater pearl mussel”. The freshwater pearl mussel is unique as a qualifying interest of Irish Special Areas of Conservation in having environmental objectives established in law (European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations, S.I. 296 of 2009). SSCO for the species include the attributes and targets established in these Regulations. They also include additional attributes, such as hydrological regime, and expand upon those contained in the Regulations (e.g. using redox measurement, in addition to siltation levels). The SSCO attributes are based on monitoring and research programmes, and are detailed in Article 17 and freshwater pearl mussel monitoring reports.

The Forest Service's attention is drawn to European Commission (2001) and Department of the Environment, Heritage and Local Government (2009) guidance which points out that appropriate assessments are to “*assess whether there will be adverse effects on the integrity of the site as defined by the conservation objectives and status of the site*”<sup>1</sup>; and include an “*integrity of site checklist*”, which could usefully be used and expanded to inform the appropriate assessment of these Plans (and all applications for consent to the Forest service). This Checklist includes indicators such as the following:

- *will the plan or project cause delays in progress towards achieving the conservation objectives of the site?*
- *will the plan or project interrupt progress towards achieving the conservation objectives?*<sup>2</sup>

The Department notes that the submitted Screening for Appropriate Assessment includes consideration of a limited range of criteria that may indicate “*Likely changes to European sites*”. It is recommended that these be expanded to include a more comprehensive set of indicators, including those referred to above, and to reflect the matters raised in this submission.

The Natura Impact Statement and the Forest Service's Appropriate Assessment must consider the current unfavourable condition of the populations and their habitat, particularly the risk that forest operations could:

1. Prolong the poor condition of the freshwater pearl mussel habitat
2. Result in further deterioration in freshwater pearl mussel habitat condition
3. Increase the area of freshwater pearl mussel habitat negatively affected

And in so doing:

1. Prevent juvenile recruitment, owing to unsuitable juvenile habitat condition
2. Cause stress to adult mussels resulting in reproductive failures
3. Cause mortalities of adult mussels, impacting population size
4. Result in an extended ‘gap’ in the population's age profile, impacting population size and future reproductive potential
5. Increase the patchiness of mussel distribution, impacting future reproductive potential.

In particular, the hydrological impacts of forestry will require careful assessment. Alteration of the natural hydrological regime can have significant negative impacts on freshwater pearl mussels. Sediment and nutrient mobilisation, transport and deposition are integrally linked to hydrology. Soil compaction, creation of preferential flow paths and drainage can increase run-off rates. This has the effect that:

1. flood peaks increase in energy/erosive power and occur more rapidly, resulting in
  - a. Increased river bank erosion and slumping, leading to river widening and increased sediment load
  - b. Scour of freshwater pearl mussel habitat
2. base flows decrease, resulting in
  - a. exposure (emersion) of mussels and their habitat

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<sup>1</sup> European Commission, 2001, p28

<sup>2</sup> European Commission, 2001, p28 and DEHLG, 2009, p83.

- b. increased sedimentation of mussel habitat
- c. increased macrophyte and macroalgal colonisation of mussel habitat.

Moorkens (2010<sup>3</sup>) demonstrated that there was a direct relationship between more intensive catchment management (*i.e.* more drainage, and relatively intensive agriculture and forestry) and recruitment failures in mussel populations. Good recruitment and high mussel densities correlated with lower levels of artificial drainage and sustained high near-bed water velocities, even at low flow periods (Moorkens & Killeen, 2014<sup>4</sup>).

Sub-surface/shallow groundwater flow to rivers generates interstitial flow, which helps maintain oxygen levels in the substratum and influences sediment mobilisation and deposition, thus contributing to favourable juvenile freshwater pearl mussel habitat condition.

As well as providing hydrological function, the importance of fringing wetlands as a food source to the freshwater pearl mussel is increasingly being recognised. Water flowing through and over such wetlands accumulates detritus that has been shown to play an essential role in sustainable juvenile growth and survival (Hruska, 1999, 2001; Eybe, 2013). The loss of such habitat is associated with mussel declines and loss of recruitment of juveniles (Junjiro *et al.*, 2014).

The natural hydrological regime of many of the forest areas within freshwater pearl mussel catchments has been altered as a result of forest operations, particularly drainage, mounding and other ground preparations, tree planting and growth. This is particularly true of forests on peat and peaty-soils. Restoration of a near-natural hydrological regime is necessary to the achievement of the conservation objective for most freshwater pearl mussel populations.

In relation to the assessment of on-going and potential hydrological impacts arising from coniferous forests in freshwater pearl mussel catchments, the Forest Service's attention is drawn to hydrological risk assessment methods developed by the Interreg IVa project *Practical Implementation of Freshwater Pearl Mussel Measures*, the Technical Group of which both this Department and the Forest Service were members.

The Department also seeks clarification as to how the best-practice forestry hydrological risk assessments under development by the KerryLIFE project will be incorporated into the Plan and the Appropriate Assessment of the same. The Forest Service, as the beneficiary responsible for implementing KerryLIFE Action A3: Preparation of forest management plans, and as consent authority for the project's concrete forest actions, has access to the source mapping and risk assessment reports circulated, to date, for three forest properties (Purser Tarleton Russell Ltd., 2015) and the more detailed Gortfadda Forest – Hydrological Assessment report (RPS, 2015).

Further advice on the preparation of a Natura Impact Statements is presented in Appendix 1. The Forest Service is also advised that, as well as preparing an NIS, a public authority is required to complete a determination as to whether its proposed plan would adversely affect the integrity of a European site, and this must be completed before a decision is taken to

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<sup>3</sup> Moorkens, E.A. (2010) Addressing the conservation and rehabilitation of *Margaritifera margaritifera* populations in the Republic of Ireland within the framework of the habitats and species directive. *Journal of Conchology*. 40, 339.

<sup>4</sup> Moorkens, E.A. and Killeen, I.J. (2014) Assessing near-bed velocity in a recruiting population of the endangered freshwater pearl mussel (*Margaritifera margaritifera*) in Ireland. *Aquatic Conservation: Marine and Freshwater Ecosystems*. DOI: 10.1002/aqc.2530

approve or undertake the plan, as the case may be (Regulation 42 (11) of the 2011 Regulations).

This Section, S2.2.2, also commits to a revision of “*the wider procedures applied by the Forest Service in its assessment of applications submitted under the FPM Requirements*”, including referral with the NPWS of this Department. The Department would also welcome an opportunity to discuss the current form of the referral process between the two Departments, particularly with regard to the obligation in Regulation 42 of the 2011 Regulations for Natura Impact Statements to be submitted to the Minister for Arts, Heritage and the Gaeltacht, prior to the completion of an appropriate assessment.

### **S3.4 Overview and Outcome**

This Section states that “*The key role of the Appropriate Assessment (AA) is to provide an impact assessment of the implications that the Plan may have on the conservation objectives of Natura 2000 sites and the development, if necessary, of mitigation measures.*”

The role of an AA goes beyond that of solely assessing impacts but is rather a key part of an authority’s decision-making process, as it limits the discretion of authorities to consent to plans that may or will adversely affect Natura 2000 sites. Please also note the obligation to complete a determination, pursuant to Regulation 42(11) as noted above.

### **S3.5.3 AA Consultation**

This Section does not reflect the statutory consultation required with the Minister for Arts, Heritage and the Gaeltacht when a public authority prepares or commissions a Natura Impact Statement. These requirements are set out in Part 5 of the European Communities (Birds and Natural Habitats) Regulations 2011.

## **S4 Key Environmental Issues:**

Please refer to the comments set out in the Section above on Appropriate Assessment.

### **S4.4. Biodiversity and Flora and Fauna**

The Environmental Report is required to contain information on the environmental characteristics of the areas likely to be affected significantly by the plan. For biodiversity, flora and fauna, the scope of the SEA should include:

- All nature conservation sites, including European sites, sites protected under national legislation, National Parks etc.;
- Species of wild flora and fauna, including rare and protected species and their habitats; Annex IV (Habitats Directive) species of flora and fauna, and their key habitats (i.e. breeding sites and resting places), which are strictly protected wherever they occur, whether inside or outside sites, (including data on rare and protected species from NPWS, the National Biodiversity Data Centre, BirdWatch Ireland, etc.);
- Other species of flora and fauna and their key habitats which are protected under the Wildlife Acts, 1976-2000, wherever they occur
- ‘Protected species and natural habitats’ as defined in the Environmental Liability Directive (2004/35/EC) and European Communities (Environmental Liability) Regulations, 2008, including:

- Birds Directive – Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur)
- Habitats Directive – Annex I habitats, Annex II species and their habitats, and Annex IV species and their breeding sites and resting places (wherever they occur)
- Stepping stones and ecological corridors including nature conservation sites (other than European sites), habitat areas and species' locations covered by the wider obligations of the Habitats Directive.
- All watercourses, surface water bodies and associated wetlands, including floodplains and flood risk areas.

The Environmental Report is required to contain environmental protection objectives. For biodiversity, flora and fauna, these should integrate with the objectives and obligations of other directives such as the Habitats Directive, the Birds Directive, the Water Framework Directive and the Floods Directive, and with the Wildlife Acts, 1976-2000 and the National Biodiversity Plan.

### **Data/Information Sources:**

The National Parks and Wildlife Service website ([www.npws.ie](http://www.npws.ie)) is a key source of data, information and publications, including GIS datasets, on nature conservation sites and biodiversity issues of relevance to the Strategy and its associated environmental assessments. This includes site boundaries, site synopses, lists of qualifying interests (SACs) and special conservation interests (SPAs), conservation objectives (European sites – see also below), features of interest (NHAs), and dates of site designation. GIS datasets are available for download for certain habitats and species arising from various sources, including national surveys<sup>5</sup>. Other NPWS-held data on habitats and species may be requested by submitting a 'Data Request Form'<sup>6</sup>.

Site-specific conservation objectives, and associated backing documents and GIS datasets, are available for download in the case of some European sites. The limitations of the data, however, should be noted as outlined.

Additional information about sites, habitats and species will become available over time. It is recommended that the most up-to-date data and information available from the NPWS website should be accessed and used at each successive stage of the plan-making process.

## **S5: Key Scoping Issues**

### **S5.2 Relationship with Legislation and Other Plans and Programmes**

This Section sets out a number of other Plans and Programmes that the SEA will consider. These will also need to be assessed in the Appropriate Assessment, for in-combination and cumulative effects.

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<sup>5</sup> <http://www.npws.ie/maps-and-data/habitat-and-species-data>

<sup>6</sup> <http://www.npws.ie/maps-and-data/request-data>



The Department recommends that the following plans are also analysed for potential and likely cumulative effects:

- Coillte's Business Area Unit Plans
- Inland Fisheries Ireland's National Strategy for Angling Development
- National Climate Change Adaptation and Mitigation Plans
- Irish Water's Lead Mitigation and Sludge Plans, amongst others.

**C. Article 6(3) Screening Assessment (as submitted by Forest Service's consultants, 1 February 2015).**

The Department agrees that the proposed Plan may have significant effects on European sites. Particular regard will need to be given to the potential effects that may arise on other Qualifying Interests of the European sites, as well as to the pearl mussel.

With regard to the methodology used for the "screening assessment", the Department has the following brief observations to provide which should be used by the Forest Service and its consultants to develop its methodology for the Natura Impact Statement and Appropriate Assessment.

The Department welcomes the commitment to applying a precautionary approach to this screening, as is required by jurisprudence. However, given the as-yet unclear scope of the proposed Plan, and activities that will arise from it, it is possible that the current screening exercise has not fully identified or considered all the impacts that will arise from the proposed Plan. This subsequently undermines the robustness of the conclusions that all potentially affected European sites have been identified. This will need to be revisited as the contents of the Plan develop.

It is stated in the document that a "*likely zone of impact*" was used to identify European sites that may be affected by the proposed Plan. This was informed by:

- The 8 priority catchments
- A 6km zone from populations in SACs
- A 15km buffer radius
- European sites outside the 15km buffer "*where pathways for impact were identified and where hydrological connectivity could be established*".

The identification of impacts arising from the Plan should be revisited in view of these observations, and as the contents of the Plan itself develops. Their effects on European sites and other ecological receptors should then be assessed to inform the SEA and AA.

As also set out earlier in this document, the possible and likely changes that may arise to European sites should also be revisited and expanded, as well as the indicators for adverse effects on site integrity.

You are requested to send further communications and any requests for clarification to this Department's Development Applications Unit (DAU) at [manager.dau@ahg.gov.ie](mailto:manager.dau@ahg.gov.ie) (team monitored); if this is not possible, correspondence may alternatively be sent to:

The Manager  
Development Applications Unit (DAU)  
Department of Arts, Heritage and the Gaeltacht  
Newtown Road  
Wexford  
Y35 AP90

Is mise, le meas



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Joanne Lyons  
Development Applications Unit  
Tel: 053-9117447

## Appendix 1: Notes on the preparation and content of an NIS

The term 'NIS' is defined in legislation<sup>7</sup>. In general, an NIS, if required, should present the data, information and analysis necessary to reach a definitive determination as to

1. the implications of the plan or project, alone or in combination with other plans and projects, for a European site in view of its conservation objectives, and
2. whether there will be adverse effects on the integrity of a European site. The NIS should be underpinned by best scientific knowledge and objective information, as required in the case of screening for appropriate assessment, and by the precautionary principle.

The following advice is offered in relation to the preparation and content of an NIS:

1. An NIS is a scientific assessment that presents relevant evidence, data and analysis, and focuses on the implications of the plan or project, on its own and in combination with other plans and projects, for the conservation objectives of the relevant European site(s), taking the full scope of these objectives, whether generic or site specific, into account;
2. Examination of the potential effects of the plan or project must be undertaken to identify what European sites, and which of their qualifying interests (SAC), special conservation interests (SPA) or conservation objectives, are potentially at risk. In combination effects must also be taken into account. This is required to determine a 'zone of influence' or 'zone of impact' for the project, if such a concept is used. The 15km distance in existing guidance is an indicative figure only and its application and validity should be examined and justified in each specific case on an ecological or other basis;
3. The *scientific* basis on which sites and their conservation objectives are included or excluded from assessment and analysis should be presented and justified;
4. The full area or extent of the likely effects of the plan or project should be determined and quantified. Where temporary damage and disturbance will occur, predicted timelines for recovery should be presented;
5. The relevant environmental baseline, conservation condition and trends in European sites should be taken into account, bearing in mind changes and in combination effects which have occurred since site designation;
6. An NIS should be informed by any necessary surveys of habitats and species at the appropriate time(s) of year to identify, describe, evaluate and map their presence within the receiving environment. In all relevant cases, the scientific basis and justifications for categorising or not categorising habitats as Annex I habitats, or priority types, should be presented;
7. An NIS should be informed by any necessary hydrological, hydrogeological or geotechnical investigations to assess impacts on habitat structure and function;

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<sup>7</sup> The term, 'NIS', is defined in the European Communities (Birds and Natural Habitats) Regulations, 2011, and Part XAB, Section 177T of the Planning and Development Act, 2000 as amended

8. Where mitigation measures are required, full details should be included in the project description and drawings, with method statements provided, where necessary. It must be demonstrated that mitigation measures will be delivered in full, and at the appropriate time, at all post-consent stages, and that they will be effective in any specific location or set of conditions. The necessary analysis should be presented to demonstrate how the mitigation measures will avoid or remove the risks of adverse effects on the integrity of European sites that have been identified in an NIS so that the final analysis is undertaken in the context of the predicted residual effects;
9. An NIS should reach a clear and precise conclusion as to the implications of the project, on its own and in combination with other plans and projects, for the conservation objectives of the relevant European site(s).

### **Guidance and studies relating to Article 6 of the Habitats Directive:**

A short list of relevant guidance, studies and a potentially relevant Court Rulings is provided below. More is available on the Commission's website (listed below also).

- Department of Environment, Heritage and Local Government. 2009. Appropriate assessment of plans and projects in Ireland: Guidance for planning authorities. Available on [www.npws.ie](http://www.npws.ie).
- European Commission, 2000. [Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC](#).
- European Commission, 2001. Methodological guidance on the provisions of Article 6 (3) and (4) of the Habitats Directive 92/43/EEC.
- European Commission, 2013. EC Study on evaluating and improving permitting procedures related to Natura 2000 requirements under Article 6.3 of the Habitats Directive 92/43/EEC.
- European Commission, 2014. Guidance Document: Farming for Natura 2000.

All European Commission guidance and publications available at:

[http://ec.europa.eu/environment/nature/natura2000/management/guidance\\_en.htm](http://ec.europa.eu/environment/nature/natura2000/management/guidance_en.htm).

## **Appendix 2: Note on *Margaritifera margaritifera* Site-Specific Conservation Objective (SSCO) DRAFT Tables, MS Excel files forwarded to the Forest Service in February 2016**

The sixteen draft SSCOs, presented in 16 separate excel files, are for *Margaritifera margaritifera* (1029) in the following sites:

1. 000140 Fawnboy Bog/Lough Nacung SAC
2. 000163 Lough Eske and Ardnamona Wood SAC
3. 000297 Lough Corrib SAC
4. 000365 Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC
5. 000375 Mount Brandon SAC
6. 000781 Slaney River Valley SAC
7. 001879 Glanmore Bog SAC
8. 001932 Mweelrea/Sheeffry/Erriff Complex SAC
9. 002031 The Twelve Bens/Garraun Complex SAC
10. 002047 Cloghernagore Bog and Glenveagh National Park SAC
11. 002137 Lower River Suir SAC
12. 002144 Newport River SAC
13. 002162 River Barrow and River Nore SAC
14. 002171 Bandon River SAC
15. 002173 Blackwater River (Kerry) SAC
16. 002176 Leannan River SAC

SSCOs are published for the following sites

17. 000197 West of Ardara/Maas Road
18. 002162 River Barrow and River Nore SAC (*Margaritifera durrovensis*, Nore pearl mussel only)
19. 002165 Lower River Shannon
20. 002170 Blackwater River (Cork/Waterford)

And are available on [www.npws.ie](http://www.npws.ie) (see: <http://www.npws.ie/protected-sites> and <http://www.npws.ie/protected-sites/conservation-management-planning/conservation-objectives>)

The following should be noted:

- These draft tables have not yet been reviewed internally, and, hence may contain typographical and formatting errors.
- The date of production is contained within the file name, and varies from June 2013 to November 2015. The older files have yet to be updated to the current standard format.
- The maps have not yet been produced for these SSCOs, hence the length targets for distribution and suitable habitat extent are not specified.
- Although the target for the extent of the suitable habitat is not specified in the tables, it refers to the habitat polyline (FPM\_Habitat\_Classification\_[year]\_v0#) in the NPWS *Margaritifera* Geodatabase)

- These SSCO tables will be updated to coincide with formal publication.
- The Forest Service and its contractors should regularly check the NPWS website for publication of SSCOs
- These data should not be shared beyond the Forest Service staff and contractors involved in SEA and AA of the “Plan for Forestry and Freshwater Pearl Mussel in Ireland” process

### Appendix 3: List of NPWS commissioned reports on the Freshwater Pearl Mussel (*Margaritifera margaritifera*) 1995-present.

Reports are listed in alphabetical and chronological order under three headings:

1. **Monitoring** Surveillance in accordance with Article 11 of the Habitats Directive and Regulation 4 of S.I. 296 of 2009
2. **NS2** The 'North South 2' Project. A DEHLG-funded project that ran from 2008-2010 and produced draft Sub-basin Management Plans for the species, in accordance with S.I. 296 of 2009
3. **Other** various reports, including those related to assisted breeding projects and Article 17 reporting.

Note, 2009 monitoring reports appear under both 'Monitoring' and 'NS2' Headings.

#### Monitoring

Killeen, I.J. & Moorkens, E.A. (2008) *A rapid survey for the freshwater pearl mussel Margaritifera margaritifera (L. 1758) in the Aughavaud River, County Carlow*. Unpublished report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.

Moorkens, E.A. (2004a) *Pilot Project for Monitoring Populations of the Freshwater Pearl Mussel, Margaritifera margaritifera. Baseline survey of the Owenriff River SAC, County Galway*. Unpublished report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.

Moorkens, E.A. (2004b) *Pilot Project for Monitoring Populations of the Freshwater Pearl Mussel, Margaritifera margaritifera. Monitoring survey of the Nore River SAC, Counties Laois and Kilkenny*. Unpublished report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.

Moorkens, E.A. (2005a) *Monitoring Populations of the Freshwater Pearl Mussel Margaritifera margaritifera. Baseline survey of the Newport River cSAC, County Mayo*. Unpublished report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.

Moorkens, E.A. (2005b) *Monitoring Populations of the Freshwater Pearl Mussel, Margaritifera margaritifera. Baseline survey of the Bundorragha River cSAC, County Mayo*. Unpublished report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.

- Moorkens, E.A. (2005c) *Monitoring Populations of the Freshwater Pearl Mussel, Margaritifera margaritifera. Repeat survey of the Owenriff River SAC, County Galway.* Unpublished report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Moorkens, E.A. (2005d) *Monitoring Populations of the Freshwater Pearl Mussel, Margaritifera margaritifera. Repeat survey of the Nore River SAC, County Laois / Kilkenny.* Unpublished report to the National Parks and Wildlife Service, Dublin.
- Moorkens, E.A. (2006) *Monitoring Populations of the Freshwater Pearl Mussel, Margaritifera margaritifera. 2006 repeat survey of the Owenriff River SAC, County Galway.* Unpublished report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Moorkens, E.A. (2007a) *Monitoring Populations of the Freshwater Pearl Mussel, Margaritifera margaritifera. 2006 Baseline Survey of the Clady River, County Donegal.* Unpublished report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Moorkens, E.A. (2007b) *Monitoring Populations of the Freshwater Pearl Mussel, Margaritifera margaritifera. 2006 Baseline Survey of the River Eske, County Donegal.* Unpublished Report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Moorkens, E.A. (2007c) *Monitoring Populations of the Freshwater Pearl Mussel, Margaritifera margaritifera. 2006 Baseline Survey of the Swanlinbar River, County Cavan.* Unpublished report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Moorkens, E.A. (2007d) *Rapid Assessment of Rivers with Prior records of Margaritifera margaritifera, 2007 Survey.* Unpublished report to the National Parks and Wildlife Service, Dublin.
- Moorkens, E.A. (2007e) *Survey of the Freshwater Pearl Mussel, Margaritifera durrovensis, 2007.* Unpublished report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Moorkens, E.A. (2008a) *Rapid Assessment of Rivers with Prior records of Margaritifera margaritifera, 2008 Survey.* Unpublished report to the National Parks and Wildlife Service, Dublin.
- Moorkens, E.A. (2008b) *Monitoring Populations of the Freshwater Pearl Mussel, Margaritifera margaritifera. 2008 Repeat survey of the Owenriff River SAC, County Galway.* Unpublished report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Moorkens, E.A. (2008c) *Survey of Dawros River – July 2008.* Unpublished Report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.



- Moorkens, E.A. (2008d) NS II Freshwater Pearl Mussel Sub-basin Management Plans: Monitoring of the Freshwater Pearl Mussel in the Aughavaud. Unpublished Report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Moorkens, E.A. (2009a) NS II Freshwater Pearl Mussel Sub-basin Management Plans: Monitoring of the Freshwater Pearl Mussel in the Allow. Unpublished Report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Moorkens, E.A. (2009b) NS II Freshwater Pearl Mussel Sub-basin Management Plans: Monitoring of the Freshwater Pearl Mussel in the Ballymurphy. Unpublished Report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Moorkens, E.A. (2009c) NS II Freshwater Pearl Mussel Sub-basin Management Plans: Monitoring of the Freshwater Pearl Mussel in the Bandon. Unpublished Report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Moorkens, E.A. (2009d) NS II Freshwater Pearl Mussel Sub-basin Management Plans: Monitoring of the Freshwater Pearl Mussel in the Bundorragha. Unpublished Report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Moorkens, E.A. (2009e) NS II Freshwater Pearl Mussel Sub-basin Management Plans: Monitoring of the Freshwater Pearl Mussel in the Clady. Unpublished Report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Moorkens, E.A. (2009f) NS II Freshwater Pearl Mussel Sub-basin Management Plans: Monitoring of the Freshwater Pearl Mussel in the Derreen. Unpublished Report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Moorkens, E.A. (2009g) NS II Freshwater Pearl Mussel Sub-basin Management Plans: Monitoring of the Freshwater Pearl Mussel in the Eske. Unpublished Report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Moorkens, E.A. (2009h) NS II Freshwater Pearl Mussel Sub-basin Management Plans: Monitoring of the Freshwater Pearl Mussel in the Glaskeelan. Unpublished Report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Moorkens, E.A. (2009i) NS II Freshwater Pearl Mussel Sub-basin Management Plans: Monitoring of the Freshwater Pearl Mussel in the Leannan. Unpublished Report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.

- Moorkens, E.A. (2009j) NS II Freshwater Pearl Mussel Sub-basin Management Plans: Monitoring of the Freshwater Pearl Mussel in the Mountain. Unpublished Report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Moorkens, E.A. (2009k) NS II Freshwater Pearl Mussel Sub-basin Management Plans: Monitoring of the Freshwater Pearl Mussel in the Newport. Unpublished Report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Moorkens, E.A. (2009l) NS II Freshwater Pearl Mussel Sub-basin Management Plans: Monitoring of the Freshwater Pearl Mussel in the Nore. Unpublished Report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Moorkens, E.A. (2009m) NS II Freshwater Pearl Mussel Sub-basin Management Plans: Monitoring of the Freshwater Pearl Mussel in the Owencarrow. Unpublished Report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
- Moorkens, E.A. (2009n) NS II Freshwater Pearl Mussel Sub-basin Management Plans: Monitoring of the Freshwater Pearl Mussel in the Owenea. Unpublished Report to the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.
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ENDS/.



Michael Watson  
McCarthy Keville O'Sullivan Ltd.  
Block 1, G.F.S.C.  
Moneenageisha Road  
Galway  
Ireland

05 February 2016

**Re: Strategic Environmental Assessment Draft Scoping Report Plan for Forestry and Freshwater Pearl Mussel in Ireland**

Dear Mr Watson

Thank-you for the emails dated 11 December 2015 and 08 January 2016 enclosing the draft scoping report for Forestry and Freshwater Pearl Mussel in Ireland. The Department of the Environment Northern Ireland (DOE NI) have considered the documentation and our opinions are set out below.

We consider the only transboundary issue that will require consideration for this plan could be effects on groundwater. We consider that the assessment should consider any potential impact on groundwater quality and quantity.

Some baseline information, e.g. monitoring results where available, can be obtained by emailing [waterinfo@doeni.gov.uk](mailto:waterinfo@doeni.gov.uk)

Regional screening information on geology, hydrogeology, aquifers and groundwater are available from the GSNI geoindex:  
[http://mapapps2.bgs.ac.uk/GSNI\\_Geoindex/home.html](http://mapapps2.bgs.ac.uk/GSNI_Geoindex/home.html) - select map theme 'Hydrogeology'

Further information is available from: <http://maps.ehsni.gov.uk/wmuviewerplan2/> as well as documents published in support of the second River Basin Plans in December 2015: <https://www.doeni.gov.uk/publications/date/2015/date/2015> using 'groundwater' as a key word.

Please contact the SEA Team at [seateam@doeni.gov.uk](mailto:seateam@doeni.gov.uk) should you have any queries or require clarification.

Yours sincerely



Dr Mark Hammond

[SEATeam@doeni.gov.uk](mailto:SEATeam@doeni.gov.uk)

[mark.hammond@doeni.gov.uk](mailto:mark.hammond@doeni.gov.uk)





## John Staunton

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**To:** Declan Lawlor  
**Subject:** RE: 150913 - SEA Draft Scoping Report: Plan for Forestry & Freshwater Pearl Mussel in Ireland

**From:** Declan Lawlor [mailto:Declan.Lawlor@loughs-agency.org]

**Sent:** 15 February 2016 15:20

**To:** Michael Watson <mwatson@mccarthykos.ie>

**Subject:** RE: 150913 - SEA Draft Scoping Report: Plan for Forestry & Freshwater Pearl Mussel in Ireland

Hi Michael

Many thanks for your initial letter and emails.

Firstly, the Loughs Agency welcomes the opportunity to comment on the SEA Draft Scoping Report. Having looked through the document, I feel that the scope, level of detail and proposed approach for the SEA are appropriate. Whilst none of our freshwater catchments in Donegal or Louth are believed to contain populations of freshwater pearl mussel, the Agency would welcome the contents of the proposed plan for Forestry and Freshwater pearl Mussel in Ireland, indeed many of the objectives to safeguard Freshwater Pearl Mussel will also directly benefit fisheries, particularly salmonids.

Thanks again for contacting the Loughs Agency in your scoping phase.

Best regards  
Declan

Dr Declan Lawlor, CEnv, MCIEEM, MIFM, MIEEnvSc,  
***Environmental Officer***



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Mr Michael Watson  
McCarthy Keville & O'Sullivan Ltd  
Block 1, G.F.S.C  
Moneenageisha Road  
Galway

5<sup>th</sup> February 2016

Our Ref: SCP151212.1

**Re: Plan for Forestry and Freshwater Pearl Mussel in Ireland**

Dear Mr Watson,

I refer to and acknowledge your correspondence on behalf of the Department of Agriculture, Food and the Marine (DAFM), dated 10<sup>th</sup> December 2015, in relation to the Strategic Environmental Assessment Scoping for the Plan for Forestry and Freshwater Pearl Mussel in Ireland. Specific comments in relation to the Scoping report are provided in Attachment I.

We acknowledge that the Plan will consist of a series of measures to be considered, on a case by case basis, for individual forestry related proposals within Freshwater Pearl Mussel (FPM) Catchments. In particular, specific measures will be established to protect the 8 priority FPM Catchments. It will also be important to ensure these measures will also be applied to protect FPMs outside of those priority catchments. This will reflect the protected status of the species under the Habitats Directive (and Water Framework Directive). The Plan needs to ensure that specific measures/requirements to ensure the protection and maintenance of FPMs and associated high water quality status.

While the granting of forestry activities (such as afforestation, forest road construction, thinning, aerial fertilisation or clear felling and re-forestation) is proposed to be carried out at an individual forest “plan” level, we recommend that the Plan takes into account the potential for adverse environmental effects at a catchment level including cumulative effects, and also considers catchment level mitigation and monitoring measures.

A tiered approach to assessing and selecting mitigation and monitoring aspects would be beneficial and should be considered. More strategic objectives, targets and indicators and mitigation should be considered in terms of how to protect FPM Catchment areas, in association with other significant relevant plans including the series of FPM Sub Basin Management Plans (SBMPS), WFD RBMP etc.

At a forest plan level, more detailed objectives, targets, indicators and mitigation measures should be more spatially specific, in terms of protecting specific environmental features associated with particular forestry activities. These should also ensure consistency with the overall objectives to maintain and conserve the FPM provided for under higher level plans/programmes also.

It will be important to ensure that, where appropriate, the FPM SBMPs (DAHG, 2010) are integrated at both a catchment and a forest plan level, to protect and where possible improve the conservation status of FPM both within the 8 priority catchments and the other 19 catchments also. The status of these FPM SBMPs should also be clarified.

Close collaboration and coordination with the NPWS /EPA/Inland Fisheries Ireland (and other relevant stakeholders) should be considered, in terms of establishing a suitable monitoring programme, appropriate indicators and determining the “assimilative capacity” for particular FPM sub-catchments.

#### *Relationship with Other Plans and Programmes*

The relationship with other key plans/programmes within the DAFM should be described (including in particular Food Wise 2025, Forest Policy Review, Forestry Programme and the Rural Development Programme, WFD RBMBs, CFRAMS for example). A list of plans which should be considered in terms of baseline data or potential indirect or direct influence on the Plan is provided in Attachment II.

In particular, the relationship and influence of the Draft Freshwater Pearl Mussel Sub Basin Management Plans (FPM SBMPs) (DEHLG, 2010), should be further clarified. Given that they reflect the 27 FPM subcatchments, the relevant aspects of these Plans should be integrated as appropriate in the Plan. Catchment-specific aspects, where forestry activities occur outside of the Priority catchment areas, given that they are still protected under Annex II of the Habitats Directive should also be reflected in the Plan.

In addition to the specific comments provided below, Attachment II includes potential useful environmental resources, environmental reports and suggested high level plans, programmes and strategies to consider also.

Given the nature of the Plan and various organisations which will be influenced by it, it may be useful, in preparing the SEA and Plan, to consider convening a scoping workshop with statutory environmental authorities and relevant key stakeholders.

The Plan should include commitments that all forestry measures will be compatible with existing environmental objectives and that there are no adverse significant environmental impacts resulting from the forestry measures proposed.

The Plan should also consider developing a set of outcome-based indicators as part of the implementation of the Plan. These could be used to demonstrate linkages between investment through the Plan and positive environmental outcomes in areas including water quality, resource efficiency and climate resilience.

#### **SEA WebGIS Search and Reporting Tool**

The EPA WebGIS Search and Reporting application is an online GIS based web application that allows users to explore, interrogate and produce an indicative report on key aspects of the environment in specific geographic areas. These reports are indicative and will provide an overview of key aspects of the environment within a specific plan area. This may be used to inform the SEA screening and scoping stages for Plans and Programmes with particular reference in the first instance to the land use sector, though it is also applicable to other sector plans. It may be accessed via [www.edenireland.ie](http://www.edenireland.ie)

#### **Environmental Authorities**

Under the SEA Regulations (*S.I. No. 435 of 2004*), as amended by *S.I. No. 200 of 2011*, notice should also be given to the following:

- The Minister for the Environment, Community & Local Government
- Minister for Agriculture, Marine and Food, and the Minister for Communications Energy and Natural Resources, where it appears to the planning authority that the



plan or programme, or modification of the plan or programme, might have significant effects on fisheries or the marine environment

- where it appears to the competent authority that the plan or programme, or amendment to a plan or programme, might have significant effects in relation to the architectural heritage or to nature conservation, the Minister for Arts, Heritage and Gaeltacht Affairs

Should you have any queries or require further information in relation to the above please contact the undersigned. I would also be grateful if an acknowledgement of receipt of this submission could be sent electronically to the following address: [sea@epa.ie](mailto:sea@epa.ie).

Yours Sincerely,

A handwritten signature in black ink, appearing to read 'Tadhg O'Mahony', enclosed in a thin black rectangular border.

---

**Tadhg O'Mahony**  
*Senior Scientific Officer*  
*SEA Section*  
*Office of Environmental Assessment*  
*Environmental Protection Agency*  
*Regional Inspectorate*  
*Inniscarra, County Cork*

## **Specific Comments on the Scoping Report Plan for Forestry and Freshwater Pearl Mussel in Ireland**

### ***Chapter 1 – Introduction and Background***

We note in *Section 1.1 – Overview* that the Plan is being prepared as part of the National Strategy for the conservation of Freshwater Pearl Mussels (FPM). The status of this strategy should be clarified in the Plan.

In *Chapter 1.2.2 Legal Protection*, with regard the requirement for applicants to adhere to the Code of Best Forest Practice, it should be described how individual applications are assessed and considered in the context of the potential impact at a catchment scale. Applying a catchment approach provides a coordinated and integrated approach to protection of FPM on a wider scale.

With regards the undertaking ( by the Forest Service) of post-activity authorisation checking to ensure the conditions of the consent have been satisfied, it would be useful in the context of establishing a baseline, that information recorded in terms of compliance and frequency of checks carried out is described.

### ***Chapter 2 – Content and Context of the Plan***

We suggest that consideration is given to including a requirement to carry out WFD Assessments, (a management tool to selecting options/activities), when considering sites/consent applications. Guidance in this regard is available from Northern Ireland's Environment Agency in terms of application of best practice and can be consulted at: <https://www.doeni.gov.uk/publications/guidance-note-carrying-out-water-framework-directive-assessment-environmental-impact>

We note the various proposed components of the CFMPs. The identification of key additional potential sources of pollution within each catchment other than forestry should also be considered in terms of the scope of the preparation of the SEA / AA and also in relation to potential cumulative effects.

With regards water quality assessment tools available, the Agency has established a WFD Application which is available on the Environmental Data Exchange Network ([www.edenireland.ie](http://www.edenireland.ie)) website which should be considered by the DAFM / Forest Service, in the plan preparation and in the licensing and consent of forest related activities.

It is noted that the SEA processes will be undertaken taking into account relevant European Court of Justice Judgements. Including a reference / consideration of the implications of ECJ Case C-461/13 should be considered in this regard:

*“Member States are required — unless derogation provided for by the directive is granted — to refuse authorisation for an individual project where it may cause a deterioration of the status of a body of surface water or where it jeopardises the attainment of good surface water status or of good ecological potential and good surface water chemical status. The Court also ruled that deterioration of the status means that such deterioration is established as soon as the status of at least one of the quality elements, within the meaning of Annex V of the WFD, falls by one class, even if that fall does not result in a fall in classification of the body of water as a whole. However, where the quality element concerned is already in the lowest class, any deterioration of the element would constitute deterioration in status”*

In subsection 2.2.2 *Overview of proposed Requirements Element of the Proposed Plan*, we welcome the commitment to updating the existing FPM Requirements to take account of on-going research, including the recommendations of the [Hydrofor project](#). Incorporating the findings of relevant

research will assist in identifying relevant aspects and FPM Requirements requiring updates, including for example, existing work practices or updating the relevant requirements. Relevant research findings should also be considered when updating mitigation measures, management practices or requirements, and associated monitoring in order to minimise (or avoid if possible) nutrient and sediment loss during clear felling operations for example.

### ***Chapter 3 – Strategic Environmental Assessment***

The SEA process also provides a mechanism to integrate environmental considerations into the Plan preparation from the outset and inform the planning process. It would be useful to consider including this additional aspect and benefit of the SEA Directive in *Section 3.2.3 Environmental Assessment and Preparation of Environmental Report*.

The Agency has prepared SEA Process and Scoping Guidance which will be useful to consider in the preparation of the SEA and Plan. Guidance on the *integration of Climate Change into SEA* (EPA, 2015) and *Developing and Assessing Alternatives in SEA* (EPA, 2015) and guidance on the integration of environmental considerations is also available on the EPA site at <http://www.epa.ie/pubs/advice/ea/#.Vq9vd9Cv1aQ>.

### ***Chapter 4 – Key Environmental Issues***

In *Section 4.2 Threats*, the potential implications of climate change should also be taken into account. In terms of potential effects of increased temperatures in summer, and potential increased rainfall and storm related events in winter, which may affect water quality, bank-side erosion/siltation and resultant impacts on biodiversity.

The monitoring and maintenance of existing drains beneath forest canopy opening directly into watercourses should be carried out to ensure they are appropriate to minimise runoff and associated water quality issues.

In relation to native woodland created on strategically selected sites adjoining watercourses etc. described in *Section 4.3 Opportunities*, there is merit in describing the criteria used to identify these sites.

Through implementing a water-related ecosystems services approach, the Plan can enhance the services and associated benefits which can be obtained, through promoting protection of water quality, habitat and species and provide additional functions such as recreation, tourism and amenity and flood alleviation.

In terms of opportunities for community engagement in developing appropriate measures to protect the FPM, the integrated catchment management approach being implemented in the IRD Duhallow Life Project ‘Integrated Catchment Management Approach’ would be worth considering and promoting in the Plan.

#### ***4.4 Biodiversity and Flora and Fauna***

In addition to the FPM SBMPs, the Plan should include consideration of interactions with other key relevant biodiversity related plans such as the National Biodiversity Action Plan and relevant County Biodiversity Action Plan(s), where available. This would be important, particularly in relation to habitats and species of particular significance and objectives/actions that may interact with the objectives/measures of the Plan.

Where SAC/ SPA Management Plans exist, these should also be considered in detail in terms of both synergies and likely conflicts with proposed forestry related activities. Additional aspects other than FPM to consider in the AA and SEA process include potential impacts of the forestry measures/practices on other designated habitats or protected species such as hen harrier populations.

The assessment criteria for the biodiversity related objective in *Table 5.5 Proposed Strategic Environmental Objectives* should also include criteria related to undesignated sites that are of conservation importance, and species of conservation importance that occur in dispersed populations across the wider landscape.

*4.7 Water* – the assessment of water related aspects should consider biological and chemical status and also the hydrological regime of water bodies, and also take account of any available trend information in water quality in particular. The Plan should seek to focus on those measures required to meet the more demanding requirements of Favourable Conservation Status for FPM populations and should be informed by the 2<sup>nd</sup> cycle of WFD RBMP, currently under preparation and any related catchment / sub-catchment commitments.

It is recommended that strong links are made between the forestry measures proposed and the WFD specifically by focussing on ‘forestry-mitigating WFD measures’.

We also note that the Nore FPM subbasin is not currently considered a priority catchment on the basis of the prioritisation methodology employed. Given that this catchment contains the critically endangered protected species *Margueritifera Durovensis*, the Plan needs to ensure that robust mitigation measures are applied in any forest related activities/applications which may arise in this catchment area in particular.

In particular, high status waters need to be afforded adequate protection and the Plan should include specific measures to ensure high status water bodies are not compromised. Within CFMP catchments, where existing forestry developments have potential to impact on high or good status sites, more stringent controls may be required for clear-felling and harvesting related consents.

It would be useful to consider use of ‘*Natural Water Retention Measures*’, where appropriate, to deliver benefits in relation to WFD, Flooding and habitats. Further information in this regard is available at: <http://nwrms.eu/measures-catalogue>

The national CFRAMS programme (and associated individual CFRAMS and Flood Risk Management Plans – in preparations) should be taken into account; in particular in relation to the potential impact which flood risk management/ alleviation options may have on FPM catchments and associated water quality impacts in forestry areas. These (and possible associated interrelationships) should be reflected in forestry-related consenting procedures and associated assessments, restrictions and conditions.

## ***Chapter 5 – Key Scoping Issues***

When considering the identification, selection and assessment of environmental criteria in the SEA, specific “environmental significance” criteria should be applied in determining the relative significance of impacts identified relative to the level at which the Plan is set. The EPA emphasises the need to avoid planting on environmentally sensitive land in the absence of suitable forestry management and mitigating measures.

### ***Alternatives***

The approach to assessing the alternatives should include cumulative, synergistic, direct/indirect, positive/negative and temporal issues (short, medium and long term). It is possible that, rather than a single option being identified in the Plan as preferable, a suite of suitable relevant options may be chosen. Alternatives should ensure that a strong emphasis is placed on achieving/maintaining WFD High Status in water bodies which is critical to support FPM populations.

In considering and assessing alternatives, the alternatives proposed should be reasonable and realistic, clearly described and should be set at the appropriate strategic level at which the outputs from the

Plan will be implemented. Alternatives should be assessed against the relevant environmental objectives established for the key environmental aspects of the environment likely to be significantly affected. Clear justification should be provided for the selection of the preferred alternative/combination of alternatives.

#### Mitigation of significant effects

Where significant adverse effects are identified associated with the implementation of the outputs from the Plan, there should be a clear link with relevant and appropriate mitigation measure(s). The emphasis should, in the first instance, be on avoidance of significant adverse effects where possible.

#### Monitoring Proposals

Monitoring arrangements should be clearly set out along with responsibilities, frequency of monitoring, analysis, and reporting on monitoring. Monitoring arrangements should be sufficiently flexible so as to be able to react to unforeseen / unexpected events. Maximum use should be made of existing environmental monitoring programmes. To this effect, the results of the significant environmental monitoring required under the Water Framework Directive with respect to water quality should be used..

The monitoring arrangements and related monitoring programme for the implementation of the outputs of the Plan should include relevant and appropriate thresholds which should trigger when remedial action should be undertaken for the particular aspect of the environment being monitored.

The monitoring of “Habitat Quality” should be also considered, as appropriate, in relation to the biodiversity/flora/fauna environmental criteria.

*Section 5.2 Relationship with Legislation and Other Plans and Programmes* should also take into account the National (Climate Change) Mitigation Plan, currently being prepared. In addition FoodWise 2025 and the associated Implementation Plan (DAFM) should also be taken into account.

Potential transboundary significant effects that may arise should be considered and should include commitments where relevant to collaborate and co-ordinate forestry related activities and associated authorisations and monitoring at a plan level with the relevant Northern Ireland authorities.

The level at which this plan operates in the planning hierarchy of the DAFM should be described in the context of other high level plans and programmes. The level of engagement and inclusion of specific concerns from other key stakeholders such as the NPWS should be described.

The inclusion in section 5.3 *Strategic Environmental Objectives, Indicators and Targets*, of *Table 5.5 Proposed Strategic Environmental Objectives* is noted. It should be ensured that the assessment criteria considered are at an appropriate level and of specific relevance to the Plan. The targets and indicators and the monitoring programmes of the SEA should also be integrated and sufficiently flexible to provide for any specific sub-basin(s) monitoring requirements.

In *Table 5.5 Proposed Strategic Environmental Objectives*, Biodiversity, Flora and Fauna should also include the following under the third bullet point as follows “...Maintain or restore protected species, **including the FPM**, to favourable conservation status”

Similarly, under ‘Water’, the third bullet point should be updated as follows “...*Improve water body status to at least good status, as appropriate to achieve/maintain the **WFD quality status required to support and sustain FPM***”

## ATTACHMENT II(a) : Some Useful Environmental Resources

| Environmental Criteria          | Selected Resources  |
|---------------------------------|---|
| State of Environment            | <a href="http://www.epa.ie/irelandsenvironment">http://www.epa.ie/irelandsenvironment</a>   |
| Surface Water                   | <a href="http://www.wfdireland.ie/index.html">http://www.wfdireland.ie/index.html</a><br><a href="http://www.epa.ie/pubs/reports/water/waterqua/">http://www.epa.ie/pubs/reports/water/waterqua/</a><br><a href="https://www.edenireland.ie/">https://www.edenireland.ie/</a> (EPA WFD Application)   |
| Ground Water                    | <a href="http://j.mp/gsigroundwater">http://j.mp/gsigroundwater</a><br><a href="http://www.epa.ie/downloads/pubs/water/ground/">http://www.epa.ie/downloads/pubs/water/ground/</a><br><a href="https://www.edenireland.ie/">https://www.edenireland.ie/</a> (EPA WFD Application)   |
| Drinking Water                  | <a href="http://www.epa.ie/pubs/reports/water/drinking/">http://www.epa.ie/pubs/reports/water/drinking/</a>   |
| Waste Water                     | <a href="http://www.epa.ie/pubs/reports/water/wastewater/">http://www.epa.ie/pubs/reports/water/wastewater/</a>   |
| Bathing Water                   | <a href="http://www.epa.ie/pubs/reports/water/bathing">http://www.epa.ie/pubs/reports/water/bathing</a><br><a href="http://splash.epa.ie/#">http://splash.epa.ie/#</a>  |
| Marine                          | <a href="http://www.marine.ie/Home/site-area/home/home">http://www.marine.ie/Home/site-area/home/home</a>   |
| Biodiversity                    | <a href="http://www.npws.ie/guidance-appropriate-assessment-planning-authorities">http://www.npws.ie/guidance-appropriate-assessment-planning-authorities</a><br><a href="http://www.npws.ie/publications">http://www.npws.ie/publications</a><br><a href="http://maps.biodiversityireland.ie/#/Home">http://maps.biodiversityireland.ie/#/Home</a> |
| Flood Prevention and Management | <a href="http://www.floodmaps.ie">www.floodmaps.ie</a><br><a href="http://www.cfram.ie">www.cfram.ie</a>  |
| Air                             | <a href="http://www.epa.ie/pubs/reports/air/quality/">http://www.epa.ie/pubs/reports/air/quality/</a>   |
| Climate                         | <a href="http://www.environ.ie/en/Environment/Atmosphere/ClimateChange/">http://www.environ.ie/en/Environment/Atmosphere/ClimateChange/</a><br><a href="http://www.epa.ie/pubs/reports/research/climate/">http://www.epa.ie/pubs/reports/research/climate/</a>  |
| Waste Management                | <a href="http://www.epa.ie/pubs/reports/waste/">http://www.epa.ie/pubs/reports/waste/</a>   |
| Radon                           | <a href="http://www.epa.ie/radiation/radonmap">http://www.epa.ie/radiation/radonmap</a>   |
| Energy Conservation             | <a href="http://www.sei.ie">www.sei.ie</a>  |
| Landscape Character Assessment  | <a href="http://www.heritagecouncil.ie/">http://www.heritagecouncil.ie/</a>   |
| Geology / Geomorphology         | <a href="http://www.gsi.ie/Mapping.htm">http://www.gsi.ie/Mapping.htm</a>   |
| Transportation                  | <a href="https://www.nationaltransport.ie/planning-policy/">https://www.nationaltransport.ie/planning-policy/</a><br><a href="http://www.nra.ie/environment/">http://www.nra.ie/environment/</a>  |
| SEA                             | <a href="http://www.edenireland.ie">www.edenireland.ie</a> (SEAGIS Reporting Tool and WFD Application)<br><a href="http://www.epa.ie/pubs/advice/ea/">http://www.epa.ie/pubs/advice/ea/</a>   |
| EIA                             | <a href="http://www.environ.ie/en/DevelopmentHousing/PlanningDevelopment/EnvironmentalAssessment/EIASEAGuidance">http://www.environ.ie/en/DevelopmentHousing/PlanningDevelopment/EnvironmentalAssessment/EIASEAGuidance</a>   |

**ATTACHMENT II (b):  
Suggested High Level Plans/Programmes/Strategies (PPS) to Consider\***

| <b>Environmental Criteria</b> | <b>Suggested High Level Plans/Programmes/Strategies (PPS)</b>   |
|-------------------------------|---|
| <b>National</b>               | <ul style="list-style-type: none"> <li>- National Spatial Strategy (DECLG)</li> <li>- National Development Plan (DECLG)</li> <li>- Rural Development Programme (DECLG)</li> <li>- National CFRAMS Programme (DECLG)</li> <li>- National Bioenergy Plan - being prepared (DCENR)</li> <li>- Food Harvest 2020 / FoodWise 2025 (DAFM)</li> <li>- National Forestry Programme / Forestry Policy Review (DAFM)</li> <li>- Seafood Operation Programme / Strategic Aquaculture Programme (DAFM)</li> <li>- National Peatland Strategy, SAC Raised Bog Management Plan (DAHG)</li> <li>- National Biodiversity Plan (DAHG)</li> <li>- Water Services Strategic Plan (Irish Water)</li> <li>- Capital Investment Programme (Irish Water)</li> <li>- State of the Environment Report 2012 (and 2016 Report being prepared) (EPA)</li> </ul> |
| <b>Regional</b>               | <ul style="list-style-type: none"> <li>- Regional Planning Guidelines</li> <li>- River Basin Management Plans ( and Programme of Measures)</li> <li>- Relevant CFRAMS</li> <li>- Pollution Reduction Programmes for Shellfish Waters</li> <li>- Regional Waste Management Plans</li> <li>- Shannon Integrated Framework Plan (SIFP)</li> <li>- County Renewable Energy / Wind Energy Strategies</li> </ul>  |
| <b>Other</b>                  | <ul style="list-style-type: none"> <li>- Relevant County Development Plans</li> <li>- Any relevant transboundary sectoral plans or land use plans that may influence or be influenced by this Plan.</li> </ul>  |

**Note: \*Plan-makers should consider and identify key relevant PPS in the SEA. List of Plans is indicative only and some may not always be relevant to a particular plan.**