

# **VOLUME E: APPROPRIATE ASSESSMENT REPORT**

## **STAGE 1: SCREENING FOR APPROPRIATE ASSESSMENT**

**OCTOBER 2019**



INIS Environmental Consultants Ltd  
Planning and Environmental Consultants

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Produced by INIS Environmental Consultants Ltd., Suite 11, Shannon Commercial Properties, Information Age Park,  
Gort Road, Ennis, Co. Clare

T: +353 (0) 65 6892441, M: +353 (0) 87 2831725,

f. [www.facebook.com/inis.env](https://www.facebook.com/inis.env)



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**Volume E**  
**APPROPRIATE ASSESSMENT REPORT**

**Appropriate Assessment Report**  
**for**  
**Upperchurch Windfarm Grid Connection**

**Stage 1**  
**Screening for Appropriate Assessment**

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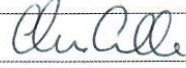




## Quality Assurance

The findings outlined within this report and the data we have provided are to our knowledge true and express our bona fide professional opinions. This report has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Code of Professional Conduct. Where pertinent, CIEEM Guidelines used in the preparation of this report include the *Guidelines for Ecological Report Writing* (CIEEM, 2017), *Guidelines for Preliminary Ecological Appraisals* (CIEEM, 2015) and *Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine*, (CIEEM, 2018). CIEEM Guidelines include model formats for Preliminary Ecological Appraisal and Ecological Impact Assessment. Also, where pertinent, evaluations presented herein take cognisance of recommended Guidance from the EPA such as *Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports* (EPA, 2017), and in respect of European Sites, *Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC* (European Commission, 2018).

Due cognisance has been given at all times to the provisions of the *Wildlife Act (1976)*, the *Wildlife (Amendment) Act (2000)*, the *European Union (Natural Habitats) Regulations (SI 378/2005)*, the *European Communities (Birds and Natural Habitats) Regulations (2011)*, EU Regulation on Invasive Alien Species under EU Regulation 1143/2014, the *EU Birds Directive 2009/147/EC* and the *EU Habitats Directive 92/43/EEC*.

No method of assessment can completely remove the possibility of obtaining partially imprecise or incomplete information. In line with Best Practice, any limitation to the methods applied or constraints however are clearly identified within the main body of this document.

Version	Date		Name	Signature
1	30/10/2019	Report prepared by:	Chris Cullen DFE ACIEEM	
1	04/12/2019	Report checked by:	Jennifer Pearson MSc ACIEEM	
1	04/12/2019	Report signed off by:	Howard Williams CEnv, MCIEEM CBiol MRSB MIFM	
Title		Appropriate Assessment Report for Upperchurch Windfarm Grid Connection Part 1 - Stage 1 Screening for Appropriate Assessment		

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## 1 INTRODUCTION

This Screening for Appropriate Assessment Report has been prepared by Chris Cullen of Inis Environmental Consultants with contributions from Howard Williams, Dr. Alex Copland, Mr. Daireann McDonnell, Ms. Jennifer Pearson and Mr. Donncha O Cathain, and contains information which will facilitate the Competent Authority to carry out an Appropriate Assessment for the Upperchurch Windfarm (UWF) Grid Connection project.

The preparation of this Screening for Appropriate Assessment Report has had regard to;

- EU Habitats Directive (92/43/EEC),
- EU Birds Directive (Council Directive (2009/147/EC)
- the Part XAB of the Planning and Development Act 2000,
- European Communities (Birds and Natural Habitats) Regulations 2011,
- Assessment of Plans and Projects significantly affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, European Commission 2001,
- Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government (2010).
- Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats Directive' 92/43/EEC, European Commission, 2018.

### 1.1 Appropriate Assessment Process

Under Article 6(3) of the Habitats Directive, an Appropriate Assessment of the implications of a project for the European Site concerned implies that, before a project is approved, all the aspects of the project which can, either individually or in combination with other plans or projects, affect the conservation objectives of that European Site must be identified, in the light of the best scientific knowledge in the field. The competent national authorities are to authorise an activity on the protected site only if they have made certain that it will not adversely affect the integrity of any European site.

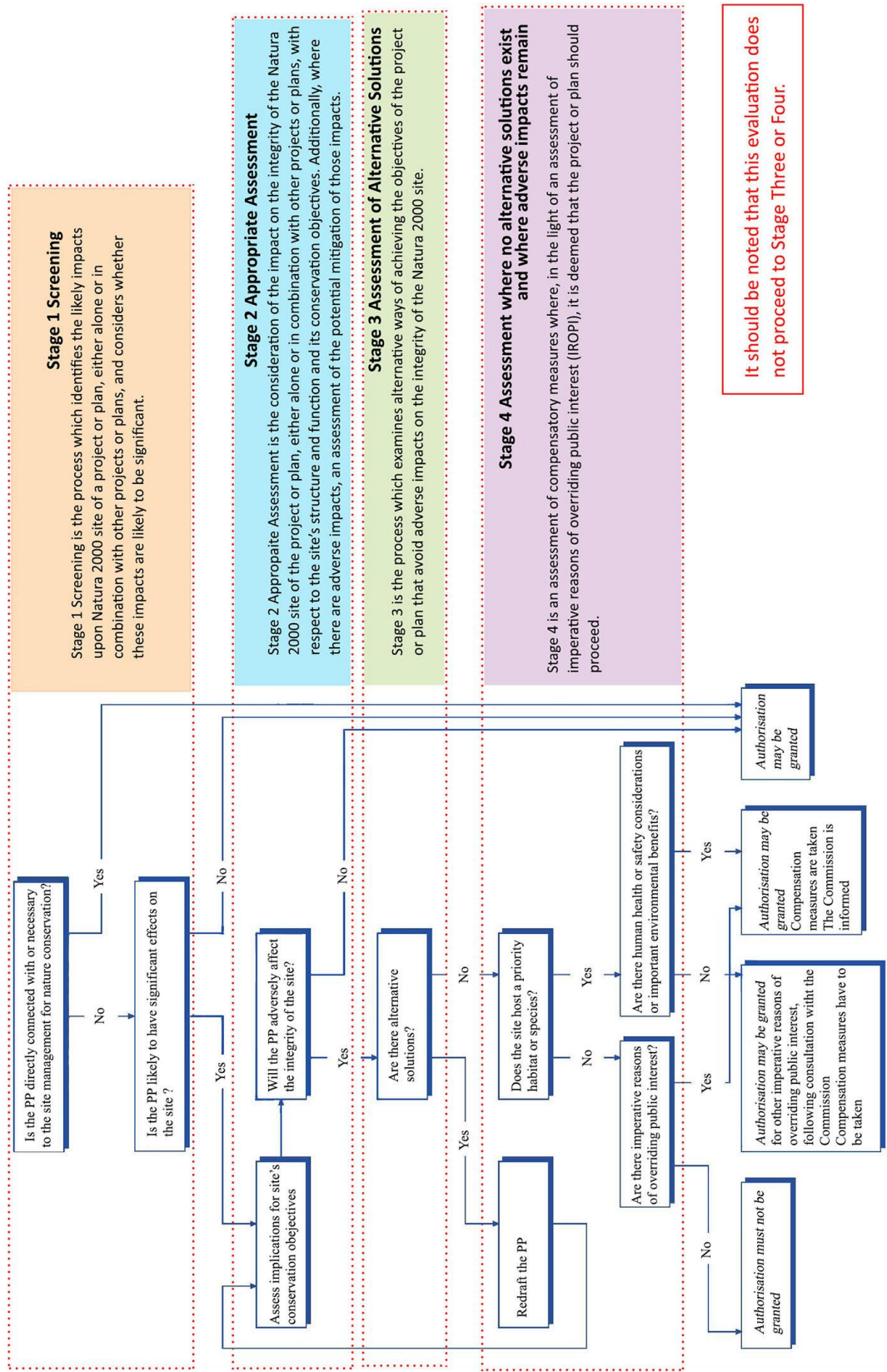
#### 1.1.1 Stages of the Appropriate Assessment Process

Appropriate Assessment involves a number of steps and tests that are applied using a stage-by-stage approach. Each step or stage in the assessment process precedes and provides a basis for other steps. The four stages in an Appropriate Assessment (AA), as outlined in EC Guidance on Assessment of Projects<sup>1</sup> are illustrated in the following flow chart (over).

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<sup>1</sup> Assessment of Plans and Projects significantly affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, European Commission 2001

STAGES OF THE APPROPRIATE ASSESSMENT PROCESS FOR A PLAN OR PROJECT (PP)

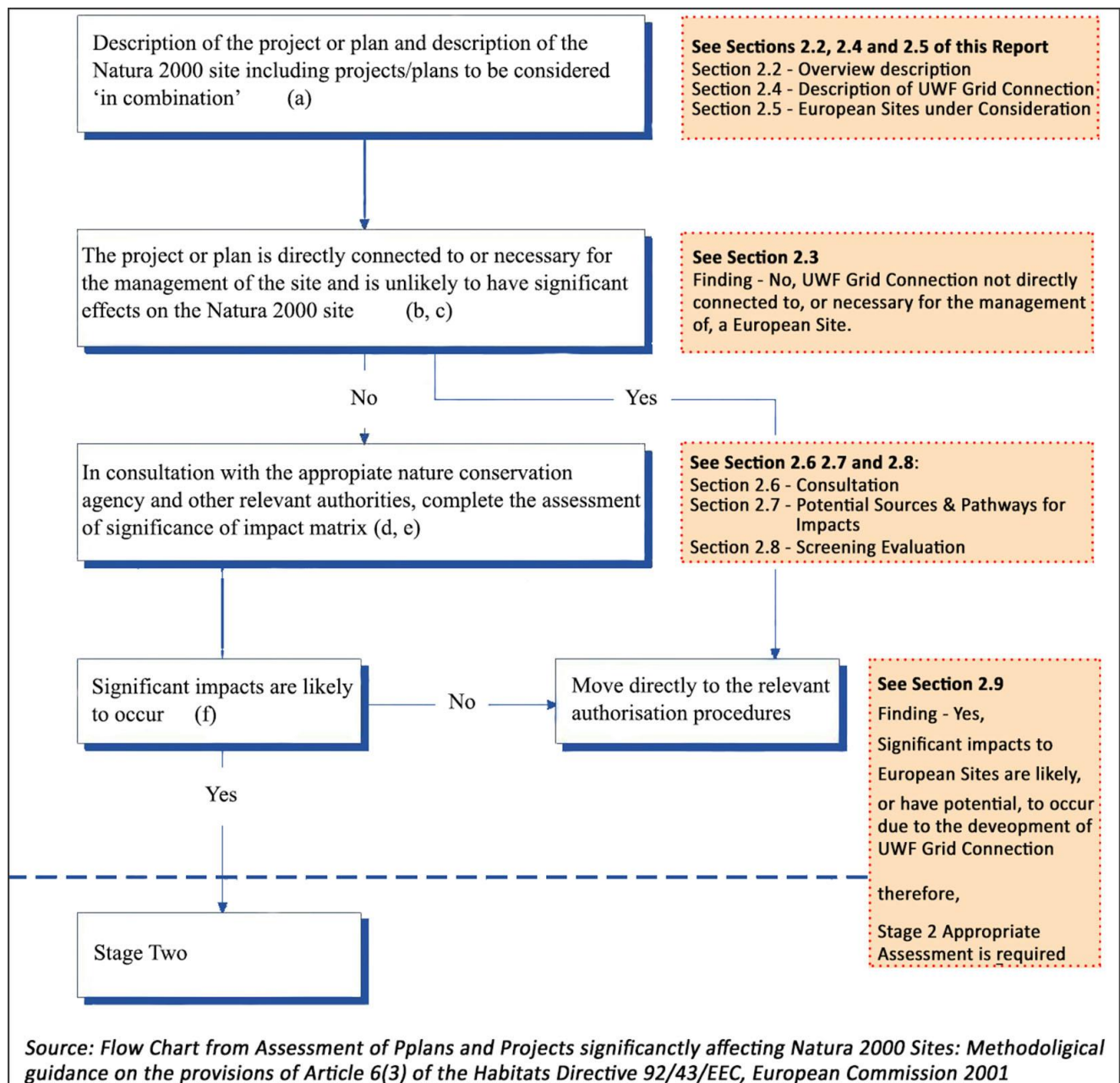


Source: Flow Chart and Description Notes from Assessment of Plans and Projects significantly affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, European Commission 2001

## 2 STAGE 1: SCREENING

### 2.1 Screening Evaluation Process

The Screening process examines the potential for the UWF Grid Connection project, either alone or in combination with other projects or plans, upon a European site and considers whether it can be objectively concluded that these effects will not be significant. The Screening evaluation comprises four steps, as outlined in the diagram below:



## 2.2 Screening: Overview of the UWF Grid Connection Project

### 2.2.1 Overview

Upperchurch Windfarm (UWF) has already received planning permission but is not yet constructed. This application is for grid connection works (UWF Grid Connection) to connect the windfarm to the national electricity system.

UWF Grid Connection comprises two main parts;

- the first part is the proposed '**110kV UGC**' which is a 30.5km long underground electrical cabling network at high voltage (110 kilovolts (kV)), to connect the already consented Upperchurch Windfarm substation at Knockcurraghbola Commons townland to a new proposed substation at Mountphilips townland;
- the second part is a proposed 110kV electrical substation '**Mountphilips Substation**', which will manage and control the power coming (via the 110kV UGC) from the consented Upperchurch Windfarm, and from Mountphilips Substation the power will be transported to national electricity system, at an adjacent point on the existing Killonan to Nenagh 110kV overhead line.

### 2.2.2 Purpose

The purpose of UWF Grid Connection is to connect the Consented UWF Substation at Upperchurch Windfarm to the now proposed substation at Mountphilips. The Mountphilips substation will in turn, be connected to the existing, adjacent Killonan - Nenagh 110kV overhead line and thereby export electricity, from Upperchurch Windfarm when constructed and operational, to the national grid.

## 2.3 Screening: Is the Project Directly Connected to or Necessary for Management of a European Site?

For a project or plan to be 'directly connected with or necessary to the management of the site', the 'management' component must refer to management measures that are for conservation purposes, and the 'directly' element refers to measures that are solely conceived for the conservation management of a site and not direct or indirect consequences of other activities.

**Finding:** No, UWF Grid Connection is not directly connected to or necessary for the management of any European Site.



## 2.4 Screening: Description of the UWF Grid Connection Project

### 2.4.1 Overview of UWF Grid Connection

**Mountphilips Substation:** The new substation is proposed for a location adjacent to the existing Killonan - Nenagh 110kV overhead line in agricultural grassland in Mountphilips townland, 2km north of Newport, 4km south of Birdhill, 17km north east of Limerick City and 23km west of the Upperchurch Windfarm.

The new 110kV electrical substation will comprise a compound, measuring 10290m<sup>2</sup> in area, which will contain a control building; 110kV busbars; circuit breakers; line disconnects; current and voltage measuring equipment; cable chairs; surge arresters; lightening protection monopoles and other electrical apparatus. The compound will be surrounded by a secure palisade fence. The substation compound will be located c.130m east of the Killonan – Nenagh 110kV overhead line, at its closest point. The new substation will also comprise 2 No. End Masts which will be constructed under the Killonan – Nenagh 110kV overhead line, these End Masts will be connected to the overhead line and will also connect to the electrical equipment in the compound via underground cable.

**Mountphilips - Upperchurch 110kV UGC:** The 110kV UGC will connect Mountphilips Substation to the Consented UWF Substation at the consented Upperchurch Windfarm, through the installation of underground cables. The 110kV UGC is 30.5km in length, and is **mostly located along the Regional Road R503 (Limerick to Thurles Road)**. The route follows the Local Road network from the entrance off the public road for Mountphilips Substation at Coole, to a point on the eastern outskirts of Newport Town at Newport GAA Club, thus avoiding Newport Town. From that point, the route follows the R503 eastwards for 22.1km as far as the turn-off at Knockmaroe townland, onto Local Road L2264-50 (Borrisoleigh Road). Then along the local road network, and then along a private paved road to the Consented UWF Substation in Knockcurraghbola Commons. This route west to east is through the townlands of Mountphilips, Coole, Freagh, Foildarrig, Oakhampton, Rockvale, Mackney (O'Brien), Mackney (Bourke), Ahane, Newross, Castlewaller, Carrowkeale, Tullow, Cooldrisla, Derryleigh, Kilnacappagh, Scraggeen, Derrygareen, Inchadrinagh, Knockancullenagh, Fanit, Lackamore, Tooreenbrien Upper, Tooreenbrien Lower, Reardnogy Beg, Reardnogy More, Shanballyedmond, Bournadomeeny, Coonmore, Foildarragh, Kilcommon, Loughbrack, Knocknabansha, Knockmaroe, Knockcurraghbola Crownlands and Knockcurraghbola Commons.

The 110kV UGC will be installed in trenches, which will be laid with ducts through which the electrical cables and communications cables will be pulled. The cable lengths will be pulled through and joined together in joint bay chambers at 38 No. Joint Bay locations. The ducts will be surrounded by concrete and the trench backfilled with aggregate. Outside the Mountphilips Substation site the top of the trench will be reinstated with road surfacing material according to Local Authority specifications. The only surface expression of the 110kV UGC will be the man-hole type covers over the Joint Bays and the over-ground identification marker posts and marker plates.

**Ancillary Works at Mountphilips Substation site** will support the construction of UWF Grid Connection and will include the construction and use of a Temporary Compound at Mountphilips; construction of a new Permanent Entrance at Coole townland (including the provision of sightlines at an existing farm entrance) and the construction of a Permanent Access Road from the new entrance to the proposed substation at Mountphilips townland; ancillary works will also include replacement of watercourse crossing structures; installation of drainage systems at Mountphilips Substation, around the Temporary Compound and along the new Access Road; fencing; provision of electricity supply to Mountphilips substation; excavation and

reinstatement and disposal of spoil; hedgerow/tree removal at Mountphilips and hedgerow replanting and site reinstatement.

**Relevant Figures:** *(contained in Appendix A9 Accompanying Figures)*

AA Figure 1: Location of the UWF Grid Connection on OSI Discovery Mapping

AA Figure 2: Layout of the 110kV UGC outside of the Mountphilips Substation Site (Overview & Maps 1 to 4)

#### 2.4.2 UWF Grid Connection: Overview of the Construction Stage

The construction process for the UWF Grid Connection is a relatively straightforward civil build. Construction personnel will work on a number of crews or teams, with one crew working at the Mountphilips Substation compound and a number of crews at different locations along the route of the 110kV UGC. The workers will arrive and depart daily to and from the temporary compound at Mountphilips Substation site, parking spaces will be provided at the temporary compound. The various crews will then be transported to the specific works location by means of 'crew-cab' 4x4 vehicles or similar. Bulk deliveries of materials will be delivered to the temporary compound and stored there until needed. Materials needed at works locations will be transported from the Temporary Compound by way rigid body vehicle or tractor and trailer. Aggregate and concrete will be delivered directly to works locations.

All construction works will take place within the construction works area boundary. The 'Mountphilips Substation site' located in the townlands of Mountphilips and Coole, consists of the area between the End Masts and the widened site entrance off the public road, and includes the proposed Mountphilips Substation Compound, End Masts, new access road, permanent entrance, the ancillary works and the western extent of the 110kV UGC within this area. The construction works area boundary at the Mountphilips Substation site will be an area larger than the permanent footprint. Outside of the Mountphilips Substation site, all 110kV UGC works will be carried out entirely in (or from) the road pavement/built environment, and with the exception of culvert replacement works, the construction works area boundary will not extend into the verges/natural environment. At culvert replacement works location; a minimal area of roadside vegetation may be required to be cleared, and then reinstated, to facilitate the replacement of the culvert. However, all works will take place from the road pavement.

#### 2.4.3 UWF Grid Connection: Overview of the Operational Stage

Following commissioning, the UWF Grid Connection will be taken in charge by ESB Networks and both the Mountphilips Substation and the Mountphilips – Upperchurch 110kV UGC will become part of the national electricity network. The new asset will be managed and operated by ESB Networks.

**Operational Personnel & Activities:** It is expected that scheduled inspection and maintenance activities at Mountphilips Substation, testing of the 110kV UGC at joint bay locations (link boxes) and visual inspections along the route of the 110kV UGC route will be carried out by ESB Networks personnel (2 men crews) over a total of 13 days per year. Very infrequent planned maintenance or unplanned repairs may be required for the 110kV UGC, these are expected to comprise the opening of a number of joint bays to pull out/replace cables, these works are expected to involve the reopening of some (not all) Joint Bay chambers and may also include cable pulling activities from the joint bay chambers, and reinstatement of road surface over the chambers, following these works. It is expected that one crew with c.6 ESB Networks personnel would be required for 1 week – 2 weeks duration, depending on the nature of the repairs work.

**Duration of the Operational stage:** The UWF Grid Connection will be operated on a **permanent** basis by ESB Networks.

#### 2.4.4 Application of Protection Measures in the Screening Evaluation

The Screening evaluation to inform the AA process, presented in Section 2.8 and Section 2.9 below is **carried out in the absence of any protective measures** for UWF Grid Connection which may be required or prescribed to avoid or reduce harmful effects on designated European Sites.

#### 2.4.5 Other Projects included in Screening evaluations in relation to in-combination impacts

The following Other Projects are included in the Screening evaluation in relation to in-combination impacts with UWF Grid Connection:

**All of the Other Element projects of the Whole UWF Project** are included in the cumulative evaluations – i.e.

- Upperchurch Windfarm (consented),
- UWF Replacement Forestry (consented),
- UWF Related Works (currently under appeal to An Bord Pleanála), and
- UWF Other Activities (do not require planning).

and,

**Other unrelated projects** which are located within the water sub-catchments of the UWF Grid Connection or within 2km of the Slievefelim to Silvermines SPA boundary and which were scoped in for cumulative evaluation (see [Appendix A2 Scoping of Other Unrelated Projects](#)), these projects are:

- existing Rear Cross Quarry,
- existing Milestone Windfarm,
- consented Newport Town Park,
- consented Castlewaller Windfarm (and potential grid connection),
- *potential* Bunkimalta Windfarm (and consented grid connection),
- proposed Quarry at Curraghduff, and

the following **land-use activities** which occur in the surrounding area are also relevant to the cumulative evaluations:

- Agriculture
- Forestry
- Turf-Cutting.

## 2.5 European Sites under consideration

### 2.5.1 Distance of the Development to European Sites

For the UWF Grid Connection, a zone of impact, identified as the range of potential project effects extending from the proposed construction and operational elements, has been assigned. This takes account of all parts of the UWF Grid Connection project and the pathways of connectivity to designated European Sites within this zone.

Taking account of the project impact pathways and the sensitivities of designated European Sites in the wider area, it was determined that pathways for connectivity were limited to those sites occurring within a 15km radial distance. This has been applied around UWF Grid Connection and further is extended to include a 15km area around all of the Other Elements of the Whole UWF Project in order to establish whether or not the UWF Grid Connection either alone or in-combination with the Other Elements of the Whole UWF Project is likely, or has potential, to have a significant effect on a European Site.

There are 23 European Sites within the extended Study Area - nineteen Special Areas of Conservation (SAC) and four Special Protection Area (SPA for birds). The locations of these European Sites are illustrated in **AA Figure 3: European Sites within the extended Study Area for UWF Grid Connection**, with the distances from the Development provided in **Table 1**. Those distances presented which are greater than 15km refer to European Sites which come under consideration for cumulative/in combination effects with other elements of the Whole UWF Project.

**Table 1: Proximity of European Sites to the UWF Grid Connection project**

	European Site	Distance from UWF Grid Connection
1	Slievefelim to Silvermines Mountain SPA (004165)	0m
2	Lower River Shannon SAC (002165)	0 m
3	Lower River Suir SAC (002137)	4.3 km
4	Anglesey Road SAC (002125)	2.9 km
5	Bolingbrook Hill SAC (002124)	8.5 km
6	Keeper Hill SAC (001197)	4.3 km
7	Silvermine Mountain SAC (000939)	9.4 km
8	Silvermine Mountain West SAC (002258)	7.7 km
9	Philipston Marsh SAC (001847)	12.0 km
10	Kilduff, Devilsbit Mountain SAC (000934)	16.8 km
11	Clare Glen SAC (000930)	1.6 km
12	Glenstal Wood SAC (001432)	2.6 km
13	Slieve Bernagh Bog SAC (002312)	11.5 km
14	Lough Derg, North-East Shore SAC (002241)	26.3 km
15	Glenomra Wood SAC (001013)	11.3 km



	European Site	Distance from UWF Grid Connection
16	Tory Hill SAC (000439)	26 km
17	Ratty River Cave SAC (002316)	24.5 km
18	Askeaton Fen Complex SAC (002279)	31 km
19	Barrigone SAC (000432)	44 km
20	Curraghchase Woods SAC (000174)	33.4 km
21	Lough Derg (Shannon) SPA (004058)	10.2 km
22	River Shannon and River Fergus Estuaries SPA (004077)	16.9 km
23	Stack's to Mullaghareirk Mountains, West Limerick Hills & Mount Eagle SPA (004161)	50.9 km

The Qualifying Interests/Special Conservation Interests and locational context for each of the 23 European Sites examined in this Screening Report are provided in **Table 2**.

The Site Synopsis and Conservation Objectives for each site are available in full on the National Parks & Wildlife Service website at <https://www.npws.ie/protected-sites>

## 2.5.2 Description of European Sites under consideration

A brief description of the 23 no. European Sites within the extended study is provided in Table 2 below. The Site Synopsis and Conservation Objectives for each site are available in full on the National Parks & Wildlife Service website at <https://www.npws.ie/protected-sites>

**Table 2: Description of European Sites within the study area for UWF Grid Connection**

	European Site Name and Code	Qualifying Interest /Special Conservation Interest and Code *denotes a priority habitat	Summary Description (from Site Synopsis)	Data Source Last accessed online on 25/06/2019
1	Slievefelim to Silvermines SPA (004165)	Hen Harrier ( <i>Circus cyaneus</i> ) (A082)	This SPA is an upland site located in Counties Tipperary and Limerick. It includes the peaks Keeper Hill, Slieve Felim, Knockstanna, Knockappul, Mother Mountain, Knockteige, Cooneen Hill and Silvermine Mountain. The site is underlain mainly by sandstones of Silurian age. Several important rivers rise within the site, including the Mulkear, Bilboa and Clare. The Slievefelim to Silvermines SPA is of ornithological importance because it provides nesting and foraging habitat for breeding Hen Harrier. The annex I species Merlin and Peregrine have also been recorded on site.	Sourced from NPWS <i>Conservation objectives for Slievefelim to Silvermines Mountains SPA [004165]. Generic Version 6.0.</i> Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. [Version dated 21/02/2018]
2	Lower River Shannon SAC (002165)	Alluvial Forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)* (91E0) Coastal Lagoons* (1150) Sandbanks which are slightly covered by sea water all the time (1110) Estuaries (1130) Mudflats and sand flats not covered by seawater at low tide (1140) Large shallow inlets and bays (1160) Reefs (1170)	This very large site stretches along the Shannon valley from Killaloe in Co. Clare to Loop Head/ Kerry Head. The site encompasses the Shannon, Feale, Mulkear and Fergus estuaries, the freshwater lower reaches of the River Shannon (between Killaloe and Limerick), the freshwater stretches of much of the Feale and Mulkear catchments and the marine area between Loop Head and Kerry Head. Rivers within the sub-catchment of the Feale include the Gale, Smearlagh, Oolagh, Allaughan, Owveg, Clydagh, Caher, Breanagh and Glenacorney. Rivers within the sub-catchment of the Mulkear include the	Sourced from NPWS <i>Conservation Objectives: Lower River Shannon SAC 002165. Version 1.0.</i> National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. [Version dated 07/08/2012]

	European Site Name and Code	Qualifying Interest /Special Conservation Interest and Code *denotes a priority habitat	Summary Description (from Site Synopsis)	Data Source Last accessed online on 25/06/2019
		<p>Perennial Vegetation of stony banks (1220)</p> <p>Vegetated sea cliffs of the Atlantic and Baltic coasts (1230)</p> <p><i>Salicornia</i> and other annuals colonizing mud and sand (1310)</p> <p>Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>) (1330)</p> <p>Mediterranean salt meadows (<i>Juncetalia maritimi</i>) (1410)</p> <p>Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation (3260)</p> <p><i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) (6410)</p> <p><b>Annex II Species:</b></p> <p>Freshwater Pearl-Mussel (<i>Margaritifera margaritifera</i>)(1029)</p> <p>Atlantic Salmon (<i>Salmo salar</i>) ((only in fresh water) (1106)</p> <p>Sea Lamprey (<i>Petromyzon marinus</i>) (1095)</p> <p>Brook Lamprey (<i>Lampetra planeri</i>) (1096)</p> <p>River Lamprey (<i>Lampetra fluviatilis</i>) (1099)</p> <p>Bottlenose Dolphin (<i>Tursiops truncatus</i>) (1349)</p> <p>Otter (<i>Lutra lutra</i>) (1355)</p>	<p>Killeenagarraiff, Annagh, Newport, the Dead River, the Bilboa, Glashacloonaraveela, Gortnageragh and Cahernahallia. This site contains the only known resident population of Bottle-nosed Dolphin in Ireland and all three Irish lamprey species. This site supports more wintering wildfowl and waders than any other site in the country and supports a large number of migratory birds.</p>	

	European Site Name and Code	Qualifying Interest /Special Conservation Interest and Code *denotes a priority habitat	Summary Description (from Site Synopsis)	Data Source Last accessed online on 25/06/2019
3	Lower River Suir SAC (002137)	<p>Alluvial Forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)* (91E0)</p> <p>Yew Woodlands <i>Taxus baccata</i> woods of the British Isles* (91J0)</p> <p>Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) (1330)</p> <p>Mediterranean salt meadows (<i>Juncetalia maritimi</i>) (1410)</p> <p>Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation (3260)</p> <p>Hydrophilous tall herb fringe communities of plains and of the montane (6430)</p> <p>Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles (91A0)</p> <p>Freshwater Pearl-Mussel (<i>Margaritifera margaritifera</i>) (1029)</p> <p>White-clawed Crayfish (<i>Austropotamobius pallipes</i>)(1092)</p> <p>Sea Lamprey (<i>Petromyzon marinus</i>) (1095)</p> <p>Brook Lamprey (<i>Lampetra planeri</i>) (1096)</p> <p>River Lamprey (<i>Lampetra fluviatilis</i>) (1099)</p> <p>Twaite Shad (<i>Alosa fallax fallax</i>) (1103)</p> <p>Salmon (<i>Salmo salar</i>) (1106)</p> <p>Otter (<i>Lutra lutra</i>) (1355)</p>	<p>This SAC consists of the freshwater stretches of the River Suir immediately south of Thurles, the tidal stretches as far as the confluence with the Barrow/Nore immediately east of Cheekpoint in Co. Waterford, and many tributaries including the Clodiagh in Co. Waterford, the Lingaun, Anner, Nier, Tar, Aherlow, Multeen and Clodiagh in Co. Tipperary. The Suir and its tributaries flow through the counties of Tipperary, Kilkenny and Waterford. The presence of two legally protected plants (Flora (Protection) Order, 1999) and the ornithological importance of the site adds to the ecological interest and importance of the site.</p>	<p>Sourced from NPWS <i>Conservation Objectives: Lower River Suir SAC 002137. Version 1.</i> National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. [Version dated 28/03/2017]</p>

	European Site Name and Code	Qualifying Interest /Special Conservation Interest and Code *denotes a priority habitat	Summary Description (from Site Synopsis)	Data Source Last accessed online on 25/06/2019
4	Anglesey Road SAC (002125)	Species-rich <i>Nardus</i> Grassland on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)* (6230)	Anglesey Road is a steep-sided valley which extends approximately 1.8 km along the Multeen River to the north of Hollyford village, Co. Tipperary. It contains a range of habitats and species. It is of particular importance for the good quality examples of species rich, unimproved, upland grassland found.	Sourced from NPWS <i>Conservation objectives for Anglesey Road SAC [002125]. Generic Version 6.0.</i> Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. [Version dated 21/02/2018]
5	Bolingbrook Hill SAC (002124)	Species-rich <i>Nardus</i> Grassland on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)* (6230) Northern Atlantic Wet Heath with <i>Erica tetralix</i> (4010) European Dry Heaths (4030)	This upland SAC is approximately 6 km south-east of Silvermines village in Co. Tipperary. It comprises Bolingbrook Hill and the nearby eastern slopes of Silvermine Mountains in Curryquin and Mucklin townlands. Good quality examples of species-rich, unimproved upland grassland are present within this site	Sourced from NPWS <i>Conservation objectives for Bolingbrook Hill SAC [002124]. Generic Version 6.0.</i> Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. [Version dated 05/07/2018]
6	Keeper Hill SAC (001197)	Blanket Bogs (* if active bog) (7130) Northern Atlantic Wet Heath with <i>Erica tetralix</i> (4010)	This SAC is situated between the Silvermines and Slieve Felim Mountains, 13 km south of Nenagh in Co. Tipperary. Consisting of a steep peak of Old Red Sandstone is notably higher than any of the surrounding upland areas. The site includes the summit and slopes above 250 m which have not yet been afforested. Peregrine Falcon, an Annex I species breeds within the site. Red Grouse occur amongst the tall heather east of the summit	Sourced from NPWS <i>Conservation Objectives: Keeper Hill SAC 001197. Version 1.</i> National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht. [Version dated 17/10/2017]
7	Silvermine Mountain SAC (000939)	Species-rich <i>Nardus</i> Grassland on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)* (6230) Northern Atlantic Wet Heath with <i>Erica</i>	This small site is situated on the northern slopes of the Silvermine Mountains, 1 km south-east of Silvermines village in Co. Tipperary. The geology of the area is sandstone of different ages - older Silurian on the central part of the mountain, while	Sourced from NPWS <i>Conservation objectives for Silvermine Mountains SAC [000939]. Generic Version 6.0.</i> Department of Arts,

	European Site Name and Code	Qualifying Interest /Special Conservation Interest and Code *denotes a priority habitat	Summary Description (from Site Synopsis)	Data Source Last accessed online on 25/06/2019
		<i>tetralix</i> (4010)	the outer parts are composed of yellowish and red sandstones of Devonian age. The rare Small-white Orchid is also present on site and adds significantly to the value of the site.	Heritage, Regional, Rural and Gaeltacht Affairs. [Version dated 05/07/2018]
8	Silvermine Mountain West SAC (002258)	Northern Atlantic Wet Heath with <i>Erica tetralix</i> (4010) European Dry Heath (4030) Calaminarian grasslands of the <i>Violetalia calaminariae</i> (6130)	This SAC is situated to the north of Keeper Hill, about 10 km south of Nenagh in Co. Tipperary. A ridge composed of Old Red Sandstone is visibly very prominent in the landscape when viewed from the Nenagh to Limerick road. The site is of conservation importance for its heath and grassland vegetation, and as a foraging area for Hen Harrier, and is one of the only extensive unplanted uplands remaining in north Tipperary.	Sourced from NPWS <i>Conservation objectives for Silvermines Mountains West SAC [002258]. Version 1</i> Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. [Version dated 10/11/2017]
9	Philipston Marsh SAC (001847)	Transition mires and quaking bogs (7140)	This site is a small wetland and represents one of only two examples of calcareous fen and mire vegetation in the Mulkear River catchment.	Sourced from NPWS <i>Conservation objectives for Philipston Marsh SAC [001847]. Version 1.</i> Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. [Version dated 12/01/2018]
10	Kilduff, Devilsbit Mountain SAC (000934)	Species-rich <i>Nardus</i> Grassland on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)* (6230) European Dry Heaths (4030)	This upland site is situated approximately 6 km north-west of Templemore in Co. Tipperary. It comprises the summit of Devilsbit Mountain and much of the eastern side of the ridge which extends northwards to Kilduff Mountain. The rare and protected Small-white Orchid is also present on site and adds significantly to the value of the site.	Sourced from NPWS <i>Conservation objectives for Kilduff, Devilsbit Mountain SAC [000934]. Generic Version 6.0.</i> Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. [Version dated 05/07/2018]

	European Site Name and Code	Qualifying Interest /Special Conservation Interest and Code *denotes a priority habitat	Summary Description (from Site Synopsis)	Data Source Last accessed online on 25/06/2019
11	Clare Glen SAC (000930)	(Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles (91A0) (1421) Killarney Fern ( <i>Trichomanes speciosum</i> )	This SAC lies on the Limerick - Tipperary border, in the western foothills of the Slievefelim Mountains, about 10 km north-west of Cappamore. The glen was formed by the action of the Clare River cutting into the Old Red Sandstone. The site comprises the wooded river valley. The woodland, although planted with many exotic trees, is mature and conforms to a type listed on Annex II of the E.U. Habitats Directive. The presence of a number of rare and scarce species including bryophytes and fungi adds further to its importance.	Sourced from NPWS (2016) <i>Site Synopsis for Clare Glen SAC [000930]. Generic Version 1.</i> Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. [Version dated 16/05/2018]
12	Glenstal Wood SAC (001432)	Killarney Fern ( <i>Trichomanes speciosum</i> ) (1421)	This SAC lies in the western foothills of the Slievefelim Mountains, about 8 km north-west of Cappamore, Co. Limerick. The glen has been cut into Old Red Sandstone and runs in a north-easterly direction for about 2 km, eventually becoming a steep-sided rocky ravine	Sourced from NPWS <i>Conservation objectives for Glenstal Wood SAC [001432]. Version 1.</i> Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. [Version dated 15/05/2018]
13	Slieve Bernagh Bog SAC (002312)	Blanket Bogs (* if active bog) (7130) Northern Atlantic Wet Heath with <i>Erica tetralix</i> (4010) European Dry Heath (4030)	The Slieve Bernagh Bog is situated to the west of Lough Derg, Co. Clare. The site comprises the Slieve Bernagh mountain range, with the highest peaks at Moylussa (532 m) and Cragnamurragh (526 m), and the surrounding peatlands that flank its northern slopes.	Sourced from NPWS <i>Conservation Objectives: Slieve Bernagh Bog SAC 002312. Version 1.</i> National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. [Version dated 18/08/2016]
14	Lough Derg,	Calcareous fens with <i>Cladium mariscus</i> and	Lough Derg, the lowest order lake on the River Shannon, is one	Sourced from NPWS (2016)



	European Site Name and Code	Qualifying Interest /Special Conservation Interest and Code *denotes a priority habitat	Summary Description (from Site Synopsis)	Data Source Last accessed online on 25/06/2019
	North-East Shore SAC (002241)	species of the Caricion davallianae* (7210) Limestone Pavement* (8240) Alluvial Forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)* (91E0) Yew Woodlands <i>Taxus baccata</i> woods of the British Isles* (91J0) Alkaline Fens (7230) Juniper Scrub - <i>Juniperus communis</i> formations on heaths or calcareous grasslands (5130)	of the largest bodies of freshwater in Ireland. The site includes the northern shore of the lake from the mouth of the Cappagh River in the north-west to just below Black Lough at the north-eastern shore. The greater part of this site lies on Carboniferous limestone.	<i>Conservation objectives for Lough Derg, North-east Shore SAC [002241]. Generic Version 6.0.</i> Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. [[Version dated 24/04/2019]]
15	Glenomra Wood SAC (001013)	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles (91A0)	Glenomra Wood is a deciduous semi-natural woodland located in south-east Co. Clare. The dominant tree is Downy Birch ( <i>Betula pubescens</i> ). This is mixed with Sessile Oak ( <i>Quercus petraea</i> ), Ash ( <i>Fraxinus excelsior</i> ) and Beech ( <i>Fagus sylvatica</i> ) throughout.	Sourced from NPWS <i>Conservation objectives for Glenomra Wood SAC [001013]. Generic Version 6.0.</i> Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. [Version dated 19/06/2018]
16	Tory Hill SAC (000439)	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) (6210) <i>Cladium</i> Fens - Calcareous fens with <i>Cladium mariscus</i> and species of the Caricion davallianae* (7210) Alkaline Fens (7230)	Tory Hill is an isolated, wooded limestone hill situated about 2 km north-east of Croom, Co. Limerick. It is a prime example of a limestone hill set amongst a region of volcanic intrusions. The hill is of geomorphological interest for the end-moraine and for icemarks visible on the solid rock. The site includes Lough Nagirra and its associated wetland vegetation, located to the north and north-east of Tory Hill.	Sourced from NPWS <i>Conservation objectives for Tory Hill SAC [000439]. Generic Version 6.0.</i> Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. [Version dated 03/08/2018]
17	Ratty River	Caves not open to the public (8310)	This site includes a cave that is an annex I habitat and provides	Sourced from NPWS (2016)



	European Site Name and Code	Qualifying Interest /Special Conservation Interest and Code *denotes a priority habitat	Summary Description (from Site Synopsis)	Data Source Last accessed online on 25/06/2019
	Cave SAC (002316)	Lesser Horseshoe Bat ( <i>Rhinolophus hipposideros</i> ) (1303)	winter hibernation conditions for an internationally important number of Lesser Horseshoe Bat. There is also a summer roost for Lesser Horseshoe bats within this site.	<i>Conservation objectives for Ratty River Cave SAC [002316]. Generic Version 6.0.</i> Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. [Version dated 30/07/2018]
18	Askeaton Fen Complex SAC (002279)	<i>Cladium</i> Fens - Calcareous fens with <i>Cladium mariscus</i> species of the Caricion davallianae * (7210) Alkaline Fens (7230)	Askeaton Fen Complex consists of a number of small fen areas to the east and southeast of Askeaton in Co. Limerick. This area has a number of undulating hills underlain by Lower Carboniferous Limestone. At the base of the hills a series of fens/reedbeds/loughs can be found, often in association with marl or peat deposits. At the south-east of Askeaton, both Cappagh and Ballymorisheen fens are surrounded by large cliff-like rocky limestone outcrops.	Sourced from NPWS <i>Conservation objectives for Askeaton Fen Complex SAC [002279]. Version 1.</i> Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. [Version dated 18/05/2018]
19	Barrigone SAC (000432)	Orchid-rich Calcareous Grassland - Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)* (6210) Limestone Pavement* (8240) Juniper Scrub- <i>Juniperus communis</i> formations on heaths or calcareous grasslands (5130) (1065) Marsh Fritillary ( <i>Euphydryas aurinia</i> )	This SAC is situated approximately 5 km west of Askeaton, Co. Limerick. The site comprises an area of dry, species-rich, calcareous grassland. The underlying limestone outcrops occasionally, and the proximity of the site to the Shannon Estuary adds a maritime influence. A range of scrub types are present including Juniper Scrub. A number of factors, including substrate, bedrock, microclimate and maritime influence, contribute to the floristic richness at Barrigone. The presence of rare species of plant and invertebrate highlight the site's conservation value.	Sourced from NPWS <i>Conservation objectives for Barrigone SAC [000432]. Generic Version 6.0.</i> Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. [Version dated 15/02/2019]

	European Site Name and Code	Qualifying Interest /Special Conservation Interest and Code *denotes a priority habitat	Summary Description (from Site Synopsis)	Data Source Last accessed online on 25/06/2019
20	Curragh-chase Woods SAC (000174)	Alluvial Forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)* (91E0) Yew Woodlands <i>Taxus baccata</i> woods of the British Isles* (91J0) Lesser Horseshoe Bat <i>Rhinolophus hipposideros</i> (1303)	This site is situated approximately 7 km east of Askeaton in Co. Limerick. The area is characterised by glacial drift deposits over Carboniferous limestone. The site consists of mixed woodland and a series of wetlands. The site provides hibernation opportunities and foraging habitat for Lesser Horseshoe bat.	Sourced from NPWS <i>Conservation objectives for Curraghchase Woods SAC [000174]. Generic Version 6.0.</i> Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. [Version dated 30/07/2018]
21	Lough Derg (Shannon) SPA (004058)	Cormorant ( <i>Phalacrocorax carbo</i> ) (A017) Tufted Duck ( <i>Aythya fuligula</i> ) (A061) Goldeneye ( <i>Bucephala clangula</i> ) (A067) Common Tern ( <i>Sterna hirundo</i> ) (A193) Wetland and Waterbirds (A999)	Lough Derg lies within counties Tipperary, Galway and Clare and is the largest of the River Shannon Lakes. The greater part of the lake lies on Carboniferous limestone while the narrow southern section is underlain by Silurian strata. The site is of high ornithological importance as it supports nationally important breeding populations of Cormorant and Common Tern. In winter, it has nationally important populations of Tufted Duck and Goldeneye. The annex I species Whooper Swan, Greenland White-fronted Goose, Hen Harrier and Common Tern have also been recorded on site.	Sourced from NPWS <i>Conservation objectives for Lough Derg (Shannon) SPA [004058]. Generic Version 6.0.</i> Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. [Version dated 21/02/2018]
22	River Shannon and River Fergus Estuaries SPA (004077)	Cormorant ( <i>Phalacrocorax carbo</i> ) (A017) Whooper Swan ( <i>Cygnus cygnus</i> ) (A038) Light-bellied Brent Goose ( <i>Branta bernicla hrota</i> ) (A046) Shelduck ( <i>Tadorna tadorna</i> ) (A048) Wigeon ( <i>Anas penelope</i> ) (A050) Teal ( <i>Anas crecca</i> ) (A052) Pintail ( <i>Anas acuta</i> ) (A054) Shoveler ( <i>Anas clypeata</i> ) (A056)	The estuaries of the River Shannon and River Fergus form the largest estuarine complex in Ireland. The site comprises the entire estuarine habitat from Limerick City westwards as far as Doonaha in Co. Clare and Dooneen Point in Co. Kerry. This site is an internationally important site that supports an assemblage of over 20,000 wintering waterbirds. It holds internationally important populations of four species; Light-bellied Brent Goose, Dunlin, Black-tailed Godwit and Redshank. Furthermore 17 species have wintering populations of national importance.	Sourced from NPWS <i>Conservation Objectives: River Shannon and River Fergus Estuaries SPA 004077. Version 1.0.</i> National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. [Version dated 17/09/2012]

	European Site Name and Code	Qualifying Interest /Special Conservation Interest and Code *denotes a priority habitat	Summary Description (from Site Synopsis)	Data Source Last accessed online on 25/06/2019
		<p>Scaup (<i>Aythya marila</i>) (A062)</p> <p>Ringed Plover (<i>Charadrius hiaticula</i>) (A137)</p> <p>Golden Plover (<i>Pluvialis apricaria</i>) (A140)</p> <p>Grey Plover (<i>Pluvialis squatarola</i>) (A141)</p> <p>Lapwing (<i>Vanellus vanellus</i>) (A142)</p> <p>Knot (<i>Calidris canutus</i>) (A143)</p> <p>Dunlin (<i>Calidris alpina</i>) (A149)</p> <p>Black-tailed Godwit (<i>Limosa limosa</i>) (A156)</p> <p>Bar-tailed Godwit (<i>Limosa lapponica</i>) (A157)</p> <p>Curlew (<i>Numenius arquata</i>) (A160)</p> <p>Redshank (<i>Tringa totanus</i>) (A162)</p> <p>Greenshank (<i>Tringa nebularia</i>) (A164)</p> <p>Black-headed Gull (<i>Chroicocephalus ridibundus</i>) (A179)</p> <p>Wetland and Waterbirds (A999)</p>	The site holds a nationally important breeding population of Cormorant. Three annex I species are listed regularly; Whooper Swan, Golden Plover and Bar-tailed Godwit. Parts of the River Shannon and River Fergus Estuaries SPA are Wildfowl Sanctuaries.	
23	Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (004161)	Hen Harrier ( <i>Circus cyaneus</i> ) (A082)	This is a very large site centred on the borders between the counties of Cork, Kerry and Limerick. The mountains; Knockfeha, Mount Eagle, Knockanefune, Garraunbaun, Taur, Rock Hill, Knockacummer, Mullaghmuish, Knight's Mt, Ballincollig Hill, Beennageeha Mt, Sugar Hill, Knockanimpuba and Knockathea, amongst others are included in this site. Many rivers rise within the site, notably the Blackwater, Owentaraglin, Owenkeal, Glenlara, Feale, Clydagh, Allaghaun, Allow, Oolagh, Galey and Smerlagh. The site is of ornithological importance because it provides nesting and foraging habitat for breeding Hen Harrier. The annex I species Merlin and Short-eared Owl have also been recorded on site.	Sourced from NPWS <i>Conservation objectives for Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA [004161]. Generic Version 6.0.</i> Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. [Version dated 21/02/2018]

## 2.6 Sources of Information & Consultation

### 2.6.1 Consultation

Consultation (including in relation to scoping) with statutory consultees and other relevant bodies between January 2019 and July 2019. Consultees included the Developments Application Unit (the Manager), National Parks & Wildlife Services (Ms. Aine Lynch) and Inland Fisheries Ireland (Michael Fitzsimmons and Jane Gilleran). Consultation with these statutory bodies, including the information provided and feedback received, is summarised in Table 3:

**Table 3: Consultation with Statutory Bodies**

Date	Consultees	Action
18/01/2019	NPWS	Phone call to Áine Lynch (NPWS) on Jan 18 <sup>th</sup> responded to on January 22 <sup>nd</sup> , 2019 regarding any possible Hen Harrier nest locations along the new proposed route of the 110kV UGC or near to the consented Upperchurch Windfarm or UWF Related Works.
13/03/2019	Development Applications Unit (DAU)	Consultation letter describing the proposed revised UWF Grid Connection development and associated mapping sent to Development Applications Unit.
13/03/2019	Inland Fisheries Ireland (IFI)	Consultation letter describing the proposed revised UWF Grid Connection development and associated mapping sent to Development Applications Unit.
19/03/19	Inland Fisheries Ireland (IFI)	Email exchange of maps with Mike Fitzsimons (IFI), detailing watercourse crossing methods and Outline Construction Methodologies (OCMs).
21/03/2019	Inland Fisheries Ireland (IFI)	Onsite meeting with Mike Fitzsimons (IFI), methodology for watercourse crossing works discussed, watercourse crossing points visit with particular focus on bridge crossings along the 110kV UGC route.
22/05/2019	Development Applications Unit (DAU)/IFI	Consultation letter describing the final route of the 110kV UGC with the 110kV UGC avoiding the Newport town and map showing same, sent to Jane Gilleran & Michael Fitzsimons, Inland Fisheries Ireland.
05/06/2019	Development Applications Unit (DAU)	Email sent to DAU requesting confirmation of receipt of consultation letter originally sent on 22/05/2019
06/06/2019	Inland Fisheries Ireland (IFI)	Consultation letter describing the final route of the 110kV UGC with the 110kV UGC avoiding the Newport town and map showing same, sent to Jane Gilleran & Michael Fitzsimons, Inland Fisheries Ireland.
09/08/19	Inland Fisheries Ireland (IFI)	Consultation letter describing the final route of the 110kV UGC with the 110kV UGC avoiding the Newport town and map showing same, sent to Jane Gilleran & Michael Fitzsimons, Inland Fisheries Ireland.

## 2.6.2 Sources of Information

In addition to consultation with NPWS and IFI, other sources of Information, which were considered during this Screening evaluation, included both desktop studies and fieldwork:

- Conservations Objectives, Site Synopsis and Site boundary information for the European Sites within with study area;
- Location and layout mapping for the UWF Grid Connection project;
- Detailed description of the UWF Grid Connection project, and a review of the descriptions of the Other Elements of the Whole UWF Project, including construction methodologies;
- EPA online mapping for watercourse features (<https://gis.epa.ie/EPAMaps/>);
- Supporting ecological receptor information described in full in **Volume C2 Chapter 8: Biodiversity** of the UWF Grid Connection EIA Report October 2019.
- Mitigation Measures for UWF Grid Connection (including the Project Design Measures, Surface Water Management Plan, Invasive Species Management Plan, Environmental Emergency Response Procedures, Best Practice Measures, along with a review of the Best Practice Survey Methods used to inform the Biodiversity evaluation (considered at Stage 2 of this Appropriate Assessment process)
- **Volume D: Environmental Management Plan** for UWF Grid Connection, along with
- Site visits and field surveys for the UWF Grid Connection site, and
- Review of the descriptions of the Other Elements of the Whole UWF Project, including and
- Review of planning documentation and environmental reports (including Appropriate Assessment reporting; construction methodologies; supporting survey information from the Upperchurch Windfarm (2013), and from the previous (since refused) UWF Grid Connection (2018), and from the UWF Related Works appeal to An Bord Pleanála documentation (February 2019)) for the Other Elements of the UWF Grid Connection (**Volume F: Reference Documents**)
- Review of planning documentation and environmental reports for other unrelated projects i.e. Milestone Windfarm, Newport Town Park, Rearcross Quarry, Curraghduff Quarry, Castlewaller Windfarm, and Bunkimalta Windfarm, available on Tipperary County Council website, planning reference numbers for unrelated projects are listed in **Appendix A2 Scoping of Other Unrelated Projects**.

## 2.7 Potential Sources, Pathways and Timing of Impacts to European Sites (SACs & SPAs)

The Screening evaluation is based on a conceptual site model which identifies potential impact source-pathways between the UWF Grid Connection project and European Sites.

This Section 2.7 sets out the potential sources, pathways and timings for impacts to SAC and SPA European Sites, the potential impact/pathway connectivity of the UWF Grid Connection to the SAC and SPA sites, and the other projects which are included in the screening evaluations in relation to potential in-combination effects to SAC and SPA sites with UWF Grid Connection. These impact/pathways are then evaluated for each SAC and SPA in Section 2.8 and 2.9.

### 2.7.1 Potential Sources, Pathways and Timing of Impacts to SAC Qualifying Interest

#### 2.7.1.1 Direct effects to Qualifying Interest habitats of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within the SAC

**Impact Sources:** instream works; culvert replacement works, parapet works; movement of soils and machinery; excavation works; use of hydrocarbons & cement-based compounds; reinstatement works.

**Pathway:** soils, surface water, water flowpaths, movement of soils and machinery, direct contact

**Potential Impact/Pathway Connectivity:** Direct effects to Qualifying Interest habitats within an SAC can only occur if the UWF Grid Connection location occurs within the boundary of the SAC and overlaps the extent of the Qualifying Interest habitat.

**Timing of Impacts:** The potential for impact relates to the construction stage, when groundworks and use of machinery will take place for a limited duration. This stage is therefore screened in.

Once constructed, the UWF Grid Connection project will require minimal maintenance, mainly involving scheduled maintenance within the Mountphilips Substation compound along with annual visual inspections of underground 110kV UGC route and periodic testing from link box chambers at joint bay locations, along exiting roadways. Scheduled maintenance or unscheduled repairs of the 110kV UGC may occur infrequently, if at all, during operation, these works are expected to involve the reopening of some (not all) joint bay locations and reinstatement of road surface over the joint bay chambers following works in joint bay chambers.

Due to the negligible and generally non-intrusive nature of operational activities, and the absence of overlap of the operational UWF Grid Connection with Qualifying Interest habitats within any SAC, it is considered that there is no potential for the operational UWF Grid Connection to cause significant direct effects to Qualifying Interest Habitats, within any SAC Site. The operational stage is therefore screened out in relation to direct effects.

#### 2.7.1.2 Indirect Effects to Qualifying Interest habitats of an SAC Site (i.e. via reductions in water quality or spread of invasive species) within the SAC

**Impact Sources:** instream works; culvert replacement works; movement of soils and machinery; excavation works; use of hydrocarbons & cement-based compounds; reinstatement works.

**Pathway:** soils, surface water, water flowpaths, movement of soils and machinery, direct contact

**Potential Impact/Pathway Connectivity:** Indirect effects via reductions in water quality has potential to occur to any SAC sites downstream within the catchments associated with the UWF Grid Connection.



Invasive species can also be spread downstream or upstream within a catchment, and via machinery/vehicle movements along transport routes, with potential to affect habitats within SAC sites.

#### Timing of Impacts:

The potential for impact relates to the construction stage, when groundworks, use of machinery and transport of materials will take place for a limited duration. This stage is therefore screened in.

Once constructed, the UWF Grid Connection project will require minimal maintenance, mainly involving scheduled maintenance within the Mountphilips Substation compound along with annual visual inspections of the underground 110kV UGC route and periodic testing from link box chambers at joint bay locations along existing roadways. Effects from the maintenance of Mountphilips Substation and annual inspections/testing along the 110kV UGC are screened out due to the negligible and non-intrusive nature of these operational activities, which will all occur from hard surfaces.

Scheduled maintenance or unscheduled repairs of the 110kV UGC may occur infrequently, if at all, during operation, these works are expected to involve the reopening of some (not all) Joint Bay chambers and reinstatement of road surface over the chambers, following works at joint bays. Possible effects from these operational works along the 110kV UGC are screened in for evaluation.

**2.7.1.3** Indirect Effects to Qualifying Interest habitats, of an SAC Site (i.e. via reductions in water quality or spread of invasive species) ex-situ the SAC

**Impact Sources** (all outside SAC boundaries): instream works; culvert replacement works; movement of soils and machinery; excavation works; use of hydrocarbons & cement-based compounds; reinstatement works

**Pathway:** soils, surface water, water flowpaths, movement of soils and machinery, direct contact

**Potential Impact/Pathway Connectivity:** Indirect effects via reductions in water quality have potential to occur ex-situ to any SAC sites downstream within the catchments associated with the UWF Grid Connection. Invasive species can also be spread downstream or upstream within a catchment, and via machinery/vehicle movements along transport routes, with potential to affect habitats ex-situ of SAC sites.

#### Timing of Impacts:

The potential for impact relates to the construction stage, when groundworks and use of machinery will take place for a limited duration. Possible effects during the construction stage are therefore screened in.

For the reasons outlined in Section 2.7.1.2 above, effects from the scheduled maintenance of the Mountphilips Substation site and annual testing/inspection along the 110kV UGC are screened out as it is considered that these operational activities have no potential to cause ex-situ significant effects to an SAC.

Scheduled maintenance or unscheduled repairs of the 110kV UGC may occur infrequently, if at all, during operation, these works are expected to involve the reopening of some (not all) joint bay locations and reinstatement of road surface over the joint bay chambers, following works in joint bay chambers. Possible ex-situ effects from these operational works along the 110kV UGC are screened in for evaluation.

**2.7.1.4** Direct effects to Qualifying Interest species of an SAC Site (i.e. mortality) within or *ex-situ* the SAC

**Impact Sources:** instream works; culvert replacement works; operating machinery; excavation works; reinstatement works

**Pathway:** direct contact;

**Potential Impact/Pathway Connectivity:** Direct effects via mortality of Qualifying Interest species has potential to occur within SAC where animal species may be present within the SAC boundary (but not within Qualifying Interest habitats) and exposed to potential mortality through contact with moving vehicles or active construction works. As there are no instream works within any SAC boundary, there is no potential for direct mortality to aquatic species within their natural location within the designated site, however ex-situ effects require consideration either at locations upstream which are hydrologically connected, or at locations such as bridge crossings where, whilst outside the natural location of animals, some pathways exist for mortality through contact with operational machinery or traffic. The latter is pertinent only for Otter.

**Timing of Impacts:** The potential for impact relates to the construction stage, when groundworks, traffic movements and use of machinery will take place for a limited duration. This stage is therefore screened in.

Once constructed, the UWF Grid Connection project will require minimal maintenance, mainly involving scheduled maintenance within the Mountphilips Substation compound along with annual visual inspections of the underground 110kV UGC route and periodic testing from link box chambers at joint bay locations along existing roadways. Scheduled maintenance or unscheduled repairs of the 110kV UGC may occur infrequently, if at all, during operation, these works are expected to involve the reopening of some (not all) joint bay locations and reinstatement following works. No instream works will be required. Due to the negligible and generally non-intrusive nature of operational activities, which will all occur from hard surfaces, with traffic movements negligible in the context of existing baselines, it is considered that there is no potential for the operational UWF Grid Connection to cause significant direct (mortality) effects to Qualifying Interest species within any SAC Site. Therefore the operational stage is screened out for this impact pathway.

2.7.1.5 Indirect effects to Qualifying Interest species of an SAC Site (i.e. disturbance /displacement) within an SAC Site

**Impact Sources:** instream works; culvert replacement works; parapet works; operating machinery; drilling works; reinstatement works; noise and human disturbance; visual intrusion.

**Pathway:** direct contact; ground and air vibrations, air, visibility

**Potential Impact/Pathway Connectivity:** Species of Qualifying Interest, or supporting species of Qualifying Interests, present within close proximity to construction works have potential to be disturbed/displaced by the works and presence of construction personnel.

**Timing of Impacts:** The potential for impact relates to the construction stage, when construction works, use of machinery and presence of construction personnel will occur for a limited duration. Possible effects during this stage are therefore screened in.

Once constructed, the UWF Grid Connection project will require minimal maintenance, mainly involving scheduled maintenance within the Mountphilips Substation compound along with annual visual inspections of the underground 110kV UGC route and periodic testing from link box chambers at joint bay locations along existing roadways. Scheduled maintenance or unscheduled repairs of the 110kV UGC may occur infrequently, if at all, during operation, these works are expected to involve the reopening of some (not all) joint bay locations and reinstatement following works. Due to the negligible and generally non-intrusive nature of operational activities, which will all occur from hard surfaces, and in locations where animal species will be habituated to noise and/or visual intrusion, it is considered that there is no potential for the operational UWF Grid Connection to cause significant indirect effects to Qualifying Interest species, or their supporting species, within any SAC Site. Possible effects during this stage are therefore screened out.



**2.7.1.6 Indirect effects to Qualifying Interest species of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within an SAC Site**

**Impact Sources:** instream works; culvert replacement works; movement of soils and machinery; excavation works; use of hydrocarbons & cement-based compounds; reinstatement works

**Pathway:** soils, surface water, water flowpaths, movement of soils and machinery, direct contact

**Potential Impact/Pathway Connectivity:** Indirect effects to Qualifying Interest species via habitat effects has potential to occur where UWF Grid Connection overlaps the boundary of the SAC and overlaps or occurs in close proximity to the Qualifying Interest habitat. Invasive species can also be spread downstream or upstream within a catchment, and via machinery/vehicle movements along transport routes, with potential to affect the habitat of Qualifying Interest species within an SAC site.

**Timing of Impacts:** The potential for impact relates to the construction stage, when construction works, use of machinery and presence of construction personnel will occur for a limited duration. Possible effects during the construction stage are therefore screened in.

Once constructed, the UWF Grid Connection project will require minimal maintenance, mainly involving scheduled maintenance within the Mountphilips Substation compound along with annual visual inspections of the underground 110kV UGC route and periodic testing from link box chambers at joint bay locations along existing roadways. Secondary effects from the maintenance of Mountphilips Substation and annual inspections/testing along the 110kV UGC on QI Species via habitat related effects are screened out due to the negligible and non-intrusive nature of these operational activities, which will all occur from hard surfaces.

Scheduled maintenance or unscheduled repairs of the 110kV UGC may occur infrequently, if at all, during operation, these works are expected to involve the reopening of some (not all) joint bay locations and reinstatement of road surface over the joint bay chambers, following works in joint bay chambers. Possible effects from these operational works along the 110kV UGC are screened in for evaluation.

**2.7.1.7 Indirect effects to Qualifying Interest species of an SAC Site (i.e. disturbance /displacement) ex-situ to an SAC Site**

**Impact Sources:** instream works; culvert replacement works; parapet works operating machinery; drilling works; reinstatement works; noise and human disturbance; visual intrusion

**Pathway:** direct contact; ground and air vibrations, air, visibility;

**Potential Impact/Pathway Connectivity:** Species of Qualifying Interest ex-situ to an SAC, or supporting species of Qualifying Interests, present within close proximity to construction works have potential to be disturbed/displaced by the works and/or the presence of construction personnel.

**Timing of Impacts:** The potential for impact relates to the construction stage, when construction works, use of machinery and presence of construction personnel will occur for a limited duration. Possible effects during the construction stage are therefore screened in.

Once constructed, the UWF Grid Connection project will require minimal maintenance, mainly involving scheduled maintenance within the Mountphilips Substation compound along with annual visual inspections of the underground 110kV UGC route and periodic testing from link box chambers at joint bay locations along existing roadways. Scheduled maintenance or unscheduled repairs of the 110kV UGC may occur infrequently, if at all, during operation, these works are expected to involve the reopening of some (not all) joint bay locations and reinstatement following works. Due to the negligible and generally non-intrusive nature of operational activities, which will all occur from hard surfaces, and in locations where Qualifying

Interest species will be habituated to noise and/or visual intrusion, it is considered that there is no potential for the operational UWF Grid Connection to cause significant indirect effects to Qualifying Interest species, or their supporting species, ex-situ any SAC Site. Possible effects during the operational stage are therefore screened out.

2.7.1.8 Indirect effects to Qualifying Interest species of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) ex-situ an SAC Site

**Impact Sources:** instream works; culvert replacement works; movement of soils and machinery; excavation works; use of hydrocarbons & cement-based compounds; reinstatement works

**Pathway:** soils, surface water, water flowpaths, movement of soils and machinery, direct contact

**Potential Impact/Pathway Connectivity:** Indirect effects to Qualifying Interest species via habitat effects has potential to occur where UWF Grid Connection occurs outside the boundary of the SAC but in close proximity to the Qualifying Interest Species' habitat or where the UWF Grid Connection occurs hydrologically upstream of an SAC. Invasive species can be spread downstream or upstream within a catchment, and via machinery/vehicle movements along transport routes, with potential to affect the habitat of Qualifying Interest species within an SAC site. Other pathways may lead to degradation of the supporting habitat for the Qualifying Interest Species.

**Timing of Impacts:** The potential for impact relates to the construction stage, when construction works, use of machinery and presence of construction personnel will occur for a limited duration. Possible effects during the construction stage are therefore screened in.

Once constructed, the UWF Grid Connection project will require minimal maintenance, mainly involving scheduled maintenance within the Mountphilips Substation compound along with annual visual inspections of the underground 110kV UGC route and periodic testing from link box chambers at joint bay locations along existing roadways. Secondary ex-situ effects from the maintenance of Mountphilips Substation and annual inspections/testing along the 110kV UGC on QI Species via habitat related effects are screened out due to the negligible and non-intrusive nature of these operational activities, which will all occur from hard surfaces.

Scheduled maintenance or unscheduled repairs of the 110kV UGC may occur infrequently, if at all, during operation, these works are expected to involve the reopening of some (not all) joint bay locations and reinstatement following works. Possible effects from scheduled maintenance/unscheduled repairs of the 110kV UGC ex-situ SAC sites are screened in for evaluation.

**2.7.1.9 Other Projects considered for their potential to cause in-combination effects to SAC sites with UWF Grid Connection**

There is potential for other projects cause effects to SAC Sites in-combination with the UWF Grid Connection, where other projects occur within the same catchments as the UWF Grid Connection, or within the zone of in-combination effects.

These other projects are:

**All of the Other Element projects of the Whole UWF Project** are included in the cumulative evaluations – i.e.

- Upperchurch Windfarm (consented),
- UWF Replacement Forestry (consented),
- UWF Related Works (currently under appeal to An Bord Pleanála), and
- UWF Other Activities (do not require planning).

and,

- Other unrelated projects: existing Rearcross Quarry; proposed Curraghduff Quarry, consented Newport Town Park, and forestry, agricultural and turf-cutting activities.
- While no overlap of construction stage with UWF Grid Connection is expected to occur, the following other unrelated projects are included on precautionary basis: consented Castlewaller Windfarm and *potential* grid connection; and the *potential* Bunkimalta Windfarm and consented grid connection.

The following other projects or activities do not have potential to cause significant cumulative effects with UWF Grid Connection:

- existing Milestone Windfarm (already constructed, very low level of operational activities).

## 2.7.2 Potential Sources, Pathways and Timing of Impacts to SPAs

### 2.7.2.1 Direct effects to Special Conservation Interest Species within an SPA (i.e. Disturbance, Mortality)

**Impact Sources:** noise and visual intrusion; operating machinery; presence of construction personnel.

**Pathway:** contact, visibility, air

**Potential Impact/Pathway Connectivity:** Direct effects via disturbance have potential to occur within an SPA where Special Conservation Interest bird species may be present in close proximity to construction works or construction personnel. Direct effects via mortality has potential to occur within an SPA where Special Conservation Interest bird species may be present within the SPA boundary and exposed to potential mortality through contact with moving machinery and earthworks. Mortality due to collision with moving vehicles during construction is considered extremely unlikely with no precedent in the literature for this resulting in population level/significant effects, therefore this impact pathway (mortality due to collision with moving vehicles) is screened out.

**Timing of Impacts:** Due to the presence of construction works, operating construction machinery and the presence of personnel, the construction stage is screened in for evaluation in respect of disturbance related effects.

In relation to the operational stage of the UWF Grid Connection, all operational stage activities and works (both scheduled and unscheduled) will take place from built surfaces, mainly hardcore surfaces at the Mountphilips Substation site and public road pavements outside of the Mountphilips Substation site, this puts works outside of any suitable nesting or winter roosting bird habitat and in locations where background sources of noise and visual intrusion already exist; therefore there is no potential for direct mortality or disturbance during any maintenance/repair works close to nest or roost sites, and therefore the operational stage is screened out.

### 2.7.2.2 Indirect effects to Special Conservation Interest Species within an SPA (i.e. Secondary effects on suitable habitat via habitat loss, degradation, fragmentation or reduction/loss of connectivity, or through a reduction in prey item species)

**Impact Sources:** Land cover change, vegetation clearance, noise and visual intrusion; operating machinery; presence of construction personnel, earthworks, movement of material

**Pathway:** land cover, visibility, air, surface water flowpaths, watercourses.

**Potential Impact/Pathway Connectivity:** Indirect effects to Special Conservation Interest species via habitat effects has potential to occur where UWF Grid Connection overlaps or occurs in close proximity to suitable (positively selected) nesting, roosting or foraging habitat for Special Conservation Interest Species or their prey items within an SPA. Habitat loss of Prey Item Species nesting or foraging habitat within an SPA (through physical land cover change, habitat degradation or through disturbance or displacement) has potential to reduce Prey Item species numbers and causing secondary effects to foraging Special Conservation Interests, where these Prey Item Species occur within any positively selected foraging habitat of the Special Conservation Interest.

**Timing of Impacts:** Due to the occurrence of earthworks, vegetation clearance and other construction works, the use of machinery, the occurrence of construction noise and the presence of personnel, the construction stage is screened in for evaluation.

Once constructed, the UWF Grid Connection project will require minimal maintenance, mainly involving scheduled maintenance within the Mountphilips Substation compound along with annual visual inspections

of the underground 110kV UGC route and periodic testing from link box chambers at joint bay locations along existing roadways. Secondary effects from the maintenance of Mountphilips Substation and annual inspections/testing along the 110kVUGC on Special Conservation Interest Species via habitat related effects are screened out due to the negligible and non-intrusive nature of these operational activities, which will all occur from hard surfaces.

Scheduled maintenance or unscheduled repairs of the 110kV UGC may occur infrequently, if at all, during operation, these works are expected to involve the reopening of some (not all) joint bay locations and reinstatement following works. Possible effects from these operational works where they occur within an SPA along the 110kV UGC route are screened in for evaluation.

**2.7.2.3** Indirect effects to Special Conservation Interest Species **ex-situ** an SPA (i.e. Secondary effects on suitable habitat via habitat loss, degradation, fragmentation or loss/reduction in connectivity, reductions in prey item species, or through disturbance or mortality effects to Special Conservation Interest bird species outside their respective SPA)

**Impact Sources:** Land cover change, vegetation clearance, noise and visual intrusion; operating machinery; presence of construction personnel, earthworks, movement of material

**Pathway:** land cover, visibility, air, surface water flowpaths, watercourses

**Potential Impact/Pathway Connectivity:** Habitat loss of suitable (positively selected) nesting or foraging habitat ex-situ to an SPA may reduce species numbers within an SPA through reduced nest success (in respect of a reduction in utilised foraging habitat) or reductions in supporting source populations outside the SPA. Habitat loss or degradation may reduce the availability of prey items for Special Conservation Interest species where SCI Species foraging overlaps suitable habitat outside but not included in the SPA. Disturbance effects to Special Conservation Interest species (such as when foraging or on migration) outside SPA's may affect in turn breeding success or general survival rates for these species once within SPA Sites. Indirect effects via mortality of Special Conservation Interest species outside of an SPA could occur where works/ground clearance associated with the UWF Grid Connection occurs in suitable nesting, roosting or foraging habitat or inadvertently through contact with moving vehicles or traffic. Indirect habitat effects to Special Conservation Interest species via reductions in water quality has potential to occur downstream within SPA catchments associated with the UWF Grid Connection. Habitat effects via the spread of invasive species has potential to occur downstream or upstream within a catchment, and via machinery/vehicle movements along transport routes.

**Timing of Impacts:** Due to the occurrence of earthworks, vegetation clearance and other construction works, the use of machinery, the occurrence of construction noise and the presence of personnel, the construction stage is screened in for evaluation.

Once constructed, the UWF Grid Connection project will require minimal maintenance, mainly involving scheduled maintenance within the Mountphilips Substation compound along with annual visual inspections of the underground 110kV UGC route and periodic testing from link box chambers at joint bay locations along existing roadways. Maintenance of Mountphilips Substation and annual inspections/testing along the 110kVUGC are screened out due to the negligible and non-intrusive nature of these operational activities, which will all occur from hard surfaces, and in locations such as public roads where birds will be habituated to a background trend of existing noise and visual instruction, in instances where any contrast is unlikely to be noticeable and where no excavations are required. The magnitude of traffic associated with these activities is insufficient to warrant screening in for collision risk. In addition, the constructed

Mountphilips Substation structures will not pose a significant collision risk to Special Conservation Interests ex-situ of SPA sites and Collision mortality during operation is screened out.

Scheduled maintenance or unscheduled repairs of the 110kV UGC may occur infrequently, if at all, during operation, these works are expected to involve the reopening of some (not all) joint bay locations and reinstatement following works. These operational works along the 110kV UGC are screened in on a precautionary basis for evaluation due to the possibility of ex-situ disturbance to Special Conservation Interest Species or secondary effects via water pathways on supporting habitats as a result of excavation and reinstatement.

#### 2.7.2.4 Other Projects considered for their potential to cause in-combination effects to SPA sites with UWF Grid Connection

There is potential for other projects cause effects to SPA Sites in-combination with the UWF Grid Connection, where other projects occur within the same catchments as the UWF Grid Connection, or within the zone of in-combination effects.

These other projects are:

**All of the Other Element projects of the Whole UWF Project** are included in the cumulative evaluations – i.e.

- Upperchurch Windfarm (consented),
- UWF Replacement Forestry (consented),
- UWF Related Works (currently under appeal to An Bord Pleanála), and
- UWF Other Activities (do not require planning).

and,

- Other unrelated projects: existing Rearcross Quarry; existing Milestone Windfarm, proposed Curraghduff Quarry, and forestry, agricultural and turf-cutting activities.
- While no overlap of construction stage with UWF Grid Connection is expected to occur, the following other unrelated projects are included on a precautionary basis: consented Castlewaller Windfarm and *potential* grid connection; and the *potential* Bunkimalta Windfarm and consented grid connection.

The following projects do not have potential to cause significant cumulative effects with UWF Grid Connection:

- consented Newport Town Park (implementation of planning conditions will ensure no adverse effects on European Sites, location within an urban center).

## 2.8 Screening Evaluation of the Potential for Effects on European Sites (SACs & SPAs)

19 SACs and 4 SPAs have previously been identified and are included in this Screening evaluation. This section 2.8, examines whether the UWF Grid Connection source impact pathways, described in Section 2.7, have potential to cause impacts to the SAC and SPA sites, either directly, indirectly or in-combination with other projects. The evaluation takes account of the timing and connectivity of each impact pathway, along with the other projects with potential to cause in-combination effects, as set out in Section 2.7.

The following impact pathways for the 19 SAC sites are evaluated during the screening exercise:

- SAC Pathway 1:** Direct effects to **Qualifying Interest habitats** of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) **within the SAC**
- SAC Pathway 2:** Indirect Effects to **Qualifying Interest habitats** of an SAC Site (i.e. via reductions in water quality or spread of invasive species) **within the SAC**
- SAC Pathway 3:** Indirect Effects to **Qualifying Interest habitats**, of an SAC Site (i.e. via reductions in water quality or spread of invasive species) **ex-situ** the SAC
- SAC Pathway 4:** Direct effects to **Qualifying Interest species** of an SAC Site (i.e. mortality) **within or ex-situ** the SAC
- SAC Pathway 5:** Indirect effects to **Qualifying Interest species** of an SAC Site (i.e. disturbance /displacement) **within** the SAC
- SAC Pathway 6:** Indirect effects to **Qualifying Interest species** of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) **within** the SAC
- SAC Pathway 7:** Indirect effects to **Qualifying Interest species** of the SAC Site (i.e. disturbance /displacement) **ex-situ** to the SAC
- SAC Pathway 8:** Indirect effects to **Qualifying Interest species** of the SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) **ex-situ** the SAC.

The following impact/pathways for the 4 SPA sites are evaluated during the screening exercise:

- SPA Pathway 1:** Direct effects to Special Conservation Interest Species **within an SPA** (i.e. Disturbance, Mortality)
- SPA Pathway 2:** Indirect effects to Special Conservation Interest Species **within an SPA** (i.e. Secondary effects on suitable habitat via habitat loss, degradation, fragmentation or reduction/loss of connectivity, or through a reduction in prey item species)
- SPA Pathway 3:** Indirect effects to Special Conservation Interest Species **ex-situ** an SPA (i.e. Secondary effects on suitable habitat via habitat loss, degradation, fragmentation or loss/reduction in connectivity, reductions in prey item species, or through disturbance or mortality effects to Special Conservation Interest bird species outside their respective SPA).



**Table 4: SAC Sites Screened out from Further Evaluation at Stage 2: Appropriate Assessment**

The 16 SAC sites listed in the left-hand column in the table below are screened out from further evaluation because it was evaluated that there is no potential for UWF Grid Connection to impact any of these SAC sites.

European Site	Separation Distance to UWF Grid Connection	The <u>SAC Sites listed in the first column are screened out</u> from further consideration because UWF Grid Connection (either directly, indirectly or in-combination) has no potential to adversely affect the SPA Site, for the reasons outlined below:
Anglesey Road SAC (002125)	2.9 km	<ul style="list-style-type: none"> <li>UWF Grid Connection is not located within the boundary of the SAC and therefore has <b>no potential for effects via SAC Pathway 1</b>: Direct effects to Qualifying Interest <b>habitats</b> of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within the SAC;</li> <li>UWF Grid Connection is not hydrologically connected to the SAC, nor located in close proximity to the SAC, nor do any transport routes for construction materials pass through or close to the SAC, and therefore UWF Grid Connection has <b>no potential for effects via SAC Pathway 2 or SAC Pathway 3</b>: Indirect Effects to Qualifying Interest <b>habitats</b> of an SAC Site (i.e. via reductions in water quality or spread of invasive species) within the SAC or ex-situ the SAC;</li> <li>All Qualifying Interests of these SAC Sites are either habitats or plant species, there are <i>no animal species are listed as Qualifying Interests</i>, therefore UWF Grid Connection has <b>no potential for effects via SAC Pathway 4, SAC Pathway 5, SAC Pathway 6, SAC Pathway 7 or SAC Pathway 8</b>, which all relate to impact pathway connectivity to animal species of Qualifying Interest of an SAC. As stated above there are <i>no animal species are listed as Qualifying Interests</i> for any of these ten SAC sites.</li> </ul>
Silvermine Mountain West SAC (002258)	7.7 km	
Philipston Marsh SAC (001847)	12.0 km	
Kilduff, Devilsbit Mountain SAC (000934)	16.8 km	
Glenstal Wood SAC (001432)	2.6 km	
Slieve Bernagh Bog SAC (002312)	11.5 km	
Lough Derg, North-East Shore SAC (002241)	26.3 km	
Glenomra Wood SAC (001013)	11.3 km	
Tory Hill SAC (000439)	26 km	
Askeaton Fen Complex SAC (002279)	31 km	
Bolingbrook Hill SAC (002124)	8.5 km	<ul style="list-style-type: none"> <li>UWF Grid Connection is not located within the boundary of the SAC and therefore has <b>no potential for effects via SAC Pathway 1</b>: Direct effects to Qualifying Interest <b>habitats</b> of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within the SAC;</li> <li>UWF Grid Connection is not hydrologically connected to the SAC (<i>each of these SAC sites are located upstream in the Newport River catchment</i>), nor located in close proximity to the SAC, nor do any transport routes for construction materials pass through or close to the SAC, and therefore UWF Grid Connection has <b>no potential for effects via SAC Pathway 2 or SAC Pathway 3</b>: Indirect Effects to Qualifying Interest <b>habitats</b> of an SAC Site (i.e. via reductions in water quality or spread of invasive species) within the SAC or ex-situ the SAC;</li> <li>All Qualifying Interests of these SAC Sites are either habitats or plant species, there are <i>no animal species are listed as Qualifying Interests</i>, therefore UWF Grid Connection has <b>no potential for effects via SAC Pathway 4, SAC Pathway 5, SAC Pathway 6, SAC Pathway 7 or SAC Pathway 8</b>, which all relate to impact pathway connectivity to animal species of Qualifying Interest of an SAC. As stated above there are <i>no animal species are listed as Qualifying Interests</i> for any of</li> </ul>
Keeper Hill SAC (001197)	4.3 km	
Silvermine Mountain SAC (000939)	9.4 km	



		these three SAC sites.
Ratty River Cave SAC (002316)	24.5 km	<ul style="list-style-type: none"> <li>• UWF Grid Connection is not located within the boundary of the SAC and therefore has <b>no potential for effects via SAC Pathway 1</b>: Direct effects to Qualifying Interest habitats of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within the SAC, and for the same reasons UWF Grid Connection has <b>no potential for effects via SAC Pathway 4</b>: Direct effects to Qualifying Interest species of an SAC Site, i.e. mortality of Lesser Horseshoe Bat within Ratty River Cave SAC or within Curraghchase Woods SAC, or mortality of Marsh Fritillary butterfly within Barrigone SAC;</li> <li>• UWF Grid Connection is not hydrologically connected to the SAC nor is the project located in close proximity to the SAC, nor do any transport routes for construction materials pass through or close to the SAC, and therefore UWF Grid Connection has <b>no potential for effects via SAC Pathway 2 or SAC Pathway 3</b>: Indirect Effects to Qualifying Interest habitats of an SAC Site (i.e. via reductions in water quality or spread of invasive species) within the SAC or ex-situ the SAC;</li> <li>• UWF Grid Connection is not located within the boundary of the SAC nor is the project located in close proximity, and therefore has <b>no potential for effects via SAC Pathway 5 or SAC Pathway 7</b>: Indirect effects to Qualifying Interest species of the SAC Site, i.e. disturbance /displacement of Lesser Horseshoe Bat within or ex-situ Ratty River Cave SAC and Curraghchase Woods SAC, or Marsh Fritillary butterfly within or ex-situ Barrigone SAC.</li> </ul>
Curraghchase Woods SAC (000174)	33.4 km	
Barrigone SAC (000432)	44 km	

The 3 SPA sites listed in the left-hand column in the table below are screened out from further evaluation because it was evaluated that there is no potential for UWF Grid Connection to impact any of these SPA sites.

**Table 5: SPA Sites Screened out from Further Evaluation at Stage 2: Appropriate Assessment**

European Site	Separation Distance to UWF Grid Connection	The SPA Sites listed in the first column are screened out from further consideration because UWF Grid Connection (either directly, indirectly or in-combination) has no potential to adversely affect the SPA Site, for the reasons outlined below:
Lough Derg (Shannon) SPA (004058)	10.2 km	<ul style="list-style-type: none"> <li>UWF Grid Connection is not located within the boundary of the SPA and therefore has <b>no potential for effects via SPA Pathway 1</b>: Direct effects to Special Conservation Interest Species within an SPA (i.e. Disturbance, Mortality);</li> <li>UWF Grid Connection is not located within, or in close proximity to, the SPA, nor is the project hydrologically connected to the SPA, nor do any transport routes for construction materials pass through or close to the SPA, and therefore due to separation distance and absence of hydrological connectivity, it is evaluated that UWF Grid Connection has <b>no potential to cause SPA Pathway 2</b>: Indirect effects to Special Conservation Interest Species within an SPA (i.e. Secondary effects on suitable habitat via habitat loss, degradation, fragmentation or reduction/loss of connectivity, or through a reduction in prey item species);</li> </ul>
Stack's to Mullaghareirk Mountains, West Limerick Hills & Mount Eagle SPA (004161)	50.9 km	<ul style="list-style-type: none"> <li>UWF Grid Connection is not located within, or in close proximity to, the SPA, nor is the project hydrologically connected to the SPA, nor do any transport routes for construction materials pass through or close to the SPA. There is no source of collision risk associated with the proposed Grid Connection (in particular no overhead wires likely to affect wildfowl or Hen Harriers). In relation to disturbance to SCI species for these SPA's ex-situ their respective sites, the separation distance precludes effects in relation to disturbance. Any passage wildfowl (SCI for 004058) will only transit over works and there are no defined feeding or roosting sites along the grid route where they would experience disturbance/displacement effects whilst resting on migration. For Hen Harrier (SCI for 004161), whilst wintering individuals from the Mullaghareirks SPA may occur in proximity to UWF Grid Connection works, there is significant separation distance, demonstrated numbers in the vicinity of the UWF Grid Connection are low from baseline studies, effects will be momentary-brief in duration; unlikely to affect any individual &gt;150m from source; and Highly reversible once any individual moves beyond 150m, given the extent of suitable foraging habitats available, with no probability of resultant effects on breeding birds or the reference population of the SPA. Therefore due to separation distances, absence of hydrological connectivity and other reasons as outlined above, it is evaluated that UWF Grid Connection has <b>no potential for effects via SPA Pathway 3</b>: Indirect effects to Special Conservation Interest Species <b>ex-situ</b> an SPA (i.e. Secondary effects on suitable habitat via habitat loss, degradation, fragmentation or loss/reduction in connectivity, reductions in prey item species, or through disturbance or mortality effects to Special Conservation Interest bird species outside their respective SPA).</li> </ul>

<p>River Shannon and River Fergus Estuaries SPA (004077)</p>	<p>16.9 km (down-stream distance is 31.8km)</p>	<ul style="list-style-type: none"> <li>• UWF Grid Connection is not located within the boundary of the SPA and therefore has <b>no potential for effects via SPA Pathway 1</b>: Direct effects to Special Conservation Interest Species within an SPA (i.e. Disturbance, Mortality);</li> <li>• UWF Grid Connection is not located within or in close proximity to the SPA, and while there is hydrological connectivity with the project location, the large downstream distance and dilution factors preclude any downstream effects, and therefore due to separation distance, the large downstream distance and the dilution factor, it is evaluated that UWF Grid Connection has <b>no potential for effects along SPA Pathway 2</b>: Indirect effects to Special Conservation Interest Species within an SPA (i.e. Secondary effects on suitable habitat via habitat loss, degradation, fragmentation or reduction/loss of connectivity, or through a reduction in prey item species);</li> <li>• UWF Grid Connection is not located within or in close proximity to the SPA, and while there is hydrological connectivity with the project location, the large downstream distance, absence of records of SCI species from UGC works locations, and dilution factors preclude any downstream effects, including disturbance and therefore due to separation distance, the large downstream distance and the dilution factor, it is evaluated that UWF Grid Connection has <b>no potential for effects along SPA Pathway 3</b>: Indirect effects to Special Conservation Interest Species <b>ex-situ</b> an SPA (i.e. Secondary effects on suitable habitat via habitat loss, degradation, fragmentation or loss/reduction in connectivity, reductions in prey item species, or through disturbance or mortality effects to Special Conservation Interest bird species outside their respective SPA).</li> </ul>
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### **2.8.1 European Sites brought forward for detailed screening**

Because of the hydrological connectivity, proximity and/or location of UWF Grid Connection within the boundary of the European Site, the following Sites are subject to detailed screening Section 2.9.

- Lower River Shannon SAC (002165)
- Lower River Suir SAC (002137)
- Clare Glen SAC (000930)
- Slievefelim to Silvermines Mountain SPA (004165)

## 2.9 Screening of 4 European Sites with potential for effects

Following the initial screening, 4 European sites (Lower River Shannon SAC, Lower River Suir SAC, Clare Glens SAC and Slievefelim to Silvermines Mountain SPA) are brought forward for further detailed screening, to establish whether or not impact pathways or interactions exist between UWF Grid Connection and the Qualifying Interests or Special Conservation Interests of these four Sites.

### 2.9.1 Screening Exercise for the Lower River Shannon SAC (002165)

The Lower River Shannon SAC is a very large site, which stretches along the Shannon valley from Killaloe in Co. Clare to Loop Head/ Kerry Head. The site encompasses the Shannon, Feale, Mulkear and Fergus estuaries, the freshwater lower reaches of the River Shannon (between Killaloe and Limerick), **the freshwater stretches of much of the Feale and Mulkear catchments** and the marine area between Loop Head and Kerry Head (*authors emphasis*). There are numerous tributary rivers within the freshwater stretches of the Feale and Mulkear catchments. Rivers within the sub-catchment of the Feale include the Galey, Smearlagh, Oolagh, Allaughaun, Owveg, Clydagh, Caher, Breanagh and Glenacarney. Rivers within the sub-catchment of the Mulkear include the Killeenagarrieff, Annagh (Clare), Newport, Dead, Bilboa (*authors emphasis*), Glashacloonaraveela, Gortnageragh and Cahernahallia.

This site contains the only known resident population of Bottle-nosed Dolphin in Ireland and all three Irish lamprey species. This site supports more wintering wildfowl and waders than any other site in the country and supports a large number of migratory birds.

#### 2.9.1.1 Screening of the Potential for UWF Grid Connection to cause effects to Qualifying Interests of the Lower River Shannon SAC

The potential for impact pathways between UWF Grid Connection (either directly, indirectly or in-combination with other projects) and the Qualifying Interests of the Lower River Shannon SAC are further examined in the Table 6 below.

**In summary**, the findings are that:

There is potential for UWF Grid Connection to impact the following Qualifying Interests:

Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation [3260]

Alluvial Forests (91E0)\* (priority habitat)

Atlantic Salmon [1106]

Sea Lamprey [1095]

Brook Lamprey [1096]

River Lamprey [1099]

Otter [1355]

**The SAC and above listed Qualifying Interests are brought forward for Stage 2 Appropriate Assessment.**

All of the other Qualifying Interests are screened out from further evaluation because there is no potential for UWF Grid Connection (either directly, indirectly or in-combination with other projects) to cause any significant effect to these Qualifying Interests.

Table 6: Screening Exercise for the Lower River Shannon SAC

Qualifying Interests (QI) of the Lower River Shannon SAC Site Code: 002165	Notes on Qualifying Interest	Potential Effect(s) On Qualifying Interests	Examination of Connectivity between UWF Grid Connection and Lower River Shannon SAC	Potential for effects? Yes – Screened In for further evaluation at Stage 2, or No – Screened out
Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation [3260]	<p>The description of this Qualifying Interest habitat is broad, covering rivers from upland bryophyte and macroalgal dominated stretches, to lowland depositing rivers with pondweeds and starworts.</p> <p>A rich bryophyte flora has been recorded from the Bilboa River. The bryophyte-rich habitat was found in mature river stretches of 10-12 m, occasionally up to 20 m, wide, which varied from riffles and cascades to pools.</p> <p>In addition to these known important bryophyte-rich streams and rivers in the site, there are likely to be other stretches with bryophyte-rich sub-types.</p>	<p><u>SAC Pathway 1</u>: Direct effects to Qualifying Interest habitats of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within the SAC;</p> <p><u>SAC Pathway 2</u>: Indirect Effects to Qualifying Interest habitats of an SAC Site (i.e. via reductions in water quality or spread of invasive species) within the SAC</p> <p><u>SAC Pathway 3</u>: Indirect Effects to Qualifying Interest habitats, of an SAC Site (i.e. via reductions in water quality or spread of invasive species) ex-situ the SAC</p>	There is connectivity of impact pathways with this Qualifying Interest where the 110kV UGC crosses through the SAC boundary over Bilboa River (in the structure of the Anglesey Bridge). There is also potential connectivity also via hydrological pathways and transport routes.	Screened In for further evaluation at Stage 2 for SAC Pathways 1, 2 & 3

Qualifying Interests (QI) of the Lower River Shannon SAC Site Code: 002165	Notes on Qualifying Interest	Potential Effect(s) On Qualifying Interests	Examination of Connectivity between UWF Grid Connection and Lower River Shannon SAC	Potential for effects? Yes – Screened In for further evaluation at Stage 2, or No – Screened out
<p>Atlantic Salmon [1106]</p> <p>Sea Lamprey [1095]</p> <p>Brook Lamprey [1096]</p> <p>River Lamprey [1099]</p>	<p>Five species of fish listed on Annex II of the E.U. Habitats Directive are found within this SAC site. These are Sea Lamprey, Brook Lamprey, River Lamprey, Twaite Shad and Salmon. The three lampreys and Salmon have all been observed spawning in the lower Shannon or its tributaries. The Mulkear catchment excels as a grilse fishery. Twaite Shad is not thought to spawn within the site and is not listed as a Qualifying Interest in this SAC.</p>	<p><u>SAC Pathway 4:</u> Direct effects to Qualifying Interest species of an SAC Site (i.e. mortality) within or ex-situ the SAC</p> <p><u>SAC Pathway 5:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. disturbance /displacement) within a SAC Site</p> <p><u>SAC Pathway 6:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within an SAC Site</p> <p><u>SAC Pathway 7:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. disturbance /displacement) ex-situ to an SAC Site</p> <p><u>SAC Pathway 8:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) ex-situ an SAC Site</p>	<p>There is connectivity of impact pathways at crossing locations of the 110kV UGC over the SAC in the structure of existing Rockvale Bridge and Anglesey Bridge, and at the other watercourse crossing locations at Mountphilips Substation site and along the 110kV UGC route within the catchment. There is also potential connectivity also via hydrological pathways and transport routes.</p>	<p><b>Screened In</b> for further evaluation at Stage 2 for <b>SAC Pathways 4 to 8</b></p>
<p>Otter [1355]</p>	<p>Otter is commonly found in the SAC. Otters will utilise freshwater habitats from estuary to headwaters.</p>	<p><u>SAC Pathway 4:</u> Direct effects to Qualifying Interest species of an SAC Site (i.e. mortality) within or ex-situ the SAC</p> <p><u>SAC Pathway 5:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. disturbance /displacement) within a SAC Site</p> <p><u>SAC Pathway 6:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within an</p>	<p>There is connectivity of impact pathways where the 110kV UGC is located within the boundary of the SAC, at crossing locations over the SAC in the structure of existing Rockvale Bridge and Anglesey Bridge, and at the other watercourse crossing locations at Mountphilips</p>	<p><b>Screened In</b> for further evaluation at Stage 2 for <b>SAC Pathways 4 to 8</b></p>



Qualifying Interests (QI) of the Lower River Shannon SAC Site Code: 002165	Notes on Qualifying Interest	Potential Effect(s) On Qualifying Interests	Examination of Connectivity between UWF Grid Connection and Lower River Shannon SAC	Potential for effects? Yes – Screened In for further evaluation at Stage 2, or No – Screened out
		<p>SAC Site</p> <p><u>SAC Pathway 7</u>: Indirect effects to Qualifying Interest species of an SAC Site (i.e. disturbance /displacement) ex-situ to an SAC Site</p> <p><u>SAC Pathway 8</u>: Indirect effects to Qualifying Interest species of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) ex-situ an SAC Site</p>	<p>Substation site and along the 110kV UGC route within the catchment. There is also potential connectivity also via hydrological pathways and transport routes.</p>	
<p>Alluvial Forests (91E0)* (* priority habitat)</p>	<p>Alluvial woodland occurs on the banks of the Shannon and on islands in the vicinity of the University of Limerick.</p> <p>The valley sides of the Bilboa and Gortnageragh Rivers, on higher ground north-east of Cappamore, support patches of semi-natural broadleaf woodland dominated by Ash, Hazel, oak and birch.</p> <p>Further areas are likely to be present within the SAC</p>	<p><u>SAC Pathway 1</u>: Direct effects to Qualifying Interest habitats of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within the SAC;</p> <p><u>SAC Pathway 2</u>: Indirect Effects to Qualifying Interest habitats of an SAC Site (i.e. via reductions in water quality or spread of invasive species) within the SAC</p> <p><u>SAC Pathway 3</u>: Indirect Effects to Qualifying Interest habitats, of an SAC Site (i.e. via reductions in water quality or spread of invasive species) ex-situ the SAC</p>	<p>The UWF Grid Connection is located at a distance from the cited locations where these habitats occur, and no alluvial forest habitat was recorded within 50m of the UWF Grid Connection project. Therefore, there is no potential for direct effects.</p> <p>However the potential for indirect effects via hydrological connection or spread of invasive species does exist.</p>	<p><b>Screened Out – for Direct Impacts (SAC Pathway 1)</b></p> <p><b>Screened In for further evaluation at Stage 2 for SAC Pathway 2 and 3</b></p>

Qualifying Interests (QI) of the Lower River Shannon SAC Site Code: 002165	Notes on Qualifying Interest	Potential Effect(s) On Qualifying Interests	Examination of Connectivity between UWF Grid Connection and Lower River Shannon SAC	Potential for effects? Yes – Screened In for further evaluation at Stage 2, or No – Screened out
<i>Molinia</i> Meadows [6410]	This habitat has been recorded on the eastern bank of the Shannon, just north of Castleconnell, Co. Limerick. Full distribution of this habitat in this site is currently unknown and it almost certainly occurs elsewhere.	<u>SAC Pathway 1</u> : Direct effects to Qualifying Interest habitats of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within the SAC; <u>SAC Pathway 2</u> : Indirect Effects to Qualifying Interest habitats of an SAC Site (i.e. via reductions in water quality or spread of invasive species) within the SAC <u>SAC Pathway 3</u> : Indirect Effects to Qualifying Interest habitats, of an SAC Site (i.e. via reductions in water quality or spread of invasive species) ex-situ the SAC	The UWF Grid Connection is located at a distance from the cited locations where these habitats occur, and no <i>Molinia</i> Meadows habitat was recorded within 50m of the UWF Grid Connection project. Therefore, there is no potential for direct effects.  Separation distance and the absence of pathways to terrestrial habitats at this downstream distance precludes secondary effects.	<b>Screened Out</b> – for Direct Impacts (SAC Pathway 1)  <b>Screened Out</b> for further evaluation at Stage 2 for <b>SAC Pathway 2 and 3</b>
Freshwater Pearl Mussel [1029]	The cited Qualifying Interest population is in the Cloon River in County Clare only, to the north of the River Shannon Estuary.	<u>SAC Pathway 4</u> : Direct effects to Qualifying Interest species of an SAC Site (i.e. mortality) within or ex-situ the SAC <u>SAC Pathway 5</u> : Indirect effects to Qualifying Interest species of an SAC Site (i.e. disturbance /displacement) within a SAC Site <u>SAC Pathway 6</u> : Indirect effects to Qualifying Interest species of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within an SAC Site <u>SAC Pathway 7</u> : Indirect effects to Qualifying Interest species of an SAC Site (i.e. disturbance /displacement)	The UWF Grid Connection is located at a substantial separation distance from the cited population. In addition, UWF Grid Connection is <b>not hydrologically connected</b> with the location of the cited population is in the Cloon River in County Clare, to the north of the River Shannon Estuary. Therefore it is evaluated that UWF Grid Connection has no likelihood of adversely affecting Freshwater Pearl Mussel, or their	<b>Screened Out</b> – UWF Grid Connection has no likelihood of causing effects to this Qualifying Interest species

Qualifying Interests (QI) of the Lower River Shannon SAC Site Code: 002165	Notes on Qualifying Interest	Potential Effect(s) On Qualifying Interests	Examination of Connectivity between UWF Grid Connection and Lower River Shannon SAC	Potential for effects? Yes – Screened In for further evaluation at Stage 2, or No – Screened out
		ex-situ to an SAC Site  <u>SAC Pathway 8</u> : Indirect effects to Qualifying Interest species of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) ex-situ an SAC Site	supporting species.	
Bottlenose Dolphin [1349]	There is a resident population of Bottle-nosed Dolphin in the Shannon Estuary, west of Limerick	<u>SAC Pathway 4</u> : Direct effects to Qualifying Interest species of an SAC Site (i.e. mortality) within or ex-situ the SAC  <u>SAC Pathway 5</u> : Indirect effects to Qualifying Interest species of an SAC Site (i.e. disturbance /displacement) within a SAC Site  <u>SAC Pathway 6</u> : Indirect effects to Qualifying Interest species of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within an SAC Site  <u>SAC Pathway 7</u> : Indirect effects to Qualifying Interest species of an SAC Site (i.e. disturbance /displacement) ex-situ to an SAC Site  <u>SAC Pathway 8</u> : Indirect effects to Qualifying Interest species of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) ex-situ an SAC Site	The UWF Grid Connection is located at a substantial separation distance from the cited population. Therefore it is evaluated that UWF Grid Connection has no likelihood of causing effects to <i>Bottlenose Dolphin</i> based on separation distance, the substantial dilution and dispersion within the sub-catchment.	<b>Screened Out</b> - UWF Grid Connection has no likelihood of causing effects to this Qualifying Interest species.

Qualifying Interests (QI) of the Lower River Shannon SAC Site Code: 002165	Notes on Qualifying Interest	Potential Effect(s) On Qualifying Interests	Examination of Connectivity between UWF Grid Connection and Lower River Shannon SAC	Potential for effects? Yes – Screened In for further evaluation at Stage 2, or No – Screened out
<p>Sandbanks which are slightly covered by sea water all the time [1110]</p> <p>Estuaries (1130)</p> <p>Mudflats and Sandflats not covered by seawater all the time (1140)</p> <p>Coastal Lagoons (1150)</p> <p>Large shallow inlets and bays (1160)</p> <p>Reefs (1170)</p> <p><i>Salicornia</i> and other annuals colonizing mud and sand [1310]</p> <p>Atlantic Salt Meadows (1330)</p> <p>Mediterranean Salt Meadows (1410)</p> <p>Perennial Vegetation of Stony Banks (1220)</p> <p>Vegetated Sea Cliffs (1230)</p>	<p>These Qualifying Interests habitats are either coastal habitats or located in coastal or transitional waters.</p>	<p><u>SAC Pathway 1:</u> Direct effects to Qualifying Interest habitats of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within the SAC;</p> <p><u>SAC Pathway 2:</u> Indirect Effects to Qualifying Interest habitats of an SAC Site (i.e. via reductions in water quality or spread of invasive species) within the SAC</p> <p><u>SAC Pathway 3:</u> Indirect Effects to Qualifying Interest habitats, of an SAC Site (i.e. via reductions in water quality or spread of invasive species) ex-situ the SAC</p>	<p><b>No impact pathway</b> - The UWF Grid Connection is located at a distance from the part of the SAC where these habitats occur, therefore no impact pathway for direct effects exists.</p> <p>In relation to indirect effects, while the UWF Grid Connection is located upstream of these habitats, it is evaluated that there is no likelihood of UWF Grid Connection causing effects to these habitats based on separation distance, the limited footprint of works the substantial dilution and dispersion within the sub-catchment, and the location of these Qualifying Interests in coastal or transitional waters.</p>	<p><b>Screened Out</b> - UWF Grid Connection has no likelihood of causing effects to these Qualifying Interest habitats.</p>

## 2.9.2 Screening Exercise for the Lower River Suir SAC (002137)

Lower River Suir SAC consists of the **freshwater stretches of the River Suir immediately south of Thurles**, the tidal stretches as far as the confluence with the Barrow/Nore immediately east of Cheekpoint in Co. Waterford, **and many tributaries** including the Clodiagh in Co. Waterford, the Lingaun, Anner, Nier, Tar, Aherlow, **Multeen and Clodiagh in Co. Tipperary** (*authors emphasis*). The Suir and its tributaries flow through the counties of Tipperary, Kilkenny and Waterford.

### 2.9.2.1 Screening of the Potential for UWF Grid Connection to cause effects to Qualifying Interests of the Lower River Suir SAC

The potential for impact pathways between UWF Grid Connection and the Qualifying Interests of the Lower River Suir SAC are further examined in table 7 below.

**In summary**, the findings are that:

There is potential for UWF Grid Connection to impact the following Qualifying Interests:

Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation [3260]

Alluvial Forests (91E0)\* (priority habitat)

Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]

Yew Woodlands\* Taxus baccata woods of the British Isles [91J0] (priority habitat)

Old sessile oak woods with Ilex and Blechnum in the British Isles

Freshwater Pearl Mussel [1029]

White-clawed Crayfish [1092]

Sea Lamprey [1095]

Brook Lamprey [1096]

River Lamprey [1099]

Atlantic Salmon [1106]

Otter [1355]

**The SAC and above listed Qualifying Interests are brought forward for Stage 2 Appropriate Assessment.**

All of the other Qualifying Interests are screened out from further evaluation because there is no potential for UWF Grid Connection (either directly, indirectly or in-combination with other projects) to cause any effect to these Qualifying Interests.

Table 7: Screening Exercise for the Lower River Suir SAC (002137)

Qualifying Interests (QI) of the Lower River Suir SAC Site Code: 002137	Notes on Qualifying Interest	Potential Effect(s) On Qualifying Interests	Examination of Connectivity between UWF Grid Connection and Lower River Suir SAC	Potential for effects? Yes – Screened In for further evaluation at Stage 2, or No – Screened out
Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]	The description of habitat 3260 covers upland rivers with bryophytes and macroalgae to lowland depositing rivers with pondweeds and starworts. The selection of Lower River Suir SAC used this broad interpretation. Conservation objectives for habitat 3260 concentrate on the high conservation value sub-types, however, little is known of the habitat's distribution or its sub-types in Lower River Suir SAC. There is a large number of lowland and tidal rivers in the SAC, as well as faster-flowing tributaries.	<u>SAC Pathway 1:</u> Direct effects to Qualifying Interest habitats of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within the SAC; <u>SAC Pathway 2:</u> Indirect Effects to Qualifying Interest habitats of an SAC Site (i.e. via reductions in water quality or spread of invasive species) within the SAC <u>SAC Pathway 3:</u> Indirect Effects to Qualifying Interest habitats, of an SAC Site (i.e. via reductions in water quality or spread of invasive species) ex-situ the SAC	The location of the UWF Grid Connection does not overlap the boundary of the Lower River Suir SAC, therefore there is no potential for direct effects to this Qualifying Interest habitat.  However the potential for indirect effects via hydrological connection or spread of invasive species does exist.	<b>Screened Out</b> – for Direct Impacts (SAC Pathway 1)  <b>Screened In</b> for further evaluation at Stage 2 for SAC Pathways 2 and 3
Alluvial Forests (91E0)* (* priority habitat)	Alluvial forest was surveyed in Lower River Suir SAC at Fiddown Mountbolton and Ballycanvan Big Further unsurveyed areas of alluvial forest are present within the SAC, for example at islands below Carrick-on-Suir, at Shanbally, Tibberaghny Marshes, along the lower stretches of the more westerly of the Suir tributaries and along both banks of the Suir as far east as the Dawn River.	<u>SAC Pathway 1:</u> Direct effects to Qualifying Interest habitats of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within the SAC; <u>SAC Pathway 2:</u> Indirect Effects to Qualifying Interest habitats of an SAC Site (i.e. via reductions in water quality or spread of invasive species) within the SAC <u>SAC Pathway 3:</u> Indirect Effects to Qualifying Interest habitats, of an SAC Site	The location of the UWF Grid Connection does not overlap the boundary of the Lower River Suir SAC, therefore there is no potential for direct effects to this Qualifying Interest habitat.  Although the cited locations of this Qualifying Interest habitat are at a substantial separation distance from UWF Grid Connect, there exists the potential for indirect effects via hydrological	<b>Screened Out</b> – for Direct Pathways (SAC Pathway 1)  <b>Screened In</b> for further evaluation at Stage 2 for SAC Pathways 2 and 3

Qualifying Interests (QI) of the Lower River Suir SAC Site Code: 002137	Notes on Qualifying Interest	Potential Effect(s) On Qualifying Interests	Examination of Connectivity between UWF Grid Connection and Lower River Suir SAC	<b>Potential for effects?</b>  Yes – Screened In for further evaluation at Stage 2, or  No – Screened out
		(i.e. via reductions in water quality or spread of invasive species) ex-situ the SAC.	connection or spread of invasive species.	
Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]	The total area of the qualifying habitat in the SAC is unknown. The lowland type communities of the habitat are considered to occur in association with the various areas of alluvial forest within the SAC, notably at Fiddown, below Carrick-on-Suir and at Tibberaghny Marshes. This habitat type would also be expected to occur in association with other woodland types in fringe areas along the river and with areas of open marsh or wet grassland within the SAC.	<u>SAC Pathway 1:</u> Direct effects to Qualifying Interest habitats of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within the SAC;  <u>SAC Pathway 2:</u> Indirect Effects to Qualifying Interest habitats of an SAC Site (i.e. via reductions in water quality or spread of invasive species) within the SAC  <u>SAC Pathway 3:</u> Indirect Effects to Qualifying Interest habitats, of an SAC Site (i.e. via reductions in water quality or spread of invasive species) ex-situ the SAC.	The location of the UWF Grid Connection does not overlap the boundary of the Lower River Suir SAC, therefore there is no potential for direct effects to this Qualifying Interest habitat.  Although the cited locations of this Qualifying Interest habitat are at a substantial separation distance from UWF Grid Connection, this habitat may occur at other locations, and there exists the potential for indirect effects via hydrological connection or spread of invasive species.	<b>Screened Out – for Direct Impacts (SAC Pathway 1)</b>  <b>Screened In for further evaluation at Stage 2 for SAC Pathways 2 and 3</b>
Yew Woodlands* <i>Taxus baccata</i> woods of the British Isles [91J0] (* priority habitat)	<i>Taxus baccata</i> woods of the British Isles habitat has not been mapped in detail for Lower River Suir SAC and thus the total area of the qualifying habitat is unknown. Yew ( <i>Taxus baccata</i> ) woodland is known to occur at Cahir Park and at Shanbally.	<u>SAC Pathway 1:</u> Direct effects to Qualifying Interest habitats of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within the SAC;  <u>SAC Pathway 2:</u> Indirect Effects to Qualifying Interest habitats of an SAC Site (i.e. via reductions in water quality or spread of invasive species) within the SAC  <u>SAC Pathway 3:</u> Indirect Effects to	The location of the UWF Grid Connection does not overlap the boundary of the Lower River Suir SAC, therefore there is no potential for direct effects to this Qualifying Interest habitat.  Although the cited locations of this Qualifying Interest habitat are at a substantial separation distance from UWF Grid Connection, this habitat may	<b>Screened Out – for Direct Impacts (SAC Pathway 1)</b>  <b>Screened In for further evaluation at Stage 2 for SAC Pathways 2 and 3</b>



Qualifying Interests (QI) of the Lower River Suir SAC Site Code: 002137	Notes on Qualifying Interest	Potential Effect(s) On Qualifying Interests	Examination of Connectivity between UWF Grid Connection and Lower River Suir SAC	Potential for effects? Yes – Screened In for further evaluation at Stage 2, or No – Screened out
		Qualifying Interest habitats, of an SAC Site (i.e. via reductions in water quality or spread of invasive species) ex-situ the SAC.	occur at other locations, and there exists the potential for indirect effects via hydrological connection or spread of invasive species.	
Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles	The best examples of old sessile oak woods are seen in Portlaw Wood which lies on both sides of the Clodiagh River (in County Waterford). Old sessile oak wood habitat also occurs in Inchinsquillib Wood (in County Tipperary) which consists of three small separate sloping blocks of woodland in a valley cut by the young Multeen River and its tributaries.  Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> were surveyed in Lower River Suir SAC at Lyranearla and Inchinsquillib Wood. It is important to note that further unsurveyed areas are present within the SAC, including at Portlaw Wood within the Curraghmore Estate and other small pockets within the SAC.	<u>SAC Pathway 1:</u> Direct effects to Qualifying Interest habitats of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within the SAC;  <u>SAC Pathway 2:</u> Indirect Effects to Qualifying Interest habitats of an SAC Site (i.e. via reductions in water quality or spread of invasive species) within the SAC  <u>SAC Pathway 3:</u> Indirect Effects to Qualifying Interest habitats, of an SAC Site (i.e. via reductions in water quality or spread of invasive species) ex-situ the SAC.	The location of the UWF Grid Connection does not overlap the boundary of the Lower River Suir SAC, therefore there is no potential for direct effects to this Qualifying Interest habitat.  Although the cited locations of this Qualifying Interest habitat are at a substantial separation distance from UWF Grid Connection, this habitat may occur at other locations, and there exists the potential for indirect effects via hydrological connection or spread of invasive species.	<b>Screened Out</b> – for Direct Impacts (SAC Pathway 1)  <b>Screened In</b> for further evaluation at Stage 2 for SAC Pathways 2 and 3
Freshwater Pearl Mussel [1029]	The conservation objective for Freshwater Pearl Mussel applies to the Clodiagh freshwater pearl mussel (Margaritifera)	<u>SAC Pathway 4:</u> Direct effects to Qualifying Interest species of an SAC Site (i.e. mortality) within the SAC  <u>SAC Pathway 5:</u> Indirect effects to	The UWF Grid Connection works are located approximately 17km upstream at their closest point from the nearest Freshwater	<b>Screened Out</b> – for Direct Impacts (SAC Pathway 4)

Qualifying Interests (QI) of the Lower River Suir SAC Site Code: 002137	Notes on Qualifying Interest	Potential Effect(s) On Qualifying Interests	Examination of Connectivity between UWF Grid Connection and Lower River Suir SAC	Potential for effects? Yes – Screened In for further evaluation at Stage 2, or No – Screened out
	<p>margaritifera) population. <u>This population is in the Clodiagh River in Portlaw, County Waterford and not the Clodiagh River in County Tipperary.</u> These two rivers are not hydrologically connected.</p> <p>The nearest Freshwater Pearl Mussel (FPM) population to the UWF Grid Connection is in the Clodiagh (Tipperary) and Multeen Rivers.</p>	<p>Qualifying Interest species of an SAC Site (i.e. disturbance /displacement) within a SAC Site</p> <p><u>SAC Pathway 6:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within an SAC Site</p> <p><u>SAC Pathway 7:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. disturbance /displacement) ex-situ to an SAC Site</p> <p><u>SAC Pathway 8:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) ex-situ an SAC Site.</p>	<p>Pearl Mussel (FPM) population in the Clodiagh (Tipperary).</p> <p>The location of the UWF Grid Connection does not overlap the boundary of the Lower River Suir SAC and does not overlap the extent of any FPM populations; therefore there is no potential for direct effects or ex-situ effects to this Qualifying Interest species.</p> <p>Although the population of FPM to which the Conservation Objectives relate are in a watercourse which is not hydrologically connected with UWF Grid Connection, and therefore impact pathways do not exist, there are extant populations of FPM downstream (17km) of UWF Grid Connection, and populations may also exist at other locations in the catchment, and there exists the potential for indirect effects via hydrological connection or spread of invasive species either upstream or downstream, or along transport routes associated with UWF Grid Connection.</p>	<p><b>Screened In for further evaluation at Stage 2 for SAC Pathways 5 to 8</b></p>

Qualifying Interests (QI) of the Lower River Suir SAC Site Code: 002137	Notes on Qualifying Interest	Potential Effect(s) On Qualifying Interests	Examination of Connectivity between UWF Grid Connection and Lower River Suir SAC	Potential for effects? Yes – Screened In for further evaluation at Stage 2, or No – Screened out
White-clawed Crayfish [1092]	White-clawed crayfish occurs extensively on the River Suir and on many of its tributaries.	<p><u>SAC Pathway 4:</u> Direct effects to Qualifying Interest species of an SAC Site (i.e. mortality) within or ex-situ the SAC</p> <p><u>SAC Pathway 5:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. disturbance /displacement) within a SAC Site</p> <p><u>SAC Pathway 6:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within an SAC Site</p> <p><u>SAC Pathway 7:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. disturbance /displacement) ex-situ to an SAC Site</p> <p><u>SAC Pathway 8:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) ex-situ an SAC Site.</p>	<p>The UWF Grid Connection is located in the Clodiagh (Tipperary) catchment area which supports this species.</p> <p>The location of the UWF Grid Connection does not overlap the boundary of the Lower River Suir SAC and will not involve any instream works in watercourses with fisheries value where white clawed crayfish may occur; while it is unlikely that direct effects could occur to this Qualifying Interest species, screened in on a precautionary basis for ex-situ effects in relation to mortality effects</p> <p>However, this Qualifying Interest species occurs extensively in the Suir catchment, and the potential exists for indirect effects via hydrological connection or spread of invasive species to populations of this Qualifying Interest either upstream or downstream, or along transport routes associated with UWF Grid Connection or through disturbance/displacement related effects to upstream ex-situ populations.</p>	Screened In for further evaluation at Stage 2 for SAC Pathways 4, 5, 6, 7 and 8

Qualifying Interests (QI) of the Lower River Suir SAC Site Code: 002137	Notes on Qualifying Interest	Potential Effect(s) On Qualifying Interests	Examination of Connectivity between UWF Grid Connection and Lower River Suir SAC	Potential for effects? Yes – Screened In for further evaluation at Stage 2, or No – Screened out
<p>Sea Lamprey [1095]</p> <p>Brook Lamprey [1096]</p> <p>River Lamprey [1099]</p> <p>Atlantic Salmon [1106]</p>		<p><u>SAC Pathway 4:</u> Direct effects to Qualifying Interest species of an SAC Site (i.e. mortality) within or ex-situ the SAC</p> <p><u>SAC Pathway 5:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. disturbance /displacement) within a SAC Site</p> <p><u>SAC Pathway 6:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within an SAC Site</p> <p><u>SAC Pathway 7:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. disturbance /displacement) ex-situ to an SAC Site</p> <p><u>SAC Pathway 8:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) ex-situ an SAC Site.</p>	<p>The UWF Grid Connection is located in the Clodiagh (Tipperary) catchment which supports this species.</p> <p>The location of the UWF Grid Connection does not overlap the boundary of the Lower River Suir SAC and will not involve any instream works in watercourses with fisheries value; however a precautionary approach is taken.</p> <p>However, these Qualifying Interest species occur within the Suir catchment, and the potential exists for indirect effects via hydrological connection or spread of invasive species either upstream or downstream, or along transport routes associated with UWF Grid Connection.</p>	<p><b>Screened In – for Direct Impacts (SAC Pathway 4)</b></p> <p><b>Screened In for further evaluation at Stage 2 for SAC Pathways 5 to 8</b></p>

Qualifying Interests (QI) of the Lower River Suir SAC Site Code: 002137	Notes on Qualifying Interest	Potential Effect(s) On Qualifying Interests	Examination of Connectivity between UWF Grid Connection and Lower River Suir SAC	Potential for effects? Yes – Screened In for further evaluation at Stage 2, or No – Screened out
<p>Otter [1355]</p>		<p><u>SAC Pathway 4:</u> Direct effects to Qualifying Interest species of an SAC Site (i.e. mortality) within or ex-situ the SAC</p> <p><u>SAC Pathway 5:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. disturbance /displacement) within a SAC Site</p> <p><u>SAC Pathway 6:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within an SAC Site</p> <p><u>SAC Pathway 7:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. disturbance /displacement) ex-situ to an SAC Site</p> <p><u>SAC Pathway 8:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) ex-situ an SAC Site.</p>	<p>The location of the UWF Grid Connection does not overlap the boundary of the Lower River Suir SAC and will not involve any instream works in watercourses with fisheries value; screened in on a precautionary basis for ex-situ effects in relation to mortality effects.</p> <p>However, this Qualifying Interest species is expected to occur throughout the Suir catchment, and the potential exists for indirect effects via hydrological connection or spread of invasive species to either upstream or downstream, or along transport routes associated with UWF Grid Connection.</p>	<p><b>Screened In</b> for further evaluation at Stage 2 for <b>SAC Pathway 4 (ex-situ only) and SAC Pathways 5 to 8</b></p>

Qualifying Interests (QI) of the Lower River Suir SAC Site Code: 002137	Notes on Qualifying Interest	Potential Effect(s) On Qualifying Interests	Examination of Connectivity between UWF Grid Connection and Lower River Suir SAC	<b>Potential for effects?</b>  Yes – Screened In for further evaluation at Stage 2, or  No – Screened out
<p>Atlantic salt meadows [1330]</p> <p>Mediterranean salt meadows [1410]</p>	<p>These Qualifying Interests habitats are either coastal habitats or located in coastal or transitional waters.</p>	<p><u>SAC Pathway 1</u>: Direct effects to Qualifying Interest habitats of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within the SAC;</p> <p><u>SAC Pathway 2</u>: Indirect Effects to Qualifying Interest habitats of an SAC Site (i.e. via reductions in water quality or spread of invasive species) within the SAC</p> <p><u>SAC Pathway 3</u>: Indirect Effects to Qualifying Interest habitats, of an SAC Site (i.e. via reductions in water quality or spread of invasive species) ex-situ the SAC</p>	<p><b>No impact pathway</b> - The UWF Grid Connection is located at a substantial distance (c.130km) from the part of the SAC where these habitats occur, therefore no impact pathway for direct effects exists.</p> <p>In relation to indirect effects, while the UWF Grid Connection is located upstream of these habitats, it is evaluated that there is no likelihood of UWF Grid Connection causing effects to these habitats based on separation distance, the limited footprint of works the substantial dilution and dispersion within the sub-catchment, and the location of these Qualifying Interests in coastal or transitional waters.</p>	<p><b>Screened Out</b> – for SAC Pathways 1 to 3, no likelihood of significant effects to this Qualifying Interest.</p>

Qualifying Interests (QI) of the Lower River Suir SAC Site Code: 002137	Notes on Qualifying Interest	Potential Effect(s) On Qualifying Interests	Examination of Connectivity between UWF Grid Connection and Lower River Suir SAC	Potential for effects? Yes – Screened In for further evaluation at Stage 2, or No – Screened out
Twaite Shad [1103]	<p>The SAC is one of only three known spawning grounds in the country for Twaite Shad.</p> <p>Twaite Shad spawn in calm waters about 1km upstream of the old bridge in Carrick-on-Suir</p>	<p><u>SAC Pathway 4:</u> Direct effects to Qualifying Interest species of an SAC Site (i.e. mortality) within or ex-situ the SAC</p> <p><u>SAC Pathway 5:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. disturbance /displacement) within a SAC Site</p> <p><u>SAC Pathway 6:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within an SAC Site</p> <p><u>SAC Pathway 7:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. disturbance /displacement) ex-situ to an SAC Site</p> <p><u>SAC Pathway 8:</u> Indirect effects to Qualifying Interest species of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) ex-situ an SAC Site.</p>	<p>The location of the UWF Grid Connection does not overlap the boundary of the Lower River Suir SAC and will not involve any instream works in watercourses with fisheries value; therefore there is no potential for direct effects to this Qualifying Interest species.</p> <p>In relation to indirect effects, Twaite Shad is known to spawn c.100km downstream in Carrick-on-Suir, the UWF Grid Connection is located at a substantial separation distance from the cited population. Therefore it is evaluated that UWF Grid Connection has no likelihood of causing effects to <i>Twaite Shad</i> based on separation distance, the substantial dilution and dispersion within the sub-catchment.</p>	<p><b>Screened Out</b> – for SAC Pathways 4 to 8, no likelihood of significant effects to this Qualifying Interest.</p>



### 2.9.3 Screening Exercise for the Clare Gen SAC (000930)

Clare Glen lies on the Limerick - Tipperary border, in the western foothills of the Slievefelim Mountains, about 10 km north-west of Cappamore. The glen was formed by the action of the Clare River cutting into the Old Red Sandstone. The site comprises the wooded river valley about 2km above the Clare Bridge.

#### 2.9.3.1 Screening of the Potential for UWF Grid Connection to cause effects to Qualifying Interests of the Clare Glen SAC

The potential for impact pathways between UWF Grid Connection and the Qualifying Interests of the Clare Glen SAC are examined in the table below.

**In summary**, the findings are that:

There is potential for UWF Grid Connection to impact the following Qualifying Interests:

Old Oak Woodlands [91A0]

Killarney Fern (*Trichomanes speciosum*) [1421]

**The SAC and above listed Qualifying Interests are brought forward for Stage 2 Appropriate Assessment.**

No Qualifying Interests have been screened out.

Table 8: Screening Exercise for the Clare Glen SAC (000930)

Qualifying Interests (QI) of the Clare Glen SAC Site Code: 000930	Notes on Qualifying Interest	Potential Effect(s) On Qualifying Interests	Examination of Connectivity between UWF Grid Connection and Clare Glen SAC	Potential for effects? Yes – Screened In for further evaluation at Stage 2, or No – Screened out
Old Oak Woodlands [91A0]	<p>The woodland in Clare Glen SAC occurs along the Clare River valley and is of mixed composition with native broadleaves and non-native conifers and beech (<i>Fagus sylvatica</i>). The woodland, although planted with many exotic trees, is mature and conforms to a type listed on Annex II of the E.U. Habitats Directive.</p> <p>A rich bryophyte flora is associated with the river and the wet rocks around it. The site is also notable for the presence of several rare species of Myxomycete fungus.</p>	<p><u>SAC Pathway 1:</u> Direct effects to Qualifying Interest habitats of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within the SAC;</p> <p><u>SAC Pathway 2:</u> Indirect Effects to Qualifying Interest habitats of an SAC Site (i.e. via reductions in water quality or spread of invasive species) within the SAC</p> <p><u>SAC Pathway 3:</u> Indirect Effects to Qualifying Interest habitats, of an SAC Site (i.e. via reductions in water quality or spread of invasive species) ex-situ the SAC</p>	<p>The location of the UWF Grid Connection does not overlap the boundary of the Clare Glen SAC, therefore there is no potential for direct effects to this Qualifying Interest habitat.</p> <p>However the potential for indirect effects to QI Habitats via hydrological connection or spread of invasive species does exist.</p>	<p><b>Screened Out</b> – for Direct Impacts (SAC Pathway 1)</p> <p><b>Screened In</b> for further evaluation at Stage 2 for SAC Pathways 2 and 3</p>
Killarney Fern ( <i>Trichomanes speciosum</i> ) [1421]	<p>The population of rare and legally protected (Flora (Protection) Order, 1999) Killarney Fern (<i>Trichomanes speciosum</i>) is currently known from several locations in Clare Glen SAC.</p>	<p><u>SAC Pathway 1:</u> Direct effects to Qualifying Interest habitats of an SAC Site (i.e. habitat loss, fragmentation, degradation, loss/reduction in connectivity) within the SAC;</p> <p><u>SAC Pathway 2:</u> Indirect Effects to Qualifying Interest habitats of an SAC Site (i.e. via reductions in water quality or spread of invasive species) within the SAC</p> <p><u>SAC Pathway 3:</u> Indirect Effects to Qualifying Interest habitats, of an SAC Site (i.e. via reductions in water quality or spread of invasive species) ex-situ the SAC.</p>	<p>The location of the UWF Grid Connection does not overlap the boundary of the Clare Glen SAC, therefore there is no potential for direct effects to this Qualifying Interest plant species.</p> <p>However the potential for indirect impacts via hydrological connection or spread of invasive species exists.</p>	<p><b>Screened Out</b> – for Direct Impacts (SAC Pathway 1)</p> <p><b>Screened In</b> for further evaluation at Stage 2 for SAC Pathways 2 and 3</p>

## 2.9.4 Slievefelim to Silvermines Mountain SPA (004165)

This SPA is an upland site located in Counties Tipperary and Limerick. It includes the peaks Keeper Hill, Slieve Felim, Knockstanna, Knockappul, Mothe Mountain, Knockteige, Cooneen Hill and Silvermine Mountain. The site is underlain mainly by sandstones of Silurian age. Several important rivers rise within the site, including the Mulkear, Bilboa and Clare. The Slievefelim to Silvermines SPA is of ornithological importance because it provides nesting and foraging habitat for breeding Hen Harrier. The annex I species Merlin and Peregrine have also been recorded on site.

### 2.9.4.1 Screening of the Potential for UWF Grid Connection to cause effects to Special Conservation Interests of the Slievefelim to Silvermines Mountain SPA

The potential for impact pathways between UWF Grid Connection and the Special Conservation Interests of the Slievefelim to Silvermines Mountain SPA are further examined in table 9 below.

**In summary**, the findings are that:

There is potential for UWF Grid Connection to impact the following Special Conservation Interests:

Hen Harrier [A082]

**The SPA/ Special Conservation Interest is brought forward for Stage 2 Appropriate Assessment.**

**No Special Conservation Interests have been screened out.**

Table 9: Screening Exercise for the Slievefelim to Silvermines Mountain SPA (004165)

Special Conservation Interests (SCI) of the Slievefelim to Silvermines Mountain SPA Site Code: 004165	Notes on Special Conservation Interest	Potential Effect(s) On Special Conservation Interest	Examination of Connectivity between UWF Grid Connection and Slievefelim to Silvermines Mountain SPA	Potential for effects? Yes – Screened In for further evaluation at Stage 2, or No – Screened out
Hen Harrier	The Slievefelim to Silvermines Mountains SPA is of ornithological importance because it provides excellent nesting and foraging habitat for breeding Hen Harrier and is one of the top sites in the country for the species	<u>SPA Pathway 1</u> : Direct effects to Special Conservation Interest Species within an SPA (i.e. Disturbance, Mortality)	The location of the UWF Grid Connection overlaps the boundary of the Slievefelim to Silvermines Mountain SPA, therefore there is potential for direct effects to the Special Conservation Interest species.	<b>Screened In</b> for further evaluation at Stage 2 for <b>SPA Pathway 1</b>
		<u>SPA Pathway 2</u> : Indirect effects to Special Conservation Interest Species within an SPA (i.e. Secondary effects on suitable habitat via habitat loss, degradation, fragmentation or reduction/loss of connectivity, or through a reduction in prey item species). <u>SPA Pathway 3</u> : Indirect effects to Special Conservation Interest Species ex-situ an SPA (i.e. Secondary effects on suitable habitat via habitat loss, degradation, fragmentation or loss/reduction in connectivity, reductions in prey item species, or through disturbance or mortality effects to Special Conservation Interest bird species outside their respective SPA).	The location of the UWF Grid Connection overlaps and occurs in close proximity to the boundary of the Slievefelim to Silvermines Mountain SPA, therefore there is potential for indirect effects to the Special Conservation Interest species.	<b>Screened In</b> for further evaluation at Stage 2 for <b>SPA Pathways 2 and 3</b>

## 2.10 Stage One Screening Conclusion

The Screening Evaluation provided herein has examined the potential for UWF Grid Connection to cause any effects via source pathway linkages on the designated SACs and SPAs within the extended study area.

### 2.10.1 Results of the Screening Exercise of all 23 European Sites (17 SACs, 4 SPAs)

The results are that **there is no potential or no likelihood for UWF Grid Connection to cause any effects to the following 19 no. European Sites (16 SACs, 3 SPAs):**

- Anglesey Road SAC (002125),
- Bolingbrook Hill SAC (002124),
- Keeper Hill SAC (001197),
- Silvermine Mountain SAC (000939),
- Silvermine Mountain West SAC (002258),
- Philipston Marsh SAC (001847),
- Kilduff, Devilsbit Mountain SAC (000934),
- Glenstal Wood SAC (001432),
- Slieve Bernagh Bog SAC (002312),
- Lough Derg, North-East Shore SAC (002241),
- Glenomra Wood SAC (001013),
- Tory Hill SAC (000439),
- Ratty River Cave SAC (002316),
- Askeaton Fen Complex SAC (002279),
- Barrigone SAC (000432),
- Curraghchase Woods SAC (000174),
- Lough Derg (Shannon) SPA (004058),
- River Shannon and River Fergus Estuaries SPA (004077), and
- Stack's to Mullaghareirk Mountains, West Limerick Hills & Mount Eagle SPA (004161).

Therefore, these EU sites have been 'Screened Out' at Stage One of the Appropriate Assessment process. In accordance of the recommendations of the Guidance Document '*Assessment of Plans and Projects significantly affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*', (European Commission 2001), a Finding of No Significant Effects (FONSE) Report has been completed in respect of these European Sites and is included as **Appendix A1: Finding of No Significant Effects (FONSE) Report**.

**The results of the screening are also that UWF Grid Connection has potential, via impact pathways, to cause effects to the following 4 European Sites (3 SACs, 1 SPA);**

- Lower River Shannon SAC
- Lower River Suir SAC,
- Clare Glen SAC,
- Slievefelim to Silvermines Mountain SPA

As a result, there is an obligation on the Competent Authority to carry out an Appropriate Assessment (i.e. Stage Two of the AA process) under Article 6 (3) of the Habitats Directive for this project, and in this context a Stage 2 Appropriate Assessment Report has been completed.

## 2.10.2 Summary Results of Screening Exercise

### 2.10.2.1 European Sites and their respective Qualifying Interests or Special Conservation Interests Screened out from further consideration at Stage 2

The results of this screening is that the following European Sites/Qualifying Interests can be excluded from further consideration as there is no potential or likelihood for UWF Grid Connection to cause effects to these Qualifying Interests, see Table 10.

**Table 10: Qualifying Interest Screened Out due to no potential or likelihood of UWF Grid Connection causing any effects**

European Site	Qualifying Interest Screened Out due to no potential or likelihood of UWF Grid Connection causing adverse impacts
Lower River Shannon SAC	Freshwater Pearl Mussel [1029] Bottlenose Dolphin [1349] Molinia Meadows [6410] Sandbanks which are slightly covered by sea water all the time [1110] Estuaries (1130) Mudflats and Sandflats not covered by seawater all the time (1140) Coastal Lagoons (1150) (*priority habitat) Large shallow inlets and bays (1160) Reefs (1170) Salicornia and other annuals colonizing mud and sand [1310] Atlantic Salt Meadows (1330) Mediterranean Salt Meadows (1410) Perennial Vegetation of Stony Banks (1220) Vegetated Sea Cliffs (1230)
Lower River Suir SAC	Atlantic salt meadows [1330] Mediterranean salt meadows [1410] Twaite Shad [1103]
Clare Glen SAC	<i>No Qualifying Interests have been screened out</i>
Slievefelim to Silvermines Mountain SPA	<i>No Special Conservation Interest has been screened out</i>



**2.10.2.2 European Sites and their respective Qualifying Interests / Special Conservation Interests Screened In for further consideration at Stage 2**

The result of this screening is also that the following Qualifying Interests and Special Conservation Interest has been screened in for further detailed evaluation at Stage Two of the Appropriate Assessment process. These Qualifying Interests and Special Conservation Interests are identified on Table 11.

**Table 11: Qualifying Interest Screened In due to potential for UWF Grid Connection to cause effects**

European Site	Qualifying Interest Screened In due to potential or likelihood of UWF Grid Connection causing effects	Impact Screened in for further consideration at Stage 2
Lower River Shannon SAC	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Alluvial Forests (91E0)* (priority habitat)	SAC Pathway 1, 2, 3
	Atlantic Salmon [1106] Sea Lamprey [1095] Brook Lamprey [1096] River Lamprey [1099] Otter [1355]	SAC Pathway 4, 5, 6, 7, 8
Lower River Suir SAC	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Alluvial Forests (91E0)* (priority habitat) Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430] Yew Woodlands* Taxus baccata woods of the British Isles [91J0] (priority habitat) Old sessile oak woods with Ilex and Blechnum in the British Isles	SAC Pathway 2, 3
	Freshwater Pearl Mussel [1029] White-clawed Crayfish [1092] Sea Lamprey [1095] Brook Lamprey [1096] River Lamprey [1099] Atlantic Salmon [1106] Otter [1355]	SAC Pathway 5, 6, 7, 8
Clare Glen SAC	Old Oak Woodlands [91A0] Killarney Fern (Trichomanes speciosum) [1421]	SAC Pathway 2, 3
Slievefelim to Silvermines Mountain SPA	Hen Harrier [A082]	SPA Pathway 1, 2, 3

### 2.10.3 Screening Conclusion

Following screening to inform the requirement for Appropriate Assessment, the potential for significant effects to the Lower River Shannon SAC, Lower River Suir SAC, Clare Glen SAC and Slievefelim to Silvermines Mountain SPA cannot be excluded, as a result of the development of the UWF Grid Connection project.

Therefore, the **Lower River Shannon SAC, Lower River Suir SAC, Clare Glen SAC and Slievefelim to Silvermines Mountain SPA** have been ‘Screened In’ for further evaluation at Stage Two of the **Appropriate Assessment process**.

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