

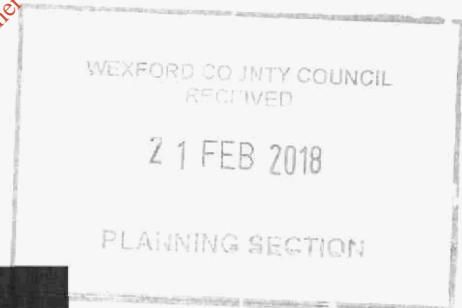
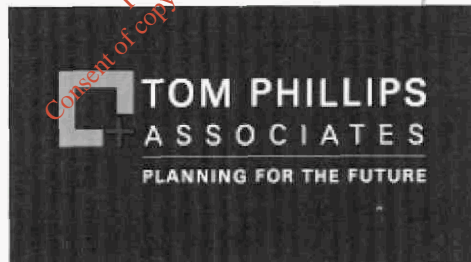
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Proposed Extension to Ballinrooaun Quarry, Screen, Co. Wexford

ASSESSMENT FOR SCREENING

AS REQUIRED UNDER THE 2011 EUROPEAN COMMUNITIES
(BIRDS AND NATURAL HABITATS) REGULATIONS

Prepared for:



By:



February 2018

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Abstract: This document comprises a Screening Stage appraisal, in support of the Appropriate Assessment process, of the proposed extension of quarrying at Ballinrooaun, Screen, Co. Wexford. It is proposed to progressively extract and restore the application site using imported inert material to fill the quarry void. The proposed quarry extension will progress from the northeast towards the south. Appropriate Assessment is required under Article 6(3) and 6(4) of the Habitats Directive for any project or plan that may give rise to significant effects on a Natura 2000 site. This screening report follows the methodological guidelines set out in the document 'Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites' (2001) and published guidelines from the Department of Environment, Heritage and Local Government (2009). It is concluded that there is no risk of adverse impacts on any designated Natura 2000 site or their qualifying interests associated with the proposed extension of quarrying at Ballinrooaun Quarry, Screen, Co. Wexford.

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APPENDIX 1: Site Synopses and Conservation Objectives of Designated Natura 2000 sites under consideration

1. INTRODUCTION

Ecology Ireland Wildlife Consultants Ltd. was commissioned by Tom Phillips & Associates (on behalf of Sean and Michael Kelly) to produce a Screening Stage appraisal in support of the Appropriate Assessment (AA) process, in relation to the proposed extension of quarrying activities at Ballinrooaun, Screen, Co. Wexford (Figure A6.1). This appraisal report has been completed in parallel with the planning application being prepared for the site, including an Environmental Impact Assessment Report (EIAR). The following Stage 1 Screening Report considers the potential impacts on Natura 2000 sites in the hinterland arising from the proposed quarrying activities at Ballinrooaun Quarry, Co. Wexford.

Ballinrooaun Quarry is a permitted sand and gravel pit quarry (Planning ref. 20082323). The existing permitted quarry site is c. 5.5 ha in area. It is proposed to extend quarrying for sand and gravel within an area of agricultural grassland (and comprising part of the existing quarry) of c. 8.45 ha. The quarry floor will remain at a minimum of 5m above the high-water table at all times. As a result, there will be no requirement for pumping or storage of groundwater. Due to the permeable substrates in the proposed site, rainfall will permeate the quarry floor to re-charge groundwater, and surface water run-off is predicted to be minimal.

Ecology Ireland Wildlife Consultants Ltd. (Ecology Ireland) completed a comprehensive desktop review and detailed field surveys to inform this ecological impact assessment (EclA). Ecology Ireland previously prepared the EclA for an application for the extension of the quarrying activities at this site (P2016/0261 & PL26.246680). The 2016 planning application unsuccessfully sought permission for a considerably larger site with a greater range in elevation. The current application covers a considerably smaller footprint than applied for in 2016 (8.45 ha). The extraction plan will involve the stripping of the topsoil (c. 0.3m) and upper 3m of sandy soil will be stockpiled separately to be used in progressive site restoration. The site boundary overlaps the current area of extraction and includes lands to the west and southwest of the existing quarry (Figure 6.2). The current application site also excludes the lands to the north which are more elevated, and which were included in the 2016 application.

The lands are well drained agricultural grassland with no ponds or watercourses of any note. The restoration plan for the proposed extension area involves filling the quarry void with imported inert soil from pre-approved external sites. No peats, topsoil, non-hazardous wastes or contaminated soils will be accepted as suitable infill material. The lifetime of the quarry is estimated at 20 years, with extraction occurring from years 1-14 and infilling being carried out as part of a progressive restoration plan from years 4-20. It is proposed that extraction will commence in the northeast, proceeding southwards. It is proposed that the quarry access road would also be progressively realigned as the extraction and infilling/restoration process develops. Extractive depth will be kept a minimum of 5m above the groundwater level.

In terms of site services, there are no built structures proposed as part of the new application. There is no water supply or foul water drainage serving the site. Persons employed on site use the facilities available at the Applicants family farm yard located to the west of the site (c. 750 m west) and will be maintained for the proposed development.

Once infilling is completed in an area the stockpiles of sandy soil and topsoil will be used to reinstate the top 3.3m of overburden. The existing seedbank will naturally revegetate the restored areas to grassland habitat.

1.1. BACKGROUND TO AA PROCESS

A screening assessment is undertaken to establish if any proposed plan or project is likely to have a significant effect or impact on any site that has been designated under the E.U. Habitats Directive (92/43/EEC) as a Special Area of Conservation (SAC), or the E.U. Birds Directive (79/409/EEC as amended 2009/147/EC) as a Special Protection Area (SPA). Collectively, SAC's and SPA's are known as Natura 2000 sites. The E.U. Habitats Directive was initially transposed into Irish law under the European Communities (Natural Habitats) Regulations 2007 (SI 94/1997), which were subsequently amended under SI 233/1998 and SI 378/2005. More recently, these regulations were revised through the European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477/2011). Also, the management of sea-fisheries within Natura 2000 sites is now legislated nationally through the European Union (Birds and Natural Habitats) (Sea-Fisheries) Regulations 2013 (SI 290/2013) to implement responsibilities in accordance with the European Communities (Birds and Natural Habitats) Regulations 2011 and 2013.

A screening assessment is part of an appropriate assessment process that consists of up to four steps, where each step follows on from the preceding one. The need to undertake one or more phases of this process has arisen from Articles 6(3) and 6(4) of the Habitats Directive; where the former Article is primarily concerned with the protection of sites from likely significant effects and the latter allows derogation from such protection in very specific circumstances involving imperative reasons of overriding public interest. Designated Natura 2000 sites have a set of qualifying interests and associated conservation objectives that are considered in detail in the assessment of the potential impacts of a project or plan.

The first part of the assessment is a screening process to identify whether significant¹ effects on a Natura 2000 site are likely to arise from the project or plan in question. If significant effects are likely to occur or if it is unclear whether significant effects are likely to occur, then the process moves onto the next phase where an appropriate assessment (AA) considers potential mitigation measures for adverse impacts identified in Screening. Typically, a Natura Impact Statement (NIS) is prepared by consultants on behalf of the promoter/developer of a plan or project and this is part of the information used by the competent authority in carrying out an Appropriate Assessment of the proposed plan or project. If it is considered that mitigation measures will not be able to satisfactorily reduce potential adverse impact on a Natura 2000 site then an assessment of alternative solutions is considered in third phase of the assessment process. If adverse effects remain and the proposed activity or development is deemed to be of Imperative Reasons of Overriding Public Interest (IROPI), the final assessment step permits consideration of permission for development with consideration of compensatory measures.

¹ A European Court of Justice ruling in 2013 (Case C-258/11) has stated the following regarding significant effect: "Where a plan or project not directly connected with or necessary to the management of a site is likely to undermine the site's conservation objectives, it must be considered likely to have a significant effect on that site."

While a screening assessment appraisal or NIS may be provided by the advocate of the plan or project in question, the AA itself is undertaken by the competent authority (*e.g.* the planning authority and An Bord Pleanála). So, in this case, the screening assessment for the project, described herein, is undertaken by Wexford County Council; informed by this Stage 1 Screening Statement and any other relevant information provided to the statutory body.

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2. METHODOLOGY

This report presents the outcome of screening assessment to identify whether significant effects or impacts are likely to arise from the proposed quarry extension at Ballinrooan, Screen, Co. Wexford. It is important to emphasize that a screening assessment does not have to ascertain the existence of a significant effect or impact on a Natura 2000 site as such; it only has to establish whether a significant effect or impact is possible or may occur (as per judgement by Ms. Justice Finlay Geoghegan; see guidelines below). Also, mitigation measures that are an intrinsic part of a project may be considered as part of an Appropriate Assessment Stage 1 Screening process (as per judgement by Mr. Justice Hedigan; see guidelines below). This report has been completed as part of a planning application by the client to extend the existing sand quarry at Ballinrooan. The projected lifetime of this project is approximately 20 years, including the restoration process.

The conservation objectives of Natura 2000 sites have been compiled by the National Parks & Wildlife Service (NPWS) in relation to the habitats and species (*i.e.* qualifying interests) for which the sites are selected. These conservation objectives are referred to when carrying out appropriate assessments for plans and projects that might impact on these sites.

Documents associated with the development and relevant ecology databases were consulted as part of this assessment (as outlined in Sections 4 & 5 below). Detailed field assessments of flora, habitats and fauna were also carried out in 2015 by Ecology Ireland Wildlife Consultants Ltd. In addition, the following guidance documents and legal rulings were considered in the preparation of this Screening Assessment.

- Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites – European Commission Methodical Guidance on the provisions of Article 6(3) and 6(4) of the ‘Habitats’ Directive 92/43/EEC (European Commission 2001)
- Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (DoEHLG 2009)
- Integrated Biodiversity Impact Assessment – Streamlining AA, SEA and EIA Processes: Practitioner’s Manual (EPA 2013)
- European Court of Justice Ruling 11th April 2013 Case C-258/11 Peter Sweetman and Others v An Bord Pleanála - Criteria to be applied when assessing the likelihood that N6 Galway City Outer Bypass road scheme will adversely affect the integrity of Lough Corrib SAC
- High Court Ruling 25th July 2014 by Ms. Justice Finlay Geoghegan; Neutral Citation [2014] IEHC 400; High Court Record No. 2013 802 JR; Kelly -v- An Bord Pleanála – Judicial review of grant of planning by An Bord Pleanála for two wind farm phases in County Roscommon
- High Court Ruling 24th November 2014 by Mr. Justice Hedigan; Neutral Citation [2014] IEHC 557; High Court Record No. 2014 320 JR; Rossmore Properties Limited & Anor -v- An Bord Pleanála
- High Court Ruling 25th February 2016 by Mr. Justice Barton. Neutral Citation [2016] IEHC 134; High Court Record No. 2013 450 JR; Balz & Anor -v- An Bord Pleanála.

The proposed site at Ballinrooan Quarry is not located within any Natura 2000 site (Figure A6.2). However, the southern boundary of the existing quarry and the southwestern portion of the proposed extension area, lies directly adjacent to Screen Hills SAC. A further 7 Natura 2000 sites are located within 15 km of the proposed development (Tables A6.1 and Figure A6.2).

Table A6.1. Designated Natura 2000 sites within wider hinterland of Ballinrooan Quarry, Co. Wexford.

Designated Site	Site Code	Distance (km)
Screen Hills SAC	000708	0 (Directly adjacent)
The Raven SPA	004019	2.3
Wexford Harbour & Slob SPA	004076	2.3
Raven Point Nature Reserve SAC	000710	3.7
Slaney River Valley SAC	000781	4.9
Long Bank SAC	002161	9.1
Kilmuckridge-Tinnaberna Sandhills SAC	001741	10.1
Blackwater Bank SAC	002953	10.3

The Long Bank SAC and Blackwater Bank SAC comprises offshore sandbanks located >7 km off the Wexford coastline, and are designated for submerged sandbanks, an Annex I Habitat of the E.U. Habitats Directive. Kilmuckridge-Tinnaberna Sandhills SAC is a narrow coastal beach site which is designated for its Annex I dune habitats (marram/white dunes and fixed/grey dunes). There is no recognisable pathway by which any works at the proposed quarry could impact on these three Natura 2000 sites. The proposed development does not have the potential to impact (either directly or indirectly) on Long Bank SAC, Blackwater Bank SAC, or Kilmuckridge-Tinnaberna Sandhills SAC or their qualifying interests, as there are no hydrological links between these designated sites and the proposed quarrying site, and these Natura 2000 sites are located over 9 km from the proposed quarry extension. These sites are therefore not considered further in this screening report. The Raven Point Nature Reserve SAC, located 3.7 km distant, is a large sand dune system designated for a suite of coastal habitats which are listed on Annex I of the E.U. Habitats. There is no hydrological link between the proposed site and this SAC, ruling out potential impacts on its qualifying habitats. Therefore, Raven Point Nature Reserve SAC is also not considered further in this screening assessment.

The proposed quarry site lies north of and directly adjacent to parts of Screen Hills SAC (Figure A6.2) which is designated for important examples of two habitats listed on Annex I of the E.U. Habitats Directive (oligotrophic lakes and dry heath). Potential impacts of the development on this SAC and its qualifying interests will be considered here due to this proximity.

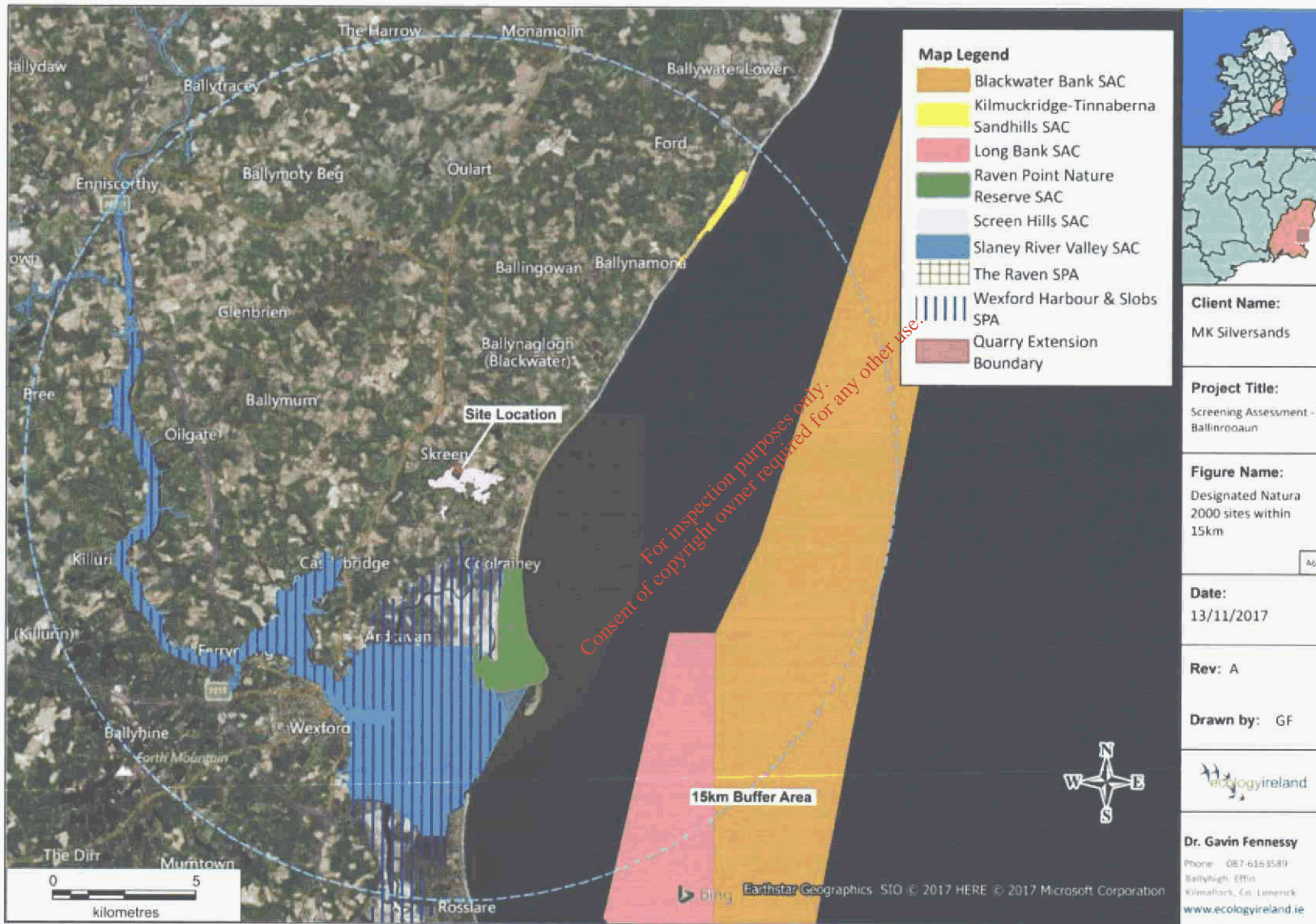
There are no hydrological links between the proposed site and The Raven SPA lying 2.2 km distant. However due to its proximity to the proposed site, potential impacts on its qualifying bird interests will be further considered in this screening assessment. The proposed site is located within the River Sow sub-catchment, which discharges into the north-east channel of the Slaney River Estuary near Castlebridge and Wexford Harbour. The estuary here is part of the Slaney River Valley SAC and Wexford Harbour & Slob SPA. Water quality has been identified as a key indicator of conservation value for these two Natura 2000 sites. This Screening appraisal will therefore also consider the potential for indirect impacts on these sites as a result of this hydrological link, and also, in terms of bird species, due to the proximity

of Wexford Harbour & Slobs SPA (2.3 km). The four Natura 2000 sites under consideration (below) are further detailed in Section 4.2.

- Screen Hills SAC (Site Code 000708)
- The Raven SPA (004019)
- Wexford Harbour & Slobs SPA (004076)
- Slaney River Valley SAC (000781)

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3. METHODOLOGY

A screening stage appraisal is part of an appropriate assessment process that consists of up to four stages, where each stage follows on from the preceding one. In Stage 1, a screening process is undertaken to identify whether significant impacts on a Natura 2000 site are likely to arise from the project or plan in question. If significant impacts are likely to occur, then the process moves on to Stage 2 where an appropriate assessment (AA) considers potential mitigation measures for adverse impacts. If it is considered that mitigation measures will not be able to adequately minimise potential adverse impact on a Natura 2000 site then an assessment of alternative solutions is considered in Stage 3. This may then be followed by Stage 4 of the process in the event that adverse impacts remain and the proposed activity or development is deemed to be of Imperative Reasons of Overriding Public Interest (IROPI), allowing an assessment of compensatory measures to be considered. The outcome of a Stage 2 and higher assessment is presented in a report known as a Natura Impact Statement (NIS).

This Screening Stage appraisal is prepared in support of the Appropriate Assessment process which will be completed by the competent authority, Wexford County Council. The outcome of a Stage 1 screening assessment needs to identify whether significant impacts are likely to arise from the proposed development on the Natura 2000 sites in the locality. The following guidelines were used in the completion of this report;

- Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites – European Commission Methodical Guidance on the provisions of Article 6(3) and 6(4) of the ‘Habitats’ Directive 92/43/EEC (European Commission 2001)
- Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (DoEHLG 2009)
- The recently delivered Opinion of Advocate General Sharpston regarding Case C-258/11 where the Irish Supreme Court sought guidance on interpreting adverse impact on Natura 2000 site integrity in relation to the N6 Galway City Outer Bypass road scheme and Article 6(3) of Council Directive 92/43/EEC (European Advocate General 2012).

Consideration of potential impacts on Natura 2000 sites as a result of the proposed quarry development has been informed by desktop review and also on the findings of a range of ecological surveys carried out at and adjacent to the proposed development site to inform the ecology assessment for the EIAR, as follows:

Desktop review sources:

- Previous planning documents relating to the quarry (Planning refs. 20082323; P2016/0261, PL26.246680)
- Environmental Impact Assessment, particularly Ecology Chapter 6, Chapter 7, Lands Soils & Geology and Chapter 8, Hydrology and Hydrogeology
- Ecological survey prepared as Condition of Permission (Goodwillie, 2009)
- Data and mapping from the National Parks and Wildlife Service, NPWS, website www.npws.ie

- Data and mapping from the National Biodiversity Data Centre website (www.biodiversityireland.ie)
- Data and mapping from the Environmental Protection Agency, EPA, website www.epa.ie
- Published literature and reports e.g. EPA (2009), Maitland & Hatton-Ellis (2000).

Baseline ecological surveys:

- General site walkover surveys
- Detailed habitat and botanical survey (Sep 2015). Habitat codes in text are from Fossitt (2000)
- General bird survey transects (Sep, Oct, Dec 2015)
- Mammal camera surveys (Aug - Dec 2015, 6 separate locations)
- Passive bat detector study (10 nights)
- Lands, Soils & Geology by AGEK Ltd. (Chapter 7 of the EIAR)
- Hydrology and hydrogeology surveys by Aqua GeoServices Ltd. (Chapter 8 of EIAR)

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4. STAGE 1: SCREENING

4.1. BRIEF DESCRIPTION OF THE PROJECT & SITE

Sean and Michael Kelly are seeking planning permission for the extension of quarrying works at Ballinrooan Quarry, Screen, Co. Wexford located in the rural townland of Ballinrooan c. 2 km north of Curracloe, and c. 2.3 km east of the Wexford coastline, as shown in Figure A6.1. The existing sand and gravel pit quarry measuring c. 5.5 ha is operating under Planning Ref. No. 20082323. The proposed quarry extension comprises an area of c. 8.45ha to the west and south-west of the existing site (Figure A6.3). The quarry is accessed through a private agricultural road.

A planning application was lodged on in September 2008 for retention, continued operation and extension of the existing sand and gravel pit on a site of c. 5.5 ha, to provide a final extracted area of 3.45 ha and to a depth of 60 m above OD. Retention was sought for an existing mobile sand and gravel screening plant, loading areas and vehicle parking areas. The development included a wheelwash, areas of stockpiling, landscaping, other site development works above and below ground and restoration of the final pit void. Permission was granted in July 2009 subject to conditions including an operational period of a maximum of seven years from the date of permission with an additional period of six months to implement a closure plan. As part of the planning conditions the site owner entered into an agreement to contain an undertaking to dedicate and maintain an area on the applicant's landholding as a 'compensation area' as part of a long term management and restoration plan for the quarry.

The surrounding area is relatively elevated (70-100m OD) with extensive views in all directions. The landscape is characteristic of the 'kettle and kame' glacial landscape. Runoff from storm water is rarely observed at the existing quarry and agricultural fields given the drainage afforded by the sand and gravel base. Rainfall infiltrates immediately and during extreme rainfall events there may be small ponds formed which soon after drain away.

In 2016 an application was lodged seeking permission for the continuation and restoration of the existing operational sand and gravel quarry of 5.5 hectares and extension area of c. 9.7 hectares (P2016/0261 and PL26.246680). The eastern portion of the application site included the existing permitted quarry and the western portion was dominated by agricultural grassland. Permission was ultimately refused with An Bord Pleanála ultimately refusing permission with the size of the proposed extension and the elevation of the quarry cited as the principal issues.

The current application covers a considerably smaller footprint than applied for in 2016 (8.45 ha). The extraction plan (over an area of c. 5.52 ha) would involve the stripping of the topsoil (c. 0.3m) and upper 3m of sandy soil which would be stockpiled separately to be used in progressive site restoration. The site boundary overlaps the current area of extraction and includes lands to the west and southwest of the existing quarry (Figure A6.3). The current application site also excludes the lands to the north which are more elevated, and which were included in the 2016 application.

This EA screening report assesses the potential impacts associated with the extension of quarrying at Ballinroaun Quarry on Natura 2000 sites.

- No slurry spreading on restored agricultural grassland
- Recommendation for before and after biological water quality for Glenbough stream
- Water quality monitoring – groundwater well monitoring throughout the lifetime of the quarry
- Progressive Restoration Plan
- Soil Management Plan
- Prevention of wind-blown sand – use of sprinklers and planting boundary hedgerow
- the mobile screener in a double-skinned mobile fuel bowser.
- be stored at the nearby farm yard in a banded area with a double-skin tank with fuel delivered to
- Re-fuelling the screening machine – according to current EMS protocols. For instance, all fuel will
- Quarry floor a minimum of >5 m above water table

Environmental controls to prevent contamination of groundwater etc. are presented in the EIA:

The proposed extension of the quarrying will involve some limited removal of hedgerows internally with additional planting to improve the boundary hedgerows.

habit. Once infilling is completed in an area the stockpiles of sandy soil and topsoil will be used to reinstate the top 3.3m of overburden. The existing seedbank will naturally revegetate the restored areas to grassland

In terms of site services, there are no built structures proposed as part of the new application. There is no water supply or foul water drainage serving the site. Persons employed on site use the facilities available at the Applicant's family farm yard located to the west of the site (c. 750 m west) and will be maintained for the proposed development.

The lands are well drained agricultural grassland with no ponds or watercourses of any note. The restoration plan for the proposed extension area involves filling the quarry void with imported inert soil from pre-approved external sites. No peats, topsoil, non-hazardous wastes or contaminated soils will be accepted as suitable infill material. The lifetime of the quarry is estimated at 20 years, with extraction occurring from years 1-14 and infilling being carried out as part of a progressive restoration plan from years 4-20. It is proposed that extraction will commence in the northeast, proceeding southwards. It is proposed that the quarry access road would also be progressively realigned as the extraction and infilling/restoration process develops. Extractive depth will be kept a minimum of 5m above the groundwater level.

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4.1.1. EXISTING SITE DESCRIPTION

The quarry (sand-pit) is located in the townland of Ballinrooaun, near Screen in County Wexford. The landscape type in the wider area is rare in an Irish context being part of a classic kettle and kame landscape, with lake basins marking the site of former ice blocks in an acid sandy moraine. The lakes vary in size, most being pond-sized. The moraine sands are extremely base poor and very dry. This gives rise to extensive pasture-type dry heath, which is species rich and renowned for rare and scarce plants.

The site of the quarry is in an area typical of this Kettle and Kame landscape and comprises gently rolling pastureland rising northwards and falling away to the south to two small lakes which lie over 300m outside the application boundary. The proposed extension is situated directly to the west and south of the active area of works.

Much of the existing quarry site area can be classified as active quarries and mines (ED4). The open active sand pit is associated with piles of spoil and finer sand that occur along the quarry fringes. Significant re-establishment of vegetation has occurred on the quarry fringes and areas of piled spoil which now support areas of recolonising bare ground (ED3) together with a significant area of reseeded Improved Agricultural Grassland (GA1) to the north of the existing quarry. An area of less improved acid grassland (GS3) occurs to the south of the quarry developed on previously graded spoil which extends into the adjacent SAC area – as part of the agreed reinstatement process. Some scrub (WS1) is associated with field margins and slopes. The main portion of the extension area is primarily reseeded pasture (GA1) separated by hedgerows (WL1).

The proposed extension area is c. 8.45 ha (comprise part of the exiting quarry floor to be used for storage of overburden). Principal land-uses in the remainder of the landholding is cattle grazing and the lands were also under tillage in recent decades. The farm is therefore a much-managed agricultural landscape with few areas of semi-natural habitat. Some areas of semi-natural habitat do however, occur within the proposed development site and these are associated acid grassland, field margins, recolonizing bare soil, scrub and hedgerows.

Goodwillie (2009) carried out a rare plant survey at and in the vicinity of the existing quarry, including a compensation area as conditioned in the planning permission for operation of the quarry. One species of note was recorded on stored topsoil at the site: Annual Knawel, *Scleranthus annuus*, which is listed on the Flora Protection Order (FPO 2015). The sighting was of a single plant but it was concluded that the species was likely to persist in the seedbank in the topsoil material stored for future site restoration purposes. No other protected species is known to occur within the application area.

No species of flora protected under the FPO was recorded from within the application site during any of the ecological walkovers in 2015. No Annex I habitats were present within the application site. Nomenclature for habitats follows Fossitt (2000). Nomenclature for vascular plants follows Stace (1997), nomenclature for bryophytes, mosses follow Smith (1978). No invasive plant species were recorded within or immediately adjacent to the proposed site boundary (Chapter 6 Ecology, EIAR).

While there are no surface water features inside the proposed site, there is a hydrological link to Wexford Harbour & Slobs SPA and Slaney River Valley SAC via draining groundwater as follows; the proposed

extension site is located c. 0.3 km north-east from the source of the Glenbough Stream. This stream is likely fed by groundwater at source (Chapter 8 Hydrology and Hydrogeology, EIAR). Topographical surveys indicated that the proposed extension site drains entirely south-west towards the Glenbough stream. Therefore, any contamination of groundwater could potentially impact on the quality of the Glenbough stream (Chapter 8, EIAR). This stream is within the River Sow sub-catchment (www.epa.ie). The Glenbough stream flows southward at first, turning westward and, at Sinnottsmill, joins with Sinnottsmill River, which in turn continues to flow approximately south-westward and joins the River Sow <0.5 km before it discharges to the north-east channel of the lower estuary of the Slaney River at Wexford Harbour. The mouth of the River Sow is located near Castlebridge, within the overlapping Natura 2000 sites, Wexford Harbour & Slobs SPA and River Slaney Valley SAC.

The River Sow does not merge with the main freshwater channel of the River Slaney which discharges into the west of the lower estuary of the Slaney River at Wexford Harbour >4 km away from the mouth of the River Sow. Therefore, the hydrological link from the proposed quarry only has the potential to impact on the estuarine waters here, and not on the freshwater upper regions of the River Slaney, i.e. the majority of the Slaney River Valley SAC. The River Slaney has an overall length of 117 km from its source in the Lugnaquilla Mountains in Co. Wicklow to Wexford Harbour. It is noticeably tidal as far as Edermine Bridge but with tidal influence upstream as far as Enniscorthy, i.e. along a channel of c. 19 km in length. The Wexford Harbour & Slobs SPA overlaps in extent with the Slaney River Valley SAC upstream along this c. 19 km upper estuary as far as the River Slaney's confluence with the River Urrin below Enniscorthy.

Environmental controls to prevent contamination of groundwater in the proposed site are detailed in the EIAR and summarised in Section 4.1. Chapter 8 (Hydrogeology & Hydrology) of the EIAR describes the receiving environment, mitigation by avoidance and environmental controls that will be implemented at this site. It is considered that any residual water quality impacts are highly unlikely. Furthermore, the eventual discharge point of waters originating in the Glenbough stream (located c. 0.3 km off-site) to Wexford Harbour & Slobs SPA and Slaney River Valley SAC lies >3.7 km via land. Nonetheless, potential (indirect) impacts of the proposed quarry works on Slaney River Valley SAC and Wexford Harbour & Slobs SPA via the hydrological link to the lower Slaney estuary at Wexford Harbour will be further considered in this screening assessment. The Sow or Sinnottsmill rivers are not designated as salmonid rivers. The River Sow had a biological water quality rating (Q index) of Q3-4 (moderate status) in 2014 at the nearest sampling station at Randallsmill Bridge (upstream from the confluence with Sinnottsmill River). The River Sow WFD (Water Framework Directive) Risk Score is classified as '*at risk of not achieving good status*' and its WFD Status is '*unassigned*' where it enters the lower Slaney estuary/Wexford Harbour (www.epa.ie). Q indices are not available for Sinnottsmill River, and its WFD Risk Score is classified as '*at risk of not achieving good status*' and its WFD Status is '*unassigned*' where it enters the lower Slaney estuary/Wexford Harbour (www.epa.ie).

The proposed site and The Raven SPA are not hydrologically linked, and there is no possibility of water quality impacts on wetlands there as a result of the proposed quarrying activity. However, potential impacts on its qualifying avian species through disturbance or displacement are further considered in this assessment due to its proximity to the proposed site (c. 2.3km). Further details of the four Natura 2000 sites under consideration in this screening assessment are outlined in Section 4.2.

4.2. BRIEF DESCRIPTION OF THE NATURA 2000 SITES

The proposed development site is not located within any designated conservation site. Screen Hills SAC however lies directly adjacent to sections of the boundary in the western and southeastern part of the proposed site (Figure A6.2). As discussed in Section 2 of this report, there are a further 7 Natura 2000 sites within 15 km of the development site (Table A6.1). Four of these sites (Long Bank SAC, Blackwater Bank SAC, Kilmuckridge-Tinnaberna Sandhills SAC, and Raven Point Nature Reserve SAC) have already been screened out as having no potential to be impacted (directly or indirectly) by the proposed quarry development and are not considered further here. Natura 2000 sites assessed in this screening report are:

- Screen Hills SAC (Site Code 000708)
- The Raven SPA (004019)
- Wexford Harbour & Slobs SPA (004076)
- Slaney River Valley SAC (000781)

The latter three of these Natura 2000 sites lie directly beside or partly overlap with each other (Figure A6.2). As described in Section 4.1, the Slaney River Valley SAC and Wexford Harbour & Slobs SPA largely overlap with each other along the lower and upper estuaries of the River Slaney and Wexford Harbour, while The Raven SPA is located northeast and adjacent to Wexford Harbour & Slobs SPA. Screen Hills SAC is immediately adjacent to the proposed site. The Raven SPA is c. 2.3 km east of the proposed site and is not hydrologically linked, while there is a hydrological link to Wexford Harbour & Slobs SPA and River Slaney Valley SAC via the River Sow catchment. The Natura 2000 site locations are displayed in Figure A6.2 and a summary of the conservation importance and qualifying interests of the sites is presented in Table A6.2.

Full details of the site synopsis and conservation objectives of each Natura 2000 site, as published by NPWS, are available in Appendix A6.1. In brief, Screen Hills SAC is designated for Annex I habitats 'oligotrophic waters containing very few minerals (3110)' and 'dry heath (4030)'. The Raven SPA and Wexford Harbour & Slobs SPA (adjacent to each other) are some of the most ornithologically important sites in the country, and are listed for their wetlands and their nationally and internationally important populations of a wide range of bird species of conservation concern as listed in Table A6.2. The Slaney River Valley SAC stretches 117 km from its source in the Wicklow Mountains to its mouth in Wexford Harbour with a diverse range of qualifying interests encompassed. These include freshwater, woodland, and estuarine Annex I habitats as listed in Table A6.2, and Annex II aquatic species which are sensitive to water quality impacts, including freshwater pearl mussel, sea lamprey, brook lamprey, river lamprey, Twaite shad, Atlantic salmon, otter, and common (harbour) seal as listed (with scientific names) in Table A6.2.

The overall conservation objectives of Screen Hills SAC and Slaney River Valley SAC are to maintain or restore the 'favourable conservation status' (defined in the EU Habitats Directive for habitats and species) of habitats and species for which these sites have been selected, including the habitats of the annexed species. In its broadest sense, favourable conservation status means that an ecological feature is being maintained in a satisfactory condition, and that this status is likely to continue into the future. The

overarching conservation objective for Wexford Harbour & Slobs and The Raven SPA is to ensure that waterbird populations and their wetland habitats are maintained at, or restored to, favourable conservation condition. This includes, as an integral part, the need to avoid deterioration of habitats and significant disturbance; thereby ensuring the persistence of site integrity.

As described in Section 4.1, there is a hydrological link through potential groundwater flow from the proposed site to the source of the Glenbough Stream which eventually discharges into the northeast channel of the lower estuary of the River Slaney. Environmental controls to prevent contamination of groundwater in the proposed site are included in the proposed development as described in Section 4.1, rendering water quality impacts highly unlikely. Furthermore, the eventual discharge point of waters originating in the Glenbough stream (located c. 0.3 km off-site) to Wexford Harbour & Slobs SPA and Slaney River Valley SAC lies >3.7 km via land and >5km by water. Nonetheless the potential to impact on qualifying interest Annex II species which are sensitive to water quality impacts in the Slaney River Valley SAC are considered and screened out below.

Freshwater pearl mussel (*Margaritifera margaritifera*) (1029)

The freshwater pearl mussel is listed as one of the conservation interests of the Slaney River Valley SAC. This species listed under Annex II and V of the E.U. Habitats Directive and is endangered throughout its worldwide distribution. It is highly sensitive to the negative impacts of nutrients and silt into rivers, and can only survive in very high quality rivers with clean (unsilted) river beds and waters with very low levels of nutrients. Pearl mussels may live to over one hundred years. They have a complicated life cycle, involving an early juvenile stage being transported on the gills of native salmon or trout before falling off to become filter feeders in the river bed. The decline of pearl mussel populations in Ireland has mostly occurred from the continuous failure to produce new generations of mussels because of the loss of clean gravel beds, the juvenile habitat, which have been smothered by fine silt sediment and/or overgrown by algae and macrophytes due to increased nutrient levels. Acidification of waters also inhibits their ability to form shell, and toxic pollutants such as sheep dip can also cause rapid die-offs (EPA, 2009). Within the Slaney River Valley SAC, freshwater pearl mussel is confined to the upper reaches within the tributary catchment of the Dereen River in counties Wicklow and Carlow (EPA, 2009). The hydrological link from the proposed quarry to the lower estuary of the River Slaney at Wexford Harbour (described in Section 4.1) thus precludes any impact on the freshwater pearl mussel. Therefore, this species will not be considered further in this screening assessment.

Sea lamprey (*Petromyzon marinus*) (1095); brook lamprey (*Lampetra planeri*) (1096); River lamprey (*Lampetra fluviatilis*) (1099)

The brook lamprey is the only one of the three native lamprey species (above) that is non-parasitic and spends all of its life cycle in freshwater. The river lamprey and sea lamprey are parasitic during some of their life cycle and anadromous (spend most of their adult lives in salt water, and migrate to freshwater rivers and lakes to reproduce). All three lamprey species are listed as conservation interests of the Slaney River Valley SAC. While river lamprey and sea lamprey migrate upstream to spawn through the lower estuary, spawning does not take place in the lower estuary of the Slaney River Valley SAC. The hydrological link to the proposed site via the River Sow catchment has no potential to impact on spawning habitats, which are the most vulnerable to water quality impacts. Potential impacts on these three lamprey species will not be considered further in this screening assessment.