

Screening Report for Appropriate Assessment of a mixed-use development at Newtown, Drogheda, Co. Louth

prepared by OPENFIELD Ecological Services
for Ravala Ltd.

Pádraic Fogarty MSc, MIEMA

July 2019



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1.0 INTRODUCTION

1.1 About OPENFIELD Ecological Services

OPENFIELD Ecological Services is headed by Pádraic Fogarty who has worked for 20 years in the environmental field and in 2007 was awarded an MSc from Sligo Institute of Technology for research into Ecological Impact Assessment (EclA) in Ireland. Pádraic has a primary degree in Analytical Science from DCU, and diplomas in Field Ecology (UCC), Environment and Geography (Open University) and Environmental Protection (IT Sligo). Since its inception in 2007 OPENFIELD has carried out numerous EclAs for Environmental Impact Assessment (EIA), Appropriate Assessment under the EU Habitats Directive, as well as individual planning applications. Pádraic is a full member of the Institute of Environmental Management and Assessment (IEMA).

1.2 Protection of biodiversity

Biodiversity is a contraction of the words 'biological diversity' and describes the enormous variability in species, habitats and genes that exist on Earth. It is an integral component of our heritage while also providing food, building materials, fuel and clothing, maintaining clean air, water, soil fertility and pollinating crops. A study by the Department of Environment, Heritage and Local Government placed the economic value of biodiversity to Ireland at €2.6 billion annually (Bullock et al., 2008) for these 'ecosystem services'.

All life depends on biodiversity and its current global decline is a major challenge facing humanity. In 1992, at the Rio Earth Summit, this challenge was recognised by the United Nations through the Convention on Biological Diversity which has since been ratified by 193 countries, including Ireland. Its goal to significantly slow down the rate of biodiversity loss on Earth has been echoed by the European Union, which set a target date of 2010 for *halting* the decline. This target was not met but in 2010 in Nagoya, Japan, governments from around the world set about redoubling their efforts and issued a strategy for 2020 called 'Living in Harmony with Nature'. In 2011 the Irish Government incorporated the goals set out in this strategy, along with its commitments to the conservation of biodiversity under national and EU law, in the second national biodiversity action plan (Dept. of Arts, Heritage and the Gaeltacht, 2011). A third plan was published in 2017.

In Europe, the main policy instruments for conserving biodiversity have been the Birds Directive of 1979 and the Habitats Directive of 1992, which are transposed into Irish law through the European Union (Natural Habitats) Regulations SI94/1997 (as amended by SI233/1998 & SI378/2005). This legislation requires member states to designate areas of their territory that are important for certain listed habitats and species other than birds in the case of the Habitats Directive, and species or significant gatherings of birds in the case of the Birds Directive. These areas are known as Special Areas of Conservation (SAC) and Special Protection Areas (SPA) respectively. Together SACs and SPAs form the Natura 2000 network of protected sites. Unlike traditional nature reserves or national parks, Natura 2000 areas are not 'fenced-off' from human activity and are frequently in private ownership. It is the responsibility of the competent national authority to ensure that 'favourable conservation status' exists for their SACs and SPAs including that Article 6(3) of the

Habitats Directive is met. Article 6(3) requires that an ‘appropriate assessment’ (AA) be carried out for those areas where projects, plans or proposals are likely to have an effect. In some cases this is obvious from the start, for instance where a road is to pass through a designated area. However, where this is not the case, a preliminary screening must first be carried out to determine whether or not the full AA is required.

1.3 Purpose of this Report

This document provides an assessment of a proposed commercial and residential development at Newtown, Drogheda, and its potential effects in relation to Natura 2000 sites (SACs and SPAs). It will allow the Planning Authority, An Bord Pleanála, to screen the proposed development for AA. This application is described thus, as per the planning application:

The proposed development consists of 450no residential units and supporting neighbourhood and employment uses and all associated infrastructure to service them. It should be noted that under Article 42(1) of the aforementioned legislation it is the relevant competent authority, in this case An Bord Pleanála, which carries out any AA or screening for AA, stating:

A screening for Appropriate Assessment of a plan or project for which an application for consent is received, or which a public authority wishes to undertake or adopt, and which is not directly connected with or necessary to the management of the site as a European Site, shall be carried out by the public authority to assess, in view of best scientific knowledge and in view of the conservation objectives of the site, if that plan or project, individually or in combination with other plans or projects is likely to have a significant effect on the European site.

While paragraph (2) states:

A public authority shall carry out a screening for Appropriate Assessment under paragraph (1) before consent for a plan or project is given, or a decision to undertake or adopt a plan or project is taken.

This document therefore aids in the decision-making process.

1.4 Methodology

The assessment was carried out in accordance with the following methodologies and guidelines:

1. ‘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’ (Oxford Brookes, 2001). Annex 2 of this document sets out an assessment template that is used in this report.
2. ‘Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities’ (DOEHLG 2009).

Note: Reference from this point forth to the ‘site’ indicates the development site and not the SAC or SPA.

In accordance with the above-mentioned guidance notes, the following steps are followed:

Step 1: Analysis of the SAC/SPA

This involves assessing the current status of the SAC/SPA and underlying trends affecting it. This is done through a combination of literature review, site survey, and consultation with relevant stakeholders.

Step 2: Analysis of the proposed development

Identifying aspects of the plan that may affect the SAC/SPA

Step 3: Analysis of other plans and projects

Identifying aspects of other plans or projects that may act 'in combination' with the proposed development to significantly affect the SAC/SPA.

Step 4: Determination of significance

Determination whether any of these effects, either alone or in combination with other plans and projects, will be significant. This must be measured against the conservation objectives for the SAC or SPA in question.

The AA process is an iterative one where the report actively identifies potential effects, the project is then modified to avoid or mitigate these effects, and then the new project design is re-assessed until such point as no significant effects are predicted to occur. It is important to note that, under the Planning and Development Act, any AA or Screening for AA is carried out by the competent authority (in this case An Bord Pleanála) and this screening report has been prepared in order to aid that decision.

2.0 Step 1 – Analysis of the Natura 2000 network

2.1 Site location and extent

The development site is located to the south-east Drogheda, and south of the estuary of the River Boyne. It is in an area characterised by a combination of agricultural and built (mostly residential) land uses. This location is shown in figure 1 which also shows its position in relation to the boundary of nearby Natura 2000 areas.

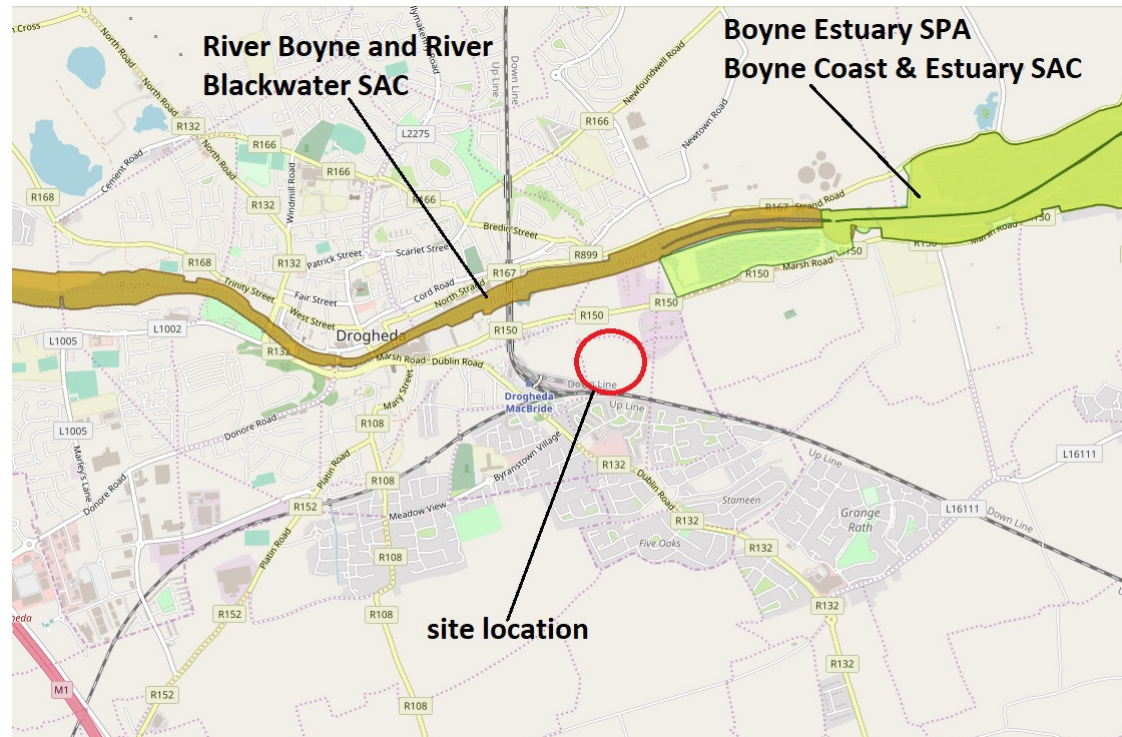


Figure 1 – Location of development site at Newtown, Co. Louth. Boundaries of SACs are shown in tan while the boundary of the SPA is shown in lime green (from www.epa.ie)

There is no prescribed radius around a site for determining what Natura 2000 sites should be studied. This is determined by the zone of influence of the project although a preliminary radius of 2km is usually examined (IEA, 1995). Figure 1 shows there are three such areas in this radius: the River Boyne and River Blackwater SAC, the Boyne Coast and Estuary SAC and the Boyne Estuary SPA. These areas can be found approximately 330m to the north.

OSI mapping shows that the site is in an area of agricultural land although in general this locality can be considered to be moderately urbanised with extensive built surfaces, road traffic etc. It is close to a busy railway line and housing developments.

The site boundary is shown in figure 2.



Figure 2 – Indicative site boundary and habitat map (aerial photo from Google)

2.2 Brief Description of Natura 2000 Sites

There is no prescribed radius for examining which Natura 2000 sites should be included within the AA Screening process. This is dependent upon the zone of influence of the project, something which is determined by the presence of pathways between the site and SACs or SPAs. The following Natura 2000 areas are considered to fall within the zone of influence of the project:

2.2.1 Natura 2000 areas in the Boyne Estuary

Boyne Estuary SPA (site code: 4080)

The tidal estuary of the Boyne is located to the east of the town of Drogheda. A site synopsis report states that it is home to ten birds with a population of national importance (Shelduck *Tadorna tadorna*, Oystercatcher *Haematopus ostralegus*, Golden plover *Pluvialis apricaria*, Grey plover *Pluvialis squatarola*, Lapwing *Vanellus vanellus*, Knot, Sanderling, Black-tailed godwit *Limosa limosa*, Redshank *Tringa totanus* and Turnstone *Arenaria interpres*). Two of these species are listed on Annex I of the Birds Directive (Golden plover and Black-tailed godwit). An additional Annex I species, Little Tern, has been re-established through a conservation programme at Baltray.

Table 1 – Features of interest for the Boyne Coast & Estuary SPA (EU code in square parenthesis)

Oystercatcher (<i>Haematopus ostralegus</i>) [A130]
Golden Plover (<i>Pluvialis apricaria</i>) [A140]
Grey Plover (<i>Pluvialis squatarola</i>) [A140]
Knot (<i>Calidris canutus</i>) [A143]
Sanderling (<i>Calidris alba</i>) [A144]
Black-tailed Godwit (<i>Limosa limosa</i>) [A156]
Redshank (<i>Tringa totanus</i>) [A162]
Turnstone (<i>Arenaria interpres</i>) [A169]
Little Tern (<i>Sterna albifrons</i>) [A195]
Lapwing (<i>Vanellus vanellus</i>) [A142]
Wetlands & Waterbirds [A999]

- **Grey Plover.** These birds do not breed in Ireland but winter throughout coastal estuaries and wetlands. Its population and distribution is considered to be stable
- **Redshank.** Once common breeders throughout the peatlands and wet grasslands of the midlands Redshanks have undergone a 55% decline in distribution in the past 40 years. Agricultural intensification, drainage of wetlands and predation are the chief drivers of this change.
- **Lapwing.** Although still one of the most widespread of the breeding waders Lapwing populations have declined by over 50% in the past 40 years. This has been driven by changes in agricultural practices and possibly increased predation.
- **Black-tailed Godwit.** Breeding in Iceland these waders winter in selected sites around the Irish coast, but predominantly to the east and southern halves. Their range here has increased substantially of late.
- **Turnstone.** This winter visitor to Irish coasts favours sandy beaches, estuaries and rocky shores. It is found throughout the island but changes may be occurring due to climate change.
- **Little Tern.** Breeding colonies have declines in nearly all scattered Irish nesting localities over the past 40 years. On mainland colonies wardening, to prevent predation effects, is now crucial for long-term survival.

Specific conservation objectives have been set for this SPA. They are to maintain a population trend that is stable or increasing, and maintain the current distribution in time and space for each species listed (NPWS, 2013a).

Boyne Coast and Estuary SAC (site code: 1957)

This SAC encompasses the tidal sections of the River Boyne, as far upriver as Drogheda. Its habitat value is centred on coastal and intertidal areas and includes salt marshes and sand dunes in various successional stages. A number of scarce or notable plants have been recorded from the dunes including the Wild Clary *Salvia verbenaca*, which is listed on the Red Data Book (Curtis & McGough, 1988).

Table 2 – Qualifying interests of the Boyne Coast and Estuary SAC

Aspect	Level of Protection
Fixed coastal dunes with herbaceous vegetation	Habitats Directive Annex I priority
Embryonic shifting dunes	Habitats Directive Annex I
Shifting dunes with <i>Ammophila arenaria</i> (Marram grass)	
Mediterranean salt meadows	
Atlantic salt meadows	
Estuaries	
Mudflats and sandflats not covered by seawater at low tide	
Salicornia and other annuals colonising mud and sand	

- **Embryonic shifting dunes (2110).** As their name suggests these sand structures represent the start of a sand dune's life. Perhaps only a meter high they are a transient habitat, vulnerable to inundation by the sea, or developing further into white dunes with Marram Grass. They are threatened by recreational uses, coastal defences, trampling and erosion.
- **Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) (2120).** These are the second stage in dune formation and depend upon the stabilising effects of Marram Grass. The presence of the grass traps additional sand, thus growing the dunes. They are threatened by erosion, climate change, coastal flooding and built development.
- **Fixed coastal dunes with herbaceous vegetation (grey dunes) (2130 – priority habitat).** These are more stable dune systems, typically located on the landward side of the mobile dunes. They have a more or less permanent, and complete covering of vegetation, the quality of which depends on local hydrology and grazing regimes. They are the most endangered of the dune habitat types and are under pressure from built developments such as golf courses and caravan parks, over-grazing, under-grazing and invasive species.
- **Atlantic and Mediterranean salt meadows (1330 & 1410):** these are intertidal habitats that differ somewhat in their vegetation composition. They are dynamic habitats that depend upon processes of erosion, sedimentation and colonisation by a typical suite of salt-tolerant organisms. The main pressures are invasion by the non-native *Spartina anglica* and overgrazing by cattle and sheep.
- **Estuary (1130):** This is the portion of a river that is influenced by the tide but retaining a significant freshwater influence. Substrates can range from rocks and boulders, to expanses of fine mud and sand. They are an important resource for birds and other fauna and many estuaries have twin designations (i.e. both SAC and SPA). It considered that the majority of estuary habitat is in good condition however approximately a quarter is negatively affected by excess nutrient input and damaging fishing practices.
- **Tidal mudflats (1140).** This is an intertidal habitat characterised by fine silt and sediment. Most of the area in Ireland is of favourable status however water quality and fishing activity, including aquaculture, are negatively affecting some areas.
- **Salicornia mudflats (1310):** This is a pioneer saltmarsh community and so is associated with intertidal areas. It is dependant upon a supply of fresh, bare mud and can be promoted by damage to other salt marsh habitats. It is chiefly threatened by the advance of the alien invasive Cordgrass *Spartina anglica*. Erosion can be destructive but in many cases this is a natural process.

Specific conservation objectives have been set for the Boyne Coast & Estuary SAC (NPWS, 2012a). The objectives relate to habitat area, community extent, community structure and community distribution within the qualifying interest. There is no objective in relation to water quality.

Description of structure and functional relationships:

Estuaries are among the most productive habitats on earth as great quantities of sediment and nutrients are deposited from their feeding rivers. The abundance of invertebrate life living within these sediments provides resources for large flocks of wetland and wading birds, some of which use estuaries on a seasonal basis. Dynamic coastal habitats meanwhile are important in buffering inland areas from storms as well as potential future impacts from climate change (Little, 2000).

River Boyne and River Blackwater SAC (site codes: 2299)

The river Boyne and river Blackwater drain most of county Meath. They are important salmonid rivers and are home to a range of aquatic and riparian species.

The reasons why these rivers are an SAC are set out in the site's 'qualifying interests' and these are given in table 3. Whether SAC is likely to be significantly affected must be measured against the conservation objectives. However, specific conservation objectives have not been set out. Generic conservation objectives have been published by the NPWS and this is stated as "to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected" (NPWS, 2016a)

According to this generic document favourable conservation status of a habitat is achieved when:

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

While the favourable conservation status of a species is achieved when:

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

Table 3 – Qualifying interests of the River Blackwater and River Boyne SAC

Aspect	Level of Protection
Alluvial forest (code: 91E0)	Habitats Directive Annex I priority
Alkaline fens (code: 7230)	Habitats Directive Annex I
Atlantic salmon <i>Salmo salar</i> (code: 1106)	Habitats Directive Annex II
River lamprey <i>Lampetra fluviatilis</i> (code: 1099)	
Otter <i>Lutra lutra</i> (code: 1355)	

The conservation status of these features of interest have not been assessed at the level of the SAC. Habitats and species designated under the Habitats Directive have been assessed as part of Ireland's commitments under Article 17 of that Directive. These assessments are at a national scale only. Table 4 gives the assessment of

those features of relevance to the River Boyne and River Blackwater SAC (NPWS, 2013b & c). The conservation status of the Otter, River Lamprey and Atlantic Salmon have been assessed as near threatened, least concern and vulnerable respectively (Marnell et al., 2009; King et al., 2011).

Table 4 – Assessment of features of interest of the River Boyne and River Blackwater SAC

Alluvial forest (code: 91E0)	Bad
Alkaline fens (code: 7230)	Bad
Atlantic salmon <i>Salmo salar</i> (code: 1106)	Intermediate
River lamprey <i>Lampetra fluviatilis</i> (code: 1099)	Good
Otter <i>Lutra lutra</i> (code: 1355)	Good

- **Alkaline Fens:** Threats of ‘high importance’ are groundwater abstractions, land reclamation, diffuse groundwater pollution, land abandonment/under-grazing. These fen systems are often a complex mosaic of habitats, with tall sedge beds, reedbeds, wet grasslands, springs and open-water often co-occurring at a given fen site. Their integrity is reliant upon a stable, high water table; calcareous/low-nutrient water supply; and controlled mowing and/or grazing.
- **Alluvial Wet Woodland:** This is a native woodland type that occurs on heavy soils, periodically inundated by river water but which are otherwise well drained and aerated. The main pressures are identified as alien invasive species, undergrazing and overgrazing. Pollution from agricultural land may also be significant.
- **River lamprey:** This species spends its entire life cycle in freshwater and is considerably smaller than the larger, and more threatened Sea lamprey. As juveniles they are indistinguishable from Brook lamprey at the species level and are only differentiated by their size at adults. Since surveys are carried out on the juvenile life stage these two species are jointly assessed. Although threatened by pollution, along with all aquatic life, they are assessed as being of ‘good’ status.
- **Atlantic salmon:** This once abundant fish has suffered a dramatic decline in recent decades. On land they are threatened by pollution and barriers to migration while at sea mortality may occur through industrial fisheries, parasites from aquaculture operations and climate change. The Habitats Directive only protects the salmon in its freshwater habitat and for some SACs specific conservation objectives have been set for water quality. Salmon will only spawn in clean, sediment-free beds of gravel.
- **Otter:** This aquatic mammal lives its entire life in and close to wet places, including rivers, lakes and coastal areas. They will feed on a wide variety of prey items. Despite local threats from severe pollution incidents and illegal fishing, its population is considered stable and healthy, and so is assessed as being of ‘good’ status.

Description of structure and functional relationships:

Rivers are dynamic ecosystems that are a function of numerous factors such as climate, geology and land use, all of which determine the water quality and quantity at any given time. Processes such as erosion and deposition ensure that even the course of the river can change over time. The function of these fully- or semi-aquatic habitats depends upon maintaining water volume, free movement of key species, water chemistry to which the particular species are adapted as well as the structure of riparian habitats and, crucially, its floodplain (Giller & Malmqvist, 1998). Threats to river systems in Ireland include eutrophication, overgrazing, excessive fertilisation, afforestation and the introduction of alien invasive species (NPWS, 2008).

Relevant Conservation Objectives for the Boyne Coast and Estuary SPA and SAC are summarised as follows:

Mudflats (code 1140)

Permanent habitat area stable or increasing (estimated at 1,027 hectares); estuarine muds dominated by polychaetes and crustaceans community complex maintained in a natural condition.

Estuaries (code: 1130)

Permanent habitat area stable or increasing (estimated at 1,905 hectares); estuarine muds dominated by polychaetes and crustaceans community complex maintained in a natural condition

Atlantic/Mediterranean Salt Meadows (1330/1410)

Maintain habitat area and distribution including physical structure (sediment supply, creeks and pans, flooding regime). Maintain vegetation structure as measured by vegetation height, vegetation cover, typical species and sub-communities. Absences of the invasive *Spartina anglica*.

Fixed Coastal Dunes (2130)

Maintain habitat area and distribution including physical structure (functionality and sediment supply, percentage of bare ground, sward height). Maintain vegetation structure as measured by zonation, vegetation cover, typical species and sub-communities. Absences of the invasive *Hippophae rhamnoides*.

Birds (similar for all species)

Long term population trend stable or increasing; there should be no significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation

River Lamprey

Maintain river accessibility (no artificial barriers); healthy population structure; healthy density of juveniles; no decline in extent or distribution of spawning beds; >50% of sampling sites positive.

Atlantic Salmon

Maintain river accessibility (no artificial barriers); size of stock measures as 'conservation limit' consistently exceeded; maintain abundance of salmon fry; no significant decline in out-migrating smolt abundance; no decline in the number of spawning beds (redds); water quality at least Q4 at all sites.

Otter

No significant decline in distribution; no significant decline in terrestrial/estuarine/freshwater/lake habitat; no significant decline in couching sites or holts; no decline in available fish biomass;

2.3 Literature Review

As can be seen from figures 1 and 2, the site is not located within or directly adjacent to any area designated for nature conservation. It is situated approximately 330m to the south of the boundary of SACs and SPA in the Boyne Estuary at their nearest points. The site is within the catchment of the Stagrennan Stream, a very short water course which discharges to the Boyne Estuary at the Marsh Road junction between the R150 and R151. This is well within the tidal range of the River Boyne.

The EU's Water Framework Directive (WFD) stipulates that all water bodies must attain 'good ecological status' by 2015 or, with exemptions, by 2027. This includes estuarine waters and under the first River Basin Management Plan (RBMP) the Boyne Estuary was located within the Eastern River Basin District. This RBMP included a 'programme of measures' which was to be completed. A second RBMP was published in 2018. This identified 190 'priority areas for action' and a number of these are within the catchment of the River Boyne. Any improvements in water quality further upstream will impact positively on the ecological status of the estuary.

Water quality in the estuary has most recently been assessed as 'intermediate' – a term which implies moderate pollution either from point or diffuse sources (from www.epa.ie). Overall the estuary has been assessed as 'moderate' in terms of its status under the Water Framework Directive for the 2010-15 reporting period.

These data indicate that water quality in the estuary is of an insufficient standard to meet the requirements of the WFD. Measures must therefore be taken in the coming years to address existing problems and any new developments within the catchment must not contribute to the pollution loading.

The coastal and marine area, beyond the mouth of the river meanwhile is of 'good' status, i.e. unpolluted.

There are available data on the current status of the SPA and trends that may be affecting it. As can be seen from table 5, total bird numbers have been quite stable since the 2010/11 season however this may mask changes in individual species.

Table 5 – Data from the Irish Wetland Bird Survey (Lewis et al., 2016)

Year	2010/11	2011/12	2012/13	2013/14	2014/15	Mean
Count	8,928	230,45	15,159	8,179	8,206	12,703
Species occurring in significant numbers						
Light-bellied Brent goose, Shelduck, Teal, Oystercatcher, Golden Plover, Grey Plover, Lapwing, Knot, Sanderling, Dunlin, Black-tailed Godwit, Redshank						

2.4 Consultation

The Development Applications Unit of the Department of Culture, Heritage, and Gaeltacht Affairs was contacted for nature conservation observations. A response to this was received on July 20th 2018 (reference GPre00134/2018). This contain general requirements on the preparation of AA Screening and did not provide comments specific to the subject lands.

2.5 Site Survey

A site visit was carried on May 24th 2018. The subject site comprises a series of two large fields which are in agricultural production and are **arable crops – BC1**. **Hedgerow – WL1** field boundaries are found throughout. They are composed of Hawthorn *Crataegus monogyna*, Ash *Fraxinus excelsior* with Ivy *Hedera helix* and Brambles *Rubus fruticosus* agg, along with some Sycamore *Acer pseudoplatanus* and Elder *Sambucus nigra*. A taller **treeline – WL2** can be found along the northern boundary of the western field. This is composed of large Beech *Fagus sylvatica* with Ash, Hawthorn and Horse Chestnut *Aesculus hippocastanum*. A broad **drainage ditch – FW4** can be found to the south and accompanies a hedgerow before veering into the centre of the eastern field. All of these boundaries are marked on original OSI maps from the early 1800s while the boundaries to the north and west are townland boundaries and so are likely to be of even greater age. Following guidance from the Heritage Council (Foulkes et al., 2013) these features are of 'higher significance' due to their age and structure. Whilst the ditch terminates in the eastern field, due to the site's location within the catchment of the Stagreenan Stream which discharges to the Boyne Estuary, there is a possibility of a hydrological link between the site and the Boyne Estuary.

To the south-east a lack of agricultural management has resulted in the growth of **scrub – WS1** and this is mostly Brambles and Blackthorn *Prunus spinosa* with some Grey Willow *Salix cinerea*. A small length of treeline to the south-east borders a house and is composed of the non-native (and low biodiversity value) Leyland Cypress *Cuprocyparis leylandii*.

There are no habitats which are examples of those listed in Annex II of the Habitats Directive. There are no plant species which are listed as alien invasive on Schedule 3 of SI No. 477 of 2011. Habitats are mostly of low ecological value while boundary hedgerows and treelines can be considered to be of high local value.

2.6 Trends affecting the SAC/SPA

There is no management plan for the designated areas along the Boyne and its estuary however some work has been done to determine the site-specific trends or threats to their conservation status.

The NPWS has produced a 'supporting' document for the SPA. This analyses the trends of the various bird species for which the estuary has been designated, as well as the pressures being experienced. Of the features of interest Black-tailed Godwit, Shelduck, Oystercatcher, Grey Plover, Golden Plover, Knot and Sanderling were assessed as being in 'favourable' status; Redshank was 'intermediate (unfavourable)'; while Turnstone and Lapwing were 'unfavourable' (NPWS, 2012).

There is no evidence that poor water quality is currently negatively affecting the conservation objectives of Natura 2000 areas in the Boyne Estuary. Water quality is not listed as a conservation objective for the SAC. Research from Lough Neagh in Northern Ireland suggests that improvements to water quality there resulted in dramatic declines in the populations of wintering ducks (Tomankova et al., 2013). It is not known whether similar effects will be seen in Irish estuaries as a result of improvements to water quality as a result of implementation of the Water Framework Directive.

3.0 Step 2 – Analysis of the Project

This application is for the construction and operation of a mixed-use development on the lands described.

The project will include a construction and operation phase to provide for the buildings, car parking areas, and other essential infrastructure. An access road and 133 houses (PA Ref 17-387) has been permitted along the eastern boundary which will link the development with the R150 to the north.

The construction phase will involve the use of standard construction materials. This will involve the partial loss of the existing habitats and the infilling of the drainage ditch.

A new surface water drainage system is to be installed in accordance with the SUDS principles. This will ultimately connect to an existing surface water sewer, discharging to the River Boyne. Volumes entering the sewer are minimised in the first instance through the use of water butts, swales and filter drains. Excess run off will be divided into three catchment areas, each with their own underground attenuation storage, flow control device and petrol interceptor. In this way the quality and quantity of surface run-off will remain at the 'greenfield' rate. No negative effects to water quality in the River Boyne are expected to arise from this source.



Figure 3 – Site Layout

Wastewater will be sent to the municipal treatment plant at Drogheda, which is operated by Irish Water under licence from the EPA (licence no.: D0041-01). The Annual Environmental Report for 2017 shows that the plant did not meet its requirements under the Urban Wastewater Treatment Directive in that year. This plant discharges into the Boyne Estuary however monitoring of the receiving environment indicates that the discharge “does not have an observable negative impact on the water quality”. There is a treatment capacity of 101,600 population

equivalent (P.E.) while the mean loading in 2016 was 52,612 P.E. This indicates that sufficient capacity exists to successfully treat the expected additional loading from this development.

Post-construction the site will be landscaped with a range of native and non-native species which will be pollinator friendly. These are appropriate to the locality and do not include any species considered to be invasive. The proposed site layout plan is shown in figure 3.

4.0 Step 3 – Analysis of Other Plans and Projects

Individual impacts from one-off developments or plans may not in themselves be significant. However, these may become significant when combined with similar, multiple impacts elsewhere. These are sometimes known as cumulative impacts but in AA terminology are referred to as 'in combination' effects.

In terms of the conservation objectives of the SACs and SPAs identified in section 2.2, maintaining the extent and condition of important habitats and species populations is vital.

This part of County Louth is currently a combination of transport links, agricultural land, and built development. Increasing urbanisation is a characteristic of this region as demand for housing and other built development increases. This development can be seen in conjunction with the permitted development of a new access road and 133 houses directly to the south-east of the subject lands.

The cumulative effects of this type of urban growth can arise from replacing permeable ground with hard surfaces. This can result in increased risk of flooding and deterioration of water quality, primarily from the run-off of particulate matter and hydrocarbon residues (Mason, 1996). To combat this effect new developments, integrate sustainable drainage systems (SUDS) to maintain natural, or 'green field' rates of surface water run-off while also improving water quality in rivers. This development is fully compliant with these principles.

The Second RBMP has been published under the EU's Water Framework Directive. This sets out to improve ecological status of water bodies in 190 'action areas' by 2021.

The increasing expansion of Drogheda will also place pressure on wastewater infrastructure, which currently discharges to the Boyne Estuary. However, sufficient capacity exists at the municipal wastewater treatment plant to accommodate the predicted additional loading arising from this expansion.

5.0 Step 4: Determination of Significance

5.1 Impact prediction

Under Article 6 of the Habitats Directive a 'significant effect' must be measured against the conservation objectives for the SAC or SPA in question. Unlike Environmental Impact Assessment for instance, there are no degrees of significance and where an effect is determined to be significant mitigation or avoidance measures must be considered.

In order for an impact to occur there must be a pathway between the development (the source) and the SAC or SPA (the receptor). Where a pathway does not exist then an impact cannot occur.

The subject site is not located within, or directly adjacent to any SAC or SPA. However, pathways for impacts do exist via surface water and treated wastewater to SACs and SPAs in the Boyne Estuary.

The development cannot result in direct impacts to habitats within any designated area, either through habitat removal or disturbance, due to the significant separation distances involved.

Site specific conservation objectives have been set for some of the aforementioned SACs or SPA and none of these objectives relates to water quality. There is no evidence that poor water quality is negatively affecting habitat or bird populations. Pollution is in any case undesirable and this development will not infringe upon efforts to enhance water quality under the Water Framework Directive.

Following on from steps 1 – 3 of this process a number of specific impacts are considered:

5.1.1 Habitat loss

This development will not result in the loss of any habitat within or adjacent to any SAC or SPA.

5.1.2 Habitat disturbance

No habitats will be directly disturbed within or directly connecting to Natura 2000 areas.

Indirect disturbance is unlikely to occur through amenity pressures on coastal areas.

5.1.3 Pollution during construction

There is a possibility that due to the site's location within the catchment area of the Stagrennan Stream that the small drainage ditch is hydrologically connected to the Stagrennan Stream and thereon to the Boyne Estuary. This ditch is not of salmonid status due to its small size, limited extent and obstructions to fish passage. This project will infill the ditch while there will be wider soil disturbance as part of the construction programme. Although temporary, it is considered that the loss of construction pollutants to the estuary could result in impacts to invertebrate

communities within estuary and mudflat habitats. Significant effects to the Boyne Coast and Estuary SAC therefore cannot be ruled out.

5.1.4 Pollution during normal operation

The use of accepted SUDS techniques in the design of the project will ensure that negative effects to water quality do not arise from surface water run-off when the project is established.

Ample capacity exists at the Drogheda wastewater treatment plant to accept the likely additional loading from this development. No significant effects to Natura areas is likely to arise from these sources.

5.1.5 Abstraction

There is no evidence that abstraction from the River Boyne is resulting in ecological pressures. This aspect of the project is not considered to be significant.

6.0 Conclusions of Stage 1 Screening

Hydrological pathways exist to the Boyne Coast and Estuary SAC and the Boyne Estuary SPA; significant effects have been ruled out to the Boyne Coast and Estuary SPA and the River Boyne and River Blackwater SAC and SPA. No significant effects will occur to these Natura 2000 sites either alone or in combination with other plans and projects.

Significant effects cannot be ruled out to the Boyne Coast and Estuary SAC

The conservation objective set for mudflats and estuary in this SAC are similar and are described as “Permanent habitat area stable or increasing; estuarine muds dominated by polychaetes and crustaceans community complex maintained in a natural condition.”. Given the potential effects to water quality during construction (particularly sediment and other construction pollution) significant effects to these qualifying interests cannot be ruled out.

It is therefore concluded that a full AA will be required. To assist in this decision, a separate Natura Impact Statement (NIS) has been submitted to the planning authority.

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