

Natura Impact Statement for proposed
residential development at
Crokers Hill,
Kennyswell Road, Kilkenny,
Co. Kilkenny

Compiled by OPENFIELD Ecological Services

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For Kilkenny County Council



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The Purpose of this document

This document provides information to allow the planning authority (Kilkenny County Council) to carry out an Appropriate Assessment of the proposed project. This document will assess whether significant effects to the integrity of the Natura 2000 network are likely to occur as a result of granting planning permission in accordance with Article 6(3) of the Habitats Directive and the Planning and Development (Amendment) Acts. It will determine whether mitigation measures are required to ensure that negative effects can be avoided to the Natura 2000 network.

This report is based on a separate Screening Report for AA which has been prepared by Openfield Ecological Services and which concluded that significant effect to Natura 2000 areas could not be ruled out.

Under the European Communities (Birds and Natural Habitats Regulations) 2011 an NIS:

...means a report comprising the scientific examination of a plan or project and the relevant European Site or European Sites, to identify and characterise any possible implications of the plan or project individually or in combination with other plans or projects in view of the conservation objectives of the site or sites, and any further information including, but not limited to, any plans, maps or drawings, scientific information or data required to enable the carrying out of an Appropriate Assessment.

It should be noted that under Article 42(1) of the aforementioned legislation it is the relevant competent authority, in this case Carlow County Council, 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.

This NIS therefore aids in the decision making process.

It should be noted that there is no prescribed format for an NIS. This report therefore follows the generally accepted format for AA provided by the European Commission.

Methodology

The methodology used for this assessment is set out in a document prepared for the Environment DG of the European Commission entitled '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 University, 2001). Chapter 3, part 1, of this document deals specifically with screening while Annex 2 provides the template for an AA report to be used.

In accordance with this guidance, the following methodology has been used to produce this screening statement:

Step 1: Information Required

This assesses whether adequate information is available in order to complete the AA or if, taking the Precautionary Principle into account, additional data are required.

Step 2: Impact Prediction

This identifies the likely impacts that may arise as a result of the project.

Step 3: Conservation Objectives

An assessment of whether or not there will be adverse effects on the integrity of the Natura 2000 site as defined by the conservation objectives and status of the site.

Step 4: Mitigation Measures

Mitigation through avoidance of adverse effects must be proposed. Where it is likely that significant effects will remain despite mitigation then a full assessment of alternative options must be undertaken and an application for the project to proceed made under Article 6(4) of the Habitats Directive: Imperative Reasons of Overriding Public Interest.

The steps are compiled into an AA report, a template of which is provided in Appendix II of the EU methodology.

Reference is also made to guidelines for Local Authorities from the Department of the Environment, Heritage and Local Government (DoEHLG, 2009).

A full list of literature sources that have been consulted for this study is given in the References section to this report while individual references are cited within the text where relevant.

AA Report (Natura Impact Statement) as per Annex 2 of EU methodology:

Step 1 – Information Required

Describe the elements of the project (alone or in combination with other projects or plans) that are likely to give rise to significant effects on the Natura 2000 site (from the screening report prepared by Openfield Ecological Services)

It is planned to construct an 86-home residential development on the site at Crokers Hill. The site is currently agricultural grazing land. Recent aerial photography shows the area to be close to the River Breagagh, which is a tributary of the River Nore. The site location is shown in figures 1 and 2.

The AA screening report provided follows accepted methodologies. It highlights the fact that the site is within the catchment of the River Barrow and River Nore SAC (site code: 2162).

Wastewater from the development will pass to the Kilkenny wastewater treatment plant. This plant discharges treated wastewater to the River Nore.

Surface water during the operation of the project will be maintained at a 'greenfield' rate and will not result in changes to the quality or quantity of run-off leaving the site.

The site is not located within or directly adjacent to any Natura 2000 area (SAC or SPA). The site is located close to the centre of Kilkenny City which is a built-up area characterised by roads and other built development. The site itself lies close to existing residential estates albeit on the edge of the city and near to open areas of agricultural land. The Breagagh River lies approximately 120m to the north, and as near as 20m to the west of the site boundary, and the surface topography means surface run-off will be channelled in this direction. The site is in the wider catchment of the River Nore, the main channel of which flows approximately 860m east of the site boundary as the crow flies. The Breagagh River is subject to no Natura designations. Where it meets the River Nore in Kilkenny City however it enters the River Barrow and River Nore SAC and the River Nore SPA.

The construction phase will involve site preparation and soil clearance. This will result in the loss of all habitats. Any inert construction and demolition waste will be removed by a licenced contractor and disposed of in accordance with the Waste Management Act.

A new surface water drainage system will be installed and will be separate from that of the foul sewer. This will ultimately discharge to the Breagagh River via a new outfall pipe. Attenuation storage with outfall via a flow control device and oil/grit interceptor will ensure that run-off rates remain at a 'green field' rate. Foul wastewater will be treated in the municipal treatment plant for Kilkenny City.

Water will be supplied from a mains supply which originates from an extraction point along the River Nore.

Some dust and noise can be expected during the construction phase. The operation phase will see the development occupied and this will bring with it human disturbance as well as noise and artificial light.

The lands have been subject to a flood risk assessment by IE Consulting and this has shown that areas to be developed are at 'low' risk of flooding.

Step 2 - Impact Prediction

The AA screening report describes the elements of the project which "have the potential to cause environmental impact". These are:

Habitat Loss

The site is nearly 900m from the boundary of the River Barrow and River Nore SAC and the River Nore SPA. Because of the distance separating the site and this area there is no pathway for loss or disturbance of habitats listed in table 1 or other semi-natural habitats that may act as ecological corridors for important species associated with the qualifying interests of the Natura 2000 sites.

Pollution

There is a pathway from the site via surface water flows to the River Nore, via the Breagh River. In terms of the conservation objectives of the SAC previously identified, maintaining good water quality has been stated as an objective for the White-clawed crayfish, Twaite shad, Atlantic salmon, Freshwater Pearl Mussel, Nore Freshwater Pearl Mussel, floating river vegetation, and petrifying springs. Of these the highest water quality is demanded of the Freshwater Pearl Mussel and the Nore Freshwater Pearl Mussel. This project is outside the catchment of these species. The required water quality relevant to this study is for the Atlantic salmon, for which Q4 (unpolluted) status is needed. This standard is currently not being met along the Breagh but is being met along this section of the Nore. Poor water quality can affect Atlantic salmon by reducing available dissolved oxygen levels in water and reducing the quality of spawning habitat (Hendry et al., 2003). This arises from nutrient and sediment inputs respectively.

No negative effects to the SAC are likely to arise from changes to surface run-off quality or quantity during the operation phase due to the attenuation measures incorporated into the design.

Pollutants arising from surface water run-off typically comprise of sediment and small quantities of hydrocarbon residues. During construction projects this can also include cement and other substances which are toxic to aquatic life. Sediment in particular can cause long term damage to fish habitats in freshwater systems. In this case the risk of pollution from this source is moderate as site clearance works will take place close to the Breagh River.

Therefore negative effects to the SAC, and to Atlantic Salmon in particular, cannot be ruled out.

Foul wastewater from the site will connect to the mains sewer and will be treated in the municipal wastewater treatment plant. This plant has been shown to be compliant with all relevant emission standards while sufficient capacity exists to receive the predicted loading from this development. There are consequently no effects predicted to occur from this source.

Flooding

A project-specific flood risk assessment has been carried out by IE Consulting. This states:

The proposed development site is ...not at risk of fluvial flooding from the River Breagagh. A small area at the south-western corner of the proposed development site may potentially be impacted by fluvial flooding, however no development is proposed at this location. There are no significant or restrictive hydraulic structures located in the immediate vicinity of the proposed development site. In this regard no further assessment of primary potential fluvial flood risk to the proposed development site is required.

Overall the fluvial flood risk to the proposed development site is LOW. Development of the site is not expected to result in a significant adverse impact to the hydrological regime of the area or to increase flood risk elsewhere.

The report states in conclusion that, *overall, the flood risk to the proposed development site is LOW.*

Disturbance

The development is not likely to result in disturbance effects at Natura 2000 areas due to the nature and location of the development. There is a significant buffer zone remaining between the development and the Breagagh River so that disturbance effects, e.g. from noise or lighting, will not occur. This must be seen in the context of the already built-up nature of these surroundings.

Abstraction

There is no evidence that abstraction from the River Nore is negatively affecting conservation objectives in the River Barrow and River Nore SAC.



Figure 2 – Site location (red circle). The SAC is shown in tan while the SPA is shown in lime green (and is effectively within the SAC; from www.epa.ie).

An assessment of the effects of the project ‘in combination’ with other potential sources is presented.

Eventual implementation of the WFD will result in overall improvements to water quality throughout the Nore catchment although these targets have not been met by the 2015 deadline. The Bregagh River is among the ‘priority areas for action’ where improvements to water status are expected by 2021.



Figure 3 – Site boundary and route of new surface water pipe to the Bregagh River.

Environmental water quality can be impacted by the effects of surface water run-off from areas of hard standing. These impacts are particularly pronounced in urban areas and can include pollution from particulate matter and hydrocarbon residues, and downstream erosion from accelerated flows during flood events (Mason, 1996). There will no impact to surface water quality and quantity from this development due to the incorporation of proven SUDS methods.

Some land use change has occurred in this vicinity in the past decade and which has seen agricultural land converted to built development. This can impact upon biodiversity through disturbance effects and the cumulative impact of water pollution. Impacts to water quality arising from this project have been assessed and are not predicted to result in pollution.

The development will add to the cumulative loading at the Kilkenny wastewater treatment plant. However there is sufficient capacity to treat this effluent to the required standard. No in combination effects are anticipated to arise from this source.



Figure 4 – Site layout

The subject lands have been zoned for residential development in the Kilkenny City and Environs Local Area Plan 2014-2020, and much of the land to the east is already composed of housing. Additional lands to the south of Kennyswell Road are also zoned for this purpose. This plan was screened for AA, a Natura Impact Statement was prepared and the planning authority carried out a full AA. This concluded that “having incorporated mitigation measures, it is considered that the Kilkenny City & Environs Development Plan will not have a significant

adverse effect on Natura 2000 sites, and that the integrity of the Natura 2000 sites will not be adversely affected.”

There are no further effects which can act in combination with other similar effects, to result in significant effects to the SAC in question.

Step 3 – Conservation Objectives

Set out the conservation objectives of the site

The Conservation Objectives document for the River Barrow and River Nore SAC shows that a number of species (features of interest) are present along the River Nore including Atlantic Salmon, Otter and Lampreys. No habitats listed in table 1 are to be found along the River Breagagh and this is outside the SAC boundary. There are no records of the Killarney fern, Desmoulin’s Whorl Snail or Freshwater Pearl Mussel along the Nore downstream of Kilkenny. Freshwater Pearl Mussel is not found in water downstream of this project. The Nore does provide habitat however for the White-clawed Crayfish, all Lamprey species, Atlantic salmon and Otter. It may also hold the ‘floating river vegetation’ habitat. The Twaite shad is only found in estuarine waters. The following conservation objectives are therefore considered to be relevant:

White-clawed Crayfish

No reduction in distribution; healthy population structure; an absence of alien crayfish species; no instances of disease; water quality at least Q3-4; no decline in heterogeneity of habitat.

Sea/River/Brook 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;

Floating river vegetation (3260)

No decline in habitat distribution; habitat area stable; maintain hydrological regime measured as river flow and tidal influence; maintain substrate composition in tidal sub-type; water quality should be 'good status' in terms of nutrient standards, macroinvertebrate and phytoplankton elements; vegetation typical of the habitat sub-type at favourable status; areas of floodplain must be maintained.

Describe how the project will affect key species and key habitats. Acknowledge uncertainties and any gaps in information.

Hydrological pathways exist to the River Nore. The conservation objective set for Atlantic Salmon in this SAC is "no decline in the number of spawning beds (redds); water quality at least Q4 at all sites". Given the potential effects to water quality during construction (particularly sediment pollution), significant effects to this qualifying interest cannot be ruled out. This may affect the integrity of the SAC.

Water quality objects are also set for the 'floating river vegetation' habitat. All aquatic organisms are affected by water quality however the degree to which is occurs is not always understood (e.g. some organisms to well in moderately polluted conditions).

Describe how the integrity of the site (determined by structure and function and conservation objectives) is likely to be affected by the project

Sediment is acknowledged as among the most important pollutants in river ecosystems. This is due to multiple factors, including reducing light penetration, fouling the gills of animal life (such as Atlantic Salmon) and fouling fish spawning beds (particularly for Atlantic Salmon).

Because sediment can reduce the availability of spawning beds and result in a deterioration of water quality, the integrity of the SAC could be compromised. It can act in combination with other sources of sediment and nutrients throughout the Nore catchment to result in a downward pressure on Salmon numbers. The status of the Salmon in the Nore is unsatisfactory. The most recent data indicates that the population of fish is only 0.77 of the 'conservation limit' – a figure which would allow the opening of recreational angling (IFI, 2017).

Step 4 - Mitigation

Describe what mitigation measures are to be introduced to avoid, reduce or remedy the adverse effects on the integrity of the site. Acknowledge uncertainties and any gaps in information.

1. Pollution prevention during construction

A Surface Water Management Plan has been prepared as part of this development application.

Construction will follow guidance from Inland Fisheries Ireland (IFI, 2016) for the protection of fish habitat. This will include the erection of a robust silt curtain (or similar barrier) along the northern boundary to prevent the ingress of silt to the Mill Race. Water leaving the site will pass through an appropriately-sized silt trap or settlement pond so that only silt-free run-off will leave the site.

Dangerous substances, such as oils, fuels etc., will be stored in a bunded zone. Emergency contact numbers for the Local Authority Environment Section, Inland Fisheries Ireland, the Environmental Protection Agency and the National Parks and Wildlife Service will be displayed in a prominent position within the site compound. These agencies will be notified immediately in the event of a pollution incident.

The surface water headwall will be installed behind a bunded barrier. Only fast-curing concrete is to be used and no concrete should be poured in wet weather.

Site personnel will be trained in the importance of preventing pollution and the mitigation measures described here to ensure same.

The site manager will be responsible for the implementation of these measures. They will be inspected on at least a daily basis for the duration of works, and a record of these inspections will be maintained.

List of agencies consulted

Third party observations were not sought due to the low ecological sensitivity of the subject lands.

The Assessment of Significance of Effects – Conclusion of Stage 2

This report contains an analysis of the proposed project and its relationship with areas designated under the Habitats and Birds Directives. Pathways exist between the development site and one such area and these have been described in detail. Following this analysis, it is concluded that the integrity of the River Barrow and River Nore SAC may be affected. Specifically, this may arise from the impact to the habitat of Atlantic Salmon from pollution during the construction phase. Arising from this assessment, mitigation has been proposed. With the implementation of these measures significant effects to the integrity of the SAC are not expected to occur. This conclusion is based on best scientific knowledge.

References

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