22nd February 2019

The Manager
Development Application Unit
Department of Culture, Heritage and the Gaeltacht
Newtown Road
Wexford

This correspondence is relevant to Nature Conservation only

Re: Brosna Arterial Drainage Scheme - Arterial Drainage Maintenance Activities:
2019-2023 Appropriate Assessment Determination Statement

Introduction

The purpose of this Appropriate Assessment (AA) Determination Statement is to provide a statement for the public and relevant bodies to ascertain that an AA has been conducted in accordance with relevant regulations. The purpose is to allow interested parties to assess the competent authority determination.


In summary, Article 6(3) of the Directive requires an Appropriate Assessment to be undertaken when there is an element of doubt about whether the integrity of a protected site might be affected by the proposed project. The focus of the assessment is the implications that the proposed project/development may have in the context of the rationale behind why an area was designated for protection. Article 6(3) continues that statutory approval can only be granted provided the assessment has indicated that there will be no adverse effects on the integrity of the site. In cases where the integrity of a site is or maybe effected then the requirements of Article 6(4) apply.

The Plan or Project

The OPW has commissioned JBA Consulting to prepare a Screening for Appropriate Assessment and a Natura Impact Statement to inform the OPW, as competent authority, in their Appropriate Assessment of the project.

The Office of Public Works is the competent authority for this project.

A detailed description of the project is included in the Natura Impact Statement. The project entails vegetation management along channels and embankments. These will be carried out using suitable machinery.

This Natura Impact Statement (NIS) provides the results of the assessment conducted for the Brosna Arterial Drainage Scheme in accordance with Article 6(3) of the Habitats Directive (Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora).
Within the Brosna Arterial Drainage Schemes the exact location and type of required maintenance activity varies over time. For the purposes of this NIS not all activities will occur on all scheme channels, structures and embankments. However, due to the high level nature of this report, all normal drainage maintenance activities are assessed.

**OPW Drainage Maintenance Subcategories**

<table>
<thead>
<tr>
<th>Subcategory</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Silt and vegetation management</td>
</tr>
<tr>
<td>B</td>
<td>Aquatic vegetation cutting</td>
</tr>
<tr>
<td>C</td>
<td>Bank protection</td>
</tr>
<tr>
<td>D</td>
<td>Bush cutting/Branch trimming</td>
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<td>E</td>
<td>Tree cutting</td>
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<td>F</td>
<td>Mulching</td>
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<td>G</td>
<td>Mowing</td>
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<td>H</td>
<td>Gate installation</td>
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<td>I</td>
<td>Sluice maintenance</td>
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<tr>
<td>J</td>
<td>Bridge maintenance</td>
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<tr>
<td>K</td>
<td>Other</td>
</tr>
</tbody>
</table>

**OPW Drainage Maintenance Types**

<table>
<thead>
<tr>
<th>Category</th>
<th>Maintenance Type</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel Maintenance</td>
<td>Silt and vegetation management</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Aquatic vegetation cutting</td>
<td>B</td>
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<tr>
<td></td>
<td>Bank protection</td>
<td>C</td>
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<tr>
<td></td>
<td>Bush cutting/Branch trimming</td>
<td>D</td>
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<tr>
<td></td>
<td>Tree cutting</td>
<td>E</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>K</td>
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<tr>
<td>Embankment Maintenance</td>
<td>Bush cutting/Branch trimming</td>
<td>D</td>
</tr>
<tr>
<td></td>
<td>Tree cutting</td>
<td>E</td>
</tr>
<tr>
<td></td>
<td>Mulching</td>
<td>F</td>
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<tr>
<td></td>
<td>Mowing</td>
<td>G</td>
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<tr>
<td></td>
<td>Gate installation</td>
<td>H</td>
</tr>
<tr>
<td>Structural Maintenance</td>
<td>Sluice maintenance</td>
<td>I</td>
</tr>
<tr>
<td></td>
<td>Bridge maintenance</td>
<td>J</td>
</tr>
<tr>
<td></td>
<td>Bank protection</td>
<td>C</td>
</tr>
<tr>
<td></td>
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<td>D</td>
</tr>
<tr>
<td></td>
<td>Tree cutting</td>
<td>E</td>
</tr>
</tbody>
</table>

It is not known where bridges, sluice doors or structures may require maintenance on the Brosna Schemes. Maintenance of bridges, structures and/or sluices will only occur within the scheme after following the relevant environmental procedures as detailed in the OPW Environmental Procedures document (OPW 2018) and using specific mitigation measures as defined in section 6 and 7 of the NIS report. Structures that are assessed in this NIS for potential impacts as a result of maintenance works are included in Appendices to the NIS.

The NIS does not include assessment for the removal, demolition, replacement or erection of bridges, sluices or structures.

Occasionally, works are required that can be considered outside of the scope of the normal Arterial Drainage Maintenance Works to maintain a scheme. Works considered outside of the normal scope of statutory arterial drainage maintenance works have not assessed for impacts in the NIS report.
Works that could be considered outside of the normal scope of works include those involving extensive bank protection measures, removal of mature woodland, unplanned bridge maintenance works or any other unplanned works within the zone of influence of a Natura 2000 site.

The OPW has developed Environmental Management Protocols and Standard Operating Procedures (SOPs) which are currently being updated to an Environmental Drainage Maintenance Manual, containing EPs, which is currently available in draft format and is due for release in 2018. The SOP document covers the management of trees and an Otter SOP, which are included in Appendices to the NIS. The NPWS have highlighted in previous responses to the OPW that the SOPs do not sufficiently demonstrate that they will reduce the effects on relevant Natura 2000 sites to a level at which it can be concluded that there will be no adverse effect on the integrity of the sites. Therefore, the revised Environmental Drainage Maintenance Manual and EPs were developed with this in mind and they include additional working constraints and best practice measures which will be incorporated to ensure that no adverse effects will be caused by the works.

Biosecurity where necessary, will be conducted under the OPWs new guidance document in consultation with IFI (OPW 2018).

Potential Impacts

The Screening for Appropriate Assessment identified the aspects of the project which can, by itself or in combination with other plans or projects, affect European sites in the light of their conservation objectives.

Table 1. Aspects of the plan/project with potential impacts on European Sites

<table>
<thead>
<tr>
<th>Aspect of plan/project with potential impacts</th>
<th>European sites with potential impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance works</td>
<td>Clonaslee Eskers and Derry Bog SAC (000859)</td>
</tr>
<tr>
<td>- Release of suspended solids</td>
<td>Lough Owel SAC (000688)</td>
</tr>
<tr>
<td>- Release or changes in nutrient levels/</td>
<td>Lough Owel SPA (004047)</td>
</tr>
<tr>
<td>pollutants</td>
<td>Middle Shannon Callows SPA (004096)</td>
</tr>
<tr>
<td>- Changes in water levels/channel morphology</td>
<td>River Shannon Callows SAC (000216)</td>
</tr>
<tr>
<td>- Physical disturbance of habitats (including loss of wood vegetation cover and disturbance to habitats)</td>
<td>Clara Bog SAC (000572)</td>
</tr>
<tr>
<td>- Noise and visual disturbance</td>
<td>Split Hills and Long Hill Esker SAC (001831)</td>
</tr>
<tr>
<td>- Spread of non-native invasive species</td>
<td>Charleville Wood SAC (000571)</td>
</tr>
</tbody>
</table>

Assessment of Potential Impacts

The Natura Impact Statement (NIS) documents the how the AA is based upon complete, precise and definitive findings and have no lacunae or gaps.

The NIS report, including review of the AA Screening have been prepared by Patricia Byrne BSc (Hons) PhD MCIEEM, William Mulville BSc MSc, Hannah Mulcahy BSc (Hons) MSc, Tanya Slattery BSc MSc MSc (Res) and Niamh Burke BSc (Hons) PhD CEnv MCIEEM.

The following methods and standards have been followed:

Desktop data sources:

- A comprehensive desktop survey (Section 1.4.1 and Section 4 of NIS)
- Brosna Arterial Drainage Maintenance Screening Assessment (JBA, 2014) (Section 3 of NIS)
- Ecological surveys (Section 1.4.3 and Section 4 of NIS)
- The National Parks and Wildlife Service (NPWS) website (https://www.npws.ie/), where site synopses, Natura 2000 data forms and conservation objectives were obtained.
- National Biodiversity Data Centre (http://www.biodiversityireland.ie/)
- Environmental Protection Agency maps website (https://gis.epa.ie/EPAMaps/)
- River Basin Management Plans (www.wfdireland.ie)
• Catchments (www.catchments.ie)
• Planning website (www.eplanning.ie)
• OPW drainage maps (http://maps.opw.ie/drainage/map/)

The NIS was prepared with reference to the following documents:


Ecological Survey methods were in general accordance with those outlined in the following documents:


• Phase 1 Habitat Survey methodology, Joint Nature Conservation Committee (JNCC (2010). Handbook for Phase 1 habitat survey- A technique for environmental audit).


Habitats were named and described following:


Nomenclature for higher plants followed;


Ecological walkover surveys were conducted, by JBA ecologists, conducted between 20th-23rd August 2018 on the channels and embankments shown on a map presented in the Appendix to the NIS report.

Aerial photographs and site maps assisted the habitat survey. Protected species, including mammals (e.g. Otter, Badger) and birds, were surveyed based upon sightings and signs of activity during the habitat survey and also by the identification of potentially suitable habitats. This included a preliminary assessment of features with suitability for roosting bats and recording of any non-native invasive species found. All evidence of protected habitats and species was recorded on a tablet using the bespoke JBA GISmapp application by JBA Ecologists where relevant. Independent ecologists recorded survey results on paper, which was later digitised by JBA Consulting. All information gathered was collated and provided to the OPW on a separate GIS database.

AA Screening

A previous AA screening exercise on this scheme by JBA in 2014, found that this scheme had the potential to negatively impact upon the three Natura sites. The screening was conducted using Ryan Hanley’s methodology of three source > pathway > receptor chains (Ryan Hanley 2014b).

This methodology is based on source > pathway > receptor chain principles and involves assessing likely significant effects on Natura 2000 sites within the zone of influence of the proposed drainage maintenance in relation to three pathways:

- Surface water
- Groundwater
- Land & air

The screening assessment involves assessing the impacts of drainage maintenance operations within the arterial drainage scheme, and its zone of influence, in relation to each of the three pathways individually. The results of each pathway are then combined in a concluding section to identify if/where likely significant effects may arise.

The screening process uses a combination of GIS analysis and qualitative assessment to identify which drainage maintenance activities, on which specific watercourses, are likely to have significant effects on the integrity of Natura 2000 sites.

Impact Assessment

A screening assessment, conducted by JBA ecologists in 2014, was reviewed and updated during the production of the NIS. The data from the ecological survey on habitat and species distribution was then analysed and evaluated for relevance against the conservation objectives of the qualifying interests of the relevant Natura 2000 sites, using attributes, their measures and targets as well as site vulnerabilities.

Potential sources of impact from the proposed works and their pathways were assessed against attributes and targets of the qualifying interests for each Natura 2000 site. The detail of the assessment ensures that no reasonable scientific doubt remains as to any potential impacts.

Do Nothing

Should the Brosna works not be carried out at this site, it is likely that natural succession would occur throughout the location. This is likely to include increased sedimentation in the channels over time, and increased vegetation growth along channel edges and any island present instream. Reduction in channel width may slow the flow of water and cause flooding in susceptible areas during periods of high rainfall. Erosion occurring along the edge of the banks may contribute further to sediment loading within the Brosna Scheme and on into the River Shannon.

Cumulative and in-combination impacts

Agricultural activities, other drainage maintenance activities, developments and other plans and projects in the area were assessed as unlikely to have any significant adverse impacts in-combination or cumulatively with the proposed OPW maintenance activity.
Avoidance and reduction of impacts

Precautionary measures of avoiding carrying out works on particular habitats and during designated times of the year ensures that sensitive habitats and species are left undisturbed. The appropriate season for carrying out different types of maintenance activity is inherent to the project description. Specific measures to avoid and reduce potential impacts are documented in the NIS report mitigation measures section and the OPW Environmental Procedures (EPs) adhered to during the period of maintenance works. This ensures that there will be no significant residual impacts on the qualifying interests of the Natura 2000 sites. Avoidance and mitigation measures are based upon the best current practise. Maintenance staff are trained in the implementation of the SOPs and specific mitigation measures. An audit process is followed to ensure compliance.

Consultation

The draft Natura Impact Statement was issued to the DAU and Inland Fisheries Ireland for comment with a cover letter dated 20 December 2018. No comments have been received by 6th February 2019 (more than 6 weeks after submission).

Conclusion

The Commissioners of the Office of Public Works, as competent authority, is satisfied that this proposed project on its own or in combination with other plans or projects, will not adversely effect the integrity of any European Natura 2000 site.

This decision is based upon the complete, precise and definitive findings as presented in the Natura Impact Statement.

In making this decision we are satisfied that:

- The proposed plan or project will not adversely affect the integrity of the European Sites in question, in light of their conservation objectives.
- There will be no lasting or irreparable loss of part or whole of priority natural habitat type.
- European sites will be preserved at favourable conservation status.
- There is no threat of degradation or destruction of European Sites.

Full records of the assessment, reports, surveys, consultations and observations are held by the competent authority and available for public review as requested.

The conclusion of this report necessarily relies on some assumptions and it is inevitably subject to some limitations. Most of the assumptions and limitations would not affect the conclusion but the following points are recorded to ensure the basis of the assessment is clear:

- This NIS investigates the potential direct and indirect impacts of the proposed works upon relevant Natura 2000 sites and assesses the potential impacts for significance alone and in-combination with other plans and projects. This process takes into consideration the nature of the proposed works and the structure, function and conservation objectives of the relevant Natura 2000 sites. It gathers the required information from a variety of sources. Information used in this process may be subject to limitations and constraints that are not made clear in the various sources and these may then, impact upon the results of this report. Attempts are made to interpret potential constraints and limitations from relevant sources where possible. Where constraints and limitations within source data are evident, these are taken into consideration in the following assessment however, this does allow for a margin of error;
- Where significant adverse impacts are determined to potentially occur as a result of the works, a number of appropriate mitigation measures to be implemented during the scheme are provided in order to prevent any significant adverse impacts as a result of the scheme and proposed associated works. The conclusion of this report is based on the assumption that during the works, staff will be made aware of sensitive ecological features that may be present on site, will be competent to identify the presence of these features and will be aware of the mitigation measures and Environmental Procedures (EPs) to be followed as required in such circumstances;
- Ecological surveys attempt to characterise the habitats and their usage in the most accurate manner but are in effect only a snapshot in time. Surveyor bias, seasonality, tides and health and safety restrictions may allow for variations in survey results.
Therefore, ecological surveys may not always identify the presence of all sensitive ecological features that may be present;

- In all instances where constraints or limitations may impact the result of the NIS, the precautionary principle is used to prevent any bias;
- The summer of 2018 was particularly dry, with river levels below normal, and may have influenced the species and habitats recorded;
- The description of activities, assessment and mitigation measures described in this report relate to the content of the draft OPW Environmental Procedures version 06/18 Rev A.

**Consistency with other assessments**

The Natura Impact Statement is consistent with the Draft Strategic Environmental Assessment of the Draft Arterial Drainage Maintenance Activities 2018-2021 and its accompanying Appropriate Assessment.