Review of Natura Impact Statement of the Glashaboy River (Glanmire/Sallybrook) Drainage Scheme

- including recommendations -

(Scheme Reference: DPE63-9-2018)

by

CAAS Ltd

for the

Department of Public Expenditure and Reform

An Roinn Caiteachais
Phoiblí agus Athchóirithe
Department of Public
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Document Control	Author/Reviewer	Date
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Reviewed by	Paul Fingleton	08 December 2020
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Contents

Executive Summary

The Natura Impact Statement (NIS) has been reviewed to ascertain whether or not it meets the requirements of the relevant legislation, as required to support the Appropriate Assessment (AA) aspects of the Confirmation Order process, in compliance with the requirements of the Habitats Directive.

The information presented in the original NIS (dated May 2018) was based on incomplete information on the scheme particularly concerning construction works and future maintenance. There were also significant inadequacies in the mitigation measures which underpinned the conclusions.

Following a request for supplementary information, an addendum report and associated information was submitted in October 2020. This provided additional detail and clarity on various details of the scheme and its assessment, as required to support the environmental assessment purposes. It did not comprise any significant variation to the proposed scheme itself.

This review of the full NIS including the original submission and the addendum finds that the required information has largely been provided.

Residual gaps remain regarding specific details of the future maintenance work and the processes around their implementation. However, these gaps are addressed by conditions which are recommended to be included in the AA determination and attached to the confirmation order for the scheme, should the Minister decide to grant such an order. These conditions address the outstanding concerns from the AA process perspective.

Following the implementation of all mitigation measures, including those arising as recommendations from this review, no significant effects on the ecological integrity of European sites are identified as likely to occur, should the scheme be implemented.

Introduction

CAAS Ltd have been commissioned by the Department of Public Expenditure and Reform to carry out a review of the Natura Impact Statement (NIS) and associated documentation on the proposed Glashaboy River (Glanmire/Sallybrook) Drainage Scheme, county Cork.

This review is to advise the Department of Public Expenditure and Reform of the adequacy of the NIS / provided documents in terms of compliance with the statutory requirements, particularly:

- Council Directive 92/43/EEC (as amended) - Article 6(3):
  Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.
- European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) (as amended); and
- Planning and Development Regulations 2001 (as amended).

This report sets out, in the following sequence:

- The scope of this review (this section)
- A review of the original NIS and associated documentation;
  - This includes an overview of the proposed scheme
  - This is done by reference to the specific requirements of the relevant Regulations
  - It includes consideration of relevant case law
- A review of the NIS Addendum Report and associated documentation;
  - This is done with reference to the initial NIS and review items identified in its review
  - Any addendums are considered with respect to the AA process and relevant case law
- Conclusions
  - Compliance of the NIS (considering the NIS and the Addendum reports)

The following details are provided at the end of the document:

- The information reviewed
- Competency of the review team

Review of original Natura Impact Statement

Section	Discussion	Actions required[1]
General Notes	The assessment document is detailed, containing a robust and well documented assessment process. The use of technical language however, is slightly misaligned with the Habitats Directive itself but this does not affect the integrity of the assessment.	None
1 Introduction 1.1 Background 1.2 Legislative Context 1.3 Appropriate Assessment Process 1.4 Methodology	The introduction provides an overview of the project including the background and legislative context on the Appropriate Assessment (AA) process. The stages of the AA process are identified and explained and the report details the guidelines which this assessment process has followed. This text shows a clear understanding of the AA requirements; including details in relation to the consultation processes undertaken which show that due diligence was undertaken.	None
2 Drainage Scheme Description 2.1 Background 2.2 Proposed flood relief measures	The description of the proposed scheme identifies the key elements of the proposed scheme and refers to Appendix A which contains the scheme confirmation drawings. This approach is seen to be generally adequate. Deficiencies in relation to the project description as discussed in the review of the EIAR also occur here. For AA purposes the information provided is generally adequate. However, it should be revised to align with further details provided on foot of the recommended request for further information.	Revise to align with (recommended) further information requested on the project characteristics.
3 Ecology Baseline 3.1 Desktop based assessment and site surveys	This section identifies a list of baseline data sources which are both site specific and standard national datasets. This is a comprehensive list of suitable sources.	None

[1] These actions were addressed by recommendations that were incorporated into the request for further information, which the Commissioners responded to in October 2020.

3.2 Methodology	The ecological survey methods identify a range of specialist consultants and their specific research areas. Details of their competencies are not given, this is not an AA compliance issue as the legislation does not specifically require this to be provided. The specialist areas identified are: • Breeding Birds and Wintering birds; • Aquatic macroinvertebrates, Reptiles, Amphibians and Large Mammals; • Geomorphology interactions with Ecology; • Fisheries interactions with Geomorphology and Hydrology; • Habitats and Flora; • Fisheries; • Bats; and • EcIA Overview and Technical Reviewer. The survey design and methods identified in this section are detailed and comprehensive, following appropriate guidelines for each of the ecological sub disciplines. The methods presented are robust.	None
3.3 Ecology of the Proposed Site	The habitat maps within the document provided cover the extent of the proposed scheme area and the surrounding area; these maps are also provided at a higher resolution in Appendix C. The habitats identified are of a composition that would be expected given the site context. The descriptions of each of the habitats and the key features present within is robust. It is noted that Japanese knotweed (*Fallopia japonica*) has been identified on site and a full map of the extent and location of each strand of the species has been provided within the habitat map appendix. The report gives a detailed account of the breeding birds and the wintering birds at the site. The methods followed for the collection of these data sets are robust and there is a clear understanding of the ornithological interest for the site and the receiving environment. The otter surveys identified active and inactive otter holts as well as clear signs of activity throughout the study area. The bat assessments undertaken identified that six species of bats	None

	utilise the river for foraging and commuting with a number of bat roosts features present along the banks of the river. Electrofishing surveys identified the presence of fish species including salmonids (*Salmo salar* and *Salmo trutta*) and lamprey (*Lameptra spp*.). The freshwater macroinvertebrate survey identified the river to have a q value of 4 which is suitable for salmonid populations. It is noted that the sediment deposition is generally at a low level. There are adequate details provided in relation to the ecological resources and species composition of the site upon which to base the assessment.	
4 Screening for Appropriate Assessment 4.1 Natura 2000 sites	The standard approach for assessing the potential effects of plans or projects on the ecological integrity of European sites is to use a buffer of 15km. This is reflected in the text of the report. For the purpose of the assessment a 5km radius from the proposed scheme was used. This was justified with reference to the nature of the proposed works and the hydrological pathways to European sites. This rationale is ecologically robust and therefore the European sites considered further were: • Cork Harbour SPA; and • Great Island Channel SAC. This approach is well justified within the report and therefore it is identified to be robust.	None
5 Natura 2000 sites within the Zone of Influence of the scheme 5.1 Introduction 5.2 Cork Harbour SPA [004030] 5.3 Great Island Channel SAC [001058]	The information as presented shows that an appropriately detailed baseline review was undertaken.	None
6 Appropriate Assessment - Stage 2		Revise to provide additional details and clarifications insofar as

6.1 Introduction 6.2 Identification of Potential Sources of Impact	The potential sources of effects are identified in this section; with specific reference to the ecological sensitivities and pathways for potential effects. These are broken down in to seven main categories; • Physical damage; • Changes in physical regime; • Changes to hydrological regime; • Disturbance (noise, visual); • Competition from non- native species; • Changes in water quality; • Pollution. Appendix A provides the scheme confirmation drawings. Specific information is not provided regarding the location, extent and methods for in-stream works and regarding future maintenance works. The Identification of Potential Sources of Impact should be reviewed and revised as required to ensure that it aligns with all relevant project details.	required for AA purposes, to align with (recommended) further information requested on the project characteristics.

6.3 In-combination Effects	The in-combination effects section lists several land use plans, water management plans and OPW obligations as well as a series of projects within the receiving environment of the subject lands that are in the planning and development process. This information identifies key plans, programmes and projects to be considered throughout the assessment. Although the information presented is clear in relation to the extent and detail of the plans and projects, the conclusions are not fully explained. The section makes statements such as: • There will no significant cumulative effects if the development proceeds; and • Therefore, no in-combination effects are anticipated. There is no rationale presented to support these definitive statements and they rely solely on the existence of their own AA processes to justify conclusions that no in combination effects will occur. An AA determines if a plan/project has potential to introduce significant adverse effects to the ecological integrity of a European site. The existing AA processes for the stated plans and projects therefore show that they will not have a significant adverse effect based on baseline conditions at the time of application. The purpose of this part of the NIS should be to consider the residual effects from these plans or projects, individually and in their totality, in-combination with the effects of the subject scheme and provide a clear assessment of the combined effects. This is not provided.	The assessment of in-combination effects needs to be revised to clearly demonstrate that such effects have been adequately assessed.

7	Impact Assessment	There is no clear basis or rationale for the assessment provided of the 'do-nothing' scenario. The intention of providing a do-nothing scenario is unclear. As this is not an AA requirement and the findings of this section do not affect the assessment presented elsewhere, this is not a compliance issue.	None
7.1	Do Nothing Impact		
7.2	Impact Evaluation	The impacts identified are increases in siltation levels during construction, changes to water quality and other hydrological interactions. The information presented states that the operational phase elements of the proposed drainage works will be consistent with existing conditions and the ongoing maintenance works will be negligible in scale. S7.2.3 *Maintenance Activities* states 'if maintenance activities are required that are significant in their nature and extent, i.e. they are outside the scope of maintenance activities described in Section 2.2, then those activities will be required to undergo the Appropriate Assessment process and a Screening for AA be carried out as a minimum requirement'. Deferral of assessment of elements of the scheme in this way does not facilitate a compliant AA process. Gaps in the project description referred to above, principally in relation to s.2, may affect the adequacy of assessment of impacts. The assessment of impacts should be reviewed and revised as required to ensure that it aligns with all relevant project details.	Revise to provide additional details and clarifications insofar as required for AA purposes, to align with (recommended) further information requested on the project characteristics and ensure a comprehensive AA process.
7.3	Avoidance and Mitigation Measures	The mitigation measures presented include a Construction Environmental Management Plan (CEMP), measures to mitigate disturbance from temporary piling, measures to avoid/mitigate pollution and water quality issues and measures to prevent the spread of non-native invasive species. These measures outline methods to address the sources for effects identified in the NIS. However, they are generally considered inadequate in the context of information gaps on the scheme and in terms of ensuring that impacts are within acceptable levels. Significant details are left until post-consent stage. Deferral of significant details until a later stage is not compliant with the requirements of the legislation and does not support a robust AA process. Similar to s7.2.3, it is also stated in S7.3.5 that 'If maintenance activities are required during the operation of the Scheme that fall outside the scope of maintenance activities described in Section 2.2, those maintenance activities will be subject to the Appropriate Assessment process to ensure	Revise to provide additional details and clarifications insofar as required for AA purposes, to align with (recommended) further information requested on the mitigation and monitoring proposals.

	no adverse impacts to *Natura 2000* sites arise.' Deferral of assessment of elements of the scheme in this manner does not support a compliant AA process. (Similar comments are included in the review of the EIAR.)	
8 Conclusions	The NIS concludes that "*the proposed Glashaboy River (Glanmire/Sallybrook) Drainage Scheme will* ***not have an adverse effect*** *on the integrity of the above Natura 2000 sites*". This statement however, is not adequately supported. There will be interactions with the ecological integrity of the European sites due mainly to temporary effects during the anticipated 18-24 month construction phase. The information presented in the report is **not** sufficient to support the conclusion that the proposed scheme will not have a significant adverse effect on the integrity of European sites.	The conclusions of the NIS require review and revisions insofar as required to take account of the revisions to earlier sections, per the comments given above.

Review of updated Natura Impact Statement

Section	Discussion	Actions required
1 Introduction 1.1 Background 1.2 Guidance for Reader 1.3 Legislative Context 1.4 Appropriate Assessment Process 1.5 Methodology	The introduction is consistent with the original with updated information relating to the further information request and consultation.	None
2 Drainage Scheme Description 2.1 Background 2.2 Proposed flood relief measures	The updated information in the description provides a lot more detail in relation to the scheme specifics. This detail contains some information in relation to channel maintenance and refers to the EIAR chapter 4: *'As outlined in Chapter 4 of the EIAR Addendum, a channel maintenance programme will be required throughout the reach of watercourses within the Scheme during its operation'.* Chapter 4 does not contain information relating to the channel maintenance; however, section 4.11 refers to Section 5.9 of the EIAR addendum. Therefore, it is assumed this is the section intended to be referred to in the NIS. This information provides information on ongoing maintenance works such as: '*Repair of mortar joints every 20 years (typical)' or 'Appropriate flow diversion methods will be required, and appropriate environmental mitigation measures such as stray bales put in place to ensure that mortar does not enter the river channel. Works in river would be required to be undertaken during the appropriate instream period in accordance with IFI guidelines'* This section indicates proposed ongoing routine maintenance works which are not defined or constrained. 'Appropriate' in stream works, are ill-defined in the volume or extent of expected works and therefore, there is limited data provided from which a worst-case scenario can be assessed.	See below

3	Ecology Baseline	No change to initial review commentary.	None
3.1	Desktop based assessment and site surveys		
3.2	Methodology	No change to initial review commentary.	None
3.3	Ecology of the Proposed Site	No change to initial review commentary.	None
4	Screening for Appropriate Assessment	No change to initial review commentary.	None
4.1	Natura 2000 sites		
5	Natura 2000 sites within the Zone of Influence of the scheme	No change to initial review commentary.	None
5.1	Introduction		
5.2	Cork Harbour SPA [004030]		
5.3	Great Island Channel SAC [001058]		
6	Appropriate Assessment - Stage 2	The potential sources of effects are identified in this section; with specific reference to the ecological sensitivities and pathways for potential effects. These are broken down into seven main categories; • Physical damage; • Changes in physical regime; • Changes to hydrological regime; • Disturbance (noise, visual); • Competition from non- native species; • Changes in water quality; • Pollution.	See comments on s7.3 below.
6.1	Introduction		
6.2	Identification of Potential Sources of Impact		

	Appendix A provides the scheme confirmation drawings. The initial review identified the following deficiencies in the project information: *'Specific information is not provided regarding the location, extent and methods for in-stream works and regarding future maintenance works'.* The further information provided in the project description has addressed most of these issues. However, an issue remains in relation to the lack of specificity relating to *'future maintenance works'*. This section is written following a high-level approach. The changes required to address the remaining issue also relate to other sections and further commentary is provided in Section 2 above and Section 7.3 below.	
6.3 In-combination Effects	The in-combination effects section identifies a number of projects that have been considered. However, there is no detail provided in relation to the assessment process or method for collection of this data. It is noted that this list is different to the list contained in the original NIS. Plans such as the Cobh Municipal District Local Area Plan have been removed from this list. Therefore, a methods statement in relation to the process and/or selection criteria for this list should have been submitted. Given the nature and extent of the works, as well as the detailed mitigation measures and ongoing monitoring works, the in-combination effects are not anticipated to be significant. Therefore, the absence of specific details of how the plans and projects considered in the assessment were selected does not undermine the integrity of the assessment. Furthermore, a search of the receiving area of the scheme within the Cork City planning database over the past 5 years was undertaken to cross reference the in-combination effects list of plans and projects. The list was identified to be sufficient.	None

7	Impact Assessment		
7.1	Impact Evaluation	This section provides details in relation to potential effects identified. Specifically, with respect to the ongoing maintenance works it states: *'Maintenance activities, as detailed in Section 2.2, will be carried out according to the OPW SOPs and the mitigation specifications outlined in section 7.3 and the CEMP (Appendix E). The EIAR Addendum Chapter 7 Biodiversity also details the measures proposed to minimise sediment and pollutant mobilisation and sediment delivery to the watercourse.* *Consultation with IFI will also take place at least 1 month in advance of any silt or debris removal works and frequent OPW-IFI contact will be made throughout the period of maintenance works - i.e. during site set up and throughout active period of work, in order to ensure optimum habitat quality for instream species.'* The evaluation rests on the future expertise of IFI in relation to the maintenance works which are not fully detailed within the scope of the scheme. There is no attempt to identify thresholds or tolerance limits which cannot be surpassed.	Remaining information gaps with respect to details of the operational phase of the scheme, specifically threshold limits and criteria, must be addressed prior to commencement to ensure that the scheme will not result in adverse effects throughout its lifetime. This issue is addressed by the recommended conditions.
7.2	Avoidance and Mitigation Measures	The mitigation measures presented in section 7.3 include a Construction Environmental Management Plan (CEMP), measures to mitigate disturbance from temporary piling, measures to avoid/mitigate pollution and water quality issues and measures to prevent the spread of non-native invasive species. These have been updated in line with the revised scope of works and account for the seasonality concerns raised in the initial review process. There are still gaps in the detail relating to the maintenance works and associated assessment processes. Specifically, Section 7 sets out the mitigation measures for the scheme including the ongoing maintenance works which refers to the 'original EIAR chapter'; however, it is not clear which chapter this refers to. The original EIAR sets out the channel maintenance works in section 3.1; however, the revised EIAR replaces this section with section 5.9 of the revised document. This is exemplified in Section 4.11 of the amended EIAR which states the following: '*Maintenance of the proposed development was discussed in Section 3.11 of Chapter 3 Description of the Development of the 2018 EIAR. In order to address RFI 5, Section 3.11 has*	Remaining information gaps with respect to details of the operational phase of the scheme, specifically threshold limits and criteria, must be addressed prior to commencement to ensure that the scheme will not result in adverse effects throughout its lifetime.

	been replaced with Section 5.9 in Chapter 5 Construction Activities of this Addendum. Section 5.9 describes the proposed maintenance works and details how these maintenance works will be carried out.' Therefore, it is not clear if the NIS is informed by the original chapter of the EIAR as stated or the replaced chapter. For the purposes of this review it is assumed that the assessment is based on the updated and revised maintenance details outlined in section 5.9 of the revised EIAR. Specifically, section 5.9.2.1 states: *'A channel maintenance programme will be required throughout the reach of the watercourses impacted by the proposed works. The channel maintenance programme will pay particular attention to locations where silt, gravel and debris are likely to accumulate, such as at structures, sharp bends, culvert inlets, blockages from trees etc. At this stage, the exact nature and scale of channel and embankment maintenance work likely to be required for the Glashaboy River Drainage Scheme is difficult to predict with certainty.'* The text goes on to discuss typical activities anticipated and mitigation measures that are required for any in-stream works. This detail states '*a more formal maintenance programme would be in place as part of implementation of the flood scheme…. Fine sediment monitoring and maintenance will be specifically required*'. However, no further information is presented in relation to this 'formal maintenance programme'. From the information presented in the reports it is clear that there is insufficient information available to predict the content of this formal maintenance plan. Therefore, for the purposes of the AA process there is a clear need for minimum thresholds and maintenance standards to be implemented to ensure no significant adverse effects occur. These are partially identified for the instream works elements of the scheme as: '*The following mitigation measures are to be followed during any instream works undertaken during routine in-channel maintenance described above:* *1. To avoid spawning activity and minimise adverse impacts on fisheries all in-stream works will be carried out during the period of July to September inclusive (as per mitigation measures detailed in Chapter 6 Biodiversity of the 2018 EIAR and Chapter 7 Biodiversity of this EIAR addendum and IFI, 2016).* *2. Silt pollution caused by working with surface water drainage networks will be minimised or prevented by working in dry conditions with water diverted*	This issue is addressed by the recommended conditions.

	during the construction period. Surface water will be managed using appropriate isolation techniques. *3. Measures to prevent the release of sediment due to run-off, will include (but not limited to) use of the use of silt fences, silt curtains, settlement lagoons, and filter materials.* *4. Excavated material will be transported off site to a suitably licenced facility or stored for reuse on site where appropriate.* *5. For the maintenance of culverts, machinery access to the watercourse is to be confined to a single bank, where possible to limit disturbance of ground.* *6. All in-stream maintenance will be carried out under supervision of a suitably qualified and experienced ecologist and in consultation with IFI and in accordance with the IFI (2016) Guidelines on protection of fisheries during construction works in and adjacent to waters.* *7. Operation of machinery in-stream is to be kept to an absolute minimum (worst case scenario of locations where it is expected instream works will be required are listed in Chapter 7 Biodiversity of this EIAR addendum).* *8. All construction machinery operating in-stream is to be mechanically sound to avoid leaks of oils, hydraulic fluid etc. Machinery is to be steam-cleaned and checked prior to commencement of in-stream works (NRA, 2008).* *9. Silt pollution caused by working in surface water will be minimised or prevented by keeping water out of the works area using appropriate isolation techniques, such as cofferdams and by-pass channels. Note, if water is diverted by over pumping, prior to commencement, it will be assessed by qualified ecologist to establish if a fish salvage operation via electrofishing under licence from the Department of Communications, Climate Action and Environment and in consultation with Inland Fisheries Ireland will be required.* *10. Abstraction points are to be screened to ensure that fish and aquatic plants are not removed from waters in the abstraction process (IFI, 2016). Fish populations which become isolated during overpumping, will be salvaged via electrofishing under licence.* *11. Fording of watercourses to gain access to the opposite bank is only to be considered where no alternative option exists and under approval of the IFI,*	

	and National Parks and Wildlife Service (NPWS) where species protected under the Wildlife Act, Habitats Directive or the Freshwater Fish Directive *12. Any in-stream area (including works that run parallel to the riverbank on the 'wet side') which will be accessed by machinery must be effectively bridged prior to commencement of works.* *Where required, the temporary crossing or bridging will:* *a. Include the provision of temporary in-stream and bank-side preparation and rehabilitation of the area once the works are complete.* *b. Allow for safe crossing of the widest items of plant and equipment without cover material being dislodged and entering waters.* *c. Prevent the erosion of stream beds and banks.* *d. 'Bridge' material for machinery access be constructed of suitable material, both clean and inert, that will not give rise to silt run-off and the crossing fenced with terram or similar material to prevent wind blow carrying dusts etc. to water.* *e. Natural bank and riverbed stabilisation techniques such as willowfaggoting, stone armour, logs, conifer tops or composite protection using products such as coir-matting or geoweb can be used.* *f. Where in-stream bed material is to be removed, coarse aggregates, if present, will be stockpiled for replacement in the reformed or new channel.* *g. Provide for passage of fish and macroinvertebrates (where fording of river is required), as well as prevent erosion and sedimentation.* *h. Have capacity to convey the full range'.* However, these mitigation measures are not specified in the mitigation section of the NIS. Nor is there any assessment of the potential effects associated with the '*formal maintenance programme'* identified as a requirement in the project description section. Moreover, as recognised in the statement above, it is important to note that the ongoing maintenance works of the proposed scheme are a '*required*' element of the long-term success of the scheme. Therefore, it is necessary to assess the potential effects of all associated works with the project. This approach is required to take account of case law such as Brian Holohan	

	and Others v An Bord Pleanála. Case C-461/17. Specifically, the 2nd and 3rd rulings which read as follows: • *'Article 6(3) of Directive 92/43 must be interpreted as meaning that the competent authority is permitted to grant to a plan or project consent which leaves the developer free to determine subsequently certain parameters relating to the construction phase, such as the location of the construction compound and haul routes, only if that authority is certain that the* ***development consent granted establishes conditions that are strict enough to guarantee that those parameters will not adversely affect the integrity of the site.*** • *Article 6(3) of Directive 92/43 must be interpreted as meaning that, where the competent authority rejects the findings in a scientific expert opinion recommending that additional information be obtained, the 'appropriate assessment' must include an explicit and detailed statement of reasons capable of dispelling all reasonable scientific doubt concerning the effects of the work envisaged on the site concerned'.* Therefore, the mitigation measures need to ensure threshold limits and constrained processes are put in place to ensure the ongoing maintenance works to be left to post consent are assessable at this point. The updated EIAR document confirms the absence of certainty related to the ongoing maintenance works insofar as section 6.8.12 states: • *'The scope and nature of maintenance works for the proposed scheme is detailed in Chapter 4, however at this time the locations of maintenance activities are unknown.* The NIS must clearly identify the environmental envelope of considerations from the formal maintenance programme, detail a clear assessment process of the potential effects associated with such a programme and provide clear mitigation measures to ensure that any works associated with the proposed scheme will not result in significant adverse effects to European sites. These mitigation measures must at a minimum, constrain the timing and scope of works permitted, identify any necessary threshold limits and instigate if-then feedback loops to ensure any potential issues identified in the future which are not yet known have a clear mechanism to be identified and controlled where necessary.	
8 Conclusions	The amended NIS identifies that '*potentially significant adverse impacts were identified; a range of mitigation and avoidance measures have been suggested to offset them*'. However, the ongoing maintenance programme for the operational phase of the scheme has not yet been drafted. The	Remaining information gaps with respect to details of the operational phase of

	mitigation measures presented rely on subsequent data and assessments to ensure that no impacts will incur. Therefore, for the purposes of the AA process this is deemed to be insufficient. It is noted that the instream works have all been constrained to the July-September period for all elements of the scheme including on-going maintenance. This is a minimum timing threshold which is required for the purposes of the assessment. Similar measures are required relating to the scale and extent of instream works to ensure there are no maintenance events that occur due to the implementation of the plan that result in, for example, the mobilisation of large plums of suspended solids. The current maintenance plan assumes future maintenance works are small in scale, however measures are required to ensure no large-scale works dredging works can be undertaken as part of the unspecified ongoing maintenance works which seek to be permitted under this scheme.	the scheme, specifically threshold limits and criteria, must be addressed prior to commencement to ensure that the scheme will not result in adverse effects throughout its lifetime. This issue is addressed by the recommended conditions.

Conclusions

The Natura Impact Statement has been assessed and it has been determined that there are gaps in its compliance with Article 6(3) of the Habitats Directive. These gaps relate in particular to details of in-stream and future maintenance works.

While the information within the NIS generally provides adequate information to inform the Appropriate Assessment (AA) process, this review finds that additional mitigation and monitoring proposals are required to ensure that the process can be considered comprehensive at the Departmental consent stage.

Recommendations are made for consideration by the Minister to address these issues in event that it is decided to issue a confirmation order for the scheme.

Recommendations

Following the review process a number of recommendations are made for consideration by the Minister as conditions which may be imposed in the event that it is decided to issue a Commencement Order for the scheme. To avoid duplication and for clarity these recommendations are set out (under the same *Recommendations* heading) in the EIAR review document.

INFORMATION MADE AVAILABLE TO CAAS FOR REVIEW PURPOSES

This information comprised:

- Natura Impact Statement, including its appendices (May 2018)
- Confirmation Drawings by Office of Public Works (24/05/2018)
- Confirmation Schedules A, B and C by Office of Public Works (25/05/2018)
- Addendum to NIS including appendices (October 2020)

REVIEW TEAM

Ecologist - Andrew Torsney has an MRes in in Biodiversity and Conservation from the University of Leeds. Andrew is a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM). Andrew has over eight years' experience working as an ecologist on both national and local scale projects. His experience ranges from academic research which has been implemented by practical management to extensive consultancy work. Andrew has designed and coordinated ecological elements of Environmental Impact Assessments (EIAs) and Appropriate Assessments (AAs) for numerous large-scale projects.

Review Manager - Paul Fingleton has an MSc in Rural and Regional Resources Planning (with specialisation in EIA), University of Aberdeen, 1990. Paul is a member of the International Association for Impact Assessment as well as the Institute of Environmental Management and Assessment. Paul has over twenty years' experience working in the area of Environmental Assessment. Paul has been involved in a diverse range of projects including contributions to, and co-ordination of, a number of complex EIARs, NISs and / or IPPCL Applications for projects. He is the lead author of the current statutory EPA Guidelines and accompanying Advice Notes on EIARs and has been involved in all previous editions of these documents. He also provides various other EIA related consultancy services to the EPA. Paul has been engaged by numerous consent authorities to assist at various stages of EIA and AA processes, particularly in reviewing EIARs and AAs. This review work has included reviews of a number of flood relief schemes on behalf of the Department of Public Enterprise and Reform.